

DRAFT - Type A Water Licence G17L3-001
Town of Inuvik – Municipal

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PART A: SCOPE AND DEFINITIONS

1. Scope

- a) This Licence entitles the Licensee to use water and dispose of Waste for municipal undertakings at Inuvik, Northwest Territories.
- b) This Licence is renewed 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 Commissioner in Executive Council under the *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 automatically amended to conform with such Regulations.
- 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.
- d) This Licence is issued subject to the conditions contained herein with respect to the use of Waters and deposit of Waste as prescribed in Section 10 and 11 of the *Act*.

2. Definitions

Act – the *Waters Act*, S.G.N.W.T. 2014, C.18.

Analyst – an Analyst designated by the Minister under Section 65 (1) of the *Act*.

Average Concentration – the discrete average of up to four consecutive analytical results submitted in any single calendar year to the Board in accordance with the sampling and analysis requirements specified in the Surveillance Network Program.

Bagged Toilet Wastes Disposal Facilities – the area within the Solid Waste Disposal Facility and associated structures designed to contain bagged toilet Wastes (honey bags).

Batch Decant – means the intentional release of effluent from the Sewage Disposal Facilities, at a release rate exceeding that of the normal discharge, for the purpose of lowering the liquid level within the sewage lagoon.

Board – the Gwich'in Land and Water Board established under Part 3 of the *Mackenzie Valley Resource Management Act*.

Closure – the permanent dismantlement of one or more components of the Project with the intent of

making the components incapable of its intended use. This includes the removal of associated equipment and structures used in the construction or maintenance of the Project.

Commercial Wastewater – water and associated waste generated by the operation of a commercial enterprise, but does not include toilet water or greywater.

Freeboard – the vertical distance between water line and the lowest elevation of the effective water containment crest on a dam or dyke's upstream slope.

Greywater – all liquid Wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include toilet Wastes.

Hazardous Wastes mean those Wastes with properties such as flammability, corrosiveness, or inherent toxicity and can pose a variety of risks, from skin damage on contact, to the contamination of ground water, surface water, or soil as a result of leaching into the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

Inspector – an Inspector designated by the Minister under Section 65 (1) of the *Act*.

Licensee – the holder of this Licence (The Town of Inuvik).

Minister – a duly appointed member of the Executive Council who is responsible for the *Act*.

Modification – an alteration to a physical work that introduces a new structure or replaces or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion.

Professional Engineer – a person registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientist, and whose principal field of specialization is appropriate to address the components of the undertaking at hand.

Pumpout Sewage – all toilet Wastes and/or Greywater collected by – of a vacuum truck for disposal at an approved facility.

Reclamation – activities which facilitate the return of areas affected by the Waste Disposal Facilities to a viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment, human activities, and surrounding environment.

Regulations – Regulations promulgated pursuant to Section 63 of the *Act*.

Sewage – all Toilet Wastes and Greywater.

~~Sewage Waste Disposal Facilities~~ **Sewage Disposal Facilities** – comprises the area and engineered structures designed to contain and treat Sewage as approved by the Board.

Sewage Sludge – the residual non-stabilized semi-solid material separated from Sewage as a result of a natural or other process at the Sewage Waste Disposal Facilities.

Solid Waste Disposal Facilities comprises the area and associated structures designed to contain solid Wastes as approved by the Board.

Spill – to allow or accidentally release Waste from containment vessels or structures into the receiving environment.

Spill Contingency Plan – a document, developed in accordance with Indian Affairs and Northern Development Canada’s Guidelines for Spill Contingency Planning (2007), that describes the set of procedures to be implemented to minimize the effects of a Spill.

Surveillance Network Program (SNP) – a monitoring program established to define environmental sampling and analysis requirements, as detailed in Annex A of this Licence, to collect water quality data, and to assess discharge quality, compliance with Licence terms and conditions, and the potential for impact on the environment.

Toilet Wastes – all human excreta and associated products, but does not include Greywater.

Unauthorized Discharge – a release or discharge of any Water or Waste not authorized under this Licence.

Waste – any substance defined as Waste as defined by Section 1 of the Act.

Waste Disposal Facilities mean all facilities designated for the disposal of Waste, and includes the [Sewage Waste Disposal Facilities](#) ~~Sewage Disposal Facilities~~ and the Solid Waste Disposal Facilities.

Watercourse – a natural watercourse, body of water or water supply, whether usually containing water or not, and includes groundwater, springs, swamps, and gulches, as defined in the Waters Regulations.

Water – any Water as defined by Section 1 of the Act.

Water Supply Facilities – all facilities designed to collect, treat and supply water for municipal purposes.

Water Use – a use of Water as defined by section 1 of the Act.

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report with the Board in duplicate, with an additional copy to the inspector, not later than March 31st of the year following the calendar year reported, which shall contain the following information:
 - a) the monthly and annual quantities in cubic metres of fresh water obtained from all sources;
 - b) the monthly and annual quantities in cubic metres of each and all waste discharged;
 - c) the monthly and annual quantities of Sewage solids removed from the Sewage Disposal Facilities for disposal;
 - d) a summary of modifications and/or major maintenance work carried out on the Water Supply and Waste Disposal Facilities, including all associated structures;
 - e) tabular summaries of all data generated under the Surveillance Network Program, as approved by the Board;
 - f) tabular and graphic summaries of data generated for Parameters specified in Part D, Item 2 of this licence, as approved by the Board;
 - g) a list of unauthorized discharges;
 - h) an outline of any spill training and communications exercises carried out;
 - i) a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;
 - j) a summary of any studies requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned;
 - k) a brief description of the annual review of the approved Operation and Maintenance Plans and any updates or revisions to these plans;
 - l) a report of the inspection required under Part D, item 9 of this licence;

~~_____ m) any other details on water use or waste disposal requested by the Board by November 1st of the year being reported;~~

~~_____ n) a summary addressing the performance of the Sewage Disposal Facilities and, if applicable, an outline of necessary steps to achieve optimal performance.~~

1. The Licensee shall operate in accordance with the plans and programs approved pursuant to the conditions of this Licence and with any revisions to the plans and programs as may be made pursuant to the conditions of this Licence and as approved by the Board. If any plan is not approved by the Board, the Licensee shall revise the plan as ~~requested~~ directed by the Board and resubmit it to the Board for approval.

2. The Licensee shall comply with the **Surveillance Network Program**, which is annexed to and forms part of this Licence, and any changes to the Surveillance Network Program as may be made by the Board.

3. The Licensee shall comply with the Schedules, which are annexed to, and form part of this Licence, and any changes to the Schedules as may be made by the Board.

4. The Schedules, Surveillance Network Program and any compliance dates specified in the Licence may be changed at the discretion of the Board. If any date for the submission of a plan, report, or program falls on a weekend or holiday, the plan, report, or program shall be submitted on the following business day.

~~1.~~

2.5. The Licensee shall submit to the Board and Inspector an **Annual Water Licence Report** no later than March 31 of the year following the year reported (January – December 31), which shall be in accordance with Schedule 1.

~~3.~~ The Licensee shall comply with the Surveillance Network Program annexed to this Licence, and any amendment to the said Surveillance Network Program as may be made from time to time, pursuant to the conditions of this Licence.

~~The Surveillance Network Program and compliance dates specified in the Licence may be modified at the discretion of the Board.~~

~~4.~~ The Licensee shall, within ninety (90) days of the issuance of this Licence, post the necessary signs, where possible, to identify the stations of the Surveillance Network Program. All postings shall be located and maintained to the satisfaction of an Inspector.

5.6. The Licensee shall ~~within ninety (90) days of issuance of this Licence,~~ post signs in the appropriate areas to inform the public of the Water Supply Facilities, and Waste Disposal Facilities, and Surveillance Network Program stations. All postings shall be located and maintained to the satisfaction of an Inspector.

6.7. Meters, devices or other such methods used for measuring the volumes of water obtained and Waste disposed and discharged shall be installed, operated and maintained by the Licensee to the

satisfaction of an Inspector.

8. The Licensee shall ensure a copy of this Licence is maintained at the municipal office at all times, and that all employees conducting work related to any facilities within the scope of this Licence are made aware of the appropriate sections of the Licence.

9. The Licensee shall conduct further studies and submit the findings to the Board, if requested by the Board to do so at any time during the term of this licence.

10. All information submitted to the Board for this Licence shall:

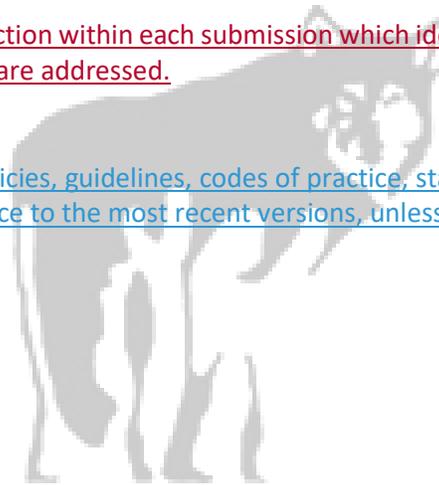
a) Be submitted in a form acceptable to the Board;

b) Be in accordance with the Mackenzie Valley Land and Water Board's *Document Submission Standards*; and

c) Include a section within each submission which identifies where the pertinent requirements of the Licence are addressed.

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12. All references to policies, guidelines, codes of practice, statutes, Regulations or other authorities shall be read as a reference to the most recent versions, unless otherwise denoted.



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PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all fresh water from ~~Hidden Lake, Lake B and~~ the Mackenzie River using the Water Supply Facilities, or sources otherwise approved by the Board.
2. The annual quantity of water taken for all purposes shall not exceed 1,000,000 cubic metres (m³).
3. The ~~Licensee shall equip and maintain the Water intake with a screen designed to prevent impingement and/or entrainment of fish; water intake hose used on the water pumps shall be equipped with a screen with a mesh size that is satisfactory to an Inspector and sufficient to ensure no entrainment of fish.~~
4. The Water Supply Facilities shall be maintained and operated to the satisfaction of an Inspector.

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PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall ensure that any unauthorized Waste(s) associated with this undertaking do not enter any Waters.
2. The Licensee shall immediately notify the Board and Inspector of the exceedance of any effluent quality criterion.
3. Sewage and solid Waste from industrial, commercial and institutional operators working outside of the local government boundaries of Inuvik shall not be accepted at the Waste Disposal Facilities, unless otherwise authorized in writing by an Inspector.

Sewage

- 1.4. The Licensee shall direct all piped and Pumpout Sewage to the Sewage Waste Disposal Facilities Sewage Disposal Facilities or as otherwise approved by the Board.
- 2.5. All effluent discharged from the Sewage Waste Disposal Facilities Sewage Disposal Facilities at Surveillance Network Program Station Number 0036-3 shall meet the following effluent quality standards/criteria:

Parameter	Maximum Average Concentration
Suspended Solids	70 mg/L
BOD₅ *CBOD	150 135mg/L
Faecal Coliforms	1 x 10 ⁶ CFU/100mL
Oil and Grease	5 mg/L
pH	6-9

*In addition: The maximum concentration of any grab shall be 150mg/L. The total mass of BOD

~~discharges to the receiving water, on an annual basis, shall not be greater than 80 tonnes.~~

~~Waste discharged shall have a pH between 6 and 9, and no visible sheen of oil and grease.~~

~~3.6.~~ A Freeboard limit of 1.0 metre, or as recommended by a Professional Engineer and as approved by the Board, shall be maintained at all dykes and earthfill structures associated with the Sewage Disposal Facilities.

~~7.~~ The Licensee shall maintain and operate the The Sewage Disposal Facilities ~~shall be maintained and operated~~ in such a manner as to prevent structural failure, and to the satisfaction of an Inspector.

~~4.8.~~ The dams, dykes and other engineered earth structures designed to contain waste within the Sewage Disposal Facilities shall be inspected annually by a professional engineer to determine the stability of the structures.

~~5.9.~~ The Licensee shall advise an Inspector at least ten (10) days prior to initiating ~~the a~~ Batch Decant of the sewage lagoon.

~~6.10.~~ The Licensee shall notify the Board and Inspector, in writing, at least thirty (30) days prior to initiating the removal and burial of Sludge and sediments originating from the Sewage Disposal Facility.

~~7.11.~~ All bagged toilet Wastes (honey bags) shall be disposed of at the Bagged Toilet Waste Disposal Facilities to the satisfaction of an Inspector.

Solid Waste

~~8.12.~~ The Licensee shall dispose of all solid Wastes at the Solid Waste Disposal Facilities or as otherwise approved by the Board.

~~9.13.~~ The Licensee shall maintain and operate the Solid Waste Disposal Facilities ~~shall be maintained and operated~~ to the satisfaction of an Inspector.

~~14.~~ The Licensee shall contain all Hazardous materials in such a manner as to minimize the potential for migration of contaminants into any Waters, to the satisfaction of an Inspector.

~~15.~~ The Licensee shall, within 24 months of the issuance of this Licence, provide to the Board for approval a Solid Waste Disposal Fencing Plan. The Plan shall describe how the Licensee will install and maintain fencing at the Solid Waste Disposal Facility that is capable of capturing windswept Waste, deterring wildlife, and preventing unauthorized persons from entering the site.



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PART E: CONDITIONS APPLYING TO OPERATION AND MAINTENANCE

1. The Licensee shall operate and maintain the Solid Waste Disposal Facilities in accordance with the approved Operation and Maintenance Plan submitted on February 6, 2017, until such a time as a new plan is approved by the Board.
2. The Licensee shall operate and maintain the Sewage Disposal Facilities ~~Sewage Treatment Facilities~~ in accordance with the submitted on February 6, 2017, until such a time as a new plan is approved by the Board.
3. Within six months following the issuance of this Licence, the Licensee shall submit to the Board for approval, an Operations and Maintenance Plan for the Solid Waste Disposal Facilities. This plan shall include all information outlined in Schedule 2, part 1.
4. Within twelve months following the issuance of this Licence, the Licensee shall submit to the Board for approval, an updated Operations and Maintenance Plan for the Water Supply Facilities. This plan shall include all information outlined in Schedule 2, part 2.
5. Within twenty four months year following the issuance of this Licence, the Licensee shall submit to the Board for approval, an updated Operations and Maintenance Plan for the Sewage Disposal Facilities. This plan shall include all information outlined in Schedule 2, part 3.
6. The Licensee shall review the Operations and Maintenance Plans annually and modify the plans as necessary to reflect changes in design, operation and maintenance, or as otherwise required by the Board or Inspector. The proposed updates shall be submitted to the Board for approval.

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PART F: CONDITIONS APPLYING TO CONSTRUCTION

Prior to construction of any dams, dykes or structures intended to contain, withhold, divert or retain water or wastes, the Licensee shall submit to the Board for approval design drawings stamped by a qualified engineer registered in the Northwest Territories.

1. A minimum of sixty (60) days prior to the construction of any dams, dykes or structures intended to contain, treat, withhold, divert or retain Water or Wastes, other than as contemplated in the Contingency Plan, the Licensee shall submit to the Board for approval a construction plan and a design report signed and stamped by a Professional Engineer, which notes issued for construction or similar phrase.
- 1-2. Construction of designed structures as described in Part F, Item 1, shall be carried out in accordance with the recommendations of the Professional Engineer.
3. A minimum of ten (10) days prior to the commencement of construction of the structures referred to in Part F, Item 1, the Licensee shall provide written notification to the Board and an Inspector. Notification shall include the name and contact information for the construction superintendent.
4. Within ninety (90) days of the completion of the construction of the structures referred to in Part F, item 1, the Licensee shall submit to the Board an As-built Report which shall include as-built drawings stamped and signed by a Professional Engineer and descriptions and rationale for changes made that deviate from the final design drawings referred to in Part F, item 2, and notes final or similar phrase.
5. Any fill material used in the construction of the structures described in Part F, Item 1, must be clean and free of contaminants, and from a source that has been approved in writing by an Inspector.

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PART G: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written approval from the Board, carry out Modifications to the Water Supply Facilities or Solid Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
 - a) The Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
 - b) Such Modifications do not place the Licensee in contravention of either 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;
 - ~~e) An Inspector has authorized the proposed Modifications and provided a letter of notification to the Board; and~~
 - d) The Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part G, Item 1 have not been met may be carried out only with written approval from the Board.
3. A minimum of ten (10) days prior to the commencement of modifications referred to in Part G, Item 1, the Licensee shall provide written notification to the Board and an Inspector.
- ~~2.4.~~ Within ninety (90) days of the completion of the Modifications referred to in Part G, item 1, the Licensee shall submit to the Board as-built drawings stamped and signed by a Professional Engineer, which notes "final" -or similar phrase.

PART H: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Licensee shall act in accordance with the Spill Contingency Plan submitted on February 6, 2017, until such a time as a revised plan is approved by the Board.
2. Within eighteen months following the issuance of this Licence, the Licensee shall submit to the Board for approval, an updated Spill Contingency Plan in accordance with the MVLWB Spill Contingency Plan Template for Municipal Water Licences, which includes, but is not limited to, the following information:
 - a) Updated contact information for onsite personnel and outside organizations;
 - b) Clearly identified roles and responsibilities of On-site Supervisor and other spill responders;
 - c) An updated flow chart that clearly depicts the communication lines and the response duties of each member of the response team; and
 - d) A description of spill response training provided to on site personnel.
3. The Licensee shall review the Spill Contingency Plan annually, and if necessary, modify the plan to reflect changes in operation(s) and technology, chemicals or fuels, or as directed by the Board. The updated Spill Contingency Plan shall be submitted to the Board for approval, and shall include a summary of revisions.
4. If, during the period of this Licence, an unauthorized discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a) Implement the approved Spill Contingency Plan;
 - b) Report all Spills immediately via the (24) Hour NWT-Nunavut Spill Report Line (867) 920-8130 in accordance with the instructions contained in the NT-NU Spill Report Form and the Spills Working Agreement, Appendix A, Schedule 1 – Reportable Quantities for NT-NU Spills.;
 - c) Report each Spill to the Board and an Inspector within 24 hours; and
 - d) Submit to the Board and an Inspector a detailed report on each occurrence not later than thirty (30) days after initially reporting the event. The detailed report shall include descriptions of root causes, response actions, and any changes to procedures to prevent similar occurrences in the future.
5. All Spills and Unauthorized Discharges of Water or Waste shall be reclaimed to the satisfaction of an Inspector.



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PART I: CONDITIONS APPLYING TO CLOSURE AND RECLAMATION

1. ~~The Licensee shall submit to the Board for approval an Abandonment and Restoration Plan at least six (6) months prior to abandoning any Waste Disposal Facilities. The Plan shall include, but not be limited to:~~
 - a) ~~contaminated site remediation;~~
 - b) ~~leachate prevention;~~
 - c) ~~an implementation schedule~~
 - d) ~~maps delineating all disturbed areas, borrow material locations, and site facilities;~~
 - e) ~~consideration of altered drainage patterns;~~
 - f) ~~type and source of cover materials;~~

~~g) future area use; and~~

~~h) hazardous wastes.~~

~~2. The Licensee shall implement the Plan specified in Part F, Item 1 as and when approved by the Board.~~

1. The Licensee shall submit to the Board for approval a Closure and Reclamation Plan at least six (6) months prior to the Closure of any Water Supply, Sewage or Solid Waste Disposal Facilities. The plan shall be in accordance with Schedule 3, item 1.~~The Plan shall include, but not be limited to, the following:~~

- ~~a) a description of the current conditions, including photographs;~~
- ~~b) maps delineating all disturbed areas, borrow material locations, and site facilities;~~
- ~~c) contaminated site remediation;~~
- ~~d) the potential for groundwater contamination (leachate prevention);~~
- ~~e) consideration of altered drainage patterns;~~
- ~~f) type and source of cover materials;~~
- ~~g) future area use;~~
- ~~h) hazardous wastes removal, transportation and disposal;~~
- ~~i) an implementation schedule; and~~
- ~~j) a restoration monitoring plan.~~

2. The Licensee shall implement the Plan specified in Part I, Item 1 as and when approved by the Board.

3. Upon implementation of the Closure and Reclamation Plan, the Licensee shall provide to the Board and Inspector updates of all Closure and Reclamation activities within the Annual Report as described in Part B, Item 2.1.

GGWICH'IN LAND AND WATER BOARD

Witness – Leonard DeBastien

Chair – Paul Sullivan



Schedule 1 – Annual Water Licence Report

1. The Annual Water Licence Report referred to in Part B, item 4 of this Licence shall include, but not be limited to, the following information:
 - a) The monthly and annual quantities in cubic metres of fresh Water obtained from all sources;
 - b) The monthly and annual quantities in cubic metres of each and all Waste discharged to the Waste Disposal Facilities;
 - c) The annual quantity of Hazardous Waste stored on site and shipped off site (if any);
 - d) Tabular summaries of all data generated under the Surveillance Network Program (SNP) referred to in Part B of this Licence;
 - e) A summary of activities conducted in accordance with the approved Solid Waste Disposal Facility Fencing Plan, referred to in Part D, item 8 of this Licence undertaken during the previous calendar year;
 - f) Laboratory reports for all samples collected for the Surveillance Network Program, attached as an appendix;
 - g) Geographic coordinates for all Surveillance Network Program stations and a map showing station locations;
 - h) A summary of sludge management activities including results of depth and volume measurements, sludge removal and treatment;
 - i) A summary of the annual inspection of the dams, dykes and other engineered earth structures designed to contain waste within the Sewage Disposal Facilities, in accordance with Part D of this Licence;
 - j) A summary of Construction activities conducted in accordance with Part F of this Licence;

- k) A summary of Modification activities and major maintenance work conducted on the Water Supply and Waste Disposal Facilities, including all associated structures, in accordance with Part G of this Licence;
- l) A list and description of all Unauthorized Discharges that occurred during the previous calendar year, including the date, NWT spill number, volume, location, and summary of the circumstances and follow-up actions taken, and the status (i.e. open or closed), in accordance with the reporting requirements referred to in Part H of this Licence;
- m) An outline of any spill training and communications exercises carried out during the previous calendar year;
- n) A summary of any closure and reclamation work completed during the year and an outline of any work anticipated for the next year;
- o) A summary of any studies requested by the Board that relate to Waste disposal, Water Use or Reclamation, and a brief description of any future studies planned;
- p) A summary of actions taken to address concerns, non-conformances, or deficiencies in any reports filed by an Inspector;
- q) A summary of any updates or revisions to the Spill Contingency Plan, Management Plans and Operation & Maintenance Plans; and
- r) Any other details on Water Use, operating procedures, Modifications, maintenance work, or other topics, requested by the Board on or before November 1 of the year being reported.

Schedule 2 – Operation and Maintenance

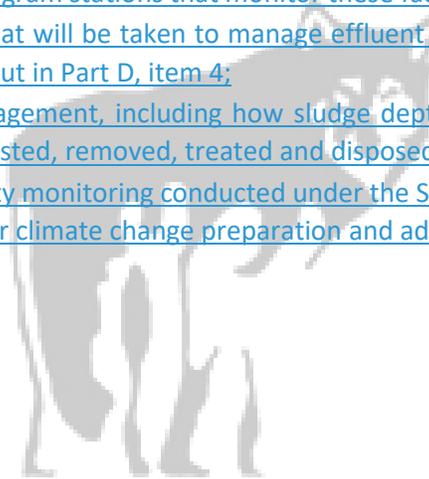
1. The revised **Operation and Maintenance Plan for the Solid Waste Disposal Facilities** referred to in Part E, item 3 of this Licence shall include, but not be limited to, the following information:
 - a) All of the components outlined in the Board's *Operation and Maintenance Plan Template for Municipal Water Licences: Solid Waste Facility*;
 - b) A map showing all the components of the Solid Waste Disposal Facilities and SNP stations that monitor these facilities;
 - c) The remaining capacity or lifespan for each component of the Solid Waste Disposal Facilities;
 - d) Details about which sections of Solid Waste Disposal Facilities have been progressively reclaimed;
 - e) Frequency of compaction and cover of Waste, and source of cover material;
 - f) Use of drainage controls, measures employed to minimize standing water in waste cells, and contingency measures for leachate that does not receive approval to discharge;
 - g) Monitoring conducted under the Surveillance Network Program; and
 - h) Measures for the management of Hazardous Wastes;
 - i) Measures for climate change preparation and adaptation.

2. The revised **Operation and Maintenance Plan for the Water Supply Facilities** referred to in Part E, item 4 of this Licence shall include, but not be limited to, the following information:

- a) All of the components outlined in the Board's Operation and Maintenance Plan Template for Municipal Water Licences: Water Treatment System;
- b) Methods for the characterization of sludge generated at the Water Supply Facilities;
- c) Measures for the disposal of sludge generated at the Water Supply Facilities; and
- d) Measures for climate change preparation and adaptation.

3. The revised **Operation and Maintenance Plan for the Sewage Disposal Facilities** referred to in Part E, item 5 of this Licence shall include, but not be limited to, the following information:

- a) All of the components outlined in the Board's Operation and Maintenance Plan Template for Municipal Water Licences: Wastewater (Sewage) Treatment System;
- b) A map showing all the components of the Sewage Disposal Facilities and Surveillance Network Program stations that monitor these facilities;
- c) Measures that will be taken to manage effluent that does not meet effluent quality criteria set out in Part D, item 4;
- d) Sludge management, including how sludge depth is monitored, how sludge is managed, tested, removed, treated and disposed of; and
- e) Water quality monitoring conducted under the Surveillance Network Program;
- f) Measures for climate change preparation and adaptation.



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Schedule 3 – Closure and Reclamation

1. With regard to the facility being closed, the **Closure and Reclamation Plan** referred to in Part I, item 1 shall include, but not be limited to, the following information:

- a) A description of existing conditions, including photographs;
- b) Hazardous Wastes removal, transportation, and disposal;
- c) Plans to minimize the potential for leachate to contaminate groundwater and surface runoff;
- d) Consideration of altered drainage patterns;
- e) Consideration of climate change effects;
- f) Contaminated site remediation;
- g) Type and source of cover materials;
- h) Future area use;
- i) A post-closure monitoring plan;
- j) An implementation schedule; and
- k) Maps delineating all disturbed areas, borrow material locations, and site facilities

including hydrological features and elevation contours.



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Annex A:
Surveillance Network Program (SNP)
Annexed to Water Licence G17L3-001 Part B, item 3
Town of Inuvik

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Part A: Reporting Requirements

Part B: Sampling and Analysis Requirements

Part C: Surveillance Network Program Station Descriptions

Part A: Reporting Requirements

1. The effective date of this Surveillance Network Program (SNP) is July 1, 2017
2. The Licensee shall include all of the data and information required in Part C of this Annex in the Annual Water Licence Report, as specified in Part B, item 2 of this Licence.

3. The Licensee shall also provide SNP data at other times, if requested by an Inspector or the Board.

Part B: Sampling and Analysis Requirements

1. More frequent sample collection or provision of data may be required at the request of an Inspector.
2. The location of sampling sites is subject to the approval of an Inspector. The Licensee shall work with an Inspector to confirm suitability of sampling sites. Signs shall be posted as per Part B, item 5 of this Licence.
3. All sampling, sample preservation, and analyses shall be conducted in accordance with methods prescribed in the current edition of American Public Health Association’s (APHA) *Standard Methods for the Examination of Water and Wastewater* at the time of analysis, or by other such methods approved by an Analyst.
4. All analyses shall be performed in a laboratory accredited by the Canadian Association for Laboratory Accreditation (CALA) for the specific analyses to be performed or as approved by an Analyst.



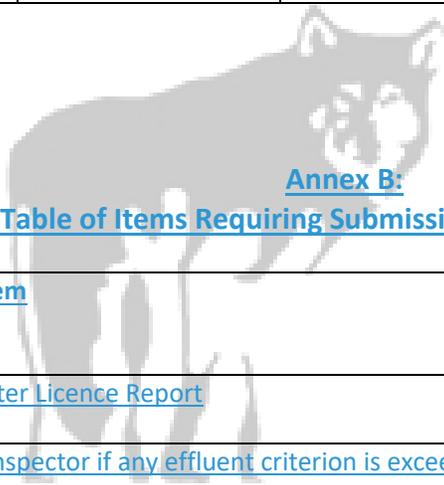
Part C: SNP Station Descriptions and Monitoring Requirements

<u>SNP #</u>	<u>Location</u>	<u>Sampling Frequency</u>	<u>Sampling Parameters</u>	<u>Rationale</u>
<u>0036-1</u>	<u>Raw Water intake at the Mackenzie River Water Supply Facilities (68°21'10.36"N 133°43'35.53"W)</u>	<u>Monthly</u>	<u>Volume of water in cubic metres</u>	<u>To monitor the monthly and annual quantity of Water withdrawn for municipal purposes.</u>
<u>0036-2</u>	<u>Hidden Lake Pumphouse (68°21'36.86"N 133°42'1.17"W)</u>	<u>DISCONTINUED</u>	<u>DISCONTINUED</u>	<u>DISCONTINUED</u>
<u>0036-3</u>	<u>Decant Structure at</u>	<u>Monthly</u>	<u>• pH</u>	<u>Site of compliance. To monitor</u>

	the Sewage Disposal Facilities (68°22'20.58 "N 133°45'38.85"W)		<ul style="list-style-type: none"> • CBOD₅ • Suspended Solids • Ammonia • Faecal Coliforms • Oil and Grease 	final effluent quality prior to discharge to the Receiving Environment.
0036-3	Decant Structure at the Sewage Disposal Facilities (68°22'20.58 "N 133°45'38.85"W)	<ul style="list-style-type: none"> • 10 days before beginning a Batch Decant • Once at the beginning of the decant • Once in the middle of the decant • Once at the end of the decant 	<ul style="list-style-type: none"> • pH • CBOD₅ • Suspended Solids • Ammonia • Faecal Coliforms • Oil and Grease 	Site of compliance. To monitor final effluent quality prior to discharge to the Receiving Environment.
0036-4	Run-off below the Solid Waste Disposal Facilities (68°21'7" N, - 133°41'1.3"W)		<ul style="list-style-type: none"> • pH • CBOD₅ • Suspended Solids • Sodium • Total Phosphate • Magnesium • Sulphate • Potassium • Calcium • Total Phenols • Total Chromium • Total Lead • Total Phenols • Total Chromium • Total Lead • Total Iron • Total Nickel • Total Copper • Total Cadmium • Total Zinc • Total Mercury • Conductivity • TPH 	To monitor potential impacts of the Solid Waste Disposal Facilities on surface Water
0036-5	Run-off to two (2) tundra ponds located southwest of the Solid Waste		<ul style="list-style-type: none"> • pH • CBOD₅ • Suspended Solids • Sodium 	To monitor potential impacts of the Solid Waste Disposal Facilities on surface Water

	Disposal Facilities. (68°20'36.22"N, 133°40'32.41"W)		<ul style="list-style-type: none"> • Total Phosphate • Magnesium • Sulphate • Potassium • Calcium • Total Phenols • Total Chromium • Total Lead • Total Phenols • Total Chromium • Total Lead • Total Iron • Total Nickel • Total Copper • Total Cadmium • Total Zinc • Total Mercury • Conductivity • TPH 	
0036-6	"Gate Pond" near the SW corner of the Sewage Disposal Facilities (68°21'51.45"N, 133°45'1.00"W)		<ul style="list-style-type: none"> • pH • CBOD₅ • Suspended Solids • Ammonia • Faecal Coliforms 	To monitor potential impacts of the Sewage Lagoon on surface Water
0036-7	"Far Pond" near the northwest corner of the Sewage Disposal Facilities (68°22'15.73"N, 133°45'41.60"W)		<ul style="list-style-type: none"> • pH • CBOD₅ • Suspended Solids • Ammonia • Faecal Coliforms 	To monitor potential impacts of the Sewage Lagoon on surface Water
0036-8	Twin Lakes at Happy Valley (68°21'39.14"N, 133°44'28.10"W)		<ul style="list-style-type: none"> • pH • CBOD₅ • Suspended Solids • Ammonia • Faecal Coliforms 	Control for Sewage Lagoon Sampling
0036-9	Boot Creek upstream of Boot Lake (TBD)		<ul style="list-style-type: none"> • pH • CBOD₅ • Suspended Solids • Sodium • Total Phosphate • Magnesium • Sulphate • Potassium 	To monitor potential impacts of the Solid Waste Disposal Facilities on surface Water

			<ul style="list-style-type: none"> • Calcium • Total Phenols • Total Chromium • Total Lead • Total Phenols • Total Chromium • Total Lead • Total Iron • Total Nickel • Total Copper • Total Cadmium • Total Zinc • Total Mercury • Conductivity • TPH 	
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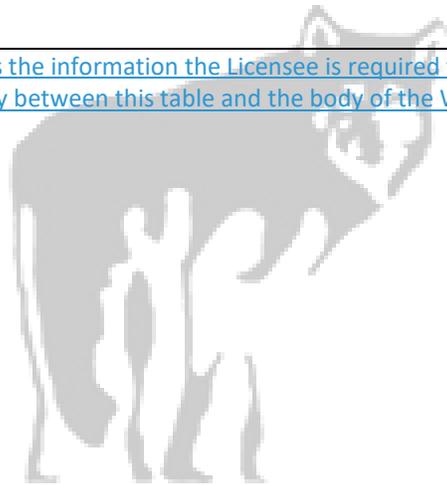
Annex B:

Concordance Table of Items Requiring Submission (Water Licence G17L3-001)

<u>Licence Part</u>	<u>Item</u>	<u>Timeline for Submission</u>
B	Submit Annual Water Licence Report	By March 31 of each year
B	Notify Board and Inspector if any effluent criterion is exceeded	Within 7 days of exceedance
D	Notify Board and Inspector before initiating Sludge removal	At least thirty (30) days prior to removal
D	Submit Solid Waste Disposal Fencing Plan	Not Later than July 1, 2019
E	Submit updated Operation and Maintenance Plan for the Solid Waste Disposal Facilities	Not later than January 1, 2018
E	Submit an Operation and Maintenance Plan for the Water Treatment Facilities	Not later than July 1, 2018
E	Submit updated Operation and Maintenance Plan for the Sewage Waste Disposal Facilities	Not later than July 1, 2019
F	Submit Final design drawings for any structures intended to contain, withhold, divert or retain Waters or Wastes	At least sixty (60) days prior to commencement
F	Notify Board and Inspector before commencing Construction of any structures intended to contain, withhold, divert or retain Waters or Wastes	At least ten (10) days prior to commencement

<u>F</u>	<u>Submit As-Built drawings for Construction of any structures intended to contain, withhold, divert or retain Waters or Wastes</u>	<u>Within ninety (90) days of completion</u>
<u>G</u>	<u>Notify Board and Inspector of proposed Modifications to Water Supply or Waste Disposal Facilities</u>	<u>At least sixty (60) days prior to commencement</u>
<u>G</u>	<u>Notify Board and Inspector before commencing Modifications</u>	<u>At least ten (10) days prior to commencement</u>
<u>G</u>	<u>Submit as-built drawings for Modifications</u>	<u>Within ninety (90) days of completion</u>
<u>H</u>	<u>Submit updated Spill Contingency Plan</u>	<u>Not later than January 1, 2019</u>
<u>I</u>	<u>Submit a Closure and Reclamation Plan</u>	<u>At least six (6) months prior to abandoning any Water Supply, Sewage or Solid Waste Disposal Facilities</u>

Note: This table summarizes the information the Licensee is required to submit as per the Water Licence Conditions. In the event of a discrepancy between this table and the body of the Water Licence, the Water Licence condition will prevail.



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