

Smith, George

From: Fischer, Shane <SFischer@SCSEngineers.com>
Sent: Friday, January 12, 2018 12:55 PM
To: SWD_Waste
Cc: Tafuni, Steven; Anthony Detweiler; Bryan White; Lynette Falkowski; Cooper, Dan; Lebron, Carlo
Subject: Manatee County Lena Road Landfill Monthly Report December 2017
Attachments: Monthly Gradient Report December 2017.pdf

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for December 2017) which includes the following:

- Monthly Water Balance Report (Exhibit A)
- Monthly Leachate Tracking Summary - 2017 (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
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SCS ENGINEERS

January 12, 2018
File No. 09217088.05

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 2017

Dear Mr. Tafuni:

This letter includes the following monthly reports: Monthly Water Balance Report (Exhibit A), Monthly Leachate Tracking Summary - 2017 (Exhibit B), Monthly Leachate Meter Readings, Monthly Rainfall, and Monthly Groundwater Gradient Report.

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

Sincerely,



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

SRF/BMW:srf



Buckley Weglarz, E.I.
Associate Staff Professional
SCS ENGINEERS

Attachments

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



EXHIBIT A

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY WATER BALANCE REPORT
December-17**

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-17	17,900	39	17,939	96,640	20,690	135,269	0.00	0
2-Dec-17	0	0	0	0	0	0	0.00	0
3-Dec-17	0	0	0	0	0	0	0.00	0
4-Dec-17	48,211	7,317	55,528	316,528	54,144	426,200	0.00	0
5-Dec-17	17,816	7,335	25,151	113,952	21,730	160,833	0.00	0
6-Dec-17	16,017	36	16,053	89,248	17,468	122,769	0.00	0
7-Dec-17	21,318	7,048	28,366	106,418	21,376	156,160	0.00	0
8-Dec-18	21,327	42	21,369	98,670	21,610	141,649	1.30	10,096,601
9-Dec-17	0	0	0	0	0	0	0.98	7,611,284
10-Dec-17	0	0	0	0	0	0	0.00	0
11-Dec-17	39,121	7,378	46,499	307,152	49,556	403,207	0.00	0
12-Dec-17	18,313	7,080	25,393	90,336	21,222	136,951	0.00	0
13-Dec-17	19,043	41	19,084	98,944	17,970	135,998	0.00	0
14-Dec-17	17,733	7,188	24,921	97,648	21,506	144,075	0.00	0
15-Dec-17	17,767	42	17,809	98,976	17,586	134,371	0.00	0
16-Dec-17	0	0	0	0	0	0	0.00	0
17-Dec-17	0	0	0	0	0	0	0.00	0
18-Dec-17	40,804	7,451	48,255	287,152	52,246	387,653	0.00	0
19-Dec-17	14,203	7,287	21,490	90,624	13,682	125,796	0.00	0
20-Dec-17	19,482	38	19,520	90,480	21,204	131,204	0.00	0
21-Dec-17	19,574	39	19,613	97,348	17,508	134,469	0.00	0
22-Dec-17	14,150	296	14,446	90,956	13,760	119,162	0.00	0
23-Dec-17	0	0	0	0	0	0	0.00	0
24-Dec-17	0	0	0	0	0	0	0.00	0
25-Dec-17	0	0	0	0	0	0	0.05	388,331
26-Dec-17	59,844	14,424	74,268	359,552	69,144	502,964	0.00	0
27-Dec-17	15,813	7,258	23,071	97,200	13,960	134,231	0.00	0
28-Dec-17	14,149	32	14,181	80,416	17,266	111,863	0.00	0
29-Dec-17	17,522	7,289	24,811	88,544	17,232	130,587	0.00	0
30-Dec-17	0	0	0	0	0	0	0.00	0
31-Dec-18	0	0	0	0	0	0	0.00	0
TOTAL	470,107	87,660	557,767	2,796,784	520,860	3,875,411	2.33	18,096,215
Leachate Pumped as Percentage of Rainfall				8.6%	37.5%	12.5%		

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).

Comments

"0" = no data recorded

	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

EXHIBIT B

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY LEACHATE TRACKING SUMMARY -- 2017

	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	638,719	3,558,368	468,096	4,665,183	1.82	14,135,257	12.7%	61.0%	14.4%
FEBRUARY	700,268	2,701,624	373,077	3,774,969	2.49	19,338,895	10.2%	33.9%	8.4%
MARCH	444,964	2,655,032	345,620	3,890,580	0.75	5,824,962	21.4%	110.5%	25.7%
APRIL	427,892	2,134,880	273,796	2,836,568	0.42	3,261,979	36.8%	158.6%	36.4%
MAY	400,805	2,333,600	290,841	3,203,689	1.89	14,678,904	7.7%	38.5%	8.6%
JUNE	691,538	5,641,712	1,303,683	7,636,933	12.67	98,403,025	2.0%	13.9%	5.7%
JULY	881,994	7,666,088	1,356,678	9,052,189	11.57	89,859,747	2.8%	20.7%	6.5%
AUGUST	1,011,283	8,689,052	1,795,807	11,496,142	19.78	153,623,664	1.8%	13.7%	5.1%
SEPTEMBER	984,379	5,749,672	1,591,344	7,721,852	8.99	69,821,878	4.0%	20.0%	9.9%
OCTOBER	795,985	5,880,896	1,022,637	7,699,518	3.35	26,018,164	8.6%	54.8%	17.0%
NOVEMBER	663,887	3,953,312	682,048	5,299,247	1.26	9,785,936	19.0%	97.9%	30.2%
DECEMBER	557,767	2,796,784	520,860	3,875,411	2.33	18,096,215	8.6%	37.5%	12.5%
TOTAL	8,199,481	53,761,020	10,024,487	71,152,281	67.32	522,848,626	4.4%	28.8%	5.4%

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		
12/1/17	12351222	2326234	17220080	14638092	33.56	30.32	OK	R.B.
12/2/17								
12/3/17								
12/4/17	12399433	23716551	17762224	14817120	33.56	30.10	OK	R.B.
12/5/17	12417249	2383886	17803854	148811072	33.56	30.04	OK	R.B.
12/6/17	12435266	2383922	17821422	148900320	33.56	30.01	OK	R.B.
12/7/17	12454564	2390970	17842798	149006784	33.56	29.96	OK	R.B.
12/8/17	12475911	2391012	17864408	149105408	33.56	29.96	OK	R.B.
12/9/17								
12/10/17								
12/11/17	12515032	2396390	17913964	14941280	33.60	30.42	OK	R.B.
12/12/17	12533345	2405470	17935186	149502896	33.60	30.40	OK	R.B.
12/13/17	12552366	2405511	17953156	149601940	33.60	30.40	OK	R.B.
12/14/17	12570121	2412699	17974662	149699488	33.59	30.38	OK	R.B.
12/15/17	12587888	2412741	17992246	149798164	33.59	30.37	OK	R.B.
12/16/17								
12/17/17								
12/18/17	12628682	2420192	18044494	15008816	33.58	30.32	OK	R.B.
12/19/17	12642895	2422478	18058176	150176240	33.58	30.30	OK	CM.
12/20/17	12662371	2427517	18079380	150266720	33.58	30.28	OK	R.B.
12/21/17	12661951	2427556	18091688	15034016	33.58	30.27	OK	R.B.
12/22/17	12696101	2424882	18110648	150435024	33.59	30.30	OK	CM.
12/23/17								
12/24/17								
12/25/17								
12/26/17	12755945	2442276	18179792	150814576	33.55	30.18	OK	N.G.
12/27/17	12771758	2444934	18193752	150911776	33.56	30.14	OK	R.B.
12/28/17	12785907	2444956	18211016	150992192	33.56	30.10	OK	R.B.
11/29/17	12803429	2456655	18226280	151080736	33.56	30.06	OK	R.B.
11/30/17								

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2017 Dec	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.035	53.60	35.90
2	0.00	0.036	53.60	35.90
3	0.00	0.035	53.60	35.90
4	0.00	0.032	53.60	35.90
5	0.00	0.037	53.60	35.90
6	0.00	0.035	53.60	35.90
7	0.00	0.036	53.60	35.90
8	1.30	0.039	53.60	35.90
9	0.98	0.029	53.60	35.90
10	0.00	0.030	53.60	35.90
11	0.00	0.033	53.60	35.90
12	0.00	0.034	53.60	35.90
13	0.00	0.034	53.60	35.90
14	0.00	0.034	53.60	35.90
15	0.00	0.030	53.60	35.90
16	0.00	0.033	53.60	35.90
17	0.00	0.030	53.60	35.90
18	0.00	0.032	53.60	35.90
19	0.00	0.033	53.60	35.90
20	0.00	0.034	53.60	35.90
21	0.00	0.031	50.60	35.90
22	0.00	0.030	50.60	35.90
23	0.00	0.032	50.60	35.90
24	0.00	0.030	50.60	35.90
25	0.05	0.029	50.60	35.90
26	0.00	0.032	50.60	35.90
27	0.00	0.030	50.60	35.90
28	0.00	0.031	50.60	35.90
29	0.00	0.029	50.60	35.90
30	0.00	0.031	50.60	35.90
31	0.00	0.031	50.60	35.90
TOTAL	2.33	1.007		
AVG		0.032		
MIN				
MAX	1.30	0.039		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: December 2017

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	25.16	<i>inward</i>	GW-3	39.40	31.64
P-4	40.78	23.79	<i>inward</i>	GW-4	40.53	31.06
P-5	40.73	23.80	<i>inward</i>	GW-5	39.90	30.95
P-6	40.74	23.73	<i>inward</i>	GW-6	38.95	30.23
P-7	40.60	23.71	<i>inward</i>	GW-7	39.49	27.89
P-8	40.21	23.63	<i>inward</i>	GW-8	39.75	26.56
P-9	39.97	23.69	<i>inward</i>	GW-9	39.65	26.88
P-10	39.86	22.67	<i>inward</i>	GW-10	38.34	26.85
P-11	40.52	22.94	<i>inward</i>	GW-11	38.26	29.93
P-12	43.28	30.56	<i>inward</i>	GW-12	42.09	32.27
P-13	44.78	30.73	<i>inward</i>	GW-13	44.79	33.55
P-14	45.09	30.20	<i>inward</i>	GW-14	39.63	34.16
P-15	45.57	30.98	<i>inward</i>	GW-15	42.33	34.48
P-16	44.67	31.05	<i>inward</i>	GW-16	44.41	34.85
P-17	44.28	30.63	<i>inward</i>	GW-17	42.19	33.57
P-18	43.16	23.95	<i>inward</i>	GW-18	41.76	31.10
P-19	42.91	23.05	<i>inward</i>	GW-19	41.20	29.50
P-20	42.54	25.45	<i>inward</i>	GW-20	41.00	28.67
P-21	42.23	24.79	<i>inward</i>	GW-21	40.94	26.20
P-22	42.06	23.84	<i>inward</i>	GW-22	41.53	26.11
P-23	42.08	22.52	<i>inward</i>	GW-23	40.91	27.70
P-24	42.03	19.97	<i>inward</i>	GW-24	41.37	28.10
P-25	42.16	19.24	<i>inward</i>	GW-25	41.11	29.58
P-26	42.50	19.17	<i>inward</i>	GW-26	41.44	31.70
P-27R	42.73	19.62	<i>inward</i>	GW-27R	40.90	31.67

NA = Not Applicable - wells and piezometers abandoned in March 2016

Wells (GW-18 through GW-27R) and piezometers (P-18 through P-27R) installed in April 2016

Date Data Collected: 12/27/2017