

## Johnson, Sabrina O

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**From:** Fischer, Shane <SFischer@SCSEngineers.com>  
**Sent:** Monday, April 8, 2019 11:48 AM  
**To:** SWD\_Waste; Tafuni, Steven  
**Cc:** Anthony Detweiler; Bryan White; Cooper, Dan; Lebron, Carlo  
**Subject:** RE: Manatee County Lena Road Landfill Monthly Report February 2019  
**Attachments:** March 2019 Report.pdf

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for March 2019) which includes the following:

- Monthly Water Balance Report (Exhibit A)
- Monthly Leachate Tracking Summary - 2019 (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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April 8, 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 - March 2019

Dear Mr. Tafuni:

This letter includes the following monthly reports: Monthly Water Balance Report (Exhibit A), Monthly Leachate Tracking Summary - 2019 (Exhibit B), Monthly Leachate Meter Readings, Monthly Rainfall, and Monthly Groundwater Gradient Report.

Sincerely,



Shane R. Fischer, P.E.  
Office Manager/Project Director  
SCS Engineers

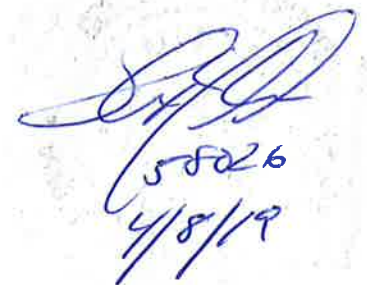


Katherine Sun  
Associate Professional  
SCS Engineers

SRF/KMS

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

Enclosures



58026  
4/8/19

EXHIBIT A

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
MONTHLY WATER BALANCE REPORT  
March 2019**

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-Mar-19	24,914	9,663	34,577	97,712	89,124	221,413	0.00	0
2-Mar-19	0	0	0	0	0	0	0.00	0
3-Mar-19	0	0	0	0	0	0	0.00	0
4-Mar-19	70,104	25,659	95,763	505,552	233,638	834,953	0.00	0
5-Mar-19	22,734	2,784	25,518	125,696	126,602	277,816	0.21	1,630,989
6-Mar-19	19,652	1,815	21,467	180,608	34,708	236,783	0.00	0
7-Mar-19	17,558	12,441	29,999	132,976	71,668	234,643	0.00	0
8-Mar-19	20,716	7,043	27,759	127,648	70,972	226,379	0.00	0
9-Mar-19	0	0	0	0	0	0	0.00	0
10-Mar-19	0	0	0	0	0	0	0.00	0
11-Mar-19	66,886	2,423	69,309	396,352	210,152	675,813	0.00	0
12-Mar-19	20,094	558	20,652	22,144	65,696	108,492	0.00	0
13-Mar-19	21,722	601	22,323	1,792	62,690	86,805	0.00	0
14-Mar-19	23,272	576	23,848	1,344	64,580	89,772	0.00	0
15-Mar-19	22,668	584	23,252	1,344	62,180	86,776	0.00	0
16-Mar-19	0	0	0	0	0	0	0.00	0
17-Mar-19	0	0	0	0	0	0	0.03	232,998
18-Mar-19	68,654	43,159	111,813	8,560	186,668	307,041	1.00	7,766,616
19-Mar-19	20,994	6,312	27,306	1,520	56,888	85,714	0.79	6,135,627
20-Mar-19	21,686	5,963	27,649	1,520	58,436	87,605	0.00	0
21-Mar-19	23,742	2,438	26,180	354,048	70,516	450,744	0.00	0
22-Mar-19	22,710	324	23,034	277,056	57,332	357,422	0.00	0
23-Mar-19	0	0	0	0	0	0	0.00	0
24-Mar-19	0	0	0	0	0	0	0.00	0
25-Mar-19	61,732	1,359	63,091	579,248	173,580	815,919	0.00	0
26-Mar-19	23,356	143	23,499	158,800	61,020	243,319	0.03	232,998
27-Mar-19	29,566	143	29,709	126,064	45,688	201,461	0.00	0
28-Mar-19	29,656	162	29,818	138,096	51,944	219,858	0.00	0
29-Mar-19	22,968	163	23,131	149,952	56,408	229,491	0.00	0
30-Mar-19	0	0	0	0	0	0	0.00	0
31-Mar-19	0	0	0	0	0	0	0.00	0
<b>TOTAL</b>	<b>655,384</b>	<b>124,313</b>	<b>779,697</b>	<b>3,388,032</b>	<b>1,910,490</b>	<b>6,078,219</b>	<b>2.06</b>	<b>15,999,229</b>
Leachate Pumped as Percentage of Rainfall				13.7%	51.3%	51.7%		

**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 -- 2019

	B	C	D	E	F	G	H	I	J
MONTH	STAGE I	STAGE II	STAGE III	TOTAL			STAGE I	STAGE II	STAGE III
	LEACHATE (gallons)	LEACHATE (gallons)	LEACHATE (gallons)	LEACHATE (gallons)	RAINFALL (inches)	RAINFALL (gallons)	LEACHATE/ RAINFALL (%)	LEACHATE/ RAINFALL (%)	LEACHATE/ RAINFALL (%)
JANUARY	985,946	3,653,440	924,189	5,563,575	3.48	27,027,824	10.2%	32.8%	14.8%
FEBRUARY	881,333	3,006,288	1,745,237	5,632,858	2.23	17,319,554	14.3%	42.1%	43.7%
MARCH	779,697	3,388,032	1,910,490	6,078,219	2.06	15,999,229	13.7%	51.3%	51.7%
APRIL									
MAY									
JUNE									
JULY									
AUGUST									
SEPTEMBER									
OCTOBER									
NOVEMBER									
DECEMBER									
<b>TOTAL</b>	<b>2,646,976</b>	<b>10,047,760</b>	<b>4,579,916</b>	<b>17,274,652</b>	<b>7.77</b>	<b>60,346,606</b>	<b>12.3%</b>	<b>46.7%</b>	<b>21.3%</b>

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
<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>

## LEACHATE METER READINGS

DATE	LEACHATE METERS				STORMWATER S.G.		COMMENTS	NAME (Initials)
	#1	#2	#3	#4	#1	#2		
	3/1/19	23431166	4359840	32724597	199135152	34.18		
3/2/19								
3/3/19								
3/4/19	23501720	4385499	32956228	19964074	34.17	31.48	OK	R.B.
3/5/19	23524454	4388283	33084630	19976640	34.16	31.47	OK	R.B.
3/6/19	23544106	4390096	3319538	19994708	34.17	31.45	OK	R.B.
3/7/19	23561164	4402539	33191206	20007998	34.15	31.39	OK	R.B.
3/8/19	23582380	4409562	33212178	20020762	34.15	31.34	OK	R.B.
3/9/19								
3/10/19								
3/11/19	23649216	4412005	33472330	20060884	34.14	31.20	OK	R.B.
3/12/19	23669360	4412563	3353826	20062628	34.13	31.16	OK	R.B.
3/13/19	23681082	4413164	33600716	20062792	34.13	31.12	OK	R.B.
3/14/19	23714354	4413740	3366296	20062964	34.13	31.10	OK	R.B.
3/15/19	23735702	4414324	33727476	20063108	34.12	31.06	OK	R.B.
3/16/19								
3/17/19								
3/18/19	23805576	4457483	33914144	20063916	34.12	30.96	OK	R.B.
3/19/19	23826670	4463795	33971032	20064068	34.14	31.02	OK	A.v.k.
3/20/19	23848356	4469758	34029468	20064228	34.14	31.02	OK	A.v.k.
3/21/19	23872098	4472196	3409984	20064386	34.14	31.02	OK	A.v.k.
3/22/19	23894808	4472520	34157316	20064532	34.16	31.16	OK	R.B.
3/23/19								
3/24/19								
3/25/19	239151540	4473879	34330896	20065260	34.16	31.03	OK	R.B.
3/26/19	23979896	4474022	34391916	20065416	34.16	31.00	OK	R.B.
3/27/19	24009462	4474165	34437604	20065572	34.16	30.96	OK	R.B.
3/28/19	24039116	4474327	34489546	20065728	34.15	30.90	OK	R.B.
3/29/19	24062066	4474490	3454956	20065884	34.15	30.86	OK	R.B.

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2019 Mar	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.056	42.50	40.50
2	0.00	0.052	42.50	40.50
3	0.00	0.050	42.50	40.50
4	0.00	0.048	42.50	40.50
5	0.21	0.047	42.50	40.50
6	0.00	0.045	42.50	40.50
7	0.00	0.039	42.50	40.50
8	0.00	0.040	42.50	40.50
9	0.00	0.038	42.50	40.50
10	0.00	0.036	42.50	40.50
11	0.00	0.028	42.50	40.50
12	0.00	0.014	42.50	40.50
13	0.00	0.014	42.50	40.50
14	0.00	0.014	42.50	40.50
15	0.00	0.017	42.50	40.50
16	0.00	0.015	42.50	40.50
17	0.03	0.015	42.50	40.50
18	1.00	0.015	42.50	40.50
19	0.79	0.015	42.50	40.50
20	0.00	0.056	42.50	40.50
21	0.00	0.077	42.50	40.50
22	0.00	0.055	42.50	40.50
23	0.00	0.050	42.50	40.50
24	0.00	0.046	42.50	40.50
25	0.00	0.047	42.50	40.50
26	0.03	0.044	42.50	40.50
27	0.00	0.044	42.50	40.50
28	0.00	0.042	42.50	40.50
29	0.00	0.041	42.50	40.50
30	0.00	0.039	42.50	40.50
31	0.00	0.037	42.50	40.50
TOTAL	2.06	1.176		
AVG		0.038		
MIN				
MAX	1.00	0.077		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

## Monthly Groundwater Gradient Report

Month and Year: March 2019

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	25.00	<i>inward</i>	GW-3	39.40	32.16
P-4	40.78	21.89	<i>inward</i>	GW-4	40.53	31.57
P-5	40.73	21.02	<i>inward</i>	GW-5	39.90	31.43
P-6	40.74	19.94	<i>inward</i>	GW-6	38.95	30.63
P-7	40.60	19.68	<i>inward</i>	GW-7	39.49	28.44
P-8	40.21	19.25	<i>inward</i>	GW-8	39.75	27.21
P-9	39.97	19.66	<i>inward</i>	GW-9	39.65	27.40
P-10	39.86	19.35	<i>inward</i>	GW-10	38.34	28.12
P-11	40.52	22.70	<i>inward</i>	GW-11	38.26	30.80
P-12	43.28	29.61	<i>inward</i>	GW-12	42.09	32.35
P-13	44.78	30.76	<i>inward</i>	GW-13	44.79	34.18
P-14	45.09	30.36	<i>inward</i>	GW-14	39.63	34.42
P-15	45.57	30.99	<i>inward</i>	GW-15	42.33	35.07
P-16	44.67	31.10	<i>inward</i>	GW-16	44.41	36.10
P-17	44.28	30.27	<i>inward</i>	GW-17	42.19	34.07
P-18	43.16	24.07	<i>inward</i>	GW-18	41.76	31.80
P-19	42.91	23.14	<i>inward</i>	GW-19	41.20	30.97
P-20	42.54	26.07	<i>inward</i>	GW-20	41.00	29.96
P-21	42.23	25.17	<i>inward</i>	GW-21	40.94	27.07
P-22	42.06	23.96	<i>inward</i>	GW-22	41.53	26.98
P-23	42.08	22.44	<i>inward</i>	GW-23	40.91	28.74
P-24	42.03	20.05	<i>inward</i>	GW-24	41.37	29.22
P-25	42.16	19.36	<i>inward</i>	GW-25	41.11	30.60
P-26	42.50	19.18	<i>inward</i>	GW-26	41.44	32.28
P-27R	42.73	19.60	<i>inward</i>	GW-27R	40.90	32.18

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: 03/26/2019