LEWES WASTEWATER TREATMENT PLANT

Influent Flow Report

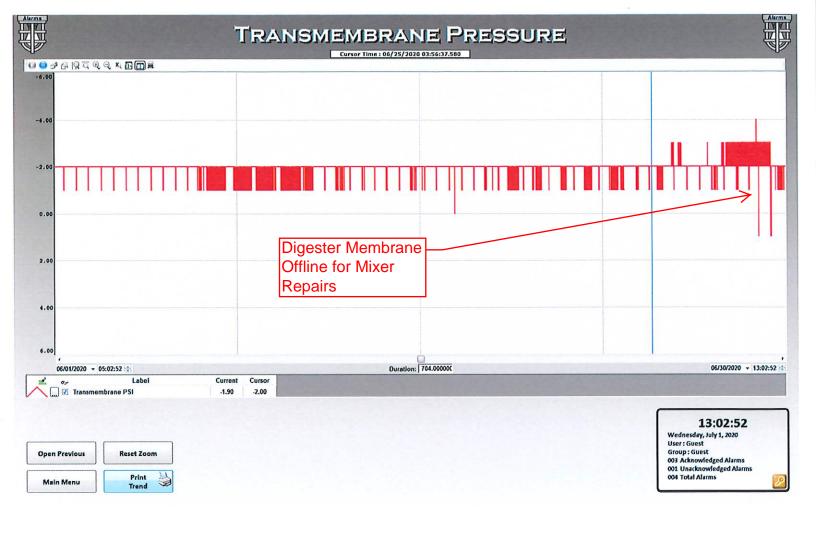
Influent Flow

Time	Flow
6/1/2020	884400
6/2/2020	874000
6/3/2020	892400
6/4/2020	912000
6/5/2020	951900
6/6/2020	982000
6/7/2020	971400
6/8/2020	923500
6/9/2020	904400
6/10/2020	917200
6/11/2020	1024600
6/12/2020	1034500
6/13/2020	1042400 Peak Day
6/14/2020	1033800
6/15/2020	963200
6/16/2020	940100
6/17/2020	939500
6/18/2020	967600
6/19/2020	1006200
6/20/2020	989700
6/21/2020	968800
6/22/2020	933300
6/23/2020	923900
6/24/2020	911900
6/25/2020	944500
6/26/2020	963100
6/27/2020	995200
6/28/2020	987000
6/29/2020	961100
6/30/2020	940100
Total Flow:	28683700

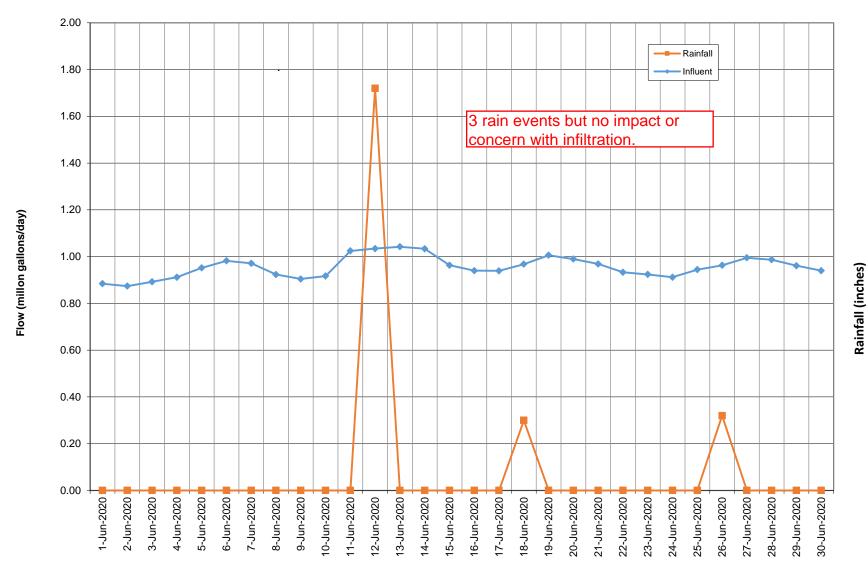
LEWES WASTEWATER TREATMENT PLANT Effluent Flow Report

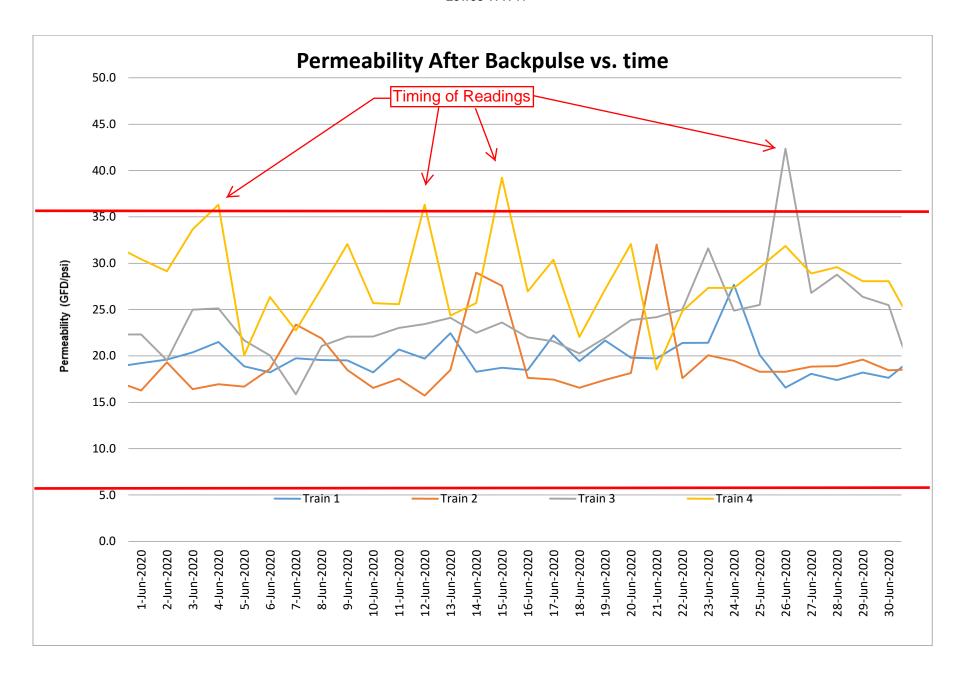
Effluent Flow

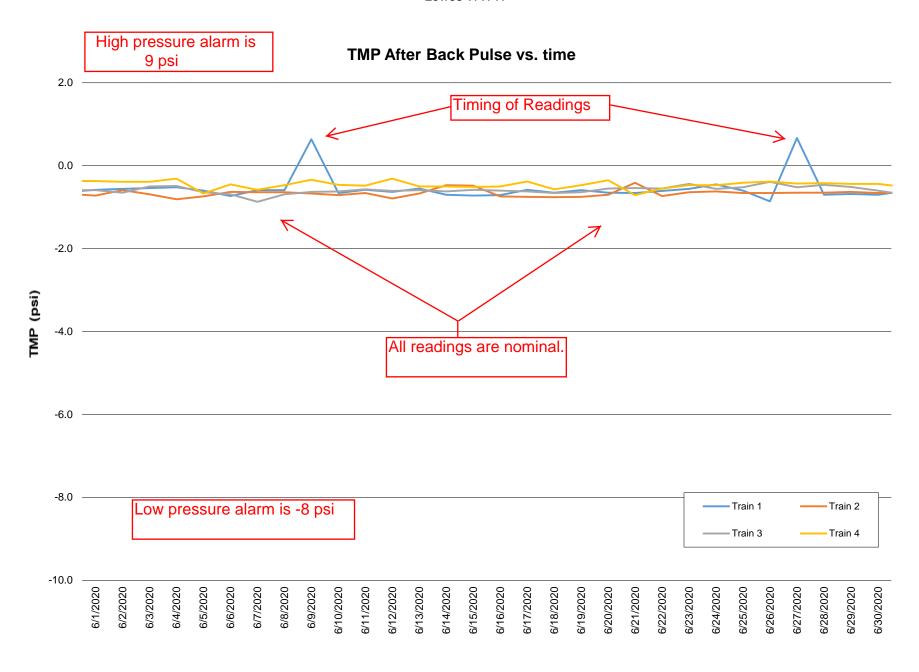
Time	Flow
6/1/2020	876200
6/2/2020	865300
6/3/2020	880600
6/4/2020	903300
6/5/2020	910600
6/6/2020	941200
6/7/2020	964600
6/8/2020	958800
6/9/2020	909700
6/10/2020	906200
6/11/2020	924100
6/12/2020	1085500 Peak Day
6/13/2020	1032700
6/14/2020	1035900
6/15/2020	947800
6/16/2020	920000
6/17/2020	923500
6/18/2020	948600
6/19/2020	983600
6/20/2020	955300
6/21/2020	971500
6/22/2020	929200
6/23/2020	915500
6/24/2020	901300
6/25/2020	939500
6/26/2020	946400
6/27/2020	974700
6/28/2020	986500
6/29/2020	948000
6/30/2020	929200
Total Flow:	28315300



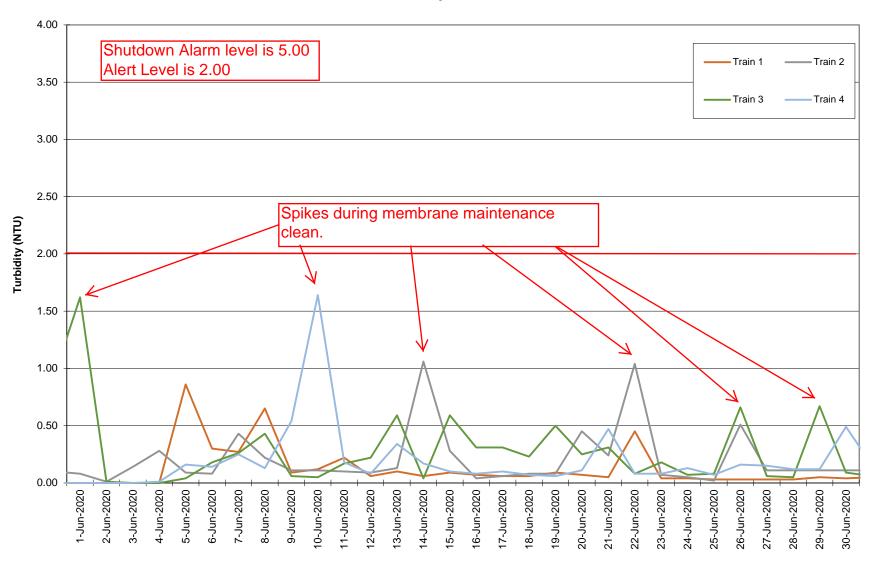
Influent Flow Vs. Rainfall







Turbidity Profile



PUMP STA	TIC	ON	196
Jun-20		PS 196	
		METER	24 HOUR
		READING	FLOW
MON	1	51254590	0.381890
TUE	2	51636480	0.387600
WED	3	52024080	0.387920
THUR	4	52412000	0.398350
FRI	5	52810350	0.411030
SAT	6	53221380	0.416970
SUN	7	53638350	0.421310
MON	8	54059660	0.397650
TUE	9	54457310	0.398770
WED	10	54856080	0.407390
THUR	11	55263470	0.421640
FRI	12	55685110	0.429030
SAT	13	56114140	0.433970
SUN	14	56548110	0.439370
MON	15	56987480	0.408020
TUE	16	57395500	0.410620
WED	17	57806120	0.412110
THUR	18	58218230	0.416790
FRI	19	58635020	0.372080
SAT	20	59007100	0.358220
SUN	21	59365320	0.355420
MON	22	59720740	0.353260
TUE	23	60074000	0.347030
WED	24	60421030	0.344790
THUR	25	60765820	0.353700
FRI	26	61119520	0.360790
SAT	27	61480310	0.379210
SUN	28	61859520	0.374840
MON	29	62234360	0.365820
TUE	30	62600180	0.355520
		62955700	

TOTAL	11.701110
COUNT	30
AVERAGE	0.390037
MINIMUM	0.344790
MAXIMUM	0.439370

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

PERMITTEE NAME/ADDRESS (include Facility Name/Location if different):

DISCHARGE MONITORING REPORT (DMR)

NAME Howard Seymour Water Reclamation Plant **ADDRESS** 116 American Legion Road, Lewes, DE 19958 US Howard Seymour Water Reclamation Plant **FACILITY**

DE0021512 PERMIT NUMBER

001 DISCHARGE NUMBER

REPORT DESIGNATOR DATA ENTRY COMPLETE REPORT SUBMITTED BY

Α 7/10/2020 jmarion@tuiwater.com



LOC	ATION 116 American Lo	egion Road, Lewe	es, DE	19958 US	FROM	2020 06 0)1 TO	2020 06 30	STATUS OF SUBMISS	SION Sub	mitted	for Signature	THE RESERVE THE PROPERTY OF THE PARTY OF THE
	PARAMETER		NDI	QUAN'	TITY OR LOADING	G		QUALITY OR CONC	ENTRATION		NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
#				AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MUNIXAM	UNITS			
1/1	Flow	SAMPLE MEASUREMENT		0.9442	1.0856	Mil Gal/Day					0	99/99	RCOTOT
	Gross Effluent (50050)	PERMIT REQUIREMENT		No Limit Monitoring Reqd	No Limit Monitoring Requ	Mil Gal/Day	No Monitoring Required	No Monitoring Required	No Monitoring Required	-	-	99/99	RCOTOT
1/2	Dissolved oxygen (DO)	SAMPLE MEASUREMENT					1.98		4.4	mg/l	0	99/99	Imersion
	Gross Effluent (00300)	PERMIT REQUIREMENT	-	No Monitoring Required	No Monitoring Required		No Limit Monitoring Requ	No Monitoring Required	No Limit Monitoring Reqd	mg/l	-	99/99	Imersion
1/3	рН	SAMPLE MEASUREMENT			Jan Salara		7.4		7.7	Std pH Units	0	01/01	Grab
	Gross Effluent (00400)	PERMIT REQUIREMENT	-	No Monitoring Required	No Monitoring Required	-	6	No Monitoring Required	9	Std pH Units	-	01/01	Grab
1/4	Enterococcus	SAMPLE MEASUREMENT				2		<1	<1	CFU/100 ML	0	01/07	Grab
	Gross Effluent (31639)	PERMIT REQUIREMENT	1	No Monitoring Required	No Monitoring Required	-	No Monitoring Required	10	104	CFU/100 ML	-	01/07	Grab
1/5	BOD5	SAMPLE MEASUREMENT		<3.03	<18.6	ibs/Day		<2.4	<2.4	mg/l	0	01/07	Composite 24
	Gross Effluent (00310)	PERMIT REQUIREMENT	-	188	288	lbs/Day	No Monitoring Required	15	23	mg/l	-	01/07	Composite 24
1/6	BOD5	SAMPLE MEASUREMENT						161	249	mg/l	0	01/07	Composite 24
	Raw Sewage (00310)	PERMIT REQUIREMENT	-	No Monitoring Required	No Monitoring Required		No Monitoring Required	No Limit Monitoring Reqd	No Limit Monitoring Reqd	mg/l	-	01/30	Composite 24
1/7	TSS	SAMPLE MEASUREMENT		<1.44	<15.27	lbs/Day		<1.14	<2	mg/l	0	01/07	Composite 24
	Gross Effluent (00530)	PERMIT REQUIREMENT	-	188	288	lbs/Day	No Monitoring Required	15	23	mg/l	-	01/07	Composite 24

MONITORING PERIOD

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL	[ATTACH DIGITAL SIGNATURE RECEIPT FROM CROMERR]	TELEPHONE			
	PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE	SIGNATURE OF PRINCIPAL EXECUTIVE				
TYPED OR PRINTED	INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	OFFICER OR AUTHORIZED AGENT		YEAR	МО	DAY

NDI (No Data Indicator) Reasons: 8 - No Sample (Other); 9 - No Sample (Monitoring Not Required this Monitoring Period); B - Not Detected; C - No Sample (No Discharge)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

PERMITTEE NAME/ADDRESS (include Facility Name/Location if different):

DISCHARGE MONITORING REPORT (DMR)

NAME Howard Seymour Water Reclamation Plant

ADDRESS 116 American Legion Road, Lewes, DE 19958 US

FACILITY Howard Seymour Water Reclamation Plant

DE0021512

PERMIT NUMBER DISCH
MONITORING PERIOD

001 DISCHARGE NUMBER REPORT DESIGNATOR

DATA ENTRY COMPLETE

REPORT SUBMITTED BY

A
7/10/2020
jmarion@tuiwater.com

STATUS OF SUBMISSION TO Submitted for Signature LOCATION 116 American Legion Road, Lewes, DE 19958 US FROM 2020 06 01 2020 06 30 SAMPLE TYPE QUALITY OR CONCENTRATION NO. **FREQUENCY** PARAMETER NDI QUANTITY OR LOADING EX. OF ANALYSIS UNITS MAXIMUM UNITS MINIMUM **AVERAGE** MAXIMUM **AVERAGE** 2/1 TSS SAMPLE 115.68 217 mg/l 0 01/07 Composite 24 -MEASUREMENT PERMIT No Monitoring No Monitoring No Limit I No Limit I 01/30 Composite 24 Raw Sewage (00530) No Monitoring mg/l REQUIREMENT Required Monitoring Regd Monitoring Read Required Required SAMPLE Total Nitrogen 14.22 14.22 lbs/Day 1.97 1.97 mg/l 0 01/30 Composite 24 MEASUREMENT 8 Gross Effluent (00600) PERMIT 100 No Limit | lbs/Day No Limit | 01/30 Composite 24 No Monitoring mg/l REQUIREMENT Monitoring Reqd Monitoring Reqd Required SAMPLE 2/3 Phosphorus, Total 9.45 9.45 lbs/Day 1.31 1.31 mg/l 0 01/30 Composite 24 MEASUREMENT lbs/Day 2 01/30 Composite 24 Gross Effluent (00665) PERMIT 25 No Limit No Monitoring No Limit | mg/l REQUIREMENT Monitoring Regd Required Monitoring Regd

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
IGERTIFY UI
PROPERLY OFFICER

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT OLAULIED PERSONNEI PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED, BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED B, TO THE BEST OF MY KNOWLEDGE AND BELLET, TRUE, ACUPATE, AND COMPLETE, JAW AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBLITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

[ATTACH DIGITAL SIGNATURE RECEIPT FROM CROMERR]

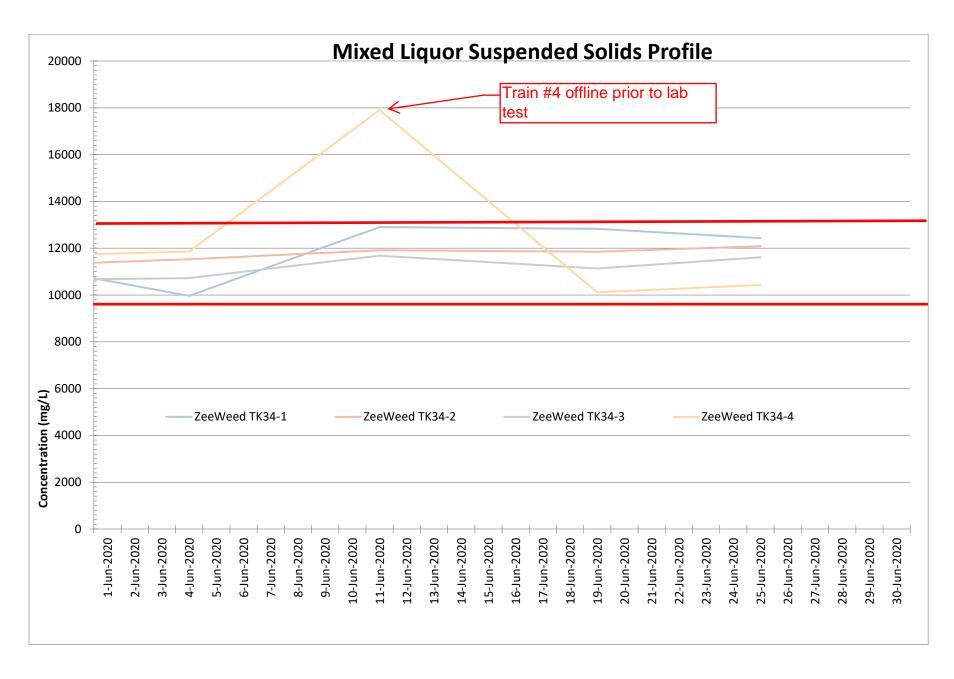
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE DATE

YEAR MO DAY

NDI (No Data Indicator) Reasons: 8 - No Sample (Other); 9 - No Sample (Monitoring Not Required this Monitoring Period); B - Not Detected; C - No Sample (No Discharge)





MONTHLY OPERATIONS REPORT

Tidewater Utilities

SITE: LEWES WWTF Page 1 of 2 JUNE 2020

G	ENER	AL INFO	RMATIC	ON	F	INAL EFFL	UENT O	JTFALL O	O1 Du	p Samples	s 1 per wee	k
		AIR	Prec		EFF FLOW	рН	p.H	D.O.,	TEMP.	SAN	/IPLE	TEST
DATE	DAY	deg F	in,	WEATHER	MGD	S.U.	DUP	mg/l	deg C	TIME	INITIALS	TIME
6/1/2020	m	55	0.00	clear	0.8762	7.46	7.46	4.28	20.5	8:50	DBW	9:01
6/2/2020	t	61	0.00	p/cloudy	0.8653	7.41		4.01	20.9	7:55	DBW	8:03
6/3/2020	W	76	Т	p/cloudy	0.8806	7.41		3.35	22.2	8:14	DBW	8:19
6/4/2020	t	76	0.00	clear	0.9033	7.40		2.65	22.6	7:45	DBW	7:55
6/5/2020	f	73	0.00	clear	0.9106	7.46		2.76	22.8	9:15	DBW	9:28
6/6/2020	S	80	0.00	Sunny	0.9412	7.56		3.04	23.2	11:45	CL	11:51
6/7/2020	S	71	0.00	Clear	0.9646	7.41		3.01	23.1	11:52	CL	12:02
6/8/2020	m	58	0.00	Sun	0.9588	7.47	7.46	2.95	22.0	7:23	JT	7:32
6/9/2020	t	63	0.00	Sun	0.9097	7.51		2.95	22.2	7:35	JT	7:44
6/10/2020	W	75	0.00	Sun	0.9062	7.46		3.41	22.5	8:05	JT	9:01
6/11/2020	t	79	0.00	cloudy	0.9242	7.67		3.28	23.3	9:05	JT	9:15
6/12/2020	f	70	1.72	cloudy	1.0856	7.45		3.26	23.2	9:10	JT	9:15
6/13/2020	S	75	0.00	Clear	1.0327	7.51		4.41	23.5	18:15	RLG	18:24
6/14/2020	S	71	0.00	clear	1.0360	7.71		2.66	22.8	17:00	RLG	17:11
6/15/2020	m	63	0.00	cloudy	0.9478	7.42		1.98	21.9	8:20	JT	8:30
6/16/2020	t	63	0.00	cloudy	0.9200	7.54	7.51	2.57	21.7	10:30	JT	10:40
6/17/2020	W	64	Т	cloudy	0.9235	7.53		3.92	22.0	8:10	DBW	8:06
6/18/2020	t	65	0.30	rain	0.9486	7.49		3.96	22.7	9:40	JT	9:45
6/19/2020	f	70	0.00	sunny	0.9837	7.51		3.56	23.6	9:00	JT	9:06
6/20/2020	S	74	0.00	clear	0.9554	7.43		3.79	23.5	10:36	GL	10:44
6/21/2020	S	71	0.00	clear	0.9716	7.58		3.78	23.5	11:20	GL	11:29
6/22/2020	m	70	0.00	sun	0.9292	7.59	7.56	3.16	23.5	8:40	JT	8:47
6/23/2020	t	75	0.00	Sun	0.9155	7.51		3.09	24.3	12:00	JT	12:06
6/24/2020	W	75	0.00	cloudy	0.9120	7.46		3.15	23.9	7:30	JT	7:38
6/25/2020	t	70	0.00	clear	0.9395	7.45		3.27	23.2	10:25	DBW	10:37
6/26/2020	f	70	0.32	clear	0.9464	7.51		2.74	23.7	9:20	DBW	9:29
6/27/2020	S	75	0.00	light rain	0.9747	7.40		3.49	23.2	8:55	GL	9:00
6/28/2020	S	79	0.00	clear	0.9865	7.46		3.12	24.5	10:40	GL	15:55
6/29/2020	m	84	0.00	clear	0.9480	7.44	7.46	3.03	24.2	8:15	GL	8.25
6/30/2020	t	75	0.00	Sunny	0.9293	7.39		3.25	24.5	7:50	JT	8:01

MONTHLY OPERATIONS REPORT Tidewater Utilities

SITE:	LEWE	ES WW	TF						F	Page 2 of	2					JU	NE	2020	SITE:	LEW	ES WWTF		JUNE				
											F	INAL EFFL	UENT OU	TFALL O	01						INF						
		В	OD5	Т	TSS		ENTEROC.		TO	TAL P	тот	AL N	AMMON	IIA AS N	NITRATE+N	IITRITE AS N	Т	KN	DATE	DAY			BOD5			TSS	
DATE	DAY	mg/l	lbs/day	mg/l	lbs	s/day	Col/100 ml	Logarithm	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day			MGD		mg/l	lbs/day		mg/l	lbs/day
1	m		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	1	m	0.8844			0.00			0.00
2	t <	2.40	< 17.32	< 0.50	< 3	3.61			1.31	9.45	1.97	14.22	0.68	4.91	0.68	4.91	1.29	9.31	2	t	0.874			0.00			0.00
3	W		0.00		0	> 00.0	1			0.00		0.00		0.00		0.00		0.00	3	W	0.8924		249.00	1853.21		217.00	1615.05
4	t		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	4	t	0.912			0.00			0.00
5	f		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	5	f	0.9519			0.00			0.00
6	S		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	6	S	0.982			0.00			0.00
7	S		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	7	S	0.9714			0.00			0.00
8	m		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	8	m	0.9235			0.00			0.00
9	t <	2.40	< 18.21	< 2.00	< 15	5.17				0.00		0.00		0.00		0.00		0.00	9	t	0.9044		172.00	1297.34		136.00	1025.81
10	W		0.00		0	> 00.0	1			0.00		0.00		0.00		0.00		0.00	10	W	0.9172			0.00			0.00
11	t		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	11	t	1.0246			0.00			0.00
12	f		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	12	f	1.0345			0.00			0.00
13	S		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	13	S	1.0424			0.00			0.00
14	S		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	14	S	1.0338			0.00			0.00
15	m		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	15	m	0.9632			0.00			0.00
16	t <	2.40	< 18.41	0.70	5	5.37				0.00		0.00		0.00		0.00		0.00	16	t	0.9401		112.00	878.13		76.70	601.36
17	W		0.00		0	> 00.0	1			0.00		0.00		0.00		0.00		0.00	17	w	0.9395			0.00			0.00
18	t		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	18	t	0.9676			0.00			0.00
19	f		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	19	f	1.0062			0.00			0.00
20	S		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	20	s	0.9897			0.00			0.00
21	S		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	21	s	0.9688			0.00			0.00
22	m		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	22	m	0.9333			0.00			0.00
23	t <	2.40	< 18.32	< 2.00	< 15	5.27				0.00		0.00		0.00		0.00		0.00	23	t	0.9239		100.00	770.53		16.70	128.68
24	W		0.00		0	> 00.0	1			0.00		0.00		0.00		0.00		0.00	24	W	0.9119			0.00			0.00
25	t		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	25	t	0.9445			0.00			0.00
26	f		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	26	f	0.9631			0.00			0.00
27	S		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	27	S	0.9952			0.00			0.00
28	S		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	28	S	0.987			0.00			0.00
29	m		0.00		0	0.00				0.00		0.00		0.00		0.00		0.00	29	m	0.9611			0.00			0.00
30	t <	2.40	< 18.60 <	< 0.50	3	3.88				0.00		0.00		0.00		0.00		0.00	30	t	0.9401		172.00	1348.55		132.00	1034.94
																											1
TOTAL																			TOTAL		28.6837						
AVERAG			< 3.03				1.0		1.31	9.45	1.97	14.22	0.68	0.16	0.68	0.16	1.29	0.31	AVER/	AGE	0.9561		161.00	204.93		115.68	146.86
MAXIMU			< 18.60				1.0		1.31	9.45	1.97	14.22	0.68	4.91	0.68	4.91	1.29	9.31	MAXIM	1UM	1.0424		249.00	1853.21		217.00	1615.05
MINIMUM	1 <	2.40	< 0.00	0.50	0	0.00	1.0		1.31	0.00	1.97	0.00	0.68	0.00	0.68	0.00	1.29	0.00	MINIM	UM	0.8740		100.00	0.00		16.70	0.00

LEWES WWTF

NUTRIENT OFFSET REPORT

MONTH	Days	Average Monthly Flow	Monthly Average TN	Total Monthly TN Discharged	TN Based 11.8 lbs Manure Offset Required	2 100 STREET,	Manure cated	Poultry Manure Offset Balance	Monthly Average TP	Total Monthly TP Discharged	TP Based 11.8 lbs Manure Offset Required
		MGD	mg/L	Lbs.	Lbs.	Tons	Lbs.	Lbs.	mg/L	Lbs.	Lbs.
Carry Over								3,195,312.26			
January	31	0.6789	7.74	1358.55	16030.85		-	3,179,281.41	0.15	26.33	310.68
February	29	0.8255	1.16	231.60	2732.88			3,176,548.53	0.06	11.58	136.64
March	31	0.8058	1.15	239.58	2827.06		-	3,173,721.47	0.07	14.58	172.08
April	30	0.6604	0.90	148.71	1754.76		-	3,171,966.70	0.51	84.27	994.37
May	31	0.7431	2.52	484.15	5712.91			3,166,253.79	1.71	328.53	3876.62
June	30	0.9442	1.97	465.39	5491.61		-	3,160,762.18	1.31	309.47	3651.78
July	31			0.00	0.00		78 TH	3,160,762.18		0.00	0.00
August	31			0.00	0.00		-	3,160,762.18		0.00	0.00
September	30			0.00	0.00		H	3,160,762.18		0.00	0.00
October	31			0.00	0.00		-	3,160,762.18		0.00	0.00
November	30			0.00	0.00	rge i ryawawana see	<u>, y≠1</u>	3,160,762.18		0.00	0.00
December	31			0.00	0.00		-	3,160,762.18		0.00	0.00
Year Balance	WINDS AND						1 100	3,160,762.18			

Comments:		
	Jol E. Man	7/7/2020
	Authorized Signatory	DATE

WHITE MARSH ENVIRONMENTAL SYSTEMS, INC. MONTHLY OPERTAING REPORT - LEWES WASTEWATER TREATMENT PLANT ROOT CAUSE REPORT - CORRECTIVE ACTIONS SUMMARY - MAY 2020

	D D (Action	Status Open/ Complete/	
Action Item	Due Date	Owner	Ongoing	Comments/Notes
1. Replace all four trains of filter membranes	May 2020	BPW	Complete	Installation is complete.
2. Reset Turbidity set-point to Manufacture recommended setting	February 2020	WMES	Complete	Reset as of February 13, 2020.
3. Replace all four Turbidity monitors with new models that have additional functionality, including the ability to alarm on loss of flow.	February 2020	WMES	Complete	New model turbidity monitors installed as of February 13, 2020.
4. Have the BPW consulting engineers and BPW staff perform Quarterly WWTF walk through to evaluate the field condition, maintenance records, compliance records and the operation and maintenance of the WWTF.	February 2020	BPW	Complete	GMB performed their first walkthrough for the BPW on February 18, 2020. Paul Peris of WMES accompanied GMB on the walkthrough. WMES received a copy of the report from the first walkthrough on 4-30-20. Second walkthrough was performed on 5-19-20.
5. Review and update the plant Operation and Maintenance Manual to ensure that the current plant configuration is captured, including other updates such as Suez's recommendation on chemical and mechanical cleaning	5/1/2020	BPW	Complete	Darrin Gordon issued an Updated Suez O and M Manual in electronic format to WMES representative on March 3, 2020. WMES is maintaining the electronic version and a hard copy desk version on-site at the Howard H. Seymour Water Reclamation Facility.
6. Issue Contract with Suez to remotely collect data (Insight-Pro) and provide cloud-based access to the data for BPW and plant operator. Suez will monitor and trend data, provide bi-weekly reporting and cleaning recommendations. Suez will provide an annual summary report.	5/1/2020	BPW	Open	Suez notified the BPW and WMES that the PLC was shipped on April 29, 2020. When the PLC is received by the BPW, it will be installed by the BPW's consultant (Keystone) in consultation with Suez. Programming of new panel scheduled for week of 6-15-20. Suez technician was onsite 6/15/20 to upload the programming for the new control panel. The Insight system is no online due to communication issues. BPW, Josh Gritton, is working with Suez and Keystone to solve the issue.
7. Perform an engineering analysis of the entire plant to identify ways to improve redundancy and reliability of the plant, including:	6/30/2020	BPW	Open	
a. Review current screen design to determine if there is a way to remove more of the "soft and spongy" material to reduce filter	6/30/2020	BPW	Open	
b. Potential for splitting the four filter trains to have them operate in a redundant parallel configuration	6/30/2020	BPW	Open	
c. Configuration of turbidity meters to provide better protection against use of dirty water during back flush cycle	6/30/2020	BPW	Open	
8. WMES to establish an improvement program for monitoring of plant performance to be evaluated and accepted by BPW. The Corrective Actions contained in the WMES report are not detailed enough to provide assurance to BPW that the plant is being operated to industry Best Practices	5/16/2020	WMES	Complete	Included in April Monthly Report to BPW.

WHITE MARSH ENVIRONMENTAL SYSTEMS, INC. MONTHLY OPERTAING REPORT - LEWES WASTEWATER TREATMENT PLANT ROOT CAUSE REPORT - CORRECTIVE ACTIONS SUMMARY - MAY 2020

Status

			Open/	
		Action	Complete/	
Action Item	Due Date	Owner	Ongoing	Comments/Notes
9. Improve reporting requirements from WMES to BPW for:	5/16/2020	WMES	Complete/Ongoing	Started in April Monthly Report to BPW.
a. Off-normal conditions at the plant	5/16/2020	WMES	Complete/Ongoing	Started in April Monthly Report to BPW.
b. Discharges outside of Permit limits	5/16/2020	WMES	Complete/Ongoing	Started in April Monthly Report to BPW.
c. OHSA accidents	5/16/2020	WMES	Complete/Ongoing	Started in April Monthly Report to BPW.
d. Details included in monthly reports (to include trending of performance data, trending of equipment failures, preventative				
maintenance required, suggested capital improvements and other concerns)	5/16/2020	WMES		Started in April Monthly Report to BPW.
e. WMES to present their report at the monthly BPW meeting	5/16/2020	WMES		Started in April Monthly Report to BPW.
f. Require, as per the contract, a detailed yearly reporting on the operation of the plant to include the items listed in a. through d.	1/15/2021	WMES	Open	To be included in Annual Report to BPW beginning with the 2020 Annual Report.
10. BPW staff to strengthen its oversight of Operators performance				
a. Through the review of trending data in monthly and annual reports	5/16/2020	BPW	Complete/Ongoing	BPW indicates that its staff will commence this as part of the April monthly report process.
b. Schedule routine plant walk through with plant WMES management	5/16/2020	BPW	Complete/Ongoing	BPW indicates that its staff will commence this as part of the April monthly report process.
c. Annual review of WMES Policies and Procedures	5/16/2020	BPW	Complete/Ongoing	BPW indicates that its staff will commence this as part of the April monthly report process.
d. Reporting to the BPW Board of condition of the plant	5/16/2020	BPW	Complete/Ongoing	BPW indicates that its staff will commence this as part of the April monthly report process.
e. Developing of an open Item tracking system	5/16/2020	BPW	Complete/Ongoing	BPW indicates that its staff will commence this as part of the April monthly report process.
11. BPW Board of Directors to review its oversight function of the operation of the BPW.a. Continue to use outside subject matter experts such as Sargent and Lundy, Suez, GMB, etc. to provide the Board with guidance on the condition of the BPW systemsb. Perform audit by a sub-group of the Board of the BPW operation and management systems	Annually	BPW	Open	To be completed annually by BPW. Schedule to be determined and added to tracking list that will be developed in Corrective Action 10. e.
12. WMES to develop plans for operating plant in off-normal conditions. BPW provided WMES with a Best Practices template and				WMES portion complete, to be submitted as part of the amended March 2020 Monthly Report to the
copy of the prior operating company plan. This should include, but not be limited to:	4/16/2020	WMES/BPW	Complete/Open	BPW. BPW portion Open; to be done by BPW Engineering Consultant.
a. Loss of filter membrane	4/16/2020	WMES/BPW	Complete/Open	WMES portion complete, to be submitted as part of the amended March 2020 Monthly Report to the BPW. BPW portion Open; to be done by BPW Engineering Consultant.
				WMES portion complete, to be submitted as part of the amended March 2020 Monthly Report to the
b. Digesters	4/16/2020	WMES/BPW	Complete/Open	BPW. BPW portion Open; to be done by BPW Engineering Consultant. WMES portion complete, to be submitted as part of the amended March 2020 Monthly Report to the
c. Other critical equipment	4/16/2020	WMES/BPW	Complete/Open	BPW. BPW portion Open; to be done by BPW Engineering Consultant.
d. Loss of Power	4/16/2020	WMES/BPW	Complete/Open	WMES portion complete, to be submitted as part of the amended March 2020 Monthly Report to the BPW. BPW portion Open; to be done by BPW Engineering Consultant.
e. Storm response	4/16/2020	WMES/BPW	Complete/Open	WMES portion complete, to be submitted as part of the amended March 2020 Monthly Report to the BPW. BPW portion Open; to be done by BPW Engineering Consultant.
c. Storm response	4/10/2020	W WILDS/DF W	Complete/Open	WMES portion complete, to be submitted as part of the amended March 2020 Monthly Report to the
f. Security Breach	4/16/2020	WMES/BPW	Complete/Open	BPW. BPW portion Open; to be done by BPW Engineering Consultant. WMES portion complete, to be submitted as part of the amended March 2020 Monthly Report to the
g. Terrorist/cyber terrorist attack	4/16/2020	WMES/BPW	Complete/Open	BPW. BPW portion Open; to be done by BPW Engineering Consultant.

WHITE MARSH ENVIRONMENTAL SYSTEMS, INC. MONTHLY OPERTAING REPORT - LEWES WASTEWATER TREATMENT PLANT ROOT CAUSE REPORT - CORRECTIVE ACTIONS SUMMARY - MAY 2020

Status

			Open/	
		Action	Complete/	
Action Item	Due Date	Owner	Ongoing	Comments/Notes
13. BPW to look at other areas of its operation to determine if there are generic implications from the failure at the WWTF a. Evaluate the operation of the Water Department, electrical department and other areas of BPW operation to determine where improvements in Management practices are needed.	Undetermined	BPW	Open	Status: In process – Sargent & Lundy is currently performing a review of the BPW electrical system and will provide input to BPW for future capital projects and areas of improvement. Review quarterly at monthly BPW meeting
14. Require all WMES operational staff to have appropriate training by Suez on the proper operation and maintenance of the filters and plant	5/16/2020	WMES	Open	Information included in April Monthly Report to BPW. WMES continues to follow-up with Suez on any training opportunities. Covid-19 pandemic has caused previously scheduled opportunities to be cancelled. Suez is looking at potentially having virtual training sessions. Suez will notify WMES if this becomes available.
15. WMES to review its safety manual to verify they are complying with the appropriate CDC guidelines and industry best practices for sanitary conditions. Post the appropriate areas of the plant as no-smoking/no-eating	4/16/2020	WMES	Complete	Commitment due as part of the March 2020 Monthly Report to the BPW.
16. WMES to review its safety practices and plant conditions to determine what changes may be required. Note: The Temporary cabling that was installed to protect employees appears to create other safety concerns.	4/16/2020	WMES	Complete	Commitment due as part of the March 2020 Monthly Report to the BPW.
17. BPW to audit WMES safety procedures and practices to included:				
a. Lock-out/Tag-out of equipment	April 2020	BPW	Complete	Documents are in a binder at the Lewes WWTP
b. Confined entry permit	April 2020	BPW	Complete	Documents are in a binder at the Lewes WWTP
c. Personal Protective Equipment	April 2020	BPW	Complete	Documents are in a binder at the Lewes WWTP
d. General Housekeeping	April 2020	BPW	Complete	Documents are in a binder at the Lewes WWTP
e. Chemical control and handling	April 2020	BPW	Complete	Documents are in a binder at the Lewes WWTP
18. WMES to provide a monthly update on its Corrective Actions to BPW	4/16/2020	WMES	Ongoing	Started as part of the March 2020 Monthly Report to the BPW.
19. BPW Staff to provide an update on the status of the above Corrective Actions at routine monthly BPW meetings. This will be part of the standing agenda for the meetings	4/16/2020	BPW	Ongoing	Initially due as part of the review process of the March 2020 Monthly Report to the BPW.

RECOMMENDATIONS TRACKING – MIDDLESEX WATER

	1			
Rec. #				
MWC-022420-01 Notes:	Laboratory Information	only – No recommendation		
STATUS: Correct		Estimated Completion	n Date	
MWC-022420-02 Notes:	supplied he installation of station that r	A single eyewash bottle is ere. We recommend the of a permanent eye wash meets ANSI requirements. The attached to the faucet to this. See the link below for		Vescione EMERCINO VETACE WASH THE TOTAL THE
STATUS: Correct	ted	Estimated Completion	n Date	
MWC-022420-03 Notes:	extinguisher lab. Check	A Halon portable fire has been provided in the with your supplier to this unit is appropriate forment.		STRUCTIONS STATE PACK TO FREE SQUEEZ LEWIS AMAN PACK OF FIRE
STATUS: Correct	ted	Estimated Completion	n Date	

Rec. #			
Notes:	system has who is perfo Request en the contract	Iding – A horizontal lifeline been installed by contractor rming work over the grates. gineering documents from or that include details about and ensure that it is perly.	TOUR TOR
STATUS: Correct	ted	Estimated Completion	n Date
MWC-022420-14 Notes:	system has who is perfo Request en the contract	Ilding - A horizontal lifeline been installed by contractor rming work over the grates. gineering documents from or that include details about a and ensure that it is perly.	
STATUS: Correct	ted	Estimated Completion	n Date
MWC-022420-15 Notes:	this building	ilding – Housekeeping in is very poor. Trip hazards int due to poor material ctices.	
STATUS: Correct	ted	Estimated Completion	n Date

Rec. #					
MWC-022420-31 Notes:	Digester Building – The grating on the stair landing was not secured with fasteners. These need to be installed.				
STATUS: Corrected Estimated Completion Date					
MWC-022420-32 Notes:	Storage Building – Several 5 gallon drums of chemicals are stored here. It should be determined if these chemicals are needed and are being stored properly.		HAST SET SET SET SET SET SET SET SET SET S		
STATUS: Correct	ted Estimated Completion	n Date			