

**DRAFT Type B Water Licence MV2016L3-0001
Hamlet of Fort Providence – 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 the purpose of a municipal undertaking at the Hamlet of Fort Providence, Northwest Territories.
- b) This Licence is issued subject to the conditions contained herein with respect to the taking of Water and the depositing of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposit 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 relieve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial, or municipal legislation.
- d) The Licensee shall take every reasonable precaution to protect the environment.
- e) In conducting its activities under this Licence, the Licensee shall make best efforts to consider and incorporate any scientific and Traditional Knowledge that is made available to the Licensee.

Comment [Staff1]: Board staff have updated this draft Licence to align with more recently issued Licences for municipal undertakings. Please provide comments and recommendations on these draft conditions, including rationale.

2. Definitions:

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

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

Board – the Mackenzie Valley Land and Water Board established under subsection 99(1) of the *Mackenzie Valley Resource Management Act*,

Construction - any activities undertaken to construct or build any components of, or associated with, the undertaking.

Discharge - the direct or indirect release of any Water or Waste to the Receiving Environment.

Freeboard – the vertical distance between Water line and the effective Water containment crest on the upstream slope of a dam or dyke.

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

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

Licensee – the Hamlet of Fort Providence.

Maximum Average Concentration – the running average of any four (4) consecutive analytical results submitted to the Board in accordance with the sampling and analysis requirements specified in the Surveillance Network Program.

Minister – a duly appointed member of the Executive Council who is responsible for the *Waters Act* or the department responsible for administering that Act.

Modification – a change, other than an expansion, that does not alter the purpose or function of that structure.

Professional Engineer – a person registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists in accordance with the *Engineering and Geoscience Professions Act*, S.N.W.T. 2006, V.16, 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 means of a vacuum truck for disposal and/or treatment at an approved facility.

Receiving Environment – the aquatic environment that receives any Water or Waste released from the undertaking.

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

Regulations – Regulations promulgated pursuant to section 63 of the Act.

Sewage – all Toilet Wastes and Greywater.

Sewage Disposal Facilities – comprises the area and engineered structures designed to contain Sewage as identified in Figure Number 2, titled “Sewage Treatment Lagoon System”, which was included in the Water Licence Renewal Application dated April 6, 2016.

Solid Waste Disposal Facilities – comprises the area and associated infrastructure designed to contain solid Wastes as identified in [Figure Number 3](#), titled “Domestic

Solid Waste Site”, which was included in the Water Licence Renewal Application dated April 6, 2016.

Comment [Staff2]: Board staff notes that this figure is incomplete and awaits a revised figure from the Proponent. Proponent should submit a figure that shows the location of the construction waste disposal site, location of gates, fencing, the hazardous waste area, and boundaries of individual landfill cells with labels for each cell. The map should include the entire footprint of the SWDF and clearly demarcate the boundary.

Spill Contingency Plan – a document, developed in accordance with Indian and Northern Affairs Canada’s April 2007, *Guidelines for Spill Contingency Planning*, that describes the set of procedures to be implemented to minimize the effects of a spill or Unauthorized Discharge.

Surveillance Network Program – 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, Licence compliance, and potential for impacts to the environment.

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

Traditional Knowledge – the cumulative, collective body of knowledge, experience, and values built up by a group of people through generations of living in close contact with nature. It builds upon the historic experiences of a people and adapts to social, economic, environmental, spiritual, and political change.

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

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

Waste Disposal Facilities – comprises the area and associated infrastructure designated for the disposal of Waste, including the Sewage Disposal Facilities and the Solid Waste Disposal Facilities.

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

Water Supply Facilities – comprises the area and associated infrastructure designed to collect, treat, and supply Water for municipal purposes as identified in Figure ? in the Municipal Questionnaire that accompanied the Water Licence Renewal Application dated April 6, 2016.

Comment [Staff3]: Board staff notes that this figure is incomplete and awaits a revised figure from the Proponent. Proponent should submit a figure to show the area and associated infrastructure for the water supply facilities, including the raw water intake location.

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

Part B: General Conditions

1. The Licensee shall ensure a copy of this Licence is maintained at the municipal office at all times.
2. 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 Board's March 2012, *Document Submission Standards*; and,
 - c) Include a section within each submission which identifies where the pertinent requirements of the Licence are addressed.
3. The Licensee shall operate in accordance with plans and programs approved pursuant to the conditions of this Licence, and with any revisions to such 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 directed by the Board and resubmit it to the Board for approval.
4. The Licensee shall submit to the Board an **Annual Water Licence Report** no later than June 30 of the year following the year reported (April 1 – March 31), which shall be in accordance with Schedule 1.
5. 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.
6. 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.
7. 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.
8. Meters, devices, or other such methods used for measuring the volumes of Water used and Waste discharged shall be installed, operated, and maintained by the Licensee to the satisfaction of an Inspector.
9. Within one (1) year following issuance of this Licence, the Licensee shall develop and install signage to promote the proper segregation of waste at the Solid Waste Disposal Facilities to the satisfaction of the Inspector.
10. The Licensee shall submit a **Solid Waste Disposal Facilities Signage Report** to the Board by September 20, 2017 that includes details on signage for the facilities and all waste streams at the Solid Waste Disposal Facilities.

Comment [Staff4]: Current Licence reporting period is defined as April 1- March 31, with an Annual Report due June 30. Board staff seek input from reviewers including the Hamlet on whether the reporting period and due date should be changed to conform with other Licences (i.e. Annual Reports due March 31 with reporting based on the calendar year).

11. The Licensee shall post the necessary signs to inform the public of the location of the Water Supply Facilities, Waste Disposal Facilities, and Surveillance Network Program stations. All postings shall be located and maintained to the satisfaction of an Inspector.
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 Water for municipal purposes from the Mackenzie River using the Water Supply Facilities, or as otherwise approved by Board.
2. The annual quantity of fresh Water withdrawn using the Water Supply Facilities shall not exceed 60,000 cubic metres.
3. The Licensee shall adhere to the best practices outlined in Fisheries and Oceans Canada's *Fish Screen Design Criteria for Flood and Water Truck Pumps*, 2011.
4. The Licensee shall equip and maintain the fresh Water intake pumps with a screen designed to prevent the impingement and/or entrainment of fish. The screen shall have a mesh size sufficient to ensure no entrainment of fish, as outlined in Fisheries and Oceans Canada's *Freshwater Intake End-of-Pipe Fish Screen Guidelines*, 1995.

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Part D: Conditions Applying to Waste Disposal

1. The Licensee shall ensure that any unauthorized Wastes associated with this undertaking do not enter any Waters.
2. The Licensee shall immediately notify an Inspector of the exceedance of any effluent quality criterion.

Sewage

3. The Licensee shall direct all piped and Pumpout Sewage to the Sewage Disposal Facilities, or as otherwise approved by the Board.
4. The Sewage Disposal Facilities shall be maintained and operated in such a manner as to prevent structural failure.
5. A Freeboard limit of one (1) 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.
6. All effluent from the Waste Disposal Facilities at Surveillance Network Program station number 1412-2 shall meet the following effluent quality criteria:

Parameter	Maximum Average Concentration
Suspended Solids	300 mg/L
Oil and Grease	No visible sheen
BOD ₅	360 mg/L
Faecal Coliforms	1x10 ⁵ CFU / 100mL
pH	Above 6

CFU = Colony Forming Units

Comment [Staff5]: Board staff seek input on the adequacy of these EQCs. If revisions are suggested, please provide rationale.

These EQCs are from the old Licence and were based on input from the Inspector (see <http://www.mvlwb.ca/Boards/mv/Registry/2006/MV2006L3-0002/MV06L3-02-StaffRpt-App-Jul06.pdf>). The Licence previous to MV2006L3-0002 contained EQCs of BOD = 90mg/L, TSS = 60 mg/L.

7. The Licensee shall provide Water sampling results from SNP station 1412-2 to an Inspector and the Board no later than five (5) days prior to the discharge of effluent from the Sewage Disposal Facilities to the Receiving Environment. Discharge shall not commence until authorized in writing by an Inspector.
8. The Licensee shall maintain the Sewage Disposal Facilities to the satisfaction of an Inspector.

Solid Waste

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

10. The Licensee shall create and maintain waste segregation areas to the satisfaction of the Inspector for:
 - a) Household/municipal hazardous Waste;
 - b) Municipal solid Waste;
 - c) Bulky Waste and scrap metal;
 - d) Construction Waste; and
 - e) Waste oil.
11. Incineration at the Solid Waste Disposal Facilities is prohibited, unless otherwise authorized in writing by an Inspector.
12. Within twelve (12) months following issuance of this Licence, the Licensee shall submit to the Board, for approval, a **Solid Waste Disposal Facilities Fencing Plan**. The Plan shall describe how the Licensee will install and maintain fencing at the Solid Waste Disposal Facilities that is capable of capturing windswept Waste, deterring wildlife, and preventing unauthorized persons from entering the site.
13. The Licensee shall act in accordance with the approved Solid Waste Disposal Facilities Fencing Plan referred to in Part D, item 12, and shall annually review the plan and make any necessary revisions to reflect changes in operations, or as directed by the Board. The revised plan shall include a brief summary of the changes made, and shall be submitted to the Board, for approval, at least sixty (60) days prior to any proposed changes to the requirements in the approved plan.
14. Contaminated soil from industrial, commercial and institutional operators shall not be accepted at the Solid Waste Disposal Facilities, unless otherwise authorized in writing by an Inspector.
15. Sewage and solid Waste from industrial, commercial and institutional operators working outside of the local government boundaries of Fort Providence shall not be accepted at the Waste Disposal Facilities, unless otherwise authorized in writing by an Inspector.

OR

Within six (6) months following issuance of this Licence, the Licensee shall submit to the Board, for approval, a **Commercial and Industrial Operators Waste Management Plan**. The Plan shall describe how the Licensee shall monitor and regulate the volume of Sewage and solid Waste deposited to the Waste Disposal Facilities from commercial and industrial operators working outside of the municipal boundaries of Fort Providence. This Plan must be approved prior to the commencement of any agreements to receive Waste from commercial and industrial operators operating outside of the municipal boundaries of Fort Providence.

16. The Licensee shall not accept hazardous Wastes at the Waste Disposal Facilities generated by commercial and industrial operators.

Comment [Staff6]: Board staff request input on these proposed conditions to address management of commercial and industrial wastes produced outside of municipal boundaries. Please note that only one of these versions of the condition would be used.

17. The Licensee shall maintain the Solid Waste Disposal Facilities to the satisfaction of an Inspector.

18. The Licensee shall apply cover material over exposed Waste to the satisfaction of an Inspector.

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Part E: Conditions Applying to Operations and Maintenance

1. The Licensee shall act in accordance with the Operations and Maintenance Plan for the Water Supply Facilities, Operations and Maintenance Plan – Sewage and Solid Waste Disposal Facilities submitted to the Board on December 10, 2014 until a revised plan is approved by the Board.
2. The Licensee shall submit to the Board, by March 31, 2016, for approval, a revised **Operations and Maintenance Plan for the Sewage and Solid Waste Disposal Facilities**. The Plan shall include, but not be limited to, all of the components outlined in the Board's *Operation and Maintenance Plan Templates for Municipal Water Licences: Solid Waste Facility* and *Operation and Maintenance Plan Templates for Municipal Water Licences: Wastewater (Sewage) Treatment System*.
3. Within one (1) year following issuance of this Licence, the Licensee shall submit to the Board, for approval, an **Operations and Maintenance Plan for the Water Treatment Plant**. The Plan shall include, but not be limited to, all of the components outlined in the Board's *Operation and Maintenance Plan Templates for Municipal Water Licences: Solid Waste Facility*.
4. The Licensee shall act in accordance with the approved plans referred to in Part E, items 2 and 3, and shall annually review the plans and make any necessary revisions to reflect changes in operations, technology, and the results from research and other studies, or as directed by by an Inspector or the Board. Revised plans shall include a brief summary of the changes made, and shall be submitted to the Board, for approval, at least sixty (60) days prior to any proposed changes to the requirements in the approved plans.

Comment [Staff7]: Pending Board decision on whether or not to approve the Plan submitted with the application

Part F: Conditions Applying to Construction

1. Within three (3) months following issuance, the Licensee shall submit to the Board any available as-built drawings of the Solid Waste Disposal Facilities and Sewage Disposal Facilities.
2. A minimum of ninety (90) days prior to construction of any structures intended to contain, withhold, divert or retain Waters or Wastes, the Licensee shall submit to the Board, **final design drawings** stamped and signed by a Professional Engineer, which notes "issued for construction" or similar phrase.
3. Construction of structures referred to in Part F, item 2 shall be carried out in accordance with the recommendations of the Professional Engineer responsible for the design, including, but not limited to, recommendations regarding field supervision and inspection requirements.
4. A minimum of ten (10) days prior to the commencement of construction of the structures referred to in Part F, item 2, the Licensee shall provide written notification to the Board and an Inspector. Notification shall include the name and contact information for the construction superintendent.
5. Within ninety (90) days of the completion of the construction of the structures referred to in Part F, item 2, 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.
6. The Licensee shall only use material that is clean and free of contaminants and is from a source that has been approved in writing by an Inspector.

Part G: Conditions Applying to Modifications

1. The Licensee may, without written approval from the Board, carry out Modifications to the Water Supply Facilities and Waste Disposal Facilities provided that the following requirements are met:
 - a) The Licensee has notified the Board and Inspector, in writing, of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
 - b) The 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 further information is required or that review of the proposal will require more than sixty (60) days;
 - d) An Inspector has authorized the proposed Modifications and provided a letter of notification to the Board; and,
 - e) The Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part G, item 1, have not been met, may be carried out only with written approval from the Board.
3. 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 to the Board on April 6, 2016 as part of the Water Licence Renewal Application until a revised plan is approved by the Board.
2. Within six (6) months following issuance, the Licensee shall submit to the Board, for approval, a revised Spill Contingency Plan. The Plan shall be revised in accordance with comments and commitments made during the review process for the Water Licence Application. The Plan shall include, but not be limited to, all of the components outlined in the Board's *Operation and Maintenance Plan Templates for Municipal Water Licences: Spill Contingency Plan*.
3. The Licensee shall act in accordance with the approved Spill Contingency Plan referred to in Part H, item 2, and shall annually review the Plan and make any necessary revisions to reflect changes in operations, technology, chemicals or fuels, or as directed by an Inspector or the Board. Revised Plans shall include a brief summary of the changes made, and shall be submitted to the Board, for approval, at least sixty (60) days prior to any proposed changes to the requirements in the approved Plan.
4. If, during the term of this Licence, a spill or an Unauthorized Discharge occurs or is foreseeable, the Licensee shall:
 - a) Implement the Spill Contingency Plan;
 - b) Report the incident immediately via the 24-hour NWT Spill Report Line at (867) 920-8130 in accordance with the instructions contained in the Spill Report Form NWT 1752/0593;
 - c) Report each spill and Unauthorized Discharge to the Board and an Inspector within 24 hours; and
 - d) Submit a detailed report on each spill and Unauthorized Discharge, including descriptions of root causes, response actions and any changes to procedures to prevent similar occurrences in the future, to the Board within thirty (30) days.
5. All spills and Unauthorized Discharges of Water or Waste shall be reclaimed to the satisfaction of an Inspector.

Part I: Conditions Applying to Closure and Reclamation

1. The Licensee shall carry out progressive Reclamation of disturbed areas as soon as is reasonably practical.
2. 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 component or cell of the Sewage or Solid Waste Disposal Facilities. The plan shall be in accordance with Schedule 2, item 1.
3. The Licensee shall act in accordance with the approved Closure and Reclamation Plans referred to in Part I, item 2.
4. The Licensee shall complete Reclamation activities within the time schedule specified in the Plan or as subsequently revised and approved by the Board.

Signed the behalf of the Mackenzie Valley Land and Water Board

A/Chair

Witness

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, including sludge from the Water Supply Facilities;
 - c) The monthly and annual quantities in cubic metres of Waste removed from the Waste Disposal Facilities;
 - d) The monthly and annual quantity of all Sewage and solid Waste deposited into the Waste Disposal Facilities by commercial and industrial operators working outside the municipal boundaries of Fort Providence;
 - e) Tabular summaries of all data generated under the Surveillance Network Program referred to in Part B, item 6 of this Licence;
 - f) A summary of activities undertaken to install and maintain fencing at the Waste Disposal Facilities referred to in Part B, item 6 of this Licence;
 - g) A summary of Construction activities conducted in accordance with Part F of this Licence;
 - h) 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;
 - i) 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, item 4 of this Licence;
 - j) An outline of any spill training and communications exercises carried out during the previous calendar year;
 - k) A summary of any closure and reclamation work completed during the year and an outline of any work anticipated for the next year;
 - l) 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;
 - m) A summary of actions taken to address concerns, non-conformances, or deficiencies in any reports filed by an Inspector;
 - n) A summary of any updates or revisions to the Spill Contingency Plan, Management Plans and Operation & Maintenance Plans; and
 - o) 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
Closure and Reclamation Plan

1. With regard to the facility being closed, the **Closure and Reclamation Plan** referred to in Part I, items 2 shall include, but not be limited to, the following information:
 - a) A description of existing conditions, including photographs;
 - b) A description of monitoring activities conducted prior to closure and a summary of results obtained;
 - c) Contaminated site remediation;
 - d) Plans to minimize the potential for leachate to contaminate groundwater and surface runoff;
 - 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) 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.

**DRAFT Annex A: Surveillance Network Program (SNP)
Annexed to Water Licence MV2016L3-0001 Part B, item 6
Hamlet of Fort Providence**

Table of Contents:

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 is **DATE**.
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 4 of this Licence.
3. The Licensee shall also provide SNP data at other times, if requested by an Inspector or the Board.

Comment [Staff8]: Board staff note that this date will be filled in at issuance.

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 determine suitable locations for sampling sites.
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

SNP station	Location	Sampling Frequency	Sampling Parameters	Rationale
1412-1	Raw Water intake line at the Water Supply Facilities	Monthly	Volume of Water in cubic metres	To monitor the monthly and annual quantity of Water withdrawn for municipal purposes.
1412-2	Sewage effluent from the Sewage Disposal Facilities	Prior to discharge and weekly during discharge	pH, CBOD ₅ , Total Suspended Solids, Ammonia, Total Phosphorus, Nitrate, Nitrite, Faecal Coliforms, Oil and Grease	Site of compliance. To monitor final effluent quality prior to discharge into the Receiving Environment.
1412-3	Raw sewage from pump out truck	Discontinued	Discontinued	Discontinued
2016-1	Sewage effluent flowing through the ponded area of the wetland (Exact location(s) to be determined with the Inspector)	At the beginning and end of the open water season, (i.e. one week following freshet, and before freeze-up)	pH, CBOD ₅ , Total Suspended Solids, Ammonia, Total Phosphorus, Nitrate, Nitrite, Faecal Coliforms, Oil and Grease	To monitor the quality of effluent that has been discharged from the Sewage Disposal Facilities before it flows into the Mackenzie River.
2016-2	Ponded water within or adjacent to the Solid Waste Disposal Facilities (Exact location to be determined with the Inspector)	Twice per year during the months of June and September	Total Suspended Solids, Total Cadmium, Total Chromium, Total Cobalt, Total Copper, Total Iron, Total Lead, Magnesium, Total Manganese, Total Mercury, Total Nickel, Oil and Grease, Total Petroleum Hydrocarbons, BTEX, Total Phenols, Total Phosphate, Calcium, Potassium, Sodium, Sulphate, Total Zinc, pH, conductivity	To monitor potential impacts of the Solid Waste Disposal Facilities on groundwater and surface Water.

Comment [Staff9]: Board staff seek input on the addition of one or two proposed monitoring stations between the final lagoon cell and final discharge to receiving water body, including location(s), accessibility, parameters, and sampling frequency

Signed on behalf of the Mackenzie Valley Land and Water Board

A/Chair

Witness