COMMITMENT & INTEGRITY
DRIVE RESULTS

1111 Nantasket Ave.
Hull, Massachusetts 02045

T 781.925.0906

WOODARD
&CURRAN

December 13, 2019

Ms. Marie J. McDonald
U.S. Environmental Protection Agency
Water Enforcement, OES4-SMR
5 Post Office Square
Boston, MA 02109-3912

Subject: Hull, MA Water Pollution Control Facility (WPCF) – NPDES Permit No. MA0101231
Discharge Monitoring Reports – November 2019 – Discharge 001-A

Dear Ms. McDonald:

Enclosed please find the completed DMR for the month of November 2019. Please note that the facility's effluent was in compliance with NPDES requirements.

Should you have questions concerning this submittal, please contact the undersigned at 781-925-0906. Thank you for your assistance.

Sincerely,

Aram Varjabedian – Woodard & Curran
Project Manager

Enc. DMR forms, support documentation

Cc: David Burns, MA DEP (SERO) Lakeville, MA
John J. Struzziery - Director of Wastewater Operations/Assistant Director of Public Works
Ryan Joyce – Division of Marine Fisheries

COMMITMENT & INTEGRITY
DRIVE RESULTS

1111 Nantasket Ave.
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&CURRAN

HULL, MA WATER POLLUTION CONTROL FACILITY
NPDES NO. MA0101231

Hull Water Pollution Control Facility – Staffing – November 2019

Project Manager/Chief Operator – Aram Varjabedian	MA Grade 7C
Asst. Project Manager/Asst. Chief Operator – William Boornazian	MA Grade 7C
Lead Operator – Joseph Basler	MA Grade 5C
Operations/Maintenance Tech 2 – Eric Sutton	MA Grade 3M
Operations/Maintenance Tech 2 – David Wilson	
Operations/Maintenance Tech 1 – Ryan Holman	MA Grade 3M

Supplemental O&M Personnel supporting/assisting the Hull facility

Roger Boltrushek – Part-time Operator	MA Grade 7C
James Gagliard – Sr. Operations Specialist	MA Grade 6C
Jody St. George - Sr. Operations Specialist	MA Grade 7C
Richard Gould – Part-time Operator	MA Grade 5C
Robert Scott – Area Manager	MA Grade 6C

Hull Water Pollution Control Facility – Schedule – November 2019

Schedule for 8 Hour/Day coverage:

	License	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Project Manager	7C	***	X	X	X	X	X	
Asst. Project Manager	7C	***	X	X	X	X	X	
Lead Operator	5C			X	X	X	X	X
O&M Tech 1				X	X	X	X	X
O&M Tech 2	3M		X	X	X	X	X	
O&M Tech 2		X	X	X	X	X		
Part-Time Operator	7C or 5C	*						*
Sr. O&M Specialist	6C	**						

- Part-time operator schedule is usually one day every two weeks and the day can vary, but usually on a Sunday and can vary week-to-week. An asterisk [*] denotes those days that the part-time operator could be scheduled.
- [**] Sr. O&M Specialists coverage is usually part of the Sunday rotation, and also if licensed operations coverage is needed during the week.
- [***] If Sunday coverage is by Sr. O&M or PT operator, then PM and APM schedule is Monday through Friday. PM and APM available and part of the Sunday coverage rotation as needed, and for Saturday coverage if needed.
- PM & APM schedule is Monday through Friday

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

Name HULL W P C F
Address 1111 NANTASKET AVE
HULL MA 02045

Facility HULL W P C F
Location HULL MA 02045
Attn: John Struzziery, Director of WW Ops

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

MA0101231	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	19	11	01	TO	19	11	30

OMB No. 2040-0004

MAJOR
(SUBR E)
F- FINAL
TREATED SANITARY WASTEWATE

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
BOD, 5-DAY (20 DEG. C) 00310 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	101	156	LBS/DY	7	14	14	mg/L	0	1/7	24
	PERMIT REQUIREMENT	768 MO AVG	WKLY AVG	LBS/DY	MO AVG	45 WKLY AVG	DAILY MX	mg/L		WEEKLY	COMP 24
BOD, 5-DAY (20 DEG. C) 00310 G 0 0 RAW SEW/INFLUENT	SAMPLE MEASUREMENT	1,591	******	LBS/DY	116	******	******	mg/L	0	1/7	24
	PERMIT REQUIREMENT	REPORT MO AVG	******	LBS/DY	REPORT MO AVG	******	******	mg/L		WEEKLY	COMP 24
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******	****	6.70	******	7.20	SU	0	01/01	GR
	PERMIT REQUIREMENT	******	******	****	MINIMUM	******	MAXIMUM	SU		WEEKLY	GRAB
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	231	302	LBS/DY	17	27	27	mg/L	0	1/7	24
	PERMIT REQUIREMENT	768 MO AVG	1152 WKLY AVG	LBS/DY	MO AVG	45 WKLY AVG	DAILY MX	mg/L		WEEKLY	COMP 24
SOLIDS, TOTAL SUSPENDED 00530 G 0 0 RAW SEW/INFLUENT	SAMPLE MEASUREMENT	2,976	******	LBS/DY	224	******	******	mg/L	0	1/7	24
	PERMIT REQUIREMENT	REPORT MO AVG	******	LBS/DY	REPORT MO AVG	******	******	mg/L		WEEKLY	COMP 24
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	1.60	3.57	MGD	******	******	******	****	0	99/99	RC
	PERMIT REQUIREMENT	3.04 12 MO AVG	DAILY MX	MGD	******	******	******	****		CONTINUOUS	RCORDR
FLOW, IN CONDUIT OR THRU TREATMENT PLANT 50050 0 0 See Comments	SAMPLE MEASUREMENT	******	******	****	1.66	******	******	MGD	0	99/99	RC
	PERMIT REQUIREMENT	******	******	****	REQ MO AVG	******	******	MGD		CONTIN	RCORDR

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Aram Varjabedian - Project Manager John Struzziery, Director of WW Ops	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 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 is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	Aram Varjabedian	781	925-1207	19	12	13
TYPED OR PRINTED		SIGNATURE OF PRICIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPANATION OF ANY VIOLATIONS (Reference all attachments here)
REPORT MAXIMUM AND MINIMUM DAILY FLOW RATES AND TOTAL FLOW FOR EACH OPERATING DAY WITH DMR EACH MONTH
WET DATA ON DMR 001B

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if different)

Name HULL W P C F
Address 1111 NANTASKET AVE
HULL MA 02045

Facility HULL W P C F
Location HULL MA 02045
Attn: John Struzziery, Director of WW Ops

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004

MAJOR
(SUBR E)
F- FINAL
TREATED SANITARY WASTEWATER

MA0101231	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	19	11	01	TO	19	11	30

*** NO DISCHARGE [ ] ***

NOTE: Read instructions before completing this form

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Chlorine, Total Residual	SAMPLE MEASUREMENT	******	******	******	0.24	******	0.86	mg/L	0	03/01	GR
50060 1 0 EFFLUENT GROSS	PERMIT REQUIREMENT	******	******	******	MO AVG	******	DAILY MAX	mg/L		THREE PER DAY	GRAB
ENTEROCOCCI	SAMPLE MEASUREMENT	******	******	******	16	******	70	CFU/100 ml	0	1/7	GR
61211 1 0 EFFLUENT GROSS	PERMIT REQUIREMENT	******	******	******	35 MO GEO	******	276 DAILY MAX	CFU/100 ml		WEEKLY	GRAB
COLIFORM, FECAL GENERAL	SAMPLE MEASUREMENT	******	******	******	10	******	10	#/100 ml	0	1/7	GR
74055 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	******	******	******	88 MO GEO	******	260 DAILY MX	#/100 ml		WEEKLY	GRAB
BOD, 5-DAY PERCENT REMOVAL	SAMPLE MEASUREMENT	******	******	******	94	******	******	%	0	1/30	CA
81010 K 0 0 PERCENTREMOVAL	PERMIT REQUIREMENT	******	******	******	85 MO AVG	******	******	PER-CEN T		ONCE/ MONTH	CALCTD
SOLIDS, SUSPENDED PERCENT REMOVA	SAMPLE MEASUREMENT	******	******	******	93	******	******	%	0	1/30	CA
81011 K 0 0 PERCENTREMOVAL	PERMIT REQUIREMENT	******	******	******	85 MO AVG	******	******	PER-CEN T		ONCE/ MONTH	CALCTD
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Aram Varjabedian - Project Manager
John Struzziery, Director of WW Ops
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 qualified personnel 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 is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Aram Varjabedian
SIGNATURE OF PRICIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
781	925-1207	19	12	13
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPANATION OF ANY VIOLATIONS (Reference all attachments here)
REPORT MAXIMUM AND MINIMUM DAILY FLOW RATES AND TOTAL FLOW FOR EACH OPERATING DAY WITH DMR EACH MO
WET DATA ON DMR 001B

Date

Effluent

Effluent TSS		
Week Start	Week End	Avg
10/27/19	11/02/19	15
11/03/19	11/09/19	12
11/10/19	11/16/19	27
11/17/19	11/23/19	15
11/24/19	11/30/19	13
	MAX	27

Effluent BOD		
Week Start	Week End	Avg
10/27/19	11/02/19	6
11/03/19	11/09/19	4
11/10/19	11/16/19	14
11/17/19	11/23/19	7
11/24/19	11/30/19	5
	MAX	14

Data for dates in current month

Date	TSS mg/l	TSS Lbs	BOD mg/l	BOD LBS
11/01/19				
11/02/19				
11/03/19				
11/04/19				
11/05/19	12	132	4	40
11/06/19				
11/07/19				
11/08/19				
11/09/19				
11/10/19				
11/11/19				
11/12/19	27	302	14	156
11/13/19				
11/14/19				
11/15/19				
11/16/19				
11/17/19				
11/18/19				
11/19/19				
11/20/19	15	198	7	87
11/21/19				
11/22/19				
11/23/19				
11/24/19				
11/25/19				
11/26/19	13	294	5	120
11/27/19				
11/28/19				
11/29/19				
11/30/19				
MAX	27	302	14	156
AVG	17	232	8	101

Sunday Thru Saturday (avg placed on Saturday date)

Date	TSS mg/l	TSS LBS	BOD mg/l	BOD LBS
11/01/19				
11/02/19	15	261	6	108
11/03/19				
11/04/19				
11/05/19				
11/06/19				
11/07/19				
11/08/19				
11/09/19	12	132	4	40
11/10/19				
11/11/19				
11/12/19				
11/13/19				
11/14/19				
11/15/19				
11/16/19	27	302	14	156
11/17/19				
11/18/19				
11/19/19				
11/20/19				
11/21/19				
11/22/19				
11/23/19	15	198	7	87
11/24/19				
11/25/19				
11/26/19				
11/27/19				
11/28/19				
11/29/19				
11/30/19	13	294	5	120
MAX	27	302	14	156
Avg	16	237	7	102

Influent TSS		
Week Start	**Week End**	**Avg**
10/27/19	11/02/19	126
11/03/19	11/09/19	198
11/10/19	11/16/19	341
11/17/19	11/23/19	231
11/24/19	11/30/19	127
	Max	**341**

Influent BOD		
Week Start	**Week End**	**Avg**
10/27/19	11/02/19	48
11/03/19	11/09/19	120
11/10/19	11/16/19	140
11/17/19	11/23/19	120
11/24/19	11/30/19	84
	Max	140

TSS and BOD Loadings Check Sheet

Influent

Data for dates in current month

Date	TSS mg/l	TSS Lbs	BOD mg/l	BOD LBS
11/01/19				
11/02/19				
11/03/19				
11/04/19				
11/05/19	198	2,180	120	1,321
11/06/19				
11/07/19				
11/08/19				
11/09/19				
11/10/19				
11/11/19				
11/12/19	341	3,811	140	1,565
11/13/19				
11/14/19				
11/15/19				
11/16/19				
11/17/19				
11/18/19				
11/19/19				
11/20/19	231	3,044	120	1,581
11/21/19				
11/22/19				
11/23/19				
11/24/19				
11/25/19				
11/26/19	127	2,870	84	1,899
11/27/19				
11/28/19				
11/29/19				
11/30/19				
MAX	**341**	**3,811**	**140**	**1,899**
AVG	**224**	**2,976**	**116**	**1,592**

Sunday Thru Saturday (avg placed on Saturday date)

Date	TSS mg/l	TSS Lbs	BOD mg/l	BOD LBS
11/01/19				
11/02/19	126.00		48.00	
11/03/19				
11/04/19				
11/05/19				
11/06/19				
11/07/19				
11/08/19				
11/09/19	198.00		120.00	
11/10/19				
11/11/19				
11/12/19				
11/13/19				
11/14/19				
11/15/19				
11/16/19	341.00		140.00	
11/17/19				
11/18/19				
11/19/19				
11/20/19				
11/21/19				
11/22/19				
11/23/19	231.00		120.00	
11/24/19				
11/25/19				
11/26/19				
11/27/19				
11/28/19				
11/29/19				
11/30/19	127.00		84.00	
MAX	**341**		**140**	
AVG	**205**		**102**	

Hull Wastewater Treatment Plant Operations Data

November, 2019

Date		Manual Screen Used	Mechanical Screen	GRIT CHAMBER	GRIT CLASSIFIER	PRI CLAR #1	PRI CLAR #2	AT #1	AT #2	AT #3	AT #4	SEC CLAR #1	SEC CLAR #2	CL2 BASIN #1	CL2 BASIN #2	GRAVITY THICK #1
		Yes/No	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF
Fri	01	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Sat	02	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Sun	03	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Mon	04	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Tue	05	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Wed	06	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Thu	07	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Fri	08	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Sat	09	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Sun	10	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Mon	11	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Tue	12	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Wed	13	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Thu	14	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Fri	15	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Sat	16	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Sun	17	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Mon	18	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Tue	19	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Wed	20	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Thu	21	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Fri	22	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Sat	23	No	On	On	Yes	Off	Off	On	Off	On	Off	On	Off	On	On	Off
Sun	24	No	On	On	Yes	On	On	On	Off	On	Off	On	Off	On	On	Off
Mon	25	Yes	Off	On	Yes	On	On	On	Off	On	Off	On	On	On	On	Off
Tue	26	Yes	Off	On	Yes	On	On	On	Off	On	Off	On	On	On	On	Off
Wed	27	Yes	On	On	No	Off	On	On	Off	On	Off	On	On	On	On	Off
Thu	28	No	On	On	No	Off	On	On	Off	On	Off	On	On	On	On	Off
Fri	29	No	On	On	No	Off	On	On	Off	On	Off	On	On	On	On	Off
Sat	30	No	On	On	No	Off	On	On	Off	On	Off	On	On	On	On	Off
MIN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAX		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AVG		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Hull Wastewater Treatment Plant Operations Data

November, 2019

Date		GRAVITY THICK #2	SLUDGE TANK #1	SLUDGE TANK #2	RST	Rainfall	MIN AIR TEMP	MAX AIR TEMP	GRIT REMOVED	SCREENINGS	INF TSS (Report)	INF BOD (Report)	INF FLOW	INFLUENT Q MINIMUM	INFLUENT Q MAXIMUM	PRI TSS
		ON/OFF	ON/OFF	ON/OFF	ON/OFF	Inches	Deg F	Deg F	LBS	CU FT	MG/L	MG/L	MGD	MGD	MGD	MG/L
Fri	01	Off	Off	On	Off	0.05	43	70	25	0.7			1.99	0.75	3.13	
Sat	02	Off	Off	On	Off	0.00	39	51	25	0.7			1.76	1.28	2.62	
Sun	03	Off	Off	On	Off	0.00	40	49	20	0.7			1.68	1.22	2.45	
Mon	04	Off	Off	On	On	0.02	40	53	20	0.7			1.34	0.94	2.20	
Tue	05	Off	Off	On	Off	0.33	44	56	30	0.7	198	120	1.49	1.00	2.15	
Wed	06	Off	Off	On	Off	0.00	39	53	20	0.7			1.42	1.02	2.09	
Thu	07	Off	Off	On	On	0.28	39	56	20	0.7			1.40	0.88	2.18	
Fri	08	Off	Off	On	On	0.00	30	40	30	0.7			1.44	0.99	2.18	
Sat	09	Off	Off	On	Off	0.00	28	40	20	0.7			1.37	0.85	2.20	
Sun	10	Off	Off	On	On	0.00	33	39	20	0.7			1.38	0.81	4.24	
Mon	11	Off	Off	On	On	0.00	42	52	25	0.7			1.40	0.82	3.69	
Tue	12	Off	Off	On	On	0.13	25	46	35	0.7	341	140	1.49	0.92	3.86	
Wed	13	Off	Off	On	Off	0.00	21	31	30	0.7			1.40	0.75	3.52	
Thu	14	Off	Off	On	On	0.00	23	40	25	0.7			1.34	0.85	2.20	
Fri	15	Off	Off	On	On	0.00	35	52	15	0.7			1.38	0.92	2.23	
Sat	16	Off	Off	On	Off	0.00	28	40	10	0.7			1.31	0.82	2.20	
Sun	17	Off	Off	On	On	0.06	27	36	20	0.7			1.40	0.87	2.31	
Mon	18	Off	Off	On	Off	0.41	39	44	15	0.7			1.49	0.00	4.95	
Tue	19	Off	Off	On	Off	0.29	39	43	20	0.7			1.57	0.00	4.16	
Wed	20	Off	Off	On	On	0.48	37	42	15	0.7	231	120	1.76	0.62	3.05	
Thu	21	Off	Off	On	Off	0.00	36	49	15	0.7			1.79	0.86	2.45	
Fri	22	Off	Off	On	On	0.38	38	53	20	0.7			1.75	1.15	3.56	
Sat	23	Off	Off	On	Off	0.28	34	45	15	0.7			1.60	1.07	2.32	
Sun	24	Off	Off	On	Off	2.01	39	47	50	0.7			2.88	0.72	7.50	
Mon	25	Off	Off	On	Off	0.00	40	52	25	0.7			3.27	0.69	4.60	
Tue	26	Off	Off	On	On	0.00	40	59	20	0.7	127	84	2.15	0.57	3.66	
Wed	27	Off	Off	On	On	0.28	41	51	0	0.7			2.01	0.59	3.10	
Thu	28	Off	Off	On	Off	0.48	35	50	0	0.7			2.13	0.60	3.98	
Fri	29	Off	Off	On	Off	0.00	30	40	0	0.7			1.71	0.59	3.27	
Sat	30	Off	Off	On	Off	0.00	36	39	0	0.7			1.85	0.56	2.60	
MIN		-	-	-	-	0.00	21	31	0	1	127	84	1.31	0.00		
MAX		-	-	-	-	2.01	44	70	50	1	341	140	3.27		7.50	
AVG		-	-	-	-	0.18	35	47	20	1	224	116	1.70			
SUM		-	-	-	-	5.48	-	-	585	21			-	-	-	-

Hull Wastewater Treatment Plant Operations Data

November, 2019

Date		PRI BOD MG/L	PRI #1 BLANKET FT	PRI #2 BLANKET FT	MLS SVI MG/L	MLSS 5 MIN SET MIN	MLSS 30 MIN SET	MLSS 60 MIN SET	MLSS	RAS TSS	RAS FLOW	SEC #1 BLANKET	SEC #2 BLANKET	WAS TSS THCK	WAS FLOW GALLONS THCK	EFF TSS (Report)
		MG/L	FT	FT	MG/L	MG/L	ML	ML	MG/L	MG/L	MGD	FT	FT	MG/L	GAL	MG/L
Fri	01				40	100	90	90	2,208	14,108	0.87	2.0			8,610	
Sat	02								2,166		0.85	3.0			9,800	
Sun	03								2,229		0.81	2.0			10,050	
Mon	04										0.77	1.8			10,280	
Tue	05				50	150	120	120	2,361	10,264	0.73	1.5			10,710	12.0
Wed	06				51	150	115	115	2,251	8,988	0.86	2.3			12,600	
Thu	07				53	190	150	140	2,811		0.95	2.3			13,450	
Fri	08				55	195	140	140	2,537		0.91	2.0			13,520	
Sat	09										0.91	3.0			13,400	
Sun	10										0.91	1.8			13,350	
Mon	11								2,929		0.89	2.0			13,330	
Tue	12				53	190	140	140	2,607		0.84	2.3			19,520	27.0
Wed	13				49	200	140	140	2,811	11,024	0.84	2.3			13,510	
Thu	14										0.82	3.0			18,240	
Fri	15				50	200	140	140	2,779		0.80	3.0			16,920	
Sat	16										0.78	2.3			13,490	
Sun	17								2,546		0.72	1.5			13,610	
Mon	18										0.48	1.6			11,330	
Tue	19										0.43	2.0			13,340	
Wed	20										0.79	2.0			13,540	15.0
Thu	21				45	150	100	100	2,202	12,350	0.83	2.0			13,560	
Fri	22				50	190	140	140	2,765		0.76	2.0			13,590	
Sat	23										0.74	2.3			13,400	
Sun	24										0.86	2.5			9,910	
Mon	25										0.74	3.0	1.5		0	
Tue	26			0.8							0.84	3.5	1.0		0	13.0
Wed	27			1.0							0.93	3.3	1.0		8,570	
Thu	28			1.5							0.95	5.0	1.3		11,830	
Fri	29			1.0							0.89	2.0	2.5		11,830	
Sat	30			1.0					2,948		0.91	2.0	3.0		11,230	
MIN				0.8	40	100	90	90	2,166	8,988	0.43	1.5	1.0		0	12.0
MAX				1.5	55	200	150	140	2,948	14,108	0.95	5.0	3.0		19,520	27.0
AVG				1.1	50	172	128	127	2,543	11,347	0.81	2.4	1.7		11,884	16.8
SUM		-	-	-	-	-	-	-	-	-	-	-	-	-	356,520	-

Hull Wastewater Treatment Plant Operations Data

Date		EFF BOD (Report)	EFF FECAL #/100	EFF MAX DAILY FLOW MGD	EFF MIN DAILY FLOW MGD	EFF FLOW MGD	EFF #1pH	CL2 RES #1	CL2 RES #2	CL2 RES #3	CL2 RES Daily Avg	THICKENED SLUDGE TS	THICKENER #1 BLANKET	THICKENER #2 BLANKET	LEACHATE TSS	LEACHATE BOD	LEACHATE COD
		MG/L	ML	MGD	MGD	MGD	SU	MG/L	MG/L	MG/L	MG/L	%	FT	FT	MG/L	MG/L	MG/L
Fri	01			3.91	0.20	1.77	6.90	0.01	0.00	0.13	0.05	8.5					
Sat	02			3.94	0.77	1.53	7.10	0.18	0.13	0.31	0.21						
Sun	03			1.96	1.04	1.49	7.00	0.02	0.02	0.03	0.02						
Mon	04			1.78	0.94	1.34	7.00	0.03	0.02	0.02	0.02						
Tue	05	3.6		1.79	0.81	1.32	6.70	0.05	0.02	0.03	0.03						
Wed	06		10	1.62	0.86	1.26	7.10	0.01	0.01	0.03	0.02						
Thu	07			1.69	0.77	1.22	7.00	0.03	0.00	0.03	0.02						
Fri	08			1.68	0.84	1.27	7.10	0.01	0.23	0.01	0.08						
Sat	09			1.74	0.75	1.23	7.10	0.00	0.01	0.03	0.01	7.1					
Sun	10			4.24	0.72	1.23	6.80	0.02	0.02	0.01	0.02						
Mon	11			3.96	0.74	1.25	7.10	0.92	0.02	0.02	0.32						
Tue	12	14.0		4.16	0.76	1.34	7.10	0.92	0.02	0.02	0.32						
Wed	13		10	3.58	0.44	1.26	6.90	0.02	0.65	0.28	0.32	6.6					
Thu	14			1.57	0.77	1.17	6.80	0.06	0.00	0.00	0.02						
Fri	15			1.58	0.78	1.20	6.80	0.01	0.03	0.03	0.02						
Sat	16			1.75	0.72	1.16	6.90	0.02	0.02	0.01	0.02	6.9					
Sun	17			2.13	0.75	1.23	6.90	0.10	0.03	0.03	0.05						
Mon	18			4.73	0.01	1.40	7.00	0.08	0.18	1.62	0.63						
Tue	19			4.26	0.01	1.63	6.90	0.02	0.74	0.68	0.48						
Wed	20	6.6		2.22	0.98	1.58	6.90	0.02	0.02	0.03	0.02						
Thu	21		10	2.28	1.06	1.65	6.90	0.52	0.04	0.00	0.19	6.6					
Fri	22			3.57	1.04	1.72	6.80	0.91	0.47	0.02	0.47						
Sat	23			2.11	0.99	1.45	7.10	0.03	0.11	0.00	0.05						
Sun	24			7.56	1.02	2.65	6.90	0.06	0.04	0.76	0.29						
Mon	25			6.00	1.77	3.57	7.10	0.72	0.97	0.88	0.86						
Tue	26	5.3	10	3.86	1.98	2.71	7.20	0.78	0.55	0.75	0.69						
Wed	27			3.62	1.26	2.33	7.10	0.76	0.62	0.72	0.70	6.8					
Thu	28			3.94	1.21	2.51	7.00	0.65	0.52	0.55	0.57						
Fri	29			3.68	1.76	2.35	7.00	0.46	0.57	0.33	0.45						
Sat	30			3.57	1.10	2.01	6.90	0.25	0.37	0.13	0.25						
MIN		3.6	10		0.01	1.16	6.70	0.00	0.00	0.00	0.01	6.61		-	-	-	-
MAX		14.0	10	7.56		3.57	7.20	0.92	0.97	1.62	0.86	8.45		-	-	-	-
AVG		7.4	10			1.66	6.97	0.26	0.21	0.25	0.24	7.08		-	-	-	-
SUM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Hull Wastewater Treatment Plant Operations Data

Date		LEACHATE	Groundwater Underdrain	Potable H2O Calc.	Thickened Feed Sludge Gallons to truck	THICKENED SLDG	Sludge Holding Tank Level	Thickened Sludge Holding Tank Level	EFF TEMP	Enterococci	Toxicity	GALS HEATING OIL	NaOCl	NaOH	Hingham Flow
		GAL	GAL	GAL	GAL	LBS/DAY	FT	FT	DEG C	No/100ml	%	Inches	Gallons	Gallons	MGD
Fri	01			287	9,000	6,343	1.6	4.6	17.7			2,495	177	2.0	
Sat	02			54	0		1.6	5.9	15.9			2,490	74	0.0	
Sun	03			48	0		1.6	7.7	16.6			2,490	108	2.0	
Mon	04			22	0		1.6	5.8	16.2			2,490	106	1.0	
Tue	05			67	0		1.6	3.9	16.2			2,481	90	1.0	
Wed	06			142	0		1.6	5.6	16.4	70		2,481	81	2.0	
Thu	07			75	0		1.6	7.0	16.1			2,481	102	4.0	
Fri	08			110	0		1.5	3.9	14.1			2,476	122	1.0	
Sat	09			238	8,500	5,019	1.5	6.3	14.3			2,471	109	1.0	
Sun	10			55	0		1.5	7.7	15.7			2,471	134	1.8	
Mon	11			120	0		1.6	5.3	15.9			2,471	103	1.2	
Tue	12			26	0		1.5	5.6	15.9			2,471	80	1.0	
Wed	13			198	9,000	4,964	1.5	7.1	13.3	10		2,468	140	2.0	
Thu	14			359	0		1.5	5.5	14.2			2,468	124	2.0	
Fri	15			23	0		1.5	5.7	14.8			2,468	71	1.0	
Sat	16			181	9,000	5,172	1.5	5.1	13.7			2,468	100	2.0	
Sun	17			43	0		1.5	2.2	13.8			2,468	112	1.0	
Mon	18			471	0		1.5	4.3	14.1			2,468	83	1.0	
Tue	19			2,976	0		1.5	6.1	14.0			2,468	89	1.0	
Wed	20			4,336	0		1.5	7.1	14.6			2,460	100	2.0	
Thu	21			182	8,500	4,686	1.5	5.8	14.5	10		2,460	125	4.0	
Fri	22			172	0		1.5	6.1	14.8			2,460	136	2.0	
Sat	23			101	0		1.5	6.0	11.5			2,460	104	1.0	
Sun	24			66	0		1.5	8.7	14.8			2,460	140	1.0	
Mon	25			33	0		1.5	9.2	13.8			2,460	130	1.0	
Tue	26			63	0		1.5	5.9	14.0	10		2,460	93	1.0	
Wed	27			178	9,000	5,126	1.5	5.6	14.0			2,460	73	1.0	
Thu	28			30	0		1.5	4.3	13.7			2,445	68	1.0	
Fri	29			28	0		1.5	6.4	12.3			2,445	94	1.0	
Sat	30			279	0		1.4	8.4	12.2			2,445	109	1.4	
MIN		-	-	22	0	4,686	1	2	12	10	-	2,445	68	0.0	
MAX		-	-	4,336	9,000	6,343	2	9	18	70	-	2,495	177	4.0	
AVG		-	-	365	1,767	5,218	2	6	15	25	-	2,469	106	1.5	
SUM		-	-	10,966	53,000	31,310	-	-	-		-	-	-	-	

Hull WWTF
Monthly Rain, Temperature and Flow
November, 2019

Date	Rainfall	Minimum Air Temp	Maximum Air Temp	Effluent Flow
	Inches	F	F	MGD
11/01/19	0.05	43	70	1.770
11/02/19	0.00	39	51	1.530
11/03/19	0.00	40	49	1.490
11/04/19	0.02	40	53	1.340
11/05/19	0.33	44	56	1.320
11/06/19	0.00	39	53	1.260
11/07/19	0.28	39	56	1.220
11/08/19	0.00	30	40	1.270
11/09/19	0.00	28	40	1.230
11/10/19	0.00	33	39	1.230
11/11/19	0.00	42	52	1.250
11/12/19	0.13	25	46	1.340
11/13/19	0.00	21	31	1.260
11/14/19	0.00	23	40	1.170
11/15/19	0.00	35	52	1.200
11/16/19	0.00	28	40	1.160
11/17/19	0.06	27	36	1.230
11/18/19	0.41	39	44	1.400
11/19/19	0.29	39	43	1.630
11/20/19	0.48	37	42	1.580
11/21/19	0.00	36	49	1.650
11/22/19	0.38	38	53	1.720
11/23/19	0.28	34	45	1.450
11/24/19	2.01	39	47	2.650
11/25/19	0.00	40	52	3.570
11/26/19	0.00	40	59	2.710
11/27/19	0.28	41	51	2.330
11/28/19	0.48	35	50	2.510
11/29/19	0.00	30	40	2.350
11/30/19	0.00	36	39	2.010
Min	0.00	21	31	1.16
Max	2.01	44	70	3.57
Avg	0.18	35	47	1.66
Sum	5.48			49.83

Woodard and Curran
November, 2019
In Plant Sulfide Readings

Date		Wind Direction	Outside Temp	Outside Condition	Front Door	Head Works	Primary Tank No. 1	Primary Tank No. 2	Gravity Thickener	Aeration Tanks	Rotory Sludge Thickener Room	Scrubber In	Roof Exhaust Scrubber Out	% Removal
		Direction	Deg F	Condition	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Fri	01	WSW-26	67	Light rain/wind								0.170	0.050	70.6
Sat	02	NNW-6	39	Clear								0.170	0.280	-64.7
Sun	03	W-6	38	Sunny	0.001	0.003		0.000	0.000	0.000	0.003	0.140	0.110	21.4
Mon	04	WNW-2	41	Sunny	0.004	0.210		0.000	0.000	0.000	0.005	0.810	0.018	97.8
Tue	05	S-8	53	Partly cloudy								0.490	0.480	2.0
Wed	06	W-10	42	Sunny		0.001				0.000	0.000	0.170	0.029	82.9
Thu	07	SSW-9	44	Fair	0.000	0.001				0.000	0.001	0.100	0.019	81.0
Fri	08	NW-18	34	Mostly cloudy								0.410	0.045	89.0
Sat	09	WNW-7	28	Sunny								1.700	0.260	84.7
Sun	10	NW-4	41	Partly cloudy	0.000	0.013			0.001	0.001	0.003	4.700	1.700	63.8
Mon	11	SSE-3	43	Partly cloudy	0.002	0.980		0.000	0.000	0.003	0.003	1.100	0.150	86.4
Tue	12	SSW-6	41	Mostly cloudy								0.460	0.120	73.9
Wed	13	WNW-20	22	Sunny										
Thu	14	SW-4	39	Mostly cloudy	0.003	0.400		0.000	0.001	0.000	0.004	0.910	0.150	83.5
Fri	15	WNW-7	38	Partly cloudy								0.430	0.110	74.4
Sat	16	N-15	28	Sunny								0.910	0.140	84.6
Sun	17	ENE-18	38	Cloudy	0.001	0.420		0.000	0.000	0.001	0.002	1.120	0.057	94.9
Mon	18	ENE-18	42	Rainy	0.000	0.001		0.000	0.013	0.000	0.001	0.450	0.180	60.0
Tue	19	NNW-2	40	Rain/rain shower								0.160	0.140	12.5
Wed	20	N-13	41	Showers								0.310	0.049	84.2
Thu	21	N 24	38	Sunny		0.001				0.000	0.000	0.029	0.170	-486.2
Fri	22	SSW-14	49	Cloudy										
Sat	23	WNW-10	34	Sunny										
Sun	24	N-4	44	Rainy										
Mon	25	ENE--5	45	Clear										
Tue	26	SSW-5	40	Fair										
Wed	27	ENE-2	41	Partly cloudy										
Thu	28	WNW-20	42	Rain										
Fri	29	NW-16	33	Sunny										
Sat	30	NW-18	27	Clear										
Min.			22		0.000	0.001			0.000	0.000	0.000	0.029	0.018	-486.2
Max.			67		0.004	0.980			0.013	0.003	0.005	4.700	1.700	97.8
Ave.			40		0.001	0.203			0.002	0.001	0.002	0.737	0.213	34.8
Target					<.01	<10.0	<10.0	<10.0	<10.0	.050	.050	<10.0	<1.0	95%

Woodard and Curran

November, 2019

Outside Plant Sulfide Readings

Date		Wind Direction	Outside Temp	Outside Condition	Cemetery Flag Pole	Garage At Cemetery	Duck Lane	Duck Lane And Nantasket Ave	Seawall Across From Plant	Fire Hydrant Across Inland Bay Side	Front Of Aeration Bayside
		Direction	Deg F	Condition	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Fri	01	WSW-26	67	Light rain/wind							
Sat	02	NNW-6	39	Clear							
Sun	03	W-6	38	Sunny							
Mon	04	WNW-2	41	Sunny							
Tue	05	S-8	53	Partly cloudy							
Wed	06	W-10	42	Sunny							
Thu	07	SSW-9	44	Fair							
Fri	08	NW-18	34	Mostly cloudy							
Sat	09	WNW-7	28	Sunny							
Sun	10	NW-4	41	Partly cloudy							
Mon	11	SSE-3	43	Partly cloudy							
Tue	12	SSW-6	41	Mostly cloudy							
Wed	13	WNW-20	22	Sunny							
Thu	14	SW-4	39	Mostly cloudy							
Fri	15	WNW-7	38	Partly cloudy							
Sat	16	N-15	28	Sunny							
Sun	17	ENE-18	38	Cloudy							
Mon	18	ENE-18	42	Rainy							
Tue	19	NNW-2	40	Rain/rain showers							
Wed	20	N-13	41	Showers							
Thu	21	N 24	38	Sunny							
Fri	22	SSW-14	49	Cloudy							
Sat	23	WNW-10	34	Sunny							
Sun	24	N-4	44	Rainy							
Mon	25	ENE--5	45	Clear							
Tue	26	SSW-5	40	Fair							
Wed	27	ENE-2	41	Partly cloudy							
Thu	28	WNW-20	42	Rain							
Fri	29	NW-16	33	Sunny							
Sat	30	NW-18	27	Clear							
Min.			22								
Max.			67								
Ave.			40								
Target					<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005