

**YUKON WATER BOARD**

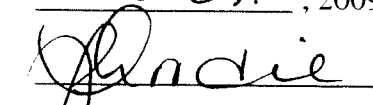
Pursuant to the *Waters Act* and *Waters Regulation*, the Yukon Water Board hereby grants a Type A water licence for a municipal undertaking to:

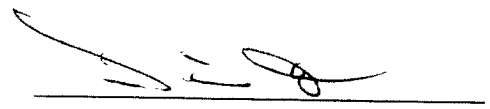
Village of Carmacks  
P.O. Box 113  
Carmacks, YT Y0B 1C0

**LICENCE NUMBER:** MN08-077  
**LICENCE TYPE:** A **UNDERTAKING:** MUNICIPAL  
**LOCATION:** Carmacks, YT  
**WATER MANAGEMENT AREA:** 02 Yukon  
**MAP CO-ORDINATES:** Latitude: 62° 05' 20" N Longitude: 136° 16' 25" W  
**PURPOSE:** To operate and maintain a wastewater treatment facility and discharge treated municipal wastewater into the Yukon River. To dispose of treated sludge at a disposal facility.  
**EFFECTIVE DATE:** The effective date of this licence shall be the date on which the signature of the Chairperson of the Yukon Water Board is affixed.  
**EXPIRY DATE:** December 31, 2028


This licence shall be subject to the restrictions and conditions contained herein and to the restrictions and conditions contained in the *Waters Act* and the *Waters Regulation* made thereunder.

Approved this 15<sup>th</sup> day of October, 2009.

  
Witness

  
Minister, Executive Council Office  
GOVERNMENT OF YUKON

Issued this 20 day of October, 2009.

  
Witness

  
Chairperson  
YUKON WATER BOARD

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## PART A –DEFINITIONS

“Act” means *Waters Act* and any amendments thereto.

“Application” means Water Use Application MN08-077, including any additional submission and/or revisions submitted to the Yukon Water Board by the Licensee, up to the date of the Board’s decisions.

“Board” means the Yukon Water Board.

“Inspector” means any person designated as an Inspector under the Act.

“Natural Boundary” means the visible high water mark of any lake, river, stream or other body of water where the presence and action of the water is so common and usual, and so long continued, as to mark upon the soil of the bed of the lake, stream or other body of water, a character distinct from that of the banks thereof, both in respect to vegetation and in respect to the nature of the soil itself. In addition, the best estimates of the edge of dormant or old side channels and marsh areas are considered to be natural boundaries.

“Regulation” means the *Waters Regulation*

“Spill Contingency Plan” means the *Spill Response Plan for Petroleum Products (Fuels) and Sewage* that was submitted as part of the Application and included in Water Use Register MN08-077 as exhibit 1.3.5.

“Waste” means any substance as defined in the Act.

“Watercourse” means any stream, lake, pond, river, creek, spring, ravine or swamp, whether ordinarily containing the water or not.

## PART B –GENERAL CONDITIONS

1. Where there is a discrepancy between the Application and this licence, the conditions of this licence shall prevail.

### Other Laws

2. No condition of this licence limits the application of any other federal, territorial, first nation or municipal legislation.
3. All construction or installation of works authorized by this licence shall occur on property that the Licensee has the right to enter upon and use for that purpose.

Correspondence

4. Where any direction, notice, order or report under this licence is required to be in writing, it shall be given:

- a) To the Licensee, if delivered, faxed or mailed by registered mail to the following address:

Village of Carmacks  
P.O. Box 113  
Carmacks, YT Y0B 1C0

Fax: (867) 863-6606

and shall be deemed to have been given to the Licensee on the day it was delivered or faxed, or 7 days after the day it was mailed, as the case may be.

- b) To the Board, if delivered, faxed or mailed by registered mail to the following address:

Yukon Water Board  
Suite 106, 419 Range Road  
Whitehorse, YT Y1A 3V1

Fax: (867) 456-3890

and shall be deemed to have been given to the Board on the day it was delivered or faxed, or 7 days after the day it was mailed, as the case may be.

- c) The Board or the Licensee may, by notice in writing, change its address for delivery.

Non-Compliance

5. In the event that the Licensee fails to comply with any provision or condition of this licence, the Board may, subject to the Act, cancel the licence.

Spills and Unauthorized Discharges

6. The Licensee shall immediately contact the 24-hour Yukon Spill Report number, (867) 667-7244, and implement the Spill Contingency Plan should a spill or an unauthorized discharge occur. A detailed written report on any such event including, but not limited to, dates, quantities, parameters, causes and other relevant details and explanations, shall be submitted to the Board not later than 10 days after the occurrence.

7. All personnel shall be trained in procedures to be followed and the equipment to be used in the containment of a spill.

8. The Spill Contingency Plan shall be posted on site for the duration of the works.

Fuel Storage and Transfer

9. Fuel, lubricants, hydraulic fluids, coolants and similar substances shall be stored and/or transferred a minimum of 30 metres from the Natural Boundary of any Watercourse, in such a way that said substances are not deposited in or allowed to be deposited in waters.

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**PART C –OPERATING CONDITIONS**

10. The term of this licence is for the period from the effective date to December 31, 2028.
11. Within 30 days of the completion of construction, the Licensee shall submit to the Board, as-built design drawings of the wastewater treatment facility, sealed by a Professional Engineer licensed to practice in the Yukon.
12. The Licensee is hereby authorized to:
  - a) operate and maintain a wastewater treatment facility and sewage collection system;
  - b) collect, store, and treat sewage at a wastewater treatment facility and sewage collection system;
  - c) discharge treated effluent from the wastewater treatment facility to the Yukon River up to a maximum of 477m<sup>3</sup>/day; and
  - d) dispose of treated sludge at a disposal facility.as described in the Application and subject to the conditions of this licence.
13. All sewage collection, sewage treatment and sewage and sludge disposal systems shall be maintained in good repair in a manner which is consistent with generally accepted municipal practices for the types of systems being used.
14. The wastewater treatment facility shall be maintained and operated by personnel with the appropriate qualifications for the type of wastewater system being operated.
15. Operators transporting sludge shall be properly trained in the transportation and handling of hazardous substances and shall follow the requirements of the Government of Yukon.
16. All sludge disposal areas shall be fenced by June 30, 2010.
17. The Licensee shall post signs advising the public of:
  - a) human health hazards associated with the wastewater treatment facility and the sludge disposal areas; and
  - b) the outfall location and the need to boil water prior to consumption when immediately downstream of the outfall.
18. The Licensee shall provide notice, in writing to the Board, a minimum of 10 days prior to the commencement of wastewater discharge.

### PART D –EFFLUENT QUALITY STANDARDS

19. Effluent discharged from the wastewater treatment facility shall meet the following quality standards at monitoring station CM-1, as described in Schedule A of this licence:

Parameter	Maximum Authorized Concentration in a Grab Sample
CBOD <sub>5</sub>	25 mg/L
Total Suspended Solids	25 mg/L
pH	6-9
Oil and Grease	5 mg/L
Fecal Coliform	20,000 counts / 100ml
Acute Toxicity 96-hr LC <sub>50</sub>	non-toxic

CBOD<sub>5</sub> -Carbonaceous Biochemical Oxygen Demand (5 day equivalent)  
 LC<sub>50</sub> -96 hour static LC<sub>50</sub> at 100% concentration

20. Any discharge to a Watercourse must meet an acute bioassay standard of a 96-hour at 100% LC<sub>50</sub> bioassay using rainbow trout, pH non-adjusted.

### PART E –INITIAL CHARACTERIZATION OF EFFLUENT

21. The Licensee shall conduct an initial characterization of effluent discharge. This initial characterization shall be for a period of one year and shall begin upon commencement of wastewater discharge from the facility.
22. The initial characterization shall be done in compliance with the most current publication of the *Canada-wide Strategy for the Management of Municipal Wastewater Effluent*, published by the Canadian Council of Ministers of the Environment and Schedule A, Table A2 of this licence.

### PART F –MONITORING AND SURVEILLANCE

23. The Licensee shall comply with the monitoring program provided in Schedule A of this Licence.
24. The Licensee shall collect water quality monitoring parameters in accordance with the sampling frequency outlined in Schedule A, Table A3. The monitoring and sampling shall commence following the completion of the one year characterization period required by Clause 21 of this licence.
25. Samples collected as part of Schedule A shall be grab samples and shall be collected between the hours of 8:00am and 8:00pm, local time.

26. All data collection and analysis shall be conducted in accordance with the most recent edition of *Standard Methods for the Examination of Water and Wastewater*, prepared and published jointly by the American Water Works Association and the Water Pollution Control Federation.
27. The Licensee shall comply with the following physical monitoring program:
  - a) inspection of the wastewater treatment facility in accordance with the Operating and Maintenance Plan, as described in Part G of this licence.
  - b) inspection of facility structures;
  - c) visual inspection of the Yukon River banks for stability at the location of the existing outfall piping;
  - d) visual inspection of sewers and existing outfall.
28. All treatment facilities, discharge structures, and hydraulic control structures shall be inspected annually, by June 30, by a Professional Engineer Licensed to practice in Yukon. The results of this inspection, including all problems identified, photographs taken, remedial measures proposed, and remedial measures implemented, shall be compiled in a report and submitted to the Board as part of the annual report.

#### **PART G –REPORTS**

29. All reports required to be submitted to the Board will be unbound and reproducible by standard photocopier, accompanied by one electronic copy on a CD/DVD.
30. The Licensee shall provide to the Board 5 additional copies of all reports. The additional copies may be either 5 bound paper copies or 5 electronic copies on individual CDs/DVDs.
31. Electronic copies shall be IBM compatible in one of the following formats: Word 97 - 2003, Excel 97 - 2003 workbooks, or Adobe pdf format. Water quality results must be presented in Excel 97-2009.xls format.
32. The Licensee shall compile data relating to the monitoring and surveillance program outlined in Part E and F and Schedule A of this licence. This information shall be compiled into monthly reports and summarized into annual reports.

#### Annual Reports

33. The Licensee shall submit annual reports to the Board. The first annual report shall be from the effective date of this licence to December 31, 2009. Subsequent reports shall cover the period of January 1 to December 31 of each year and shall be submitted to the Board on or before February 28 of the subsequent year.
34. As part of the first annual report, the Licensee shall provide longitude and latitude or UTM coordinates for each of the monitoring stations identified in Table A1.

35. Annual reports shall include the information required by this licence, and by the Regulations, including but not necessary limited to:
- a) summaries of all data generated as a result of the monitoring requirements in Parts E and F of this licence shall be prepared by an individual qualified to do so, including at a minimum:
    - i) analysis and interpretation of the water data, and
    - ii) variances from baseline conditions or from previously collected data;
  - b) a record of construction activities for the year reported;
  - c) a detailed record of the operation of the sewage treatment and disposal facilities, including operational difficulties;
  - d) a copy of the engineer's report on the treatment facilities, discharge structures, and hydraulic control structures, as detailed in Clause 28 of this licence;
  - e) details of any maintenance, repairs, or improvements to physical works, including details of how recommendations from inspections reports have been addressed;
  - f) results of the physical monitoring program as described in Clause 27 of this licence;
  - g) the level of sludge in the disposal facility; and
  - h) any other information required by this licence or the Regulation.

#### Monthly Reports

36. Unless otherwise specified in this licence, the Licensee shall forward to the Board a copy of all data collected as part of the monitoring programs of this licence no more than 30 days after the conclusion of the month in which that data was collected.

#### Initial Characterization of Effluent Report

37. The Licensee shall compile and submit to the Board a report titled *The Initial Characterization of Effluent Report*. The report shall be submitted within 60 days following the initial characterization of effluent period.
38. The Initial Characterization of Effluent Report shall include, but not necessary limited to:
- a) a summary of all data collected and generated as a result of the monitoring requirements of the initial characterization of effluent;
  - b) an analysis and interpretation of the water quality data by a qualified individual;
  - c) a summary of the substances of concern and an analysis of the adequacy of the existing effluent quality standards; and
  - d) recommendations for an expanded regular monitoring program and/or updates to the substances in the existing effluent quality standards, if appropriate;
  - e) an explanation of any necessary upgrades required to the treatment facility to improve effluent quality, if appropriate.
39. Ten days prior to initiating the use of the wastewater treatment facility, the Licensee shall submit to the Board an Operating and Maintenance Plan. The facility shall be operated in accordance with that plan.

**PART H – SITE DECOMMISSIONING AND RESTORATION**

40. The Licensee shall submit a decommissioning plan to the Board, 90 days prior to commencing decommissioning activities.
  41. As part of final decommissioning, all disturbed ground surfaces shall be re-graded and re-contoured in a manner which is consistent with the topography of the site and which promotes natural re-vegetation and prevents erosion and surface runoff from carrying sediment into any Watercourse.
  42. All wastewater treatment facility materials, equipment, temporary structures and debris shall be removed from the site as part of final decommissioning of the facility.
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**SCHEDULE A: MONITORING AND SURVEILLANCE TABLES**

**Table A1: Location of sampling stations**

Sampling Station	Water Monitoring Location Description
CM-1	Effluent from sewage treatment facility at plant outlet
CM-2b	Yukon River, 300m downstream of point where the effluent enters the river

**Table A2: Water quality monitoring parameters and frequencies for the one-year initial characterization period**

Analysis	Influent to Wastewater Treatment Facility	CM-1	CM-2b
Fecal Coliforms	-	M	M
Dissolved Oxygen	M	M	M
Specific Conductance	M	M	M
Temperature	M	M	M
CBOD <sub>5</sub>	M	M	M
Total Suspended Solids	M	M	M
pH (in-situ and lab)	M	M	M
Oil and Grease	M	M	M
Surfactants <sup>1</sup>	M*	M*	M*
Total Ammonia Nitrogen	M	M	M
Acute Toxicity 96-hr LC <sub>50</sub> (rainbow trout)	-	Q	-
TKN (ammonia & organic N)	M	M	M
Total Phosphorus	M	M	M
Pathogens (including <i>E. coli</i> )	-	M	M
Formaldehyde	M*	M*	M*
Flow Rate	D	D	-

Notes:

D = Daily

M= Monthly

M\*= Monthly from May 1 to September 30 only (during open water)

Q= Quarterly (once every 3 months)

<sup>1</sup> Linear Alkylbenzene Sulphonate

**Table A3: Water quality monitoring parameters and sampling frequency following the initial one year characterization period**

Analysis	Influent to Wastewater Treatment Facility	CM-1	CM-2b
Fecal Coliforms	-	M	M
Dissolved Oxygen	M	M	M
Specific Conductance	M	M	M
Temperature	M	M	M
CBOD <sub>5</sub>	M	M	M
Total Suspended Solids	M	M	M
pH	M	M	M
Oil and Grease	M	M	M
Total Ammonia Nitrogen	M	M	M
Acute Toxicity 96-hr LC <sub>50</sub>	-	Q	-
Flow Rate	D	D	-

Notes:

D = Daily

M= Monthly

Q= Quarterly (once every 3 months)