

**ANNUAL REPORT**

**2009 Annual  
Landfill Inspection Report  
REALM Coldwater Road  
Flint, Michigan  
MID 005 356 860**

Motors Liquidation Company  
Detroit, Michigan

February 2010

# ANNUAL REPORT

2009 Annual  
Landfill Inspection Report  
REALM Coldwater Road  
Flint, Michigan  
MID 005 356 860

*Motors Liquidation Company  
Detroit, Michigan*



---

Clifford S. Yantz  
Project Associate

February 2010





February 26, 2010

Mr. Richard Conforti, P.E.  
Environmental Engineer  
Michigan Department of Natural Resources and Environment  
Waste and Hazardous Material Division  
P.O. Box 30241  
Lansing, Michigan 48909-7741

Re: 2009 Annual Landfill Inspection Report  
Coldwater Road Landfill  
Flint, Michigan

File: 14774/45042 #5

Dear Mr. Conforti:

On behalf of Motors Liquidation Company (formerly known as General Motors Corporation), O'Brien & Gere Engineers, Inc. (O'Brien & Gere) is pleased to present this annual Landfill Inspection Report summarizing the 2009 Quarterly Post Closure Inspections at the hazardous waste landfill for the REALM Coldwater Road Facility in Flint, Michigan. Mrs. Marianne Secrest of O'Brien & Gere performed the quarterly inspection of the closed hazardous waste landfill on March 26, June 26, September 24, and December 9, 2009.

Each quarterly inspection event consisted of the following activities:

- A visual inspection of the landfill cap and berms
- A visual inspection of the leachate accumulation above ground storage tank (AST)
- A visual inspection of the site access roads
- A visual inspection of the site perimeter fencing and gates
- A visual inspection of the leachate collection system
- Testing of the leachate detection alarm system
- A summary of the monthly removal of liquids from the leak detection vaults
- A visual inspection of site drainage structures

A summary of the inspections is outlined in the following sections and copies of the quarterly inspection reports are included as Attachment A. A site location map (Figure 1), a property site plan (Figure 2), and an incident location map (Figure 3) are also included.

## **CAP AND BERMS**

The cap and berms were visually inspected each quarter for deep root penetration, burrowing animals, soil erosion, slope failures, and ponding water in the ditch and/or washouts.

Several hundred woody-stemmed plants were removed by the root from the landfill cap between March 2009 and December 2009. During the March 26, 2009 inspection, small wash out areas at the location of the pervious wash out areas were observed. The washed out material was removed from the swale and replaced onto the cap. The washout areas were then covered with topsoil and re-seeded. Locations of the washed out areas are noted in Figure 3.

Three animal burrows were identified between March 2009 and December 2009. Traps were set at the opening of each animal burrow that appeared to be active. After five days without animal activity, the burrows were filled using methods approved by the MDEQ. Animal burrow locations are noted on Figure 3. A log of burrow activity is maintained at the landfill. The log contains information on the date that a burrow is identified, response activities, and the date the burrow is closed.

## **LEACHATE COLLECTION AST**

The 15,000-gal leachate collection AST is located in the containment/control building. No evidence of leakage was observed within the AST secondary containment area or on the associated piping during the 2009 quarterly inspections. Inspections of the above ground storage tank and associated piping were also conducted each time a representative of O'Brien & Gere was on site. No evidence of leakage was observed during these inspections.

## **ACCESS ROADS**

Ponded water was observed during the June 26, 2009 inspection along the access road located west of the wetlands near the northwest catch basin. No other problems to the access roads were observed during 2009.

## **SITE PERIMETER FENCING AND GATES**

The site perimeter fence and/or the barbwire were damaged at a number of locations during the quarterly inspections. During the March 26, 2009 inspection, an opening was observed along the north perimeter fence and the barbwire was cut along the west perimeter fence. The hole in the perimeter fence was repaired by the addition of new materials and grading the soil. On September 24, 2009 the barbwire was cut along the south and west perimeter fences.

## **LEACHATE COLLECTION SYSTEM**

The leachate collection system was inspected quarterly for visible signs of damage. System components inspected include the control panels for the sumps and the leak detection vaults, as well as the visible portions of the vault piping. No evidence of damage was observed for the aboveground components of the system. Additionally, no signs of erosion/washouts were noticed in the areas

around the control panels and posts.

## **LEACHATE DETECTION ALARM SYSTEM**

The PermAlert automated leak detection alarm was tested during each quarterly inspection in accordance with Section 4 of the Post Closure Care Plan and found to be operating during the March 26, 2009, June 26, 2009, September 24, 2009 and December 9, 2009 tests. The PermAlert system requires no maintenance other than replacing the battery for the clock. The battery runs the clock up to one year when power fails.

## **VAULT LIQUID REMOVAL**

The leak detection vaults were pumped out monthly during the year. The volumes of liquid evacuated from each cell are provided in Table 1 and were reported in the Monthly Status Reports.

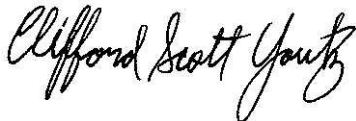
## **DRAINAGE INSPECTION**

The perimeter of the landfill and berm, drainage trenches at the base of the landfill, the Remaining Materials Area (RMA, Figure 2), and the wetland area were inspected for potential drainage problems. During the March 26, 2009 inspection some sediment had washed into various sections of the swale, the northwest catch basin west of the wetlands is not draining properly, the southwest culvert had some accumulated sediments, but was still draining. Some swale maintenance was conducted in June 2009 (and throughout the year) to correct some of the issues associated with the swale. During the June 26, 2009 inspection ponded water was present in the area of the catch basin located west of the wetland area, near Saginaw Street (northwest catch basin) and erosion was observed around the north landfill catch basin. During the September 24, 2009 inspection the culverts at Cells C and D were half full of sediment. Action into remediating the issue at the northwest catch basin will continue in the next calendar year. Rocks were placed around the north landfill catch basin to reduce erosion.

This summary of the quarterly inspections fulfills the annual inspection reporting requirements for 2009. If you have any questions, please call me at (248) 477-5701.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.



Clifford S. Yantz  
Project Associate

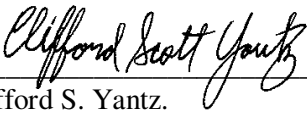
Enclosures

cc: Mr. David Favero – Motors Liquidation Company  
Mrs. Marianne Secrest – O'Brien & Gere

Mr. Richard Conforti  
February 26, 2010  
Page 4

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

On Behalf of Remediation and Liability Management Company, Inc.

  
\_\_\_\_\_  
Clifford S. Yantz.  
Agent for Motors Liquidation Company

Technical Associate—O'Brien & Gere Engineers, Inc.  
Title

2/26/10  
\_\_\_\_\_  
Date

cc: file

**Table 1**  
**REALM - Coldwater Road Landfill Facility**  
**Liquid Volumes Removed from LDS Vaults in 2009**

Date 2009	Vault A	Vault B	Vault C	Vault D	Vault E	Vault F	Rinse Water	TOTAL LDS GALLONS
23-Jan-09	-	30	26	-	352	19	80	507
<b>TOTAL</b>	-	<b>30</b>	<b>26</b>	-	<b>352</b>	<b>19</b>	<b>80</b>	<b>507</b>
13-Feb-09	-	23	16	-	365	-	60	464
<b>TOTAL</b>	-	<b>23</b>	<b>16</b>	-	<b>365</b>	-	<b>60</b>	<b>464</b>
13-Mar-09	-	34	23	-	513	18	80	668
<b>TOTAL</b>	-	<b>34</b>	<b>23</b>	-	<b>513</b>	<b>18</b>	<b>80</b>	<b>668</b>
17-Apr-09	-	46	29	-	750	6	80	911
30-Apr-09	-	-	-	-	415	-	45	460
<b>TOTAL</b>	-	<b>46</b>	<b>29</b>	-	<b>1,165</b>	<b>6</b>	<b>125</b>	<b>1,371</b>
14-May-09	-	48	24	-	390	14	80	556
<b>TOTAL</b>	-	<b>48</b>	<b>24</b>	-	<b>390</b>	<b>14</b>	<b>80</b>	<b>556</b>
10-Jun-09	-	51	25	-	349	21	80	526
<b>TOTAL</b>	-	<b>51</b>	<b>25</b>	-	<b>349</b>	<b>21</b>	<b>80</b>	<b>526</b>
7-Jul-09	-	55	41	-	338	14	80	528
<b>TOTAL</b>	-	<b>55</b>	<b>41</b>	-	<b>338</b>	<b>14</b>	<b>80</b>	<b>528</b>
13-Aug-09	-	92	89	-	268	45	80	574
<b>TOTAL</b>	-	<b>92</b>	<b>89</b>	-	<b>268</b>	<b>45</b>	<b>80</b>	<b>574</b>
16-Sep-09	-	107	36	-	280	137	97	657
<b>TOTAL</b>	-	<b>107</b>	<b>36</b>	-	<b>280</b>	<b>137</b>	<b>97</b>	<b>657</b>
15-Oct-09	-	44	57	-	157	64	80	402
<b>TOTAL</b>	-	<b>44</b>	<b>57</b>	-	<b>157</b>	<b>64</b>	<b>80</b>	<b>402</b>
11-Nov-09	-	29	40	-	142	38	80	329
<b>TOTAL</b>	-	<b>29</b>	<b>40</b>	-	<b>142</b>	<b>38</b>	<b>80</b>	<b>329</b>
16-Dec-09	-	40	124	-	478	20	90	752
<b>TOTAL</b>	-	<b>40</b>	<b>124</b>	-	<b>478</b>	<b>20</b>	<b>90</b>	<b>752</b>

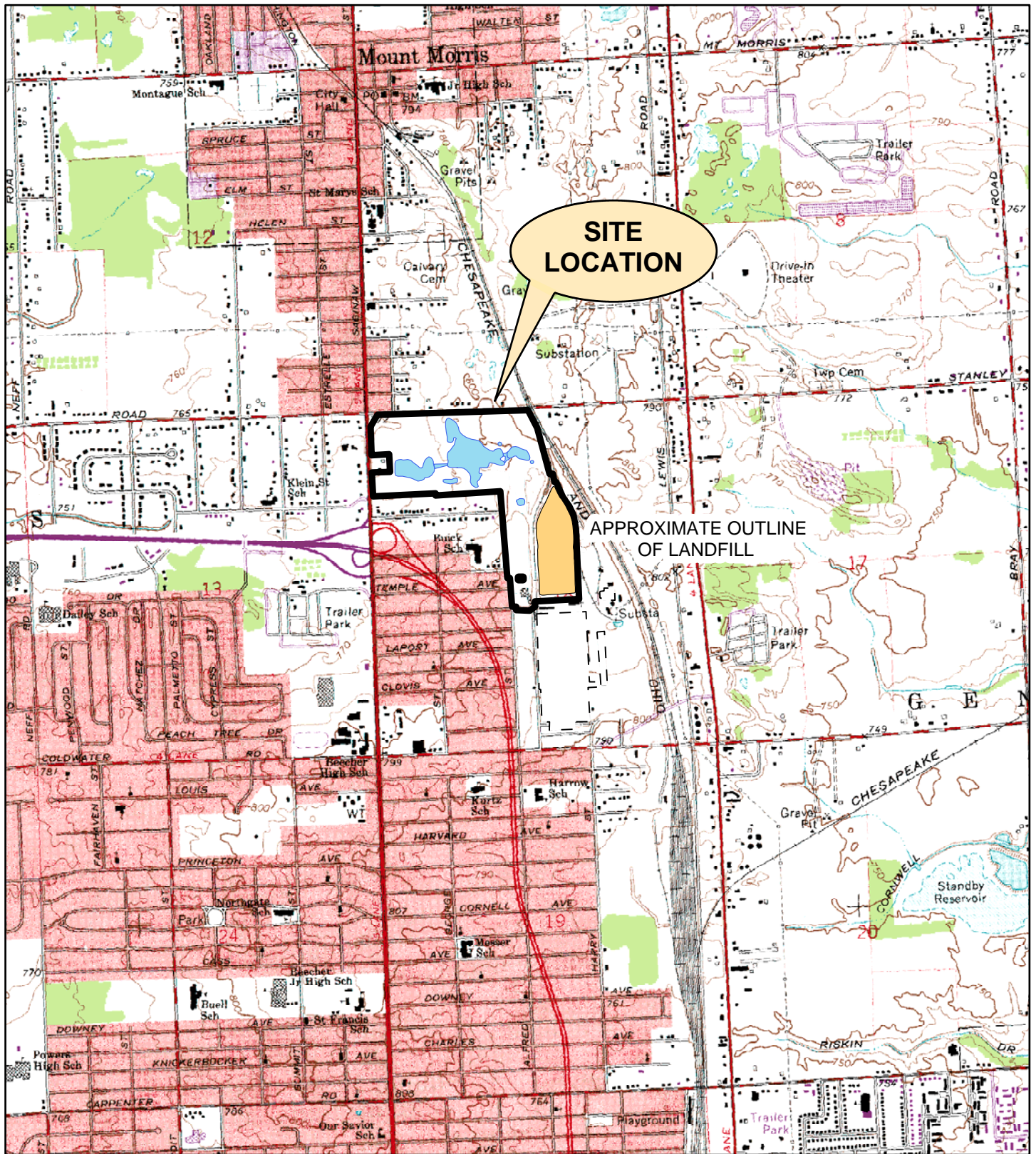
Notes:

Liquid volumes in gallons.

LDS - Leak Detection System

I:\078\PROJECTS\4966CW\39196MXD\006.MXD

PLOT DATE: 2/6/2007 jmo



REALM  
 COLDWATER ROAD FACILITY  
 FLINT, MICHIGAN  
**SITE LOCATION MAP**



I:\PROJECTS\4966\39196\MXD\010.MXD

PLOT DATE: 2/5/2007 jmo

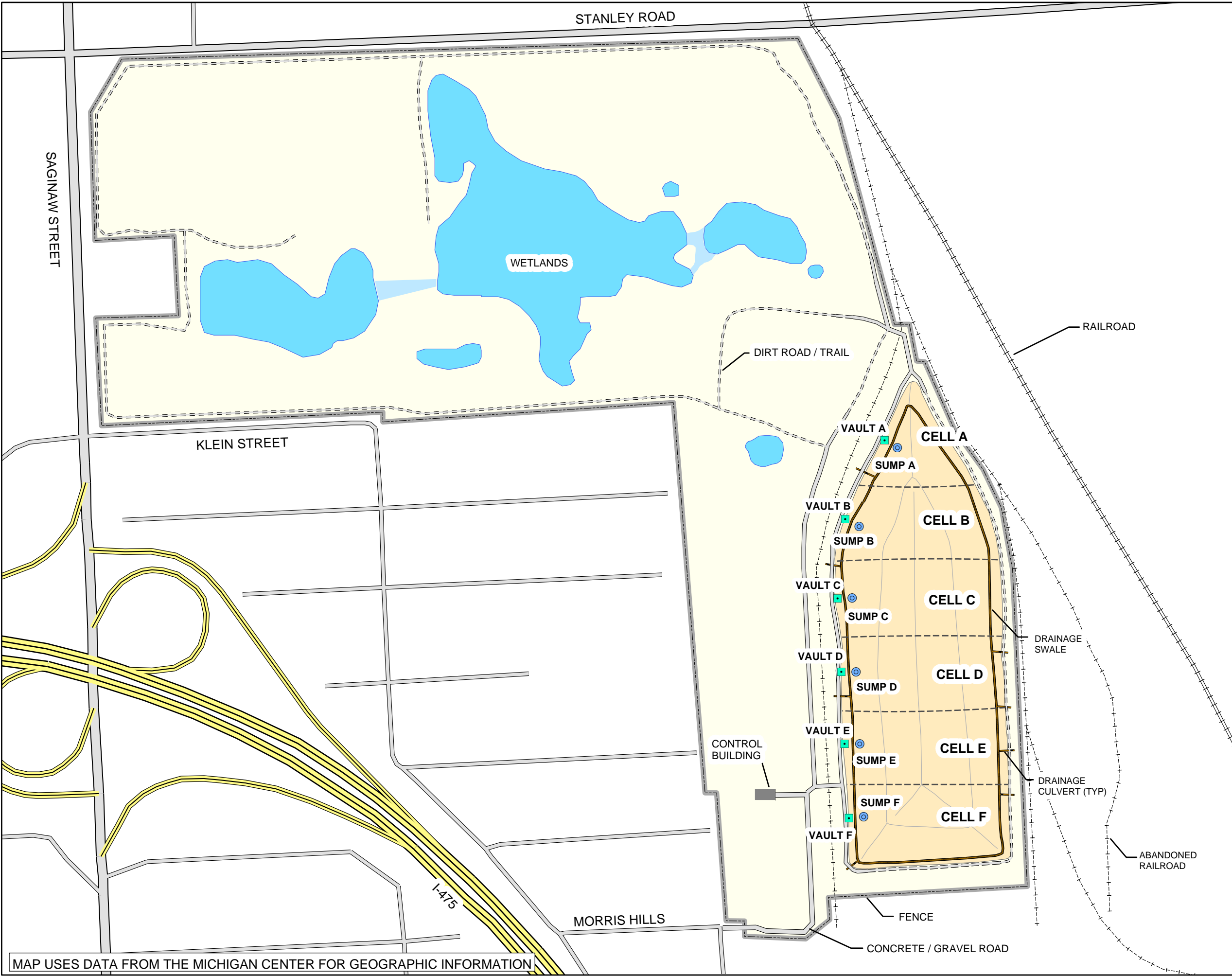




FIGURE 2

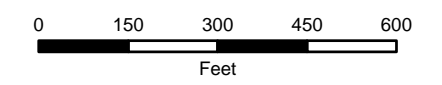


**LEGEND**

-  LEACHATE COLLECTION SUMP
-  ACCESS PORT FOR LEAK DETECTION VAULT

REALM  
COLDWATER ROAD  
LANDFILL FACILITY  
FLINT, MICHIGAN

**SITE LAYOUT**



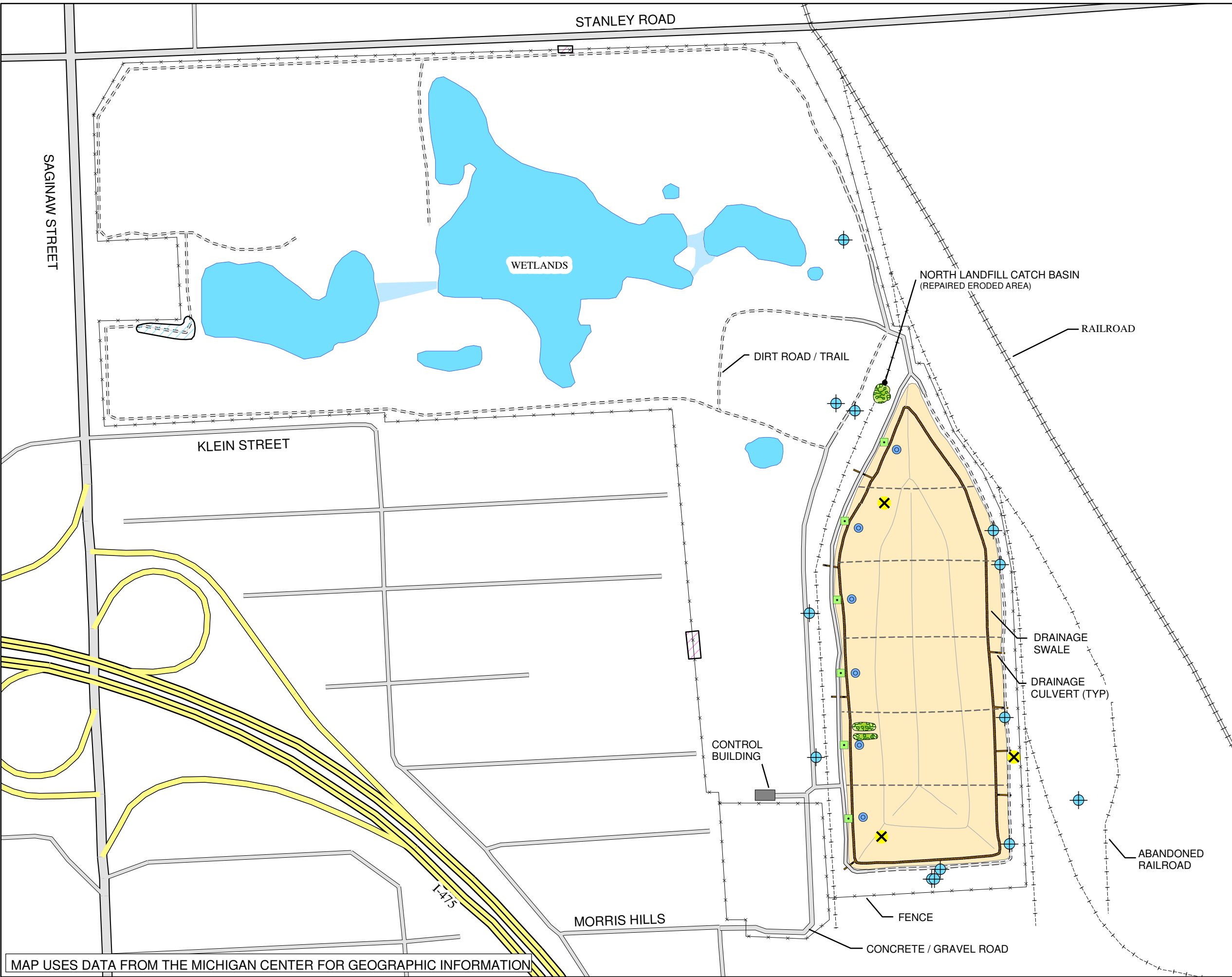
FEBRUARY 2007  
4966/39196-010



MAP USES DATA FROM THE MICHIGAN CENTER FOR GEOGRAPHIC INFORMATION

I078\PROJECTS\4966\39196\O&M 2009\MXDS\013.MXD

PLOT DATE: 2/24/2010 jmc










MAP USES DATA FROM THE MICHIGAN CENTER FOR GEOGRAPHIC INFORMATION

FIGURE 3

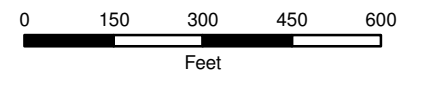


**LEGEND**

-  LEACHATE COLLECTION SUMP
-  ACCESS PORT FOR LEAK DETECTION VAULT
-  MONITORING WELL LOCATION
-  FENCE REPAIR
-  FLOODED CATCH BASIN
-  WASHOUT REPAIR
-  ANIMAL BURROW LOCATION

REALM  
COLDWATER ROAD  
LANDFILL FACILITY  
FLINT, MICHIGAN

**2009  
INCIDENT LOCATION  
MAP**



FEBRUARY 2010  
4966/39196-013



# **ATTACHMENT A**

## **Inspection Logs**

**Quarterly Post Closure Inspection Log Sheet**  
**Coldwater Road Landfill Site – Operations and Maintenance**  
**Flint, Michigan**  
**Project No. 39196**

Inspector's Name/Title Marianne Secrest / Operations Supervisor

Inspector's Signature/Date/Time *M. Secrest* / 3/17/09 / 10:00

**Cap and Berm**

Inspect the landfill cap and berms for burrowing animals, soil erosion, slope failures, ponding, washouts, and liner damage/exposure. Indicate the presence or absence of each item. Note identified issues on an attached drawing.

Area of Inspection	Animal Burrows?	Soil Erosion	Slope Failures?	Ponding?	Washouts?	Liner damage or exposure?	If yes to any, describe issue, location, and actions taken
Cell A	YES	NO	N	N	N	N	TRAP SET ON 3/17/09
Cell B	NO	NO	NO	NO	NO	NO	
Cell C	NO	NO	NO	NO	NO	NO	
Cell D	NO	NO	NO	NO	NO	NO	
Cell E	NO	NO	NO	NO	YES	NO	SMALL AREAS OF OLD WASHOUTS.
Cell F	NO	NO	NO	NO	NO	NO	
Berms	NO	NO	NO	NO	NO	NO	

**Woody Plant Removal Activities**

Summarize quarterly activities:

Quarterly cap inspection completed on 3/17/09. A total of 18 trees were removed at the north.

**Leachate Tank Storage**

Inspect for evidence of leakage, and presence of drums, sandbags, shovels at each leachate tank storage location.

**Tank**

- Cracks or holes observed in tank? No  Yes
- Liquid dripping or running from tank? No  Yes
- Staining observed on the tank surface? No  Yes

**Piping**

- Is piping sagging, cracked or punctured? No  Yes
- Liquid dripping or running from piping? No  Yes
- Is the tank discharge valve closed and locked? No  Yes
- Staining observed on the piping surface? No  Yes

**Emergency Response** ✱

- Are drums present in accumulation building? No  Yes
- Are sandbags present in accumulation building? No  Yes
- Are shovels present in accumulation building? No  Yes

✱ SPILL RESPONSE KIT (ABSORBANT MATERIAL, PADS, SOCKS) PRESENT IN ACCUMULATION BUILDING

**Vegetation**

Inspect landfill cap and berm for areas with sparse vegetation, deep-rooted plants and proper height around equipment and access roads. Describe any identified issues and note on an attached drawing. If no issues are found, indicate "none" in the appropriate box.

Cell	Areas with sparse vegetation present?	Deep-rooted plants present?	Areas around building and equipment mowed?	Access roads mowed and in good condition?
A	NO	NO	YES	YES
B	NO	NO	YES	YES
C	NO	NO	YES	YES
D	NO	NO	YES	YES
E	NO	NO	YES	YES
F	NO	NO	YES	YES
Berms	NO	NO	YES	YES

**Access Roads**

Inspect for sufficient gravel and proper drainage. Note identified issues on an attached drawing.

Area	Sufficient gravel present?	Proper drainage present?	If no, describe
Roads located approx. west of landfill	YES.	YES	
Roads located approx. east of landfill	YES	YES	
Roads located approx. north of wetlands	YES	YES	
Roads located approx. south of wetlands	YES	YES	
Roads located approx. west of wetlands	YES	YES	
Roads located approx. east of wetlands	YES	YES.	

**Site Perimeter Fence**

Inspect all perimeter fencing and gates for damage or unauthorized entry, and proper warning signs. Note identified issues on an attached drawing.

Area	Any damage present?	Signs of unauthorized entry?	Broken or damaged locks on gates?	"Trespassing Prohibited" and "Private Property" Signs Posted?
Fences along north property line	PATCHED AREA NEEDS REPAIR.	NO	NO	YES
Fences along south property line	NO	NO	NO	YES
Fences along west property line	CUT BARB WIRE	YES <del>NO</del>	NO	YES
Fences along east property line	NO	NO	NO	YES.

**Leachate Collection System**

Conduct the alarm test and cable test as outlined in Section 4 of the post Closure Care Plan. Inspect the system panel boxes for visible signs of damage.

**Alarm Test**

1. Disconnect the sensor cable.
2. Reconnect the sensor cable. Alarm will reset.

**Cable Test**

1. Wet a short length of cable to activate the alarm by wetting a section of the cable stored in the containment vault.
2. Dry the cable after the test.

Alarm Test		Cable Test	
Did the system show a fault in the cable?	Was the alarm activated?	Was the alarm activated?	Any damage noted to system panel boxes?
YES	YES	YES	NO

**BATTERY Alarm Test**

BATTERY Alarm test to be completed on a yearly basis.

1. Turn the power off.
2. Remove the processor card.
3. Remove the battery jumper.
4. Is the voltage across the terminals is < 3.6 VDC?
5. If yes, replace the battery.

WILL BE COMPLETED @ DURING 2<sup>nd</sup> QUARTER

**Secondary Containment**

Indicate for each cell the presence of liquids, the approximate volume of liquid removed, any obstructions noted in riser pipes, and the presence of end caps on risers. Note that information will be noted during each bi-weekly pumping event and summarized below.

Cell	Liquids present?	Approximate volume of liquid removed (gal.)	Obstructions in riser pipes?	End caps present on risers?
A				
B				
C				
D				
E				
F				

**Remaining Materials Area**

Inspect the soil cover for deep root penetration, burrowing animals, soil erosion, ponding of water and slope failures. Note problems on an attached drawing.

Area of Inspection	Animal Burrows?	Soil Erosion	Slope Failures?	Ponding?	Washouts?	Woody plants present?	If yes to any, describe issue, location, and actions taken
RMA	NO	NO	NO	NO	NO	YES.	WOODY PLANTS NOTED ON FIGURE

**Drainage Inspections**

Inspect the perimeter of the landfill and berm, drainage trenches at the base of the landfill, RMA and wetlands area for potential drainage problems. Check culverts around landfill, western drainage swale and north landfill catch basin for blockage.

Area Inspected	Drainage problem or blockage observed?	Location (note on figure)	Description	Corrective Actions
Perimeter of landfill and berm	NO			
Drainage trenches at base of landfill	YES.	THROUGHOUT SWALE, HEAVY IN @ C, D & F	EDGES OF SWALE HAVE WASHED IN.	
RMA	NO			
Wetlands area	YES.	WEST AREA - CATCH BASIN	FINAL CATCH BASIN NOT DRAINING.	CHANGE ORDER SUBMITTED TO G.M.
Culverts around landfill	<del>NO</del> YES.			
Western drainage swale	NO			
North landfill catch basin	NO			

**Quarterly Post Closure Inspection Log Sheet**  
 Coldwater Road Landfill Site – Operations and Maintenance  
 Flint, Michigan  
 Project No. 41608

Inspector's Name/Title Marianne Secrest / Sr. Operations Supervisor

Inspector's Signature/Date 6/26/09

**Cap and Berm**

Inspect the landfill cap and berms for burrowing animals, soil erosion, slope failures, ponding, washouts, and liner damage/exposure. Indicate the presence or absence of each item. Note identified issues on an attached drawing.

Area of Inspection	Animal Burrows?	Soil Erosion	Slope Failures?	Ponding?	Washouts?	Liner damage or exposure?	If yes to any, describe issue, location, and actions taken
Cell A	NO	NO	NO	NO	NO	NO	
Cell B							
Cell C							
Cell D							
Cell E							
Cell F							
Berms							

**Woody Plant Removal Activities**

Summarize monthly activities:

Quarterly cap inspect completed 6/2 through 6/12. A total of 389 cubes removed.

**Leachate Tank Storage**

Inspect for evidence of leakage, and presence of drums, sandbags, shovels at each leachate tank storage location.

Tank

Cracks or holes observed in tank? No  Yes \_\_\_  
 Liquid dripping or running from tank? No  Yes \_\_\_  
 Staining observed on the tank surface? No  Yes \_\_\_

Piping

Is piping sagging, cracked or punctured? No  Yes \_\_\_  
 Liquid dripping or running from piping? No  Yes \_\_\_  
 Is the tank discharge valve closed and locked? No \_\_\_ Yes   
 Staining observed on the piping surface? No  Yes \_\_\_

Emergency Response

Are drums present in accumulation building? No  Yes \_\_\_  
 Are sandbags present in accumulation building? No  Yes \_\_\_  
 Are shovels present in accumulation building? No \_\_\_ Yes

\* ABSORBANT SPILL KIT  
 PRESENT IN ACCUMULATION BLDG.

**Vegetation**

Inspect landfill cap and berm for areas with sparse vegetation, deep-rooted plants and proper height around equipment and access roads. Describe any identified issues and note on an attached drawing. If no issues are found, indicate "none" in the appropriate box.

Cell	Areas with sparse vegetation present?	Deep-rooted plants present?	Areas around building and equipment mowed?	Access roads mowed and in good condition?
A	N	NO	N	N*
B	N	NO	N	N*
C	NO	NO	N	N*
D	NO	NO	N	N*
E	NO	YES*	N	N*
F	NO	YES*	N	N*
Berms	NO	3 drums mowed & removed.	N/A	N/A
		many woody plants approx 6-12"		* ACCESS ROADS NEED MOWING.

**Access Roads**

Inspect for sufficient gravel and proper drainage. Note identified issues on an attached drawing.

Area	Sufficient gravel present?	Proper drainage present?	If no, describe
Roads located approx. west of landfill	YES.	YES	
Roads located approx. east of landfill	YES.	YES.	
Roads located approx. north of wetlands	YES	YES	
Roads located approx. south of wetlands	YES	YES	
Roads located approx. west of wetlands	NO	NO	ROAD NEAR NW CATCH BASIN UNDER ~6"-1' WATER
Roads located approx. east of wetlands	YES	YES.	

**Site Perimeter Fence**

Inspect all perimeter fencing and gates for damage or unauthorized entry, and proper warning signs. Note identified issues on an attached drawing.

Area	Any damage present?	Signs of unauthorized entry?	Broken or damaged locks on gates?	"Trespassing Prohibited" and "Private Property" Signs Posted?
Fences along north property line	NO	NO	NO	NO
Fences along south property line	NO	NO	NO	NO
Fences along west property line	NO	NO	NO	NO
Fences along east property line	NO	NO	NO	NO
Roads located approx. west of wetlands				
Roads located approx. east of wetlands				

**Leachate Collection System**

Conduct the alarm test and cable test as outlined in Section 4 of the post Closure Care Plan. Inspect the system panel boxes for visible signs of damage.

**Alarm Test**

1. Disconnect the sensor cable.
2. Reconnect the sensor cable. Alarm will reset.

**Cable Test**

1. Wet a short length of cable to activate the alarm by wetting a section of the cable stored in the containment vault.
2. Dry the cable after the test.

Alarm Test		Cable Test	
Did the system show a fault in the cable?	Was the alarm activated?	Was the alarm activated?	Any damage noted to system panel boxes?
yes.	yes.	yes	no

**Battery Alarm Test**

Alarm test to be completed on a yearly basis.

1. Turn the power off.
2. Remove the processor card.
3. Remove the battery jumper.
4. Is the voltage across the terminals is < 3.6 VDC?
5. If yes, replace the battery.

**Secondary Containment**

Indicate for each cell the presence of liquids, the approximate volume of liquid removed, any obstructions noted in riser pipes, and the presence of end caps on risers. Note that information will be noted during each bi-weekly pumping event and summarized below.

Cell	Liquids present?	Approximate volume of liquid removed (gal.)	Obstructions in riser pipes?	End caps present on risers?
A				
B				
C				
D				
E				
F				

**Remaining Materials Area**

Inspect the soil cover for deep root penetration, burrowing animals, soil erosion, ponding of water and slope failures. Note problems on an attached drawing.

Area of Inspection	Animal Burrows?	Soil Erosion	Slope Failures?	Ponding?	Washouts?	Woody plants present?	If yes to any, describe issue, location, and actions taken
RMA	NO	NO	NO	NO	NO	<del>NO</del>	

**Drainage Inspections**

Inspect the perimeter of the landfill and berm, drainage trenches at the base of the landfill, RMA and wetlands area for potential drainage problems. Check culverts around landfill, western drainage swale and north landfill catch basin for blockage.

Area Inspected	Drainage problem or blockage observed?	Location (note on figure)	Description	Corrective Actions
Perimeter of landfill and berm				
Drainage trenches at base of landfill			<del>SOME TREES PRESENT AT VARIOUS AREAS</del>	
RMA				
Wetlands area	YES	NW C.B.	FLOODED AREA	PENDING CHANGE ORDER SUBMITTED GM.
Culverts around landfill				
Western drainage swale				
North landfill catch basin	Y	in railroad area,		*will place rocks around area to reduce erosion

989-277-1083  
517-335-0218  
Bill Upton 8:30 Thursday  
week of 12<sup>th</sup>  
week from Thursday

PROJECTS\4966\30360\DWG\042.DWG

PLT SCALE: 400

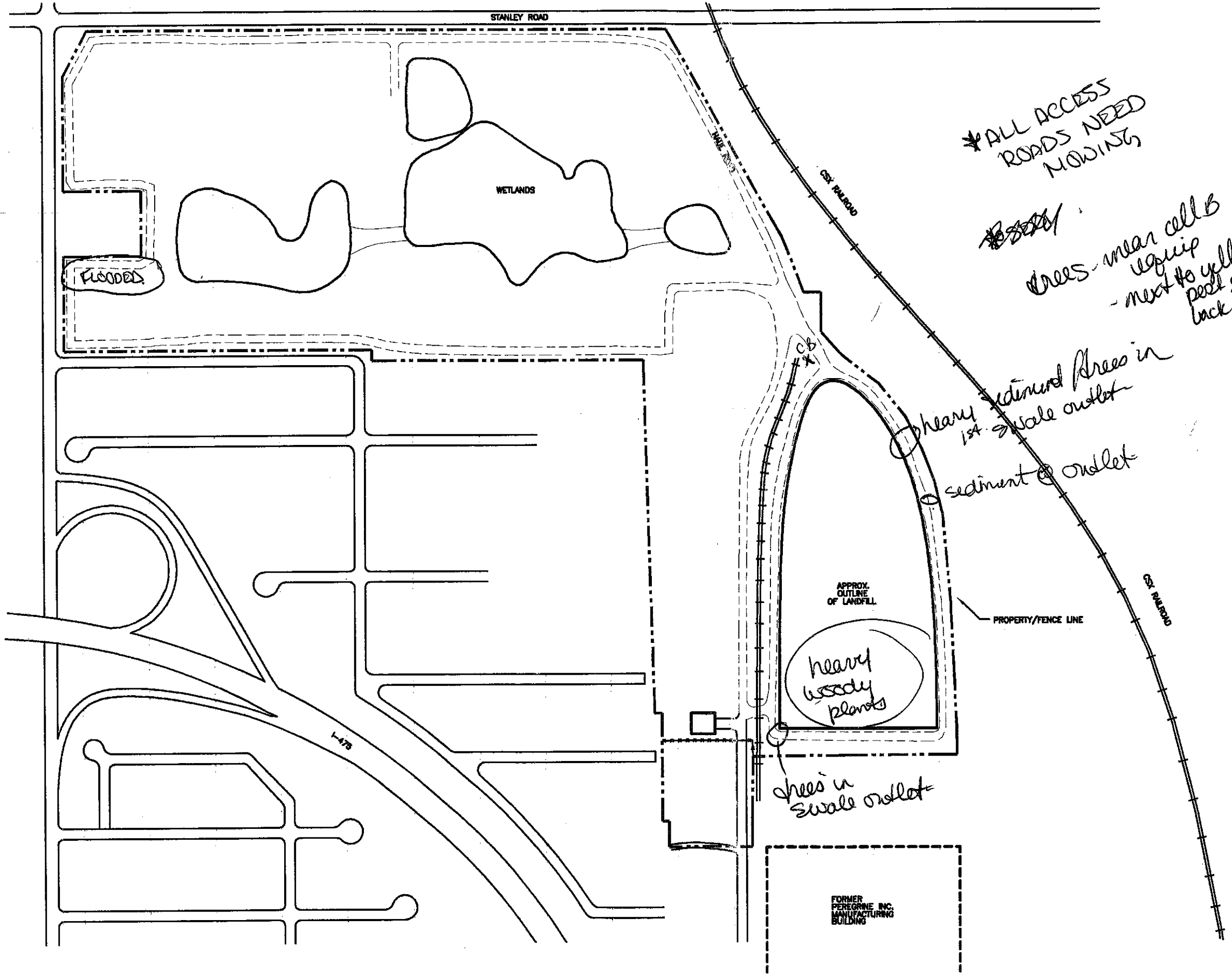


FIGURE 2

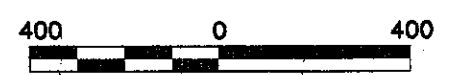


**LEGEND**

- B14 MONITORING WELL LOCATION
- PROPERTY LINE

REALM  
COLDWATER ROAD  
FLINT, MICHIGAN

**PERIMETER/WETLAND  
INSPECTION**



APPROXIMATE SCALE IN FEET  
1"=400'

FILE NO. 4966.30360



**Quarterly Post Closure Inspection Log Sheet**  
 Coldwater Road Landfill Site – Operations and Maintenance  
 Flint, Michigan  
 Project No. 41608

Inspector's Name/Title Marianne Secrest / Ops Supervisor

Inspector's Signature/Date *Marianne Secrest* 9/24/09

**Cap and Berm**

Inspect the landfill cap and berms for burrowing animals, soil erosion, slope failures, ponding, washouts, and liner damage/exposure. Indicate the presence or absence of each item. Note identified issues on an attached drawing.

Area of Inspection	Animal Burrows?	Soil Erosion	Slope Failures?	Ponding?	Washouts?	Liner damage or exposure?	If yes to any, describe issue, location, and actions taken
Cell A	no	no	no	no	no	no	
Cell B	yes	no	no	no	no	no	trap set - no animal caught
Cell C	no	no	no	no	no	no	
Cell D	no	no	no	no	no	no	
Cell E	no	no	no	no	no	no	
Cell F	yes	no	no	no	no	no	trap set - no animal caught.
Berms	no	no	no	no	no	no	

**Woody Plant Removal Activities**

Summarize monthly activities:

Cap inspections performed throughout the quarter.  
A "windshield" inspection indicated that few trees were present on the cap and slopes (only three trees observed and removed).

**Leachate Tank Storage**

Inspect for evidence of leakage, and presence of drums, sandbags, shovels at each leachate tank storage location.

Tank

- Cracks or holes observed in tank? No  Yes \_\_\_
- Liquid dripping or running from tank? No  Yes \_\_\_
- Staining observed on the tank surface? No  Yes \_\_\_

Piping

- Is piping sagging, cracked or punctured? No  Yes \_\_\_
- Liquid dripping or running from piping? No  Yes \_\_\_
- Is the tank discharge valve closed and locked? No  Yes \_\_\_
- Staining observed on the piping surface? No  Yes \_\_\_

Emergency Response

- Are drums present in accumulation building? No  Yes \_\_\_
- Are sandbags present in accumulation building? No  Yes \_\_\_ \*spill response kit is present
- Are shovels present in accumulation building? No \_\_\_ Yes

**Vegetation**

Inspect landfill cap and berm for areas with sparse vegetation, deep-rooted plants and proper height around equipment and access roads. Describe any identified issues and note on an attached drawing. If no issues are found, indicate "none" in the appropriate box.

Cell	Areas with sparse vegetation present?	Deep-rooted plants present?	Areas around building and equipment mowed?	Access roads mowed and in good condition?
A	no	no	yes	yes
B	no	no	yes	yes
C	no	no	yes	yes
D	no	no	yes	yes
E	no	no	yes	yes
F	no	no	yes	yes
Berms	no	no	yes	yes

**Access Roads**

Inspect for sufficient gravel and proper drainage. Note identified issues on an attached drawing.

Area	Sufficient gravel present?	Proper drainage present?	If no, describe
Roads located approx. west of landfill	yes	yes.	
Roads located approx. east of landfill	yes.	yes.	
Roads located approx. north of wetlands	yes	yes.	
Roads located approx. south of wetlands	yes	yes.	
Roads located approx. west of wetlands	yes	yes	
Roads located approx. east of wetlands	yes	yes.	

**Site Perimeter Fence**

Inspect all perimeter fencing and gates for damage or unauthorized entry, and proper warning signs. Note identified issues on an attached drawing.

Area	Any damage present?	Signs of unauthorized entry?	Broken or damaged locks on gates?	"Tresspassing Prohibited" and "Private Property" Signs Posted?
Fences along north property line	no	no	no	yes
Fences along south property line	yes - cut barbed wire	no	no	yes
Fences along west property line	yes - cut barbed <del>wire</del> wire	no	no	yes
Fences along east property line	no	no	no	yes
Roads located approx. west of wetlands				
Roads located approx. east of wetlands				

**Leachate Collection System**

Conduct the alarm test and cable test as outlined in Section 4 of the post Closure Care Plan. Inspect the system panel boxes for visible signs of damage.

Alarm Test

1. Disconnect the sensor cable.
2. Reconnect the sensor cable. Alarm will reset.

Cable Test

1. Wet a short length of cable to activate the alarm by wetting a section of the cable stored in the containment vault.
2. Dry the cable after the test.

Alarm Test		Cable Test	
Did the system show a fault in the cable?	Was the alarm activated?	Was the alarm activated?	Any damage noted to system panel boxes?
		yes	no

Battery Alarm Test

Alarm test to be completed on a yearly basis.

1. Turn the power off.
2. Remove the processor card.
3. Remove the battery jumper.
4. Is the voltage across the terminals is < 3.6 VDC?
5. If yes, replace the battery.

**Secondary Containment**

Indicate for each cell the presence of liquids, the approximate volume of liquid removed, any obstructions noted in riser pipes, and the presence of end caps on risers. Note that information will be noted during each bi-weekly pumping event and summarized below.

Cell	Liquids present?	Approximate volume of liquid removed (gal.)	Obstructions in riser pipes?	End caps present on risers?
A				
B				
C				
D				
E				
F				

**Remaining Materials Area**

Inspect the soil cover for ~~deep root penetration~~, burrowing animals, soil erosion, ponding of water and slope failures. Note problems on an attached drawing.

Area of Inspection	Animal Burrows?	Soil Erosion	Slope Failures?	Ponding?	Washouts?	Woody plants present?	If yes to any, describe issue, location, and actions taken
RMA	no	no	no	no	no	<del>no</del>	

**Drainage Inspections**

Inspect the perimeter of the landfill and berm, drainage trenches at the base of the landfill, RMA and wetlands area for potential drainage problems. Check culverts around landfill, western drainage swale and north landfill catch basin for blockage.

Area Inspected	Drainage problem or blockage observed?	Location (note on figure)	Description	Corrective Actions
Perimeter of landfill and berm	no			
Drainage trenches at base of landfill	<del>yes</del> <sup>ms</sup> no	<del>cells C&amp;F as noted</del> <sup>ms</sup>	<del>culverts 1/2ms full of sediment.</del>	
RMA	no			
Wetlands area	no			
Culverts around landfill	yes	cells C&F as noted	culverts 1/2 soil of sediment	
Western drainage swale	no			
North landfill catch basin	No blockage, but trees around C.B. should be cut down.	adj. to fence		

I:\NEVA\PROJECTS\4966\30360.DWG\042.DWG

PLT SCALE: 400

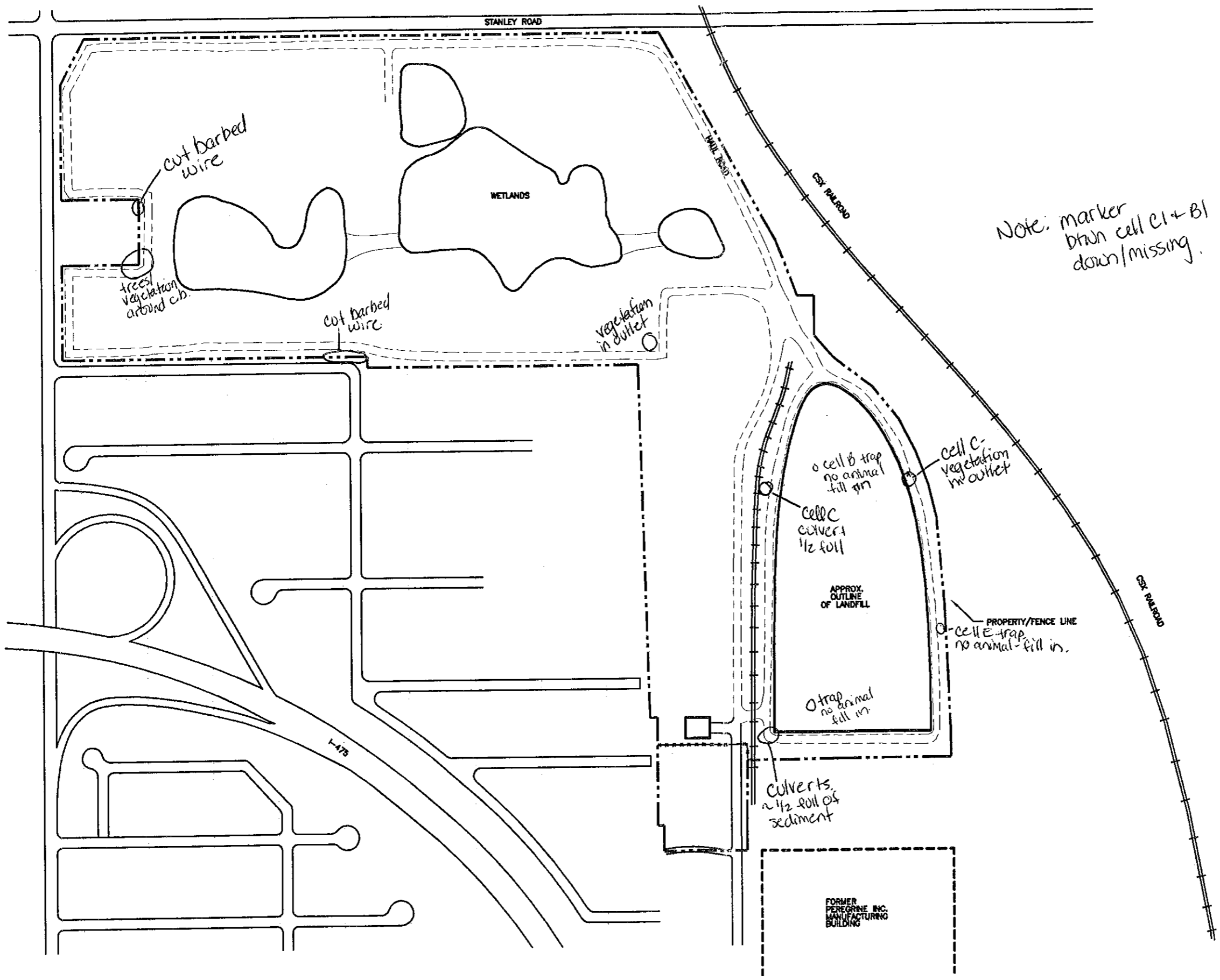




FIGURE 2



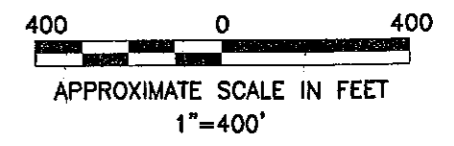
**LEGEND**

-  B14 MONITORING WELL LOCATION
-  PROPERTY LINE

**REALM  
COLDWATER ROAD  
FLINT, MICHIGAN**

**PERIMETER/WETLAND  
INSPECTION**

9/24/09 3<sup>rd</sup> Quarter  
Inspection



FILE NO. 4966.30360



**Quarterly Post Closure Inspection Log Sheet**  
 Coldwater Road Landfill Site – Operations and Maintenance  
 Flint, Michigan  
 Project No. 41608

Inspector's Name/Title Marianne Secest/ Sr. Ops Supervisor

Inspector's Signature/Date *M. Secest* 12/9/09

**Cap and Berm**

Inspect the landfill cap and berms for burrowing animals, soil erosion, slope failures, ponding, washouts, and liner damage/exposure. Indicate the presence or absence of each item. Note identified issues on an attached drawing.

Area of Inspection	Animal Burrows?	Soil Erosion	Slope Failures?	Ponding?	Washouts?	Liner damage or exposure?	If yes to any, describe issue, location, and actions taken
Cell A	N	N	N	N	N	N	
Cell B	N	N	N	N	N	N	
Cell C	N	N	N	N	N	N	
Cell D	N	N	N	N	N	N	
Cell E	N	N	N	N	N	N	
Cell F	N	N	N	N	N	N	
Berms	N	N	N	N	N	N	

**Woody Plant Removal Activities**

Summarize monthly activities:

Quarterly Cap inspection completed in October 2009

---



---



---

**Leachate Tank Storage**

Inspect for evidence of leakage, and presence of drums, sandbags, shovels at each leachate tank storage location.

Tank

- Cracks or holes observed in tank? No  Yes
- Liquid dripping or running from tank? No  Yes
- Staining observed on the tank surface? No  Yes

Piping

- Is piping sagging, cracked or punctured? No  Yes
- Liquid dripping or running from piping? No  Yes
- Is the tank discharge valve closed and locked? No  Yes
- Staining observed on the piping surface? No  Yes

Emergency Response

- Are drums present in accumulation building? No  Yes
- Are sandbags present in accumulation building? No  Yes  *\*Spill kit present*
- Are shovels present in accumulation building? No  Yes

Vegetation

Inspect landfill cap and berm for areas with sparse vegetation, deep-rooted plants and proper height around equipment and access roads. Describe any identified issues and note on an attached drawing. If no issues are found, indicate "none" in the appropriate box.

Cell	Areas with sparse vegetation present?	Deep-rooted plants present?	Areas around building and equipment mowed?	Access roads mowed and in good condition?
A	Snow ↓	None	Snow covered	Snow
B		None	Snow covered	Snow
C		None	Snow covered	Snow
D		None	Snow covered	Snow
E		None	Snow covered	Snow
F		None	Snow covered	Snow
rms		None	Snow covered	Snow

**Access Roads**

Inspect for sufficient gravel and proper drainage. Note identified issues on an attached drawing.

Area	Sufficient gravel present?	Proper drainage present?	If no, describe
Roads located approx. west of landfill	Snow covered		
Roads located approx. east of landfill	↓		
Roads located approx. north of wetlands			
Roads located approx. south of wetlands			
Roads located approx. west of wetlands			
Roads located approx. east of wetlands			

**Site Perimeter Fence**

Inspect all perimeter fencing and gates for damage or unauthorized entry, and proper warning signs. Note identified issues on an attached drawing.

Area	Any damage present?	Signs of unauthorized entry?	Broken or damaged locks on gates?	"Trespassing Prohibited" and "Private Property" Signs Posted?
Fences along north property line	no	no	no	yes
Fences along south property line	no	no	no	yes
Fences along west property line	no	no	no	yes
Fences along east property line	no	no	no	yes
Roads located approx. west of wetlands	no	no	no	yes
Roads located approx. east of wetlands	no	no	no	yes

**Leachate Collection System**

Conduct the alarm test, cable test, and battery tests as outlined in Section 4 of the post Closure Care Plan. Inspect the system panel boxes for visible signs of damage.

**Alarm Test**

1. Disconnect the sensor cable.
2. Reconnect the sensor cable. Alarm will reset.

**Cable Test**

1. Wet a short length of cable to activate the alarm by wetting a section of the cable stored in the pull ports.
2. Dry the cable after the test.

**Battery Test**

1. Turn the power off
2. Remove the processor card
3. Remove the battery jumper
4. If the voltage across the terminals is <3.6 VDC, replace the battery.

Repeat each test for each cell.

Cell	Alarm Test		Cable Test	Battery Test
	Did the system show a fault in the cable?	Was the alarm activated?	Was the alarm activated?	Was the voltage across the terminal <3.6 VDC?
A	yes	yes	yes	no
B	/	/	/	/
C	/	/	/	/
D	/	/	/	/
E	/	/	/	/
F	/	/	/	/
G	/	/	/	/

**Secondary Containment**

Check the sumps for the presence of liquids by extending pumps down the riser pipes. Check for presence of end caps on risers when pumping is complete.

Cell	Liquids present?	Approximate volume of liquid removed (gal.)	Obstructions in riser pipes?	End caps present on risers?
A	yes	See <del>table</del> monthly	no	yes
B	yes		no	yes
C	yes		no	yes
D	yes		no	yes
E	yes		no	yes
F	yes		no	yes
GA				

**Remaining Materials Area**

Inspect the soil cover for deep root penetration, burrowing animals, soil erosion, ponding of water and slope failures. Note problems on an attached drawing.

Area of Inspection	Animal Burrows?	Soil Erosion	Slope Failures?	Ponding?	Washouts?	Woody plants present?	If yes to any, describe issue, location, and actions taken
RMA	no	no	no	no	no	no	

**Drainage Inspections**

Inspect the perimeter of the landfill and berm, drainage trenches at the base of the landfill, RMA and wetlands area for potential drainage problems. Check culverts around landfill, western drainage swale and north landfill catch basin for blockage.

Area Inspected	Drainage problem or blockage observed?	Location (note on figure)	Description	Corrective Actions
Perimeter of landfill and berm	snow covered			
Drainage trenches at base of landfill	↓			
RMA				
Wetlands area				
Culverts around landfill				
Western drainage swale				
North landfill catch basin				