Johnson, Sabrina O

From: Fischer, Shane <SFischer@SCSEngineers.com>
Sent: Tuesday, January 15, 2019 9:48 AM
To: SWD_Waste; Tafuni, Steven
Cc: Anthony Detweiler; Bryan White; Cooper, Dan; Lebron, Carlo
Subject: Manatee County Lena Road Landfill Monthly Report December 2018
Attachments: December 2018 Report.pdf

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for December 2018) which includes the following:

- Monthly Water Balance Report (Exhibit A)
- Monthly Leachate Tracking Summary - 2018 (Exhibit B)
- Monthly Leachate Meter Readings
- Monthly Rainfall
- Monthly Groundwater Gradient Report

If you should have any questions concerning this report, please contact me at (813) 804-6714.

Thanks

Shane R. Fischer, P.E.
Project Director
SCS Engineers
3922 Coconut Palm Drive, Suite 102
Tampa, Florida 33619
(813) 804-6714 (W)
(813) 503-1044 (C)
sfischer@scsengineers.com

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January 15, 2019
File No. 09217088.10

Mr. Steven Tafuni
Florida Department of Environmental Protection
Southwest District Office - Solid Waste Section
130501 N. Telecom Parkway
Temple Terrace, Florida 33637-0926

Subject: Manatee County Lena Road Landfill
Monthly Report - December 2018

Dear Mr. Tafuni:

This letter includes the following monthly reports: Monthly Water Balance Report (Exhibit A), Monthly Leachate Tracking Summary - 2018 (Exhibit B), Monthly Leachate Meter Readings, Monthly Rainfall, and Monthly Groundwater Gradient Report.

Sincerely,

Shane R. Fischer, P.E.
Project Director
SCS Engineers

David Moreno, E.I.
Staff Professional
SCS Engineers

SRF/DHD

cc: C. Mike Gore, Manatee County Utilities Department Director
Bryan White, Manatee County Landfill Superintendent
Anthony Detweiler, Manatee County Landfill Operations Supervisor

Enclosures

58026
1/15/19

EXHIBIT A

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY WATER BALANCE REPORT
December-18

A	B	C	D	E	F	G	H	I
DATE	**LEACHATE STAGE I** Lift Station 1 (gallons)	**LEACHATE STAGE I** Lift Station 2 (gallons)	**LEACHATE STAGE I** TOTAL (gallons)	**LEACHATE STAGE II** TOTAL (gallons)	**LEACHATE STAGE III** TOTAL (gallons)	**TOTAL LEACHATE PUMPED** (gallons)	**RAINFALL** (inches)	**RAINFALL** (gallons)
1-Dec-18	0	0	0	0	0	0	0.00	0
2-Dec-18	0	0	0	0	0	0	0.00	0
3-Dec-18	83,504	11,585	95,089	381,984	64,784	541,857	0.00	0
4-Dec-18	25,502	3,835	29,337	117,104	21,618	168,059	0.00	0
5-Dec-18	22,224	3,526	25,750	99,712	17,660	143,122	0.00	0
6-Dec-18	18,096	3,644	21,740	114,768	14,094	150,602	0.00	0
7-Dec-18	20,684	3,931	24,615	120,768	21,406	166,789	0.00	0
8-Dec-18	0	0	0	0	0	0	0.00	0
9-Dec-18	0	0	0	0	0	0	1.11	8,620,944
10-Dec-18	79,004	11,615	90,619	349,216	64,698	504,533	0.02	155,332
11-Dec-18	21,156	3,572	24,728	103,712	13,952	142,392	0.00	0
12-Dec-18	20,068	3,556	23,624	108,192	17,416	149,232	0.00	0
13-Dec-18	24,030	3,677	27,707	108,032	21,142	156,881	0.00	0
14-Dec-18	28,010	3,603	31,613	120,768	25,036	177,417	2.19	17,008,889
15-Dec-18	0	0	0	0	0	0	0.15	1,164,992
16-Dec-18	0	0	0	0	0	0	0.00	0
17-Dec-18	75,336	10,881	86,217	327,616	77,898	491,731	0.00	0
18-Dec-18	24,042	3,707	27,749	111,536	24,862	164,147	0.00	0
19-Dec-18	26,004	3,924	29,928	113,232	28,344	171,504	0.88	6,834,622
20-Dec-18	31,026	3,894	34,920	113,536	45,614	194,070	6.16	47,842,355
21-Dec-18	49,296	4,242	53,538	130,192	65,590	249,320	0.22	1,708,656
22-Dec-18	0	0	0	0	0	0	0.00	0
23-Dec-18	0	0	0	0	0	0	0.00	0
24-Dec-18	82,976	11,180	94,156	372,800	161,404	628,360	0.00	0
25-Dec-18	0	0	0	0	0	0	0.00	0
26-Dec-18	54,920	7,189	62,109	270,416	86,254	418,779	0.00	0
27-Dec-18	28,690	3,716	32,406	129,168	39,794	201,368	0.00	0
28-Dec-18	33,288	4,130	37,418	147,952	40,574	225,944	0.00	0
29-Dec-18	0	0	0	0	0	0	0.00	0
30-Dec-18	0	0	0	0	0	0	0.00	0
31-Dec-18	87,554	11,128	98,682	403,408	105,808	607,898	0.00	0
TOTAL	**835,410**	**116,535**	**951,945**	**3,744,112**	**957,948**	**5,654,005**	**10.73**	**83,335,790**
Leachate Pumped as Percentage of Rainfall				3.2%	10.9%	5.0%		

Column Notes:

A - Date of reading.
B - Leachate pumped (gallons) from Stage I by lift station 1.
C - Leachate pumped (gallons) from Stage I by lift station 2.
D - Total Stage I leachate pumpage (B+C).
E - Leachate pumped (gallons) from Stage II.
F - Leachate pumped (gallons) from Stage III.
G - Total leachate pumped to WWTP storage tank (D+E+F).
H - Rainfall (inches) recorded on this date.
I - Rainfall (gallons) calculated based on open area (H x Area x 27,156 gal/acre-in).

	Stage I (acres)	**Stage II** (acres)	**Stage III** (acres)	**TOTAL** (acres)
Initial Cover	102.0	113.0	66.0	281.0
Interm. Cover	0.0	5.0	--	5.0
Closed	30.0	0.0	--	30.0
TOTAL	132.0	118.0	66.0	316.0
Open Area	**102.0**	**118.0**	**66.0**	**286.0**

Comments

"0" = no data recorded

EXHIBIT B

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY LEACHATE TRACKING SUMMARY -- 2018

	B	C	D	E	F	G	H	I	J
MONTH	**STAGE I LEACHATE (gallons)**	**STAGE II LEACHATE (gallons)**	**STAGE III LEACHATE (gallons)**	**TOTAL LEACHATE (gallons)**	**RAINFALL (inches)**	**RAINFALL (gallons)**	**STAGE I LEACHATE/ RAINFALL (%)**	**STAGE II LEACHATE/ RAINFALL (%)**	**STAGE III LEACHATE/ RAINFALL (%)**
JANUARY	637,352	2,649,648	521,360	3,808,360	2.32	18,018,549	9.9%	35.6%	12.5%
FEBRUARY	883,518	2,222,160	516,750	3,622,428	0.96	7,455,951	33.2%	72.2%	30.0%
MARCH	667,517	1,952,576	430,794	3,050,887	1.46	11,339,259	16.5%	41.7%	16.5%
APRIL	631,184	1,964,448	477,524	3,073,156	2.51	19,494,206	9.1%	24.4%	10.6%
MAY	692,586	2,377,648	974,292	4,044,526	11.80	83,918,286	2.1%	6.3%	4.6%
JUNE	717,412	3,610,928	1,165,894	5,494,234	10.20	75,646,840	2.5%	11.0%	6.4%
JULY	815,455	4,038,080	1,371,106	6,224,641	12.55	76,967,165	2.3%	10.0%	6.1%
AUGUST	1,368,889	3,781,888	1,909,764	7,060,541	13.17	98,558,357	3.8%	9.0%	8.1%
SEPTEMBER	1,180,118	4,813,664	1,611,876	7,605,658	5.79	44,968,707	7.4%	25.9%	15.5%
OCTOBER	1,225,955	5,804,304	1,130,734	8,160,993	1.50	11,649,924	29.5%	120.8%	42.1%
NOVEMBER	912,048	4,490,544	705,086	6,107,678	0.98	7,611,284	33.6%	143.0%	40.1%
DECEMBER	951,945	3,744,112	957,948	5,654,005	10.73	83,335,790	3.2%	10.9%	5.0%
TOTAL	**10,683,979**	**41,450,000**	**11,773,128**	**63,907,107**	**73.97**	**538,964,317**	**5.2%**	**20.2%**	**5.7%**

Notes:

1. (B) Total leachate pumped from Stage I.
2. (C) Total leachate pumped from Stage II
3. (D) Total leachate pumped from Stage III
4. (E) Total leachate (Column B+C+D) pumped to WWTP storage tank.
5. (F) Total rainfall in inches.
6. (G) Total rainfall in gallons (Stage I, II, and III Open Area of 286-acres x Rainfall)
7. (H) Stage I leachate as a percentage of rainfall.
8. (I) Stage II leachate pumped as a percentage of rainfall.
9. (J) Stage III leachate pumped as a percentage of rainfall.

Landfill Stage Land Area

	Stage I (acres)	**Stage II** (acres)	**Stage III** (acres)	**TOTAL** *(acres)*
Initial Cover	102.0	113.0	66.0	281.0
Intermed. Cover	0.0	5.0	--	5.0
Closed	30.0	0.0	--	30.0
TOTAL	132.0	118.0	66.0	316.0
Open Area	**102.0**	**118.0**	**66.0**	**286.0**

LEACHATE METER READINGS

DATE	LEACHATE METERS				STORMWATER S.G.		COMMENTS	NAME (Initials)
	#1	#2	#3	#4	#1	#2		
12/1/18								
12/2/18								
12/3/18	21062356	3970360	29072676	16901584	33.66	30.10	OK	R.B.
12/4/18	21057656	3974223	29094494	16913266	33.69	30.08	OK	R.B.
12/5/18	21110082	3977749	29112154	16923240	33.89	30.07	OK	R.B.
12/6/18	21129176	3981393	29126246	16934716	33.88	30.00	OK	R.B.
12/7/18	21146862	3985354	29147654	16946786	33.68	Dry	OK	R.B.
12/8/18								
12/9/18								
12/10/18	21227666	3996939	29212352	16986152	33.97	30.02	OK	R.B.
12/11/18	21249022	4000511	29226304	16992064	33.96	30.22	OK	R.B.
12/12/18	21269090	4004067	29243720	17002090	33.95	30.30	OK	R.B.
12/13/18	21293120	4007744	29264862	17013708	33.93	30.40	OK	J.M.
12/14/18	21321130	4011347	29288896	17025768	33.95	30.80	OK	R.B.
12/15/18								
12/16/18								
12/17/18	21396466	4022228	29360794	17058942	34.08	32.30	OK	R.B.
12/18/18	21420508	4025935	29392658	17069708	34.05	32.30	OK	R.B.
12/19/18	21446512	4029659	29421002	17081048	34.02	32.28	OK	R.B.
12/20/18	21477536	4033753	29446616	17092376	35.09	33.50	OK	R.B.
12/21/18	21521634	4037995	29533206	17105396	35.90	32.59	OK	R.B.
12/22/18								
12/23/18								
12/24/18	21609810	4049175	29603610	17142668	34.38	33.34	OK	J.M
12/25/18								
12/26/18	21664730	4056364	29779864	17169718	34.28	32.36	OK	R.B.
12/27/18	21693420	4060080	29789658	17182652	34.24	32.32	OK	M.G
12/28/18	21726708	4064210	29860232	17197	34.22	32.31	OK	M.G
12/29/18								
11/30/18								
12/31/18	21814262	4075338	29916040	17237712	34.22	32.32	OK	R.B.

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2018 Dec	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.047	42.40	40.50
2	0.00	0.046	42.40	40.50
3	0.00	0.047	42.40	40.50
4	0.00	0.046	42.40	40.50
5	0.00	0.035	42.40	40.50
6	0.00	0.037	42.40	40.50
7	0.00	0.039	42.40	40.50
8	0.00	0.045	42.40	40.50
9	1.11	0.038	42.40	40.50
10	0.02	0.026	42.40	40.50
11	0.00	0.031	42.40	40.50
12	0.00	0.039	42.40	40.50
13	0.00	0.042	42.40	40.50
14	2.19	0.034	42.40	40.50
15	0.15	0.026	42.40	40.50
16	0.00	0.038	42.40	40.50
17	0.00	0.040	42.40	40.50
18	0.00	0.039	42.40	40.50
19	0.88	0.042	42.40	40.50
20	6.16	0.052	42.40	40.50
21	0.22	0.072	42.40	40.50
22	0.00	0.038	42.40	40.50
23	0.00	0.038	42.40	40.50
24	0.00	0.038	42.40	40.50
25	0.00	0.040	42.40	40.50
26	0.00	0.038	42.40	40.50
27	0.00	0.042	42.40	40.50
28	0.00	0.038	42.40	40.50
29	0.00	0.038	42.40	40.50
30	0.00	0.041	42.40	40.50
31	0.00	0.040	42.40	40.50
TOTAL	10.73	1.252		
AVG		0.040		
MIN				
MAX	6.16	0.072		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: December 2018

Piezometers Inside Slurry Wall				Groundwater Monitoring Wells Outside Slurry Wall		
Piezometer	Riser Elevation	Leachate Elevation	Gradient Flow	Monitoring Well	Riser Elevation	Groundwater Elevation
P-1	42.68	NA	*NA*	GW-1	38.68	NA
P-2	42.32	NA	*NA*	GW-2	40.92	NA
P-3	40.36	25.89	*inward*	GW-3	39.40	33.29
P-4	40.78	23.86	*inward*	GW-4	40.53	33.30
P-5	40.73	23.81	*inward*	GW-5	39.90	32.80
P-6	40.74	23.69	*inward*	GW-6	38.95	32.00
P-7	40.60	23.64	*inward*	GW-7	39.49	31.18
P-8	40.21	23.55	*inward*	GW-8	39.75	29.86
P-9	39.97	23.73	*inward*	GW-9	39.65	30.23
P-10	39.86	22.86	*inward*	GW-10	38.34	29.90
P-11	40.52	23.96	*inward*	GW-11	38.26	32.05
P-12	43.28	29.61	*inward*	GW-12	42.09	32.80
P-13	44.78	30.80	*inward*	GW-13	44.79	34.05
P-14	45.09	30.70	*inward*	GW-14	39.63	34.72
P-15	45.57	31.06	*inward*	GW-15	42.33	35.13
P-16	44.67	31.17	*inward*	GW-16	44.41	35.63
P-17	44.28	30.28	*inward*	GW-17	42.19	34.39
P-18	43.16	24.08	*inward*	GW-18	41.76	33.04
P-19	42.91	23.14	*inward*	GW-19	41.20	32.51
P-20	42.54	25.65	*inward*	GW-20	41.00	32.04
P-21	42.23	25.02	*inward*	GW-21	40.94	27.23
P-22	42.06	23.96	*inward*	GW-22	41.53	27.48
P-23	42.08	22.54	*inward*	GW-23	40.91	30.36
P-24	42.03	20.00	*inward*	GW-24	41.37	29.92
P-25	42.16	19.26	*inward*	GW-25	41.11	32.02
P-26	42.50	19.24	*inward*	GW-26	41.44	33.16
P-27R	42.73	19.64	*inward*	GW-27R	40.90	33.83

NA = Not Applicable - wells and piezometers abondoned in March 2016
Wells (GW-18 through GW-27R) and piezometers (P-18 through P-27R) installed in April 2016
Date Data Collected: 12/18/2018