ARCADIS Design & Consultancy for natural and built assets

Payson Long
New York State Department of Environmental Conservation (NYSDEC)
Division of Environmental Remediation
Bureau of Program Management
625 Broadway, 12th Floor
Albany, NY 12233-7012

Arcadis CE, Inc.
855 Route 146
Suite 210
Clifton Park
New York 12065
Tel 518 250 7300
Fax 518 250 7301
www.arcadis.com

Subject:
2018 Landfill Inspection
Fort Edward Landfill
NYSDEC Site No. 558001
Contract No. D007618-39

Date:
January 7, 2019

Contact:
Andy Vitolins

Phone:
518.250.7300

Email:
andy.vitolins@arcadis.com

Our ref:
00266434.0000

Dear Mr. Long:

Arcadis CE, Inc. (Arcadis) has prepared this letter report to summarize the annual landfill inspection completed on November 26, 2018 at the above-referenced site. The inspection form and accompanying site photograph log are included as Attachment A. In accordance with the Site Management Plan, the following items were assessed during the inspection:

A. Landfill Cap and Closure Turf

- Erosion or damage such as exposed geomembrane;
- Unwanted vegetation; and
- Settlement or low spots in cap system.

B. Site Drainage System

- Erosion or damage to swales;
- Obstructions or sedimentation in swales;
- Evidence of ponded water.

C. Monitoring Wells

- Damage to protective casings;
- Erosion of soils in the immediate area of the casings;
- Security of casing – locks;

- Damage to well seals.

As detailed in the inspection form and shown in the photograph log, the following areas of concern were noted:

- A section of the Southern boundary fence was leaning at the access gate to monitoring well MW-9. The access gate will need to be repaired to ensure the site is secured.
- Ponding water was observed in the Southern mid-cap swale. Minor regrading may help to restore drainage in that portion of the swale.
- The drainage swale adjacent to extraction well EW-4 has one loose section of riprap gabion mesh. The mesh will be secured in spring 2019 as part of routine operation and maintenance.

All other areas of the landfill appeared to be in acceptable condition.

If you have any questions, please do not hesitate to contact me or Jeremy Wyckoff.

Sincerely,

Arcadis CE, Inc.

Andy Vitolins, P.G.
Associate Vice President

Copies:
Jeremy Wyckoff, Arcadis
File

Enclosures:
Attachment
A Landfill Inspection form and photo log

FORT EDWARD LANDFILL
NYSDEC SITE 558001
POST CLOSURE INSPECTION FORM

Date: 11/26/2017
Weather: Cloudy at 36 F

Checklist

A. Capped Area

Capped area will be inspected by traversing the cover and examining for the following items:

		No	Yes
1.	Is there bare, dead or damaged grassed area?	✓	
2.	Is there evidence of cracks or subsidence?	✓	
3.	Is there evidence of burrowing by animals?	✓	
4.	Is there any deep-rooted vegetation present?	✓	
5.	Is there any erosion damage to grassed areas?	✓	
6.	Is there any low spots or settlement in cap system?	✓	

Comments: *(Required for each Yes answer)*

B. Site Drainage System

The drainage system will be inspected by traversing the full length of the system and examining for the following:

		No	Yes
1.	Is there any erosion damage to swales?	✓	
2.	Is there any debris in swales?	✓	
3.	Sediment in swales, ditches or culverts?	✓	
4.	Evidence of ponding water?		✓

Comments: *(Required for each Yes answer)*
Drainage swale adjacent to EW-4 has one loose section of riprap gabion mesh. Ponding water was observed in the Southern mid-cap swale.

C. Monitoring Wells

Monitoring wells will be inspected for the following:

		No	Yes
1.	Is there any damage to the lock or locking cap?	✓	___
2.	Is there any evidence of erosion of soils in the immediate area around the well casing?	✓	___
3.	Is there any damage to the protective casing?	✓	___
4.	Is concrete collar (well seal) cracked or settled?	✓	___

Comments: (*Required for each Yes answer*)

D. Gas Vents

Gas vents will be inspected for the following:

		No	Yes
1.	Is there any damage to the risers?	✓	___
2.	Are any insert screens broken or missing?	✓	___

Comments: (*Required for each Yes answer*)

E. Landfill Gas Migration

On-site air quality will be checked using instruments capable of detecting combustible and toxic gases.

	GV-1	GV-2	GV-3	GV-4	GV-5	GV-6	GV-7
CH_4 (%)	8.4%	1.0%	39.8%	40.7%	41.8%	47.2%	42.8%
CO_2 (%)	0.8%	3.2%	33.3%	34.7%	35.8%	34.2%	32.7%
O_2 (%)	8.4%	17.7%	8.8%	6.6%	11.0%	10.3%	8.9%

Description of Monitoring Results:
Air monitoring results showed landfill gas contains low to moderate levels of methane. Air monitoring will be conducted again in Spring of 2019 to actively monitor methane production.

F. Access Road

Site access road will be inspected by examining the following items:

		No	Yes
1.	Is there any surface erosion to the site access road?	✓	___

Comments: (*Required for each Yes answer*)

G. Leachate Collection System

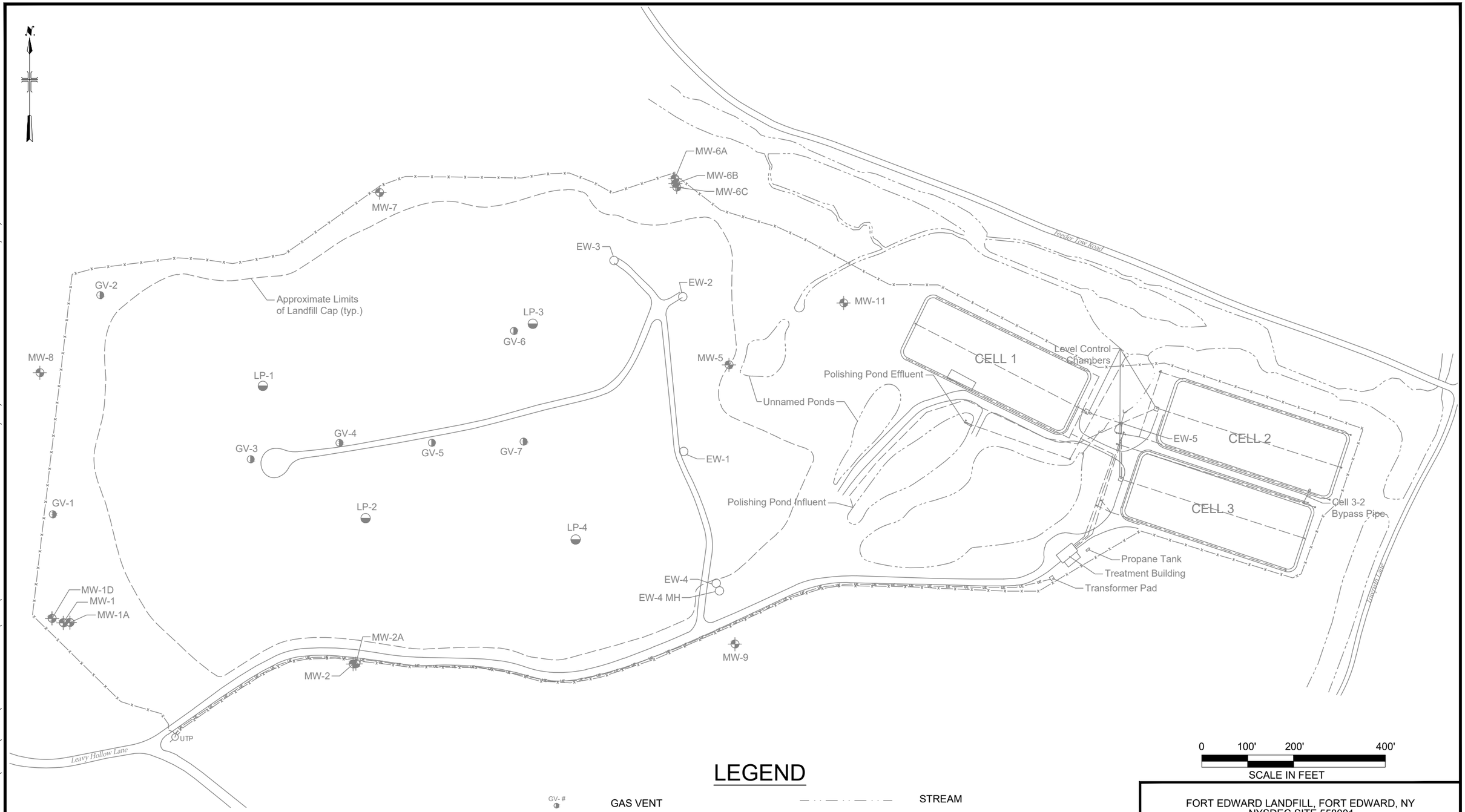
Leachate system and associated systems with the landfill will be inspected:

		No	Yes
1.	Any damage to the primary leachate piping and collection vault?	✓	___
2.	Any damage to and leakage in the leachate collection MH's?	✓	___
3.	Any damage to the leachate forcemain piping?	✓	___
4.	Are there any problems with the operation of the French Drain system?	✓	___
5.	Any damage to and leakage in the cleanouts?	✓	___
6.	Are there any problems with the operation of the Extraction Well pumps?	✓	___

Comments: (*Required for each Yes answer*)

Inspector: Jasmine Mullins

Date: November 26, 2018



LEGEND

GV-#	GAS VENT
MW-#	MONITORING WELL
LP-#	PIEZOMETER
UTP	UTILITY POLE
	EXTRACTION WELL
	STREAM
	ROAD
	EDGE OF POND
	UNDERGROUND TREATMENT PIPING
UE	UNDERGROUND ELECTRIC
	FENCE

0 100' 200' 400'

SCALE IN FEET

MAP BASED ON SURVEY PERFORMED BY DARRAH LAND SURVEYING, PLLC, APRIL 2017.
AND ORTHOIMAGERY FROM NYS ORTHOIMAGERY APPLICATION ONLINE DATED 2013.

FORT EDWARD LANDFILL, FORT EDWARD, NY
NYSDEC SITE 558001

SITE MAP

ARCADIS | **FIGURE 2**

USER: HAUSMANN FILENAME: G:\ACAD\PROJ\00266434.0000\RSO\FIG2-SITE MAP.DWG SAVE DATE: 1/29/2018 11:20 AM PLOT DATE: 1/31/2018 2:51 PM

Project Photographs

Fort Edward Remedial System Optimization
00266434.0000

Photo: 1

Date:
November 26, 2018

Description:
Gas Vent GV-1

Location:
North of MW-1 Cluster

Photo: 2

Date:
November 26, 2018

Description:
Gas Vent GV-2

Location:
Gas Vent GV-2

Project Photographs

Fort Edward Remedial System Optimization
00266434.0000

Photo: 3

Date:
November 26, 2018

Description:
Western toe of slope and swale

Location:
Western swale

Photo: 4

Date:
November 26, 2018

Description:
Loose riprap wire cover

Location:
Southeast drainage swale

Project Photographs

Fort Edward Remedial System Optimization
00266434.0000

Photo: 5

Date:
November 26, 2018

Description:
Eastern mid-cap slope

Location:
North of EW-4

Photo: 6

Date:
November 26, 2018

Description:
Phragmites in Southern swale

Location:
Southern swale

Project Photographs

Fort Edward Remedial System Optimization
00266434.0000

Photo: 7

Date:
November 26, 2018

Description:
View of active landfill cap drains

Location:
South of Piezometer LP-2

Photo: 8

Date:
November 26, 2018

Description:
Southern mid-cap swale

Location:
South of Piezometer LP-2

Project Photographs

Fort Edward Remedial System Optimization
00266434.0000

Photo: 9

Date:
November 26, 2018

Description:
Gas Vent GV-3

Location:
Gas Vent GV-3

Photo: 10

Date:
November 26, 2018

Description:
Top of Landfill facing North

Location:
Top of Landfill

Project Photographs

Fort Edward Remedial System Optimization
00266434.0000

Photo: 11

Date:
November 26, 2018

Description:
View of leaning southern boundary access gate

Location:
North of MW-9

Photo: 12

Date:
November 26, 2018

Description:
Eastern mid-cap swale

Location:
Eastern mid-cap swale

Project Photographs

Fort Edward Remedial System Optimization
00266434.0000

Photo: 13

Date:
November 26, 2018

Description:
View of extraction well EW-4

Location:
Extraction well EW-4