January 10, 2019
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 second 2018 semiannual facility inspection report information for the Stoughton City Landfill site (Site) in Stoughton, Wisconsin. An electronic copy of this letter is also being transmitted to you by e-mail and one copy will be also be sent by U.S. mail to Ms. Giang Van Nguyen at the U.S. Environmental Protection Agency (USEPA).

SCS Engineers (SCS) performed the gas probes monitoring on June 28, 2018; August 21, 2018; October 8, 2018; and December 10, 2018. SCS performed the semiannual facility inspection at the site on November 11, 2018. The semiannual facility inspection report is included in **Attachment A**. The results from the gas probe monitoring and observations from the semiannual inspection for this period are summarized below.

Bimonthly Gas Monitoring – SCS performed the bimonthly monitoring of the three perimeter gas probes on June 28, 2018; August 21, 2018; October 8, 2018; and December 10, 2018. Methane was not identified at concentrations greater than 50% of the lower explosive limit (LEL), or 2.5% by volume, at any of the gas probes during this period. As noted on the completed forms in Attachment B, methane was only quantified at one probe (GMP-1) on one occasion (December 10) at 0.5 percent during this period; thus, there is no evidence that landfill gas migration is a significant issue at the Site with regard to the occupied homes to the south of the landfill. The completed bimonthly gas monitoring report forms are included in **Attachment B**.

Landfill Cover – The grassy vegetation across the landfill cap was in good condition. No bare spots, areas of erosion or sparse vegetation, or signs of burrowing animals were identified. Woody vegetation is adequately controlled by periodic mowing. The vegetation on the landfill cap was mowed in September 2018. SCS staff noted that the bags of soil intended for use in repairing small areas of the cover and the tarp atop those bags, located inside of south gate, are no longer intact.

Storm Water Management System – No significant erosion was identified in the drainage channels, and the culverts were intact. Vegetation in the perimeter drainage ditch, outside the capped area of the Site, is slowing storm water flow (**Attachment C**, **Photo 1**).

Landfill Gas Venting System – The gas venting wells were intact, and no stressed vegetation was identified in the vicinity of the wells. The screens at the end of the vent wells were not obstructed.

Perimeter Security Gates and Fencing – Both access gates are in good condition, and the padlocks operated properly. Signage was present and legible on both access gates. Several line posts associated with the perimeter fencing are not plumb, likely from frost heaving. The chain link fence on the north side of landfill, just east of the wooden perimeter fence (**Attachment C - Photo 2**), has been cut.

Monitoring Wells and Wellhead Covers – Except for wells MW-15S, MW-15D, MW-15I, MW-8S, and MW-14I, the groundwater monitoring wells at the Site were locked and in acceptable condition. The identified monitoring wells are not able to be locked due to settling of the protective casing (i.e., protop), which leaves the well sticking up above the top of the protop (**Photos 3, 4, 5**, and **7**).

Groundwater was flowing from the top of three wells: MW8S, MW-8B, and MW-8I (**Photos 5 and 6**). These wells were not flowing in June 2018, when mechanical packers were installed on three artesian flowing wells (MW-0W2, MW-10I, and MW-13I).

Access Road – The site access road was wet but in good condition with no significant ruts or erosion noted. No standing water was observed on the site access road.

If you have any questions about this report, or would like a proposal to address any of the identified items, please call Leslie at 608-216-7343.

Sincerely,

Leslie A. Busse, PE
Associate Engineer
SCS Engineers

Mike Prattle
Project Director
SCS Engineers

LAB/jsn/MP

cc: Ms. Giang Van Nguyen, USEPA Region V

Encl. Attachment A – Semiannual Facility Inspection Form
Attachment B – Bimonthly Gas Monitoring Report Forms
Attachment C – Photograph Log

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Attachment A

Semiannual Facility Inspection Form

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

Inspector	Paul Grover
Company	SCS Engineers
Project	Stoughton Landfill
Location	Stoughton WI
Date/Time	11/12/2018 15:00
Project No.	25216022.00

Weather	Clear	P. Cloudy	Cloudy	Fog
Temperature	High	__F	---	---
Wind	Calm	Medium	High	---
Precipitation	Rain	Light	Moderate	Heavy
	Snow	Light	Moderate	Heavy

Type of Inspection Routine ☐ Special ☐

Persons/Equipment Present: Paul Grover (SCS Engineers)

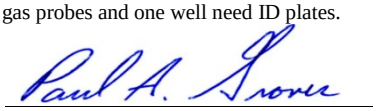
General Description of Site Conditions: Wet ground conditions from recent rains, Cap recently mowed.

Specific Inspection Items	Potential Problem Areas	Status *	Notes
Perimeter Security Fencing	Broken or missing wood slats, torn chain link fabric.	2	Dog-eared fence in good shape. A couple fence posts are frost heaving. Hole cut in Chain link fence on north side of landfill just east of end of wooden fence section.
Entrance Gate and Locking Mechanism	Lock broken/missing, mechanism inoperative.	1	Both gates are locked and in good shape.
Monitoring Wells and Wellhead Covers	Signs of tampering, casing damaged, lock missing.	2	Most wells are locked. A few are not able to be locked due to settlement of protop pipe, thus leaving well casing sticking above the protop. hree wells are artesian and flowing. • MW-15S casing needs to be cut down and protop locked. • MW-15D casing needs to be cut down and protop locked. • MW-15I is locked but needs casing cut down. • MW-8S is flowing artesian and casing needs to be cut down, protop needs to be locked. • MW-8B is flowing artesian. • MW-8I is a 4" casing and is flowing. • MW-14I can be opened dispite being locked. Well casing needs to be cut down and protop properly locked.
Final Cover Vegetation	Bare spots, stressed vegetation, deep rooted vegetation.	1	Landfill cover is in good shape. Vegatation is full and no bare spots observed.
Final Cover Slope (explain below)	Gullies, lack of vegetation, subsidence, ponding.	1	No low spots where ponding of water would occur.
Evidence of Burrowing Animals	Damage to final cover, evidence of waste.	1	No burrows found on cover. Bags of soil and cover tarp inside of south gate are torn and falling apart.
Stormwater Drainage Channels	Gullies, erosion, debris, culvert blocked.	1	No wash out on cover or erosion of cap found. Vegatation growth in drainage ditch around outside of landfill is slowing or blocking drainage of storm water.

Landfill Gas Venting System	Damaged or blocked vent risers, stressed vegetation.	1	All gas vents on landfill are in good shape.
Access Road	Ponding, rutting, erosion.	1	Cap has been mowed and in good shape. Some woody vegetation around perimeter fence on inside and outside of wooden fence. Woody vegetation growing around monitoring wells on inside of fence.
Cover Mowing and Tall Vegetation Removal (October Inspection Only)	Mowing and tall vegetation removal done to specified vegetation hight, any missed areas		

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

Summary of Deficiencies and/or Corrective Actions: Artesian wells are flowing and need packers installed. Well casings need to be cut down and protops locked. Three gas probes and one well need ID plates.

Signature of Inspector  *Date* *11/16/2018*

Attachment B

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	20.9	0.0	0.1	0.01
GMP-2	0.0	20.3	0.3	0.0	0.00
GMP-3	0.0	20.9	0.1	0.0	0.06

Instruments Used: Envision Gas Analyzer, MiniRAE PID

Operator: Eli Sankey

Date: June 28, 2018

Weather Conditions:

Barometric Pressure (inches of Hg): 29.0 Temperature (Degrees F): 82

Relative Humidity (%): 70 Dewpoint (Degrees F): 66 Wind: 5 mph West

Sky Conditions: Mostly Cloudy

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)
GP-1	0.0	20.8	0.0	0	-0.01
GP-2	0.0	20.9	0.1	0	-0.02
GP-3	0.0	20.7	0.2	0	-0.01

Instruments Used: Envision / PID #1

Operator: Paul Grover

Date: August 21, 2018

Weather Conditions:

Barometric Pressure (inches of Hg): 29.95 Temperature (Degrees F): 80

Relative Humidity (%): 67 Dewpoint (Degrees F): _____ Wind: Calm

Sky Conditions: Cloudy

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)
GP-1	0.1	20.5	0.0	0.0	+0.02
GP-2	0.0	20.5	0.1	0.0	0.00
GP-2	0.0	19.8	1.2	0.0	+0.04

Instruments Used: Envision / PID #2

Operator: Paul Grover

Date: October 8, 2018

Weather Conditions:

Barometric Pressure (inches of Hg): 29.94 Temperature (Degrees F): 76

Relative Humidity (%): 84 Dewpoint (Degrees F): 64 Wind: From S @ 6 mph

Sky Conditions: Cloudy

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)
GP-1	0.5	20.5	1.1	0.0	+0.01
GP-2	0.0	20.7	0.5	0.0	0.00
GP-2	0.0	18.3	1.8	0.0	-6.08

Instruments Used: Envision / PID #2

Operator: Paul Grover

Date: December 10, 2018

Weather Conditions:

Barometric Pressure (inches of Hg): 29.08 Temperature (Degrees F): 34

Relative Humidity (%): 74 Dewpoint (Degrees F): NA Wind: WSW

Sky Conditions: Cloudy

Ground Conditions:

_____Snow __X__No Snow __X__Frozen Ground/Frost

Attachment C

Photograph Log

Stoughton City Landfill
Stoughton, Wisconsin
SCS Engineers Project #25216022.00

Photo 1: Vegetation by culvert on south side of landfill.

Photo 2: Hole in fence at northwest corner of landfill by end of wooden fence.

Stoughton City Landfill
Stoughton, Wisconsin
SCS Engineers Project #25216022.00

Photo 3: MW-15S - casing needs to be cut in order to lock.

Photo 4: MW15-D - casing needs to be cut.

Stoughton City Landfill
Stoughton, Wisconsin
SCS Engineers Project #25216022.00

Photo 5: MW 8-S - Artesian flowing, casing needs to be cut down.

Photo 6: MW-8I – Artesian flowing.

Stoughton City Landfill
Stoughton, Wisconsin
SCS Engineers Project #25216022.00

Photo 7: MW-14I – Casing needs to be cut.