

Smith, George

From: Fischer, Shane <SFischer@SCSEngineers.com>
Sent: Friday, July 14, 2017 8:43 AM
To: SWD_Waste
Cc: John Morris; Anthony Detweiler; Bryan White; Lynette Falkowski; Cooper, Dan; Lebron, Carlo
Subject: Manatee County Lena Road Landfill Monthly Report June 2017
Attachments: Monthly Gradient Report June 2017.pdf

Mr. Morris,

Attached is the Manatee County Lena Road Landfill Monthly Report (for June 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
SCS Engineers
4041 Park Oaks Blvd., Suite 100
Tampa, FL 33610
(813) 804-6714 (Direct)
(813) 503-1044 (Cell)
(813) 621-0080 (Office)
(813) 623-6757 (Fax)
sfischer@scsengineers.com

www.scsengineers.com

Ownership Makes a Difference!

SCS ENGINEERS

July 14, 2017
File No. 09217088.01

Mr. John Morris, P.G.
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 - June 2017

Dear Mr. Morris:

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. During the May 2017 monthly event an outward gradient was identified at monitoring points P-12/GW-12, P16/GW-16, and P-21/GW-21. However, during the June 2017 monthly event an inward gradient was identified for these three monitoring points as well as all of the other monitoring points onsite. The County will continue normal pumping operations.

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



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

SRF/BMW:srf
Attachments



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

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
June-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-Jun-17	44	15,105	15,149	68,008	7,923	91,080	0.00	0
2-Jun-17	21	8	29	23,296	4,020	27,345	1.42	11,028,595
3-Jun-17	0	0	0	0	0	0	0.08	621,329
4-Jun-17	0	0	0	0	0	0	0.07	543,663
5-Jun-17	53,652	19,650	73,302	262,786	35,905	371,993	0.72	5,591,964
6-Jun-17	84,774	31	84,805	67,150	11,863	163,818	1.04	8,077,281
7-Jun-17	7,018	1,547	8,565	82,512	23,462	114,539	0.90	6,989,954
8-Jun-17	15,264	7,347	22,611	99,816	91,494	213,921	0.02	155,332
9-Jun-17	12,393	55	12,448	119,720	47,859	180,027	0.00	0
10-Jun-17	0	0	0	0	0	0	2.00	15,533,232
11-Jun-17	0	0	0	0	0	0	0.07	543,663
12-Jun-17	16,204	7,155	23,359	448,936	126,531	598,826	0.64	4,970,634
13-Jun-17	17,672	63	17,735	184,728	17,814	220,277	1.71	13,280,913
14-Jun-17	22,887	6,737	29,624	253,016	101,050	383,690	0.07	543,663
15-Jun-17	18,810	102	18,912	294,704	187,068	500,684	0.36	2,795,982
16-Jun-17	26,257	2,180	28,437	311,032	63,165	402,634	0.11	854,328
17-Jun-17	0	0	0	0	0	0	0.00	0
18-Jun-17	0	0	0	0	0	0	0.18	1,397,991
19-Jun-17	68,616	7,885	76,501	838,512	147,056	1,062,069	0.26	2,019,320
20-Jun-17	19,917	6,655	26,572	239,104	35,363	301,039	0.67	5,203,633
21-Jun-17	22,155	69	22,224	215,732	39,785	277,741	0.00	0
22-Jun-17	19,419	67	19,486	224,092	36,163	279,741	1.35	10,484,932
23-Jun-17	25,190	7,199	32,389	258,648	48,191	339,228	0.03	232,998
24-Jun-17	0	0	0	0	0	0	0.08	621,329
25-Jun-17	0	0	0	0	0	0	0.04	310,665
26-Jun-17	67,283	7,211	74,494	773,076	142,252	989,822	0.07	543,663
27-Jun-17	22,709	7,255	29,964	222,932	36,198	289,094	0.02	155,332
28-Jun-17	24,039	70	24,109	225,000	36,518	285,627	0.08	621,329
29-Jun-17	21,715	69	21,784	222,176	32,179	276,139	0.45	3,494,977
30-Jun-17	21,591	7,448	29,039	206,736	31,824	267,599	0.23	1,786,322
TOTAL	587,630	103,908	691,538	5,641,712	1,303,683	7,636,933	12.67	98,403,025
Leachate Pumped as Percentage of Rainfall				1.97%	13.90%	5.74%		

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									
AUGUST									
SEPTEMBER									
OCTOBER									
NOVEMBER									
DECEMBER									
TOTAL	3,304,186	19,025,216	3,055,113	26,007,922	20.04	155,643,021	6.0%	34.3%	5.5%

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		
6/1/17	6236240	1465855	10137577	109742000	32.00	Dry	OK	RB
6/2/17	6236241	1465863	1041587	109765246	32.00	Dry	OK	RB
6/3/17								
6/4/17								
6/5/17	6291913	1465513	10177902	110026032	32.00	Dry	OK	RB
6/6/17	6371667	1465544	10189365	110095232	32.00	Dry	OK	RB
6/7/17	6363705	1487091	10212827	110177744	32.10	32.00	OK	RB
6/8/17	6386969	1494439	10268996	110277562	32.21	30.59	OK	RB
6/9/17	6411362	1494493	10316655	110397282	32.21	30.38	OK	RB
6/10/17								
6/11/17								
6/12/17	6427566	15011648	10443386	110446216	32.91	32.00	OK	RB
6/13/17	6445238	1501711	10491200	111039444	33.29	32.32	OK	RB
6/14/17	6468125	1508448	10522287	111269960	34.19	32.40	OK	RB
6/15/17	6486935	1508550	10620454	111576664	34.11	32.38	OK	RB
6/16/17	6513102	15107307	111693649	111649169	34.10	32.38	OK	RB
6/17/17								
6/18/17								
6/19/17	6561808	1518115	10840675	112726202	33.88	32.32	OK	RB
6/20/17	6601705	1525270	10871038	112916732	33.85	32.34	OK	RB
6/21/17	6623680	1525339	10915823	113183644	33.90	32.35	OK	RB
6/22/17	6643299	1525406	10951966	113407186	33.87	32.33	OK	RB
6/23/17	6668489	152605	11000177	113665744	34.21	32.40	OK	RB
6/24/17								
6/25/17								
6/26/17	6735772	1539616	11142429	114439962	33.90	32.38	OK	RB
6/27/17	6758481	1547071	11178627	114661702	33.87	32.34	OK	RB
6/28/17	6782520	1547141	11215145	114886742	33.83	32.31	OK	RB
6/29/17	8801235	1547210	11247324	115108968	33.76	32.28	OK	DRS
6/30/17	8825826	1554658	11279148	115315704	33.78	32.28	OK	DRS

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2017 Jun	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.015	37.00	25.20
2	1.42	0.030	36.50	24.80
3	0.08	0.022	36.30	24.60
4	0.07	0.024	36.20	24.50
5	0.72	0.029	36.70	24.40
6	1.04	0.024	36.60	24.40
7	0.90	0.036	36.80	24.60
8	0.02	0.044	36.80	24.60
9	0.00	0.035	36.80	24.60
10	2.00	0.036	37.20	24.80
11	0.07	0.057	37.30	24.90
12	0.64	0.055	37.30	25.10
13	1.71	0.069	37.50	25.20
14	0.07	0.087	37.60	25.30
15	0.36	0.090	37.70	25.40
16	0.11	0.087	37.80	25.40
17	0.00	0.082	37.90	25.40
18	0.18	0.074	38.10	25.50
19	0.26	0.068	38.20	25.50
20	0.67	0.068	38.40	25.60
21	0.00	0.065	38.40	25.60
22	1.35	0.067	38.60	25.70
23	0.03	0.078	38.50	25.80
24	0.08	0.080	38.40	25.80
25	0.04	0.074	38.50	25.90
26	0.07	0.069	38.60	26.00
27	0.02	0.069	38.60	26.00
28	0.08	0.062	38.60	26.00
29	0.45	0.062	38.70	26.10
30	0.23	0.057	38.60	26.10
31				
TOTAL	12.67	1.715		
AVG		0.057		
MIN				
MAX	2.00	0.090		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: June 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	27.03	<i>inward</i>	GW-3	39.40	34.41
P-4	40.78	23.82	<i>inward</i>	GW-4	40.53	33.77
P-5	40.73	23.92	<i>inward</i>	GW-5	39.90	33.23
P-6	40.74	23.73	<i>inward</i>	GW-6	38.95	32.54
P-7	40.60	23.68	<i>inward</i>	GW-7	39.49	31.52
P-8	40.21	23.58	<i>inward</i>	GW-8	39.75	30.30
P-9	39.97	23.71	<i>inward</i>	GW-9	39.65	29.23
P-10	39.86	22.89	<i>inward</i>	GW-10	38.34	29.39
P-11	40.52	23.96	<i>inward</i>	GW-11	38.26	28.83
P-12	43.28	30.63	<i>inward</i>	GW-12	42.09	35.77
P-13	44.78	30.78	<i>inward</i>	GW-13	44.79	33.98
P-14	45.09	30.37	<i>inward</i>	GW-14	39.63	34.53
P-15	45.57	31.02	<i>inward</i>	GW-15	42.33	34.73
P-16	44.67	31.11	<i>inward</i>	GW-16	44.41	33.20
P-17	44.28	30.66	<i>inward</i>	GW-17	42.19	34.45
P-18	43.16	24.42	<i>inward</i>	GW-18	41.76	34.27
P-19	42.91	23.34	<i>inward</i>	GW-19	41.20	33.88
P-20	42.54	26.29	<i>inward</i>	GW-20	41.00	32.62
P-21	42.23	25.28	<i>inward</i>	GW-21	40.94	27.72
P-22	42.06	24.11	<i>inward</i>	GW-22	41.53	29.61
P-23	42.08	22.61	<i>inward</i>	GW-23	40.91	33.60
P-24	42.03	20.18	<i>inward</i>	GW-24	41.37	33.05
P-25	42.16	19.26	<i>inward</i>	GW-25	41.11	33.66
P-26	42.50	19.20	<i>inward</i>	GW-26	41.44	33.33
P-27	42.73	19.66	<i>inward</i>	GW-27	40.90	33.85

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

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

Date Data Collected: June 26, 2017