



Conservation

Environmental Stewardship Division
Environmental Assessment and Licensing Branch
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Faxed

September 18, 2008

File: 39.30

Russ Phillips
Chief Administrative Officer
Town of Altona
111 Centre Avenue East, Box 1630
Altona, MB R0G 0B0

Dear Mr. Phillips:

Re: Town of Altona – Wastewater Treatment Lagoon Alterations – Revised Environment Act Licence

Enclosed is Environment Act Licence No. 1681 RRR (the Licence) dated September 18, 2008 issued in accordance with the Environment Act to the Town of Altona for the construction, operation and maintenance of the Development being a wastewater collection system, a forcemain connection, and a wastewater treatment lagoon that is located in NE 9-2-1WPM in the Rural Municipality of Rhineland and with discharge from the wastewater treatment lagoon to municipal ditches that flow into Chortitz Drain that drains into the Plum River in accordance with the proposal filed under The Environment Act on December 7, 2006, subsequent information provided in a letter dated July 6, 2007, the May 14, 2008 Notice of Alteration (NoA), and the September 3, 2008 NoA.

Proposed changes presented in the May 14, 2008 NoA include changing the liner design to a 30 mil PVC liner for aerated cells No. 1, No. 2, and No. 3 of the wastewater treatment lagoon rather than the originally proposed soil liner. This alteration is considered to be a minor alteration. Pursuant to Section 14(2) of The Environment Act approval is hereby given to implement this minor alteration to the wastewater treatment lagoon design.

The September 3, 2008 NoA requests authorization to proceed to dispose of sludge material excavated from secondary cell No. 3 as identified on Schedule "A" to the Licence in four possible ways, including:

1. Land application in an area near the existing lagoon site and within NE 9-2-1WPM;
2. For use as erosion repair along the interior dykes of secondary cell No. 4 as identified on Schedule "A" to the Licence;
3. By general placement along the inside lined portions of secondary cell No. 3 or the new aerated cells; and
4. By hauling away from the lagoon site with disposal at a licensed waste disposal ground.

In consideration of these four options, we have determined that the first proposed method of disposal is not acceptable as such proposed land applications of sludge requires a unique Environment Act Licence that may be developed following a specific Environment Act Proposal review. You indicate that the sludge has been blended with soil during excavation. Nonetheless, if it is desired to obtain authorization for land application of the sludge, then a new Environment Act Proposal specific to this disposal method must be submitted for review by the Technical Advisory Committee and the public. An Environment Act Licence might then be issued. The last three methods of disposal of the sludge material proposed in the September 3, 2008 letter are acceptable and are considered to be minor alterations.

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Pursuant to Section 14(2) of The Environment Act approval is hereby given to implement the minor alterations to the wastewater treatment lagoon as described, with the exception of applying sludge material in an area near the existing lagoon site and within NE 9-2-1WPM, subject to the limits, terms and conditions of Environment Act Licence No. 1681 RRR that is attached.

This Licence has been revised from the previous Licence that was issued to the Town of Altona on February 6, 2008. The revisions include:

1. Adding mention of the NoAs in the preamble;
2. Adjusting Clauses 15 thru 21 and Clause 24 to reflect the alteration of the liner type for aerated cells No. 1, No. 2, and No. 3 from clay soil type to 30 mil PVC;
3. Reducing the number of undisturbed soil samples required by Clause 38 to 15 from 45 in response to the change in liner types for aerated cells No. 1, No. 2, and No. 3;
4. Adding Clause 46 to introduce requirements within the Licence to control the use of the existing sludge dewatering area and identify options for disposal of dewatered sludge;
5. Modifying Schedule "A" to include identification of the sludge dewatering area; and
6. Rescinding Licence No. 1681 RR.

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.

If you require any clarification of this letter or have any questions, please contact Robert Boswick of the Environmental Assessment and Licensing Branch at (204) 945-6030.

Yours truly,



Tracey Braun, M.Sc.
Director
Environment Act

Enclosure

- c. Jason Bunn, E.I.T., Project Engineer – Genivar
Jack Wiebe, JKW Construction Ltd., Via FAX: 829-3890
B. Gillespie, Regional Director, Central Region – Manitoba Conservation
Glenn Ritchie, Environment Officer, Manitoba Conservation

NOTE: Confirmation of Receipt of this Licence No. 1681 RRR (*by the Licencee only*) is required by the Director of Environmental Assessment and Licensing. Please acknowledge receipt by signing in the space provided below and faxing a copy back to the Department by September 24, 2008.

On behalf of the Town of Altona

Date

****A COPY OF THE LICENCE MUST BE KEPT ON SITE AT THE DEVELOPMENT AT ALL TIMES****

LICENCE

Licence No. / Licence n° 1681 RRR

Issue Date / Date de délivrance June 15, 1993

Revised : May 24, 2001

Revised : February 6, 2008

Revised : September 18, 2008

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 ALTONA; "the Licencee"

for the construction, operation and maintenance of the Development being an wastewater collection system, a forcemain connection, and a wastewater treatment lagoon that is located NE 9-2-1WPM in the Rural Municipality of Rhineland and with discharge from the wastewater treatment lagoon to a municipal ditching that flows into Chortitz Drain that drains into the Plum River in accordance with the proposal filed under The Environment Act on December 7, 2006, subsequent information provided in a letter dated July 6, 2007, the Notice of Alteration dated May 14, 2008, and the Notice of Alteration dated September 3, 2008 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;

"aerated" means the bringing about of intimate contact between air and a liquid by bubbling air through the liquid;

"aerated cell" means a cell of a wastewater treatment lagoon system in which mechanical or diffused-air aeration is used to supplement the oxygen supply;

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

"approved" means approved by the Director, or an 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;

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

"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;

"bentonite" means specially formulated standard mill grade sodium bentonite conforming to American Petroleum Institute Specification 13-A;

"cut-off" means a vertical-side trench filled with compacted clay or a sand and bentonite mixture or a wall constructed from compacted clay;

"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;

"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 aerated and storage 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;

"industrial use agreement" means an agreement to discharge industrial wastewater to municipal wastewater collection and treatment systems;

"industrial wastewater" means wastewater derived from an industry which manufactures, handles or processes a product and does not include wastewater from commercial or residential buildings;

"influent" means water, wastewater, or other liquid flowing into a wastewater treatment facility;

"in-situ" means on the site;

"low water mark" means the line on the interior surface of the aerated and storage 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;

"piezometer" means an instrument for measuring pressure head in a conduit, tank, or soil;

"rip rap" 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;

"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 solids" means solids in sludge;

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

"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;

"storage cell" means a cell of the wastewater treatment lagoon system which is a cell that receives partially treated wastewater from the aerated cell and retains the wastewater for a period of time;

"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;

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

"wet industry" means an industry that generates manufacturing or processing wastewater but does not include an industry that generates only cooling process wastewater.

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 sewage generated within the Town of Altona 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 case of physical or mechanical breakdown of the wastewater collection and/or treatment system:
 - a) notify the Director immediately;
 - b) identify the repairs required to the wastewater collection and/or treatment system;
 - c) undertake all repairs to minimize unauthorized discharges of wastewater; and
 - d) complete the repairs in accordance with any written instructions of the Director.

5. The Licencee shall not allow the discharge of any industrial wastewater from a wet industry into the wastewater collection system and wastewater treatment lagoon unless the wet industry discharging the wastewater has first entered into an industrial use agreement with the Licencee.

6. Notwithstanding Clause 5 of this Licence, the Licencee shall establish an industrial use agreement with wet industries that do not currently have an industrial use agreement within six months of the date of this Licence. Any such agreement(s) shall specify the quality, quantity and timing of discharges into the wastewater collection system.
7. 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.
8. 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).
9. The Licencee shall obtain all necessary provincial and federal permits and approvals for construction of relevant components of the Development prior to commencement of construction.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

10. 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.
11. 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.

12. 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.
13. The Licencee shall not alter local drainage patterns by the construction of the Development.
14. The Licencee shall, prior to the construction of the dykes for the wastewater treatment lagoon:
 - a) remove all organic topsoil from the area where the dykes will be constructed; or
 - b) remove all organic material for a depth of 0.3 metres and a width of 3.0 metres from the area where the liner will be constructed.
15. The Licencee shall construct and maintain storage cell No. 4 of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence with a continuous liner, including cut-offs, under all interior surfaces of the cell in accordance with the following specifications:
 - a) the liner shall be made of clay;
 - b) the liner shall be at least one metre in thickness;
 - c) the liner shall have a hydraulic conductivity of 1×10^{-7} centimetres per second or less at all locations;
 - d) the cut-offs shall be constructed of clay which has been mechanically compacted;
 - e) the cut-offs shall be keyed into the underlying clay liner a minimum of 0.3 metres; and
 - f) the cut-offs shall be constructed to an elevation of 3.2 metres above the base of the cell.
16. The Licencee shall construct and maintain continuous liners, including cover material, underlying aerated cells No. 1, No. 2 and No. 3 and storage cell No. 3 of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence, 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 3.1 metres above the base of storage cell No. 3;

- f) the liners shall be installed to a minimum elevation 5.0 metres above the bases of aerated cells No. 1, No. 2, and No. 3;
 - g) 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;
 - h) the hydraulic conductivity of the liners shall not exceed 3×10^{-9} centimetres per second over the entire surface area of the liners;
 - i) a testing report is prepared and submitted to the Director within 30 days of commencing the installation of the liners; and
 - j) 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.
17. The Licencee shall construct and maintain effective gas relief systems under the liners for aerated cells No. 1, No. 2, and No. 3 and storage cell No. 3 of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence.
18. The Licencee shall notify the Director one week prior to commencing the installation of the gas relief systems and the liners of aerated cells No. 1, No. 2, and No. 3 and storage cell No. 3 of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence.
19. The Licencee shall not cover the liners of aerated cells No. 1, No. 2, and No. 3 or storage cell No. 3 or use these cells of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence until receiving the approval of the Director of the report submitted pursuant to sub-Clause 16 i) of this Licence.
20. The Licencee shall construct and maintain an effective groundwater dewatering system to control the groundwater table below the liners of aerated cells No. 1, No. 2, and No. 3 and storage cell No. 3 of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence, to prevent the lifting of the liner and to allow functioning of the gas relief system.
21. The Licencee shall install and maintain monitoring wells to function as piezometers along the perimeters of aerated cells No. 1, No. 2, and No. 3 and storage cell No. 3 of the wastewater treatment lagoon as identified on Schedule "A" to this Licence to monitor the water table elevation in and around the area of the cells.

22. 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 30 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) between the 1st day of November of any year and the 15th day of June of the following year;
 - e) when flooding from any cause is occurring along the effluent drainage route; or
 - f) when such a discharge would cause or contribute to flooding in or along the effluent drainage route.
23. The Licencee shall operate and maintain the wastewater treatment lagoon in such a manner that:
- a) the release of offensive odours is minimized;
 - b) a minimum of 2 milligrams of dissolved oxygen per litre is detectable at all times in the top 2.0 metres of the liquid in aerated cells No. 1, No. 2, and No. 3 as outlined in Schedule "A" to this Licence;
 - c) the organic loading on the wastewater treatment lagoon, in terms of the five-day biochemical oxygen demand, is not in excess of 732 kilograms per day;
 - d) the depth of liquid in aerated cells No. 1, No. 2, and No. 3, as outlined in Schedule "A" to this Licence, does not exceed 4.0 metres;
 - e) the depth of liquid in storage cell No. 2, as outlined in Schedule "A" to this Licence, does not exceed 1.5 metres; and
 - f) the depth of liquid in storage cells No. 3 and No. 4, as outlined in Schedule "A" to this Licence, does not exceed 2.1 metres.
24. The Licencee shall:
- a) annually inspect the aeration system and make any necessary repairs;
 - b) monthly inspect the water table elevations, as indicated by the piezometers installed pursuant to Clause 21 of this Licence, in and around the area of storage cell No. 3 and aerated cells No. 1, No. 2, and No.3 of the wastewater treatment lagoon as identified on Schedule "A" to this Licence;
 - c) maintain a record of inspection dates, observations, maintenance and repairs completed; and
 - d) make the record of inspection dates, observations, maintenance and repairs completed available to an Environment Officer upon request.

25. 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.
26. 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.
27. 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.
28. 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 rip rap as necessary. The rip rap 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.
29. 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.
30. 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.
31. The Licencee shall implement an ongoing program to remove burrowing animals from the site of the wastewater treatment lagoon.
32. 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.
33. The Licencee shall install piezometers around cells of the wastewater treatment lagoon that are lined with geomembrane liners.

MONITORING AND REPORTING

34. 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 fecal coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample; and
 - c) the total coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample.
35. The Licencee shall:
- a) during each year maintain records of:
 - i) wastewater sample dates;
 - ii) original copies of laboratory analytical results of the sampled wastewater;
 - iii) effluent discharge dates;
 - b) make the records being maintained pursuant to sub-Clause 35 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.
36. 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.
37. The Licencee shall arrange with the designated Environment Officer a mutually acceptable time and date for any required soil sampling between the 15th day of May and the 15th day of October of any year.
38. The Licencee shall take and test undisturbed soil samples, in accordance with Schedule "B" to this Licence, from the soil liners of the wastewater treatment lagoon; the number and location of samples and test methods to be specified by the designated Environment Officer up to a maximum of 15 samples.
39. The Licencee shall, not less than 2 weeks before the wastewater treatment lagoon is placed in operation, submit to the Director the results of the tests carried out pursuant to Clause 38 of this Licence.

40. The Licencee shall submit to the Director for approval, within three months of the date of this Licence, a groundwater investigation and monitoring plan for the site of the Development to monitor the integrity of the clay soil and PVC liners as well as the groundwater characteristics in the area of storage cell No. 2 as identified in Schedule "A" to this Licence,
41. 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 Plum River, the Red River or Lake Winnipeg and associated waterways and watersheds.
42. The Licencee shall:
 - a) prepare updated "as constructed drawings" for the Development and shall label the drawings "As Constructed"; and
 - b) provide to the Director, on or before 27th day of February, 2009, two sets of "as constructed drawings" of the wastewater treatment lagoon.

DECOMMISSIONING CELLS OF WASTEWATER TREATMENT LAGOON

43. The Licencee shall, after placing the Development into operation, prevent any additional wastewater or septage from being discharged into the previously existing aerated cell of the wastewater treatment lagoon located on NE 9-2-1 WPM in the Rural Municipality of Rhineland, Manitoba.
44. The Licencee shall, within one year of placing the Development into operation,:
 - a) remove the wastewater from the previously existing aerated cell of the wastewater treatment lagoon located on NE 9-2-1 WPM, as indicated on Schedule "A" to this Licence, and transport it to aerated cell No. 1 of the wastewater treatment lagoon or discharge treated effluents in accordance with Environment Act Licence No. 1681 R;
 - b) remove the aeration equipment from the previously existing aerated cell of the wastewater treatment lagoon located on NE 9-2-1 WPM as indicated on Schedule "A" to this Licence;
 - c) dewater the sludge within the previously existing aerated cell of the wastewater treatment lagoon located on NE 9-2-1 WPM as indicated on Schedule "A" to this Licence;
 - d) remove all of the dewatered sludge from the previously existing aerated cell of the wastewater treatment lagoon located on NE 9-2-1 WPM as indicated on Schedule "A" to this Licence;
 - e) dispose of the dewatered sludge from the previously existing aerated cell of the wastewater treatment lagoon located on NE 9-2-1 WPM as indicated on Schedule "A" to this Licence;

- i) at a waste disposal ground operated under the authority of a permit issued under Manitoba Regulation 150/91 or a Licence issued pursuant to The Environment Act; or
 - ii) in the lined operating areas of aerated cells No. 1, No. 2, and No. 3 of the licenced wastewater treatment lagoon located in NE 9-2-1 WPM as indicated on Schedule "A" to this Licence; and
- f) level the site of the previously existing aerated cell of the wastewater treatment lagoon located on NE 9-2-1 WPM as indicated on Schedule "A" to this Licence to the original grade.

45. The Licencee shall:

- a) on or before December 1, 2009, submit a Notice of Alteration in accordance with Section 14 of The Environment Act for the decommissioning of storage cell No. 2 of the wastewater treatment lagoon as identified in Schedule "A" to this Licence; and
- b) not later than December 1, 2010, decommission storage cell No. 2 of the wastewater treatment lagoon as identified in Schedule "A" to this Licence in accordance with the written requirements of the Director.

SLUDGE DEWATERING AREA OF WASTEWATER TREATMENT LAGOON

46. The Licencee shall:

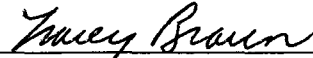
- a) construct the sludge dewatering area of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence with compacted clay berms and operate it in a manner that sludge and supernatant do not leak out of the sludge dewatering area;
- b) utilize the sludge dewatering area of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence to dewater sludge removed from storage cell No. 3 during preparations to install the 30 mil PVC geomembrane liner in storage cell No. 3;
- c) operate and maintain the sludge dewatering area of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence in such a manner as to prevent the contamination of groundwater and surface waters;
- d) not construct, alter or operate the sludge dewatering process at the sludge dewatering area of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence in a way which causes or results in an odour nuisance, and shall take steps as the Director may require to eliminate or mitigate an odour nuisance;
- e) after placing the sludge in the sludge dewatering area of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence, remove all the supernatant from the sludge and return the supernatant to the wastewater treatment lagoon so that only sludge solids remain;

- f) remove all dewatered sludge from the sludge dewatering area of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence;
- g) transport the dewatered sludge in containers in such a manner to prevent the loss of sludge solids to the satisfaction of the assigned Environment Officer;
- h) dispose of all dewatered sludge from the sludge dewatering area of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence;
 - i) at a waste disposal ground operated under the authority of a permit issued under Manitoba Regulation 150/91 or a Licence issued pursuant to The Environment Act; or
 - ii) in the lined operating areas of aerated cells No. 1, No. 2, or No. 3 or storage cells No. 3 or No. 4 of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence;
- i) within 48 hours of depositing the sludge solids at a waste disposal ground:
 - i) incorporate the sludge solids into the topsoil covering the waste disposal ground to a minimum depth of 15 centimetres; or
 - ii) cover the sludge solids deposited at the waste disposal ground with soil to a minimum depth of 15 centimetres;
- j) not transport frozen sludge solids from the wastewater treatment lagoon to a waste disposal ground; and
- k) after November 1, 2008, not use the sludge dewatering area of the wastewater treatment lagoon as indicated on Schedule "A" to this Licence without written approval of the Director.

REVIEW AND REVOCATION

- A. Licence No. 1681 RR is rescinded.
- B. Licence No. 1681 R is rescinded upon approved commissioning of the altered wastewater treatment lagoon and the decommissioning of lagoon cells 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.

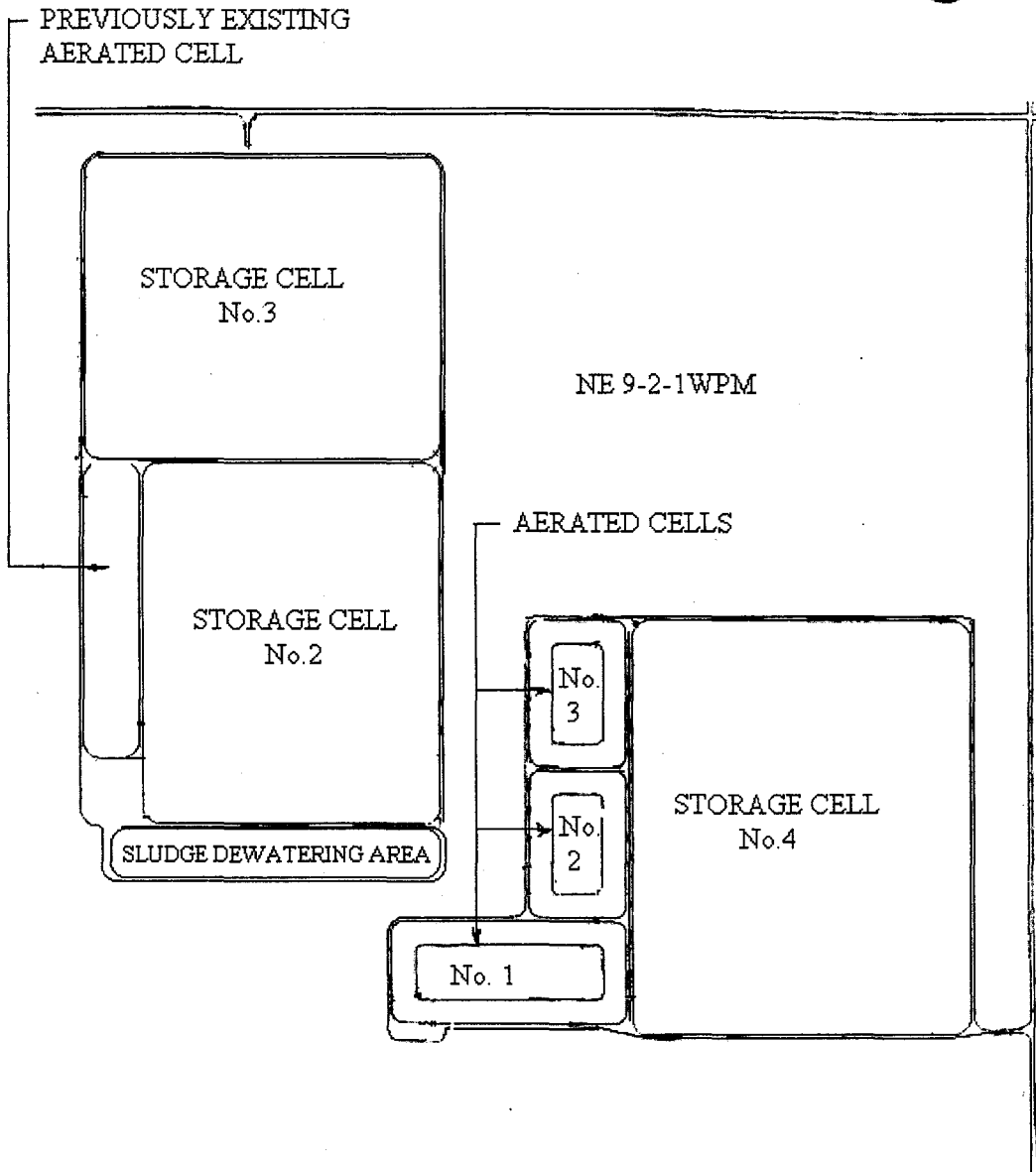
- E. If, in the opinion of the Director, new evidence warrants a change in the specifications, limits, terms or conditions of this Licence, the Director may require the filing of a new proposal pursuant to Section 11 of The Environment Act.



Tracey Braun, M. Sc.
Director
Environment Act

FILE: 39.30

Schedule "A" to Environment Act Licence No. 1681 RRR



Schedule "B" to Environment Act Licence No. 1681 RRR

Soil Sampling:

1. The Licencee shall provide a drilling rig, acceptable to the designated Environment Officer, to extract soil samples from the liner which is not placed or found at the surface of the lagoon structure. This includes all wastewater treatment lagoons constructed with clay cutoffs at the interior base of the dyke or with a clay cutoff in the centre of the dyke. The drill rig shall have the capacity to drill to the maximum depth of the clay cutoff plus an additional 2 metres. The drill rig shall be equipped with both standard and hollow stem augers. The minimum hole diameter shall be 5 inches.
2. For lagoon liners placed or found at the surface of the lagoon structure, the Licencee shall provide a machine, acceptable to the designated Environment Officer, capable of pressing a sampling tube into the liner in a straight line motion along the centre axis line of the sample tube and without sideways movement.
3. Soil samples shall be collected and shipped in accordance with ASTM Standard D 1587 (Standard Practice for Thin-Walled Tube Sampling of Soils), D 4220 (Standard Practice for Preserving and Transporting Soil Samples) and D 3550 (Standard Practice for Ring-Lines Barrel Sampling of Soils). Thin-walled tubes shall meet the stated requirements including length, inside clearance ratio and corrosion protection. An adequate venting area shall be provided through the sampling head.
4. At the time of sample collection, the designated Environment Officer shall advise the Licencee as to the soil testing method that must be used on each sample. The oedometer method may be used for a sample were the Environment Officer determines that the soil sample is taken from an undisturbed clay soil which has not been remoulded and which is homogeneous and unweathered. The triaxial test shall be used for all samples taken from disturbed and remoulded soils or from non homogenous and weathered soils.
5. The Licencee shall provide a report on the collection of soil samples to the designated Environment Officer and to the laboratory technician which includes but is not limited to: a plot plan indicating sample location, depth or elevation of sample, length of advance of the sample tube length of soil sample contained in the tube after its advancement, the soil test method specified by the Environment Officer for each soil sample and all necessary instructions from the site engineer to the laboratory technician.
6. All drill and sample holes shall be sealed with bentonite pellets after the field drilling and sampling has been completed.

Soil Testing Methods:

1. Triaxial Test Method

- a) The soil samples shall be tested for hydraulic conductivity using ASTM D 5084 (Standard Test Method for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter).
- b) Soil specimens shall have a minimum diameter of 70 mm (2.75 inches) and a minimum height of 70 mm (2.75 inches). The soil specimens shall be selected from a section of the soil sample which contains the most porous material based on a visual inspection. The hydraulic gradient shall not exceed 30 during sample preparation and testing. Swelling of the soil specimen should be controlled to adjust for: the amount of compaction measured during sample collection and extraction from the tube and the depth or elevation of the sample. The effective stress used during saturation or consolidation of the sample shall not exceed 40 kPa (5.7 psi) or the specific stress level, that is expected in the field location were the sample was taken, which ever is greater.
- c) The complete laboratory report, as outlined in ASTM D 5084, shall be supplied for each soil sample collected in the field.

2. Oedometer Test Method

- a) The soil samples shall be tested for hydraulic conductivity using ASTM D 2435 (Standard Test Method for One-Dimensional Consolidation Properties of Soils).
- b) Soil specimens shall have a minimum diameter of 50 mm (2 inches) and a minimum height of 20 mm (0.8 inches). The soil specimens shall be selected from a section of the soil sample which contains the most porous material based on a visual inspection. The soil specimen shall be taken from an undisturbed soil sample. The soil specimen shall be completely saturated.
- c) The complete laboratory report, as outlined in ASTM D 2435, shall be supplied for each soil sample collected in the field.