



Sustainable Development

Environmental Stewardship Division
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June 9, 2016

Robert Pohl, Manager
Portage la Prairie Regional Landfill Authority
P.O. Box 626
Portage la Prairie, MB R1N 3B9

Via Email: rpohl@city_plap.com & Mail

Dear Mr. Pohl:

Re: Portage la Prairie Regional Landfill Site – Liquid Waste Disposal Facility – Sludge Removal

I am responding to your April 15, 2016 letter of intent to remove sludge from the Portage la Prairie Regional Landfill Authority liquid waste disposal facility that is licensed under Environment Act Licence No. 1356 R.

The liquid waste disposal facility is located at SW 22–13–5WPM in the Rural Municipality of Portage la Prairie. Your letter is acknowledged as a Notice of Alteration to the development in accordance with Section 14 of *The Environment Act*.

The sludge removal activities proposed in the April 15, 2016 letter include the following:

- Constructing a separate temporary containment cell adjacent to the primary cell of the liquid waste disposal facility to contain sludge removed during the clean out;
- Collecting liquid from sludge removed from the liquid waste disposal facility in the temporary containment cell and pumping the collected liquid back into the primary or secondary cell of the liquid waste disposal facility; and
- Burying of the dried sludge solids at the Portage la Prairie Regional Landfill Authority landfill, in an area separate from the solid waste disposal location.

It is noted that requests for similar sludge removal and disposal activities are a recurring event as similar requests were most recently made in 2009 and 2013. In 2009, authorization was provided to dispose of the sludge solids at a waste disposal ground. In 2013, it was required that alternatives to disposing of the sludge solids as a waste at a waste disposal ground be considered and presented. The Portage la Prairie Regional Landfill Authority did present general information relative to assessing and considering options for disposal of the sludge solids but

concluded that options for its beneficial use were limited. Even though this conclusion was not supported by specific assessments of sludge characteristics, authorization was provided to dispose of the sludge solids at a waste disposal ground.

Upon review of the request we have determined that the potential environmental effects of your proposal are insignificant. However, at this time it is required that specific sampling and assessment of sludge characteristics occur prior to disposing of the sludge solids at a waste disposal ground followed by related reporting of the findings. In accordance with Section 14(2) of *The Environment Act*, approval is hereby given to implement sludge removal activities at the Portage la Prairie Regional Landfill Authority liquid waste disposal facility as described in your April 15, 2016 letter subject to the following limits, terms and conditions:

DEFINITIONS

In this approval,

“accredited laboratory” means a laboratory accredited by the Standards Council of Canada (SCC), another accrediting agency recognized by Manitoba Sustainable Development to be equivalent to the SCC, or at a laboratory which can demonstrate to Manitoba Sustainable Development that it has the quality assurance/quality control (QA/QC) procedures in place equivalent to accreditation based on the international standard ISO/IEC 17025, or otherwise approved by the Director;

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

“dewatering cell” means a structure used to contain wastewater while the sludge solids separate from the supernatant;

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

“effluent” means treated wastewater flowing or pumped out of the wastewater treatment facility;

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

“NIST” means the National Institute of Standards and Technology;

“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;

“reference material” means soil or sludge material which is used as a reference;

“reference value” means the value established by the agency that supplied the reference material;

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

“sludge solids” means solids in sludge;

“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;

“supernatant” means the liquid remaining above the sludge solids after sedimentation; and

“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 150/91, Manitoba Regulation 37/2016, or a Licence pursuant to *The Environment Act*.

GENERAL REQUIREMENTS

1. The Portage la Prairie Regional Landfill Authority shall, unless otherwise specified in this letter:
 - a) carry out all preservations and analyses of liquid samples in accordance with the methods prescribed in the Standard Methods for the Examination of Water and Wastewater or in accordance with equivalent preservation and analytical methodologies approved by the Director;
 - b) 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.

2. The Portage la Prairie Regional Landfill Authority shall submit all information required to be provided to the Director or Environment Officer in accordance with this letter, 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 labelled with the Licence Number and Client File Number associated with this letter.
3. The Portage la Prairie Regional Landfill Authority shall collect a representative sample of sludge solids from each cell of the wastewater treatment lagoon from which sludge solids will be removed. A representative sample of sludge solids shall be a composite of sludge solids samples taken from a minimum of 5 locations distributed over the surface of the cell.
4. The Portage la Prairie Regional Landfill Authority shall have the sample of sludge solids analyzed for the following parameters:*

a) conductivity	j) lead
b) pH	k) mercury
c) total solids	l) nickel
d) volatile solids	m) potassium
e) nitrate nitrogen	n) cadmium
f) total Kjeldahl nitrogen	o) copper
g) ammonia nitrogen	p) zinc
h) organic nitrogen	q) chromium
i) total phosphorus	r) arsenic

* Analysis for heavy metals must be carried out in accordance with Schedule "A" of this letter.
6. The Portage la Prairie Regional Landfill Authority shall:
 - a) construct the temporary dewatering cell with compacted clay berms and operate it in a manner that sludge solids and supernatant do not leak out of the cell; and
 - b) operate and maintain the temporary dewatering cell in such a manner as to prevent the contamination of groundwater and surface waters.
7. The Portage la Prairie Regional Landfill Authority shall not construct, alter or operate the sludge dewatering process at the liquid waste disposal facility in a way which causes or results in an odour nuisance, and shall take steps as the Director may require to eliminate or mitigate an odour nuisance.
8. The Portage la Prairie Regional Landfill Authority shall isolate the cell of the liquid waste disposal facility from which sludge solids are to be removed from the rest of the wastewater treatment system while the sludge solids are being sampled, mixed in or removed from the cell.
9. The Portage la Prairie Regional Landfill Authority shall, after placing the sludge in the temporary dewatering cell, remove all the supernatant from the sludge and return the supernatant to the liquid waste disposal facility so that only sludge solids remain.

10. The Portage la Prairie Regional Landfill Authority shall determine the volume and moisture content of the remaining sludge solids and report the results to the Environment Officers.
11. The Portage la Prairie Regional Landfill Authority shall remove all dewatered sludge solids from the dewatering cell, following the dewatering processes, and transport the dewatered sludge solids in containers to a waste disposal ground in such a manner to prevent loss of sludge solids and associated substances to the satisfaction of the assigned Environment Officer.
12. The Portage la Prairie Regional Landfill Authority shall, within 48 hours of depositing the sludge solids at a waste disposal ground, cover the sludge solids deposited at the waste disposal ground with soil to a minimum depth of 15 centimetres.
13. The Portage la Prairie Regional Landfill Authority shall not transport frozen sludge solids from the liquid waste disposal facility to a waste disposal ground.
14. The Portage la Prairie Regional Landfill Authority shall, prior to the 1st day of November, 2016, transfer all the dried sludge solids from the liquid waste disposal facility site to a waste disposal ground, remove all temporary works from the sites involved and return all sites involved to their original states.
15. The Portage la Prairie Regional Landfill Authority 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.
16. The Portage la Prairie Regional Landfill Authority shall, following the reporting of an event pursuant to Clause 15:
 - 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.
17. The Portage la Prairie Regional Landfill Authority shall, prior to December 31, 2016, provide to the Director a report that documents the activities undertaken and presents information respecting the quantity and specific characteristics of the dewatered sludge solids that was handled and transported from the liquid waste disposal facility to any waste disposal ground. The report shall also include the following:
 - a) the results of analysis of the sludge solids; and
 - b) a copy of the analytical procedures used and the results of analysis of reference materials in accordance with Schedule "A" of this letter.

18. The Portage la Prairie Regional Landfill Authority shall, in the future, not use the sludge solids disposed of at the waste disposal ground as cover material or other form of resource use without authorization by the Director.
19. This approval shall terminate on the 1st day of November, 2017.
20. If in the opinion of the Director, the Portage la Prairie Regional Landfill Authority has exceeded or is exceeding or has or is failing to meet the specifications, limits, terms, or conditions set out herein, the Director may revoke, temporarily or permanently, this approval.

Mr Robert Boswick, Environmental Engineer and Environment Officer, will be your contact regarding the sludge sampling, analysis, and reporting requirements identified above. Mr. Boswick works in the Environmental Approvals Branch in Winnipeg, MB and can be contacted at (204) 945-6030.

If you have any questions regarding this letter please contact Robert Boswick at (204) 945-6030.

Yours sincerely,
“original signed by”

Tracey Braun, M.Sc.
Director

- c. Don Labossiere/Donna Smiley/Tyler Kneeshaw – Environmental Compliance and Enforcement Branch, Manitoba Sustainable Development Public Registries

SCHEDULE "A"

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

1. Sludge samples shall be prepared using non-contaminating grinding and sieving procedures such as agate or porcelain mortar and pestle along with nylon sieves.
2. Analysis for heavy metals must be carried out following strong acid digestion.
3. The laboratory performing these analyses shall operate an acceptable quality assurance program such that samples of reference material shall be analyzed to monitor the accuracy of the sludge analyses and each set of ten or less samples of sludge shall include a minimum of one NIST domestic sludge sample (SRM 2781);
4. A copy of the analytical procedures and the analytical results for the reference materials, and any other controls used in the analysis, shall be submitted with the field sample results.
5. If the analytical results of the reference materials do not meet the following criteria, the sludge samples must be re-analyzed:
 - Arsenic ± 35 percent from the reference value
 - Cadmium ± 25 percent from the reference value
(for values above 1 $\mu\text{g/g}$)
 - Cadmium ± 35 percent from the reference value
(for values below 1 $\mu\text{g/g}$)
 - Chromium ± 25 percent from the reference value
 - Copper ± 25 percent from the reference value
 - Lead ± 25 percent from the reference value
 - Mercury ± 35 percent from the reference value
 - Nickel ± 25 percent from the reference value
 - Zinc ± 25 percent from the reference value