Engineering Department

LOCKPORT MUNICIPAL BUILDING
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To:

Brian Sadowski
New York State Department of Enviornmental Conservation
Division of Enviornmental Remediation] Region 9 Michigan Ave Buffalo, NY 14203-2999

Date: January 20, 2014
Job No.
Re: Landfill
From: Norman Allen

Enclosed Are:

Number of Copies	Drawing Number	Description
1		Landfill PRR revised

Please take action as indicated below:

____ Note and File	____ Please Reply Promptly
	X
____ Note and Return to Me	____ Take Appropriate Action

Lockport City Landfill

NYS DEC Site No. 932010

Periodic Review Report (PRR)

Resubmitted January 20, 2014

By

Norman D. Allen

Director of Engineering / Public Works

City of Lockport Engineering Department

Introduction

The Lockport City Landfill is a 30 acre site that was used to dispose municipal as well as industrial waste. From the early 1950s until 1976 it received sewage sludge, wood starch contaminated with peroxide waste, keto and oxylite waste, steel barrels, plastics, glass, cardboard and waste paper. This report will measure the success the City of Lockport has experienced in meeting the goals and objectives as listed in the Record of Decision prepared by the NYS DEC dated November 1992.

Site Overview

The Lockport City Landfill is actually two fill sites separated by the Somerset Railroad. Located at the western end of Oakhurst Street, it is bordered by the Gulf (a Class D stream) to the west and north, by Sutliff Rotary Park and Railroad Street on the east and by the City Highway Garage on the South. Site topography is irregular, with the eastern and southern portion relatively flat, the western portion having a steep slope down to the Gulf and the northern portion sloping gradually downward to a 3 acre wetland. A 36 inch concrete pipe, installed to drain a spring near Oakhurst Street has an outfall near the Gulf in the southwestern portion of the site. An 18inch sanitary sewer runs adjacent to the landfill in the Gulf. Please refer to figure one for reference. Following is the Administrative Record:

- Phase 1 Summary Report, prepared by Recra Research, November 1983
- Phase 11 Investigation, prepared by Recra Research, August 1985
- Consent Order between NYS and the City of Lockport, executed on May 15, 1989
- State Assistance Contract between NYS and the City of Lockport, executed in December 1989
- Citizen Participation Plan, October 1989
- Remedial Investigation/Feasibility Study (RI/FS) Work plans, prepared by URS Consultants, November 1989
- Project Management Work Plan, prepared by URS Consultants, January 1990
- Scope of Work for the Second Phase RI, prepared by URS Consultants, January 1991
- Remedial Investigation Report, prepared by URS Consultants, April 1992
- Feasibility Study Report, prepared by URS Consultants, July 1992
- Lockport City Landfill RI/FS Correspondence File
- Detailed Analysis of Remedial Alternatives, prepared by NYSDEC, July 1992
- Responsiveness Summary to Comments Received During Public Comment Period, prepared by NYSDEC, November 1992
- Lockport City Landfill, Record of Decision, prepared by NYS DEC, November 1992
- Remedial Action Design, O & M and Contingency Plan prepared by URS Consultants, March 1994
- Remedial Action Design, Long Term Monitoring Program prepared by URS Consultants, March 1994
- Construction Monitoring Report, prepared by URS Consultants, November 1995

Selected Remediation

As stated in the Record of Decision the following remedy was implemented:

- Installation of a Part 360 cap over all areas of fill except the steep embankment. It included a gas venting layer, a low permeability layer, a barrier protection layer and a topsoil layer.
- The waste along the steep embankment at the western edge of the site was excavated and placed under the cap.

- A long term monitoring program to evaluate the effectiveness of the remedial program.
- Regular inspection/repair of the cap to insure that the integrity is maintained.
- Yearly ground water sampling by an environmental consultant and lab analysis by a certified by a NYSDOH Environmental Laboratory Approval Program laboratory. The 2013 Sampling and Analysis Plan dated December 2013 performed by GHD Consulting Services is on file at the City of Lockport's Engineering Department and has been approved by the NYSDEC Buffalo office.
- Deed restrictions on future land use.

Goals of the Remediation

- Prevent direct contact with on-site contaminated soil/fill.
- Reduce erosion of on-site contaminated soil/fill into the Gulf Creek.
- Reduce infiltration through the landfill; this will in term reduce migration of contaminates in the groundwater and surface water.

Remedy Performance, Effectiveness and Protectiveness

Below are the Analytical Results of ground water sampling reproduced from the Sampling and Analysis Plans prepared by URS Consultants and GHD Consulting Engineers:

Monitoring Well MW-3S

Volatile Compounds	Units	Action Level	6/97	11/97	9/98	9/99	9/00	9/01	10/02	12/03	10/04	10/05	10/06	10/07	10/08	12/09	10/10
1	UG/L	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
2	UG/L	NS	U	U	U	U	U	U	U	U	U	U	U	4 J	3 J	2 J	4J
3	UG/L	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
4	UG/L	NS	U	U	U	U	U	U	U	U	U	1 J	U	U	U	U	3J
5	UG/L	NS	U	U	U	U	U	U	U	U	U	U	6 J	U	U	U	U

Volatile Compounds	Units	Action Level	10/11	10/12	10/13												
1	UG/L	NS	U	U	U												
2	UG/L	NS	3.2J	U	U												
3	UG/L	NS	U	U	U												
4	UG/L	NS	2.8J	U	1.80												
5	UG/L	NS	U	U	U												

Notes: VOC analysis by USEPA CLP SOW OLM04.2
Volatile Compound key 1 = Vinyl Chloride, 2 = 1,2-Dichloroethene (total), 3 = Trichloroethene, 4 = 1,1-Dichloroethane, 5 = Acetone
U = not detected above the quantitation limit J = estimated concentration NS = no standard

Monitoring Well MW-6D

Volatile Compounds	Units	Action Level	6/97	11/97	9/98	9/99	9/00	9/01	10/02	12/03	10/04	10/05	10/06	10/07	10/08	12/09	10/10
1	UG/L	NS	U	U	U	U	U	U	U	U	U	U	U	-	-	-	-
2	UG/L	NS	U	U	U	U	U	U	U	U	U	U	U	-	-	-	-
3	UG/L	NS	U	U	U	U	U	U	U	U	U	U	U	-	-	-	-
4	UG/L	NS	U	U	U	U	U	U	U	U	U	2 J	16	-	-	-	-
5	UG/L	NS	U	U	U	U	U	U	U	U	U	U	1 J	-	-	-	-
6	UG/L	NS	U	U	U	U	U	U	U	U	U	2 J	2 J	-	-	-	-
7	UG/L	NS	U	U	U	U	U	U	U	U	U	U	U	-	-	-	-

Volatile Compounds	Units	Action Level	10/11	10/12	10/13												
1	UG/L	NS	-	-	U												
2	UG/L	NS	-	-	U												
3	UG/L	NS	-	-	U												
4	UG/L	NS	-	-	U												
5	UG/L	NS	-	-	U												
6	UG/L	NS	-	-	U												
7	UG/L	NS	-	-	U												

Notes: VOC analysis by USEPA CLP SOW OLM04.2
Volatile Compound key 1 = Vinyl Chloride, 2 = 1,2-Dichloroethene (total), 3 = Trichloroethene, 4 = Acetone, 5 = 2- Butanone, 6 = Toluene, 7 = Xylene (total)
U = not detected above the quantitation limit J = estimated concentration NS = no standard
October 2007, October 2008, October 2009, October 2010 & October 2011 not sampled due to dry conditions, no groundwater available

Monitoring Well MW-8D

Volatile Compounds	Units	Action Level	6/97	11/97	9/98	9/99	9/00	9/01	10/02	12/03	10/04	10/05	10/06	10/07	10/08	12/09	10/10
1	UG/L	162	U	U	U	U	U	7	33	6	4 J	U	U	U	U	U	U
2	UG/L	1580	100	90	110	18	25	41	120	7	28	27 J	40	U	U	U	U
3	UG/L	260	2.4	4	5	2	2	2	U	U	U	U	1 J	1 J	U	U	U
4	UG/L	NS	-	-	-	-	-	-	-	-	-	-	-	32	34	26	23

Volatile Compounds	Units	Action Level	10/11	10/12	10/13												
1	UG/L	162	U	11	11												
2	UG/L	1580	U	U	U												
3	UG/L	260	3.2J	U	U												
4	UG/L	NS	24	65	26												

Notes: VOC analysis by USEPA CLP SOW OLM04.2
Volatile Compound key 1 = Vinyl Chloride, 2 = 1,2-Dichloroethene (total), 3 = Trichloroethene, 4=cis-1,2-Dichloroethene
U = not detected above the quantitation limit J = estimated concentration NS = no standard

Monitoring Well MW-9S

Volatile Compounds	Units	Action Level	6/97	11/97	9/98	9/99	9/00	9/01	10/02	12/03	10/04	10/05	10/06	10/07	10/08	12/09	10/10
1	UG/L	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
2	UG/L	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
3	UG/L	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U

Volatile Compounds	Units	Action Level	10/11	10/12	10/13												
1	UG/L	NS	U	U	U												
2	UG/L	NS	U	U	U												
3	UG/L	NS	U	U	U												

Notes: VOC analysis by USEPA CLP SOW OLM04.2
Volatile Compound key 1 = Vinyl Chloride, 2 = 1,2-Dichloroethene (total), 3 = Trichloroethene,
U = not detected above the quantitation limit J = estimated concentration NS = no standard

Monitoring Well MW-9I

Volatile Compounds	Units	Action Level	6/97	11/97	9/98	9/99	9/00	9/01	10/02	12/03	10/04	10/05	10/06	10/07	10/08	12/09	10/10
1	UG/L	24	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
2	UG/L	42	8.4	6	6	5	4 J	4 J	4 J	4 J	3 J	3 J	2 J	U	U	U	U
3	UG/L	NS	1.6	2	2	1 J	1 J	1 J	1 J	U	U	U	U	U	U	U	U
4	UG/L	NS	-	-	-	-	-	-	-	-	-	-	-	3J	2J	U	2J

Volatile Compounds	Units	Action Level	10/11	10/12	10/13												
1	UG/L	24	U	U	U												
2	UG/L	42	U	U	U												
3	UG/L	NS	U	U	U												
4	UG/L	NS	U	U	1.29												

Notes: VOC analysis by USEPA CLP SOW OLM04.2
Volatile Compound key 1 = Vinyl Chloride, 2 = 1,2-Dichloroethene (total), 3 = Trichloroethene, 4=cis-1,2-Dichloroethene
U = not detected above the quantitation limit J = estimated concentration NS = no standard

Outfall L-2

Volatile Compounds	Units	Action Level	6/97	11/97	9/98	9/99	9/00	9/01	10/02	12/03	10/04	10/05	10/06	10/07	10/08	12/09	10/10
1	UG/L	94	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
2	UG/L	280	U	2	U	U	U	U	U	U	U	U	U	U	U	U	U
3	UG/L	NS	U	3	U	U	U	U	U	U	U	U	U	U	U	U	U
4	UG/L	NS	U	U	U	U	U	U	U	U	U	2 J	U	U	U	U	U
5	UG/L	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U

Volatile Compounds	Units	Action Level	10/11	10/12	10/13												
1	UG/L	94	U	U	U												
2	UG/L	280	U	U	U												
3	UG/L	NS	U	U	U												
4	UG/L	NS	U	U	U												
5	UG/L	NS	U	U	U												

Notes: VOC analysis by USEPA CLP SOW OLM04.2
Volatile Compound key 1 = Vinyl Chloride, 2 = 1,2-Dichloroethene (total), 3 = Trichloroethene, 4 = Acetone,
5 = Chlorobenzene
U = not detected above the quantitation limit J = estimated concentration NS = no standard

The reporting of volatile organic analytical test results for Monitoring Wells MW-8D and MW9I have been revised for years 2007 to the present. Prior to this date 1,2-dichloroethene (total) was reported as the sum of the detected concentrations of cis-1,2-dichloroethene and trans-1,2 dichloroethene. This 2013 report has revised years 2007 to the present to show detected concentrations of cis-1,2-dichloroethene and not reported as concentrations of 1,2-dichloroethene (total).

In addition to the yearly sampling a visual inspection of the cap has taken place in the spring and fall of each year. The City of Lockport's Engineering Department performs the spring inspection and the fall inspection is hired out to a consultant who also performs the water sampling at the same time. URS Consultants performed the work the first ten years and GHD Consulting Services (formerly known as Stearns & Wheler) are currently under contract for years sixteen through twenty.

Since construction of the cap there have been no significant failures or releases of contamination to the environment. The City of Lockport has continually reacted to and repaired all minor defects or acts of vandalism. They usually range from damage to the vent pipes from mowing operations to minor sloughing off of the cap near the edge of the steep embankment. Tree saplings are removed each year as well as mowing and the application of an environmentally approved herbicide to control vegetation.

In October of 2013 repairs to a collapsed sanitary sewer along the Gulf Stream necessitated the construction of an access road across the landfill. The access road will be left in place. Some rutting of the cap occurred. The ruts were repaired without any release of contamination to the environment.

A record of all inspections and corrective measures is kept on file at the City's Engineering Department.

Recommendations

In summary all goals of the remedy are being met and no change to the inspections, monitoring or reporting should be implemented.

Revisions to the 1/13/14 Submission

1) Revised the analytical result for Monitoring Well 6D to Undetected for both Acetone and Toluene.
2) Revised the analytical result for Monitoring Well 9I to 1.29 UG/L cis-1,2-Dichloroethene

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Site Management Periodic Review Report Notice

Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **932010**

Site Name Lockport City Landfill

Site Address: Oakhurst Road Zip Code: 14094
City/Town: Lockport
County: Niagara
Site Acreage: 23.4

Reporting Period: January 15, 2013 to January 15, 2014

	YES	NO
1. Is the information above correct?	☑	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☑
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☑
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☑
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☑

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Closed Landfill	☑	☐
7. Are all ICs/ECs in place and functioning as designed?	☑	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

1-13-14
Date

SITE NO. 932010

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
108.00-1-14	City of Lockport	Monitoring Plan O&M Plan Landuse Restriction

In accordance with the December 1992 Record of Decision (ROD) and the Declaration of Covenants and Restrictions filed with the Niagara County Clerk's Office on February 3, 2010, the following controls are in place at the site and must be certified periodically: (1) a Part 360 type clay cap to eliminate direct contact and reduce the amount of leachate being generated; (2) a long-term monitoring program to evaluate the effectiveness of the remedial action by sampling groundwater and leachate; and (3) an operation and maintenance program that includes regular cap inspection and repair.

108.15-1-1	City of Lockport	Landuse Restriction Monitoring Plan O&M Plan

In accordance with the December 1992 Record of Decision (ROD) and the Declaration of Covenants and Restrictions filed with the Niagara County Clerk's Office on February 3, 2010, the following controls are in place at the site and must be certified periodically: (1) a Part 360 type clay cap to eliminate direct contact and reduce the amount of leachate being generated; (2) a long-term monitoring program to evaluate the effectiveness of the remedial action by sampling groundwater and leachate; and (3) an operation and maintenance program that includes regular cap inspection and repair.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
108.00-1-14	Cover System Fencing/Access Control
108.15-1-1	Cover System Fencing/Access Control

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☑	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☑	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Thomas D. Alle — Signature of Owner, Remedial Party or Designated Representative

1-13-14 — Date

IC CERTIFICATIONS
SITE NO. 932010

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Norman D. Allen at One Lock Plaza, Lockport, NY 14094,
print name print business address

am certifying as Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

N. D. All 1-13-14
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification — Date

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Norm D. Allen (print name) at One Locks Plaza Lockport, NY 14094 (print business address),

am certifying as a Qualified Environmental Professional for the City of Lockport, Owner (Owner or Remedial Party)

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	Date
Norm D. Allen		1-13-14