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Sustainable Development
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**File: 289.10**

February 7, 2018

Mr. Bill Asham
Keaschell Parks Ltd.
900 Dunning Road East
West Pine Ridge MB R1C 0G7
Email: keaschellparks1@gmail.com

Dear Mr. Asham:

**Re: Pineridge Village Mobile Home Park Wastewater Treatment Lagoon - Compliance Plan Approval - Environment Act Licence No. 1210**

Receipt of your amended compliance plan dated January 8, 2018, submitted by Mr. Oswald Wohlgemut, M.Sc., JRCC Engineering Consultants, is hereby acknowledged. My letter dated July 24, 2017 required you to submit a compliance plan and another letter dated November 15, 2017 required you to meet with our department representatives to further review the compliance plan requirements as your original compliance plan dated August 18, 2017 did not meet our requirements.

I would like to thank you for organizing a meeting with our department representatives on November 23, 2017. The January 8, 2018 compliance plan is acceptable to us. Please make arrangements with Mr. Asit Dey (designated Environment Officer) at (204) 945-2614 or at asit.dey@gov.mb.ca a mutually acceptable time and date for the proposed soil sampling to be carried out after May 15, 2018 or unless otherwise approved by Mr. Dey.

You shall take and test undisturbed soil samples, in accordance with Schedule "A" attached to this approval, from the liner of the wastewater treatment lagoon as identified by your consultant; the number and location of samples and test methods are to be specified by the designated Environment Officer up to a maximum of 20 samples.

You shall, prior to placing riprap on the interior dyke surfaces from 0.6 metres above the high water mark to at least 0.6 metres below the low water mark to protect the dykes from wave action, submit for the approval of the Environment Officer the results of the soil tests within 30 days from the date of soil sampling.

In accordance with the January 8, 2018 compliance plan, the proposed Notice of Alteration request shall include a detailed timeline to complete the repair works that were identified in my July 24, 2017 letter.

Should you have any questions concerning the foregoing, please contact Asit Dey, Environment Engineer, at (204) 945-2614 or at asit.dey@gov.mb.ca.

Yours sincerely,

Tracey Braun, M.Sc.
Director
Environmental Approvals Branch

Enclosure: July 24, 2017 Compliance Plan Letter

c. Oswald Wohlgemut, JRCC Engineering Consultant
Don Labossiere/Mike Baert/Kris Innes, Environmental Compliance and Enforcement
Public Registries

## Schedule "A"

Liner sampling and testing requirements

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.

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 where 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.