Manitoba
Conservation and Climate
Environmental Stewardship Division
Environmental Approvals Branch
1007 Century St.
Winnipeg, Manitoba R3H 0W4
T 204 945-8321 **F** 204 945-5229
www.gov.mb.ca/sd

File No.: 177.30

April 26, 2021

Bryan Thompson
Bothwell Cheese Inc.
61 Main Street North
New Bothwell MB R0A 1C0

Re: Environment Act Licence No. 1015 RR

Dear Bryan Thompson:

Enclosed is Environment Act Licence No. 1015 RR, issued to Bothwell Cheese Inc. for the alteration and continued operation of the Development being a dairy plant located at Lot 1 Plan 54242 WLTO and Lot 5 Plan 44278 WLTO in SE 30-07-05 EPM in the Rural Municipality of Hanover.

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.

If you have any questions on this matter, please contact Larry Markwart, Acting Regional Supervisor, at (204) 392-3227 or Larry.Markwart@gov.mb.ca.

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

Sincerely,

Original Signed by

Shannon Kohler, Director
The Environment Act

cc: Kristal Harman, Yvonne Hawryliuk, Larry Markwart - Environmental Compliance and Enforcement
Siobhan Burland Ross, Rob Boswick - Environmental Approvals
Justin Rak-Banville - WSP
Public Registry

THE ENVIRONMENT ACT
LOI SUR L'ENVIRONNEMENT

Manitoba

LICENCE

File No.: 177.30

Licence No. / Licence n°: 1015 RR
Issue Date / Date de délivrance : April 26, 2021

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 DONNÉÉ À:

BOTHWELL CHEESE INC.; "the Licencee"

for the alteration and continued operation of the Development being a dairy plant located at Lot 1 Plan 54242 WLTO and Lot 5 Plan 44278 WLTO in SE 30-07-05 EPM in the Rural Municipality of Hanover with wastewater being discharged to the Rural Municipality of Hanover collection system or to the Licencee's aerated wastewater treatment lagoon that discharges to municipal ditches that flow into Manning Canal, and in accordance with the Proposal information filed under The Environment Act on January 6, 2020 and August 12, 2020 and additional information dated March 18, 2021 and subject to the following specifications, limits, terms and conditions:

DEFINITIONS

In this Licence,

"accredited laboratory" means an analytical facility accredited by the Standards Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Conservation and Climate to be equivalent to the SCC, or 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 assigned Environment Officer in writing;

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

"BCI" means Bothwell Cheese Inc.;

"BCI lagoon" means the BCI aerated wastewater treatment lagoon;

"base" means the exposed and finished elevation of the bottom of any cell of the BCI 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;

"DAF" means the dissolved air floatation treatment system;

"dairy plant" means a plant where milk is processed to produce dairy products;

"dangerous good" means a product, substance or organism as defined in The Dangerous Goods Handling and Transportation Act, or any amendments thereto;

"day" or "daily" means any 24-hour period;

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

"effluent" means wastewater flowing or pumped out of the dairy plant;

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

"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;

"fecal coliform" means aerobic and facultative, Gram-negative, non-spore-forming, rod-shaped bacteria capable of growth at 44.5 ^{O}C, and associated with fecal matter of warm-blooded animals;

"final discharge point" means the outlet of the wetland treatment cell;

"five-day biochemical oxygen demand (BOD_5)" means that part of the oxygen demand usually associated with biochemical oxidation of organic matter within 5 days at a temperature of 20^{O}C;

"five-day carbonaceous biochemical oxygen demand ($CBOD_5$)" 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;

"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 obtained at a given place and time;

"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 Services Agreement" means a signed and legally binding agreement, arrived at between the Licencee and the Rural Municipality of Hanover which outlines clear limits respecting the maximum daily and maximum weekly flow rates, as well as maximum daily and maximum weekly loading limits on such physical, chemical and biological parameters as may be requested by the Licencee and/or the Rural Municipality of Hanover;

"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;

"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;

"municipal lagoon" means the Rural Municipality of Hanover wastewater treatment lagoon that operates under Environment Act Licence No.1524 R or any future amendment or revision thereof;

"noise nuisance" means an unwanted sound, in an affected area, which is annoying, troublesome, or disagreeable to a person:
(a) residing in an affected area;
(b) working in an affected area; or
(c) present at a location in an affected area which is normally open to members of the public; if the unwanted sound
(d) is the subject of at least 5 written complaints, received by the Director in a form satisfactory to the Director and within a 90-day period, from 5 different persons falling within clauses (a), (b) or (c), who do not live in the same household; or
(e) is the subject of at least one written complaint, received by the Director in a form satisfactory to the Director, from a person falling within clauses (a), (b) or (c) and the Director is of the opinion that if the unwanted sound had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90-day period, from 5 different persons who do not live in the same household;

"odour nuisance" means a continuous or repeated odour, smell or aroma, in an affected area, which is offensive, obnoxious, troublesome, annoying, unpleasant or disagreeable to a person:
(a) residing in an affected area;
(b) working in an affected area; or
(c) present at a location in an affected area which is normally open to members of the public; if the odour, smell or aroma
(d) is the subject of at least 5 written complaints, received by the Director in a form satisfactory to the Director and within a 90-day period, from 5 different persons falling within clauses (a), (b) or (c), who do not live in the same household; or
(e) is the subject of at least one written complaint, received by the Director in a form satisfactory to the Director, from a person falling within clauses (a), (b) or (c) and the Director is of the opinion that if the odour, smell or aroma had occurred in a more densely populated area there would have been at least 5 written complaints received within a 90-day period, from 5 different persons who do not live in the same household;

"Operator" means a person certified to operate the wastewater collection system and the wastewater treatment plant employed by the Licencee to manage the functional day-to-day operation of the wastewater collection system and the wastewater treatment plant within the constraints of this Licence;

"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;

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

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

"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;

"SDS" means safety data sheets;

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

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

"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, industrial and process wastewater;

"whey" means the serum portion of the milk separated from the milk coagulated during the manufacture of cheese or Casein; 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.

Retain Copy of Licence

1. The Licencee shall at all times maintain a copy of this licence at the Development or at the premises from which the Development's operations are managed.

Respecting Operation

2. The Licencee shall operate and maintain the Development in such a manner that:
   a) all wastewater generated at the Development that is treated by the DAF unit and untreated wastewater that is collected in the septic tank that receives and temporarily stores wastewater from the kitchen sinks/dishwashers, lab sinks, toilets, bathroom sinks, and showers of the Development is directed toward the municipal lagoon;

b) until such time as the BCI lagoon is not required to be included in the operation of the Development, only wastewater containing spiced whey from the finishing tables and polished water from the reverse osmosis components of this Development are discharged into the BCI lagoon;
c) the whey protein concentrate discharge from the ultrafiltration components is temporarily stored to the satisfaction of an Environment Officer at the Development for resale off site; and
d) the lactose discharge from the reverse osmosis components is temporarily stored to the satisfaction of an Environment Officer at the Development for resale off site.

3. The Licencee shall, until such time as an alternative option for disposing of sludge generated at the Development is determined by BCI and approved by the Director for implementation, collect and contain at the Development, to the satisfaction of the assigned Environment Officer, sludge generated at the Development for transport in containers in such a manner to prevent loss of solids to the satisfaction of an Environment Officer to the City of Winnipeg North End Water Pollution Control Centre or other licensed or Director approved sludge treatment facility for disposal.

Future Sampling

4. 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;
   c) conduct specific investigations in response to the data gathered during environmental monitoring programs; or
   d) provide the Director, within such time as may be specified, with such reports, drawings, specifications, analytical data, 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.

5. 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, compost, and air samples in accordance with methodologies approved by the Director;
   c) have all analytical determinations undertaken by an accredited laboratory; and
   d) report the results to the Director, in writing and in an electronic format acceptable to the Director, within 60 days of the samples being taken.

Reporting Format

6. The Licencee shall submit all information required to be provided to the Director or Environment Officer under this Licence, in written and electronic format, in such form (including number of copies) and of such content as may be required by the Director or Environment Officer, and each submission shall be clearly labeled with the Licence Number and Client File Number associated with this Licence.

Equipment Breakdown

7. The Licencee shall, in the case of physical or mechanical equipment breakdown or process upset where such breakdown or process upset results or may result in the release of a pollutant in an amount or concentration, or at a level or rate of release, that causes or may cause a significant adverse effect, immediately report the event by calling the 24-hour environmental accident reporting line at 204-944-4888 (toll-free 1-855-944-4888). The report shall indicate the nature of the event, the time and estimated duration of the event and the reason for the event.

8. The Licencee shall, following the reporting of an event pursuant to Clause 7,
   a) identify the repairs required to the mechanical equipment;
   b) undertake all repairs to minimize unauthorized discharges of a pollutant;
   c) complete the repairs in accordance with any written instructions of the Director; and
   d) submit a report to the Director about the causes of breakdown and measures taken, within one week of the repairs being done.

Safety and Security

9. 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 SDS sheets available to an Environment Officer upon request.

10. The Licencee shall prepare, within 90 days of the date of issuance of this Licence, and maintain an emergency response contingency plan in accordance with the Canadian Centre for Occupational Health and Safety “Emergency Response Planning Guide” or other emergency planning guidelines acceptable to the Director.

11. The Licencee shall implement and continually maintain in current status, an Environmental Management System (EMS) for the Development which is acceptable to the Director.

Environmental Coordinator

12. The Licencee shall designate an employee, within 60 days of the date of issuance of this Licence, as the Licencee’s Environmental Coordinator, whose job description will include assisting the Licencee in complying with the limits, terms and conditions in this Licence and assisting Senior Management of the Licencee to manage environmental issues at the Development. The name of the Environmental Coordinator shall be submitted in writing to the Director within 14 days of appointment and any subsequent appointment.

Certification

13. The Licencee shall obtain and maintain classification of the Development pursuant to Manitoba's Water and Wastewater Facility Operators Regulation 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.

14. The Licencee shall carry out the operation of the Development with individuals properly certified to do so pursuant to Manitoba's Water and Wastewater Facility Operators Regulation or any future amendment thereof.

Industrial Services Agreement

15. The Licencee shall:
    a) maintain a current comprehensive and enforceable Industrial Services Agreement, which is acceptable to the Director, for the purposes of defining maximum daily and maximum weekly influent limits respecting volume and pollutant loading rates which would protect the operational integrity of the municipal lagoon in terms of the design capability and/or in consideration of the actual performance of the municipal lagoon relative to the effluent quality limits as specified in this Licence, or any revision thereof;
    b) provide the Director with a copy of the Industrial Services Agreement upon being signed by all parties; and
    c) provide the Director with a copy of any future revised Industrial Services Agreement.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

Approvals and Permits

16. The Licencee shall obtain all necessary federal, provincial and/or municipal licences, authorizations, permits and/or approvals for construction and operation of the Development.

Respecting the Operation of the Development

17. The Licencee shall implement a high standard of equipment maintenance and good housekeeping and operational practices with respect to the Development, at all times.

18. The Licencee shall not direct pollutants into any surface drainage route leading off the property of the Development or into the local groundwater.

Respecting Chemical Storage and Spill Containment

19. The Licencee shall comply with all the applicable requirements of:
    a) Manitoba's Storage and Handling of Petroleum Products and Allied Products Regulation or any future amendment thereof;
    b) The 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) the Office of the Fire Commissioner – Province of Manitoba.

20. The Licencee shall provide containment for all vessels containing chemicals in each area of the development where the chemicals are stored, loaded, transferred, used or otherwise handled, in compliance with the National Fire Code of Canada (2010), or any future amendment thereof, such that any product leakage or spillage and any contaminated liquid generated is contained within the Development and contamination of groundwater and surface water is prevented.

Respecting Air Emissions

21. 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.

22. The Licencee shall not cause or permit a noise nuisance to be created as a result of the construction, operation or alteration of the Development, and shall take such steps as the Director may specify to eliminate or mitigate a noise nuisance.

Respecting Solid Wastes

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

24. 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.

25. The Licencee shall dispose of solid waste from the Development at a waste disposal ground operating under the authority of a permit issued pursuant to Manitoba's Waste Management Regulation, or any future amendment thereof, or a Licence issued pursuant to The Environment Act.

Respecting Dangerous Goods or Hazardous Waste

26. The Licencee shall not release dangerous goods or hazardous wastes into the wastewater collection system.

27. The Licencee shall comply with all the applicable requirements of:
    a) Manitoba's 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
    b) Manitoba Storage and Handling of Petroleum Products and Allied Products Regulation or any future amendments thereof.

28. 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.

29. The Licencee shall install and maintain spill recovery equipment at the Development at all times.

Respecting Sanitary Wastewater:

30. The Licencee shall direct all sanitary wastewater generated on the site of the Development to the municipal lagoon.

Respecting Process Wastewater – DAF Treatment System

31. The Licencee shall maintain a current comprehensive and enforceable Industrial Service Agreement, which is acceptable to the Director, for the purposes of defining maximum daily and maximum weekly influent limits respecting volume and pollutant loading rates which would protect the operational integrity of the municipal lagoon.

Respecting Effluent Monitoring Station:

32. The Licencee shall:
    a) construct, maintain, and make available for use by an Environment Officer, secured and heated monitoring and sample collection station with direct access to the effluent pipeline after the DAF treatment system as necessary;
    b) have the monitoring stations accessible to an Environment Officer at all times;
    c) install and maintain flow measuring devices at the monitoring station or at locations acceptable to the Director which are capable of measuring the volumes of effluent with an accuracy of ± 2 per cent;
    d) have the flow measuring devices re-calibrated biannually or on the request of an Environment Officer;
    e) equip the monitoring stations with flow-proportional sampling devices equipped to function with the flow measuring device and have the sampling devices available on request for use by an Environment Officer; and
    f) equip the monitoring stations with an electrical power source of 15 amperes at 110 volts.

33. The Licencee shall direct all oily concentrate and solids from the DAF unit to an off-site rendering facility that is licenced under The Environment Act or under the appropriate legislation of another corresponding jurisdiction.

Respecting Process Liquids and Whey

34. The Licencee shall not deposit whey from the production process or lactose from the reverse osmosis filtration system into the environment except:
    a) in accordance with this Licence; or
    b) in the event of an emergency situation and with the prior approval of an Environment Officer, into a waste disposal ground where the operator of the waste disposal ground has provided written agreement to accept the material.

35. The Licencee shall not dispose, or allow the overflow, of any whole milk or whey from the Development:
    a) into the municipal wastewater collection system; or
    b) in any manner or location not authorized through Manitoba's Disposal of Whey Regulation, or any future amendment thereof, respecting the disposal of whey.

Respecting Construction – BCI Lagoon

36. The Licencee shall construct and maintain the aerated cell and each storage cell of the BCI lagoon as indicated on Schedule "A" to this Licence with a continuous liner, including cut-offs, under all interior surfaces of the cells 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 liners of the cells as indicated on Schedule "A" to this Licence shall be constructed to an elevation of 2.5 metres above the floor elevations of these cells;
    e) the cut-offs shall be constructed of clay which has been mechanically compacted; and
    f) the cut-offs shall be keyed into the underlying clay liner a minimum of 0.3 metres.

37. The Licencee shall install and maintain fences around the BCI lagoon. 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 aerated wastewater treatment lagoon.

Respecting BCI Lagoon Soil Liner Sampling, Testing, and Reporting

38. 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, unless otherwise approved by the Environment Officer.

39. The Licencee shall take and test undisturbed soil samples, in accordance with Schedule "B" attached to this Licence, from the liners of any existing or altered cells of the BCI Lagoon; the number and location of samples and test methods to be specified by the designated Environment Officer up to a maximum of 35 samples.

40. The Licencee shall, not less than 2 weeks before any clay-lined cell of the BCI lagoon that was required to undergo soil liner inspection and/or repair is placed back in operation, submit to the Director the results of the tests carried out pursuant to Clause 39 of this Licence.

Respecting Operation – BCI Lagoon

41. The Licencee shall, until the successful commissioning of the DAF treatment system and expanded municipal lagoon, operate and maintain the BCI lagoon as shown on Schedule "A" to this Licence in such a manner that:
    a) the organic loading on the BCI lagoon, in terms of the five-day biochemical oxygen demand, is not in excess of 7.0 kilograms per day;
    b) a minimum of 2 milligrams of dissolved oxygen per litre is detectable at all times in the liquid in the aerated cell of the BCI lagoon as identified in Schedule "A" to this Licence;
    c) the depth of liquid in aerated cell of the BCI lagoon as identified in Schedule "A" to this Licence, does not exceed 3.0 metres;
    d) the depth of liquid in the storage cells of the BCI lagoon as identified in Schedule "A" to this Licence, does not exceed 1.5 metres; and
    e) a minimum 1.0 metre freeboard is maintained in each cell of the BCI lagoon at all times.

42. The Licencee shall not discharge effluent from the BCI lagoon as indicated on Schedule "A" to this Licence to the discharge route:
    a) where the organic content of the effluent, as indicated by the five day carbonaceous biochemical oxygen demand, is in excess of 25 milligrams per litre;
    b) where the total suspended solids content of the effluent is in excess of 25 milligrams per litre, unless the exceedance is caused by algae;
    c) where the fecal coliform content of the effluent, as indicated by the MPN index, is in excess of 200 per l00 millilitres of sample;
    d) where the concentration of the total phosphorus of the effluent is in excess of 1.0 milligram per litre;
    e) where the concentration of the total nitrogen of the effluent is in excess of 15 milligrams per litre;
    f) where the unionized ammonia content of the effluent is in excess of 1.25 milligrams per litre, expressed as nitrogen (N), at 15°C ±1°C;
    g) between the 1st day of November of any year and the 16th day of June of the following year;
    h) when flooding from any cause is occurring along the effluent drainage route; or
    i) when such a discharge would cause or contribute to flooding in or along the effluent drainage route.

Respecting Compliance

43. The Licencee shall submit a Notice of Alteration and obtain Director's approval for proposed changes to the Development as licensed prior to implementing any changes.

MONITORING AND REPORTING

Respecting Monitoring – BCI Lagoon

44. The Licencee shall prior to each effluent discharge campaign from the BCI lagoon obtain grab samples of the treated wastewater and have them analyzed for:
    a) the organic content as indicated by the five-day carbonaceous 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;
    c) the total suspended solids content expressed as milligrams per litre;
    d) the unionized ammonia nitrogen expressed as milligrams per litre;
    e) the total nitrogen content expressed as milligrams per litre; and
    f) the total phosphorus content expressed as milligrams per litre.

Respecting Monitoring, Record Keeping and Reporting:

45. The Licencee shall maintain effluent flow meters and electronic interface devices in proper working order.

46. The Licencee shall during each month of operation monitor for, determine and record, for wastewater being discharged to the municipal lagoon:
    a) the daily (each processing day), the weekly (cubic metres per week), and the total monthly quantity of process wastewater (cubic metres); and
    b) the daily loadings (each processing day) and the weekly loadings (kilograms per week) of:
        i) five-day biochemical oxygen demand;
        ii) total kjeldahl nitrogen;
        iii) total nitrogen;
        iv) total phosphorus;
        v) total suspended solids;
        vi) unionized ammonia; and
        vii) oil and grease;

        released from the DAF treatment system and sampled prior to conveyance to the municipal lagoon, and submit the recorded information to the Director, in writing and in an electronic format acceptable to the Director, no later than 30 days after the end of the month during which the information was determined.

47. The Licencee shall during each month of operation monitor for, determine and record, for wastewater being discharged to the BCI lagoon:
    a) the daily (each processing day), the weekly (cubic metres per week), and the total monthly quantity of process wastewater (cubic metres); and

b) the daily loadings (each processing day) and the weekly loadings (kilograms per week) of:
   i) five-day biochemical oxygen demand;
   ii) total kjeldahl nitrogen;
   iii) total nitrogen;
   iv) total phosphorus;
   v) total suspended solids;
   vi) unionized ammonia; and
   vii) oil and grease;
   sampled prior to conveyance to the BCI lagoon, and submit the recorded information to the Director, in writing and in an electronic format acceptable to the Director, no later than 30 days after the end of the month during which the information was determined.

48. The Licencee shall:
   a) record the total volume of process water used at the Development on a monthly basis; and
   b) maintain the recorded information in a monthly report and make the report available to the Environment Officer upon request.

Respecting Aeration System of Aerated Cell – BCI Lagoon

49. The Licencee shall:
   a) inspect the operation of the aeration system at least once during each period of operation and at least once each week for operation that extends beyond one week;
   b) annually inspect the aeration system and make any necessary repairs at least once each year;
   c) maintain a record of aeration system inspection dates, observations, maintenance and repairs completed; and
   d) make the record of aeration system inspection dates, observations, maintenance and repairs completed available to an Environment Officer upon request.

50. The Licencee shall maintain records of the aeration system operation and/or maintenance requirements including, but not limited to, the aeration system pumps daily elapsed time and make these records available to the designated Environment Officer on request.

Respecting Records Maintenance and Reporting – BCI Lagoon

51. The Licencee shall during each year maintain the following records and retain them for a minimum period of five calendar years:
   a) reports of visual inspections conducted at a minimum of once per month;
   b) wastewater sample dates;
   c) original copies of laboratory analytical results of the sampled wastewater and water;
   d) a summary of laboratory analytical results;
   e) effluent discharge dates;
   f) estimated effluent discharge volumes;
   g) maintenance and repairs; and
   h) a summary of any sanitary sewer overflows.

52. The Licencee shall submit an annual report to the Environment Officer by February 28 of the following year including all records required by Clause 51 of this Licence.

Respecting Operating Depth and Freeboard Non-Compliance Events

53. The Licencee shall immediately notify the Director each time the operating depths of any cell of the BCI lagoon do not comply with the maximum operating depth and minimum freeboard requirements for that cell as specified in Clause 41 of this Licence.

54. The Licencee shall, if reporting is required pursuant to Clause 53 of this Licence in two consecutive years:
    a) engage the services of a qualified consultant, acceptable to the Director, to undertake an investigation of the wastewater treatment lagoon and related infrastructure, to determine the ability or inability of the existing system to meet the hydraulic loading capacity of the Development. The investigation shall include but not be necessarily limited to:
        i) diagnosis of the cause(s) of the recent exceedances of maximum operating depth;
        ii) sources of infiltration into the wastewater system including the infrastructure of the Development;
        iii) current hydraulic loading of the system;
        iv) lack of storage capacity due to sludge build-up within existing cells;
        v) the organic loading on the aerated cell in terms of the five day biochemical oxygen demand; and
        vi) operating procedures;
    b) provide to the Director, within four months of the notification given pursuant to Clause 53 of this Licence, an engineering report describing in detail the results and observations concluded by virtue of the investigation; and
    c) provide to the Director, within four months of the report provided pursuant to sub-Clause b) of this section, a remedial action plan in the form of a detailed engineering report describing recommended modifications, repairs or upgrading works to overcome excessive hydraulic loading of the system.

Respecting Closure and Post Closure

55. Within one year prior to imminent closure of the Development, the Licencee shall submit, for the approval of the Director, a formal detailed Closure and Post-Closure Plan for the Development.

56. The Licencee shall implement and maintain the approved Closure and Post-Closure Plan identified in Clause 55 of this Licence.

Respecting Record Drawings

57. The Licencee shall:
    a) prepare "record drawings" for the Development and shall label the drawings "Record Drawings"; and
    b) provide to the Director, within one year from the date of this Environment Act Licence, two electronic copies of the "record drawings".

Respecting Alterations

58. The Licencee shall notify the Director and receive approval for any alterations to the Development as licensed, prior to proceeding with such alterations.

DECOMMISSIONING OF BCI LAGOON

Respecting Planned Decommissioning

59. The Licencee shall, within one year of the date of this Licence, submit to the Director for approval a plan and schedule for decommissioning of the BCI lagoon that includes the beneficial use of all accumulated sludge contained therein.

60. The Licencee shall, unless otherwise approved by the Director, within one year of successful commissioning of the DAF treatment system and expanded municipal lagoon, remove the water and wastewater from the BCI lagoon by conveying it to the municipal lagoon in accordance with the Industrial Service Agreement or discharge treated effluent in accordance with the requirements of this Environment Act Licence.

REVIEW AND REVOCATION

A. This Licence replaces Environment Act Licence No. 1015 R which is hereby rescinded.

B. If, in the opinion of the Director, the Licencee has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out in this Licence, the Director may, temporarily or permanently, revoke this Licence.

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

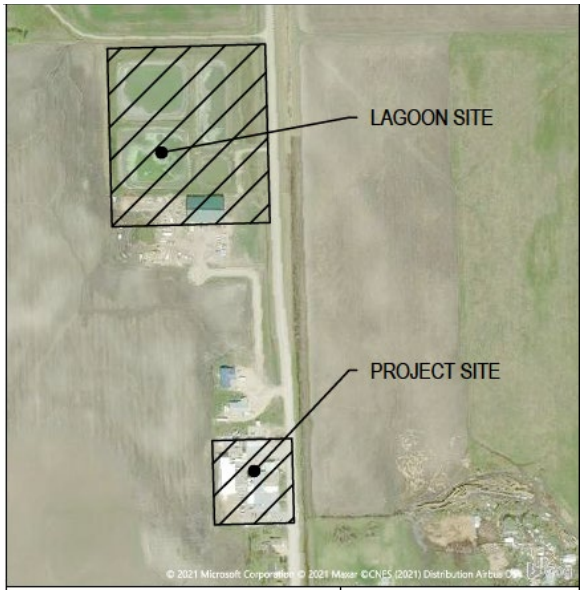
Original Signed by

_____

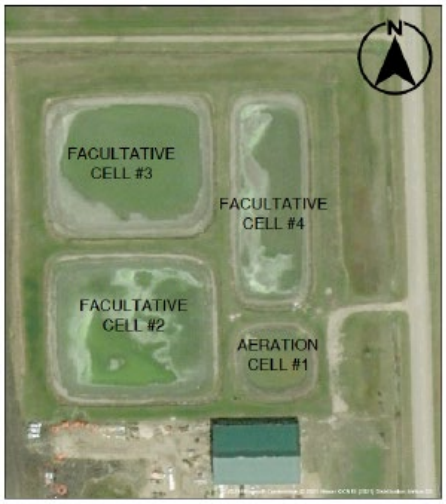
Shannon Kohler, Director
The Environment Act

Schedule “A” to Environment Act Licence No. 1015 RR

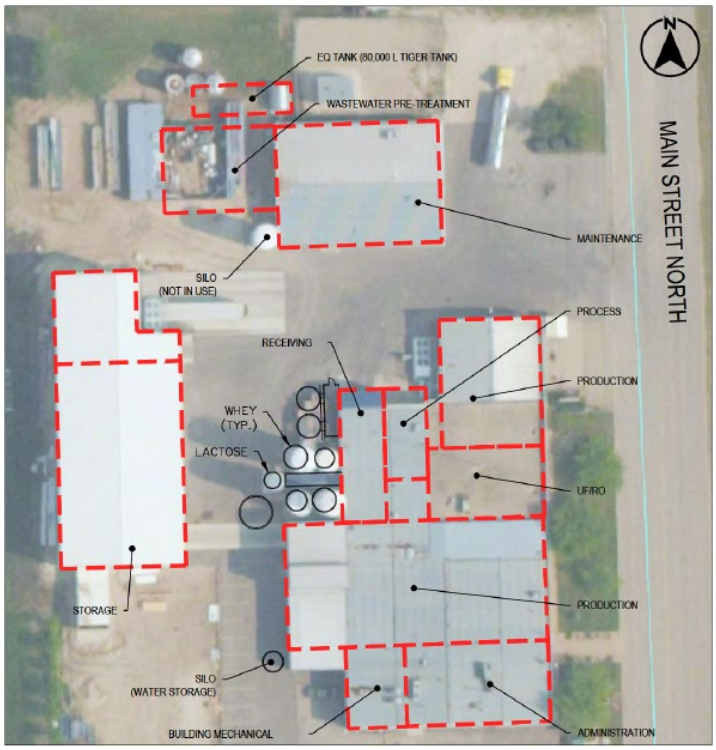
Site Drawings – Within SE 30-07-05 EPM



Aerial Photo of Development Sites



Aerial Photo of Lagoon Site



Dairy Plant Site

Schedule "B" to Environment Act Licence No. 1015 RR

Liner Sampling and Testing Requirements Pursuant to Clause 39.

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 where 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 the following: a plot plan indicating all drill holes, onsite visual observations, 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.

Schedule "B" to Environment Act Licence No. 1015 RR (cont'd)

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, whichever 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.