

## Smith, George

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**From:** Fischer, Shane <SFischer@SCSEngineers.com>  
**Sent:** Wednesday, November 15, 2017 9:57 AM  
**To:** SWD\_Waste  
**Cc:** Tafuni, Steven; Anthony Detweiler; Bryan White; Lynette Falkowski; Cooper, Dan; Lebron, Carlo  
**Subject:** Manatee County Lena Road Landfill Monthly Report October 2017  
**Attachments:** Monthly Gradient Report October 2017.pdf

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for October 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.  
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SCS Engineers  
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## SCS ENGINEERS

November 15, 2017  
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 - October 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  
October-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-Oct-17	0	0	0	0	0	0	0.00	0
2-Oct-17	72,007	7,776	79,783	794,432	116,932	991,147	0.02	155,332
3-Oct-17	16,335	7,594	23,929	188,448	26,353	238,730	0.02	155,332
4-Oct-17	22,224	74	22,298	231,792	38,769	292,859	0.02	155,332
5-Oct-17	26,227	7,433	33,660	226,640	34,926	295,226	0.00	0
6-Oct-17	23,891	60	23,951	184,672	30,328	238,951	0.00	0
7-Oct-17	0	0	0	0	0	0	0.00	0
8-Oct-17	0	0	0	0	0	0	0.00	0
9-Oct-17	67,407	14,932	82,339	594,592	99,809	776,740	0.00	0
10-Oct-17	19,627	56	19,683	191,088	26,810	237,581	0.00	0
11-Oct-17	21,510	7,565	29,075	194,848	34,735	258,658	0.00	0
12-Oct-17	21,538	54	21,592	178,480	27,161	227,233	0.00	0
13-Oct-17	19,618	7,459	27,077	161,312	29,670	218,059	0.09	698,995
14-Oct-17	0	0	0	0	0	0	0.03	232,998
15-Oct-17	0	0	0	0	0	0	2.00	15,533,232
16-Oct-17	64,862	7,396	72,258	515,584	90,712	678,554	0.00	0
17-Oct-17	20,600	7,110	27,710	177,696	34,664	240,070	0.19	1,475,657
18-Oct-17	20,684	54	20,738	176,272	34,230	231,240	0.00	0
19-Oct-17	19,358	7,207	26,565	169,280	34,187	230,032	0.00	0
20-Oct-17	20,939	55	20,994	170,352	34,651	225,997	0.00	0
21-Oct-17	0	0	0	0	0	0	0.00	0
22-Oct-17	0	0	0	0	0	0	0.00	0
23-Oct-17	63,423	14,547	77,970	510,016	99,096	687,082	0.48	3,727,976
24-Oct-17	23,703	56	23,759	164,256	30,424	218,439	0.07	543,663
25-Oct-17	21,909	6,891	28,800	148,192	30,354	207,346	0.00	0
26-Oct-17	20,255	53	20,308	165,296	30,414	216,018	0.00	0
27-Oct-17	18,573	7,098	25,671	143,536	25,928	195,135	0.00	0
28-Oct-17	0	0	0	0	0	0	0.38	2,951,314
29-Oct-17	0	0	0	0	0	0	0.05	388,331
30-Oct-17	66,016	7,138	73,154	453,280	86,514	612,948	0.00	0
31-Oct-17	14,626	45	14,671	140,832	25,970	181,473	0.00	0
<b>TOTAL</b>	<b>685,332</b>	<b>110,653</b>	<b>795,985</b>	<b>5,880,896</b>	<b>1,022,637</b>	<b>7,699,518</b>	<b>3.35</b>	<b>26,018,164</b>
Leachate Pumped as Percentage of Rainfall				8.6%	54.8%	17.0%		

**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).

**Comments**

	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
<b>TOTAL</b>	<b>132.0</b>	<b>118.0</b>	<b>66.0</b>	<b>316.0</b>
<b>Open Area</b>	<b>102.0</b>	<b>118.0</b>	<b>66.0</b>	<b>286.0</b>

"0" = no data recorded

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									
DECEMBER									
TOTAL	6,977,827	47,010,924	8,821,579	61,977,623	63.73	494,966,475	4.0%	26.6%	5.0%

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		
10/1/17								
10/2/17	11167630	2162403	16119637	139461696	33.70	31.86	OK	R.B.
10/3/17	11183965	2169997	16145990	139670144	33.68	31.81	OK	R.B.
10/4/17	11206189	2170071	16184759	139901936	33.67	31.74	OK	R.B.
10/5/17	11232416	2177504	16219685	14088576	33.65	31.70	OK	R.B.
10/6/17	11256307	2177564	16250113	140313246	33.64	31.68	OK	R.B.
10/7/17								
10/8/17								
10/9/17	11323714	21820496	16349822	140907840	33.63	31.40	OK	R.B.
10/10/17	11343341	2192552	16376632	141098928	33.60	31.32	OK	M.B.
10/11/17	11364651	2200117	16411367	141293776	33.60	31.28	OK	R.B.
10/12/17	11381389	2200171	16438526	141472256	33.60	31.20	OK	R.B.
10/13/17	11406007	2207630	16468196	141633866	33.59	31.13	OK	R.B.
10/14/17								
10/15/17								
10/16/17	11470869	2215026	16558910	142149152	34.07	32.35	OK	R.B.
10/17/17	11491469	2222136	16613514	142321686	34.00	32.36	OK	R.B.
10/18/17	11512153	2222190	16627804	142503120	33.93	32.35	OK	R.B.
10/19/17	11531511	2229397	16661991	142672400	33.89	32.33	OK	R.B.
10/20/17	11552450	2229452	16691644	142842752	33.86	32.33	OK	R.B.
10/21/17								
10/22/17								
10/23/17	11615573	2243999	16795738	143352786	33.75	32.26	OK	R.B.
10/24/17	11639576	2244055	16826162	143517024	33.77	32.29	OK	R.B.
10/25/17	11661485	2250946	16856516	143665216	33.76	32.27	OK	R.B.
10/26/17	11681740	2250999	16886930	143830512	33.71	32.21	OK	R.B.
10/27/17	11700313	2258097	16912958	143974046	33.68	32.16	OK	R.B.
10/28/17								
10/29/17								
10/30/17	11766329	2265235	16999372	144427326	33.67	32.00	OK	R.B.
10/31/17	11760955	2265260	17025342	144568160	33.65	31.94	OK	R.B.

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2017 Oct	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.072	38.00	35.20
2	0.02	0.071	38.00	35.20
3	0.02	0.067	38.10	35.30
4	0.02	0.069	38.10	35.30
5	0.00	0.066	38.10	35.30
6	0.00	0.064	38.20	35.40
7	0.00	0.063	38.20	35.40
8	0.00	0.061	38.20	35.40
9	0.00	0.059	38.20	35.40
10	0.00	0.057	38.30	35.50
11	0.00	0.058	38.30	35.50
12	0.00	0.056	38.30	35.50
13	0.09	0.055	38.30	35.50
14	0.03	0.052	38.40	35.60
15	2.00	0.056	38.40	35.60
16	0.00	0.056	38.40	35.60
17	0.19	0.057	38.40	35.60
18	0.00	0.056	38.40	35.60
19	0.00	0.056	38.50	35.70
20	0.00	0.054	38.50	35.70
21	0.00	0.054	38.50	35.70
22	0.00	0.054	38.60	35.80
23	0.48	0.055	38.60	35.80
24	0.07	0.051	38.60	35.80
25	0.00	0.053	38.60	35.80
26	0.00	0.047	38.70	35.90
27	0.00	0.052	38.70	35.90
28	0.38	0.053	53.60	35.90
29	0.05	0.047	53.60	35.90
30	0.00	0.044	53.60	35.90
31	0.00	0.047	53.60	35.90
TOTAL	3.35	1.762		
AVG		0.057		
MIN				
MAX	2.00	0.072		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

# Monthly Groundwater Gradient Report

Month and Year: October 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	25.96	<i>inward</i>	GW-3	39.40	33.24
P-4	40.78	23.88	<i>inward</i>	GW-4	40.53	32.87
P-5	40.73	23.91	<i>inward</i>	GW-5	39.90	32.33
P-6	40.74	23.81	<i>inward</i>	GW-6	38.95	31.78
P-7	40.60	23.79	<i>inward</i>	GW-7	39.49	31.44
P-8	40.21	23.66	<i>inward</i>	GW-8	39.75	30.32
P-9	39.97	23.79	<i>inward</i>	GW-9	39.65	29.14
P-10	39.86	22.71	<i>inward</i>	GW-10	38.34	31.73
P-11	40.52	24.12	<i>inward</i>	GW-11	38.26	31.87
P-12	43.28	30.68	<i>inward</i>	GW-12	42.09	32.50
P-13	44.78	30.84	<i>inward</i>	GW-13	44.79	33.87
P-14	45.09	30.07	<i>inward</i>	GW-14	39.63	34.29
P-15	45.57	31.01	<i>inward</i>	GW-15	42.33	34.78
P-16	44.67	31.12	<i>inward</i>	GW-16	44.41	35.05
P-17	44.28	30.64	<i>inward</i>	GW-17	42.19	33.99
P-18	43.16	24.23	<i>inward</i>	GW-18	41.76	32.95
P-19	42.91	23.25	<i>inward</i>	GW-19	41.20	32.36
P-20	42.54	27.48	<i>inward</i>	GW-20	41.00	31.25
P-21	42.23	25.22	<i>inward</i>	GW-21	40.94	28.48
P-22	42.06	24.06	<i>inward</i>	GW-22	41.53	28.04
P-23	42.08	22.54	<i>inward</i>	GW-23	40.91	30.37
P-24	42.03	20.09	<i>inward</i>	GW-24	41.37	30.47
P-25	42.16	19.23	<i>inward</i>	GW-25	41.11	31.80
P-26	42.50	19.24	<i>inward</i>	GW-26	41.44	33.03
P-27R	42.73	19.64	<i>inward</i>	GW-27R	40.90	33.17

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: 23-Oct