

LICENCE

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| Licence No. / Licence n° | <u>603 RR</u> |
| Issue Date / Date de délivrance | <u>June 1, 1976</u> |
| Revised | <u>April 25, 2011</u> |
| Revised | <u>May 10, 2012</u> |

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) and 14(2) / Conformément au Paragraphe 11(1) et 14(2)

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

TOWN OF MINITONAS:
"the Licencee"

for the construction and operation of the Development being a wastewater treatment lagoon located on NE and SE 13 - 36 - 26 WPM in the Rural Municipality of Minitonas and with discharge of treated effluent to a drain which flows into the East Favel River, in accordance with the Proposal filed under *The Environment Act* on December 4, 2000 and subsequent information provided in letters dated January 6, 2003, February 20, 2003, March 4, 2003, October 2, 2003, May 14, 2010, December 23, 2010, July 19, 2011, April 5, 2012 and April 27, 2012 and subject to the following specifications, limits, terms and conditions:

DEFINITIONS

In this Licence,

"accredited laboratory" means an analytical facility accredited by the Standard Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Conservation to be equivalent to the SCC, or be 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;

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

"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;

"ASTM" means the American Society for Testing and Materials;

"base" means the exposed and finished elevation of the bottom of any cell of the wastewater treatment lagoon;

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

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

"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" means that part of the oxygen demand usually associated with biochemical oxidation of organic matter within 5 days at a temperature of 20°C;

"five-day carbonaceous biochemical oxygen demand (CBOD₅)" 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 the oxygen demand usually associated with the biochemical oxidation of nitrogenous organic matter;

"flooding" means the flowing of water onto lands, other than waterways, due to the overtopping of a waterway or waterways;

"high water mark" means the line on the interior surface of the primary and secondary cells which is normally reached when the cell is at the maximum allowable liquid level or the line of the exterior of the perimeter dykes which is reached during local flooding;

"hydraulic conductivity" means the quantity of water that will flow through a unit cross-sectional area of a porous material per unit of time under a hydraulic gradient of 1.0;

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

"in-situ" means on the site;

"low water mark" means the line on the interior surface of the primary and secondary cells which is normally reached when the cell is discharged;

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

"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;

"PVC" means polyvinyl chloride;

"primary cell" means the first in a series of cells of the wastewater treatment lagoon system and which is the cell that receives the untreated wastewater;

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

"riprap" means small, broken stones or boulders placed compactly or irregularly on dykes or similar embankments for protection of earth surfaces against wave action or current;

"secondary cell" means a cell of the wastewater treatment lagoon system which is the cell that receives partially treated wastewater from the primary cell;

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

"sewage" means household and commercial wastewater that contains human waste;

"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, nonspore-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;

"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; and

"wastewater treatment lagoon" means the component of the development which consists of an impoundment into which wastewater is discharged for treatment and storage.

GENERAL TERMS AND CONDITIONS

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 Minitonas and the surrounding area toward the wastewater treatment lagoon or other approved sewage treatment facilities.
2. In addition to any of the limits, terms and conditions specified in this Licence, the Licencee shall, upon the request of the Director:
 - a) sample, monitor, analyze and/or investigate specific areas of concern regarding any segment, component or aspect of pollutant storage, containment, treatment, handling, disposal or emission systems, for such pollutants or ambient quality, aquatic toxicity, leachate characteristics and discharge or emission rates, for such duration and at such frequencies as may be specified;
 - b) determine the environmental impact associated with the release of any pollutant(s) from the Development; or
 - c) provide the Director, within such time as may be specified, with such reports, drawings, specifications, analytical data, descriptions of sampling and analytical

procedures being used, bioassay data, flow rate measurements and such other information as may from time to time be requested.

3. The Licencee shall, unless otherwise specified in this Licence:
 - a) carry out all preservations and analyses on liquid samples in accordance with the methods prescribed in "Standard Methods for the Examination of Water and Wastewater" or in accordance with an equivalent analytical methodology approved by the Director;
 - b) have all analytical determinations undertaken by an accredited laboratory; and
 - c) report the results to the Director, in writing or in a format acceptable to the Director, within 60 days of the samples being taken.
4. The Licencee shall, in the event of a release, spill, leak, or discharge of a pollutant or contaminant in an amount or concentration, or at a level or rate of release, that exceeds the limit that is expressly provided under this Act, another Act of the Legislature, or an Act of Parliament, or in a regulation, licence, permit, order, instruction, directive or other approval or authorization issued or made under one of those Acts, immediately report the release, spill, leak, or discharge by calling 204-944-4888. The report shall indicate the nature of the release, leak, or discharge, the time and estimated duration of the event and the reason for the release, spill, leak, or discharge.
5. The Licencee shall, during construction and operation of the Development, report spills of fuels or other contaminants to an Environment Officer in accordance with the requirements of *Manitoba Regulation 439/87* respecting *Environmental Accident Reporting* or any future amendment thereof.
6. The Licencee shall comply with the provisions of the Department of Fisheries and Oceans Canada/Manitoba Natural Resources publication, "*Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat*" (May, 1996).
7. 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.
8. 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.
9. 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.

10. The Licencee shall submit all information required to be provided to the Director under this Licence, in writing, in such form (including number of copies), and of such content as may be required by the Director, and each submission shall be clearly labeled with the Licence Number and Client File Number associated with this Licence.
11. The Licencee shall acquire any necessary land agreements prior to constructing the wastewater treatment lagoon.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

12. The Licencee shall notify the assigned Environment Officer not less than two weeks prior to beginning construction of the Development. The notification shall include the intended starting date of construction.
13. The Licencee shall notify the Department of Fisheries and Oceans Canada – Dauphin District Office a minimum of five days prior to the commencement of construction, citing file number: MB-03-0555.
14. The Licencee shall:
 - a) conduct all ditch related work activities during no flow or dry conditions and not during the April 1 to June 15 fish spawning and incubation period;
 - b) not construct the wastewater treatment lagoon or wastewater collection system during periods of heavy rain;
 - c) place and/or isolate all dredged and construction material where it will not erode into any watercourse;
 - d) implement effective long-term sediment and erosion control measures to prevent soil-laden runoff, and/or silt from entering any watercourse during construction and until vegetation is established; and
 - e) routinely inspect all erosion and sediment control structures and immediately complete any necessary maintenance or repair.
15. The Licencee shall, during construction of the wastewater treatment lagoon, operate, maintain and store all materials and equipment in a manner that prevents any deleterious substances (fuel, oil, grease, hydraulic fluids, coolant, paint, uncured concrete and concrete wash water, etc.) from entering the wastewater treatment lagoon, the discharge route and associated watercourses, and have an emergency spill kit for in water use available on-site during construction.
16. The Licencee shall construct the wastewater treatment lagoon such that a buffer zone measuring at least 30 metres in width is provided between the outside toe of the wastewater treatment lagoon dykes and the adjacent and nearest bank of the East Favel River.

17. The Licencee shall construct and maintain continuous liners, including cover material, underlying Primary Cell No. 2 and Secondary Cell No. 2 of the wastewater treatment lagoon as shown on Schedule 'A' to this Licence.
18. The Licencee shall, within five years of the date of this Licence, construct and maintain continuous liners, including cover material, underlying the Expanded Primary Cell and Secondary Cell No. 1 of the wastewater treatment lagoon as shown on Schedule 'A' to this Licence.
19. The Licencee shall construct and maintain all continuous liners such that:
 - a) the liners are constructed from PVC geomembrane;
 - b) the liners have a minimum thickness of 30 mils;
 - c) all sections of the liners are joined by dual track seaming;
 - d) the liners are installed in accordance with ASAE Standard EP340.2 for the Installation of Flexible Membrane Linings;
 - e) the liner shall be installed to a minimum elevation of 2.8 metres above the bases of these cells;
 - f) non-destructive test methods are used to test the integrity of:
 - i) all field seams joining sections of the liners in accordance with ASTM Standard D 7177-05; and
 - ii) all other field seams in accordance with ASTM Standard D 4437-99;
 - g) the hydraulic conductivity of the liners shall not exceed 3×10^{-9} centimetres per second over the entire surface area of the liners;
 - h) a testing report is prepared and submitted to the assigned Environment Officer within 30 days of commencing the installation of the liners; and
 - i) the liners shall be covered with sand or other granular cover material to a minimum depth of 0.3 metre measured perpendicular to the surface of the liner.
20. The Licencee shall construct and maintain effective gas relief systems under the PVC liners of the wastewater treatment lagoon.
21. The Licencee shall notify the Director one week prior to commencing the installation of the gas relief systems and the PVC liners of the wastewater treatment lagoon.
22. The Licencee shall not cover the PVC liners of, or use any newly constructed or newly lined cells of, the wastewater treatment lagoon until receiving the approval of the assigned Environment Officer of reports submitted pursuant to sub-Clause 19 h) of this Licence.
23. The Licencee shall not install a dewatering system under Primary Cell No. 1 and Secondary Cell No. 1 of the wastewater treatment lagoon as shown on Schedule 'A' to this Licence until the PVC liners of these cells are being installed to the satisfaction of the Director.

24. The Licencee shall operate and maintain the wastewater treatment lagoon in such a manner that:
 - a) the organic loading on the primary cells of the wastewater treatment lagoon, in terms of the five-day biochemical oxygen demand, is not in excess of 56 kilograms per hectare per day; and
 - b) the depth of liquid in the cells does not exceed 1.5 metres.

25. The Licencee shall not discharge effluent from the wastewater treatment lagoon:
 - a) where the organic content of the effluent, as indicated by the five day biochemical oxygen demand, is in excess of 25 milligrams per litre;
 - b) where the fecal coliform content of the effluent, as indicated by the MPN index, is in excess of 200 per 100 millilitres of sample;
 - c) where the total coliform content of the effluent, as indicated by the MPN index, is in excess of 1500 per 100 millilitres of sample;
 - d) where the total suspended solids content of the effluent is in excess of 25 milligrams per litre, unless the exceedance is caused by algae;
 - e) where, if effluent is chlorinated, the total residual chlorine content of the effluent is in excess of 0.02 milligrams per litre;
 - f) between the 1st day of November of any year and the 15th day of June of the following year;
 - g) when flooding from any cause is occurring along the effluent drainage route; or
 - h) when such a discharge would cause or contribute to flooding in or along the effluent drainage route.

26. The Licencee shall install and maintain a fence around the wastewater treatment lagoon to limit access. The fence shall be a minimum of 1.2 meters high and have a locking gate, which shall be locked at all times except to allow access to the wastewater treatment lagoon.

27. The Licencee shall construct and maintain an all-weather access road and a sewage dumping station for truck handled sewage. The dumping facility shall have a surface splash ramp with a smooth hard surface that can be easily washed free of solids.

28. The Licencee shall not discharge septage into the wastewater treatment lagoon between the 15th day of October of any year and the 1st day of June of the following year.

29. The Licencee shall, if in the opinion of the Director, significant erosion of the interior surfaces of the dykes occurs, repair the dyke and install riprap as necessary. The riprap shall be placed on the interior dyke surfaces from 0.6 metres above the high water mark to at least 0.6 metres below the low water mark to protect the dykes from wave action.

30. The Licencee shall provide and maintain a grass cover on the dykes of the wastewater treatment lagoon and shall regulate the growth of the vegetation so that the height of the vegetation does not exceed 0.3 metres on all dykes.

31. The Licencee shall annually remove by mechanical methods all reeds, rushes and trees located above the low water mark in every cell of the wastewater treatment lagoon.
32. The Licencee shall implement an ongoing program to remove burrowing animals from the site of the wastewater treatment lagoon.
33. The Licencee shall locate all fuel storage and equipment servicing areas established for the construction and operation 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 Products and Allied Products Regulation* or any future amendment thereof.
34. The Licencee shall discharge the wastewater treatment lagoon over at least a two-week period, while accelerating discharge as necessary to maintain normal operation of the wastewater treatment lagoon, such that increased nutrient uptake from the wastewater effluent may occur along the discharge route.
35. The Licencee shall maintain the discharge route of the wastewater treatment lagoon such that it effectively performs its intended service.
36. The Licencee shall actively participate in any current or future watershed-based management study, plan and/or nutrient reduction program, approved by the Director, for the East Favel River and associated waterways and watersheds.

MONITORING AND REPORTING

37. The Licencee shall prior to each effluent discharge campaign obtain grab samples of the treated wastewater and have them 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 fecal coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
 - d) the total coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
 - e) the total suspended solids content expressed as milligrams per litre; and
 - f) if the effluent has been chlorinated, the total residual chlorine content as determined at the wastewater treatment lagoon site at the time of sampling and expressed as milligrams per litre.
38. The Licencee shall:
 - a) during each year maintain records of:

- i) reports of visual inspections conducted at a minimum of once per month;
 - ii) wastewater sample dates;
 - iii) original copies of laboratory analytical results of the sampled wastewater;
 - iv) effluent discharge dates;
 - b) make the records being maintained pursuant to sub-Clause 38 a) of this Licence available to an Environment Officer upon request; and
 - c) keep the maintained records of any one calendar year available for inspection for a period of three years following the respective calendar year in which they were recorded.
39. The Licencee shall maintain a record of all septage, sewage and wastewater hauled to the wastewater treatment lagoon, 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. The Licencee shall submit an annual report of all the waste hauling information to the Director by the 15th of January of the following year.
40. The Licencee shall immediately notify the Director each time the operating depth of any cell of the wastewater treatment lagoon exceeds the maximum operating depth for that cell as specified in this Licence.
41. The Licencee shall, if reporting is required pursuant to Clause 40 of this Licence in two consecutive years:
- a) engage the services of a qualified consultant, acceptable to the Director, to undertake an investigation of the Facility and related infrastructure, to determine the ability or inability of the existing system to meet the hydraulic loading capacity of the community. The investigation shall include but not be necessarily limited to:
 - i) diagnosis of the cause(s) of the recent exceedances of maximum operating depth;
 - ii) sources of infiltration into the wastewater system including the municipal infrastructure;
 - iii) current hydraulic loading of the system; and
 - iv) lack of storage capacity due to sludge build-up within existing cells and the organic loading on the primary cell in terms of the five day biochemical oxygen demand;
 - b) provide to the Director, within four months of the notification given pursuant to Clause 40, an engineering report describing in detail the results and observations concluded by virtue of the investigation; and
 - c) provide to the Director, within four months of the report provided pursuant to Sub-clause b) of this section, a remedial action plan in the form of a detailed engineering report describing recommended modifications, repairs or upgrading works to overcome excessive hydraulic loading of the system.

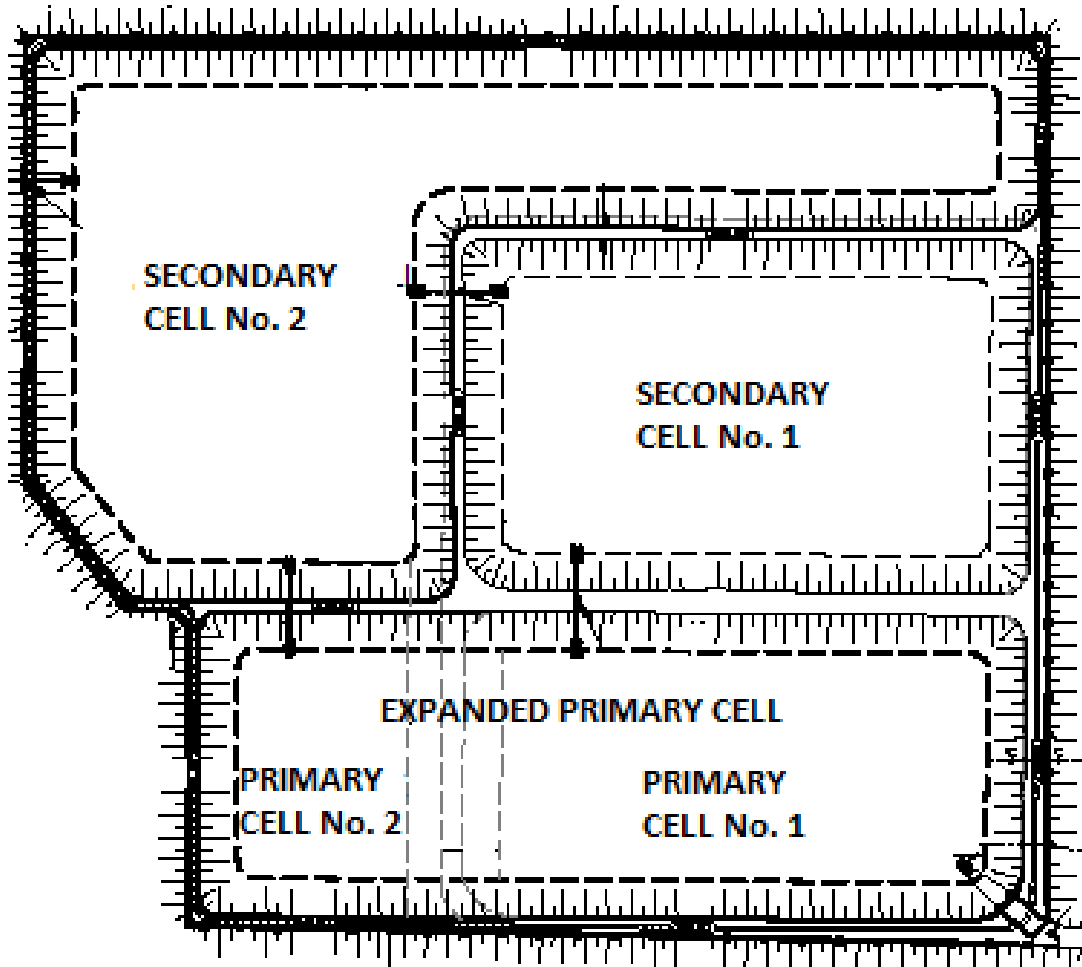
42. The Licencee shall:
- a) prepare updated "record drawings" for the Development and shall label the drawings "record drawings"; and
 - b) provide to the Director, within four months of the Environment Officer's approval of the reports required by Clause 19 of this Licence, two copies of the "record drawings".
43. The Licencee shall, during the first year of operation of the Development following the construction of the wastewater treatment lagoon that a discharge must occur, obtain and analyze grab samples of the effluent and report results of the analysis in accordance with Schedule "B" attached to this Licence.

REVIEW AND REVOCATION

- A. This Licence replaces Licence No. 603 R which is hereby rescinded.
- B. Licence No. 603 is rescinded upon approved commissioning of the altered wastewater treatment lagoon in accordance with this Licence.
- C. 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.
- D. If the Licencee has not commenced construction of the Development within three years of the date of this Licence, the Licence is revoked.
- E. 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*.

Tracey Braun, M. Sc.
Director
Environment Act

Schedule "A" to Environment Act Licence No. 603 RR



Schedule "B" to Environment Act Licence No. 603 RR

Initial Characterization of Wastewater

Facility Size: Very small (less than 500 m³/day)

Facility Type: Facultative wastewater treatment lagoon - intermittent discharge

Effluent Sampling:

During the first year of operation, for all discharge events:

1. Obtain a representative grab sample of the discharging effluent near the beginning of the discharge period and near the end of the discharge period (i.e., two samples for each discharge event.)
2. Determine the temperature of each sample at the time of sampling.

Effluent Analysis:

1. For each grab sample, have the grab sample analysed 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 *Esherichia 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 residual chlorine expressed as milligrams per litre if chlorine was used;
 - h) total ammonia nitrogen expressed as milligrams per litre;
 - i) nitrate-nitrite nitrogen expressed as milligrams per litre;
 - j) total kjeldahl nitrogen (TKN) expressed as milligrams per litre;
 - k) dissolved phosphorus expressed as milligrams per litre;
 - l) total phosphorus expressed as milligrams per litre; and
 - m) pH.

Effluent Reporting:

1. For each grab sample, report the results to the Director, in writing or 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.