



Environmental Stewardship Division
Environmental Approvals Branch
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CLIENT FILE NO.: 5848.00

February 10, 2017

Carol Taylor
City of Thompson
226 Mystery Lake Road
Thompson MB R8N 1S6

Dear Ms. Taylor:

Enclosed is **Environment Act Licence No. 3211** issued to the **City of Thompson** for the expansion and operation of the Development being a Class 1 Waste Disposal Ground to be known as the Thompson Waste Disposal Ground located in the Local Government District of Mystery Lake, Manitoba in accordance with the Proposal filed under *The Environment Act*.

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 Jeff Fountain, Environment Officer at 204-677-67063.

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 Sustainable Development within 30 days of the date of the Licence.

Yours truly,


Tracey Braun, M.Sc.
Director
Environment Act

c: D. Labossiere, T. Prawdzik, J. Fountain, Environmental Compliance and Enforcement
Brett McCormac, JR Cousin Consultants Ltd.
Public Registries

NOTE: Confirmation of Receipt of this Licence No. 3211 (*by the Licensee only*) is required by the Director of Environmental Approvals. Please acknowledge receipt by signing in the space provided below and faxing a copy (letter only) to the Department by February 24, 2017

On behalf of the City of Thompson

Date

Licence No. / Licence n° 3211

Issue Date / Date de délivrance February 10, 2017

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 Section 11(1) / Conformément au Paragraphe 11(1)

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

CITY OF THOMPSON;
"the Licencee"

for the expansion and operation of the Development being a Class 1 Waste Disposal Ground to be known as the Thompson Waste Disposal Ground located on part NW ¼ 18, S ½ and NW ¼ 19 in TWP 77-3 WPM and in part SE ¼ 24-77-4 WPM in the Local Government District of Mystery Lake, Manitoba in accordance with the Proposal filed under *The Environment Act* on June 3, 2016, and subject to the following specifications, limits, terms and conditions:

DEFINITIONS

In this Licence,

"access road" means a road that leads from a Provincial Trunk Highway, Provincial Road, or a municipal road;

"accredited laboratory" means an analytical facility accredited by the Standards Council of Canada (SCC), or accredited by another accrediting agency recognized by Manitoba Sustainable Development 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;

"active area" means an area of a landfill that is currently being used for the deposit of solid waste;

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

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

"**alternative cover**" means materials approved by the Director for use in temporarily covering waste in an active area;

"**approved**" means approved by the Director or assigned Environment Officer in writing;

"**background water quality**" means the quality of water in any geologic zone monitored with regards to the chemical and microbiological parameters specified in a Licence issued pursuant to *The Environment Act* by the Director;

"**BTEX**" means the following components of gasoline and other specific petroleum products:

B = benzene;

T = toluene;

E = ethylbenzene; and

X = xylenes;

"**biosolids**" means accumulated organic solids, resulting from wastewater treatment processes, that have received adequate treatment to permit the material to be recycled;

"**cell**" means an area of a landfill in which solid waste has been, or is to be, deposited;

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

"**Closure Plan**" means a plan indicating the actions to be taken for the closure of the Development, or a portion of the Development;

"**compliance boundary**" means the planar surface that circumscribes the Development, extends vertically downward from the land surface, and constitutes the place at which the parameters of the background water quality as specified in a Licence issued pursuant to *The Environment Act* are not to be exceeded;

"**component**" means a landfill cell, pad or structure that forms a part of a process or system within an activity area of the Development;

"**concentration value**" means a restriction established by a Licence issued pursuant to *The Environment Act* on quantities, discharge rates and concentrations of pollutants;

"**contaminant**" means a contaminant as defined in *The Dangerous Goods Handling and Transportation Act*;

"**cover material**" means inorganic soil, free of refuse, trash and vegetation, or other materials as approved by the Director, that is used to cover compacted solid waste;

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

"**daily**" means any 24-hour period;

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

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

"**engineer(s)**" means an engineer or engineers registered with the Association of Professional Engineers and Geoscientists of the Province of Manitoba;

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

"**final cover**" means earth compacted to a thickness of at least 0.5 metres applied to the surface of the compacted waste cell that has achieved the final elevation for cell closure, and is graded to minimize ponding of water on the surface;

"**groundwater**" means water below the ground surface and within a zone of saturation;

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

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

"**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 waste**" means waste product generated by industry other than hazardous waste and liquid waste;

"**in situ**" means on the site;

"**landfill**" means waste disposal ground;

"**leachate**" means liquid that has percolated through solid waste, and that contains dissolved and suspended materials from the solid waste;

"**liner**" means a continuous layer of reworked soil, or manufactured materials, placed beneath and on the sides of a waste disposal ground cell, soils treatment area or a storage area intended to restrict the downward or lateral escape of solid waste, leachate, and or gases, or to restrict the upward movement of groundwater into an area;

"**liquid waste**" means waste that has a slump of more than 150 mm using the Canadian Standards Association Slump Test Method A23.2-5C);

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

"**monitoring well**" means a well drilled to measure groundwater levels and collect groundwater samples for the purpose of physical, chemical or biological analysis to determine the concentration of groundwater constituents;

"**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 the company or person who is responsible for the day-to-day maintenance and operation of the Development;

"particulate matter" means any finely divided liquid or solid matter other than water droplets;

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

"Post-Closure Plan" means a plan indicating the actions to be taken for the care, maintenance, and monitoring of the Development after closure, that will prevent, mitigate, or minimize the threat to public health and the environment;

"QA/QC" means quality assurance/quality control;

"qualified professional" means an individual properly trained and authorized to practice in a specific area or field which may include assessment, design, or providing consultation for an aspect of the Development; to include but not be limited to Professional Engineers, Geoscientists or Landscape Architects;

"site" means the area both permanent and temporary which is required for the construction and operation of the Development;

"solid waste" as defined in *Manitoba Regulation 37/2016*, or any future amendment thereto, respecting waste disposal grounds;

"special waste" means bagged asbestos containing materials, dead animals including specified risk materials (SRM), slaughterhouse waste and food products deemed to be unacceptable by the Canadian Food Inspection Agency (CFIA), biosolids, and any other waste identified by the Director;

"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 Water Works Association and the Water Environment Federation;

"top soil" means soil that is free of roots, vegetation, weeds and stones larger than 50 mm, is capable of supporting good vegetative growth, and is suitable for use in top dressing, landscaping and seeding; and

"**waste disposal ground**" means a parcel of land that is used for the disposal of solid or industrial waste, also referred to as a landfill.

GENERAL TERMS AND CONDITIONS

This Section of the Licence contains terms and conditions 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.

General Terms

1. The Licencee shall operate the Development in compliance with the provisions of *Manitoba Regulation 37/2016* respecting Waste Management Facilities, or any future amendment thereof.
2. The Licencee shall provide to an Environment Officer access throughout the duration of construction, operation and decommissioning of the Development to facilitate inspection.

Reporting Format

3. 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 File Number associated with this Licence.
4. The Licencee shall carry out any remedial measures, modifications, or alterations, as deemed necessary by the Director, in respect to matters authorized under this Licence.

Future Sampling

5. 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 pollutants 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.

Sampling Methods

6. 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, in writing and in an electronic format acceptable to the Director, within sixty (60) days of the samples being taken, or within another timeframe as specified by the Director.
7. The Licencee shall, unless otherwise specified in this Licence carry out all sampling of groundwater, surface water, leachate, soil and air in accordance with methodologies specified in the Operations Manual submitted pursuant to Clause 20 of this Licence.

Equipment Operation

8. 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.
9. The Licencee shall, following the reporting of an event pursuant to Clause 8,
 - 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 thirty (30) days of the repairs being completed.
10. The Licencee shall implement a high standard of equipment maintenance and good housekeeping and operational practices with respect to the Development, at all times.

Fire Reporting

11. The Licencee shall in the event of a fire which continues in excess of thirty (30) minutes, or requires implementation of the Emergency Response Plan, or requires fire suppression assistance from personnel outside of the Development (e.g., fire department) report the fire by calling (204) 944-4888 (toll free 1-855-944-4888), identifying the type of materials involved and the location of the fire.

Approvals and Permits

12. The Licencee shall locate fuel storage and equipment servicing areas established for the construction and operation of the Development in compliance with the requirements of *Manitoba Regulation 188/2001* respecting *Storage and Handling of Petroleum Products and Allied Products* or any future amendments thereof.
13. The Licencee shall obtain approval in writing from the Director for any proposed alteration to the Development before proceeding with the alteration.

SPECIFICATIONS, LIMITS, TERMS AND CONDITIONS

Odours and Air Emissions

14. 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.
15. The Licencee shall, upon written request of and in a timeframe stipulated by the Director, comply with any air emission or ambient air quality criteria specified by the Director for any pollutant of concern to the Director which has been identified pursuant to Clause 5 of this Licence.
16. The Licencee shall take action to minimize the entrainment of particulate matter into the air at the Development resulting from the operation of vehicles or the transportation, storage or handling of wastes or other materials.

Noise

17. 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 require to eliminate or mitigate a noise nuisance.

Responsible Party

18. The Licencee shall assign an engineer(s) or other qualified person(s) to be responsible for the construction of the Development and any required remediation action in accordance with the plans, specifications and design report(s) submitted in support of the proposal or this Licence.
19. The Licencee shall designate an employee, within sixty (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 fourteen (14) days of appointment and any subsequent appointment.

Operations Manual

20. The Licencee shall develop, within six (6) months of the date of issuance of this Licence, an Operations Manual which is to include information regarding all aspects of the Development, to include but not be limited to:
 - a) operational parameters and objectives, including method of tracking placement of special wastes and those wastes requiring unusual management considerations;
 - b) waste type acceptance parameters and limitations;
 - c) soil remediation facility management, handling, and monitoring procedures;
 - d) incident tracking and reporting parameters;
 - e) dust and litter control procedures;
 - f) vector control procedures;
 - g) methodologies and processes for all sampling (groundwater, surface water, leachate, soil and air);
 - h) leachate management, monitoring and sampling schedule;
 - i) surface and groundwater management, monitoring and sampling schedule;
 - j) identification of operational records to be maintained; and
 - k) an overview of staffing qualifications and positions.
21. The Licencee shall implement the Operations Manual developed pursuant to Clause 20 of this Licence, and subject to any terms and conditions set by the Director.

Signage and Site Security

22. The Licencee shall post adequate signage at the entrance to the Development indicating, but not limited to the following:
 - a) the types of wastes accepted at the site;
 - b) the hours and days of operation; and
 - c) 24-hour telephone numbers to be called in the event of an emergency occurring at the site.

23. The Licencee shall staff and secure the Development so that:
- a) an attendant is on duty at the scale at all times during hours of acceptance of materials to the Development from the public or contractors not employed by the Owner;
 - b) gates are provided for all access locations to the site;
 - c) the gates are kept locked when the attendants are not on duty or the Development is closed; and
 - d) other attendants to direct traffic and operate heavy equipment are on duty as necessary.

Materials Handling

24. The Licencee shall deposit all waste in an active area within the Development other than material intended for recycling, soils for processing at the Soil Treatment Facility, or solids and sludge from car wash sump pits at the Sludge Drying Area.
25. The Licencee shall position fencing, including adequate portable litter fences, around the active area or other locations where unloading or handling of materials occur, to prevent litter or other material from collecting on or escaping from the boundaries of the Development. The Licencee is responsible for litter clean up along access roads, facility fencing and adjacent properties.
26. The Licencee shall not accept the following wastes at the Development:
- a) hazardous waste;
 - b) biomedical waste;
 - c) liquid waste;
 - d) radioactive waste or materials;
 - e) outdated drugs or cytotoxic waste;
 - f) PCBs or PCB contaminated materials;
 - g) explosives; or
 - h) unbagged asbestos.
27. Notwithstanding Clause 26 of this Licence, hazardous waste collected or received by the Licencee, shall be allowed in designated areas at the Development in accordance with *The Dangerous Goods Handling and Transportation Act* and any Licence issued pursuant to that Act or regulations thereunder.
28. The Licencee may receive wastes prohibited in Clause 26 of this Licence if appropriate provisions have been provided in a proposal which has been submitted and approved by the Director.
29. The Licencee may receive a limited quantity of dead animals at the Development provided that they are buried immediately with a minimum of one metre of cover. Receipt of more than ten tonnes of dead animals from a single source or event must be approved by an Environment Officer. Dead animal material received at the

Development which may be affected by SRM must be handled in accordance with CFIA requirements.

Special Wastes

30. The Licencee shall not excavate in areas where special wastes have been previously buried without approval from an Environment Officer.
31. The Licencee shall keep record, by Global Positioning System (GPS), of the locations of buried special wastes.

Site Preparation

32. The Licencee shall, prior to any new construction of any component of the Development, remove all top soil to a minimum depth of 150 mm and store this top soil at a suitable location for future use.

Mitigating Erosion and Runoff

33. The Licencee shall with respect to on-site earthen construction works, construct and maintain silt fences in the drainage routes transporting surface runoff off the property of the Development until vegetation has been re-established on the disturbed areas.

Construction

34. The Licencee shall, prior to initiating any construction at the Development, submit two paper copies and one electronic copy of final engineering design plans, sealed by an engineer(s), to the Director. The plans will show the engineering details of each new component and the location of each new component with respect to other components.
35. The Licencee shall construct the Development in accordance with the design plans submitted to the Director pursuant to Clause 34 of this Licence and subject to any terms and conditions set by the Director.

LINERS AND CLAY COMPONENTS

Cut-off Components of the Development

36. The Licencee shall, where a cut-off perimeter around a component(s) of the Development is keyed into a suitable base of clay underneath the component(s), have the cut-off constructed in accordance with the following specifications:
 - a) the cut-off wall shall be made of clay which has been mechanically compacted;

- b) the cut-off wall shall be at least one metre in width;
- c) the cut-off wall shall have a hydraulic conductivity of 1×10^{-7} cm/second or less at all locations;
- d) the cut-off wall shall be keyed into the underlying clay or clay liner a minimum of 0.3 metres;
- e) the cut-off wall shall be constructed to an elevation of one (1) metre above the maximum leachate level in any waste cell or leachate pond; and
- f) the cut-off wall shall be tested in accordance with Clauses 39 to 41.

Clay Components of the Development

- 37. The Licencee shall, where a component of the Development is to be constructed with a clay liner, construct the liner underlying the component as described in Clauses 38 to 41 of this Licence. For any component of the Development that is to be constructed with scarified in situ clay, the component shall be subject to Clauses 38 c), and 39 to 41 of this Licence.
- 38. The Licencee shall construct and maintain all clay lined component(s) of the Development in accordance with the following specifications:
 - a) the clay liner is recompact to a minimum thickness of one (1) metre for the side slopes and for the base of waste cells or leachate ponds;
 - b) the clay liner is recompact to a minimum thickness of one half (1/2) metre for any soil remediation pad base;
 - c) the hydraulic conductivity of the clay is 1×10^{-7} cm/second or less;
 - d) the liner extends a vertical distance of one (1) metre above normal operating level for any leachate storage component other than a landfill cell; and
 - e) the clay liner is installed under the entire base and side wall or berm of any waste containment cell(s) below grade.

Testing of Clay for Components

- 39. 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.
- 40. The Licencee shall take and test undisturbed soil samples, in accordance with Appendix 'B' attached to this Licence, from the following:
 - a) the clay of new waste disposal cell(s), not contained within an area confined by a cut-off wall and impermeable base;
 - b) the base of a new cell within the area confined by the cut-off wall;
 - c) cut-off walls;
 - d) leachate ponds; and
 - e) any clay component of the Development requiring testing by the Director.

41. The number and location of samples and test methods will be specified by the designated Environment Officer up to a maximum of twenty (20) samples per cell, pond, pad or clay component of the Development.
42. The Licencee shall, prior to operation of any area tested in accordance with Clause 40, receive the approval of the Environment Officer for the results of the tests carried out pursuant to Clause 40 of this Licence.

Alternative Liners for Components of the Development

43. The Licencee, upon written request and approval by the Director, may utilize an alternative geomembrane, synthetic or composite liner system that is at minimum equivalent to the hydraulic conductivity of one (1) metre of 1×10^{-7} cm/second compacted clay or a 60 mil HDPE liner; is compatible with landfill leachate; and subject to terms and conditions set by the Director at the time of approval.
44. The Licencee shall provide a written report regarding the installation, QA/QC, engineering oversight and any other identified requirements of the approval of Clause 43, within ninety (90) days of completion of work of the component.
45. The Licencee shall not cover an alternative liner or use an alternative lined component of the Development until receiving written approval of the report submitted pursuant to Clause 44 of this Licence from the Environment Officer.

WEIGH SCALES

46. The Licencee shall maintain federal certification of the weigh scales utilized at the entrance of the Development.

MATERIAL RECOVERY AND STORAGE

Operation – Material Storage Areas

47. The Licencee shall operate any and all material storage areas in a manner to prevent windblown waste, litter, odour generation, fire and other hazards, as well as preventing spills from contaminated runoff.
48. The Licencee shall remove ozone depleting substances from appliances using a certified contractor in accordance with *Manitoba Regulation 103/94*, or any future amendment thereof, respecting Ozone Depleting Substances and Other Halocarbons.

LANDFILL CELLS

Construction – Landfill Cells

49. The Licencee shall submit to the Director, at least sixty (60) days prior to construction of a new waste disposal cell, the engineering design plans, sealed by an engineer(s) which address construction specifications of any new active area and include, but are not limited to the following:
- a) engineering design with respect to construction of the waste disposal cell base and sides or cut-off walls;
 - b) engineering design with respect to the construction of the leachate collection system in each new cell, and connections, if applicable, to the overall leachate management system;
 - c) location of access road(s) to the waste disposal cell;
 - d) details of the location of the waste disposal cell with respect to property lines; and
 - e) details of a drainage system to prevent water from entering the waste disposal cell and to channel the surface run-off into the surface water system for the Development.
50. The Licencee shall construct new waste disposal cells in accordance with the design plans submitted pursuant to Clause 49 of this Licence.

Operation – Landfill Cells

51. The Licencee shall minimize the working face of each cell to reduce the generation of litter and leachate from the Development.
52. The Licencee shall compact waste deposited in the active area and cover the waste at minimum every twenty one (21) days with cover material or alternative cover or at a frequency approved by the Director.
53. The Licencee, upon a written request to an Environment Officer, may, during extreme weather conditions, utilize temporary covering of wastes deposited in an active area. Such temporary covering material shall be replaced with permanent cover material when the extreme weather conditions cease, unless otherwise specified by an Environment Officer.

SOIL REMEDIATION FACILITY

Temporary Storage of Materials – Soil Remediation Facility

54. In the event of a spill to the environment, the Licencee may receive petroleum contaminated soils at the Development and stockpile them temporarily with the approval of and subject to any terms and conditions set by an Environment Officer.

Operation – Soil Remediation Facility

55. The Licencee shall maintain a continuous clay liner under all interior surfaces of the soil remediation pad in accordance with the following specifications:
- a) the clay base or liner is recompacted to a minimum thickness of 0.5 metre for the side slopes and for the base;
 - b) the hydraulic conductivity of the clay base or liner is 1×10^{-7} cm/second or less;
 - c) the treatment cell must be surrounded by a berm to prevent surface water runoff and run on, but allow for vehicle access; and
 - d) the berm must have a minimum height of 0.5 metres.
56. No petroleum contaminated soils classified as hazardous waste shall be received at the Development.
57. Notwithstanding Clause 56 of this Licence, petroleum contaminated soils received by the Licencee for remediation, shall be allowed in the designated soil treatment area of the Development.
58. The Licencee shall only receive petroleum contaminated soils for remediation at the Development that comply with the requirements of Manitoba Sustainable Development Guideline “Treatment and Disposal of Petroleum Contaminated Soil (June 2016)” or any future amendment thereof.
59. Notwithstanding Clause 58 of this Licence, the Licencee shall only accept for treatment at the Soil Remediation Facility, unless otherwise approved by an Environment Officer, soils in accordance with the following acceptance criteria:
- a) soil contaminated with benzene, toluene, ethylbenzene or xylenes up to 30,000 mg/kg for each constituent;
 - b) soil contaminated with Canada Wide Standard for Petroleum Hydrocarbons Fraction 1, 2, 3, or 4 up to 30,000 mg/kg for each Fraction; and
 - c) soil contaminated with metals at any concentration subject to capability of the Development to treat to achieve leachate extraction criteria.
60. The Licencee shall treat petroleum contaminated soils that will be used as cover on the landfill cells so that the treated soil complies with the requirements of Manitoba Sustainable Development Guideline “Criteria for Acceptance of Contaminated Soil at Waste Disposal Grounds (June 2016)” or any future amendment thereof or as approved by the Director.

61. The Licencee shall retain sample results from all soils received at the Soil Remediation Facility; if results are not available from the source of the soils, the Licencee shall have the soils tested upon receipt. Requirement for initial testing may be waived with the approval of and subject to any terms and conditions set by an Environment Officer. The parameters for which the soils shall be analyzed will be determined by considering the source of the soils and by using the CCME Canadian Environmental Quality Guidelines for soil.
62. Any surface waters retained at the Development, which may have been in contact with materials from the Soil Remediation Facility, shall be collected and analyzed for the following parameters, or others as approved by the Director, prior to a request for discharge:
 - a) BTEX;
 - b) Naphthalene;
 - c) Benzo(a)pyrene;
 - d) Petroleum hydrocarbons; and
 - e) Total metals.
63. The Licencee shall operate the soil remediation facility such that ground level air concentrations of any of the following pollutants, at the property line of the Development, are not in excess of the following limits as determined from any ambient air sample or samples collected and analyzed, upon the request of the Director, in accordance with procedures and methods satisfactory to the Director:

Air Pollutant	Averaging Period	Ground Level Concentration Limits
Benzene	24 hour average	150 micrograms per cubic metre of air
Toluene	24 hour average	2000 micrograms per cubic metre of air
Ethylbenzene	24 hour average	4000 micrograms per cubic metre of air
Xylenes	24 hour average	2300 micrograms per cubic metre of air

Monitoring – Soil Remediation Facility

64. The Licencee shall maintain, at the operator’s office, records of all soils received at the Soil Remediation Facility. These records shall contain, but not be limited to the following:
 - a) the date soils were received at the facility;
 - b) the original location of the soils;
 - c) the volume received, either estimated or actual;
 - d) preliminary analyses of the soils taken at the remediation site (for example head space results or field composite results);
 - e) final confirmatory results of laboratory analyses of the soils taken at the Development; and
 - f) the location within the soil remediation facility of the soil for treatment.

65. The Licencee shall maintain, at the operator's office, records of all soils removed from the Development. These records shall contain, but not be limited to the following:
- a) the date the soils were removed;
 - b) the volume of soils removed;
 - c) the final end use destination of the soils removed;
 - d) the results of analyses to determine the concentrations of the pollutants of concern, as identified by the analyses performed as required by Clause 64 d) of this Licence; and
 - e) any additional information as requested by the Director.

BURNING AREA

66. The Licencee shall only allow burning in accordance with the requirements of the *Waste Management Facilities Regulation* or any future amendment thereof.
67. The Licencee shall only burn separated and readily combustible materials such as boughs, leaves, loose straw, paper products, cardboard, non-salvageable untreated wood, and packing materials derived from wood, and only when there is an appropriate volume of this material to burn. Plywood, composite board or other materials constructed with glues, finishes, or preservatives must not be burned.
68. The Licencee shall not burn any other products or materials; including but not limited to plastics, composites, rubber, manures, chemically treated fabrics, mattresses, finished furniture or man-made synthetics.

SLUDGE DRYING AREA

69. The Licencee shall accept only solids and sludge from car wash sump pits at the sludge drying area.
70. Prior to acceptance of biosolids, sludge, or treated septage from a wastewater treatment plant, or a wastewater treatment lagoon to any area of the Development other than burial in a waste cell, the Licencee shall submit to the Director for approval a Notice of Alteration to this Licence in accordance with Section 14 of *The Environment Act* complete with the following:
- a) engineering design drawings for the containment or treatment area, and
 - b) an operations manual addendum for the proposed treatment, process or distribution and use of the resultant materials.

LEACHATE

71. The Licencee shall monitor and record leachate pond levels on a monthly basis from June to November. In the event the leachate pond is operating within the freeboard for more than three (3) months in a row; the Licencee shall submit a plan for the reduction of the leachate level upon the request of the Environment Officer, in the timeline specified in the request.
72. The Licencee shall collect and manage all liquids collected in drain sumps or the leachate collection system at the Development in a manner approved by the Director, or at an alternative off-site licenced facility approved by the Director.
73. The Licencee shall not recirculate leachate or contaminated water collected at the Development through the landfill cells.
74. The Licencee shall report any occurrence of leachate breakout which leaves the Development to an Environment Officer within 24 hours.

GROUNDWATER

75. The Licencee shall sample, store and analyze monitoring well samples using approved field and laboratory techniques for dissolved analysis. The analytical results shall be retained in a format acceptable to the Director.
76. The Licencee shall sample the groundwater monitoring wells for those parameters identified in Appendix 'A' once per year; or at a frequency as approved by the Director.
77. The Licencee shall include in the Annual Report of Clause 86 the results of the groundwater sampling analyses, complete with previous results, trends and any recommendations with regards to groundwater monitoring.
78. As a result of the operation of the Development, the Licencee shall not cause the concentration values of the parameters listed in Appendix 'A', attached to this Licence, to exceed background levels in groundwater at the compliance boundary.

SURFACE WATER

79. The Licencee shall manage surface water, both impacted and non-impacted, at the Development to prevent uncontrolled release from the Development.
80. The Licencee shall operate and maintain all surface water courses to minimize odour and pest problems, sedimentation within the waterways, and to maximize nutrient reduction.

81. The Licencee shall sample the liquid in any surface water pond that collects water from the site for those parameters identified in Appendix 'A' or selected parameters approved by the Director, and receive approval of the assigned Environment Officer prior to release off site or use of the liquid.

MONITORING AND REPORTING

82. The Licencee shall keep for inspection, records of all monitoring at the Development, at the operator's office, or other location approved by the Environment Officer.
83. Where the Licencee fails to undertake the monitoring program required pursuant to Clauses 76 or 81 of this Licence, the Director may cause such monitoring to be undertaken and recover the cost of such monitoring from the Licencee.

RECORDS AND ANNUAL REPORT

Operation and Monitoring Records

84. The Licencee shall have available for inspection by an Environment Officer or the Director upon request, records of all operational activities, monitoring and analytical results, reports, certifications and documents identified in this Licence.
85. The Licencee shall keep for inspection, operating and monitoring records at the Development site office including the following:
- a) as-built drawings showing the location and development of excavation, fill area, final grades and structural components;
 - b) records of annual waste tonnage received at the site (including special wastes, asbestos, etc) accepted at the landfill including the amounts accepted and the disposal locations within the landfill;
 - c) all Certifications and permits for acceptance of regulated materials (SRM (if applicable), weigh scale certification);
 - d) an initial topographic survey and plans showing the areas where waste has been disposed in the current and previous years;
 - e) monitoring results; and
 - f) complaints received and actions taken.

Annual Report

86. The Licencee shall, unless otherwise approved by the Director, on or before the 15th day of April of each year and beginning in 2018, prepare an annual report with respect to all activities at the Development conducted pursuant to this Licence during the previous calendar year. The report shall be submitted in a format acceptable to the Director and contain at minimum the following:
- a) a summary of any construction activities which occurred at the Development;
 - b) the mass of each type of waste received (solid waste to tipping face, special wastes, etc.);
 - c) the mass of each type of material that was removed from the Development (recyclables, etc.);
 - d) a summary of the records for the Soil Remediation Facility as per Clauses 64 and 65;
 - e) a summary of the monitoring report results from groundwater as per Clause 77;
 - f) the volume of leachate which was removed from the Development for treatment (if applicable);
 - g) summary report of noise or odour complaints received; and
 - h) a summary report of any fires within the development requiring notification as per Clause 11.
87. The Licencee shall compare the results included with the report pursuant to Clause 86 of this Licence with annual reports submitted in previous years to show trends and variances. The reports shall identify, at minimum, any significant variations, the cause of the variations and any actions taken.

EMERGENCY RESPONSE PLAN

88. The Licencee shall prepare, within ninety (90) days of the date of issuance of this Licence, and maintain an emergency response 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, outlining procedures to be used in the event of leak, spill, fire, flood or other hazardous condition at the Development, or if waste management functions are disrupted.
89. The Licencee shall have available for inspection by an Environment Officer, upon request, records of the details of all incidents requiring the implementation of the Emergency Response Plan at the Development site office.

SITE SAFETY PLAN

90. The Licencee shall maintain a Site Safety Plan in the Operations Manual in accordance with Provincial requirements.

CLOSURE AND POST CLOSURE

91. The Licencee shall submit, within twelve (12) months of the date of issuance of this Licence, for the approval of the Director, a preliminary Closure and Post Closure Plan for the Development. The plan shall address the closure of the soil remediation facility and the landfill and shall include, but not be limited to, information with respect to the following:
 - a) final cover design and maintenance;
 - b) maintenance of leachate detection, collection and treatment systems;
 - c) groundwater monitoring;
 - d) removal of all ancillary equipment associated with the Development;
 - e) restoration of the site to the satisfaction of the Director; and
 - f) financial assurance required to implement the Plan.
92. The Licencee shall submit to the Director, not less than one (1) year prior to closure of the Development, an updated engineering design for the closure of the Development and the proposed post closure monitoring plan.
93. The Licencee shall, where an increase in the slope of the final cover due to settlement, or erosion of the final cover occurs during the post closure period, take remedial action to correct the situation and maintain the design.
94. The Licencee shall implement and maintain the approved Closure Plan for the Development pursuant to Clause 91 or 92 of this Licence and any terms and conditions set by the Director at the time of approval.

FINANCIAL ASSURANCE/INSURANCE


95. The Licencee shall provide to the Director confirmation of financial insurance coverage in the form of Environmental Impairment Liability insurance providing coverage subject to a minimum limit of \$1.0 million per occurrence or claim, including coverage for gradual, and sudden and accidental pollution. Coverage to include on-site and off-site clean up costs, and be placed with insurers satisfactory to the Province of Manitoba. The Province of Manitoba shall be added as an Additional Insured on the policy. The policy shall contain a clause stating that the Insurer will give Manitoba sixty (60) days prior written notice in case of significant reduction in coverage or policy cancellation.
96. During the term of the Licence, the City of Thompson, as Licencee, may self insure for environmental impairment liability. Such self-insurance shall satisfy Manitoba's requirement for Environmental Impairment Liability insurance as set out in Clause 95 of this Licence.

RECORD DRAWINGS

97. The Licencee shall:
- a) prepare “record drawings” for the Development and label the drawings “record drawings”; and
 - b) provide to the Director, within six (6) months, or as otherwise approved by the Director, after completion of construction of each component of the Development, two paper copies and one electronic copy of the “record drawings” of the component of the Development.

REVIEW AND REVOCATION

- A. This Licence replaces Permit No. 42877 issued under the *Waste Disposal Grounds Regulation*, which expired June 1, 2016.
- B. This Licence replaces Order No. 2013-14 issued under *The Dangerous Goods Handling and Transportation Act*, which is hereby rescinded.
- C. If, in the opinion of the Director, the Licencee has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out in this Licence, the Director may, temporarily or permanently, revoke this Licence.
- D. If, in the opinion of the Director, new evidence warrants a change in the specifications, limits, terms or conditions of this Licence, the Director may require the filing of a new proposal pursuant to Section 11 of *The Environment Act*.


Tracey Braun, M.Sc.
Director
Environment Act

File No.: 5848.00

APPENDIX 'A'
TO ENVIRONMENT ACT LICENCE NO. 3211 Clauses 76, 78 and 81
Water Chemistry Parameters

Chemical Parameters		
Inorganics		
Alkalinity – Total		Magnesium – Dissolved
Ammonia – Total		Manganese – Dissolved
Arsenic – Total		Mercury – Dissolved
Barium – Dissolved		Nitrate - Reported as N
Boron – Dissolved		Nitrite - Reported as N
Cadmium – Dissolved		Total Kjeldahl Nitrogen – Reported as N
Calcium – Dissolved		pH
Calcium Carbonate		Total Phosphorous
Chloride		Potassium – Dissolved
Chromium – Dissolved		Silicon – Dissolved
Conductivity		Sodium – Dissolved
Copper – Dissolved		Total Dissolved Solids (TDS)
Iron – Dissolved		Sulphate
Lead – Dissolved		Uranium – Dissolved
		Zinc – Dissolved
Volatile Organic Compounds (VOC's)		
BTEX		
Other Organics		
Biological Oxygen Demand (BOD)		Chemical Oxygen Demand (COD)
Dissolved Organic Carbon (DOC)		
Field Parameters		
pH		Groundwater Elevation
Conductivity		Dissolved Oxygen
Temperature		

Note: This Schedule is subject to revision at any time by the Director.
All metals (except Arsenic) are to be sampled for dissolved analysis.
Dissolved samples should be filtered in the field and preserved in the field at time of sampling. If dissolved samples are not to be filtered and preserved in the field then the Director and the Laboratory must be notified prior to sampling.

APPENDIX 'B'
TO ENVIRONMENT ACT LICENCE NO. 3211 Clause 40

SOIL SAMPLING

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

**APPENDIX 'B' (cont'd.)
TO ENVIRONMENT ACT LICENCE NO. 3211 Clause 40**

SOIL TESTING METHODS

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

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