



Conservation

Climate Change and Environmental Protection Division
Environmental Assessment and Licensing Branch
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CLIENT FILE NO.: 2412.10

October 17, 2011

Calvin Vaags
4949839 Manitoba Ltd. (Plains Processors Ltd.)
Box 1259
Carman MB R0G 0Z0

Dear Mr. Vaags:

Enclosed is **Environment Act Licence No. 2986** dated October 17, 2011 issued in accordance with The Environment Act to **4949839 Manitoba Ltd. (Plains Processors Ltd.)** for the expansion and operation of the Development being a cattle processing facility, wastewater collection system and wastewater storage facility located in the southwest quarter of Section 18-7-4 WPM in the Rural Municipality of Dufferin with discharge via subsurface injection to agricultural land in accordance with the Proposal filed under *The Environment Act* on March 23, 2011 and subsequent information provided on July 21, 2011 and August 10, 2011.

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 Jennifer Winsor, Environmental Engineer @ (204) 945-7012.

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 within 30 days of the date of the Licence.

Yours truly,

Tracey Braun, M. Sc.
Director
Environment Act

Enc.

- c: Don Labossiere, Director, Environmental Operations
- Doug Small, DGH Engineering Ltd.
- Public Registries

NOTE: Confirmation of Receipt of this Licence No. 2986 (*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 (letter only) to the Department by October 31, 2011.

4949839 Manitoba Ltd. (Plains Processors Ltd.)

Date

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

Licence No. / Licence n° 2986

Issue Date / Date de délivrance October 17, 2011

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 Paragraphes 11(1)

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

4949839 MANITOBA LTD. (PLAINS PROCESSORS LTD.);
"the Licence"

for the expansion and operation of the Development being a cattle processing facility, wastewater collection system and wastewater storage facility located in the southwest quarter of Section 18-7-4 WPM in the Rural Municipality of Dufferin with discharge via subsurface injection to agricultural land in accordance with the Proposal filed under *The Environment Act* on March 23, 2011 and subsequent information provided on July 21, 2011 and August 10, 2011 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;

"**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 storage facility;

"**CFIA**" means Canadian Food Inspection Agency;

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"**day**" or "**daily**" 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 storage facility;

"**Environmental Management System (EMS)**" means the part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy;

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

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

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

"**HDPE**" means high density polyethylene;

"**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;

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

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

"**mil**" means one-thousandth of an inch;

"**MSDS**" means material data safety sheets;

"**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 the 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;

"pollutant" means a pollutant as defined in *The Environment Act*;

"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;

"process wastewater" means a liquid stream, containing or comprised of process water or any chemicals used by the Development, which is designated for release into the environment;

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

"SAR" means sodium adsorption ratio;

"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;

"sodium adsorption ratio" means the dimensionless value where:

$$\text{SAR} = \frac{0.043 \times \text{Sodium concentration}}{\sqrt{(0.025) \text{ Calcium concentration} + (0.04) \text{ Magnesium concentration}}}$$

"SRM" means specified risk materials;

"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;

"subsurface" means pertaining to, formed, or occurring, underneath the surface of the earth;

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

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

"WHMIS" means Workplace Hazardous Materials Information System.

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. 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 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, ambient quality, aquatic toxicity, leachate characteristics and discharge or emission rates, and for such duration and at such frequencies as may be specified;
 - b) determine the environmental impact associated with the release of any pollutant 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.
2. 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 the most current edition of 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 analyses on, soil 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 within 60 days of the samples being taken.
3. The Licencee shall provide to the Director, upon request, all information required under this Licence, in writing and in such form and content (including number of copies), as may be specified by the Director, and each submission shall be clearly labelled with the Licence Number and Client File Number associated with this Licence.
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 comply with the provisions of *Manitoba Regulation 331/88R* respecting *Water Works, Sewerage and Sewage Disposal Regulation* and its amendment or any future amendment thereof.
6. The Licencee shall obtain all necessary federal, provincial and/or municipal licences, authorizations, permits and/or approvals for construction of relevant components of the Development prior to commencement of construction.
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 acquire any necessary land agreements prior to constructing the wastewater storage facility.
10. The Licencee shall:
 - a) prepare updated "record drawings" for the Development and shall label the drawings "Record Drawings"; and
 - b) provide to the Director, not later than six months after construction of the Development is completed, two sets of "record drawings" of the Development.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

Respecting the Operation of the Cattle Processing Facility

11. The Licencee shall direct all delivered, live and unloaded cattle as soon as possible into the cattle pens but shall not exceed the total holding capacity of 380 head of cattle on any day.
12. The Licencee shall limit the rate of cattle processing to 1900 head of cattle per week.
13. The Licencee shall, during each week of operation:
 - a) determine and record the number of cattle processed by the end of each week; and
 - b) submit the recorded information to the Director, in a format acceptable to the Director, no later than 30 days after the end of each successive 4 week period during which the information was being determined.
14. The Licencee shall minimize the loss of blood to the process wastewater sewers by maximizing the efficiency of blood collection to the satisfaction of the Director, and have all offal, blood, bones, dead-on-arrival animals, SRM material, solids and sludge collected during screening, regularly removed off-site and transported to, and disposed of into, a CFIA-approved Class 1 disposal facility as identified in the *Waste Disposal Grounds Regulation 150/91*, or to a facility approved by CFIA and the director. All blood and offal shall be transported in vehicles utilizing containment provisions satisfactory to the Director.
15. The Licencee shall ensure that livestock manure is stored, handled or disposed of, in accordance with a Manure Management Plan registered with the Director of Environmental Services in accordance with subsection 13(4) of the *Livestock Manure and Mortalities Management Regulation MR 42/98* or any future amendment thereof.
16. The Licencee shall continually maintain an up-to-date inventory of any process and cleaning chemicals used and/or stored on-site that would be captured by any applicable federal/provincial WHMIS regulations and protocols, and make this information and applicable MSDS sheets available to an Environment Officer upon request.

Respecting Sewage and Process Wastewater Management

17. The Licencee shall ensure that all sewage is handled and disposed of in accordance with the *Onsite Wastewater Management Systems Regulation MR 83/2003* or any future amendment thereof.
18. The Licencee shall notify the assigned Environment Officer not less than two weeks prior to beginning construction of the wastewater storage facility. The notification shall include the intended starting date of construction.

19. The Licencee shall, during construction of the wastewater storage facility, 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 storage facility or watercourses and have an emergency spill kit for in-water use available on-site during construction.
20. The Licencee shall, prior to the construction of the dykes for the wastewater storage facility:
 - a) remove all organic material from the area where the wastewater storage facility 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.
21. The Licencee shall construct and maintain a continuous double liner underlying the wastewater storage facility, such that:
 - a) the liner is constructed from HDPE geomembrane;
 - b) the liner has a minimum thickness of 60 mils;
 - c) all sections of the liner are joined by double channel fusion seaming;
 - d) the liner is installed in accordance with ASAE Standard EP340.2 for the Installation of Flexible Membrane Linings;
 - e) the liner is installed to a minimum elevation of 4.2 metres above the base of the cell;
 - f) the liner is free of holes and has a hydraulic conductivity not exceeding 3.0×10^{-9} centimetres per second over the entire surface area of the liner; and
 - g) the liner is tested for the integrity of all field seams by pressurized air channel evaluation, in accordance with ASTM Standard D 5820-95(2006), and a testing report is prepared and submitted to the Environment Officer for approval.
22. The Licencee shall construct and maintain a cover over the surface of the wastewater storage facility, such that:
 - a) the cover is constructed from reinforced polyethylene;
 - b) the cover has a minimum thickness of 40 mils; and
 - c) the liner is free of holes and covers the entire surface area of the wastewater storage facility.
23. The Licencee shall construct and maintain an effective gas relief system under the liner of the wastewater storage facility.
24. The Licencee shall notify the Environment Officer two weeks prior to commencing the installation of the wastewater storage facility liner and the gas relief system.
25. The Licencee shall not use the wastewater storage facility until receiving the approval of the Environment Officer of the report submitted pursuant to sub-Clause 21 g) of this Licence.
26. The Licencee shall complete the installation of the synthetic liner at the wastewater storage facility between the 15th day of May and the 15th day of October of any year, unless otherwise approved by the Environment Officer.

27. The Licencee shall not direct pollutants into any surface drainage route leading off the property of the Development or into the local groundwater.
28. The Licencee shall not discharge process wastewater effluent by subsurface injection on any area of land:
- a) between November 10th of any year and April 10th of the following year, unless otherwise approved by the Director;
 - b) at such a rate, of such quality, or in such quantity as being in excess of the prevailing agronomic requirements of the crop being grown on the affected field, or causing excess nutrients, metals, or other pollutants to be forced past the root zone of the crop, or otherwise being inconsistent with any conditions outlined in the current Manitoba Water Quality Standards, Objectives and Guidelines;
 - c) where there is evidence of standing water, or the subsurface water table is within the root zone of the crop growing on that land;
 - d) where there is evidence that additional subsurface injection would adversely impact the quality of groundwater under the field relative to drinking water criteria as laid out in the current "Manitoba Water Quality Standards, Objectives and Guidelines"; and
 - e) that the Director specifies to be a non-candidate field on a permanent or temporary basis.
29. The Licencee shall, when discharging process wastewater effluent by subsurface injection:
- a) dispose of effluent onto land owned by the Licencee, or onto lands where legal agreement with the land owner(s) has been made with the Licencee;
 - b) only discharge effluent to irrigate:
 - a. land on which cereal, forage or oil seed crops will be grown in the next season following application;
 - b. grasslands which will not be utilized for grazing:
 - i. by dairy cattle for at least 30 days after effluent is applied; or
 - ii. by livestock other than dairy cattle for at least 7 days after effluent is applied;
 - c) not harvest agriculture crops for at least 7 days after the crops are irrigated with effluent;
 - d) use any corn irrigated with effluent solely for making silage;
 - e) not apply effluent to particular lands for more than 10 continuous hours in any 24-hour period; and
 - f) if ponding or surface runoff occurs during application, reduce the gross volume of effluent applied during any application of effluent so that ponding or surface runoff does not occur.
30. The Licencee shall not discharge process wastewater effluent by subsurface injection:
- a) to frozen soil;
 - b) within 300 metres of any occupied residence (other than the residence occupied by the owner of the land on which the wastewater is to be applied);
 - c) within 1 kilometre of a residential area;
 - d) within 15 metres of a first order or second order waterway;
 - e) within 30 metres of lakes, wetlands, marsh areas or third or greater order waterways;
 - f) within 50 metres of any groundwater well; or
 - g) on land that is subject to flooding.

31. The Licencee shall install and maintain a fence around the wastewater storage facility 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 storage facility.
32. The Licencee shall provide and maintain a grass cover on the outside of the dykes of the wastewater storage facility and shall regulate the growth of the vegetation so that the height of the vegetation does not exceed 0.3 metres on all dykes.
33. 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 storage facility.
34. The Licencee shall implement an ongoing program to remove burrowing animals from the site of the wastewater storage facility.
35. The Licencee shall, prior to each effluent discharge campaign, obtain grab samples of the treated wastewater and have them analyzed for constituents in accordance with the *Nutrient Management Regulation 62/2008*, or any future amendment thereof, including the total nitrogen and total phosphorus content, expressed as milligrams per litre.
36. The Licencee shall, prior to the first discharge campaign:
 - a) obtain grab samples of the treated wastewater;
 - b) analyze the samples for electrical conductivity (EC) expressed in $\mu\text{S}/\text{cm}$ and sodium adsorption ratio (SAR); and
 - c) submit the test results to the Director.
37. 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 subsurface injection dates; and
 - iv) odour nuisance reports;
 - b) make the records being maintained pursuant to sub-Clause 37 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.

Respecting Decommissioning of the Existing Wastewater Treatment Lagoon

38. The Licencee shall, after placing the new wastewater storage facility into operation, prevent any additional wastewater from being discharged into the existing wastewater treatment lagoon.
39. The Licencee shall decommission the existing wastewater treatment lagoon within one year of commencing operation of the new wastewater storage facility.
40. The Licencee shall:
 - a) transport all effluent from the existing wastewater treatment lagoon to an approved wastewater treatment and/or storage facility;

- b) dewater the sludge in the cell of the existing wastewater treatment lagoon;
 - c) remove all of the dewatered sludge from the cell of the existing wastewater treatment lagoon;
 - d) ensure that sludge is transported in containers in such a manner to prevent loss of sludge to the satisfaction of an Environment Officer;
 - e) dispose of the dewatered sludge from the cell of the existing wastewater treatment lagoon to a Class 1 waste disposal ground, as identified in the *Waste Disposal Grounds Regulation 150/91*; and
 - f) level the site of the existing wastewater treatment lagoon to the original grade.
41. The Licencee shall restrict the use of the site of the decommissioned wastewater treatment lagoon to the growing of the following agricultural crops for a period of three years after the site has been leveled:
- a) a cereal crop;
 - b) a forage crop; or
 - c) an oil seed crop.
42. At the expiration of the three-year period following decommissioning of the existing wastewater treatment lagoon, the Licencee shall continue to use the site in accordance with the by-laws of the Rural Municipality of Dufferin, and other Federal and Provincial regulations as applicable.
43. The Licencee shall notify the assigned Environment Officer not less than five days prior to the commencement of removal, transportation and land injection of biosolids and sludge solids. The notification shall include the intended starting date of the activities and the name of the contractor responsible for the activities.
44. The Licencee shall inject all biosolids applied to agricultural land into the soil such that the depth at which the biosolids are introduced into the soil is a minimum of 15 centimeters below the soil surface or that soil is mounded to a depth of 15 centimeters above the level at which the biosolids were introduced into the soil in such a manner as to cover all of the biosolids.
45. The Licencee shall:
- a) contain the biosolids in the furrow opening; and
 - b) complete the surface expression of the injected biosolids such that it is acceptable to an Environment Officer.
46. The Licencee shall not exceed the biosolids application rate and amount of plant-available nitrogen applied to the land as specified in the *Nutrient Management Regulation 62/2008*.
47. The Licencee shall not apply biosolids:
- a) between November 10th of any year and April 10th of the following year;
 - b) to frozen soil;
 - c) within 300 metres of any occupied residence (other than the residence occupied by the owner of the land on which the wastewater is to be applied);
 - d) within 1 kilometre of a residential area;
 - e) within 15 metres of a first order or second order waterway;
 - f) within 30 metres of lakes, wetlands, marsh areas or third or greater order waterways;
 - g) within 50 metres of any groundwater well; or

h) on land that is subject to flooding.

48. The Licencee shall not apply biosolids on land:
- a) with a depth of clay or clay till of less than 1.5 metres between the soil surface and the water table;
 - b) within 100 metres of an identifiable boundary of an aquifer which is exposed to the ground surface;
 - c) where, prior to the application of biosolids, the soil pH is less than 6.0;
 - d) where the surface slope of the land is greater than 5 percent;
 - e) where, prior to the application of biosolids, the level of nitrate-nitrogen exceeds 100 kilograms per hectare in the upper 60 centimetres of the soil; or
 - f) where, prior to the application of biosolids, the concentration of sodium bicarbonate extractable phosphorous, as P, exceeds 60 micrograms per gram in the upper 15 centimeters of the soil.
49. The Licencee shall not allow cattle to pasture on land on which biosolids have been applied, for a period of three years from the date of application of the biosolids.
50. The Licencee shall, on all agricultural land onto which biosolids have been applied, plant one of the following crops at the commencement of the next growing season following such application and for a period of three years from the date of application of biosolids:
- a) a cereal crop;
 - b) a forage crop;
 - c) an oil seed crop;
 - d) field peas; or
 - e) lentils.
51. The Licencee shall apply biosolids onto agricultural land such that the cumulative weight per hectare of each heavy metal in the soil, as calculated by adding the amount of each heavy metal in the biosolids applied to the background level of the same metal, does not exceed the following levels: *

<u>Metal</u>	<u>Kilogram per Hectare</u>
Arsenic	21.6
Cadmium	2.5
Chromium (total)	115.2
Copper	113.4
Lead	126
Mercury	11.9
Nickel	90
Zinc	360

* Calculated values shall be based on a soil bulk density of 1200 kilograms per cubic metre and a soil depth of 15 centimetres. Analysis for heavy metals must be carried out in accordance with Schedule "B" of this Licence.

52. The Licencee shall submit to the Director, not later than three months from the beginning of the biosolids land application program, the details of the biosolids sampling and analysis program used

to determine the volume and solids content of the biosolids removed on a daily basis and the volume and the solids content of biosolids applied to each field.

53. The Licencee shall submit to the Director, not later than three months from the beginning of the biosolids land application program, the details of the field monitoring program on the biosolids disposal operation used to determine:
- a) the sodium bicarbonate extractable phosphorous, as P, in the upper 15 centimetres of the soil;
 - b) the nitrate-nitrogen and total nitrogen in the upper 60 centimetres of the soil;
 - c) the pH of the soil;
 - d) the surface slope of the land;
 - e) the presence of clay and clay till to a depth of 1.5 metres;
 - f) the number of hectares in each field that can receive biosolids in accordance with the Licence; and
 - g) the number of hectares on which biosolids were applied on a daily basis.
54. The Licencee shall conduct a monitoring and analysis program that is acceptable to the Director, and in accordance with Schedules "A" and "B" of this Licence to determine:
- a) the composition of the biosolids;
 - b) the background levels of selected soil parameters for each parcel of land; and
 - c) the crops grown on land on which biosolids have been applied during the previous 3-year period.
55. The Licencee shall, not later than three months from the beginning of the biosolids land application program, submit to the Director a report, which will include the following:
- a) details of the biosolids injection program including:
 - i) a description of each parcel of land on which biosolids were distributed;
 - ii) the background levels of soil parameters as listed in Schedule "A" of this Licence, for each parcel of land;
 - iii) the dry weight of biosolids applied per hectare;
 - iv) the weight of each heavy metal, in milligrams per kilogram of soil, added to each parcel of land for the metals listed in Schedule "A" of this Licence; and
 - v) the cumulative weight, in kilograms per hectare, of each heavy metal for each parcel of land as calculated by adding the amount of each heavy metal applied to the background level of the same metal;
 - b) the amount of nitrogen, phosphorus, and potassium which was added per hectare for each parcel of land;
 - c) the results of analysis of the biosolids and soil required by this Licence;
 - d) a copy of the analytical procedures used and the results of analysis of reference materials in accordance with Schedule "B" of this Licence; and
 - e) the type of crops grown on land on which biosolids were applied during the previous 3-year period.

Respecting Solid Wastes

56. The Licencee shall not undertake any on-site burning of solid waste.

57. The Licencee shall minimize the generation of domestic solid waste and maximize, wherever possible, the collection and recycling of recyclable wastes generated through the operation of the Development.
58. The Licencee shall:
- a) collect and transport all dry cattle manure from the unloading docks, truck trailers and holding pens on a regular basis to a manure storage facility sited and constructed under permit and in compliance with *the Livestock Manure and Mortalities Management Regulation MR 42/98* or any future amendment thereof;
 - b) ensure that all manure and bedding collected at the solid manure storage facility must be accounted for in a Manure Management Plan (MMP) require by Clause 15 of this Licence and field applied in compliance *the Livestock Manure and Mortalities Management Regulation MR 42/98* or any future amendment thereof; and
 - c) direct all of the cattle manure collected inside the cattle processing plant, or washed off the floor of the cattle holding pens, or washed out of the cattle transporting truck trailers, to the process wastewater sewers, unless otherwise approved by the Director.
59. The Licencee shall not deposit domestic solid waste into the environment except into a waste disposal ground operating under the authority of:
- a) a permit issued pursuant to *Manitoba Regulation 150/91*, or any future amendment thereof; or
 - b) a Licence issued pursuant to *The Environment Act*.

Respecting Air Emissions

60. The Licencee shall:
- a) prepare a report detailing the design, construction methods and gas management effectiveness for odour control of the wastewater storage facility cover; and
 - b) submit the report to the Director for approval, prior to the construction of the wastewater storage facility.
61. The Licencee shall not cause or permit an odour nuisance to be created as a result of the construction, operation or alteration of the cattle processing facility and shall take such steps as the Director may require to eliminate or mitigate an odour nuisance.
62. The Licencee shall not cause or permit a noise nuisance to be created as a result of the construction, operation or alteration of the cattle processing facility and shall take such steps as the Director may require to eliminate or mitigate a noise nuisance.

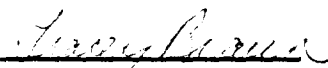
Respecting Dangerous Good or Hazardous Wastes

63. The Licencee shall comply with all the applicable requirements of:
- a) *Manitoba Regulation 240/2004*, or any future amendments thereto, respecting the storage and handling of petroleum products and allied products;
 - b) the *Manitoba Dangerous Goods Handling and Transportation Act*, and regulations issued thereunder, respecting the handling, transport, storage and disposal of any dangerous goods brought onto or generated at the Development; and

- c) *Manitoba Regulation 439/87*, or any future amendment thereto, respecting the reporting of environmental accidents.
- 64. The Licencee shall collect, transport and store used oil or hydraulic fluids removed from on-site machinery in secure, properly labeled, non-leaking containers and shall regularly send them to a recycling or disposal facility approved to accept hazardous wastes.
- 65. The Licencee shall ensure that spill recovery equipment is available on-site at all times.

REVIEW AND REVOCATION

- A. Licence No. 917 VC is rescinded upon approved commissioning of the new wastewater storage facility.
- 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 the Licencee has not commenced construction of the Development within three years of the date of this Licence, the Licence is revoked.
- D. 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

Client File No.: 2412.10

SCHEDULE "A" TO ENVIRONMENT ACT LICENCE NO. 2986

Biosolids

1. A representative sample of biosolids shall be collected from each cell of the wastewater treatment lagoon from which biosolids will be removed. A representative sample of biosolids shall be a composite of sludge samples taken from a minimum of 5 locations distributed over the surface of the cell.
2. The sample of biosolids shall be analyzed for the following parameters: *
 - a. conductivity
 - b. pH
 - c. total solids
 - d. volatile solids
 - e. nitrate nitrogen
 - f. total Kjeldahl nitrogen
 - g. ammonia nitrogen
 - h. organic nitrogen
 - i. total phosphorus
 - j. lead
 - k. mercury
 - l. nickel
 - m. potassium
 - n. cadmium
 - o. copper
 - p. zinc
 - q. chromium
 - r. arsenic

* Analysis for heavy metals must be carried out in accordance with Schedule "B" of this Licence.

Soil

3. Composite samples from each field onto which biosolids will be applied shall be taken prior to application of biosolids. Each field of twenty-four hectares or less shall be sampled from a minimum of twelve representative sites or a minimum of one sample site per two hectares for larger fields. Each sample site shall be sampled from 0 to 15 centimetres and from 0 to 60 centimetres. The entire core extracted for each sample shall be collected. All samples from similar depths within a field shall be bulked in one container for thorough mixing prior to analysis yielding two samples per field.
4. Soil samples from 0 centimetres to 15 centimetres shall be analyzed for the following: *
 - a. pH
 - b. potassium
 - c. nickel
 - d. mercury
 - e. zinc
 - f. sodium bicarbonate extractable phosphorus, as P
 - g. cadmium
 - h. chromium
 - i. copper
 - j. lead
 - k. arsenic

* Analysis for heavy metals must be carried out in accordance with Schedule "B" of this Licence.

5. Soil samples from 0 to 60 centimetres shall be analyzed for the following:
 - a. nitrate nitrogen
 - b. total nitrogen

Crops

6. The type of crop grown on lands on which biosolids have been applied during the previous 3-year period shall be listed along with the legal description of the land and the date of application of biosolids.

SCHEDULE "B" TO ENVIRONMENT ACT LICENCE NO. 2986

The analysis for all metals shall be carried out in accordance with the following requirements:

1. Soil and sludge samples shall be prepared using non-contaminating grinding and sieving procedures such as agate or porcelain mortar and pestle along with nylon sieves. Soil samples shall be ground to at least 100 mesh size prior to digestion or sample pretreatment.
2. Analysis for heavy metals must be carried out following strong acid digestion.
3. The laboratory performing these analyses shall operate an acceptable quality assurance program including the following:
 - a) Samples of reference material shall be analyzed to monitor the accuracy of the sludge and soil analyses and each set of ten or less samples of sludge or soil shall include, a minimum of the following:
 - i) For sludge samples:
 - one NIST domestic sludge sample (SRM 2781);
 - ii) For soil samples:
 - one NIST Estuarine Sediment sample (SRM 1646a); or
 - one NIST San Joaquin Soil sample (SRM 2709); or
 - a replacement reference soil sample, acceptable to the Director, with analytic concentrations that reflect values found in the field samples; and
 - b) Field duplicates of samples shall be analyzed based on a frequency of one in each set of ten or less field samples and that the acceptance criteria for duplicate analysis should be within ± 10 percent.
4. A copy of the analytical procedures and the analytical results for the reference materials, and any other controls used in the analysis, shall be submitted with the field sample results.
5. If the analytical results of the reference materials do not meet the following criteria, the soil and/or sludge samples must be re-analyzed:

- Arsenic	± 35 percent from the reference value	
- Cadmium	± 25 percent from the reference value (for	values above 1
$\mu\text{g/g}$)		
- Cadmium	± 35 percent from the reference value (for	values below 1
$\mu\text{g/g}$)		
- Chromium	± 25 percent from the reference value	
- Copper	± 25 percent from the reference value	
- Lead	± 25 percent from the reference value	
- Mercury	± 35 percent from the reference value	
- Nickel	± 25 percent from the reference value	
- Zinc	± 25 percent from the reference value	