



**Conservation**

Climate Change and Environmental Protection Division  
Environmental Assessment and Licensing Branch  
123 Main Street, Suite 160, Winnipeg, Manitoba R3C 1A5  
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[www.gov.mb.ca/conservation/eal](http://www.gov.mb.ca/conservation/eal)

August 4, 2011

Morley Nagle  
Manitoba Aboriginal and Northern Affairs  
Box 15, 27 – 2<sup>nd</sup> Avenue S.W.  
Dauphin MB R7N 3E5

Dear Mr. Nagle:

Enclosed is **Environment Act Licence No. 2973** dated August 4, 2011 issued in accordance with The Environment Act to **Manitoba Aboriginal and Northern Affairs** for the construction and operation of the Development being a wastewater collection system and an extended aeration wastewater treatment plant with a maximum capacity of 135 m<sup>3</sup>/day located in 29-34-15W in the community of Mallard, with treated effluent to be discharged to a drain flowing to Waterhen Lake in accordance with the Proposal filed under The Environment Act on December 31, 2010 and additional information dated April 7, 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.

Environment Act Licence No. 1505 is rescinded upon approved commissioning of the upgraded wastewater treatment plan. If you have any questions on the administration and application of the Licence, please feel free to contact Bruce Webb, Environmental Engineer at (204) 945-7021.

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

Don Labossiere, Director, Environmental Operations  
Cam Dalmy, Dalco Wastewater Specialists Inc.  
Public Registries

**NOTE:** Confirmation of Receipt of this Licence No. 2973 (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 at (204) 945-5229 by August 19, 2011.

\_\_\_\_\_  
On behalf of Manitoba Aboriginal and Northern Affairs

\_\_\_\_\_  
Date

# LICENCE

Licence No. / Licence n° 2973

Issue Date / Date de délivrance August 4, 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) and 14(2) / Conformément au Paragraphes 11(1) et 14(2)

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

**MANITOBA ABORIGINAL AND NORTHERN AFFAIRS; "the Licencee"**

for the construction and operation of the Development being a wastewater collection system and an extended aeration wastewater treatment plant with a maximum capacity of 135 m<sup>3</sup>/day located in 29-34-15W in the community of Mallard, with treated effluent to be discharged to a drain flowing to Waterhen Lake in accordance with the Proposal filed under The Environment Act on December 31, 2010 and additional information dated April 7, 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 in writing;

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

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

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

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

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

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

**"five-day carbonaceous biochemical oxygen demand"** means that part of the oxygen demand usually associated with biochemical oxidation of carbonaceous organic matter within five days at a temperature of 20°C, excluding the oxygen demand usually associated with the biochemical oxidation of nitrogenous organic matter;

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

**"headworks"** means the initial structures and devices of the wastewater treatment plant;

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

**"MPN Index"** means the most probable number of coliform organisms in a given volume of wastewater 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;

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

**"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;

**"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;

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

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

**"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 plant"** means the central facility of the wastewater treatment facilities which contains all treatment processes exclusive of the wastewater collection 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 following specifications, limits, terms and conditions specified in this Licence, the Licencee shall, upon the request of the Director:
  - a) sample, monitor, analyze or investigate specific areas of concern regarding any segment, component or aspect of pollutant storage, containment, 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 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 labelled with the Licence Number and Client File Number associated with this Licence.
3. The Licencee shall direct all wastewater generated within the community of Mallard toward the wastewater treatment plant or other approved wastewater treatment facilities.
4. 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.
5. The Licencee shall actively participate in any future watershed-based management study, plan and/or nutrient reduction program, approved by the Director, for the Waterhen River and associated waterways and watersheds.

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

### **Respecting Construction**

6. 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 and the name of the contractor responsible for the construction.
7. The Licencee shall dispose of non-reusable construction debris from the Development at a waste disposal ground operating under the authority of a permit issued pursuant to *Manitoba Regulation 150/91* respecting *Waste Disposal Grounds*, or any future amendment thereof, or a Licence issued pursuant to *The Environment Act*.
8. The Licencee shall locate 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* or any future amendment thereof.
9. The Licencee shall, during construction of the Development, 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 discharge route and watercourses.
10. The Licencee shall, during construction and operation of the Development:
  - a) immediately report any reportable spills to Manitoba Conservation's Accident Reporting Line at (204) 944-4888; and
  - b) provide a follow-up report to the Director on a reportable environmental accident outlining the cause(s) and proposing corrective action to prevent reoccurrence.
11. The Licencee shall:
  - a) prepare record drawings for the Development and shall label the drawings "Record Drawings"; and
  - b) provide to the Director, within four months of the approved commissioning of the wastewater treatment plant, two copies of the record drawings.

### **Respecting Operation**

12. 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.

13. 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.
14. The Licencee shall operate the wastewater treatment plant in such a manner that only wastewater as defined in this Licence is discharged into the wastewater treatment plant.
15. The Licencee shall limit the wastewater load on the wastewater treatment plant as follows:
  - a) hydraulic loading not to exceed 135 m<sup>3</sup> for any 24-hour period; and
  - b) organic loading not to exceed 23.1 kilograms of five-day biochemical oxygen demand (BOD<sub>5</sub>) for any 24-hour period.
16. The Licencee shall not discharge effluent from the wastewater treatment plant, where:
  - a) the organic content of the effluent, as indicated by the five-day carbonaceous biochemical oxygen demand (CBOD<sub>5</sub>), is in excess of 25 milligrams per litre;
  - b) the fecal coliform content of the effluent, as indicated by the MPN index, is in excess of 200 per 100 millilitres of sample at the final discharge point as determined by the monthly geometric mean of 3 grab samples collected at equal time intervals;
  - c) the total coliform content of the effluent, as indicated by the MPN index, is in excess of 1500 per 100 millilitres of sample at the final discharge point as determined by the monthly geometric mean of 3 grab samples collected at equal time intervals;
  - d) the total suspended solids content of the effluent, as indicated by the non-filterable residue, is in excess of 25 milligrams per litre;
  - e) the total phosphorus content of the effluent is in excess of 1.0 milligram per litre; and
  - f) concentration of unionized ammonia is in excess of 1.25 mg/L, expressed as nitrogen (N), at 15°C ± 1°C.
17. The Licencee shall dispose of waste activated sludge from the Development at a facility licensed under *The Environment Act* to accept this material, and with capacity to accept this material that is demonstrated to the satisfaction of the Environment Officer.

18. The Licencee shall utilize UV lamps that have a rated output of at least 254 nanometres (nm) capable of delivering a germicidal UV dose in excess of 30,000 microwatt seconds/sq cm.
19. The Licencee shall operate and maintain the UV disinfection units to give a germicidal dose of 80% or more of the design germicidal dose, at the end of the lamp life.
20. The Licencee shall install adequate instrumentation to provide constant monitoring of the UV disinfection process to demonstrate compliance with the disinfection requirements. Such instrumentation shall include but not be limited to the following:
  - a) a UV sensor to monitor lamp intensity;
  - b) appropriate alarm and shutdown systems;
  - c) a lamp monitoring system to identify the location of individual lamp failures;
  - d) an hour meter which cannot be reset to display actual hours of UV lamp operation; and
  - e) protective circuits for overcurrent and ground current leakage detection.
21. The Licencee shall, in case of physical or mechanical breakdown of the wastewater collection and/or treatment system, including the UV disinfection 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;
  - d) complete the repairs in accordance with any written instructions of the Director; and
  - e) submit a report to the Director about the causes of the breakdown and measures taken, within one week of the repairs being done.

#### **MONITORING AND REPORTING SPECIFICATIONS**

22. 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 Standard Methods for the Examination of Water and Wastewater, or in accordance with equivalent preservation and analytical methodologies approved by the Director;
  - b) have all analytical determinations undertaken by an accredited laboratory; and
  - c) report the results to the Director, in writing and in an electronic format acceptable to the Director, within 60 days of the samples being taken.



23. The Licencee shall monitor, and make the records of such monitoring available to the Director as may be requested, the wastewater treatment process for the following parameters:
- total flow rate(s) into the plant;
  - pH, dissolved oxygen, temperature, and tank liquid levels of the treatment processes;
  - flow rate(s) into and through the UV disinfection system; and
  - other process parameters approved or required by the Director.
24. The Licencee shall provide a heated and secured effluent monitoring station acceptable to the Director and equipped with:
- a direct access way for an effluent sampling line to a location near the discharge from the UV disinfection chamber; and
  - an electrical power source of 15 amperes at 110 volts.
25. The Licencee shall:
- take one composite sample of effluent from the wastewater treatment plant during the discharge period once each month;
  - have the composite effluent sample analyzed for five day carbonaceous biochemical oxygen demand, temperature, pH, ammonia, total phosphorus and total suspended solids;
  - take three (3) grab samples of effluent from the wastewater treatment plant during the discharge period at equal time intervals once each month;
  - have the grab samples analyzed for fecal coliform content and total coliform content;
  - report the results to the Director within 60 days of the samples being taken; and
  - notwithstanding sub-clause e) above, if the results of the fecal coliform and/or total coliform analysis exceed the discharge criteria specified in Clause 16 of this Licence, report the results to the Director within 48 hours of the receipt of the results.
25. The Licencee shall, during the first year of operation of the Development following the commissioning of the wastewater treatment plant, obtain grab samples of the effluent which shall be analyzed and reported in accordance with Schedule "A" attached to this Licence.

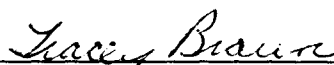
**DECOMMISSIONING OF EXISTING WASTEWATER TREATMENT PLANT  
AND ASSOCIATED WORKS**

26. The Licencee shall, within one year following successful commissioning of the wastewater treatment plant of the Development, decommission the retired wastewater treatment plant as follows:

- a) remove and dispose of or abandon and cap all existing connection piping of the components of the retired wastewater treatment plant that will no longer be used;
- b) transfer the contents of treatment tanks in the retired wastewater treatment plant to the influent pipe of the new plant; and
- c) remove, and dispose of in accordance with Clause 7 of this Licence, the building, process, mechanical and electrical components of the retired plant.

### **REVIEW AND REVOCATION**

- A Environment Act Licence No. 1505 is rescinded upon approved commissioning of the upgraded wastewater treatment plant.
- B. If, in the opinion of the Director, the Licencee has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out in this Licence, the Director may, temporarily or permanently, revoke this Licence.
- C. If, in the opinion of the Director, new evidence warrants a change in the specifications, limits, terms or conditions of this Licence, the Director may require the filing of a new proposal pursuant to Section 11 of The Environment Act.

  
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**Tracey Braun, M. Sc.**  
**Director**  
**Environment Act**

**Client File No.: 3348.10**

**Schedule "A" to Environment Act Licence No. 2973**

Initial Characterization of Wastewater

Facility Size: Very small (less than 500 m<sup>3</sup>/day)

Facility Type: Wastewater treatment plant - continuous discharge

**Effluent Sampling:**

During the first year of operation:

1. a grab sample shall be collected on a monthly basis; and
2. a grab sample shall be collected on a daily basis, if chlorine is used.

**Effluent Analysis:**

1. Have the monthly sample analyzed for:
  - a) the organic content as indicated by the five-day biochemical oxygen demand and expressed as milligrams per litre;
  - b) the organic content as indicated by the five-day carbonaceous biochemical oxygen demand and expressed as milligrams per litre;
  - c) the total suspended solids content expressed as milligrams per litre;
  - d) the *Esherichia coli* (*E. Coli*) content as indicted by the MPN index and expressed as MPN per 100 millilitres per sample;
  - e) the fecal coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
  - f) the total coliform content as indicated by the MPN index and expressed as MPN per 100 millilitres per sample;
  - g) total ammonia nitrogen expressed as milligrams per litre;
  - h) nitrate-nitrite nitrogen expressed as milligrams per litre;
  - i) total kjeldahl nitrogen, TKN ( ammonia + organic N) expressed as milligrams per litre;
  - j) dissolved phosphorus expressed as milligrams per litre;
  - k) total phosphorus expressed as milligrams per litre;
  - l) Temperature; and
  - m) pH.
2. Have the daily sample analyzed for Total Residual Chlorine (TRC), if required.

**Effluent Reporting:**

1. 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.