

## Johnson, Sabrina O

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**From:** Fischer, Shane <SFischer@SCSEngineers.com>  
**Sent:** Wednesday, August 14, 2019 9:52 AM  
**To:** SWD\_Waste; Tafuni, Steven  
**Cc:** Anthony Detweiler; Bryan White; Cooper, Dan; Lebron, Carlo  
**Subject:** Manatee County Lena Road Landfill Monthly Report July 2019  
**Attachments:** July 2019 Report.pdf

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for July 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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August 14, 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 – July 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



Caroline Devitt, E.I.T.  
Staff Professional  
SCS Engineers

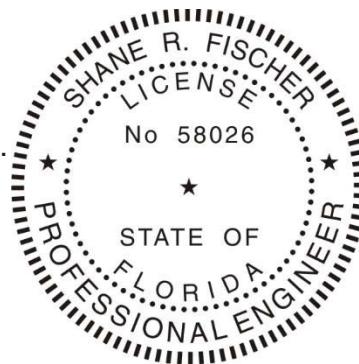
SRF/CED

cc: Bryan White, Manatee County Landfill Superintendent  
Anthony Detweiler, Manatee County Landfill Operations Supervisor

Enclosures

This item has been digitally signed and sealed by  
Shane R. Fischer, PE on the date adjacent to the seal.

Printed copies of this document are not considered  
signed and sealed and the signature must be verified  
on any electronic copies.



**Shane Fischer** Digitally signed  
by Shane Fischer  
Date: 2019.08.14  
09:46:23 -04'00'

EXHIBIT A

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
MONTHLY WATER BALANCE REPORT  
July 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-Jul-19	63,434	11,836	75,270	310,336	140,836	526,442	0.05	388,331
2-Jul-19	23,520	974	24,494	105,312	55,756	185,562	0.00	0
3-Jul-19	24,161	7,472	31,633	105,888	57,792	195,313	0.45	3,494,977
4-Jul-19	0	0	0	0	0	0	2.24	17,397,220
5-Jul-19	45,099	8,073	53,172	218,496	106,004	377,672	0.16	1,242,659
6-Jul-19	0	0	0	0	0	0	0.00	0
7-Jul-19	0	0	0	0	0	0	0.64	4,970,634
8-Jul-19	71,784	12,917	84,701	369,360	192,080	646,141	1.30	10,096,601
9-Jul-19	24,972	4,459	29,431	120,640	64,380	214,451	1.35	10,484,932
10-Jul-19	28,764	4,998	33,762	149,744	87,904	271,410	0.00	0
11-Jul-19	28,762	4,966	33,728	158,864	93,312	285,904	0.59	4,582,303
12-Jul-19	27,570	4,834	32,404	156,452	80,688	269,544	0.05	388,331
13-Jul-19	0	0	0	0	0	0	0.00	0
14-Jul-19	0	0	0	0	0	0	0.02	155,332
15-Jul-19	81,438	14,858	96,296	504,428	221,944	822,668	0.73	5,669,630
16-Jul-19	26,218	4,723	30,941	147,792	59,524	238,257	0.03	232,998
17-Jul-19	26,862	4,709	31,571	153,440	60,496	245,507	1.98	15,377,900
18-Jul-19	14,502	5,370	19,872	89,312	72,044	181,228	0.30	2,329,985
19-Jul-19	212	4,521	4,733	192	61,860	66,785	0.62	4,815,302
20-Jul-19	0	0	0	0	0	0	1.82	14,135,241
21-Jul-19	0	0	0	0	0	0	0.75	5,824,962
22-Jul-19	1,130	17,129	18,259	764,384	289,940	1,072,583	0.02	155,332
23-Jul-19	402	8,646	9,048	213,552	101,908	324,508	0.22	1,708,656
24-Jul-19	452	15,826	16,278	223,648	97,784	337,710	1.12	8,698,610
25-Jul-19	398	9,511	9,909	207,696	91,052	308,657	0.51	3,960,974
26-Jul-19	482	32,340	32,822	239,120	116,588	388,530	0.10	776,662
27-Jul-19	0	0	0	0	0	0	0.00	0
28-Jul-19	0	0	0	0	0	0	0.00	0
29-Jul-19	1,374	71,862	73,236	685,472	301,052	1,059,760	0.00	0
30-Jul-19	396	23,533	23,929	191,088	73,656	288,673	0.00	0
31-Jul-19	408	24,633	0	197,968	76,852	0	1.00	7,766,616
<b>TOTAL</b>	<b>492,340</b>	<b>298,190</b>	<b>765,489</b>	<b>5,313,184</b>	<b>2,503,452</b>	<b>8,307,305</b>	<b>16.05</b>	<b>124,654,187</b>
Leachate Pumped as Percentage of Rainfall				1.7%	10.3%	8.7%		

**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	819,304	3,945,872	1,355,972	6,121,148	2.04	15,843,897	14.5%	60.4%	37.1%
MAY	699,681	7,390,560	2,560,600	10,650,841	2.41	18,717,545	10.5%	95.7%	59.3%
JUNE	745,979	2,745,936	1,169,260	4,661,175	7.83	60,812,603	3.4%	10.9%	8.3%
JULY	765,489	5,313,184	2,503,452	8,307,305	16.05	124,654,187	1.7%	10.3%	8.7%
AUGUST									
SEPTEMBER									
OCTOBER									
NOVEMBER									
DECEMBER									
<b>TOTAL</b>	<b>5,677,429</b>	<b>29,443,312</b>	<b>12,169,200</b>	<b>47,015,121</b>	<b>36.10</b>	<b>280,374,838</b>	<b>5.7%</b>	<b>29.4%</b>	<b>12.2%</b>

Notes:

- (B) Total leachate pumped from Stage I.
- (C) Total leachate pumped from Stage II
- (D) Total leachate pumped from Stage III
- (E) Total leachate (Column B+C+D) pumped to WWTP storage tank.
- (F) Total rainfall in inches.
- (G) Total rainfall in gallons (Stage I, II, and III Open Area of 286-acres x Rainfall)
- (H) Stage I leachate as a percentage of rainfall.
- (I) Stage II leachate pumped as a percentage of rainfall.
- (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		
	7/11/19	25999752	4806066	38416652	212872304	34.20		
7/12/19	25023276	48010210	38472468	212927616	34.20	32.29	OK	cm
7/13/19	26047432	4814512	38530200	21308304	34.10	32.31	OK	cm
7/14/19								
7/15/19	26092536	4872585	38636204	213301000	34.40	32.39	OK	cm
7/16/19								
7/17/19								
7/18/19	26164320	4835502	38728284	213671360	34.65	32.42	OK	cm
7/19/19	26189292	4839961	38892664	213792000	34.45	32.40	OK	cm
7/10/19	26218056	4844959	38980568	213941200 <sup>44</sup>	34.60	32.41	OK	cm
7/11/19	26246818	4849925	39023880	214100608	34.40	32.39	OK	cm
7/12/19	26274388	4854259	39154568	21425706	34.39	32.40	OK	cm
7/13/19								
7/14/19								
7/15/19	26355826	4869617	3937652	214761488	34.3	32.35	OK	A.H.
7/16/19	26382044	4874340	39436036	214909280	34.3	32.35	OK	A.H.
7/17/19	26408906	4879049	39496532	215062720	34.1	32.34	OK	A.H.
7/18/19	26423408	4884419	39564576	215152032	34.7	32.45	OK	A.H.
7/19/19	26423620	4888940	39630486	215152224	34.45	32.4	OK	A.H.
7/20/19				<del>215152224</del>	<del>34.45</del>	<del>32.4</del>	<del>OK</del>	<del>A.H.</del>
7/21/19								
7/22/19	26424750	4890609	39920376	215916608	34.55	32.45	OK	A.H.
7/23/19	26425152	48914715	40020284	216130160	34.43	32.42	OK	A.H.
7/24/19	26425604	48930541	40120068	21635304	34.38	32.4	OK	A.H.
7/25/19	26426002	48940052	40211120	216561504	34.47	32.43	OK	A.H.
7/26/19	26426484	48972392	40327708	216800624	34.47	32.43	OK	A.H.
7/27/19								
7/28/19								
7/29/19	26427858	5044254	40628760	217486096	34.24	32.35	OK	A.H.
7/30/19	26428254	5067787	40702416	217677184	34.21	32.33	OK	A.H.
7/31/19	26428662	5092420	40779268	217875152	34.21	32.32	OK	A.H.

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2019 Jul	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.05	0.041	42.50	40.50
2	0.00	0.041	42.50	40.50
3	0.45	0.041	42.50	40.50
4	2.24	0.040	42.50	40.50
5	0.16	0.044	42.50	40.50
6	0.00	0.048	42.50	40.50
7	0.64	0.047	42.50	40.50
8	1.30	0.048	42.50	40.50
9	1.35	0.055	42.50	40.50
10	0.00	0.061	42.50	40.50
11	0.59	0.064	42.50	40.50
12	0.05	0.062	42.50	40.50
13	0.00	0.060	42.50	40.50
14	0.02	0.058	42.50	40.50
15	0.73	0.059	42.50	40.50
16	0.03	0.055	42.50	40.50
17	1.98	0.052	42.50	40.50
18	0.30	0.060	42.50	40.50
19	0.62	0.070	42.50	40.50
20	1.82	0.069	42.50	40.50
21	0.75	0.074	42.50	40.50
22	0.02	0.076	42.50	40.50
23	0.22	0.075	42.50	40.50
24	1.12	0.073	42.50	40.50
25	0.51	0.073	42.50	40.50
26	0.10	0.080	42.50	40.50
27	0.00	0.078	42.50	40.50
28	0.00	0.077	42.50	40.50
29	0.00	0.073	42.50	40.50
30	0.00	0.070	42.50	40.50
31	1.00	0.069	42.50	40.50
TOTAL	16.05	1.893		
AVG		0.061		
MIN				
MAX	2.24	0.080		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

## Monthly Groundwater Gradient Report

Month and Year: July 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	27.95	<i>inward</i>	GW-3	39.40	36.23
P-4	40.78	22.32	<i>inward</i>	GW-4	40.53	35.15
P-5	40.73	22.04	<i>inward</i>	GW-5	39.90	34.20
P-6	40.74	20.22	<i>inward</i>	GW-6	38.95	33.75
P-7	40.60	19.49	<i>inward</i>	GW-7	39.49	32.32
P-8	40.21	19.47	<i>inward</i>	GW-8	39.75	31.35
P-9	39.97	19.72	<i>inward</i>	GW-9	39.65	32.15
P-10	39.86	19.65	<i>inward</i>	GW-10	38.34	34.19
P-11	40.52	22.55	<i>inward</i>	GW-11	38.26	32.32
P-12	43.28	30.72	<i>inward</i>	GW-12	42.09	33.60
P-13	44.78	30.95	<i>inward</i>	GW-13	44.79	34.73
P-14	45.09	29.81	<i>inward</i>	GW-14	39.63	35.68
P-15	45.57	30.92	<i>inward</i>	GW-15	42.33	35.90
P-16	44.67	31.01	<i>inward</i>	GW-16	44.41	35.87
P-17	44.28	30.73	<i>inward</i>	GW-17	42.19	35.96
P-18	43.16	24.81	<i>inward</i>	GW-18	41.76	36.22
P-19	42.91	23.45	<i>inward</i>	GW-19	41.20	36.14
P-20	42.54	26.49	<i>inward</i>	GW-20	41.00	34.90
P-21	42.23	25.35	<i>inward</i>	GW-21	40.94	30.70
P-22	42.06	24.31	<i>inward</i>	GW-22	41.53	31.23
P-23	42.08	22.77	<i>inward</i>	GW-23	40.91	34.86
P-24	42.03	20.31	<i>inward</i>	GW-24	41.37	33.94
P-25	42.16	21.07	<i>inward</i>	GW-25	41.11	35.66
P-26	42.50	19.22	<i>inward</i>	GW-26	41.44	35.73
P-27R	42.73	19.73	<i>inward</i>	GW-27R	40.90	36.20

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: 07/26/2019