



January 14, 2014

**Mr. Joseph T. Rogers, Geologist**

Permit and Corrective Action Unit  
Office of Waste Management and Radiological Protection  
Michigan Department of Environmental Quality  
PO Box 30241  
Lansing, MI 48909-7741

RE: *October 17, 2013 Inspection Letter* Dated December 6, 2013  
Coldwater Road Landfill  
1245 East Coldwater Road, Flint, MI  
MID 005 356 860 / Consent Order No. 64-05-92

FILE: 15388/50137 - #2

Dear Mr. Rogers:

O'Brien & Gere Engineers, Inc. (O'Brien & Gere), on behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust, is providing the following responses to your comments concerning the inspection conducted at the aforementioned site on October 17, 2013 provided in the Michigan Department of Environmental Quality (MDEQ) letter dated December 6, 2013, which was received on December 16, 2013. The responses follow the same order as presented in your letter.

**1.** The locations of all sparsely vegetated former animal burrow areas must be inventoried and identified on a map that must be provided as part of the corrective action report. The facility must re-seed the impacted former animal burrow areas as soon as practicable in the spring. It is anticipated that the OWMRP will conduct a follow-up inspection sometime next spring to document that all impacted areas have been repaired.

**Response:** O'Brien & Gere raked and spread grass seed over the areas with sparse vegetation and will continue to monitor the areas and spread additional grass seed as needed. The attached figure titled: 4<sup>th</sup> Quarter 2013 Sparse Vegetation Location Map and vegetation photo-log provide the location and photographs of the sparsely vegetated former animal burrow areas. Several of the areas had already been seeded, but the seed was just starting to sprout at the time of the MDEQ's inspection. Each area will be seeded or re-seeded as necessary in the early spring to re-establish the vegetative cover in these areas.

**2.** The animal burrows discovered, as well as any additional burrows, must be addressed on an ongoing basis, with filling and repair occurring as soon as they are identified. Repair must include an inspection of the depth of the burrow to ensure the clay cap has not been impacted. Photographic documentation of the repaired area must be provided as part of the corrective action report.

**Response:** O'Brien & Gere used a survey quality handheld global positioning system (GPS) unit to locate the cited animal borrows. The attached figure titled: 4<sup>th</sup> Quarter 2013 Burrow Location Map and animal burrow photo-log from the fourth quarter 2013 quarterly report provides the location of the animal burrows and photo documentation for the burrows discovered during the 4<sup>th</sup> quarter 2013. The photo-log contains the information pertaining to the length, depth and diameter of each animal burrow and provides a statement of whether the liner system appears to have been damaged (states: "No signs of liner damage," or would provide observations pertaining to potential liner damage if geonet, liner or clay was observed in the spoils from the animal burrow). The animal burrow figure and photo-log will continue to be included as part of the progress reports.

Note that the total volume of leachate generated during 2013 was estimated at 7,166 gallons, which is just over a gallon per acre per day, and indicates a rainfall fraction (RF) of approximately 0.05% as measured by the ratio of average leachate collection and removal system (LCRS) flow rate (approximately 398 gallons per acre per year) to historical average annual rainfall (about 30 inches or 2.5 ft per year, which equals 814,630 gallons per acre per year). This RF value is considered negligible by the authors of a study funded by the USEPA to evaluate waste containment systems (USEPA, 2002), and indicates that the landfill cap system is functioning as designed.

Please call David Favero, RACER Project Manager at 217-522-6714, or me at 248-477-5701, ext. 16 if you have any questions.

Very truly yours,

**O'BRIEN & GERE ENGINEERS, INC.**



Clifford Yantz  
Scientist-3

Attachment

cc: Richard Conforti – MDEQ  
John McCabe – MDEQ  
Mr. David Favero – RACER Trust  
Mr. Kevin Schneider – O'Brien & Gere

Reference: USEPA, 2002. Assessment and Recommendations for Improving the Performance of Waste Containment Systems. EPA/600/R-02/099. December.

Note: Flow rates in the above reference document are in liters per hectare per day (lphd), which equals 9.35 gallons per acre per day (gpac). Refer to Tables 5-7 and 5-8 for RF values in lphd and percent, respectively.




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**LEGEND**

-  LEACHATE COLLECTION SUMP
-  ACCESS PORT FOR LEAK DETECTION VAULT
-  ANIMAL BURROW LOCATION WITH SPARSE VEGETATION

RACER TRUST  
 COLDWATER ROAD  
 LANDFILL FACILITY  
 FLINT, MICHIGAN

**4TH QUARTER 2013  
 SPARSE VEGETATION LOCATION  
 MAP**



<p><b>LOCATION:</b> B3 – Middle of Slope</p>	 <p>A photograph showing a cross-section of a soil bank. The soil is light brown and appears to be composed of sand and silt. There are several clumps of green grass and some dried, brown grasses growing on the surface. The background shows more of the same vegetation.</p>
<p><b>NOTES:</b> ID: 2013-09-04-029</p>	<p><b>LOCATION:</b> B3 – Middle of Slope</p>  <p>A photograph showing a soil bank similar to the one above. The soil is light brown and sandy. The vegetation is much denser and appears to be mostly dry, brown grasses. There are some green plants interspersed among the dry grass. The soil bank is more eroded and shows some small rocks.</p> <p><b>NOTES:</b> ID: 2013-09-04-030</p>

**LOCATION:**

B3 – Middle of Slope

**NOTES:**

ID: 2013-09-04-031



**LOCATION:**

A1 – Middle of Slope

**NOTES:**

ID: 2013-09-04-033



**LOCATION:**

B1 – Middle of Slope

**NOTES:**

ID: 2013-09-04-034



**LOCATION:**

B1 – Middle of Slope

**NOTES:**

ID: 2013-09-04-035



**LOCATION:**

B1 – Middle of Slope

**NOTES:**

ID: 2013-09-04-036



**LOCATION:**

C1 – Top of Slope

**NOTES:**

ID: 2013-09-04-039



**LOCATION:**

C1 – Middle of Slope

**NOTES:**

ID: 2013-09-13-041



**LOCATION:**

C1 – Top of Slope

**NOTES:**

ID: 2013-09-13-042



**LOCATION:**

B1 – Middle of Slope

**NOTES:**

**ID: 2013-09-04-047**



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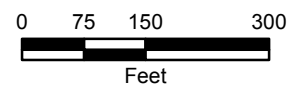
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**LEGEND**

- LEACHATE COLLECTION SUMP
- ACCESS PORT FOR LEAK DETECTION VAULT
- ⊗ ANIMAL BURROW LOCATION

RACER TRUST  
COLDWATER ROAD  
LANDFILL FACILITY  
FLINT, MICHIGAN



**4TH QUARTER 2013  
BURROW LOCATION  
MAP**



COLDWATER RD LANDFILL – ANIMAL BURROW PHOTO LOG

<b>LOCATION:</b> F1 – Bottom of Slope		<b>APPROX. LENGTH:</b> 5+ ft	<b>APPROX. DEPTH:</b> 1 ft	<b>APPROX. DIAMETER:</b> 7 inch
<b>DATE FOUND:</b> 10/17/13	<b>DATE CLOSED:</b> 12/13/13			
<b>NOTES:</b> <b>ID: 2013-12-13-044</b> PRE repair photo. Trap set up for eight weeks. Trap was moved by animal three times and reset. No activity after four weeks. No animal trapped. No signs of liner damage.				
<b>LOCATION:</b> F1 – Bottom of Slope		<b>APPROX. LENGTH:</b> 5+ ft	<b>APPROX. DEPTH:</b> 1 ft	<b>APPROX. DIAMETER:</b> 7 inch
<b>DATE FOUND:</b> 10/17/13	<b>DATE CLOSED:</b> 12/13/13			
<b>NOTES:</b> POST repair photo. Filled in burrow. Will spread grass seed in spring.				



COLDWATER RD LANDFILL – ANIMAL BURROW PHOTO LOG

<b>LOCATION:</b> B1 – Middle of Slope		<b>APPROX. LENGTH:</b> 5+ ft	<b>APPROX. DEPTH:</b> 1.5 ft	<b>APPROX. DIAMETER:</b> 8 inch
<b>DATE FOUND:</b> 10/17/13	<b>DATE CLOSED:</b> 12/13/13			
<b>NOTES:</b> <b>ID: 2013-12-13-045</b> PRE repair photo of burrow entry. Trap set up for eight weeks. Trapped animal at exit burrow. The distance between the entry (045) and exit (046) was approximately eight feet. No signs of liner damage.				
<b>LOCATION:</b> B1 – Middle of Slope		<b>APPROX. LENGTH:</b> 5+ ft	<b>APPROX. DEPTH:</b> 1.5 ft	<b>APPROX. DIAMETER:</b> 8 inch
<b>DATE FOUND:</b> 10/17/13	<b>DATE CLOSED:</b> 12/13/13			
<b>NOTES:</b> POST repair photo of burrow entry. Filled in burrow. Will spread grass seed in the spring.				



COLDWATER RD LANDFILL – ANIMAL BURROW PHOTO LOG

<b>LOCATION:</b> B1 – Middle of Slope		<b>APPROX. LENGTH:</b> 5+ ft	<b>APPROX. DEPTH:</b> 1.5 ft	<b>APPROX. DIAMETER:</b> 5 inch
<b>DATE FOUND:</b> 10/17/13	<b>DATE CLOSED:</b> 12/13/13			
<b>NOTES:</b> <b>ID: 2013-12-13-046</b> PRE repair photo of burrow exit. Trap set up for eight weeks. Trapped animal. The distance between the entry (045) and exit (046) was approximately eight feet. No signs of liner damage.				
<b>LOCATION:</b> B1 – Middle of Slope		<b>APPROX. LENGTH:</b> 5+ ft	<b>APPROX. DEPTH:</b> 1.5 ft	<b>APPROX. DIAMETER:</b> 5 inch
<b>DATE FOUND:</b> 10/17/13	<b>DATE CLOSED:</b> 12/13/13			
<b>NOTES:</b> POST repair photo of burrow exit. Partially filled in burrow, will complete filling in burrow in the spring once ground has thawed. Placed rock over burrow to prevent entry.				

COLDWATER RD LANDFILL – ANIMAL BURROW PHOTO LOG

<b>LOCATION:</b> B3 – Top of Slope		<b>APPROX. LENGTH:</b> 5+ ft	<b>APPROX. DEPTH:</b> 1.5 ft	<b>APPROX. DIAMETER:</b> 8 inch
<b>DATE FOUND:</b> 10/17/13	<b>DATE CLOSED:</b> 12/13/13			
<b>NOTES:</b> <b>ID: 2013-12-13-047</b> PRE repair photo of burrow entry. Trap set up for eight weeks. Trap moved by animal three times and reset. No activity for 4 weeks. No animal trapped. The distance between the entry and exit was approximately thirteen feet. No signs of liner damage.				
<b>LOCATION:</b> B3 – Top of Slope		<b>APPROX. LENGTH:</b> 5+ ft	<b>APPROX. DEPTH:</b> 1.5 ft	<b>APPROX. DIAMETER:</b> 8 inch
<b>DATE FOUND:</b> 10/17/13	<b>DATE CLOSED:</b> 12/13/13			
<b>NOTES:</b> POST repair photo of burrow entry. Filled in burrow. Will spread grass seed in the spring.				

COLDWATER RD LANDFILL – ANIMAL BURROW PHOTO LOG

<b>LOCATION:</b> B3 – Top of Slope		<b>APPROX. LENGTH:</b> 5+ ft	<b>APPROX. DEPTH:</b> 1.5 ft	<b>APPROX. DIAMETER:</b> 6 inch
<b>DATE FOUND:</b> 10/17/13	<b>DATE CLOSED:</b> 12/13/13			
<b>NOTES:</b> <b>ID: 2013-12-13-048</b> PRE repair photo of burrow exit. Trap set up for eight weeks. Trap moved by animal three times and reset. No activity for 4 weeks. No animal trapped. The distance between the entry and exit was approximately thirteen feet. No signs of liner damage.				
<b>LOCATION:</b> B3 – Top of Slope		<b>APPROX. LENGTH:</b> 5+ ft	<b>APPROX. DEPTH:</b> 1.5 ft	<b>APPROX. DIAMETER:</b> 6 inch
<b>DATE FOUND:</b> 10/17/13	<b>DATE CLOSED:</b> 12/13/13			
<b>NOTES:</b> POST repair photo of burrow exit. Filled in burrow. Will spread grass seed in the spring.				