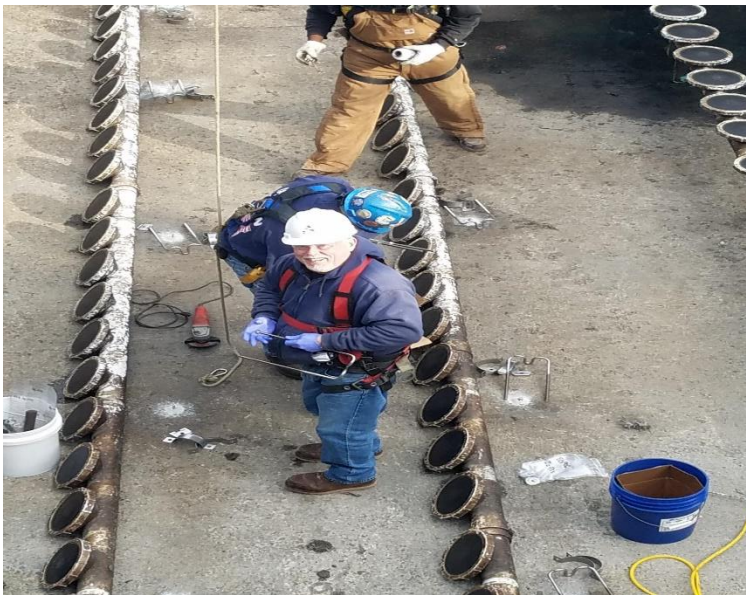




# HULL WATER POLLUTION CONTROL FACILITY

November  
2021

## MONTHLY OPERATING REPORT



[woodardcurran.com](http://woodardcurran.com)

COMMITMENT & INTEGRITY DRIVE RESULTS

NPDES NO. MA0101231

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## **Cover pictures:**

[top] Primary clarifier #2 repairs

[bottom] Aeration Tank #1 – Rubber diffuser membrane replacement and hardware replacement

# 1 EXECUTIVE SUMMARY

**This Monthly Operating Report provides a summary of the pertinent information and activities that occurred at Hull WPCF during the month of November 2021.**

- No lost-time incidents for the month of November
- Continued/On-going covid-19 safety operations, adhering to company and CDC guidelines and updates. Staffing levels normal as it pertains to covid19. Ongoing mask use per Town mandate.
- There were **144** effluent samples taken in the month of November [details on page (12).] All effluent samples collected were compliant. Process conditions were stable, with less rainfall. Flows were lower during the month.
- Updated staffing plan submitted to the Town and MADEP regarding plant staffing and management structure [11/23/21]
- Diffused aeration tank maintenance - ongoing with rubber membrane disc replacement and support hardware replacement.
- D&C Construction and W&C co-ordinate and install the new 8- & 16-inch force main isolation valves in influent pipes that go to the primary D-box.
- Primary Clarifier structural steel repairs [Tank #2] started and nearly completed by end of November.
- There were no Sanitary System Overflows [SSO] reported.
- Radio project update: Materials ordered with some supply chain delays and delivery in late December.
- Bulk Hypochlorite [bleach] tank #2 leak developed. Contents transferred out to tank #1.
- The plant and collection system odors remained low as flows were above average. Remote monitoring with the Vapor-Link to monitor H2S levels continued. Bioxide feed rates lowered.
- The Asset Management Accounts summaries for contract year #7 is attached. Latest revision date: 2/8/22.
- There was one grinder pump replacement call out during November.
- W&C O&M continued efforts and helped on the various engineering projects – Operations building HVAC, pump station #9 upgrade, influent and secondary systems, pump station #4 new pumps, primary D-Box gates & FM isolation valves.
- Weekly Bio Bot Covid-19 wastewater sampling & monitoring program continued.

**Woodard & Curran strives to deliver a high-quality operations service and is responsive to our customers concerns. Please feel free to request any modifications to the format or content of this report.**

## 2 FLOWS AND LOADINGS



### Average Daily Flows and Loadings for the Month:

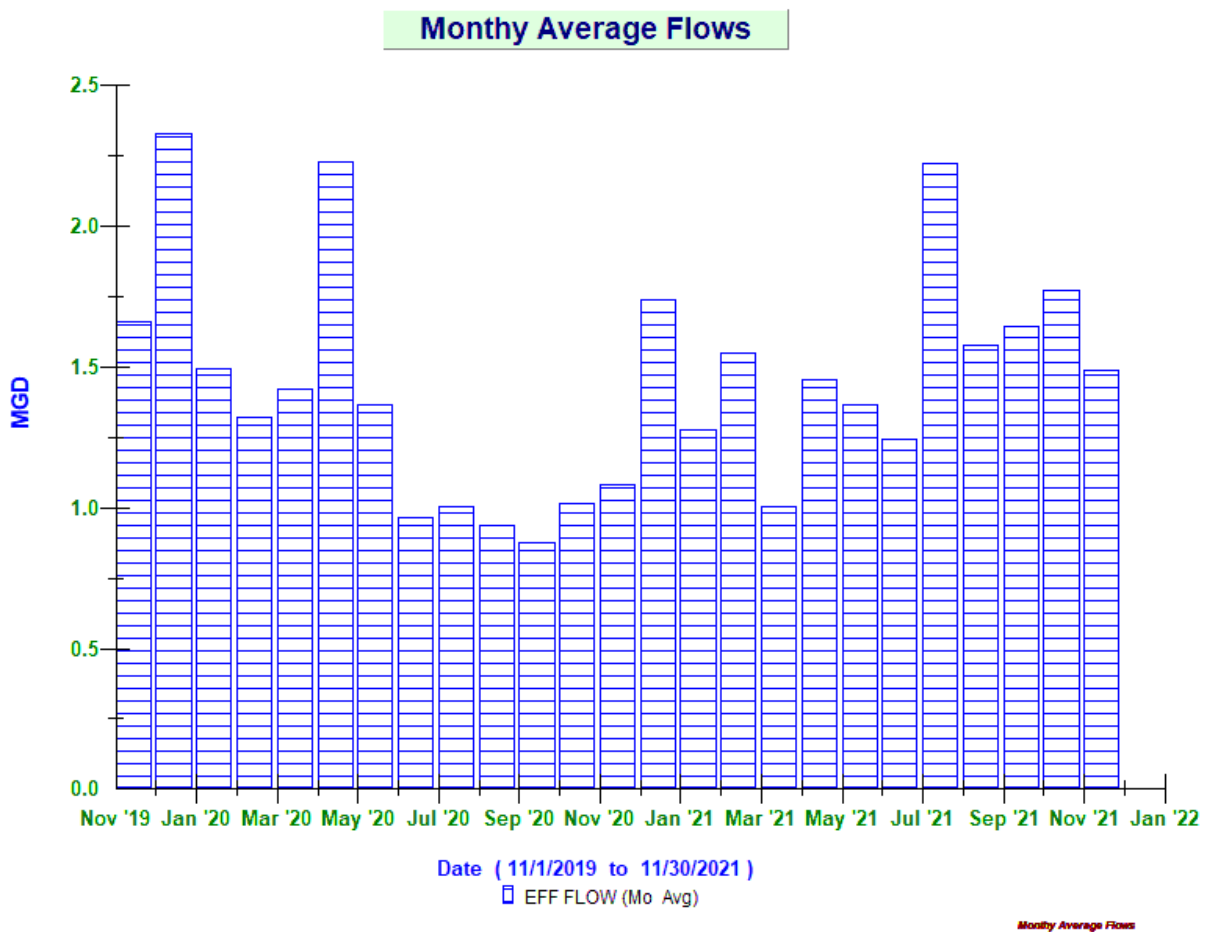
	Eff Flow MGD	Inf Flow MGD	Inf BOD LBS	Inf TSS LBS	Eff BOD LBS	EFF TSS LBS
<b>Nov 2019</b>	1.661	1.698 *	1591	2976	101	231
<b>Nov 2020</b>	1.081	**	1222	2323	38	132
<b>Nov 2021</b>	1.491	<b>1.537*</b>	2211	5384	40	86

\* On-Going -The existing influent flow meters are strap-on doppler flow meters, and the existing pipe condition prevents getting a strong signal. An area velocity meter in the aeration tank inlet channel is used as well as the headworks influent Parshall Flume meter to monitor influent flows. All reported loadings are based on the effluent flow meter [new mag meter April 2021]. All meters are tied into the Scada system so that influent flows can be monitored.

\*\* No influent flow since headworks area was bypassed for concrete rehabilitation project.

## 2.1 AVERAGE EFFLUENT MONTHLY FLOWS – 2+ YEAR COMPARISON

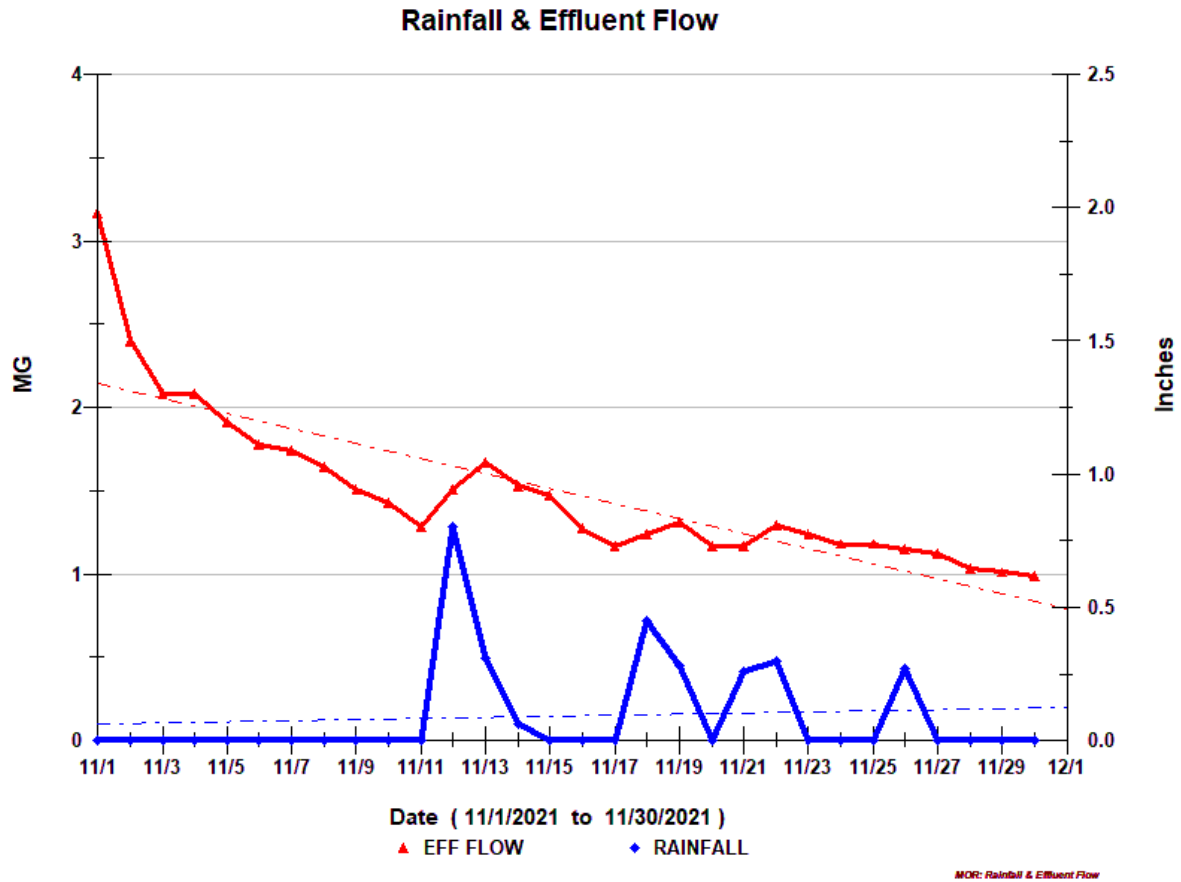
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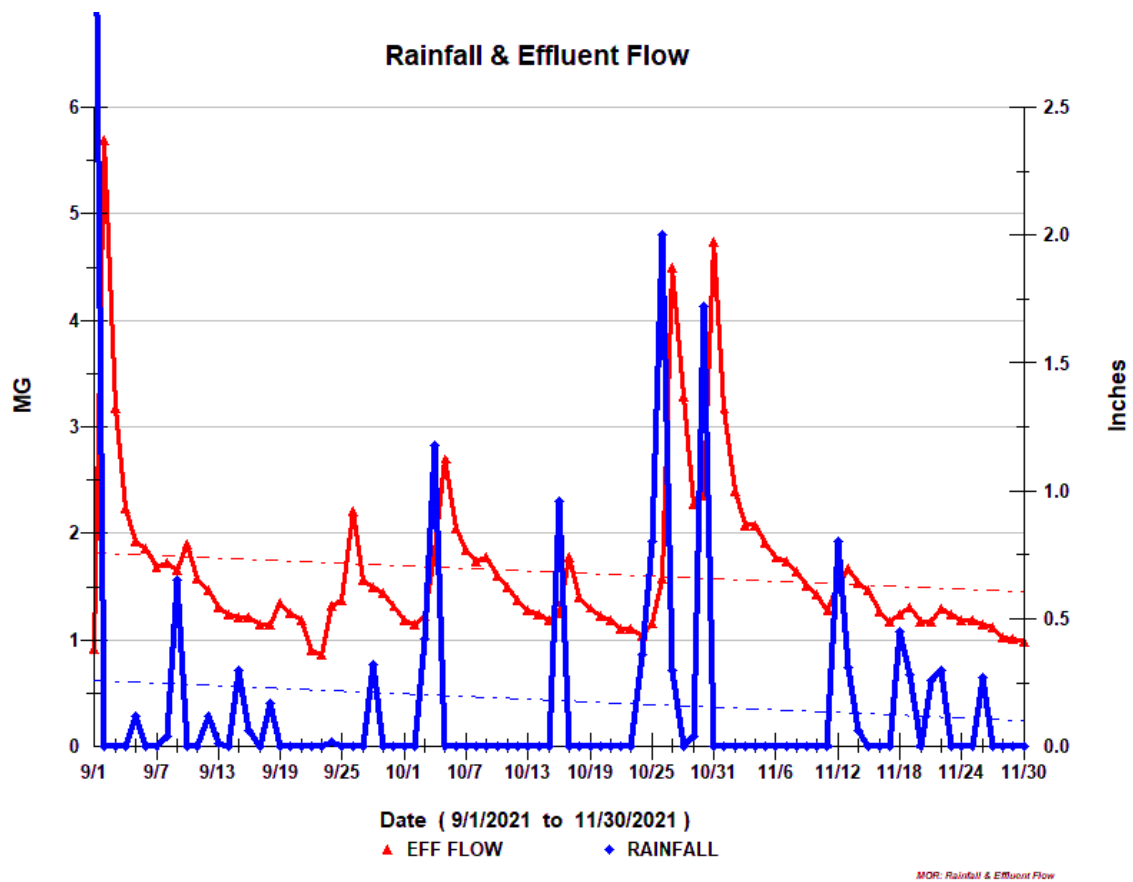
The monthly average flow for November was 1.49 MGD, slightly lower [0.26 MGD] than the previous month. The total precipitation for the month was 2.73 inches, about 5 inches less than previous month, with a peak of 1.11 inches of rain on 11/12-11/13. The graph shows the 2-plus year summary of the monthly average flows.



## 2.2 MONTHLY SUMMARY OF RAINFALL AND THE INFLUENCE ON EFFLUENT FLOWS



This graph shows the days where precipitation occurred [rainfall] [Blue Peaks]. This graph shows a downward trend in flows due to drier conditions.



This graph shows the rainfall and effluent flow data from the last 3 months.

### 3 COMPLIANCE



#### ➤ Plant Effluent

There were no permit exceedances in November.

- Plant process conditions were stable during the month. Flows slowly decreasing from late October peak. Aeration Tank #3 mechanical work completed [new diffuser membranes] and put back online [11/10]; Aeration Tank #1 taken offline on 11/11 for mechanical work and inspection and remained offline for the rest of the month. Process tank configuration continued with one diffused aeration tank and one mechanical aeration tank in service while diffused aeration tank repairs continued.



**Return of Aeration Tank #3 to service**

- A Copy of the monthly NPDES reports for November 2021 submitted to the EPA & DEP and then sent to the Hull Sewer Dept. Quarterly W.E.T. sampling conducted in November.





# Hull Wastewater Treatment Facility

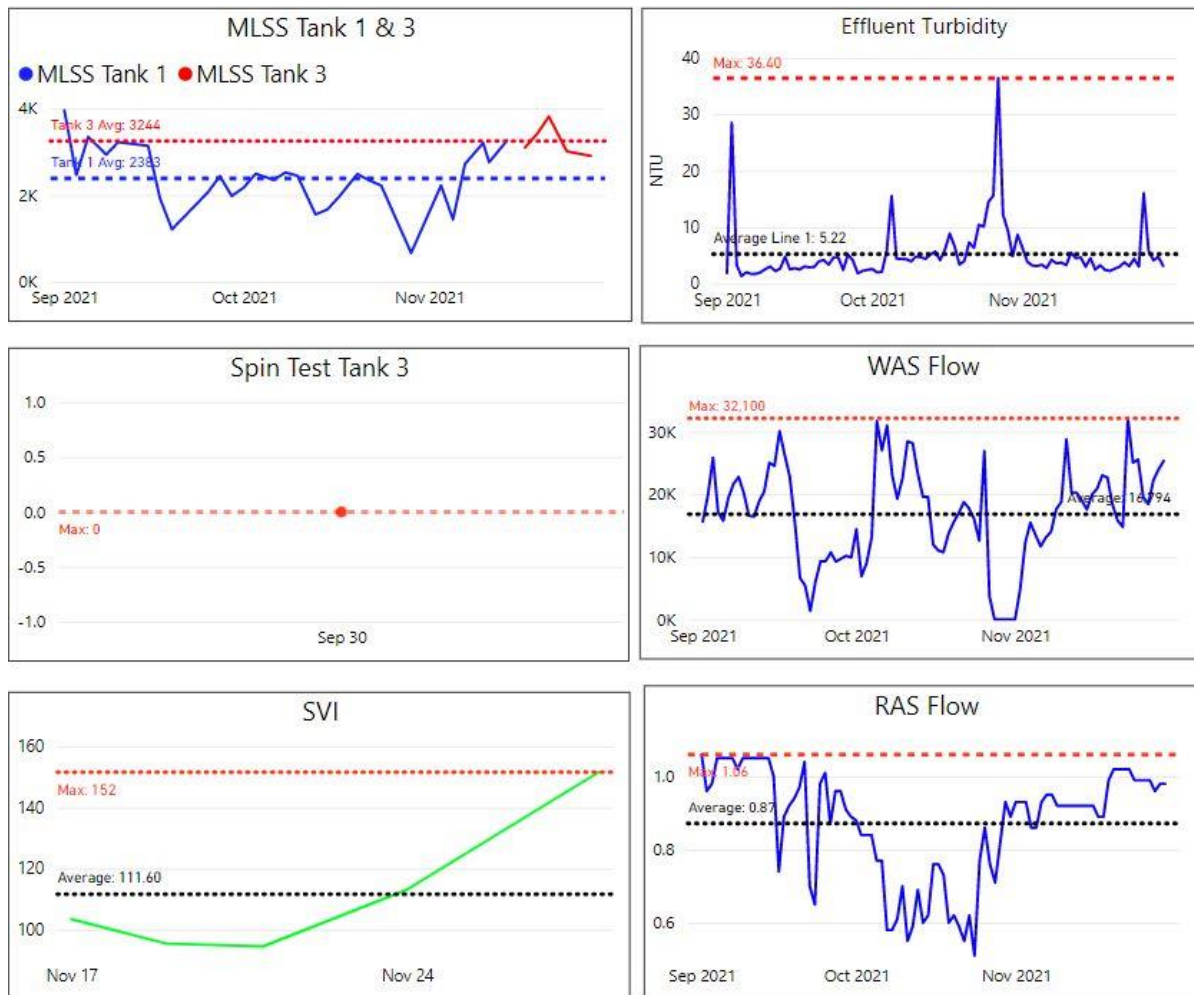
11/1/2021

11/30/2021



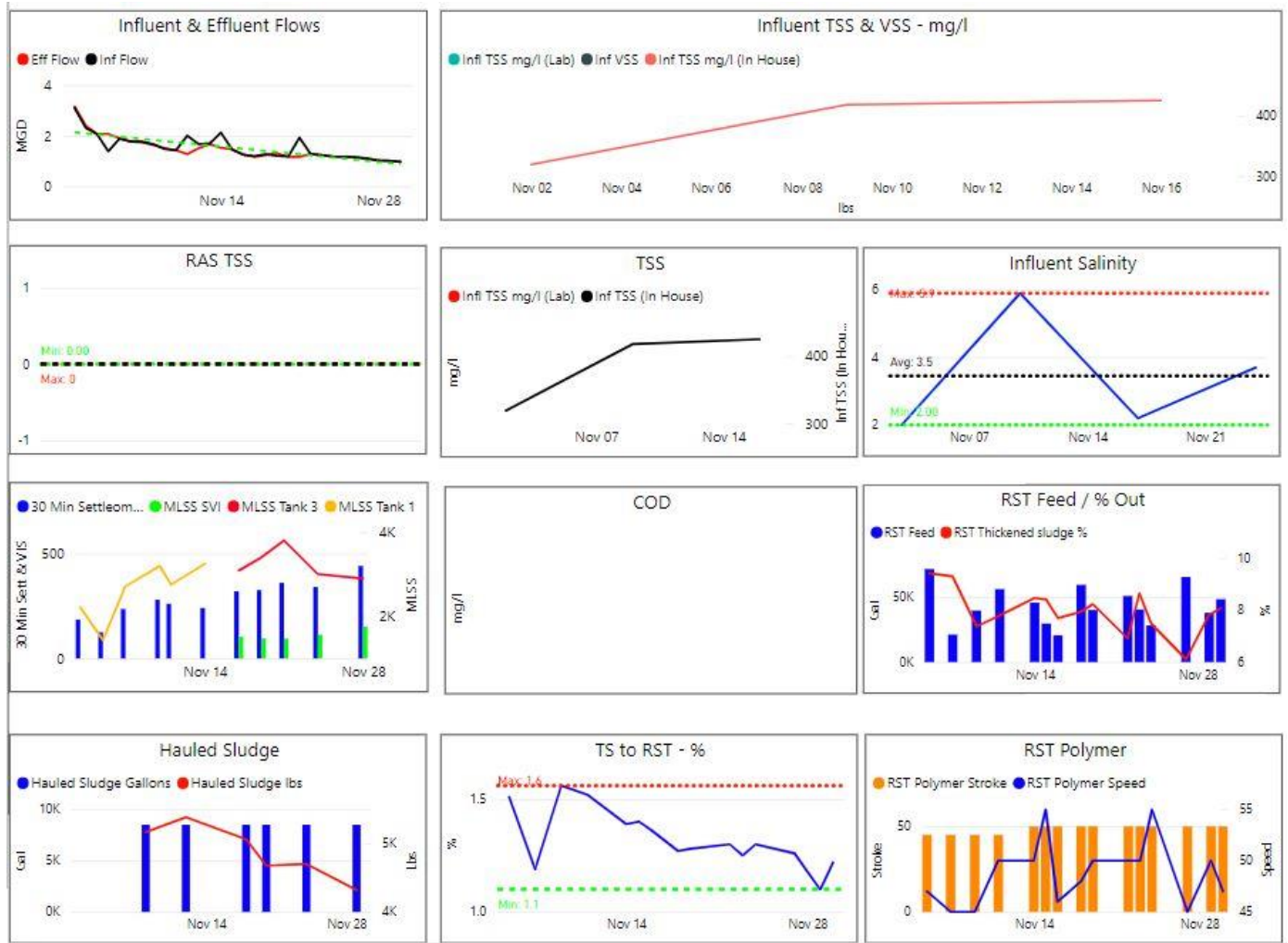
Monthly Process Summary graphs from power BI – November 2021.

## SECONDARY PROCESSES – POWER BI GRAPHS



3-month period ending on 11/30/21. The tank solids levels under aeration showed some fluctuation, in part due to process aeration tank changes.

**Additional Power BI Graphs showing trends of various processes – November 2021.**



## 4 KEY PERFORMANCE INDICATORS

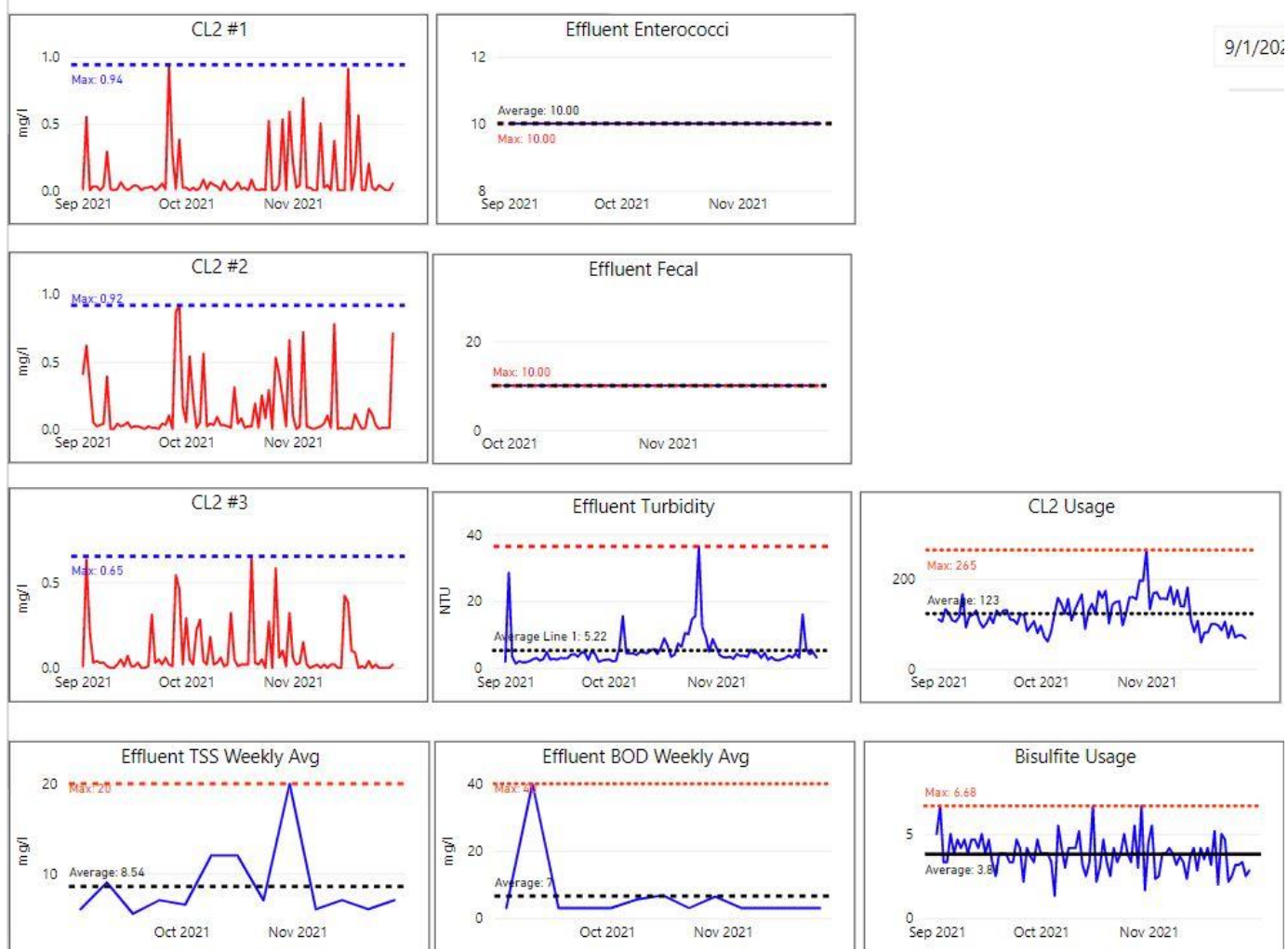


### 4.1 WATER QUALITY – NOVEMBER 2021

Parameter Info		Permit Requirements					Results				
Parameter	Units	Daily Allowed Max in month	Min %	Weekly Avg. Max Allowed in month	Monthly Avg	Freq	Period Monthly Avg.	Period Weekly Min	Period Daily Max	# Of Samples	# Of Violations
Eff TSS	MG/L	50		45	30	1 X Week	6.5	6.0	7.0	4	0
Eff TSS	LBS			1152	768	1 X Week	86.0	63.6	120.1		0
% TSS Rem	%		85			1 X Month	98.3				0
Eff BOD	MG/L	50		45	30	1 X Week	3.0	3.0	3.0	4	0
Eff BOD	LBS			1152	768	1 X Week	40.2	31.0	60.0		0
% BOD Rem	%		85			1 X Month	98				0
Eff Chlorine	MG/L	1.0			0.7	3 X Day	0.09	0.00	0.52	90	0
Eff Fecal	#/100 ML	260			88	1 X Week	10	10	10	4	0
Eff pH	SU	8.5	6.5			1X Daily	6.9	6.6	7.2	30	0
Enterococci	CFU/100 ML	276			35	1 X Week	10	10	10	4	0

There were **144** effluent samples taken in November.

## EFFLUENT COMPLIANCE POWER BI GRAPHS



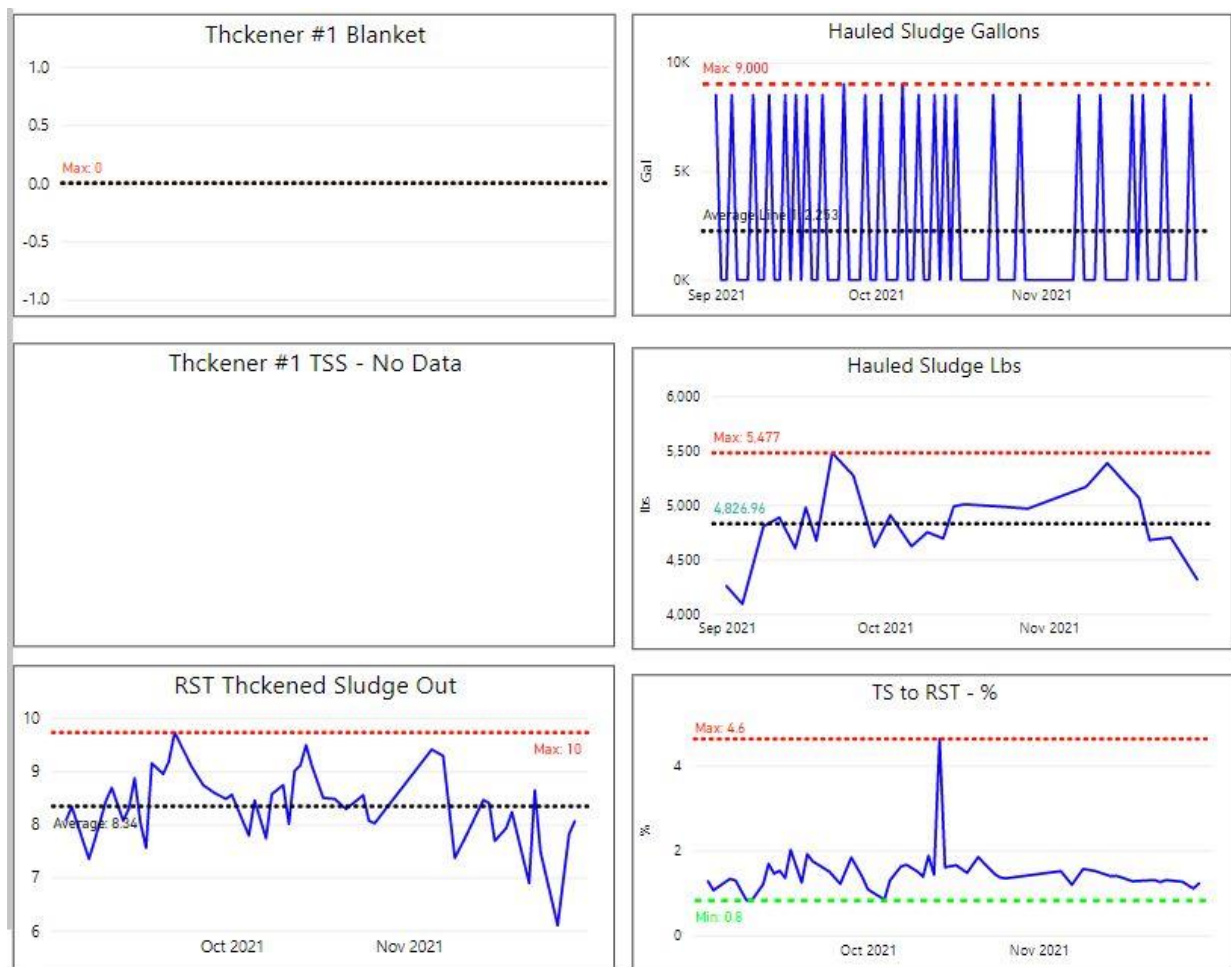
**Last 3-month period ending on 11/30/21 - chlorine residuals, effluent compliance, & chemical use. Bleach [sodium hypochlorite] & sodium bisulfite use less. Turbidity [clarity] of the effluent was stable. Effluent quality very good.**



## Sewage Gallons Treated vs Sludge Disposed

Month	Effluent Treated, MG	Sludge Disposed, Gals
November 2019	49.83	53,000
November 2020	32.44	34,500
November 2021	44.72	51,000

Additional Power BI graphs for sludge solids for 3-month period ending 11/30/21. Trends indicate less sludge production mid-September through November [seasonal decrease]. The gravity thickener is not online.

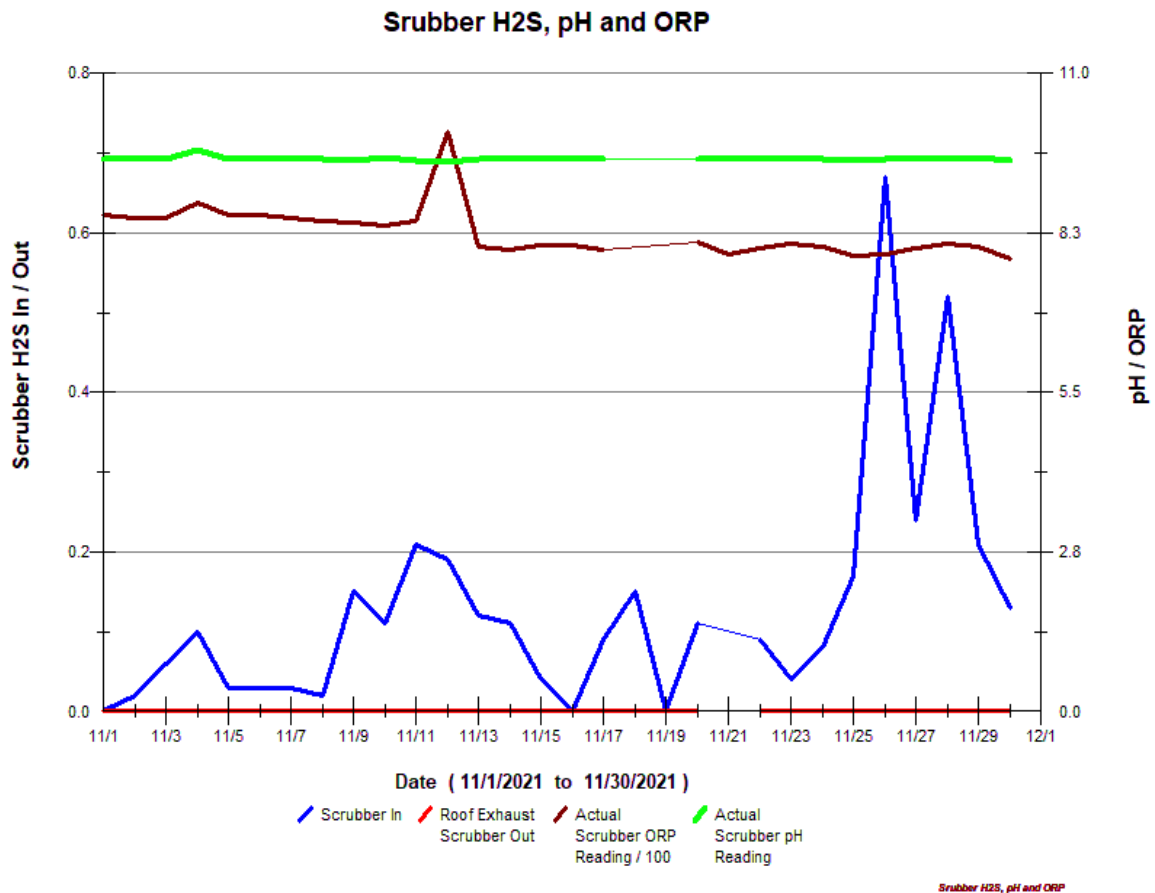


## 5 ODOR CONTROL

There were no odor complaint calls received during November for the wastewater plant.

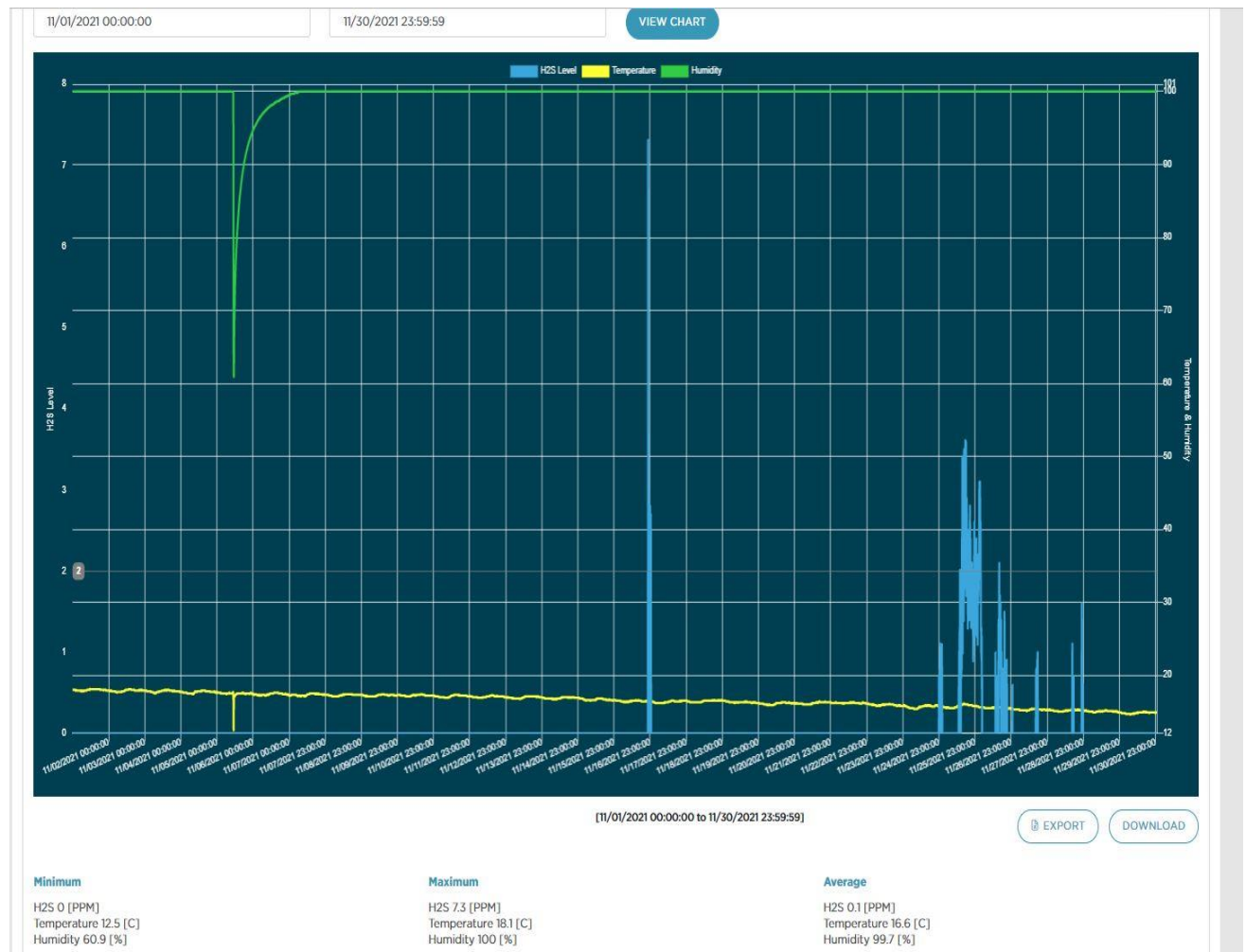
The Bioxide system was on, and the feed rates lowered. There were adjustments made as needed according to data seen at Nantasket/Water MH and XYZ/Nantasket MH. The monthly graphs are attached below. Daily average Bioxide use for November was **21** gallons per day.

- “In-Pipe” bacteria – monthly changeouts completed on 11/18-19/21. Bi-monthly changes done on 11/1/21
- No changes: on pump station mixing systems/aerators.
- No changes - Hydrogen sulfide monitoring units [H<sub>2</sub>S] were recording and trending on the odor scrubber. [inlet and outlet]. see graph below
- The gravity thickener remained off-line, and the primary tank PC #2 was taken offline for structural maintenance.



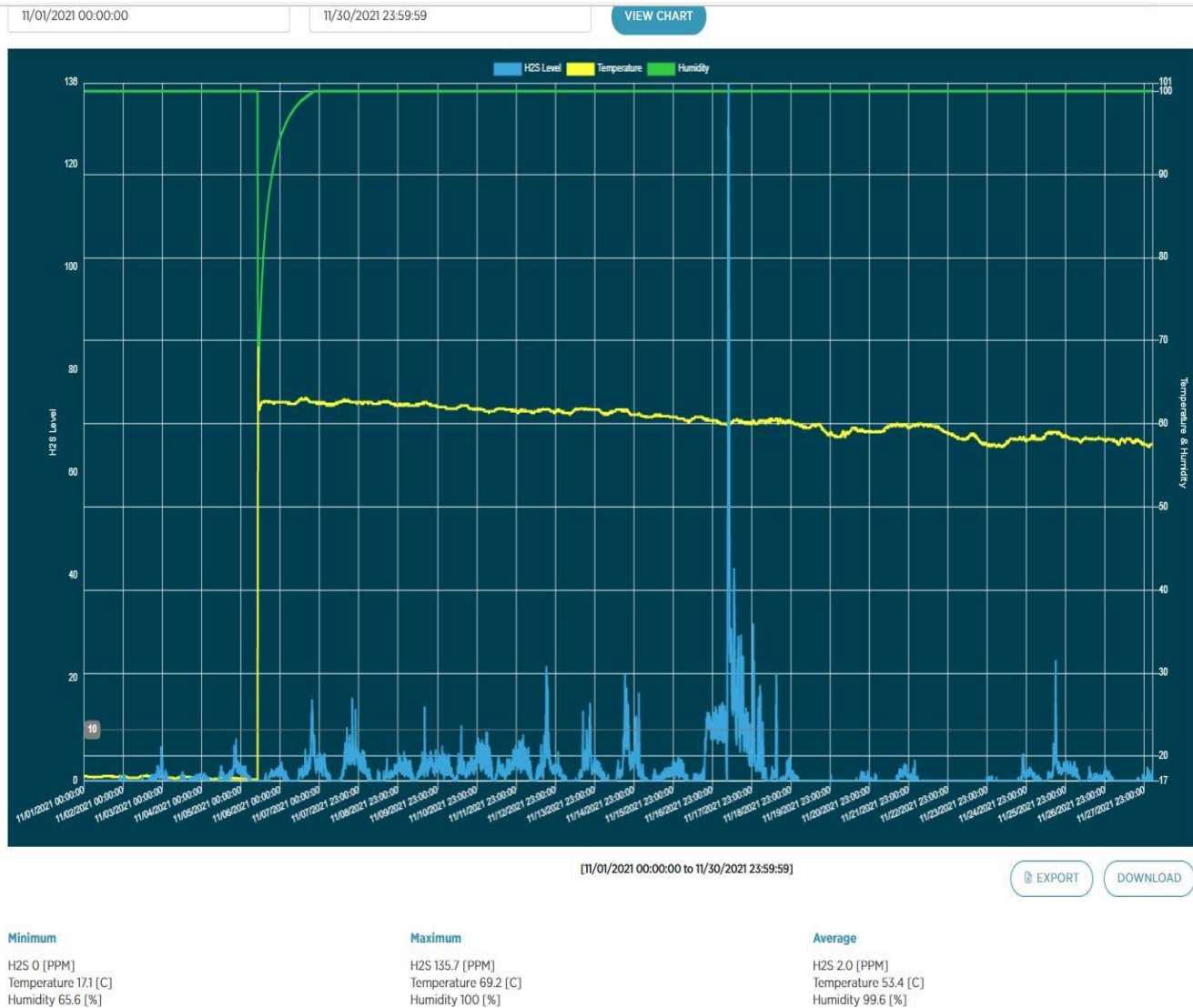
[pictured below: Scrubber trend, and trending graphs for H2S levels recorded from the vapor link system cellular at manhole at XYZ Street/Nantasket Ave and Nantasket Ave/Water Street.

### XYZ – Nantasket Ave [closest to plant]



The odor data logging unit at XYZ is used to monitor overall H2S levels close to the plant. Low/ZERO H2S present. There were a few spikes seen during the lower flow periods of the month.

## Nantasket Ave/Water Street [ at end of PS 3 force main and PS 4 discharge]



Pump station #3 - H2S is monitored at the end of the force main at Nantasket & Water Street MH. Biocide is added to allow for excess nitrate concentration in the sewage system to treat the additional H2S added from other parts of the system – such as PS #4, contributions from lines feeding the interceptor, PS #5, PS #6, PS #9, Spinnaker Island., etc. all the way to the plant.

## 6 MAINTENANCE SUMMARY

### 6.1 TASKS COMPLETED THIS MONTH

The SEMS monthly work order summary for November is attached for review.

Additional key items of note are listed below.

- RAS Pump #1 – rebuilt rotating assembly installed with existing impeller. Test ran OK. The pump was returned to service.
- Completed aeration tank #3 tests and checks at different air pressures over several days and liquid levels to ensure that all leaks in the piping system were corrected. The tank was returned into service on 11/10/22.
- Several of the older motors that were stored at the plant and had not seen service for at least 8 to 10 years were sent out for evaluation to First Electric Motor in Woburn, MA.
- Confirmed order of new snowblower for the plant, as the new piece was approved for purchase by the HSD. Purchased off the MA State Bid List through Stewart Power Equipment.
- There were several high torque alarms from SC #1 in November. The issue was somewhere in the wiring circuit between the tank and the Ops building. Hi-Voltage Assoc [HVA]. assisted with troubleshooting efforts and repairs to get partial remedy. Further work was needed, and they found corroded wire nuts and water in the electrical junction box under the catwalk stairs. A CSE was set up to access the junction box on tank wall under the staircase. The moisture was displaced moisture and corroded wire nuts replaced. All circuits tested were ok and monitoring alarms reinstated.
- Plant Water Pump #1 pump rebuild/repair was completed by First Electric. The pump was returned to service.
- Industrial Pump S&S completed the installation of Sludge transfer Pump #1. The motor was installed and aligned and then evaluated for correct rotation.





- The truck snowplow was inspected and installed/tested for winter service. No issues found.
- PS9 – 20HP motor rebuilt for spare motor [inventory]
- Ongoing replacement of battery backup batteries for control panels – pump stations and plant
- The lab's benchtop turbidity meter was replaced with a new unit.
- De-rag Pump #2 at PS3



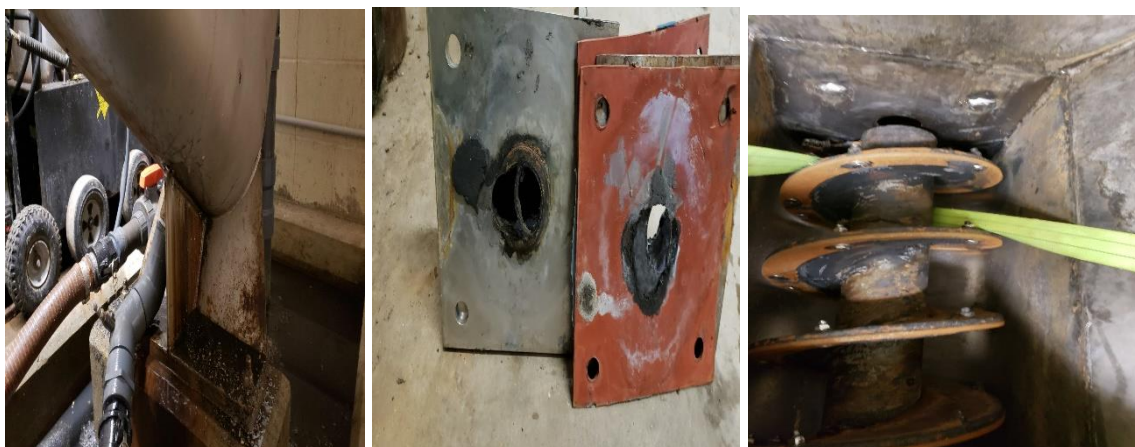
- The roll-off dumpster with old piping and valves from the effluent pump room project was finally picked up and taken off site for secure landfill disposal.



- D&C Construction installed an 8-inch and 16-inch buried gate valve on the influent force main pipes that lead to the primary D-Box. The valves will supply a means for isolation when the new D-Box gates valves are installed and will be part of the future plant process upgrade to bypass the primary clarifiers. W&C coordinated the influent flow bypass needed so that the installation work could be completed. Plant flows were managed using the 12-inch Godwin pump pumping sewage to the screenings box by the aeration tanks.



- Grit classifier trough leaking, due to equipment wear. Assessment made by in-house staff and repairs made. Spare parts from inventory used to return the unit to service, but more spare parts needed and ordered. Parts included: bronze tail bearing sleeves, stainless steel tail shaft, and bearing housing, and wear shoes. All these parts are special order. Waiting for a quote on fabrication of a new trough insert piece. Pictured: lower trough section, worn bearing retainer, worn wear shoe on screw.





## 6.2 ASSET MANAGEMENT ACCOUNTS

- Please see the attached summary totals and planned expenditures for the Asset Management accounts for contract year (7). Most recent through **2/8/22**.
- Planned expenditure list updated. Monthly review & update.
- Forecast remaining 07C expenses through 4/30/22

## 7 SAFETY



It is Woodard & Curran's policy to maintain a safe and healthy work environment for every employee and to comply with applicable occupational health and safety regulations.

- No lost time incidents reported for November
- Monthly PM's - Emergency eyewash and shower inspections, fire extinguisher and emergency lighting inspections completed.
- On-going Coronavirus Covid-19 awareness and updates. Daily review & as needed. Discuss covid protocol changes, site specific safety policies for sub-contractors, safety tailgate meetings. Pure Safety topic– November – Hearing Conservation.
- Monthly staff safety meeting conducted on 11/29/21. Major topics discussed: EAP Updated, use of fire extinguishers, use of hand tools.
- Order new Arc-rated face shield and hard hat to replace existing shield [cracked]. Send out arc rated gloves for 6-month inspection/testing.
- Fire extinguisher replacement by Plymouth County Fire Extinguisher and obtain a spare for use as needed.
- Semi-annual fire alarm inspection completed by Hart/Automatic Alarm
- Ongoing – work on the project's annual safety tasks – Current status at start of the month – 73% completed. By the end of the month at 93% completed. Worked on the remain four tasks for 2021. Haz COMM, CSE Permits.
- Feedback from corporate H&S Dept. Managers on confined space permit review [25+ permits were completed]. Renae Shield & Steve Lindeman:

*[RS] I have reviewed all your confined space permits that were submitted for the 2021 annual task. Awesome job and thank you for the attention to detail. I did not see any issues with these.*

*{SL} It is quite an accomplishment. It is pretty rare for any project to not have at least administrative mistakes. Great Job!*



## 8 STAFF DEVELOPMENT

**Training is an important part of any operation to ensure employee health and safety is assured, quality standards are supported, staff skills are improved, career opportunities become available, and higher productivity is achieved.**

**Listed is a general outline of training that the staff received over the course of the month:**

- Monthly staff Safety training – completed – Pure Safety and monthly safety meeting. W&C “near-miss” incidents at all projects for October.
- Regular [usually daily] operational updates and process control discussions, pump station operations, especially with construction projects going on at the plant. Safety Covid-19, dig-safes, etc.
- Work by O&M Tech and plant staff to update pump station inspection/rounds SOP’s.
- Help staff with wastewater license renewals and training needs due by 12/31/21.
- Eric S – completed self-study MA 1B Hoisting License renewal training contact hours.
- A.V. attended Qualified Electrical Training by W&C – Canton, MA. 11/12.

### **Staffing related items:**

- Staffing management change made mid-month with Plant Manager Aram Varjabedian stepping down from daily management of the plant and staff. Mike Sullivan and Joe Basler assumed new positions and responsibilities as Plant Manager [MS] and Assistant Plant Manager [JB]. AV will remain on staff as a project manager/ staff member in an 80% capacity/role. Transitioning process started by Robert Scott – Area Manager. The HSD and MA DEP/EPA were informed of the changes and sent an updated staffing plan [11/23/21].
- The regular staff labor was primarily supplemented by the O&M Specialist, Paul Horigan. He is covering the added shift left open by Aram V and other needs during the month as needed.
- Continued to have Saturday & Sunday staff coverage with part-time staff. Sunday licensed coverage rotation continued with Aram, Roger, Mike, and Joe.
- Joel Terrio continued in a part-time capacity working weekends - Saturdays & Sundays. This arrangement allows for the regular staff to be on site more during the week.
- In November, the staffing levels were affected due to the Covid-19 pandemic virus. One staff member was out for two weeks during the month. Labor was supplemented by the O&M Specialist during that time.



## 9 COLLECTION SYSTEM

### 9.1 WET WELL CLEANING

The actual schedule for wet well cleaning: May 2021 to April 2022:

(X-Cleaned) - (Orange – Inspected) - (Green – See notes) - (blank – no work done)

Frequency of cleaning	Pump Station							
	A	1	3	4	5	6	9	D
May, 2021								
June, 2021	X							
July, 2021								
Aug., 2021	X			X				
Sept. 2021								
Oct.,2021								
Nov, 2021								
Dec., 2021								
Jan., 2022								
Feb., 2022								
March 2022								
April 2022								

All pump stations except for Pump Station 3 and Station D have an aerator/mixer in the wet wells.

### 9.2 COLLECTION SYSTEM MAINTENANCE

Collection system work is being documented and tracked in Utility Cloud and a summarized report for October has been included as an attachment with the Monthly Operating Report.

Woodard & Curran assisted/conducted camera work and sewer system support in the Hull collection system at the following areas during the month of November. Ongoing backup and blockage call outs requiring an increase in labor and time to support. Below summarizes W&C's efforts at the various call out locations.

- Complete emergency dig-safe requests & regular dig safe mark outs, when able to complete them.
- 33 Richards Rd. Grinder Pump in alarm – issue found with electrical feed to the E-1, and control box. Rosano-Davis excavated for cable replacement by Pat Cannon.
- 60 Main St.- 11/6 - Back-up in shower stall in basement. Checked street and manholes – all ok.
- 11/10 – Assist with MH inspection on Nantasket Ave for PS9 work with Ted Berry/Vortex.
- 428 Nantasket Ave – several visits for blockage call.

- 11/24 – 939 Nantasket – Homeowner help for broken lateral on their property. Inspect and conduct dye testing to the downstream MH's.
  - 11/25 – 137 Kingsley – back up callout – inspect and verify street flow ok.
  - 11/11 – Emergency dig safe call for water main break – 12 Belmont
  - 11/16 – 147 Manomet - back up callout – inspect and verify street flow ok
- 
- In-Pipe units – on-going maintenance of dosing units as needed. Staff conducted board troubleshooting, dosing pump repairs and replacements as needed.
  - Pump station generators loaded, and non-loaded generator runs completed.
  - All Pump station wet wells were inspected in November. Monthly Pump Station Inspections are completed and combined with monthly station PM's.
  - Upload new/updated tie-cards to the UC as asked.
  - Grinder pump summary:
    - 33 Richards Rd.
  - On-going Dig-Safe mark outs. These are completed throughout the Town of Hull to assist/facilitate scheduled and emergency gas repairs, broken water mains, upcoming roadway paving projects, and other residential and town projects and are listed in the UC summary.

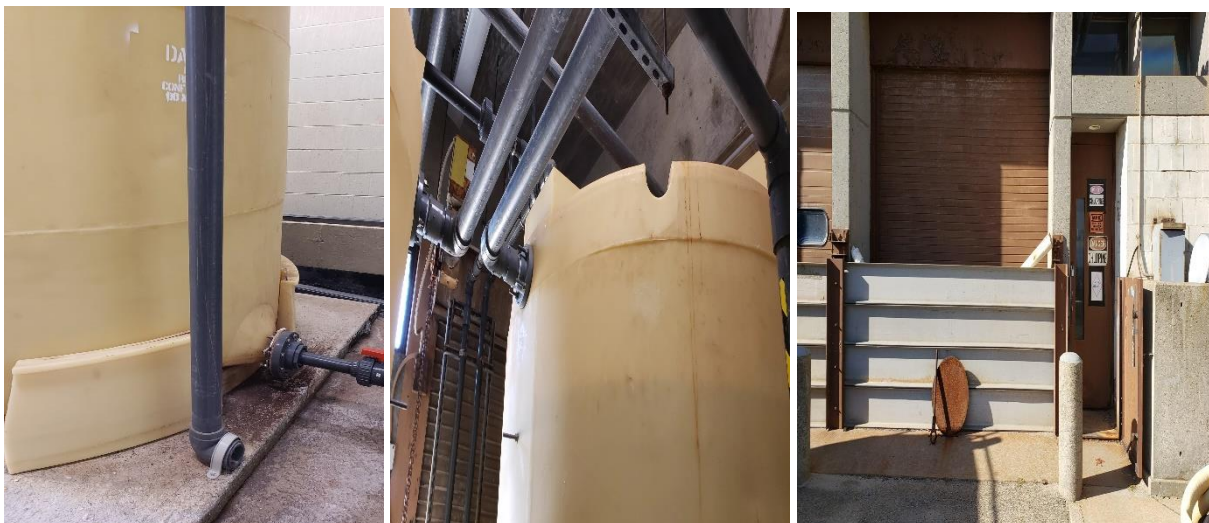
# 10 PROJECT MANAGEMENT & ADMINISTRATION



## 10.1 ON-GOING PROJECTS AND SUPPORT ITEMS

### November updates:

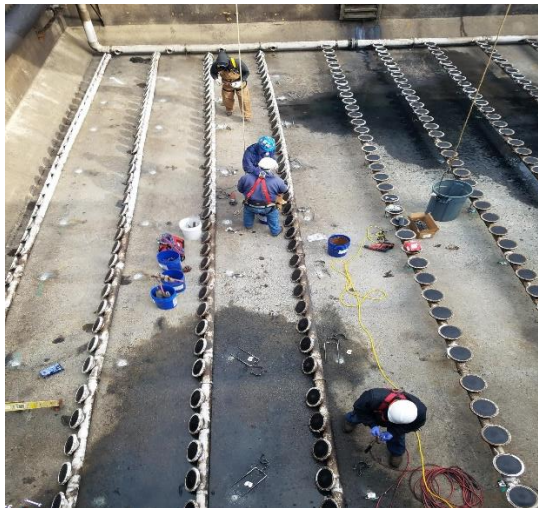
- Follow up on the 60HP effluent pump that was in the Xylem/Flygt shop for evaluation. WC continued to work with the repair shop for the updated assessment on the repair costs. An approval to go ahead was given on 11/8/21. Estimated cost \$27,000.
- Sodium hypochlorite bulk storage tank #2 developed a leak that was discovered on Nov 2021. Upon discovery, the chemical contents were pumped into the adjacent bulk storage tank, and two portable 240-gal totes. The immediate leak concern was minimized. These tanks were installed in 1996 and previously did not have any issues. The tank age, which is 25 years old, has surpassed the normal expected use of 10-15 years in service, after which time, the tank resin becomes brittle and susceptible to cracks. W&C reached out to a few local manufacturer representatives for information and quotation of new tanks. The HSD also contacted MA WARN about the possibility of tanks at other municipalities, which may be spares, that could assist and be used as a spare tank. Temporary chemical storage tanks through a rental company were also researched, as well as a repair option. The lead time for new tanks was found to be 8-10 weeks after an order was placed. Three of the major suppliers of tanks did present proposals, however, due to the existing containment area issues, the scope of the project work was larger than just replacing the tanks. Access into the room would either have the existing containment wall removed, or replacement of the overhead door, since the diameter of the tanks is too large for the existing access. The W&C staff is continuing to work off the one good storage tank, and ordering the chemical as needed in reduced quantity. The unit costs are higher with the lower amounts ordered.



- Continued to help and support of engineering projects with review and feedback provided – PS9 documents and data ,90% design on the influent pumps/secondary project, aeration tank diffusers and air valves, bypass options during the upgrade, energy grants and funding, and capital planning.
- As noted in the process section, aeration tank #3 was put back into service on 11/10. At the same time, aeration tank #1 was isolated from service and the contents were pumped out. The complete tank cleaning was done by the WC staff on 11/16, using the Truax vector truck. The WC staff and IPC Lydon replaced all the support hardware in the tank on 11/23-11/24, and then replaced the 444 rubber air diffuser membranes on 11/30. Similar to aeration tank #3, the existing rubber membranes were close to 20 years old and needed replacement. Final leak testing and checks to be performed in December.







- Radio Communications Project Update [11/29]
  - Industrial Communications called and advised about material delays. They have been informed that the radios will not deliver until December 20<sup>th</sup>.
  - A sketch was supplied for radio and antenna installations and Glenn Fellows was contacted about the assignment.
  - W&C and TCS will plan the integration once a firm delivery date is established.
  - W&C and TCS exchanging IP addresses, etc., and prepared once the equipment arrives
  - Integration target date – Late Jan 2022.
  
- Primary Clarifier #2 [PC2] rake repairs were put on hold until early November, until plant flows decreased, because of the late October rain event. The structural repair work began on November 3<sup>rd</sup> and continued through November 19<sup>th</sup>. As the work progressed, the steel deterioration was much greater than initially anticipated, and the work pace was slower due to the extent of the repairs. Some other weak areas were found, and approval was given to complete the additional repairs. One outstanding item remained, the receipt and installation of the four turnbuckles, which allow for adjustment and support of the rake arms. The delay was due to availability and fabrication.





- The Mersino Pump bypass project -HDPE piping and modifications work by the Primary D-Box was still on hold, since project work being done in that area of the plant, and supply chain delays in receiving parts. The project is expected to be scheduled in early December. WC and the Hull DPW will assist with the work.
- The facility received a notification on 11/5 that the current generator service provider, M&S Electrical & Power would not be in the business to supply generator preventive and corrective maintenance services. This notification prompted WC to reach out to several vendors that provide similar services to obtain proposal and service rates. The process involved preparation of an updated scope of services, providing nameplate information on all the generators, and extending the opportunity for site visitation. By the end of the month, the eligible list of vendors was narrowed down to three contractors. Additional inquiries to questions on services was still pending.
- PS #3 – schedule completion of De-Ragger work scheduled for mid-December.
- O&M storm costs for the October high flow event provided to the HSD On 11/9 as asked.
- S. Rose inspected the old Scada computers and associated equipment as requested by the HSD. Neither computer would “boot up”. The equipment was moved to the trailer and will be stored there until advised further.
- Per Tighe & Bond request, calculated the screenings volume collected daily based on the discharged amount into the rag cart in the classifier room.
- Continued working on getting quotes for a new sound attenuated 6” trailer mounted trash pump. Working with Thompson Pump, Premier Pump, and Global Pump.
- Provide data and information to HSD and Vortex for upcoming PS9 force main inspection
- Discuss upcoming plant filing for “no Exposure” designation due at the end of February 2022, under the storm water permitting program with MADEP.

Asset Management Accounts - Year 7							
	FOR NOVEMBER M.O.R.	Actual to date			Projected for Final Estimate		
Account		Budgeted Amount	Spent to Date	Delta	Projected costs and incl PO's	Final est	Delta
07M-101A	Preventive Maint	\$213,028.73	\$115,763.94	\$97,264.79	\$15,800.00	\$131,563.94	\$81,464.79
07M-102B	Capital and Major Repairs	\$140,000.00	\$99,906.04	\$40,093.96	\$86,500.00	\$186,406.04	(\$46,406.04)
07M-103A	Major Sub Contractors	\$180,465.81	\$234,110.40	(\$53,644.59)	\$18,725.00	\$252,835.40	(\$72,369.59)
blank							
	<b>Asset Management</b>	<b>\$533,494.54</b>	<b>\$449,780.38</b>	<b>\$83,714.16</b>	<b>\$121,025.00</b>	<b>\$570,805.38</b>	<b>(\$37,310.84)</b>

\$83,714.16

Budget expended	Time Status	
	NOW=	2/8/2022
	Start	5/1/2020
54.3%	177.7%	123.3%
71.4%	177.7%	106.3%
129.7%	177.7%	47.9%
<b>84.3%</b>	<b>177.7%</b>	<b>93.3%</b>

07S	D Street	\$7,500.00	\$2,183.39	\$5,316.61	\$0.00	\$2,183.39	\$5,316.61
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29.1%	177.7%	148.5%
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07C	Odor Control Chemicals	\$100,000.00	\$69,946.68	\$30,053.32	\$0.00	\$69,946.68	\$30,053.32
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69.9%	177.7%	107.7%
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Estimated total  
remaining 07M,  
07C (\$7,257.52)

**Hull 2021-2022 - 07M Projects, Tasks, and Needs - (AV)**

**Maintenance Account - Year 7 - 05\_01\_21 to 04\_30\_22**

**FOR NOVEMBER 2021 MOR**

**\$121,025.00**

2/8/2022 10:25

Priority [1=high]	Description	Status	completed	Task	Estimates & funds remaining	Final Completed Cost	Lead	Comments
1	Mechanical Work Labor by O&M specialists	On Going		101A				Jody St. George, Paul Horigan & WC Support Staff - Total budget \$25,000; incl annual scrubber cleaning, remove old blowers [mech]; other items as needed. Adj budget down to \$9,000 - 11/22. Adjust 12/19; adj placeholder \$\$ 1/3/22; adj to zero 2/8/22
1	Pump and Motor Repairs [invoiced and pcard]	On Going		101A	<b>\$2,000.00</b>			to keep existing equipment running - utilize various outside contractor repair shops, new purchases. orig budget \$20,000; adjust to 6000 11/22, <b>adjust on 2/8/22</b>
1	Lubricants	On Going		101A				Various Suppliers for oil and grease. Budgeted \$3500. delete \$\$ on 2/2 & move to gen repairs
1	Generator Repairs	On Going		101A	<b>\$3,500.00</b>			General Repair Work - Original Placeholder \$3,000; pending invoice for water solenoid main gen oct 2020; Adj 11/22 to \$2000. Will have rental \$\$, and repair \$\$ for PS6 generator. Main Gen #2 also eval-repairs. Budget at \$3,500
1	Fire Alarm Inspections and Service	On Going		101A	<b>\$1,000.00</b>			Semi Annual - Hart Security [October & April, central station, & Service] Orig budget \$3000.
2	Universal waste disposal	Pending		101A				Placeholder - \$500; zero the budget, will incur if needed. Veolia ES in for January services.
1	Service the Forklift	Pending		101A	<b>\$400.00</b>			Placeholder \$400 - Annual cost - outside vendor
1	Overhead Hoist Inspection	Pending		101A	<b>\$1,500.00</b>			Annual task - Applied Dynamics - PO is usually issued for April. \$1500
1	Flow meter verification and calibration	Pending		101A	<b>\$1,000.00</b>			Placeholder - Annual - Ray Ferland 1 visit annually [orig budget \$1,000];
1	Facility Building - Roof Inspection	Pending		101A	<b>\$2,800.00</b>			\$2800 Annual Placeholder - Established contract with Tecta America
1	Pump Station #9 - Repairs Immediate	completed		101A		<b>\$6,900.00</b>		Costs from D&C to be charged to budget Oct 2021
2	Jerome H2S Meter Inspection	Pending		101A				\$1100 - Placeholder for Annual Inspection - sent out includes annual service \$1100; not done in year #6 [remove placeholder 10/25]
1	Janitorial Supplies	On Going		101A	<b>\$1,000.00</b>			Estimated annual expenditures - Orig budget \$4,000; adj 12/19; adj to \$1,000 on 2/2/22
1	Manhole Inspections	Pending		101A				As required, and/or scheduled
2	General mechanical and electrical items/supplies	On Going		101A	<b>\$2,000.00</b>			Grainger, FWWebb, EJP, Hoadley, McMasterCarr, etc; orig budget \$18,000, adjust to \$9,000 on 10/20; adjust to 6500 on 11/22; adj 12/19 to \$5000; adj to \$2000 on 2/2/22
1	<b>IR Survey</b>	completed		101A				Done in 2021 [September]
2	Hoses	completed		101A				Replacements and/or Service - On-Going - As Needed; Purchased three 6-inch hoses, close out budget Oct 2021
1	Replace UPS batteries - plant and pump stations & town trailer	completed		101A				in process - started Oct 2021; Readjust budget to \$4,500 on 11/22. Completed 12/19
1	Spare A-C pump rotating assembly repair	completed		101A		<b>\$4,400.74</b>		10/18 - currently in shop for repairs at Seacoast Supply. No PO issued. Repaired unit received back.



# Hull 2021-2022 - 07M Projects, Tasks, and Needs - (AV)

Maintenance Account - Year 7 - 05\_01\_21 to 04\_30\_22

FOR NOVEMBER 2021 MOR

\$121,025.00

2/8/2022 10:25

Priority [1=high]	Description	Status	completed	Task	Estimates & funds remaining	Final Completed Cost	Lead	Comments
2	Misc. Materials	On Going		101A	\$600.00			Hardware Store - \$200.00 per month - reoccurring expense; orig budget \$2,400;
4	Install a flow meter on the generator cooling water system - plant water	Pending		101A				Have an estimate [Oct 2018]; possible after 5/1/20
1	Lab Equip Calibration	completed		101A				Annual service \$600- usually Jan/Feb. Last done May 2021; process invoice Oct 2021
1	Mech seal[s] for RAS pumps ! & 2	completed		101A		\$4,648.39		P1 repairs in progress as of 10/1/21; estim cost \$5,000. No PO issued.
2	Tecta Roof Repairs - proposed per 2021 inspection	Pending		102B				TBD
2	yard hydrants - installation	Pending		102B				sub-contractor labor - pending; Have materials on hand. To be put on hold until spring 2022 [\$5,000] 2/2/22
1	Pump Station #4 - purchase two new pumps	Completed		102B				Cost: On a PO with MSI - # estim \$35,000 - by AEPump
1	Pump Station #4 - install new pumps	Completed		102B	\$10,000.00			Most likely by D & C
1	Effluent Pump #3 - repairs	On Going		102B	\$25,000.00			Currently the 60HP pump is at Flygt Repair shop - estimated repairs and new power cord - \$25,000; Pump still at shop - Dec 2021; <b>No PO was issued.</b>
1	Sanitaire hardware purchase for aer tk 1	Completed		102B		\$12,776.00		Purchase more hardware - done June/July 2021 [not billed yet]
1	Additional Sanitaire hardware/equip needs	completed		102B		\$2,612.00		Additional 350 membrane diffusers for aeration tank #1 [ordered 10/19/21
3	Replace 6" potable water valve in basement and misc. valves	Pending		102B				While doing project check/replace 1 1/4 valves as needed - Requires a water shutdown, on hold until after HVAC project completed. Orig planned cost \$3,000.
2	New 6" portable trash pump - changed to new effluent P3 - Flowserve	On Going		102B	\$51,500.00			Purchase from either Sourcewell or other -best estimate: <b>Update 2/8 to AquaSolutions - purchase of new effluent pump #3 - 60HP pump.</b>
1	New Effluent Flygt Pump #4	completed		102B				20 HP pump ordered October 2021. on a PO Estim cost: <b>\$17,000 plus freight</b>
3	New 4-inch valves for pri building between the tanks Installation	Pending		102B				Valves - cost: \$2500, sub-contracted labor - either WC or outside co.\$4,000 - <b>totl estim \$6,500</b>
3	Odor log data loggers & calibr kit	Pending		102B				Current units obsolete and not supported by company, possibly look at under 05C if funds avail; remove the \$6,000 on 2/6/20 - 06C or 06M
3	Jerome meter replacement	Pending		102B				replace unit, if done \$11,000
3	Gravity Thickener #1 sandblasting/painting	Pending		102B				Estimate \$45,000+ - would need to go out for competitive bid request, Target late spring/early summer 2022 ?
2 of 4 <sup>2</sup> 2/8/2022	AUMA spare electric actuator	Pending		102B	2020_05_01_07M_Checkbook_YTD draft			one spae unit, for inventory - Quoted by A&N. PO requested & on order.#103652 07M Planned Costs



**Hull 2021-2022 - 07M Projects, Tasks, and Needs - (AV)**

**Maintenance Account - Year 7 - 05\_01\_21 to 04\_30\_22**

**FOR NOVEMBER 2021 MOR**

**\$121,025.00**

2/8/2022 10:25

Priority [1=high]	Description	Status	completed	Task	Estimates & funds remaining	Final Completed Cost	Lead	Comments
1	Grit classifier system parts	On Going		102B				No spare parts - tail shft housing, tail shaft, bushing, retainer plate, etc. Estimate from DGMarshall, HE Moore and Envirodyne. Parts purchasing initiated Dec 2021. Estimated total \$9,000
2	Replacement Pumps LS A	Pending		102B				Pump efficiency lower than desired - new pumps may be needed. Estimate ?
1	Electrical Work	On Going		103A				Electricians: Glen Fellows, HiVoltage, other; remv old blowers.lighting, sec bldg elec outlets - \$2,000/month; orig budget \$25,000; adjust down to \$4,000. Adjust down & zero out on 12/19.
1	SCADA Work	On Going		103A	\$2,500.00			Steve Rose and the SCADA Support Team; orig budget \$25,000; adj Dec 2021. Adjust budget remaining from 11K down to 6K; adjust budget down 2/8/22 to - \$2,500
1	E-One Repairs and Replacement	On Going		103A				Based on historical costs. E1 repairs where cost-effective & new replacement pumps; control panels, other equip; Orig budget \$25,000; More replacement pumps versus repairs. Reduce budget to 15K on 10/6; adj to 12K on 10/25; Adjust budget on 11/22 to \$3000. Adjust budget to Zero 12/19. 1/2/22 YTD costs \$28K. 2/2/22 - ongoing repairs & increased costs.
1	Annual Generator inspection	On Going		103A	\$7,225.00			placeholder 2021 Annual \$4,900 - MSElectrical Power - Generator PM/Service work - due in November, Early Dec target completion. 2/2/22 New Contractor will be in place for 2022. SSGEN
1	Automatic Transfer Switch inspection and servicing	Pending		103A				\$2400 - Annual Service planned for April Highland Power - NETS - Transfer Switch; Part of Gen Svc PO. Maypush this to after May 1st 2022 [2/2/22]
1	Wetwell Inspections and Cleaning - Plant/Pump Stations	On Going		103A	\$5,000.00			As required, plant or pump stations; orig budget \$10,000; adj 12/19 down to \$5000
1	Sewer Line Cleaning - Emergencies	On Going		103A	\$4,000.00			Placeholder - As required for various sub-contractors; could be Hoadley, Truax, WindRiver, BMC, or other, collection system & plant; orig budget \$10,000; adj budget down to \$5,000 10/20; adjust down 1/3/22;
1	Collection System and plant - emerg & unplanned calls - Jetting & CCTV work - various contractors	On Going		103A				Budget - 15,000, adj down to 10K on 10/20; Reverse budget to Zero after PS9 Pump & Haul in January for FM evaluation. [2/2/22]
1	Mersino 6" pump rental	On Going		103A				approx \$2600 per month; adj budget down due to payments 11/22; adj 12/19
1	Aer tank repairs [labor] through September	completed		103A				4 days - millwrights - Lydon \$8000
2	Aer tank repairs [labor] for diffuser membrane replacement	completed		103A		\$1,952.92		2 days - millwrights - Lydon \$6300; Aeration tank #3, aeration tank #1
3	Regen Aeration System - Pump Station #5	Pending		103A				Orig est \$1,500 -Tie into the SCADA system - Glen Fellows; .
3	SHT1 - demo of equip, air piping & diffuser install/materials	Pending		103A				demo concrete in tank - \$15,000 - sub-contractor and installation of new equip -additional new equip \$6,000; air piping to the tank \$10,000; Total estimate: \$31,000. Maybe year 8M project ?
4	Generators - Load Bank Testing Plant & Pump Stations	Pending		103A				Look at under 08M - recently done under 06M.
1	EESCO electrical MCC work - plant	completed		103A		\$10,235.00		In progress as of September 2021, and to be completed October 2021
1	EESCO MCC work at the Pump Stations	Pending		103A				TBD quoted for Oct/Nov 2021
1	Low pressure sewer valve box insp & mtce	Pending		103A				placeholder for contractor O&M inspections and potential repairs; Looking at Rosano-Davis or another contractor & W&C to investigate; budget of \$7,500 on hold
1	LS A pumps - Repairs to P2 by Industrial Pump	On Going		101A				Placeholder - 4/12 - Evaluating cost for pump repair while relacement costs for parts or new pumps are looked at..Spare assembly still at shop - repairs pending



Hull 2021-2022 - 07M Projects, Tasks, and Needs - (AV)

Maintenance Account - Year 7 - 05\_01\_21 to 04\_30\_22

FOR NOVEMBER 2021 MOR

\$121,025.00

2/8/2022 10:25

Priority [1=high]	Description	Status	completed	Task	Estimates & funds remaining	Final Completed Cost	Lead	Comments
1	PC #2 rake repairs - Lydon	completed		103A		\$33,370.77		Time and materials per proposal;(\$18,000)Revised estimate due to additional issues not seen with first inspection. Estimated additional \$\$ - \$15,000
1	PC2 remaining repairs - turnbuckles	completed		103A				installation - INCL above.
1	Aeration Tank #1 mechanical assistance	completed		103A		\$6,911.47		hardware replacement and diffuser replacement - Late Nov, Early Dec.3 days of contractor assistance.
1	Deragger PS3 for Pump #2	On Going		102B				Needs to be completed by MSI, additional electrician assistance.
TOTAL					\$121,025.00			



# Maintenance History Report

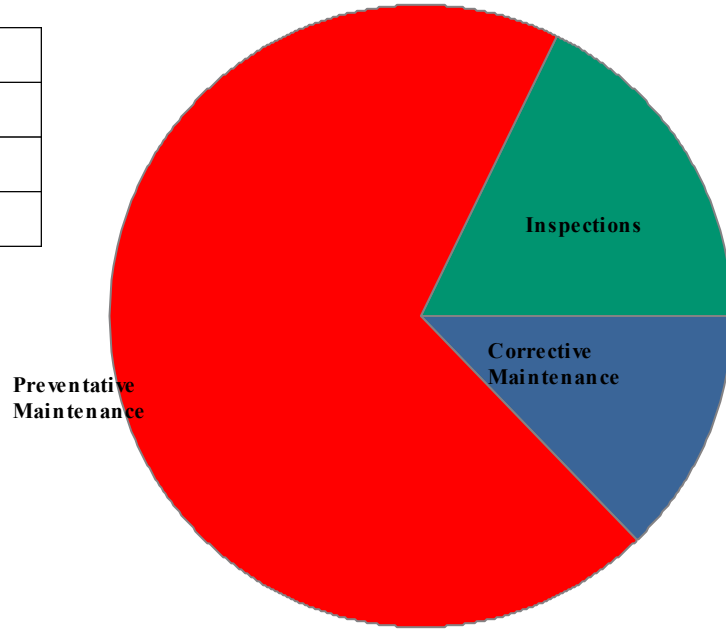
Start Date: 11/1/2021

End Date: 11/30/2021

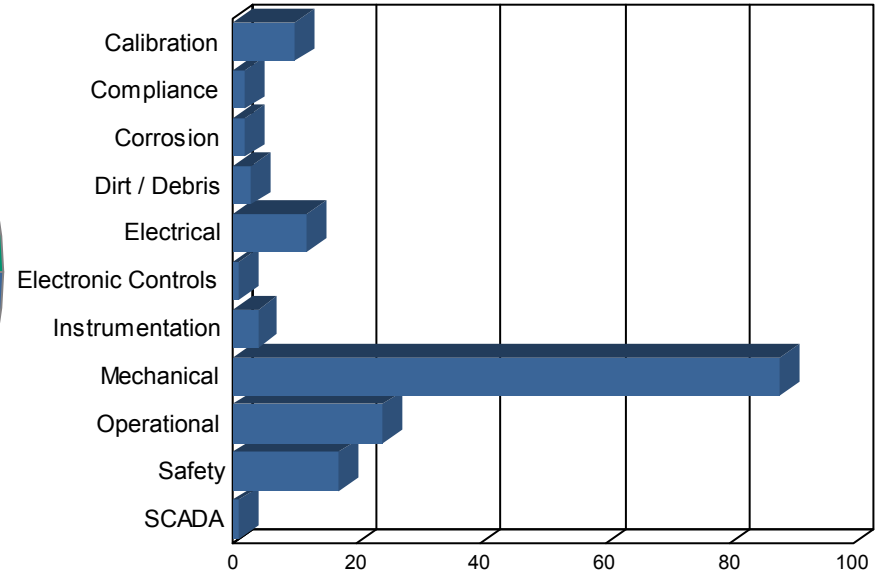
## Hull Wastewater

Work Order History By Type

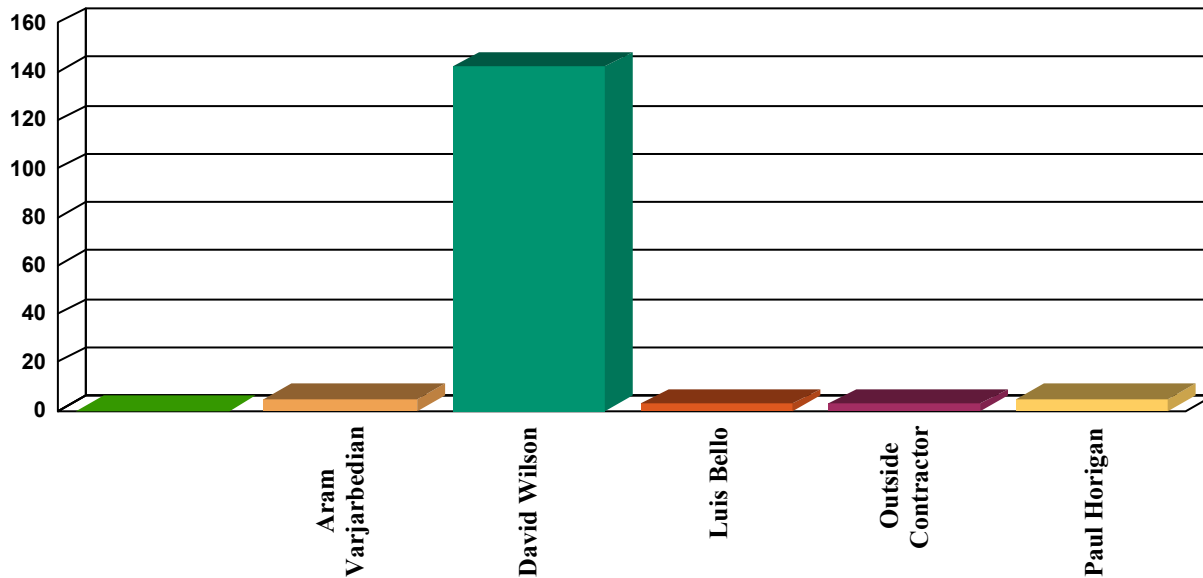
Corrective Maintenance	21
Inspections	29
Preventative Maintenance	113
<b>Total Work Orders</b>	<b>163</b>



Work Order History by Reason



Work Order History By Employee



Employee	WO Count	Labor Hours
Aram Varjarbedian	5	4
David Wilson	141	100
Luis Bello	3	0
Outside Contractor	3	16
Paul Horigan	5	4
Unassigned	6	6
<b>Totals</b>	<b>163</b>	<b>130</b>

## Corrective Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
11/1/21	14937	Plant Water Pump 1	Seized motor and seal	DW/MS/PH Tried to alternate plant water pumps. VFD kept tripping. LOTO of equipment. Tried to turn shaft by hand. Removed wiring from motor. Seperated pump from volute an brought up to maintenance shop. Disassembled pump from motor. Found seized seal and motor bearings. Sent out To be rebuilt. Installed rebuilt pump and motor assembly. Wired up and tested rotation. Primed pump and put into service. No leaks and makes good pressure.	David Wilson	11/1/21	Completed
11/2/21	14942	Operations Building	safety room needs light switch at entry door	HiVoltage added conduit and ability to turn lights on from each doorway	Outside Contractor	11/2/21	Completed
11/2/21	14943	Operations Building	lighting poor in many aread	addressed many light fixtures in 1st and 2nd floor hallways, changing ballasts and bulbs. use existing stock.	Outside Contractor	11/2/21	Completed
11/4/21	14944	PS A SCADA Panel	Failed ac cord from ups to power supply	Replaced ac cord		11/3/21	Completed
11/4/21	14945	30 - WW Treatment Plant - General	UPS, replacement	Replaced 6 UPS in client trailer and 2 in lower office	Paul Horigan	11/4/21	Completed
11/4/21	14946	GODWIN Portable Pump	Will not start	Took battery from backup generator to start, will put new battery on gen		11/4/21	Completed
11/4/21	14947	Generator #2 - Backup Detroit 500	Removed 1 battery to use on godwin pump	Replaced battery,, d8,1400cca, purchased from fleetpride		11/4/21	Completed
11/5/21	14948	30 - WW Treatment Plant - General	Diagnose and repair Grayline meter for RST.	Tried resetting meter. No reading. With a 6' ladder, blade screwdriver and DOW Corning Grease, I remounted sensor on discharge pipe. When I was able to find signal, I put grease on sensor and installed in mount. Put away tools and supplies.	David Wilson	11/5/21	Completed
11/5/21	14949	PS A Building	Repair failed lighting.	Replace failed ballast. Isolated circuit and uninstalled old ballast. Rewired fixture for new ballast. Reassembled returned to service.	David Wilson	11/5/21	Completed
11/7/21	14950	Hypochlorite Pump 1	leak on suction tube	replaced tubing and fitting, reinstall, and check 2x during day. ok. empty spill tray.	Aram Varjarbedian	11/8/21	Completed
11/9/21	14951	GODWIN Portable Pump	Diagnose no start condition	Tested battery voltage. 12.6vdc Tested while cranking 6.2vdc Verified failed battery by swapping batteries with backup generator battery. Started right up. Replaced with a new battery. Backup battery reinstalled.	David Wilson	11/9/21	Completed
11/9/21	14952	PS 9 SCADA Panel	Replace UPS	Replace UPS in scada panel		11/9/21	Completed
11/9/21	14953	PS D SCADA Panel	Replace UPS IN PANEL	Completed as requested		11/9/21	Completed
11/9/21	14954	PS 5 SCADA Panel	Replace UPS	Completed as requested		11/9/21	Completed
11/10/21	14956	PS 3 SCADA Panel	UPS	Completed as requested	Paul Horigan	11/10/21	Completed
11/10/21	14957	PS 3 Sump Pump	Install new sump pump	Drilled 3/16 vent hole in discharge pipe. Installed discharge pipe in pump. Installed assembly in drywell.	David Wilson	11/10/21	Completed
11/10/21	14958	PS 1 SCADA Panel	UPS	Replace UPS	Paul Horigan	11/10/21	Completed

## Corrective Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
11/11/21	14959	RST Polymer System	Polymer line to RST feed pump failed	Isolated Polymer system and replaced brass fitting. Used absorbent material to clean liquid from floor in garage.	David Wilson	11/11/21	Completed
11/18/21	14960	PS 3 Pump 2	Diagnose pump 2 low output.	LOTO of pump 2. Removed side cleanout, bottom cleanout and check valve cover. Removed rags from check valve and impeller face. Reassembled with antiseize and returned to service. Pump output was 350 gpm and is now 730 gpm.	David Wilson	11/18/21	Completed
11/19/21	14961	Secondary Clarifier 1	Diagnose cause of false alarms in torque overload circuit.	High Voltage Associates troubleshooting alarm circuit. Electrical vault pumped out and suspended wiring was inspected. Junction box on staircase inspected. They found corroded wire nuts and moisture. Replaced wire nuts and tested further. CSE set up to access junction box on tank wall under the staircase. Found junction box filled with water and lots of corrosion. Displaced moisture and replaced corroded wire nuts. Initial induced voltage measured 53vac. After concerns were addressed voltage was measured at 1vac. Line left open over the weekend to allow circuit to dry. Measured again Monday morning at 0vac. Line reconnected. Alarm circuit working properly.	Outside Contractor	11/22/21	Completed
11/24/21	14963	RAS Pump 3	lower output	LOTO and derag pump, clog was at dischg elbow before check valve. Also, retap one of the volute holes	Aram Varjarbedian	11/24/21	Completed

## Inspections

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
11/1/21	14406	Truck 1 - 2010 Dodge Ram 1500	Monthly vehicle inspection on do-Forms		David Wilson	10/4/21	Completed
11/1/21	14416	Truck 2 - 2009 Chevy 2500 HD	Monthly vehicle inspection on do-Forms		David Wilson	10/4/21	Completed
11/1/21	14417	Truck 2 - 2009 Chevy 2500 HD	ANNUAL STATE VEHICLE INSPECTION		David Wilson	10/4/21	Completed
11/1/21	14452	Blower Room Exhaust Fan 2	Monthly operational inspection	Lube and inspect completed. Belt guard found and reattached after storm.	David Wilson	10/1/21	Completed
11/2/21	14267	Truck 1 - 2010 Dodge Ram 1500	Monthly vehicle inspection on do-Forms		David Wilson	9/6/21	Completed
11/2/21	14619	Blower Room Exhaust Fan 2	Monthly operational inspection		David Wilson	11/1/21	Completed
11/9/21	14528	PS 4	PS #4 Inspection - Monthly		David Wilson	11/4/21	Completed
11/9/21	14533	PS 9	PS #9 Inspection - Monthly	Completed as requested	David Wilson	11/4/21	Completed
11/9/21	14532	PS 6	PS #6 Inspection - Monthly	Completed as requested	David Wilson	11/4/21	Completed
11/9/21	14529	PS 5	PS #5 Inspection - Monthly	Completed as requested	David Wilson	11/4/21	Completed
11/10/21	14525	PS 3	PS #3 Inspection - Monthly	Completed as requested	David Wilson	11/4/21	Completed

## Inspections

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
11/10/21	14524	PS 1	PS #1 Inspection - Monthly	Completed as requested	Paul Horigan	11/4/21	Completed
11/10/21	14536	PS A	PS #A Inspection - Monthly	Completed as requested	David Wilson	11/4/21	Completed
11/11/21	14323	Eyewash Stations	WWTF Eyewash Inspection - Weekly		David Wilson	10/31/21	Completed
11/11/21	14322	Eyewash Stations	WWTF Eyewash Inspection - Weekly		David Wilson	10/24/21	Completed
11/11/21	14174	Emergency Lighting & exit signs	Emergency Lighting Inspection - Monthly		David Wilson	9/8/21	Completed
11/12/21	14572	Truck 1 - 2010 Dodge Ram 1500	Monthly vehicle inspection on do-Forms		David Wilson	11/1/21	Completed
11/12/21	14586	Truck 2 - 2009 Chevy 2500 HD	Monthly vehicle inspection on do-Forms		David Wilson	11/1/21	Completed
11/12/21	14596	Truck 3 - 2015 Chevy 3500 HD	Monthly vehicle inspection on do-Forms		David Wilson	11/1/21	Completed
11/12/21	14451	Blower Room Exhaust Fan 1	Monthly operational inspection		David Wilson	10/1/21	Completed
11/12/21	14481	Emergency Lighting & exit signs	Emergency Lighting Inspection - Monthly		David Wilson	11/10/21	Completed
11/12/21	14568	Fire Extinguishers	WWTF Fire Extinguisher Inspections - Monthly	Accidental discharge of an ABC fire extinguisher after a hot work fire watch.	David Wilson	11/1/21	Completed
11/12/21	14325	Emergency Lighting & exit signs	Emergency Lighting Inspection - Monthly		David Wilson	10/13/21	Completed
11/12/21	14477	Eyewash Stations	WWTF Eyewash Inspection - Weekly		David Wilson	11/7/21	Completed
11/14/21	14597	Truck 4 - 2015 Nissan Frontier	Monthly vehicle inspection on do-Forms	Veh inspected. No issues. Recent work on chk engine light. Dealer replaced intake manifold. Mileage- 133087	Aram Varjarbedian	11/1/21	Completed
11/14/21	14590	Universal waste area	Universal Waste Storage Area Inspection	Inspected, and new area needed for storage	Aram Varjarbedian	11/9/21	Completed
11/17/21	14618	Blower Room Exhaust Fan 1	Monthly operational inspection		David Wilson	11/1/21	Completed
11/19/21	14587	Aeration Electrical Control Manhole	Inspect Aeration Electrical Control Manhole		David Wilson	11/2/21	Completed
11/19/21	14418	Secondary Electrical Control Manhole	Inspect Secondary Electrical Manhole		David Wilson	10/5/21	Completed

## Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
11/1/21	14034	Effluent Pumps	Effluent Pump - Monthly		David Wilson	8/15/21	Completed
11/1/21	14204	Effluent Pumps	Effluent Pump - Monthly		David Wilson	9/15/21	Completed
11/1/21	14430	High level floats	Weekly High Float Alarm test		David Wilson	10/17/21	Completed
11/1/21	14431	High level floats	Weekly High Float Alarm test		David Wilson	10/24/21	Completed
11/1/21	14337	Grit Screw Drive	Grit Screw Drive PM - Quarterly	Out of service.	David Wilson	10/22/21	Completed
11/1/21	14348	Aeration Blower 1	Aeration Blower #1 Air Filter Inspection - monthly	Inspected air filter. Installed clean air filter.	David Wilson	10/26/21	Completed
11/1/21	14349	Aeration Blower 2	Aeration Blower #2 Air Filter Inspection - Monthly	Inspected air filter. Clean. Reassembled.	David Wilson	10/28/21	Completed



## Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
11/2/21	14281	Chlorine probe ATl	Weekly calibration		David Wilson	9/13/21	Completed
11/2/21	14283	Chlorine probe ATl	Change electrolyte		David Wilson	9/1/21	Completed
11/2/21	14282	Chlorine probe ATl	Weekly calibration		David Wilson	9/27/21	Completed
11/2/21	14423	Chlorine probe ATl	Weekly calibration		David Wilson	10/11/21	Completed
11/2/21	14594	Chlorine probe ATl	Change electrolyte		David Wilson	11/1/21	Completed
11/2/21	14595	Chlorine probe ATl	ATI, change membrane		David Wilson	11/1/21	Completed
11/2/21	14482	Generator #2 - Backup Detroit 500	Generator Weekly - Test Run no load		David Wilson	11/1/21	Completed
11/2/21	14487	Generator #1- Emergency Kohler 750	Generator Weekly - Test Run no load		David Wilson	11/1/21	Completed
11/2/21	14608	Generators "All Pump Station"	Generator Weekly - Test Run no load		Aram Varjarbedian	11/1/21	Completed
11/2/21	14573	PS Kholer Trailer Mounted Generator	Generator Weekly - Test Run no load		David Wilson	11/1/21	Completed
11/5/21	14512	RAS Pump 1	Monthly Check Pump Couplings	Pump out of service.	David Wilson	11/3/21	Completed
11/5/21	14511	RAS Pump 1	RAS Pump #1 PM - Quarterly	Pump out of service.	David Wilson	11/3/21	Completed
11/5/21	14557	PS 9 Generator	PS #9 Generator Inspection and Test - Weekly		David Wilson	11/3/21	Completed
11/5/21	14561	PS 9 Generator	PS #9 Generator Inspection and Load Test - Monthly		David Wilson	11/3/21	Completed
11/5/21	14562	PS 6 Generator	PS #5 Generator Inspection and Load Test - Monthly		David Wilson	11/3/21	Completed
11/5/21	14563	PS 6 Generator	PS #6 Generator Inspection and Test - Weekly		David Wilson	11/3/21	Completed
11/5/21	14552	PS 5 Generator	PS #5 Generator Inspection and Load Test - Monthly		David Wilson	11/3/21	Completed
11/5/21	14553	PS 5 Generator	PS #5 Generator Inspection and Test - Weekly		David Wilson	11/3/21	Completed
11/5/21	14547	PS 4 Generator	PS #4 Generator Inspection and Test - Weekly		David Wilson	11/3/21	Completed
11/5/21	14551	PS 4 Generator	PS #4 Generator Inspection and Load Test - Monthly		David Wilson	11/3/21	Completed
11/5/21	14542	PS 3 Generator	PS #3 Generator Inspection and Load Test - Monthly		David Wilson	11/3/21	Completed
11/5/21	14543	PS 3 Generator	PS #3 Generator Inspection and Test - Weekly		David Wilson	11/3/21	Completed
11/5/21	14537	PS 1 Generator	PS #1 Generator Inspection and Test - Weekly		David Wilson	11/3/21	Completed
11/5/21	14541	PS 1 Generator	PS #1 Generator Inspection and Load Test - Monthly		David Wilson	11/3/21	Completed
11/9/21	14527	PS 4	PUMP STATIONS - QUATERLY PM'S	Completed as requested	David Wilson	11/2/21	Completed
11/9/21	14534	PS 9	PUMP STATIONS - QUATERLY PM'S	Completed as requested	David Wilson	11/2/21	Completed
11/9/21	14531	PS 6	PUMP STATIONS - QUATERLY PM'S	Completed as requested	Paul Horgan	11/9/21	Completed

## Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
11/9/21	14530	PS 5	PUMP STATIONS - QUATERLY PM'S	Completed as requested	David Wilson	11/2/21	Completed
11/9/21	14607	Generators "All Pump Station"	Generator - Monthly Load Test		David Wilson	11/7/21	Completed
11/9/21	14955	PS 4 SCADA Panel	Replace back up UPS.	Replaced and labeled UPS	David Wilson	11/9/21	Completed
11/10/21	14526	PS 3	PUMP STATIONS - QUATERLY PM'S	Completed as requested	David Wilson	11/2/21	Completed
11/10/21	14523	PS 1	PUMP STATIONS - QUATERLY PM'S	Completed as requested	David Wilson	11/2/21	Completed
11/10/21	14535	PS A	PUMP STATIONS - QUATERLY PM'S	Completed as requested	David Wilson	11/2/21	Completed
11/11/21	14422	GasAlert Max XTII #2	monthly calibration		David Wilson	10/28/21	Completed
11/11/21	14414	Ventis MX4 #5 - 4 Gas	4 Gas Meter #5 Calibration - Monthly	Out of service due to failed H2S sensor.	David Wilson	10/28/21	Completed
11/11/21	14569	GasAlert Max XTII #1	4 gas meter calibration - monthly		David Wilson	11/1/21	Completed
11/11/21	14411	Ventis MX4 #2 - 4 Gas	4 Gas Meter #2 Calibration - Monthly		David Wilson	10/28/21	Completed
11/11/21	14412	Ventis MX4 #3 - 4 Gas	4 Gas Meter #3 Calibration - Monthly		David Wilson	10/28/21	Completed
11/11/21	14413	Ventis MX4 #4 - 4 Gas	4 Gas Meter #4 Calibration - Monthly		David Wilson	10/28/21	Completed
11/11/21	14415	Ventis MX4 #6 - 4 Gas	4 Gas Meter #6 Calibration - Monthly		David Wilson	10/28/21	Completed
11/11/21	14432	High level floats	Weekly High Float Alarm test		David Wilson	10/31/21	Completed
11/11/21	14447	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY		David Wilson	10/31/21	Completed
11/11/21	14491	Influent Sluice Isolation Gate	Weekly operate through full range		David Wilson	11/3/21	Completed
11/11/21	14341	Influent Sluice Isolation Gate	Weekly operate through full range		David Wilson	10/27/21	Completed
11/11/21	14445	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY		David Wilson	10/17/21	Completed
11/11/21	14446	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY		David Wilson	10/24/21	Completed
11/11/21	14318	Portable Generator - Honda	Portable Generator Inspection - Monthly		David Wilson	10/6/21	Completed
11/11/21	14354	Wet Scrubber Fan	Scrubber Exhaust Fan PM - Monthly		David Wilson	10/13/21	Completed
11/11/21	14476	Portable Generator - Honda	Portable Generator Inspection - Monthly		David Wilson	11/3/21	Completed
11/12/21	14200	Aeration Blower 1	Aeration Blower #1 Air Filter Inspection - monthly		David Wilson	9/28/21	Completed
11/12/21	14492	Influent Sluice Isolation Gate	Weekly operate through full range		David Wilson	11/10/21	Completed
11/12/21	14577	PS Kholer Trailer Mounted Generator	Generator - Monthly Load Test		David Wilson	11/7/21	Completed
11/12/21	14538	PS 1 Generator	PS #1 Generator Inspection and Test - Weekly		David Wilson	11/10/21	Completed
11/12/21	14544	PS 3 Generator	PS #3 Generator Inspection and Test - Weekly		David Wilson	11/10/21	Completed
11/12/21	14548	PS 4 Generator	PS #4 Generator Inspection and Test - Weekly		David Wilson	11/10/21	Completed
11/12/21	14554	PS 5 Generator	PS #5 Generator Inspection and Test - Weekly		David Wilson	11/10/21	Completed

## Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
11/12/21	14564	PS 6 Generator	PS #6 Generator Inspection and Test - Weekly		David Wilson	11/10/21	Completed
11/12/21	14510	Wet Scrubber Fan	Scrubber Exhaust Fan PM - Monthly		David Wilson	11/10/21	Completed
11/12/21	14558	PS 9 Generator	PS #9 Generator Inspection and Test - Weekly		David Wilson	11/10/21	Completed
11/12/21	14504	Secondary Clarifier 1	Clean Launder Screens - Quarterly		David Wilson	11/1/21	Completed
11/12/21	14505	Secondary Clarifier 2	Clean Launder Screens - Quarterly		David Wilson	11/1/21	Completed
11/12/21	14598	High level floats	Weekly High Float Alarm test		Luis Bello	11/7/21	Completed
11/12/21	14612	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY		David Wilson	11/7/21	Completed
11/12/21	14606	ORP meter	Clean and Calibrate		David Wilson	11/10/21	Completed
11/12/21	14605	pH meter	Clean and Calibrate		David Wilson	11/1/21	Completed
11/12/21	14436	pH meter	Clean and Calibrate		David Wilson	10/1/21	Completed
11/12/21	14437	ORP meter	Clean and Calibrate		David Wilson	10/10/21	Completed
11/15/21	14178	Generator #1- Emergency Kohler 750	Generator - Monthly Load Test		David Wilson	9/5/21	Completed
11/15/21	14495	Mechanical Screen & Washpress System	Screen & Wash press - Semi annual maintenance		David Wilson	11/1/21	Completed
11/15/21	14342	Mechanical Screen & Washpress System	Monthly Maintenance		David Wilson	10/4/21	Completed
11/15/21	14496	Mechanical Screen & Washpress System	Monthly Maintenance		David Wilson	11/1/21	Completed
11/15/21	14188	Mechanical Screen & Washpress System	Monthly Maintenance		David Wilson	9/6/21	Completed
11/15/21	14574	PS Kohler Trailer Mounted Generator	Generator Weekly - Test Run no load		Luis Bello	11/15/21	Completed
11/15/21	14609	Generators "All Pump Station"	Generator Weekly - Test Run no load		Luis Bello	11/15/21	Completed
11/17/21	14483	Generator #2 - Backup Detroit 500	Generator Weekly - Test Run no load		David Wilson	11/15/21	Completed
11/17/21	14488	Generator #1- Emergency Kohler 750	Generator Weekly - Test Run no load		David Wilson	11/15/21	Completed
11/17/21	14539	PS 1 Generator	PS #1 Generator Inspection and Test - Weekly		David Wilson	11/17/21	Completed
11/17/21	14545	PS 3 Generator	PS #3 Generator Inspection and Test - Weekly		David Wilson	11/17/21	Completed
11/17/21	14549	PS 4 Generator	PS #4 Generator Inspection and Test - Weekly		David Wilson	11/17/21	Completed
11/17/21	14555	PS 5 Generator	PS #5 Generator Inspection and Test - Weekly		David Wilson	11/17/21	Completed
11/17/21	14559	PS 9 Generator	PS #9 Generator Inspection and Test - Weekly		David Wilson	11/17/21	Completed
11/17/21	14565	PS 6 Generator	PS #6 Generator Inspection and Test - Weekly		David Wilson	11/17/21	Completed
11/17/21	14493	Influent Sluice Isolation Gate	Weekly operate through full range		David Wilson	11/17/21	Completed

## Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
11/17/21	14358	RST Feed Pump 1	Monthly Check Pump Couplings		David Wilson	10/6/21	Completed
11/17/21	14359	RST Feed Pump 2	Monthly Check Pump Couplings		David Wilson	10/6/21	Completed
11/17/21	14362	Sludge Transfer Pump 1	Monthly Check Pump Couplings		David Wilson	10/6/21	Completed
11/17/21	14363	Sludge Transfer Pump 2	Monthly Check Pump Couplings		David Wilson	10/6/21	Completed
11/17/21	14517	RST Feed Pump 1	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
11/17/21	14518	RST Feed Pump 2	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
11/17/21	14521	Sludge Transfer Pump 1	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
11/17/21	14522	Sludge Transfer Pump 2	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
11/17/21	14506	Aeration Tank 1 Oxygen Probe	AT #1 DO Probe Clean and Calibrate - Monthly		David Wilson	11/2/21	Completed
11/17/21	14507	Aeration Tank 3 Oxygen Probe	AT #3 DO Probe Clean and Calibrate - Monthly		David Wilson	11/2/21	Completed
11/17/21	14514	RAS Pump 2	RAS Pump #2 PM - Quarterly		David Wilson	11/3/21	Completed
11/17/21	14513	RAS Pump 2	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
11/17/21	14515	RAS Pump 3	RAS Pump #3 PM - Quarterly		David Wilson	11/3/21	Completed
11/17/21	14516	RAS Pump 3	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
11/17/21	14053	Waste Activated Sludge Pump 3	Vaughan Centrifugal pump - Semi Annual		David Wilson	8/19/21	Completed
11/19/21	14519	Primary Sludge Pump 1	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
11/19/21	14520	Primary Sludge Pump 2	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
11/19/21	14613	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY		David Wilson	11/14/21	Completed
11/19/21	14360	Primary Sludge Pump 1	Monthly Check Pump Couplings		David Wilson	10/6/21	Completed
11/19/21	14361	Primary Sludge Pump 2	Monthly Check Pump Couplings		David Wilson	10/6/21	Completed
11/19/21	14599	High level floats	Weekly High Float Alarm test		David Wilson	11/14/21	Completed
11/23/21	14962	Aeration Tank 1	Installed new 1/2" 316SS hardware and leveling.	DW/PH/ES +2 millwrightsfrom IPC Lydon- Removed all hardware and installed new 316SS anchors, locating plates, brackets, strap and nuts. About 50% complete.	David Wilson	11/23/21	Completed
11/24/21	14964	Aeration Tank 1	Install new hardware for diffuser system and leveling.	Installed new 316 SS anchors, 1/2" brackets, straps, locating plates and nuts. Completed tank work and put away tools.	David Wilson	11/24/21	Completed

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
11/12/21	14324	Eyewash Stations	All Portable Eye wash stations - semi annual		David Wilson	10/1/21	Completed





<b>Date</b>	<b>Asset ID</b>	<b>Asset Description</b>	<b>Asset Class</b>	<b>Name</b>
11/3/2021 15:02	01-019	1 ARTHUR ST	Hull Parcels	Sutton, Eric
11/22/2021 11:31	01-020	3 ARTHUR ST	Hull Parcels	Sutton, Eric
11/6/2021 15:43	03-010-A	60 MAIN ST	Hull Parcels	Sutton, Eric
11/17/2021 15:14	19-069	147 MANOMET AVE	Hull Parcels	Sutton, Eric
11/9/2021 13:55	25-016	62 MANOMET AVE	Hull Parcels	Sutton, Eric
11/11/2021 8:26	28-041	12 BELMONT ST	Hull Parcels	Sutton, Eric
11/9/2021 7:01	33 Wyola Rd	33 Wyola Rd Grinder Pump	Hull Grinder Pumps	Sutton, Eric
11/17/2021 15:16	48-023	16 A STATE PARK RD	Hull Parcels	Sutton, Eric
11/18/2021 8:02	50-001	33 RICHARDS RD	Hull Parcels	Sutton, Eric
11/3/2021 15:00	51-037	26 STONY BEACH RD	Hull Parcels	Sutton, Eric
11/1/2021 14:55	52 N Truro St	52 N Truro St Grinder Pump	Hull Grinder Pumps	Sutton, Eric
11/10/2021 14:16	53-038	116 ATLANTIC AVE	Hull Parcels	Sutton, Eric
11/1/2021 15:03	Bacteria UNIT #21	UNIT #21	Hull In Pipe Bacteria Unit	Sutton, Eric
11/1/2021 15:03	Bateria UNIT #3	UNIT #3	Hull In Pipe Bacteria Unit	Sutton, Eric
11/1/2021 15:04	Bateria UNIT #4	UNIT #4	Hull In Pipe Bacteria Unit	Sutton, Eric
11/16/2021 9:08	MH-20671	SEMS_Asset	Sanitary Manhole	Sutton, Eric

<b>Workflow Class</b>	<b>View</b>
Hull - Markout	<a href="#">View</a>
Hull - Markout	<a href="#">View</a>
Hull - Sewer Backup	<a href="#">View</a>
Hull - Markout	<a href="#">View</a>
Hull - Markout	<a href="#">View</a>
Hull - Markout	<a href="#">View</a>
Hull - Grinder Pump Maintenance	<a href="#">View</a>
Hull - Markout	<a href="#">View</a>
Hull - Markout	<a href="#">View</a>
Hull - Markout	<a href="#">View</a>
Hull - Grinder Pump Maintenance	<a href="#">View</a>
Hull - Markout	<a href="#">View</a>
Hull - In Pipe Bacteria Units	<a href="#">View</a>
Hull - In Pipe Bacteria Units	<a href="#">View</a>
Hull - In Pipe Bacteria Units	<a href="#">View</a>
Hull - Sewer Backup	<a href="#">View</a>