

## Smith, George

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**From:** Fischer, Shane <SFischer@SCSEngineers.com>  
**Sent:** Monday, October 08, 2018 8:34 AM  
**To:** SWD\_Waste; Tafuni, Steven  
**Cc:** Anthony Detweiler; Bryan White; Jim Bokish; Cooper, Dan; Lebron, Carlo  
**Subject:** Manatee County Lena Road Landfill Monthly Report September 2018  
**Attachments:** September 2018 Report.pdf

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for September 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](mailto:sfischer@scsengineers.com)

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October 8, 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 - September 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



Donovan Dickey  
Associate 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

EXHIBIT A

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
MONTHLY WATER BALANCE REPORT  
September-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-Sep-18	0	0	0	0	0	0	0.00	0
2-Sep-18	0	0	0	0	0	0	0.55	4,271,639
3-Sep-18	0	0	0	0	0	0	0.10	776,662
4-Sep-18	152,424	30,961	183,385	819,072	291,938	1,294,395	0.10	776,662
5-Sep-18	38,086	7,282	45,368	187,040	72,416	304,824	0.00	0
6-Sep-18	37,536	7,779	45,315	181,696	73,688	300,699	0.16	1,242,659
7-Sep-18	39,518	8,238	47,756	193,216	74,358	315,330	0.13	1,009,660
8-Sep-18	0	0	0	0	0	0	0.06	465,997
9-Sep-18	0	0	0	0	0	0	0.00	0
10-Sep-18	114,886	22,034	136,920	509,632	177,862	824,414	0.91	7,067,621
11-Sep-18	32,848	6,840	39,688	155,600	58,030	253,318	0.00	0
12-Sep-18	37,762	7,501	45,263	157,216	62,240	264,719	0.67	5,203,633
13-Sep-18	32,310	6,677	38,987	166,304	54,244	259,535	0.00	0
14-Sep-18	36,804	8,645	45,449	171,672	69,960	287,081	0.00	0
15-Sep-18	0	0	0	0	0	0	0.18	1,397,991
16-Sep-18	0	0	0	0	0	0	0.00	0
17-Sep-18	111,974	21,115	133,089	494,220	170,194	797,503	0.00	0
18-Sep-18	35,062	3,707	38,769	173,564	48,602	260,935	0.18	1,397,991
19-Sep-18	32,176	3,366	35,542	139,648	40,476	215,666	0.66	5,125,967
20-Sep-18	33,492	3,555	37,047	163,728	44,072	244,847	0.08	621,329
21-Sep-18	31,982	3,784	35,766	164,016	47,050	246,832	0.04	310,665
22-Sep-18	0	0	0	0	0	0	0.00	0
23-Sep-18	0	0	0	0	0	0	0.88	6,834,622
24-Sep-18	99,382	13,447	112,829	487,360	134,100	734,289	0.21	1,630,989
25-Sep-18	32,930	4,189	37,119	153,280	43,980	234,379	0.37	2,873,648
26-Sep-18	34,734	4,432	39,166	172,640	48,062	259,868	0.51	3,960,974
27-Sep-18	36,832	3,917	40,749	160,288	51,164	252,201	0.00	0
28-Sep-18	37,794	4,117	41,911	163,472	49,440	254,823	0.00	0
29-Sep-18	0	0	0	0	0	0	0.00	0
30-Sep-18	0	0	0	0	0	0	0.00	0
<b>TOTAL</b>	<b>1,008,532</b>	<b>171,586</b>	<b>1,180,118</b>	<b>4,813,664</b>	<b>1,611,876</b>	<b>7,605,658</b>	<b>5.79</b>	<b>44,968,707</b>
Leachate Pumped as Percentage of Rainfall				7.4%	25.9%	15.5%		

**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
<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>

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	4,813,664	1,611,876	7,605,658
OCTOBER									
NOVEMBER									
DECEMBER									
TOTAL	7,594,031	27,411,040	8,979,360	43,984,431	60.76	436,367,320	4.5%	16.3%	5.3%

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		
9/1/18								
9/2/18								
9/3/18								
9/4/18	16233816	3584103	2585234	17434416	34.40	32.39	OK	R.B.
9/5/18	16271902	3576385	25924750	174531200	34.38	32.38	OK	R.B.
9/6/18	16309438	3584164	25996438	174712896	34.35	32.38	OK	R.B.
9/7/18	16348956	3592402	26072796	17490612	34.30	32.37	OK	R.B.
9/8/18								
9/9/18								
9/10/18	16463842	3614436	26256658	17541554	34.20	32.35	OK	R.B.
9/11/18	16496690	3621276	26306668	175571344	34.32	32.37	OK	R.B.
9/12/18	16534452	3628777	26370928	17578860	34.27	32.37	OK	R.B.
9/13/18	16566762	3635454	26425172	17589484	34.55	32.44	OK	R.B.
9/14/18	16603566	3644099	26495132	17606636	34.45	32.39	OK	R.B.
9/15/18								
9/16/18								
9/17/18	18715540	3665214	26663326	176560786	34.30	32.35	OK	cm
9/18/18	18750602	3668921	26713928	176734320	34.20	32.32	OK	cm
9/19/18	18782778	3672867	26754404	176873968	34.22	32.37	OK	R.B.
9/20/18	18816270	3675842	26796476	177037696	34.29	32.37	OK	R.B.
9/21/18	18848252	3679626	26845526	177201712	34.26	32.37	OK	R.B.
9/22/18								
9/23/18								
9/24/18	18947634	3683073	26879626	177689072	34.41	32.45	OK	R.B.
9/25/18	18980544	3697262	27023666	177842352	34.37	32.38	OK	R.B.
9/26/18	19015296	37011844	27071668	178014992	34.34	32.38	OK	R.B.
9/27/18	19052130	3709611	27122632	178175280	34.33	32.40	OK	R.B.
9/28/18	19088924	3709728	27172272	178338752	34.27	32.40	OK	R.B.
9/29/18								
9/30/18								
9/31/2018								

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2018 Sept	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.071	42.40	38.00
2	0.55	0.065	42.40	38.50
3	0.10	0.059	42.40	38.30
4	0.10	0.061	42.40	39.10
5	0.00	0.058	42.40	39.40
6	0.16	0.060	42.40	39.60
7	0.13	0.057	42.40	39.90
8	0.06	0.051	42.40	40.30
9	0.00	0.055	42.40	40.70
10	0.91	0.047	42.40	40.70
11	0.00	0.052	42.40	41.50
12	0.67	0.051	42.40	41.60
13	0.00	0.055	42.40	41.50
14	0.00	0.057	42.40	41.50
15	0.18	0.053	42.40	41.40
16	0.00	0.053	42.30	41.40
17	0.00	0.055	42.30	41.30
18	0.18	0.052	42.30	41.30
19	0.66	0.044	42.40	41.30
20	0.08	0.049	42.40	41.20
21	0.04	0.053	42.40	40.20
22	0.00	0.055	42.40	41.00
23	0.88	0.051	42.40	40.10
24	0.21	0.046	42.40	41.20
25	0.37	0.056	42.40	39.60
26	0.51	0.061	42.40	41.10
27	0.00	0.054	42.40	38.80
28	0.00	0.051	42.40	39.40
29	0.00	0.056	42.40	39.80
30	0.00	0.056	42.40	38.80
31				
TOTAL	5.79	1.644		
AVG		0.055		
MIN				
MAX	0.91	0.071		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

# Monthly Groundwater Gradient Report

Month and Year: September 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	27.18	<i>inward</i>	GW-3	39.40	35.36
P-4	40.78	23.84	<i>inward</i>	GW-4	40.53	34.21
P-5	40.73	24.13	<i>inward</i>	GW-5	39.90	33.53
P-6	40.74	23.79	<i>inward</i>	GW-6	38.95	32.82
P-7	40.60	23.72	<i>inward</i>	GW-7	39.49	31.77
P-8	40.21	23.64	<i>inward</i>	GW-8	39.75	30.37
P-9	39.97	23.82	<i>inward</i>	GW-9	39.65	30.28
P-10	39.86	22.89	<i>inward</i>	GW-10	38.34	31.54
P-11	40.52	24.11	<i>inward</i>	GW-11	38.26	31.94
P-12	43.28	29.73	<i>inward</i>	GW-12	42.09	33.05
P-13	44.78	30.82	<i>inward</i>	GW-13	44.79	34.38
P-14	45.09	30.59	<i>inward</i>	GW-14	39.63	35.11
P-15	45.57	31.06	<i>inward</i>	GW-15	42.33	35.51
P-16	44.67	31.12	<i>inward</i>	GW-16	44.41	36.65
P-17	44.28	30.24	<i>inward</i>	GW-17	42.19	35.05
P-18	43.16	24.48	<i>inward</i>	GW-18	41.76	35.25
P-19	42.91	23.45	<i>inward</i>	GW-19	41.20	35.04
P-20	42.54	26.37	<i>inward</i>	GW-20	41.00	33.87
P-21	42.23	25.27	<i>inward</i>	GW-21	40.94	31.31
P-22	42.06	24.18	<i>inward</i>	GW-22	41.53	30.51
P-23	42.08	22.71	<i>inward</i>	GW-23	40.91	33.91
P-24	42.03	22.73	<i>inward</i>	GW-24	41.37	33.55
P-25	42.16	23.21	<i>inward</i>	GW-25	41.11	34.69
P-26	42.50	22.22	<i>inward</i>	GW-26	41.44	35.11
P-27R	42.73	22.48	<i>inward</i>	GW-27R	40.90	35.36

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: 09/26/2018