



ᓄᓇᓂᓪ ᐃᓕᓕᓂᓪ ᓅᓂᓕᓂᓪ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: **3BM-BAK1526/**
Renewal – Amendment

December 7, 2015

Dennis Zettler, Senior Administrative Officer
Hamlet of Baker Lake
P.O. Box 149
Baker Lake NU X0B 0B0

Megan Lusty, Engineer-In-Training
Community and Government Services
Kivalliq Region, Government of Nunavut
P.O. Box 490, Rankin Inlet, NU X0C 0G0

E-mail: blsao@xplornet.ca

E-mail: mlusty@gov.nu.ca

RE: NWB Renewal Licence No. 3BM-BAK1526

Dear Mr. Zettler and Ms. Lusty:

Please find attached Licence No. **3BM-BAK1526** issued to the Hamlet of Baker Lake 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 Land Claims Agreement or NLCA)*. The terms and conditions of the attached Licence related to the use of Water 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 Land Claims 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 Licensee should note that applications to amend and/or renew this Licence must satisfy the applicable and preceding requirements of the Nunavut Planning and Project Assessment Act (NuPPA), before the NWB could formally commence processing any application received following the implementation date of NuPPA.

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

Sincerely,

Lootie Toomasie
Nunavut Water Board
Vice Chair

LT/sj/pb

Enclosure: Licence No. 3BM-BAK1526
 Comments – AANDC

Cc: Kivalliq Distribution List

¹ Aboriginal Affairs and Northern Development Canada (AANDC), May 15, 2015.

TABLE OF CONTENTS

DECISION	ii
IV. LICENCE CONSIDERATION	3
Term of Licence.....	3
Annual Report.....	4
Water Use	4
Waste Management	4
Sewage Treatment	4
Solid Waste Management	5
Plan for Compliance	5
Geotechnical Inspection.....	6
WATER LICENCE RENEWAL.....	8
PART A: SCOPE, DEFINITIONS AND ENFORCEMENT	9
1. Scope	9
2. Definitions	9
3. Enforcement.....	12
PART B: GENERAL CONDITIONS	12
PART C: CONDITIONS APPLYING TO WATER USE	14
PART D: CONDITIONS APPLYING TO WASTE DISPOSAL	15
PART E: CONDITIONS APPLYING TO MODIFICATION AND CONSTRUCTION	16
PART F: CONDITIONS APPLYING TO OPERATIONS AND MAINTENANCE	17
PART G: CONDITIONS APPLYING TO ABANDONMENT AND RESTPRATION	18
PART H: CONDITIONS APPLYING TO MONITORING PROGRAM	19

DECISION

LICENCE NUMBER: 3BM-BAK1526

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated March 6, 2015 for the renewal and amendment of a Water Licence made by the:

HAMLET OF BAKER LAKE

to allow for the continued use of Water and deposit of Waste for a Municipal undertaking occurring within the municipal boundaries of the Hamlet of Baker Lake, in the Kivalliq Region of Nunavut, at the following general geographical coordinates:

Latitude: 64° 19' N

Longitude: 96° 02' W

DECISION

After having been satisfied that the application was in conformity with the Keewatin Regional Land Use Plan¹ as determined by the Nunavut Planning Commission (NPC) and exempt from the requirement for screening as described within Schedule 12-1 by the Nunavut Impact Review Board² in accordance with Article 12 of the *Nunavut Land Claim Agreement (NLCA)*, 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 *NLCA*, 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. 3BM-BAK1015 be renewed as Licence No. 3BM-BAX1526, subject to the terms and conditions contained therein (Motion #: 2015-B1-038).

Signed this 7th day of December 2015 at Gjoa Haven, NU.

Lootie Toomasie
Nunavut Water Board
Vice Chair

LT/sj/pb

¹ Nunavut Planning Commission (NPC), Land Use Conformity Determination, August 17, 2009 and April 23, 2015.

² Nunavut Impact Review Board (NIRB) Screening Exemption Decision, April 20, 2015.

I. BACKGROUND

The Hamlet of Baker Lake (the Hamlet, the Applicant or the Licensee) is located in the Kivalliq Region of Nunavut, proximal to the mouth of the Thelon River and approximately 283 kilometres inland from the western shore of the Hudson Bay. The Hamlet's population, estimated at 2,087 persons (2015), is projected to increase to 2,657 persons by 2031.

Similar to most municipalities in Nunavut, the Hamlet, in concert with the Government of Nunavut – Community and Government Services (GN-CGS), operates several facilities aimed at providing the relevant services to the residents and businesses within its municipal boundaries. The following Hamlet-owned facilities operate under an existing water licence issued by the Nunavut Water Board (the NWB or the Board) to the Hamlet: A potable Water Treatment Facility (WTF), Sewage Disposal Facility (SDF), and Solid Waste Disposal Facility (SWDF).

The water licence, under which the above-mentioned facilities operate, Type “B” Water Licence No. 3BM-BAK1015, expired on June 30, 2015. However, prior to expiry of the Licence, the Hamlet submitted for the Board's consideration, a renewal and amendment application along with relevant supporting information (the Application). Under the Application, the Hamlet requested a term of 22 years term as well as amendments to specific conditions in the expired licence.

II. PROCEDURAL HISTORY

The Application submitted to the Nunavut Water Board (NWB or Board) for consideration was prepared by the Government of Nunavut – Community and Government Services (GN-CGS), on behalf of the Hamlet of Baker Lake for the renewal and amendment of a water licence that allows for a Municipal undertaking. The Application consists of the following documents:

- Cover Letter to the NWB;
- Executive Summary in English ;
- Executive Summary, Inuktitut Translation;
- Community Background;
- Water Licence Amendment Application Form;
- NPC Conformity Determination:
 - Letter from Bobby Suluk, NPC, to Phyllis Beaulieu, NWB, and Leslie Payette, NIRB, August 17, 2009;
 - Email from Brian Aglukark, NPC, to Arlen Foster, FSC, May 19, 2011;
- NIRB Screening Exemption:
 - Letter from Tannis Bolt, NIRB, to Phyllis Beaulieu, NWB, May 19, 2011;
- Hamlet of Baker Lake - Plan for Compliance, March 6, 2015;
- 2014 Annual Report;
- *Operations and Maintenance Manual for the Water, Sewage and Solid Waste Facilities, Baker Lake, NU*, Nunami Stantec, June, 2011;
 - Water Distribution System Operations and Maintenance (Section 3);
 - Sewage Disposal Facilities Operations and Maintenance (Section 4);
 - Solid Waste Disposal Facilities Operations and Maintenance (Section 5);
 - Emergency Response and Spill Contingency Plan (Section 6);

- *Abandonment and Restoration Plan for the Water, Sewage and Solid Waste Facilities, Baker Lake, NU* prepared by Nunami Stantec, July 2011;
- Quality Assurance/Quality Control Plan for the Hamlet of Baker Lake's Licensed Monitoring Program, Nunami Stantec, April 2011;
- As-built drawings for the Water Treatment Plant, contained in the following documents:
 - 2225DC~1.pdf; 2251 Baker Lake as-build P&ID drawings.pdf; 2251BA~4.pdf; E2 to E4 Record drawings.pdf; M1 to M7 Record drawings.pdf; P1 to P4 Record drawings.pdf; Pile as-build drawings.pdf; S7 & T4 Record drawings.pdf;
- As built drawings for the Sewage System Improvements:
 - C000, C001, C002, C003, C004, C005, C006, C007, C008, As-built drawings for the Wildlife Fencing Project; Plan of Record Drawing, 1040316 –Figure 1, 1040316- Figure 2, 1040316- Figure 3

Following receipt, the NWB conducted a preliminary review after which the Application was distributed publicly on April 15, 2015, for a thirty (30) day public review period with the deadline for comments set for May 15, 2015. Before the comment deadline period elapsed, submissions related to the Application were received from Aboriginal Affairs and Northern Development Canada (AANDC). AANDC provided comments and/or recommendations related to the term requested for the licence, compliance issues associated with the file, effluent quality requirements, waste management practices and more. To address the comments and recommendations contained in AANDC's submission, GN-CGS provided a follow-up correspondence⁴ in response.

With respect to pre-licensing requirements, the NWB received a copy of the Nunavut Planning Commission's (NPC) Land Use Conformity Determination for the file on April 23, 2015, and a copy of the Nunavut Impact Review Board's (NIRB) Screening Exemption Decision for the file on April 20, 2015.

Access to all information received in support of the Application and the file is provided through the NWB File Transfer Protocol (FTP) site and Public Registry, which can be accessed using the following link:

<ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/3%20MUNICIPAL/3B/3BM%20-%20Municipality/3BM-BAK1015/1%20APPLICATION/>

III. FILE HISTORY

Both the NWB and the Northwest Territories Water Board have issued water licences and/or related approvals to the Hamlet of Baker Lake in the past. The following provides an overview of approvals previously issued to the Hamlet:

- *Licence No. N6L3-1191*
This Licence was issued by the Northwest Territories Water Board (NWTWB) to the Hamlet of Baker Lake on September 1, 1993 and expired on August 31, 1999. The licence allowed for the use of 100,000 cubic metres of water annually and the deposit of

⁴ Letter from M. Lusty, GN-CGS to P. Beaulieu, NWB, Re: Hamlet of Baker Lake Water Licence No. 3BM-BAK1015 Response to AANDC's Comments, June 1, 2015.

waste in support of a Municipal undertaking.

- *Licence NWB3BAK9904*

Licence No. NWB3BAK9904 was issued by the Nunavut Water Board to the Hamlet of Baker Lake on October 1, 1999 and expired on October 1, 2004. The Licence allowed for the use of 100,000 cubic metres of water annually and the deposit of waste for a Municipal undertaking.

- *Licence NWB3BAK1015*

Licence No. NWB3BAK9904 was renewed as 3BM-BAK1015 on June 23, 2010 with the expiry date set for June 30, 2015. The Licence allowed for the use of 100,000 cubic metres of Water annually and the deposit of Waste in support of a municipal undertaking.

- *Licence NWB3BAK1015-Amendment No.1*

Licence No. 3BM-BAK1015 was amended on October 12, 2011 to allow for the Hamlet to upgrade its existing potable Water Treatment Facility.

IV. LICENCE CONSIDERATION

The following sections provide background information relevant to the terms and conditions included in this renewed and amended Licence, in the context of submission(s) received and/or the Board's rationale. It should be noted that, where appropriate, the Board has removed or modified terms and conditions associated with the previous licence, which the Board determined are no longer applicable under this renewed and amended licence.

Term of Licence

In accordance with section 45 of the Act, the NWB may issue a licence for a term not exceeding twenty-five (25) years. In determining the appropriate term of a licence, the Board takes into consideration several factors including the Licensee's past performance, compliance record and history, ability to comply with the terms and conditions included in a licence, interveners' comments and recommendations and more. The Licensee has requested a twenty-two (22) year term for the renewal licence. AANDC indicated in its comments that because the Hamlet's freshwater requirement is likely to change within the next fifteen (15) years, it would support a fifteen (15) year term rather than the twenty-two (22) years requested by the Applicant. The Licensee in its follow-up correspondence to the Board indicated that it agreed with AANDC's recommendations.

The Board, having considered the above-mentioned factors as well as the rationale provided by the Licensee for the requested term, decided that a term of eleven (11) years is appropriate for the Licence at this time given the Licensee's compliance record and ongoing compliance issues. The Board believes that the term granted will provide the Licence with adequate opportunities to demonstrate its ability to address any outstanding compliance issues associated with its undertaking. Moreover, the term will provide the Board and interested parties with the opportunity to consider improvements related to the Licensee's compliance record or statutes as part of any future application to renew this Licence.

Annual Report

Similar to conditions generally included in licences issued by the Board, the NWB has included under Part B, Item 1 of the licence, requirements for the Licensee to submit to the Board for review annually and prior to the 31st of March following the year being reported, a report detailing water use and waste deposit activities for the preceding year. The Board includes the information provided in Annual Reports on its FTP sites as well as provides the information upon request to 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 information. Copies of the NWB's generic annual reporting form can be obtained using the following Link:

<ftp://ftp-oen.ca/ADMINISTRATION/Standardized%20Forms/>.

Water Use

The Hamlet operates a potable Water Treatment Facility (WTF), which it upgraded in 2011 to replace the pump house and truck fill station. The facility consists of a water intake structure, pipeline and pump house, storage tanks, and truck-fill station. Potable water processed by the facility is withdrawn from Baker Lake using a submerged intake structure located approximately 120 metres offshore, after which the water is filtered and disinfected before distribution is carried out primarily by trucks to homes and businesses in the community. Information provided in the Application indicates that a small, pipe distribution system is used to deliver water to the healthcare centre, the nurse's residence, and elders' group home; however, there is also information indicating that operation of the pipeline was suspended due to inadequate free chlorine residual. Confirmation is required on whether the pipeline is still in operation and should be provided in the updated Operations and Maintenance Manual.

Under the expired Licence, the Licensee was authorized to use a maximum of 100,000 cubic metres of water annually. The licensee has requested no changes to the quantity of water in the application for the renewal licence, which the Board determined is consistent for the nature of the undertaking. The Board has granted, under Part C, Item 1 in the Licence, the quantity of water requested by the Licensee. In addition, and to clarify the Water use under the Regulations, the NWB has added in a further restriction on the volume of Water withdrawn on a daily basis, not to exceed 299m³/day, as a requirement of a Type "B" licence.

Waste Management

Sewage Treatment

The Sewage Disposal Facility (SDF) operated by the Hamlet is located approximately 1.2 kilometres north of the community and encompasses a total area of approximately 8.3 hectares. The facility consists of a large holding cell, several flow-attenuation structures and a lake. The facility, which was upgraded in 2010, is used to treat sewage generated by the homes and businesses in the community. The sewage generated is collected by trucks, transported and off-loaded onto one of two gravel pads at the SDF, after which it flows downslope to a 1,000 m³ holding cell. Effluent then eventually flows from the holding cell into a lagoon lake and further to Finger Lake where the compliance point for the effluent is located.

To ensure that treated sewage effluent meets appropriate discharge criteria in the Licence before being release into the receiving environment, the NWB has included relevant terms and conditions under Part D in the Licence.

Solid Waste Management

The Solid Waste Disposal Facility (SWDF) operated by the Hamlet consists of a fenced disposal area for municipal solid waste with an area of approximate 25,000 m², and a separate area for bulk metal, hazardous waste and waste oil. The facility is located near the south shore of Finger Lake and adjacent to the Sewage Disposal Facility. The bulk metal/hazardous waste storage area is situated immediately west of the municipal solid waste disposal area. The entire Solid Waste Disposal Facility is unlined. Runoff from the facility drains directly into Finger Lake and the Sewage Treatment Wetland.

Terms and Conditions pertaining to the management of the SWDF are generally included under Part D in the Licence:

Management Plans/Manuals

The Licensee has submitted the following management plans for consideration as part of its Application to renew and/or amend the Licence.

- *Abandonment and Restoration Plan for the Water, Sewage and Solid Waste Facilities, Baker Lake, NU* prepared by Nunami Stantec, July 2011;
- *Operations and Maintenance Manual for the Water, Sewage and Solid Waste Facilities, Baker Lake, NU* prepared by Nunami Stantec, June, 2011; and
- *Quality Assurance/Quality Control Plan for the Hamlet of Baker Lake's Licenced Monitoring Program* prepared by Nunami Stantec, April 2011.

The NWB notes that the above-mentioned management's plans were either approved or accepted with issuance of the Amendment No. 1 to Licence No. 3BM-BAK1015 on October 12, 2011. Consequently, the Plans have been carried over for implementation under the renewal licence. The Licensee is, however, required to update the plans, as was required when the plans were approved and submit the updates in accordance with the relevant terms and conditions in the Licence. Further the Licensee is required to update the plans annually or as-needed and submit the updates as addenda to the Board's review within the relevant Annual Report for the undertaking.

Plan for Compliance

Part A, Item 3(d) of the expired licence required the Licensee to submit a Plan for compliance, for approval by the Board. The Applicant submitted a Plan for Compliance dated March 6, 2015 within its Application for the Board's consideration, which includes steps that the Licensee intends to take to address outstanding issues associated with its undertaking.

While the information contained in the Plan for Compliance helps to provide the NWB with a

greater understanding and useful overview of the Licensee's long-term and short-term plans and objectives for addressing outstanding issues, the details contained in the Plan for Compliance are not necessarily absolute or binding. Therefore, contrary to the expired licence, the NWB has decided to exclude from the renewal and amended licence the terms and conditions requiring the submission and approval of a Plan for Compliance.

Geotechnical Inspection

As part of the amendment aspects of its Application, the Licensee requested that changes be made to respective terms and conditions with issuance of the renewal and amended licence so as to allow for inspection of municipal facilities to be conducted by municipal engineers. The expired licence required that such inspections be conducted by a geotechnical engineer. As the changes requested by the Licensee are consistent with those included in recently issued municipal licences, the Board has granted the Licensee's request. The renewed Licence allows for inspection of municipal infrastructure to be conducted by municipal engineers for most of the Licence term. However, inspections one (1) year prior to expiry or at five (5) year intervals, whichever occurs first, must be conducted by a geotechnical engineer. The changes have been incorporated, under Part F, Items 3 and 4 of the renewed licence terms and conditions.

Monitoring

With respect to monitoring requirements in the licence, no changes have been requested by the Licensee. Therefore, all of the monitoring requirements have been carried over from the expired licence with issuance of the renewal and amended licence.

The Board notes that under the expired licence, the Licensee had not always adhered fully to the monitoring requirements. Consequently, the Board takes this opportunity to remind the Licensee that it needs to adhere to all requirements under its licence.

Drawings

As part of the application to renew the Licence, the Licensee submitted as-built drawings for upgrades carried out to the potable Water Treatment Facility and improvements undertaken on the Sewage Disposal Facility as was required under the relevant terms and conditions of the expired licence. The Board has accordingly removed from the expired licence and/or amendment the relevant conditions with the issuance of the renewed and amended licence, namely, Part E, Item 11, and Part E, Item 5, which apply to submission of as-built drawings for the potable Water Treatment Facility and the Sewage Disposal Facility, respectively. Conditions, however, related to submission of as-built drawings for the Solid Waste Disposal Facility have been carried over with issuance of the renewal licence under Part E, Item 5, as this condition has not yet been satisfied.

Abandonment and Restoration

As mentioned above, an abandonment and restoration plan was submitted for the Water Treatment Facility, which was approved with issuance of Amendment No. 1 to the expired Licence No. 3BM-BAK1015. However, terms and conditions related to general abandonment and specific abandonment have been included in the renewal licence, similar to that of the

expired licence, requiring the licensee to submit an abandonment and restoration plan for any facility within the scope of this Licence requiring abandonment and restoration in the future.



NUNAVUT WATER BOARD WATER LICENCE RENEWAL

Licence No. 3BM-BAK1526

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

HAMLET OF BAKER LAKE

(Licensee)

P.O BOX 149, BAKER LAKE, NUNAVUT X0C 0A0

(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 renewal:

Licence Number/Type:	3BM –BAK1526 / TYPE “B”
Water Management Area:	BAKER LAKE WATERSHED (08)
Location:	HAMLET OF BAKER LAKE KIVALLIQ REGION, NUNAVUT
Classification:	MUNICIPAL UNDERTAKING
Purpose:	DIRECT USE OF WATER AND DEPOSIT OF WASTE
Quantity of Water use not to exceed:	A MAXIMUM OF 100,000 CUBIC METRES ANNUALLY, AT RATE NOT EXCEEDING 299 CUBIC METRES <i>PER DAY</i>
Date of Licence Issuance:	DECEMBER 07, 2015
Expiry of Licence:	DECEMBER 06, 2026

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

Lootie Toomasie,
Nunavut Water Board, Vice Chair

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

This Licence allows for the use of Water and the Deposit of Waste for a Municipal undertaking classified as per Schedule 1 of the *Regulations*, for the Hamlet of Baker Lake, in the Kivalliq Region, Nunavut.

- a. 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
- b. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

In this Licence: 3BM-BAK1526

“**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 Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“**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.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

“Final Discharge Point” with respect to effluent means the stream from Finger Lake immediately prior to entry into Airport Lake;

“Freeboard” means the vertical distance between water line and crest on a dam or dyke’s upstream slope;

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

“Grab Sample” means 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;

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

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

“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;

“Sewage” means all toilet wastes and greywater;

“Sewage Disposal Facility (SDF)” comprises the repaired holding cell, new holding cell, upgraded wetland with attenuation berms and other associated sewage treatment structures designed to contain and treat sewage, as described in the Application, including drawings, filed by the Applicant on March 6, 2015 for the renewal of Water Licence No. 3BM-BAK1015;

“Solid Waste Disposal Facility (SWDF)” comprises the area and associated structures (landfill site) designed to contain Solid Waste as described Application, including drawings, filed by the Applicant on March 6, 2015 for the renewal of Water Licence No. 3BM-BAK1015;

“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;

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

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

“Waste Disposal Facilities” means all facilities designated for the disposal of waste, and includes the Sewage Disposal Facility and the Solid Waste Disposal Facility;

“Pre-Upgraded Water Treatment Facility” comprises the area and associated intake, treatment and storage infrastructure at Baker Lake, as described in the Application for Water Licence filed by the Licensee on September 19, 2008;

“Water Treatment Facility” Comprises the area and associated intake, treatment and storage infrastructure at Baker Lake, as described in the application for Water Licence filed by the Licensee on September 19, 2008, subsequent amendment (No. 1) application for improvements to the Water Supply Facilities filed by FSC Architects and Engineers on Behalf of the Hamlet of Baker Lake on June 9, 2011, renewal application for Licence No. 3BM-BAK1015 filed March 6, 2015;

“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. tabular summaries of all data generated under the “Monitoring Program” and an indication of wastewater treatment levels upstream and downstream of the Wetland Area;
 - b. summary of modifications to the “Monitoring Program” in accordance with Part H, Item 10;
 - c. the daily, monthly, and annual quantities in cubic metres of fresh water obtained at the Water Treatment Facility;
 - d. the annual quantity in cubic metres and tonnes of sludge removed from the Sewage Disposal Facility along with the treatment, storage, and disposal provided as required in Part H Item 5;
 - e. a summary of modifications and/or major maintenance work carried out on the Water Treatment and Waste Disposal Facilities, including all associated structures and facilities;
 - f. a list of unauthorized discharges and summary of follow-up action taken;
 - g. a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;
 - h. any updates or revisions for manuals and plans (i.e., *Operations and Maintenance Manual*) as required by changes in operation and/or technology, may be subject to Board approval;

- i. detailed minutes of any public consultation and participation with local organizations and the residents of the community regarding licence amendments;
 - j. a summary of any studies or reports requested by the Board that relate to water use and waste disposal or restoration, and a brief description of any future studies planned;
 - k. any other details on water use or waste disposal requested by the Board by 1st of November of the year being reported; and
 - l. The monthly and annual quantities in cubic metres of backwash water disposed of at the Sewage Disposal Facility.
2. The compliance dates specified in the Licence may be modified upon approval of the Board in writing.
 3. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of Water use volumes and Waste discharged as required under Part H, Monitoring Program.
 4. The Licensee shall, within ninety (90) days after the first visit by the Inspector following issuance of this Licence, post the necessary signs to identify the stations of the “Monitoring Program”. All signage postings shall be in the Official Languages of Nunavut.
 5. The Licensee shall post signs in the appropriate areas to inform the public of the location of the Water Treatment Facility and the Waste Disposal Facilities. All signage postings shall be in the Official Languages of Nunavut.
 6. The Licensee shall immediately report to the 24-Hour Spill Report Line at (867) 920-8130, any spills of Waste, which are reported to, or observed by the Licensee, within the municipal boundaries including the areas of the Water Treatment or Waste Disposal Facilities.
 7. 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, AANDC
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445

8. The Licensee shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.
9. The Licensee shall ensure that all document(s) and correspondence submitted by the Licensee, to the NWB, are received and acknowledged by the Manager of Licensing.
10. 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.
11. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
12. 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.
13. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and 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.
14. 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.
15. This Licence is assignable as provided for in Section 44 of the *Act*.
16. 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 shall obtain all freshwater processed by the Water Treatment Facility from Baker Lake for Municipal purposes, or as otherwise approved by the Board in writing.

2. The annual quantity of Water use for all purposes under this Licence shall not exceed a rate of two hundred and ninety-nine (299) cubic metres per day, up to a maximum volume not exceeding one hundred thousand (100,000) cubic metres annually.
3. The Licensee shall equip all water intake hoses with a screen of appropriate mesh size to ensure that fish are not entrained and shall withdraw water at a rate such that fish do not become impinged on the screen.
4. The Licensee shall not remove any material from below the ordinary High Water Mark of any Water body unless approved by the Board in writing.
5. The Licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
6. The Licensee shall implement sediment and erosion control measures prior to and maintained as required during Hamlet operations, to prevent entry of sediment into water.
7. 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.
8. The Licensee shall submit to the Board for approval in writing, the following information at least thirty (30) days prior to the use of water of a sufficient volume that the source water body may be drawn down: volume required hydrological overview of the water body, details of impacts, and proposed mitigation measures.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall direct all sewage including backwash water generated from the Water Treatment Facilities to the Sewage Disposal Facility or as otherwise approved by the Board in writing.
2. All Effluent discharged from the Sewage Disposal Facility at Monitoring Program Station BAK-5 shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
BOD ₅	80 mg/L
Total Suspended Solids	100 mg/L
Faecal Coliforms	1×10^4 CFU/100mL
Oil and grease	No visible sheen
pH	between 6 and 9

3. A Freeboard limit of at least 1.0 metre, or as recommended by a qualified geotechnical Engineer and as approved by the Board in writing, shall be maintained at all dams, dykes, or structures intended to contain, withhold, divert or retain water or wastes.

4. The Licensee shall provide at least ten (10) days' notification to an Inspector, prior to initiating any decant of the sewage lagoon.
5. The Sewage Disposal Facility shall be maintained and operated, in such a manner as to prevent structural failure.
6. The Licensee shall dispose of all Solid Wastes in such a manner as to prevent the deposition of such waste in to water.
7. The Licensee shall segregate and store all hazardous materials including waste oil, within the Solid Waste Disposal Facility utilizing secondary containment to prevent the deposit of deleterious substances into any water, until such a time as disposal arrangements are made to a licensed facility.
8. The Licensee shall backhaul and dispose of all hazardous wastes, waste oil and non-combustible waste generated through the course of the operation at a licensed waste disposal site.
9. 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
10. The Licensee shall implement measures to ensure leachate from the Solid Waste Disposal Facility does not enter water.
11. The Licensee shall use clean material that is free of contaminant, for construction, operation, and maintenance activities that is obtained from an approved source and has been demonstrated not to produce acid rock drainage and to be non-metal leaching.

PART E: CONDITIONS APPLYING TO MODIFICATION AND CONSTRUCTION

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

- d. the Board has not rejected the proposed modifications.
3. Modifications for which all of the conditions referred to in Part E, Item 2(a) through (d), have not been met, may only be carried out upon written approval from the Board.
4. The Licensee shall provide as-built plans and drawings of the Modifications or construction referred to in this Part within ninety (90) days of completion of the Modification or construction. These plans and drawings shall be stamped and signed by an Engineer.
5. The Licensee shall submit to the Board for review, as-built drawing signed and stamped by an Engineer for the Solid Waste Disposal Facilities, within ninety (90) days following issuance of the renewal of the Licence.
6. All activities shall be conducted in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage.
7. The Licensee shall implement and maintain erosion control measures prior to and during activities carried out under this Part, to prevent impacts to Water resulting from the release of sediment and to minimize erosion.
8. The construction or disturbance of any stream/lake bed or banks of any definable water course are not permitted, unless authorized by the Board in writing
9. The Licensee is authorized to implement relevant improvements to the Water Treatment Facilities as proposed by FSC Architects and Engineers on behalf of the Hamlet of Baker Lake, under FSC Job Number 20070650.
10. The Licensee shall obtain authorization from the Department of Fisheries and Oceans Canada (DFO) prior to the construction or disturbance of any stream/lake bed or banks of any definable watercourse.

PART F: CONDITIONS APPLYING TO OPERATIONS AND MAINTENANCE

1. The Licensee shall implement the *Operation and Maintenance Manual for the Water, Sewage and Solid Waste Facilities* dated June 2011, as approved under Amendment No. 1 to licence 3BM-BAK1015.
2. The Licensee shall submit an addendum to the Manual within the next Annual Report for the undertaking to address the relevant comments and recommendations made by intervening parties including AANDC and EC during the review period for the plan.
3. An inspection of all engineered structures or facilities designed to contain, withhold, divert, or retain Water or Waste, shall be conducted by an appropriate Engineer, at least once annually, during the summer months (July/August) and/or during periods of flow. An Engineer's report shall be submitted to the Board within sixty (60) days of the date

of inspection, including a cover letter from the Licensee outlining an implementation plan to address each of the Engineer's recommendations.

4. An inspection of all engineered facilities shall be conducted, during the summer period (July/August), by a Geotechnical Engineer in accordance with the *Canadian Dam Safety Guidelines*, at least one (1) year prior to expiry of the Licence or at five (5) year interval, whichever occurs first. The Geotechnical Engineer's report shall be submitted to the Board within sixty (60) days of the inspection, including a cover letter from the Licensee outlining an implementation plan to address each of the Engineer's recommendations.
5. If, during the period of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a. employ the appropriate spill contingency measures as described in the Spill Contingency Plan of the Operation and Maintenance Manual for the Hamlet of Baker Lake;
 - b. report the incident immediately via the 24-Hour Spill Reporting Line at (867) 920-8130 and to the INAC Manager of Field Operations at (867) 975-4295; and
 - c. submit to the Inspector, a detailed report on each occurrence, not later than thirty (30) days after initially reporting the event, that provides the necessary information on the location (including the GPS coordinates), initial response action, remediation/clean-up, status of response (ongoing, complete), proposed disposal options for dealing with contaminated materials and any preventative measures to be implemented.
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 if the release is near or into a Water body.

PART G: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION

1. The Licensee shall implement the plan entitled *Abandonment and Restoration Plan for the Water, Sewage and Solid Waste Facilities*, dated July 2011 that was approved under Amendment No. 1 issued to Licence No. 3BM-BAK1015.
2. The Licensee shall submit an addendum to the Plan in Part G, Item 1, within the next Annual Report for the Undertaking, to address relevant comments and recommendations made by intervening parties including AANDC during the review period.
3. The Licensee shall submit to the Board for approval in writing, an *Abandonment and Restoration Plan* at least six (6) months prior to abandoning any facilities or upon submission of the final design drawings for the construction of new facilities to replace existing ones. Where applicable, the Plan shall include information on the following:
 - a. water intake facilities;
 - b. the water treatment and waste disposal sites and facilities;
 - c. abandoned water and waste facilities;

- d. petroleum and chemical storage areas;
 - e. any site affected by waste spills;
 - f. leachate prevention;
 - g. an implementation schedule;
 - h. maps delineating all disturbed areas, and site facilities;
 - i. consideration of altered drainage patterns
 - j. type and source of cover materials;
 - k. future area use;
 - l. hazardous wastes; and
 - m. a proposal identifying measures by which restoration costs will be financed by the Licensee upon abandonment.
4. The Licensee shall complete the restoration work within the time schedule specified in the Plan, or as subsequently revised and approved by the Board.
 5. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee's operations
 6. All disturbed areas shall be stabilized and re-vegetated as required, upon completion of work and restored as practically as possible to a pre-disturbed state.

PART H: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall maintain Monitoring Program Stations and implement the program as described in the table below and the conditions under this Part.

Monitoring Program Station ID	Description	Frequency	Status
BAK-1	Raw water supply prior to treatment	<u>Volume</u> Monthly and Annually	Active (Volume)
BAK-2	Runoff from the Sewage and Solid Waste Disposal Facilities just prior to the inlet to Airplane Lake, prior to the culvert	<u>Water Quality</u> Monthly during periods of flow	Active (Water Quality)
BAK-3	Outlet of Airplane Lake	<u>Water Quality</u> Annually during periods of flow	Active (Water Quality)
BAK-4	Runoff from the Solid Waste Disposal Facilities prior to Finger Lake	<u>Water Quality</u> Annually during periods of flow	Active (Water Quality)

BAK-5	At the outlet of the sewage treatment tundra wetland, immediately prior to Finger Lake	<u>Water Quality</u> Annually during periods of flow	Active (Water Quality)
BAK -6	Raw Water (pump house before chlorination) water trucks, and a few taps within the community	<u>Quality Water</u> Bacterial (Monthly)	Operational Purposes (Water Quality)

2. The Licensee shall confirm the locations and GPS coordinates for all monitoring stations referred to in Part H Item 1 with an Inspector.
3. The Licensee shall measure and record the daily, monthly and annual quantities of water, in cubic meters, pumped from Monitoring Program Station BAK-1 for all purposes.
4. The Licensee shall collect samples at Monitoring Program Stations BAK-2, BAK-3, BAK-4 and BAK-5, according to the frequency provided in Part H Item 1. Samples shall be analyzed for the following parameters:

Biochemical Oxygen Demand BOD ₅	Fecal Coliforms
Total Suspended Solids	pH
Conductivity	Nitrate-Nitrite
Oil and Grease (visual)	Total Phenols
Magnesium	Calcium
Sodium	Potassium
Chloride	Sulphate
Total Hardness	Total Alkalinity
Ammonia Nitrogen	Total Zinc
Total Cadmium	Total Iron
Total Cobalt	Total Manganese
Total Chromium	Total Nickel
Total Copper	Total Lead
Total Mercury Total	Organic Carbon (TOC)
Total Aluminum	Total Arsenic
Carbonaceous Biochemical Oxygen Demand (cBOD)	
Total Petroleum Hydrocarbons (BAK-4 only)	
Polycyclic Aromatic Hydrocarbons (BAK-4 only)	
Benzene, Toluene, Ethylbenzene, Xylene (BAK-4 only)	

5. The Licensee shall measure and record the annual quantities of sludge removed from the Sewage Disposal Facility along with the methods of treatment, storage, and disposal provided.

6. The Licensee shall conduct all sampling, sample preservation and analyses 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 a laboratory certified by the Canadian Association for Laboratory Accreditation (CALA) and as otherwise acceptable to the Board.
7. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
8. The Board has accepted the Plan entitled *Quality Assurance/Quality Control Plan for the Hamlet of Baker Lake's Licensed Monitoring Program*, dated April 2011, that was submitted as additional information with the Application.
9. The Licensee shall annually review the QA/QC plan submitted under Part H, Item 8 and modify it as necessary. Revised plans shall be submitted to the NWB with an approval letter from an accredited lab that meets standards consistent with Part H, Items 6 and Item 7.
10. The Licensee shall include all of the data and information of the Monitoring Program, as required under Part B, Item 3, or as requested by an Inspector.
11. Modifications to the Monitoring Program may be made only upon written approval from the Board. Requests for changes to the Monitoring Program should be forwarded to the NWB in writing, and should include the justification and appropriate evidence to support the change.