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November 14, 2017
File No. 25216022.00

Mr. Jason Lowery
Wisconsin Department of Natural Resources
101 S. Webster St.
P.O. Box 7921
Madison, WI 53707-7921

Subject: Semiannual Facility Inspection Report
Stoughton City Landfill
FID #113005950 – License #133
USEPA ID #WID980901219
WDNR Purchase Order #37000-0000000548

Dear Mr. Lowery:

This letter provides the semiannual facility inspection report information for the Stoughton City Landfill site. We have included two copies for you and an electronic copy on a compact disk. One copy has been mailed to the U.S. Environmental Protection Agency (USEPA).

SCS Engineers (SCS) performed the gas probes monitoring on June 16, August 16, and October 27, 2017. SCS performed the semiannual facility inspection at the site on October 27, 2017. The semiannual facility inspection reports are included in **Attachment B**. The following inspection items were noted:

Bimonthly Gas Monitoring – The bimonthly monitoring of the three perimeter gas probes was conducted on June 16, August 16, and October 27, 2017. All gas probes except for GMP-1 had methane readings of 0.0 percent. On October 27, GMP-1 had a methane reading of 0.4 percent which is 8 percent of the lower explosive limit (LEL) of 5 percent as methane. Based on the monitoring results from these three events, it does not appear that high concentration landfill gas, exceeding the LEL of 5 percent for methane, is migrating to the south of the landfill towards occupied homes. The completed bimonthly gas monitoring report forms are included in **Attachment A**.

Landfill Cover – The quality of the vegetative cover across the landfill was in very good condition. The annual cover mowing of the facility occurred on August 31, 2017. No bare spots, signs of erosion, or sparse vegetation were found (photographs in **Attachment C**). No drainage gullies were apparent on the cover. No rutting was observed as noted in the last semiannual inspection on May 2, 2017. Several small burrow holes were present near MW-2D. The burrow holes appear shallow and there is no evidence that the cap has been compromised.

Storm Water Management System – No visible erosion was found in the drainage channels. The culverts were undamaged. Dense vegetation, including large shrubs, are present near many of the culverts restricting flow. A map depicting these culvert locations is included in **Attachment D**. Best management practices would be to clear this vegetation and debris in front of the culverts to allow for unrestricted storm water flow.

Landfill Gas Venting System – Gas vent eight (GV-8) was inspected and remains in a fixed upright position. No damage was found at any of the remaining gas venting wells, and no stressed vegetation was found near any of the wells. Gas vent well screens were clear. Labels are to be attached to the gas vents for easy identification.

Perimeter Security Fencing – The chain-link fencing on the north and east sides of the site were in good condition. Both access gates are in good condition, and the padlocks operated properly. Signage was present and legible on both access gates. The wooden perimeter fence was in good condition with the exception of one broken slat located on the southwest side of property.

Monitoring Wells and Wellhead Covers – No signs of tampering or damage were found at any of the site monitoring wells. All monitoring wells were properly covered and locked. Identification markings were missing or illegible on some of the monitoring wells. All un-marked monitoring wells should be labeled during the next monitoring event. Three artesian monitoring wells: OW-2, MM-7I, and MW-13I were flowing. Standing water was present around the wells and the casings were corroding. Best management practices would be stop, or greatly reduce, water flowing from the wells by property capping the wells.

Access Road – The site access road was in good condition with no ruts, or erosion noted. The site inspection was conducted during dry conditions so ponding was not detectable; however, no major grading issues were visible.

If you have any questions about this report or any other aspect of the project, please call us at 608-224-2830.

Sincerely,

Eli Sankey
Associate Engineer
SCS ENGINEERS

Leslie A. Busse, PE
Senior Project Manager
SCS ENGINEERS

ES/AV/LAB

cc: Ms. Giang Van Nguyen, USEPA Region V

Enclosures: Attachment A – Bimonthly Gas Monitoring Report Forms
Attachment B – Semiannual Facility Inspection Form
Attachment C – Photograph Log
Attachment D – Culvert Maintenance Locations
CD Containing Electronic Copy of Report

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ATTACHMENT A

Bimonthly Gas Monitoring Report Forms

Gas Probe Monitoring Report
Stoughton City Landfill
Stoughton, Wisconsin

Probe	%LEL (as methane)	% Oxygen	% CO_2	PID (ppm)	Pressure (inches of water)
GMP-1	0.0	20.2	0.2	0.0	+0.01
GMP-2	0.0	19.6	1.2	0.0	-0.02
GMP-3	0.0	19.7	1.4	0.0	0.00

Instruments Used: GEM 5000/HNU

Operator: Paul Grover

Date: June 16, 2017

Weather Conditions:

Barometric Pressure (inches of Hg): 29.70 Temperature (Degrees F): 87°F

Relative Humidity (%): 42 Dewpoint (Degrees F): 61°F Wind: S@9mph

Sky Conditions: Sunny

Ground Conditions:

_____Snow __X__No Snow ____Frozen Ground/Frost

Gas Probe Monitoring Report
Stoughton City Landfill
Stoughton, Wisconsin

Probe	%LEL (as methane)	% Oxygen	% CO_2	PID (ppm)	Pressure (inches of water)
GMP-1	0.0	20.6	0.4	0.0	0.03
GMP-2	0.0	19.9	1.3	0.0	0.00
GMP-3	0.0	20.4	0.8	0.0	0.00

Instruments Used: Gem 5000

Operator: Paul Grover

Date: August 16, 2017

Weather Conditions:

Barometric Pressure (inches of Hg): 29.87 Temperature (Degrees F): 83°F

Relative Humidity (%): 63 Dewpoint (Degrees F): 69°F Wind: ESE@12

Sky Conditions: Partly Sunny

Ground Conditions:

_____Snow __X__No Snow ____Frozen Ground/Frost

Gas Probe Monitoring Report
Stoughton City Landfill
Stoughton, Wisconsin

Probe	%LEL (as methane)	% Oxygen	% CO_2	PID (ppm)	Pressure (inches of water)
GMP-1	8.0	19.9	2.3	0.0	-0.02
GMP-2	0.0	20.2	0.9	0.0	0.00
GMP-3	0.0	20.0	2.7	0.0	-0.01

Instruments Used: Gem 5000, MiniRAE PID

Operator: Eli Sankey

Date: October 27, 2017

Weather Conditions:

Barometric Pressure (inches of Hg): 29.67 Temperature (Degrees F): 37°F

Relative Humidity (%): 78 Dewpoint (Degrees F): 31°F Wind: SW@20

Sky Conditions: Overcast

Ground Conditions:

_____Snow __X__No Snow ____Frozen Ground/Frost

ATTACHMENT B

Semiannual Facility Inspection Form

Operation and Maintenance Semi Annual Inspection Report
Stoughton City Landfill
Stoughton, Wisconsin

Inspector	Eli Sankey
Company	SCS Enginners
Project	Stoughton LF Monitoring
Location	Stoughton, WI
Date/Time	10/27/17, 1:00 P.M
Project No.	25216022.0

Weather	Clear	P. Cloudy	**Cloudy**	Fog
Temperature	Low	**37 F**	---	---
Wind	Calm	Medium	**High**	---
Precipitation	**None**	Light	Moderate	Heavy
	Snow	Light	Moderate	Heavy

Type of Inspection Routine ☒ Special ☐

Persons/Equipment Present: Jason Lowry (WDNR), Giang Van Nguyen (EPA), Eli Sankey (SCS Engineers)

General Description of Site Conditions: The cover area was dry however perimeter ditches contained some water. Cover vegitation was in good condtion and an acceptable length.

Specific Inspection Items	Potential Problem Areas	Status *	Notes
Perimeter Security Fencing	Broken or missing wood slats, torn chain link fabric.	2	Partial slat missing on the SW fence line neat GMP-3. Additonal signage along the west perimeter fence near the disc golf hole.
Entrance Gate and Locking Mechanism	Lock broken/missing, mechanism inoperative.	1	Lock present and functional.
Monitoring Wells and Wellhead Covers	Signs of tampering, casing damaged, lock missing.	2	Cap artesian wells: OW2, 7I, 13I. Water is corroding well casings. Label all MW's, only several wells are curerntly labeled.
Final Cover Vegetation	Bare spots, stressed vegetation, deep rooted vegetation.		Vegetation appear heathly, no bare spots obsreved.
Final Cover Slope (explain below)	Gullies, lack of vegetation, subsidence, ponding.	1	No erosion observed, slopes in good conditon.
Evidence of Burrowing Animals	Damage to final cover, evidence of waste.	2	Fill burrow holes near MW-2D with soil. Burrow holes appear to be shallow, no evidence that the cover has been compromised.
Stormwater Drainage Channels	Gullies, erosion, debris, culvert blocked.	2	Several large shrubs impeding storm water flow into the culvert near the south entrance gate.
Landfill Gas Venting System	Damaged or blocked vent risers, stressed vegetation.	2	Landfill gas vents should be labeled.
Access Road	Ponding, rutting, erosion.	1	Access road in good condition no issues observed.
Cover Mowing and Tall Vegetation Removal (October Inspection Only)	Mowing and tall vegetation removal done to specified vegetation hight, any missed areas	1	Vegetation is an acceptable height on landfill cap.

* (1) Acceptable - No Maintenance Required. (2) Not Acceptable - Identify Required Maintenance.

Summary of Deficiencies and/or Corrective Actions: Label GV's and MW's, repair slat near GMP-3, cap artesian wells, fill burrow holes near MW-2D, and remove shrubs in drainage way near south entrance gate.

Signature of Inspector Eli Sankey Date 10/27/17

ATTACHMENT C

Photograph Log

Semiannual Facility Inspection Report
Stoughton City Landfill – October 27, 2017
SCS Engineers Project No. 25216022.00

Photo 1: Photo taken just inside the south access gate. Final cover vegetation was in good condition and of the appropriate length (Looking north)

Photo 2: Gravel drive and storm water channel on the south side of the landfill (Looking west)

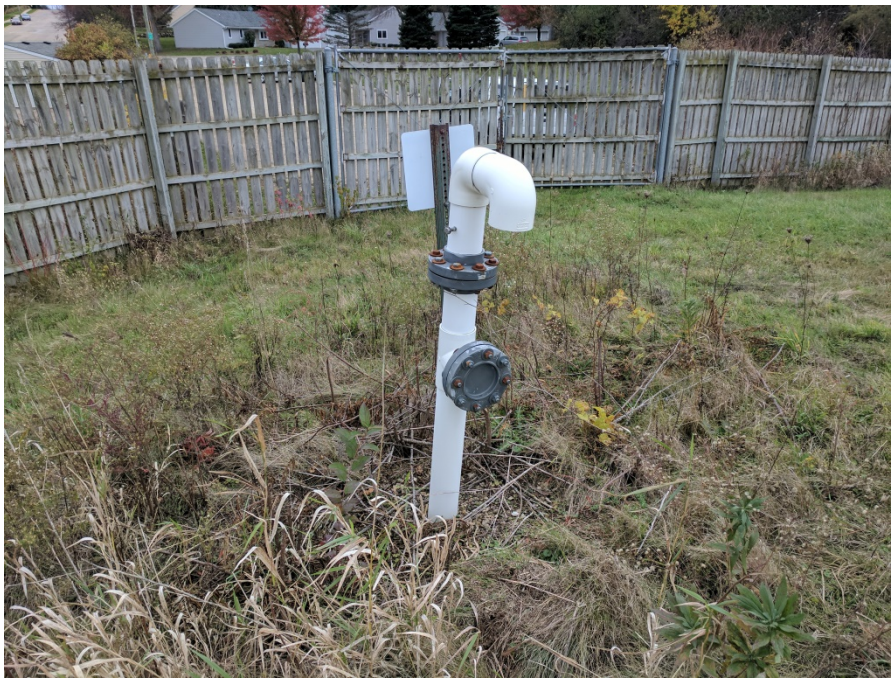

Photo 3: GV-1 is functional but is missing an identification label (Looking south)

Photo 4: Animal burrow present near MW-2D (looking down)

Photo 5: Large shrubs inhibiting water flow into culvert near the south gate entrance (Looking west)

Photo 6: West perimeter security fencing depicted, slats were recently repaired (Looking east)

Photo 7: OW-2 casing flooded with water, well plug was floating (Looking down)

Photo 8: MW-5D depicted, well locked and no signs of tampering (Looking east)

ATTACHMENT D

Culvert Maintenance Locations

Culverts locations to cleared of vegetation and debris.