



**Conservation and Climate**

Environmental Stewardship Division  
Environmental Approvals Branch  
1007 Century Street, Winnipeg Manitoba R3H 0W4  
T 204-945-8321 F 204-945-5229  
[www.gov.mb.ca/sd](http://www.gov.mb.ca/sd)

**CLIENT FILE NO.: 5697.00**

November 21, 2019

Rhonda Stewart  
Chief Administrative Officer  
Town of Virden  
Box 310  
Virden, MB R0M 2C0  
[virden\\_sec@mymts.net](mailto:virden_sec@mymts.net)

Dear Rhonda Stewart:

Enclosed is **Environment Act Licence No. 3305** dated November 21, 2019, issued to **Town of Virden** for the construction, expansion, operation, and maintenance of the Development being a wastewater collection system and a wastewater treatment plant located at Lot 13, Block 170, Plan 197 (BLTO) in accordance with the Proposal filed under The Environment Act and subsequent additional information.

In addition to the enclosed Licence requirements, please be informed that all other applicable federal, provincial and municipal regulations and by-laws must be complied with. A Notice of Alteration must be filed with the Director for approval prior to any alteration to the Development as licensed.

For further information on the administration and application of the Licence, please feel free to contact Peter Crocker, Environment Officer, at (204) 726-6565.

Pursuant to Section 27 of The Environment Act, this licensing decision may be appealed by any person who is affected by the issuance of this Licence to the Minister of Conservation and Climate within 30 days of the date of the Licence.

Yours sincerely,

Siobhan Burland Ross, M. Eng., P. Eng.  
Director  
The Environment Act

c: Shannon Kohler/Yvonne Hawryliuk/Peter Crocker, Environmental Compliance and Enforcement  
Ken Anderson, P. Eng., Associated Engineering  
Public Registries

**NOTE: Confirmation of receipt of this Licence No. 3305 (by the Licensee only) is required by the Director of Environmental Approvals. Please acknowledge receipt by signing in the space below and email a copy of this letter to [Robert.Boswick@gov.mb.ca](mailto:Robert.Boswick@gov.mb.ca) by December 5, 2019.**

---

On behalf of Town of Virden

Date

**CLIENT FILE NO.: 5697.00**

November 21, 2019

Rhonda Stewart  
Chief Administrative Officer  
Town of Virden  
Box 310  
Virden, MB R0M 2C0  
[virden\\_sec@mymts.net](mailto:virden_sec@mymts.net)

Dear Rhonda Stewart:

Enclosed is **Environment Act Licence No. 3305** dated November 21, 2019, issued to **Town of Virden** for the construction, expansion, operation, and maintenance of the Development being a wastewater collection system and a wastewater treatment plant located at Lot 13, Block 170, Plan 197 (BLTO) in accordance with the Proposal filed under The Environment Act and subsequent additional information.

In addition to the enclosed Licence requirements, please be informed that all other applicable federal, provincial and municipal regulations and by-laws must be complied with. A Notice of Alteration must be filed with the Director for approval prior to any alteration to the Development as licensed.

For further information on the administration and application of the Licence, please feel free to contact Peter Crocker, Environment Officer, at (204) 726-6565.

Pursuant to Section 27 of The Environment Act, this licensing decision may be appealed by any person who is affected by the issuance of this Licence to the Minister of Conservation and Climate within 30 days of the date of the Licence.

Yours sincerely,



Siobhan Burland Ross, M. Eng., P. Eng.  
Director  
The Environment Act

c: Shannon Kohler/Yvonne Hawryliuk/Peter Crocker, Environmental Compliance and Enforcement  
Ken Anderson, P. Eng., Associated Engineering  
Public Registries

**NOTE: Confirmation of receipt of this Licence No. 3305 (by the Licencee only) is required by the Director of Environmental Approvals. Please acknowledge receipt by signing in the space below and email a copy of this letter to [Robert.Boswick@gov.mb.ca](mailto:Robert.Boswick@gov.mb.ca) by December 5, 2019.**

---

On behalf of Town of Virden

Date

# LICENCE

Licence No. / Licence n°

3305

Issue Date / Date de délivrance

November 21, 2019

In accordance with The Environment Act (C.C.S.M. c. E125)  
Conformément à la Loi sur l'environnement (C.P.L.M. c. E125)

Pursuant to Sections 11(1) / Conformément au Paragraphe 11(1)

**THIS LICENCE IS ISSUED TO: / CETTE LICENCE EST DONNÉE À:**

**TOWN OF VIRDEN "the Licencee"**

for the construction and operation of the Development being a wastewater collection system and a wastewater treatment plant with a maximum daily flow rate not in excess of 3,600 cubic metres over any 24-hour period located at Lot 13, Block 170, Plan 197 (BLTO) in the Town of Virden and with discharge of treated effluent into Gopher Creek that flows into the Assiniboine River, in accordance with the Proposal filed pursuant to The Environment Act on January 6, 2014 and subsequent information submitted April 21, 2014, September 15, 2015, October 26, 2015, March 11, 2016, December 7, 2016, April 26, 2019, and June 14, 2019 subject to the following specifications, limits, terms and conditions:

**DEFINITIONS**

In this Licence,

**"accredited laboratory"** means an analytical facility accredited by the Standards Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Conservation and Climate to be equivalent to the SCC, or able to demonstrate, upon request, that it has the quality assurance/quality control (QA/QC) procedures in place equivalent to accreditation based on the international standard ISO/IEC 17025, or otherwise approved by the Director;

**"acute lethality"** means a toxic effect resulting in death in an organism by a substance or mixture of substances within a short exposure period (usually 96 hours or less);

**"affected area"** means a geographical area, excluding the property of the development;

**"Approvals Branch"** means the Environmental Approvals Branch of Manitoba Conservation and Climate, or any future branch responsible for issuing licences under The Environment Act;

**"approved"** means approved by the Director or assigned Environment Officer in writing;

**"appurtenances"** means machinery, appliances, or auxiliary structures attached to a main structure to enable it to function, but not considered an integral part of it;

**"bioassay"** means a method of determining toxic effects of industrial wastes and other wastewaters by using viable organisms;

**"biosolids"** means accumulated organic solids, resulting from wastewater treatment processes, that have received adequate treatment to permit the material to be recycled;

**"composite sample"** means a quantity of undiluted wastewater consisting of a minimum of 10 equal volumes of effluent, or flow proportional volumes collected over a 24-hour period, and may be collected manually or by means of an automatic sampling device;

**"day"** means any 24-hour period;

**"Director"** means an employee so designated pursuant to The Environment Act;

**"effluent"** means treated wastewater flowing or pumped out of the wastewater treatment plant;

**"Environment Officer"** means an employee so designated pursuant to The Environment Act;

**"fecal coliform"** means aerobic and facultative, Gram-negative, nonspore-forming, rod-shaped bacteria capable of growth at 44.5°C, and associated with fecal matter of warm-blooded animals;

**"five-day biochemical oxygen demand (BOD<sub>5</sub>)"** means that part of oxygen usually associated with biochemical oxidation of organic material within 5 days at a temperature of 20°C;

**"five-day carbonaceous biochemical oxygen demand (CBOD<sub>5</sub>)"** means that part of the oxygen demand usually associated with biochemical oxidation of carbonaceous organic matter within 5 days at a temperature of 20°C, excluding BOD associated with nitrogenous organic matter;

**"grab sample"** means a quantity of wastewater taken at a given place and time;

**"influent"** means water, wastewater, or other liquid flowing into the wastewater treatment plant;

**"MPN index"** means the most probable number of coliform organisms in a given volume of wastewater or effluent which, in accordance with statistical theory would yield the observed test result with the greatest frequency;

**"noise nuisance"** means an unwanted sound, in an affected area, which is annoying, troublesome, or disagreeable to a person:

- a) residing in an affected area;
- b) working in an affected area; or
- c) present at a location in an affected area which is normally open to members of the public;

if the unwanted sound

- d) is the subject of at least 5 written complaints, received by the Director in a form satisfactory to the Director and within a 90-day period, from 5 different persons falling within clauses a), b) or c), who do not live in the same household; or
- e) is the subject of at least one written complaint, received by the Director in a form satisfactory to the Director, from a person falling within clauses a), b) or c) and the Director is of the opinion that if the unwanted sound had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90-day period, from 5 different persons who do not live in the same household;

**"odour nuisance"** means a continuous or repeated odour, smell or aroma, in an affected area, which is offensive, obnoxious, troublesome, annoying, unpleasant or disagreeable to a person:

- a) residing in an affected area;
- b) working in an affected area; or
- c) present at a location in an affected area which is normally open to members of the public;

if the odour, smell or aroma

- d) is the subject of at least 5 written complaints, received by the Director in a form satisfactory to the Director and within a 90-day period, from 5 different persons falling within clauses a), b) or c), who do not live in the same household; or
- e) is the subject of at least one written complaint, received by the Director in a form satisfactory to the Director, from a person falling within clauses a), b) or c) and the Director is of the opinion that if the odour, smell or aroma had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90-day period, from 5 different persons who do not live in the same household;

**"record drawings"** means engineering drawings complete with all dimensions which indicate all features of the Development as it has actually been built;

**"septage"** means the sludge produced in individual on-site wastewater disposal systems such as septic tanks;

**"sludge"** means accumulated solid material containing large amounts of entrained water, which has separated from wastewater during processing;

**"sludge solids"** means solids in sludge;

**"Standard Methods for the Examination of Water and Wastewater"** means the most recent edition of Standard Methods for the Examination of Water and Wastewater published jointly by the American Public Health Association, the American Waterworks Association and the Water Environment Federation;

**"total coliform"** means a group of aerobic and facultative anaerobic, Gram-negative, non-spore forming, rod-shaped bacteria, that ferment lactose with gas and acid formation within 48 hours at 35°C and inhabit predominantly the intestines of man or animals, but are occasionally found elsewhere, and include the sub-group of fecal coliform bacteria;

**"total residual chlorine"** means the sum of free chlorine and combined chlorine, including inorganic chloramines;

**"UV disinfection"** means a disinfection process for treating wastewater using ultraviolet radiation;

**"UV germicidal dose"** means the units of intensity of ultra violet light that is required to kill bacteria and viruses present in the effluent;

**"waste disposal ground"** means an area of land designated by a person, municipality, provincial government agency, or crown corporation for the disposal of waste and approved for use in accordance with Manitoba Regulation 37/2016 – Waste Management Facilities, or any future amendments thereto, or a Licence pursuant to The Environment Act;

**"waste solid"** means a dissolved, suspended, or volatile substance that is contained in or removed from wastewater and that can no longer be used for its original purpose;

**"wastewater"** means the spent or used water of a community or industry which contains dissolved and suspended matter;

**"wastewater collection system"** means the sewer and pumping system used for the collection and conveyance of domestic, commercial and industrial wastewater;

**"wastewater treatment plant"** means the central facility of wastewater treatment facilities which contains all treatment processes exclusive of the collection system; and

**"WWTP"** means wastewater treatment plant.

### **GENERAL SPECIFICATIONS**

This Section of the Licence contains requirements intended to provide guidance to the Licencee in implementing practices to ensure that the environment is maintained in such a manner as to sustain a high quality of life, including social and economic development, recreation and leisure for present and future Manitobans.

1. The Licencee shall direct all wastewater generated within the Town of Virden toward the WWTP or other approved wastewater treatment facilities.
2. The Licencee shall at all times maintain a copy of the Licence at the Development or at the premises from which the Development's operations are managed.
3. In addition to any of the following specifications, limits, terms and conditions specified in this Licence, the Licencee shall, upon the request of the Director:
  - a) sample, monitor, analyze or investigate specific areas of concern regarding any segment, component or aspect of pollutant storage, containment, handling, treatment and disposal systems, for such pollutants, ambient quality, aquatic toxicity, seepage characteristics and discharge rates and for such duration and frequencies as may be specified;
  - b) determine the environmental impact associated with the release of any pollutant from the Development;
  - c) conduct specific investigations in response to the data gathered during environmental monitoring programs; or
  - d) provide the director within such time as may be specified, with such reports, drawings, specifications, analytical data, bioassay data, flow rate measurements and such other information as may from time to time be requested.
4. The Licencee shall, unless otherwise specified in this Licence:
  - a) carry out all preservations and analyses of liquid samples in accordance with the methods prescribed in the Standard Methods for the Examination of Water and Wastewater or in accordance with equivalent preservation and analytical methodologies approved by the Director;
  - b) carry out all sampling of, and preservation and analysis on, soil, compost and air samples in accordance with methodologies approved by the Director;
  - c) have all analytical determinations undertaken by an accredited laboratory; and
  - d) report the results to the Director, in writing and in an electronic format acceptable to the Director, within 60 days of the samples being taken.
5. The Licencee shall submit all information required to be provided to the Director or Environment Officer under this Licence, in writing, in such form (including number of copies), and of such content as may be required by the Director or Environment Officer, and each submission shall be clearly labelled with the Licence Number and Client File Number associated with this Licence.

6. The Licencee shall operate the WWTP in such a manner that:
  - a) all of the wastewater generated within the Town of Virden is directed toward the WWTP or other approved wastewater treatment facilities;
  - b) only wastewater as defined in this Licence is discharged into the WWTP;
  - c) waste solids collected by the WWTP headworks are disposed in a waste disposal ground;
  - d) sludge is disposed of:
    - i) in accordance with the requirements of Environment Act Licence No. 1449 or subsequent amendment thereto; or
    - ii) by means of an alternative sludge disposal and management plan approved by the Director; and
  - e) sludge solids are transported in containers in such a manner to prevent loss of solids to the satisfaction of an Environment Officer.
7. The Licencee shall submit to the Director for approval, on or before February 28, 2020, a report containing an assessment of options available for management and disposal of sludge from the WWTP which shall include the sampling results of sludge produced from the operation of the WWTP.
8. The Licencee shall install, operate and maintain an effluent discharge route from the WWTP into Gopher Creek such that freezing of the effluent in the discharge route is prevented.
9. The Licencee shall not spill, or allow to be spilled, wastewater and/or sludge in the area around the WWTP.
10. The Licencee shall install and maintain a security fence around all components of the WWTP that are not enclosed within secured buildings.
11. The Licencee shall not cause or permit a noise nuisance to be created as a result of the construction, operation or alteration of the Development, and shall take such steps as the Director may require to eliminate or mitigate a noise nuisance.
12. The Licencee shall not cause or permit an odour nuisance to be created as a result of the construction, operation or alteration of the Development, and shall take such steps as the Director may require to eliminate or mitigate an odour nuisance.
13. The Licencee shall actively participate in any future watershed-based management study, plan or nutrient reduction program, approved by the Director, for the Assiniboine River and associated waterways and watersheds.



## **SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS**

### **Respecting Construction - General**

14. The Licencee shall notify the assigned Environment Officer prior to beginning construction of the WWTP. The notification shall include the intended starting date of construction and the name of the Licencee's contact person at the construction site.

### **Respecting Operation – General**

15. The Licencee shall obtain and maintain classification of the Development pursuant to Manitoba Regulation 77/2003 respecting Water and Wastewater Facility Operators or any future amendment thereof and maintain compliance with all requirements of the regulation including, but not limited to, the preparation and maintenance of a Table of Organization, Emergency Response Plan and Standard Operating Procedures.
16. The Licencee shall carry out the operation of the Development with individuals properly certified to do so pursuant to Manitoba Regulation 77/2003 respecting Water and Wastewater Facility Operators or any future amendment thereof.
17. The Licencee shall, unless otherwise approved by the Director, operate and maintain the WWTP in such a manner that:
  - a) the maximum daily flow rate is not in excess of 3,600 cubic metres over any 24-hour period; and
  - b) the organic loading is not in excess of 512 kilograms of five-day biochemical oxygen demand over any 24-hour period.
18. The Licencee shall not discharge effluent from the WWTP, as sampled at the monitoring station located after UV disinfection, where:
  - a) the organic content of the effluent, as indicated by the five-day carbonaceous biochemical oxygen demand (CBOD<sub>5</sub>), is in excess of 25 milligrams per litre;
  - b) the fecal coliform content of the effluent, as indicated by the MPN index, is in excess of 200 per 100 millilitres of sample;
  - c) the total suspended solids content of the effluent, as indicated by the non-filterable residue is in excess of 25 milligrams per litre;
  - d) the total phosphorus is in excess of 1.0 milligram per litre; and
  - e) the total ammonia nitrogen is in excess of the concentration specified in Schedule "A" attached to this Licence, as determined by the pH of the effluent.
19. The Licencee shall not release a quality of effluent from the WWTP which:
  - a) on any day, causes, or contributes to, the mixing zone for the effluent in the Assiniboine River being acutely lethal to aquatic life passing through the mixing zone; or
  - b) can be demonstrated to be acutely lethal to fish within the mixing zone for the effluent in the Assiniboine River by using a 96-hour static acute lethality test

which results in mortality to more than 50 percent of the test fish exposed to 100 percent concentration of effluent, with the test carried out in accordance with the protocol outlined in Environment Canada's "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout: EPS 1/RM/13 Second Edition – December 2000" or any future amendment thereof.

20. The Licencee shall locate fuel storage and equipment servicing areas established for the construction of the Development a minimum distance of 100 metres from any waterbody, and shall comply with the requirements of Manitoba Regulation 188/2001 respecting Storage and Handling of Petroleum and Allied Products or any future amendment thereof.
21. The Licencee shall install and maintain rip rap on the creek and river beds and banks at the locations of the outfalls of the effluent discharge route to prevent erosion of the creek and river beds and banks to the satisfaction of an Environment Officer.

#### **Respecting Disinfection**

22. The Licencee shall have adequate instrumentation installed to provide constant monitoring of the UV process to ensure compliance with the UV disinfection requirements. Such instrumentation shall include but not be limited to the following:
  - a) a UV sensor to monitor lamp intensity;
  - b) appropriate alarm and shutdown systems;
  - c) a lamp monitoring system to identify the location of individual lamp failures;
  - d) an hour meter which cannot be reset to display actual hours of UV lamp operation; and
  - e) protective circuits for overcurrent and ground current leakage detection.
23. The Licencee shall utilize UV lamps in the UV disinfection process that have a rated output of at least 254 nanometres (nm) capable of delivering a germicidal dose in excess of 30,000 microwatt seconds/sq cm.
24. The Licencee shall operate and maintain the UV disinfection system to give a germicidal dose of 80% or more of the design UV germicidal dose, at the end of the lamp life.
25. The Licencee shall, when chlorine is used as a disinfecting agent:
  - a) notify the Director in advance;
  - b) dechlorinate effluent prior to discharge;
  - c) obtain grab samples prior to and daily during the discharge period and have them analyzed for total residual chlorine; and
  - d) not discharge effluent where the concentration of the total residual chlorine is in excess of 0.02 milligrams per litre.

### **MONITORING AND REPORTING SPECIFICATIONS**

26. The Licencee shall monitor, and make the records of such monitoring available to the Director as may be requested, the wastewater treatment process for the following parameters:
  - a) flow rates into and through the WWTP;
  - b) flow rates into and through the disinfection systems; and
  - c) other process parameters approved or required by the Director.
  
27. The Licencee shall:
  - a) maintain a record of all wastewater hauled to the WWTP, including the number of loads on a daily and weekly basis, the volume of each load, the name of the hauler, and the source of the contents of each load according to the type of waste and the name and location of each property serviced;
  - b) make all records available to an Environment Officer upon request; and
  - c) submit an annual report of all the waste hauling information to the Director within 30 days of the end of the 12 month period.
  
28. The Licencee shall:
  - a) construct and make available for use by an Environment Officer, secured and heated monitoring stations, allowing direct accesses to:
    - i) the influent wastewater pipelines; and
    - ii) the effluent discharge pipeline following disinfection;
  - b) have the monitoring stations accessible to an Environment Officer at all times;
  - c) install and maintain flow measuring devices at the monitoring stations or at locations acceptable to the Director which are capable of measuring the volumes of influent and effluent with an accuracy of  $\pm 2$  percent;
  - d) have the flow measuring devices re-calibrated biannually or on the request of an Environment Officer;
  - e) equip the monitoring stations with flow-proportional sampling devices equipped to function with the flow measuring device and have the sampling devices available on request for use by an Environment Officer; and
  - f) equip the monitoring stations with an electrical power source of 15 amperes at 110 volts.
  
29. The Licencee shall arrange for the taking of samples of influent before the wastewater enters the WWTP and of the effluent at locations that are accessible during all weather conditions.
  
30. The Director shall approve the sampling locations for the influent and the effluent.

### **Respecting Effluent Monitoring**

31. The Licencee shall:
- a) take one flow proportional composite sample of effluent from the effluent monitoring station over a 24-hour period once each week;
  - b) have the flow proportional composite effluent sample analyzed for:
    - i) carbonaceous biochemical oxygen demand (CBOD<sub>5</sub>);
    - ii) total suspended solids;
    - iii) unionized ammonia;
    - iv) total ammonia nitrogen;
    - v) total nitrogen;
    - vi) total phosphorus;
    - vii) pH; and
    - viii) temperature.
  - c) take three grab samples of the effluent from the effluent monitoring station during the discharge period once each week;
  - d) have the grab samples analyzed for fecal coliform content or *E. coli*; and
  - e) determine and record the monthly geometric mean for the fecal coliform or *E. coli* counts based on all the data collected during each month, from a minimum of twelve (12) grab samples.
32. The Licencee shall report the results from the sampling required by Clause 31 of this Licence to the Director in accordance with the requirements of Clause 4 d) of this Licence.
33. The Licencee shall, during the first year of operation of the Development following the alteration of the WWTP, obtain grab samples of the effluent, have them analyzed and report the results in accordance with Schedule "B" attached to this licence.

### **Respecting Acute Lethality**

34. The Licencee shall:
- a) take two flow proportional composite samples of effluent from the effluent monitoring station over a 24 hour period every three months each year with a minimum separation time of 90 days between samples;
  - b) have one bioassay sample of the effluent analyzed at 100 percent concentration for acute lethality in accordance with the protocol outlined in Environment Canada's "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout: EPS 1/RM/13 Second Edition – December 2000", or any future amendment thereof; and
  - c) report the results to the Director within 30 days of the end of the month during which the samples were taken.

### **Respecting Records Maintenance and Reporting**

35. The Licencee shall during each year maintain the following records and retain them for a minimum period of five calendar years:
- a) wastewater sample dates;
  - b) original copies of laboratory analytical results of the sampled wastewater;
  - c) a summary of laboratory analytical results;
  - d) monthly effluent discharge volumes;
  - e) maintenance and repairs;
  - f) expansions to the collection system with associated capacity assessment;
  - g) updated organization charts identifying all certified operators, including backup operators; and
  - h) a summary of any wastewater collection system overflows.
36. The Licencee shall submit an annual report to the Environment Officer by February 28 of the following year including all records required by Clause 35 of this Licence.

### **Respecting Breakdown or Process Upset Reporting**


37. The Licencee shall, in the case of physical or mechanical equipment breakdown or process upset where such breakdown or process upset results or may result in the release of a pollutant in an amount or concentration, or at a level or rate of release, that causes or may cause a significant adverse effect, immediately report the event by calling the 24-hour environmental accident reporting line at 204-944-4888 (toll-free 1-855-944-4888). The report shall indicate the nature of the event, the time and estimated duration of the event and the reason for the event.
38. The Licencee shall, following the reporting of an event pursuant to Clause 37:
- a) identify the repairs required to the mechanical equipment;
  - b) undertake all repairs to minimize unauthorized discharges of a pollutant;
  - c) complete the repairs in accordance with any written instructions of the Director; and
  - d) submit a report to the Director about the causes of breakdown and measures taken, within one week of the repairs being done.

### **Respecting Record Drawings**

39. The Licencee shall:
- a) prepare "record drawings" for the Development and shall label the drawings "record drawings"; and
  - b) provide to the Director, on or before February 28, 2020, two sets of "record drawings" of the Development.

**REVIEW AND REVOCATION**

- A. This Licence replaces Licence No. 1110, which is hereby rescinded.
- B. If, in the opinion of the Director, the Licencee has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out in this Licence, the Director may, temporarily or permanently, revoke this Licence.
- C. If, in the opinion of the Director, new evidence warrants a change in the specifications, limits, terms or conditions of this Licence, the Director may require the filing of a new proposal pursuant to Section 11 of The Environment Act.

  
\_\_\_\_\_  
Siobhan Burland Ross, M Eng., P. Eng.  
Director  
The Environment Act

**Client File No.: 5697.00**

**Schedule “A” to Environment Act Licence No. 3305**

Total ammonia nitrogen effluent limits per Clause 18 (e)

<b>Effluent pH</b>	<b>Total Ammonia as N (mg/L)</b>
6.50	48.83
6.60	46.84
6.70	44.57
6.80	42.00
6.90	39.16
7.00	36.09
7.10	32.86
7.20	29.54
7.30	26.21
7.40	22.97
7.50	19.89
7.60	17.03
7.70	14.44
7.80	12.14
7.90	10.13
8.00	8.41
8.10	6.95
8.20	5.73
8.30	4.71
8.40	3.88
8.50	3.20
8.60	2.65
8.70	2.20
8.80	1.84
8.90	1.56
9.00	1.32

## Schedule "B" to Environment Act Licence No. 3305

### Initial Characterization of Wastewater Pursuant to Clause 33

Facility Size: Medium (greater than 2500 m<sup>3</sup>/day but less than 17,500 m<sup>3</sup>/day)

Facility Type: Wastewater Treatment Plant - Continuous discharge

#### Effluent Sampling:

During the first year of operation:

1. a grab sample shall be collected every two weeks;
2. a grab sample shall be collected on a quarterly basis; and
3. a grab sample shall be collected on a daily basis, if chlorine is used.

#### Effluent Analysis:

1. Have the bi-weekly sample analyzed for:
  - a) the organic content as indicated by the five-day biochemical oxygen demand and expressed as milligrams per litre;
  - b) the organic content as indicated by the five-day carbonaceous biochemical oxygen demand and expressed as milligrams per litre;
  - c) the total suspended solids content expressed as milligrams per litre;
  - d) the *Escherichia coli* (*E. Coli*) content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
  - e) the fecal coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
  - f) the total coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
  - g) total ammonia nitrogen expressed as milligrams per litre;
  - h) nitrate-nitrite nitrogen expressed as milligrams per litre;
  - i) total Kjeldahl nitrogen, TKN ( ammonia + organic N) expressed as milligrams per litre;
  - j) dissolved phosphorus expressed as milligrams per litre;
  - k) total phosphorus expressed as milligrams per litre;
  - l) temperature; and
  - m) pH.
2. Have the quarterly sample analyzed for:
  - a) fluoride;
  - b) nitrate;
  - c) nitrate + nitrite;
  - d) total extractable metals and metal hydrides (full range);
  - e) chemical oxygen demand (COD);
  - f) organochlorine pesticides;
  - g) polychlorinated biphenyls (PCBs);
  - h) polycyclic aromatic hydrocarbon (PAHs);



- i) cyanide (total);
- j) pH;
- k) volatile organic compounds;
- l) mercury;
- m) phenolic compounds;
- n) surfactants;
- o) acute lethality; and
- p) chronic toxicity.

3. Have the daily sample analyzed for total residual chlorine (TRC), if required.

Effluent Reporting:

1. Report the results to the Director, in writing and in an electronic format acceptable to the Director, within 60 days of the sampling date. The report shall include the sampling date, sample temperature, the dates of the effluent discharge, and copies of the laboratory analytical results of the sampled effluent.