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COMMITMENT & INTEGRITY DRIVE RESULTS

HULL WATER POLLUTION CONTROL FACILITY

August

2019

MONTHLY OPERATING REPORT



NPDES NO. MA0101231

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Cover pictures: [top] Jody S being lowered into PS 9 wet well.
 [bottom] Straits Pond

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 August 2019.

- No lost-time incidents for the month of August.
- There were 140 effluent samples taken in the month of August. Please see page (8) for details.
- There were no effluent permit violations.
- Plant average flows were lower in August in comparison to July. Overall rainfall was less. The average daily flow for the month was 1.45MGD. A total of 2.03 inches of rainfall was recorded for the month.
- The plant and collection system odors were low. The Bioxide system was in service for the entire month, and adequate dosing of Bioxide was achieved, with good results. No dose changes were made.
- Asset Management Accounts checkbook for 05M is attached, and the updated planned expenses sheets also attached. A review of the account status between W&C and Hull Sewer Dept. is an on-going process.
- There were 4 grinder pump call outs during the month of August that the staff responded to and corrected with (3) pumps having to be replaced.
- All Town owned grinder pump panels were relabeled with new stickers and Alarm Call info, see Utility Cloud Data for tracking.
- There were two Sanitary System Overflow reports completed in August. Location: Pump Station #1 at 157 Atlantic Ave [force main break] and near 710 Nantasket Ave/E Street by Green Mountain Pipeline Services [vac truck leak]. The completed reports were submitted to the MADEP, USEPA and various town departments and detailed in the compliance section.
- W&C O&M staff assisted where requested for selection of some of the equipment off the "Critical Equipment List" so that the HSD could purchase directly. Amwell gear boxes, effluent pump, emergency generator.
- W&C O&M working with Engineering on multiple projects including Facility Planning, Pump Station, Conditions Assessments, Gunrock Ave PCO related to FM break and Headworks / structural coordination.

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



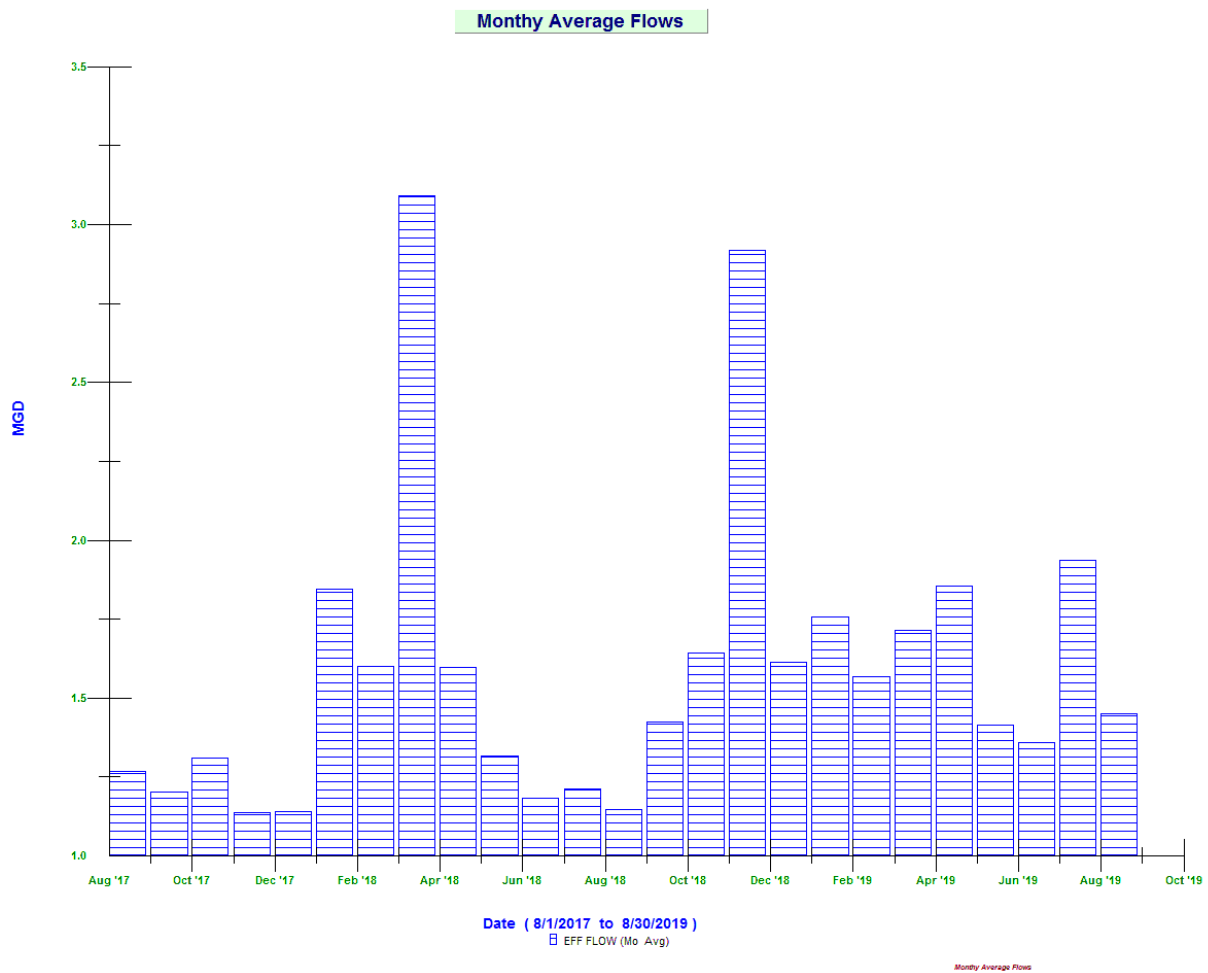
Average Daily Flows and Loadings for the Month:

	Eff Flow MGD	Inf Flow MGD	Inf BOD LBS	Inf TSS LBS	Eff BOD LBS	EFF TSS LBS
Aug 2017	1.267	1.402*	2030	3859	70	225
Aug 2018	1.146	1.610 *	1277	2681	50	152
Aug 2019	1.449	1.684*	1617**	4326**	64	142

* Meter drift – influent flow meters are strap on doppler flow meters, and the internal pipe condition prevents getting a strong signal. The staff adjusts accordingly and utilizes the area velocity meter in the aeration tank inlet channel as needed. All loadings are based on the effluent flow meter. **Area Velocity meter issues.**

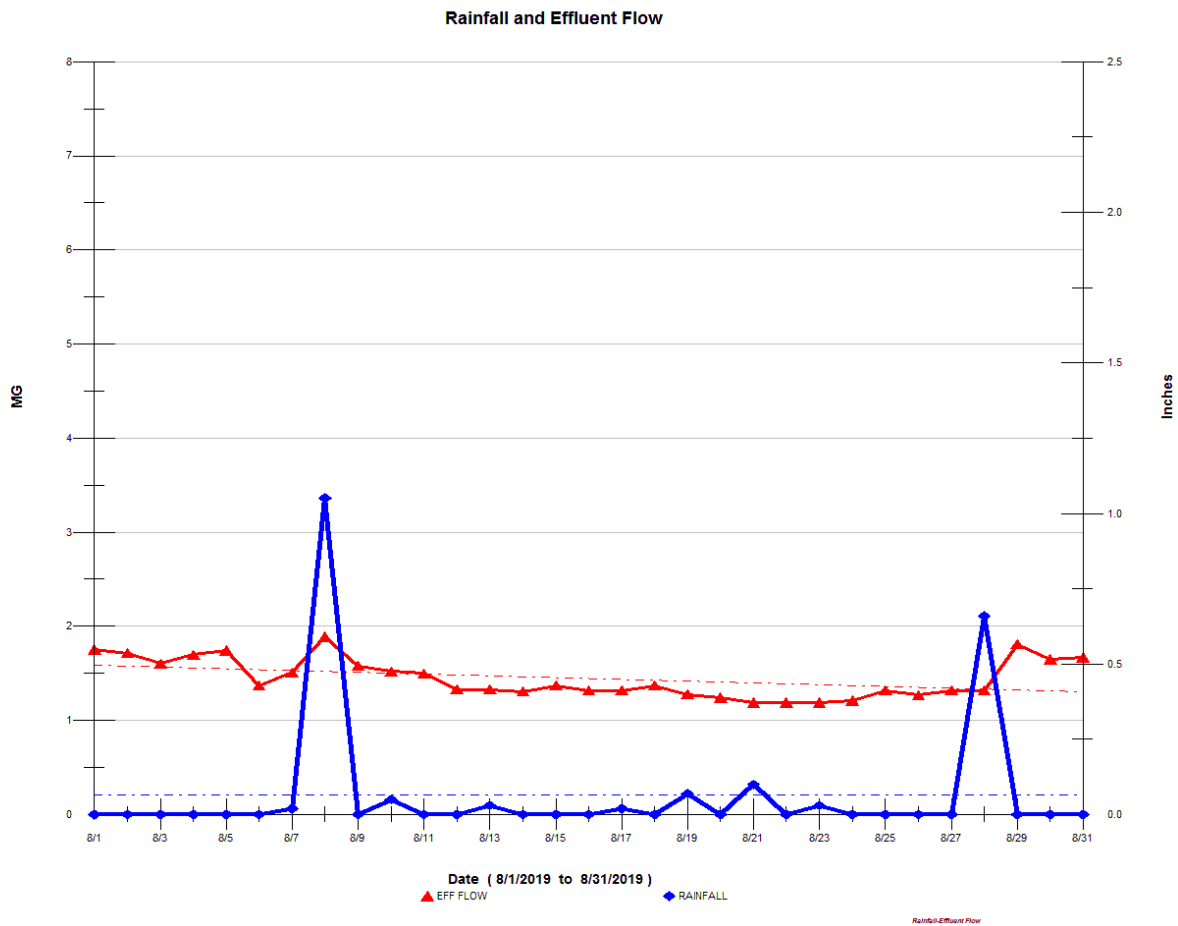
** Influent sewage very dirty on sample days, possibly due to interceptor cleaning project.

2.1 AVERAGE EFFLUENT MONTHLY FLOWS – TWO YEAR COMPARISON



Monthly average flow for August was 1.45 MGD, an amount lower than July, and similar to May and June. There were two moderate rain events in August. The total precipitation for the month was 2.03 inches. The graph shows a 2-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 plant flows were higher due to rainfall [Blue Peaks]. This graph provides a good indication of the influence that the heavier rainfall periods had on the effluent flows. There were 2 events that impacted plant flows. Inflow and Infiltration out in the collection system has been noted with the increased effluent flow values when it rains.

3 COMPLIANCE



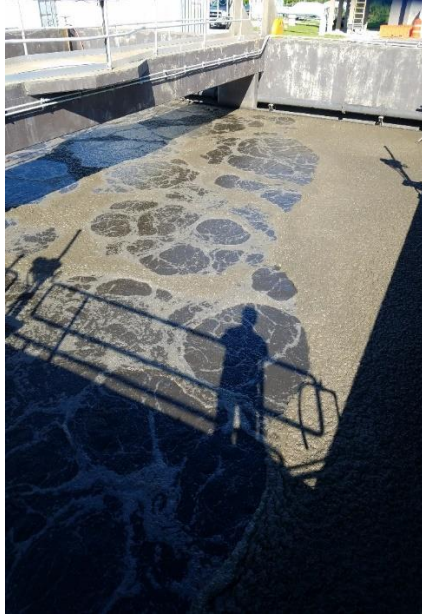
➤ Plant Effluent

- There were no permit exceedances for the month of August.

Plant process conditions continued to be good & maintaining very well, but aeration solids inventory has increased significantly, due to the Nantasket Ave interceptor cleaning. There was increased wasting of sludge and RST operation in August by approximately 50%. The clarifier surface was good during the month and effluent clarity is also good. Only one secondary clarifier was online. Sludge settleability remained good and no chlorination of the RAS was needed. The aeration process mode remains in contact stabilization mode, and all sewage bypassing the primary clarifiers, with varying amounts of limited flow into aeration tank #1, depending on system inventory and the influent plant flows. The current split is approximately 10-15% to aeration tank #1, with all RAS flow going to aeration tank #1, and approximately 85-90% of flow going into aeration tank #3. This process mode allows for lower solids loading to the secondary clarifiers, minimizes filamentous bacteria formation, and nitrifying bacteria predominance, while maintaining a higher system solids inventory and good sludge settling characteristics. As noted above, the system solids have increased more due to the interceptor cleaning and this may lead to the primary clarifier and gravity thickener being put back online in September.

- A Copy of the NPDES report for August 2019 was submitted to the DEP and then forwarded to the Hull Sewer Dept.
- Continued working with corporate team [Frank C & Alan F] for Scada to Hach Wims data management computer data export and transitioning data sharing between SCADA, HACH, and Power BI for analysis.
- The Use of Drylet continues, and the additive has contributed to improved secondary effluent quality. This observation is seen especially during the higher flow periods. The costs for use of the Drylet product is being paid for by W&C. The goal to be achieved is that the product costs will be offset by the lower sludge generation and lower sludge disposal costs. The daily dose of Drylet product continues at the original “2 scoops” dosed (2 pounds).

Photos below show the typical August conditions [8/11] with the plant in contact stabilization mode process flow mode, with some feed to aeration tank #1 also. Higher solids level in system, causing for higher amounts of dark foam in aeration tank #1. Continued good settling characteristics in the secondary sludge and low [slightly higher] turbidity in clarified effluent. Moderate brown system color in aeration tank #3, and no odors. As the month progressed the aeration color has gotten darker.



Aeration tank #1



Sec clarifier #1



Aeration tank #3

- There were two SSO reports submitted in August.
 - a) The first SSO reported was for Pump Station #1 due to the force main leak, due to corroded/rotted pipe near the building. It was confirmed that nearly all the leakage flowed back into the building pump chamber, through the pre-cast sections of the building. The reported leak volume was less than 100 gallons, and this was at the time of the excavation. The pump station was shut down for the day, while Aqualine Utility performed the necessary repairs. Pumping & hauling of sewage during the shutdown was handled by Rosano-Davis. Bill B from Hull staff assisted with station shutdown and work oversight. Sampling of Straits Pond was conducted to verify no impact from the leak reached the pond. Pictures below.



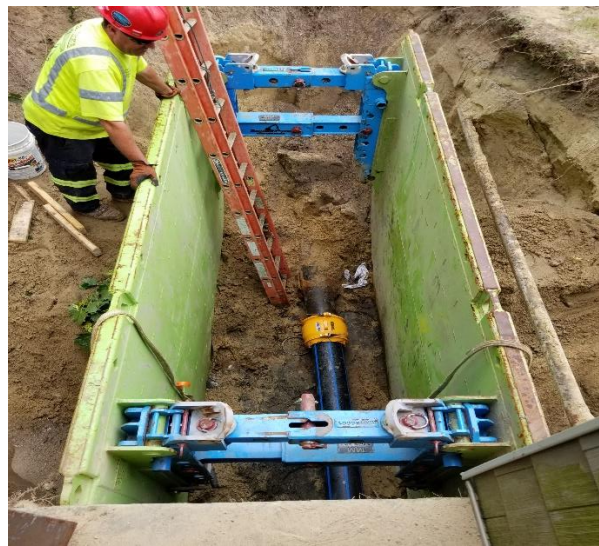
Corroded/rotted force main pipe segment



Inside PS1 where leakage flowed due to FM break

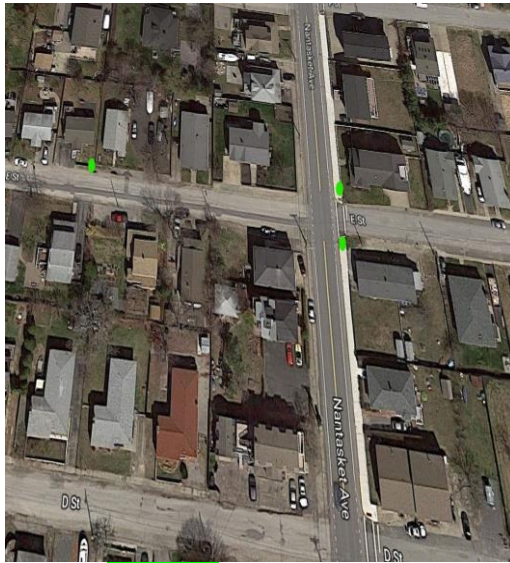


Area by PS1 building, once excavation started



Repairs underway – New HDPE pipe section & coupling

- b) The second SSO reported was near 710 Nantasket and E Street, when the GMPS vacuum truck developed a leak caused by a stuck safety ball check valve. A small spill amount of less than 50 gallons was reported. The area was washed down and storm drain catch basins vacuumed out. Pictures below.



Nantasket [green dots] show catch basins cleaned out GMPS vac truck cleaning the catch basins
Nantasket Ave & E street



Looking down E Street from Nantasket Ave

- SPCC: Regular inspections of the temporary AST, new AST and fuel day tank, as well at container storage of waste oil. Updated file.
- Continued work on standard operating procedure for the AST fuel storage tank and systems [by Mike Anderson]
- Whole effluent toxicity sampling – Joe B. performed quarterly sampling in August.

- Comparison samples of the influent sewage to the facility that is reaching the aeration tanks as a result of the interceptor cleaning. The cleaning phase started in late July. The cleaning of the sewer line typically runs for 4 days per week for a duration of 9-10 hours per day.



Typical influent Sewage sample prior to cleaning



Influent Sample during cleaning period

4 KEY PERFORMANCE INDICATORS



4.1 WATER QUALITY – JULY 2019

Parameter Info		Permit Requirements					Results				
Parameter	Units	Daily Max	Daily Min	Weekly Avg. Max	Monthly Avg. Max	Freq	Period Avg.	Period Min	Period Max	# of Samples	# of Violations
Eff TSS	MG/L	50		45	30	1 X Week	13.0	8.0	16.0	4	0
Eff TSS	LBS			1152	768	1 X Week	141.8	91.7	176.1		0
% TSS Rem	%		85			1 X Month	96.7				0
Eff BOD	MG/L	50		45	30	1 X Week	5.9	3.0	7.4	4	0
Eff BOD	LBS			1152	768	1 X Week	64.2	34.4	78.8		0
% BOD Rem	%		85			1 X Month	96.0				0
Eff Chlorine	MG/L	1.0			0.7	3 X Day	0.20	0.02	0.51	93	0
Eff Fecal	#/100 ML	260			88	1 X Week	12.5	10	20	4	0
Eff pH	SU	8.5	6.5			1X Daily	7.1	6.7	7.4	31	0
Enterococci	#/100 ML	276			35	1 X Week	10	10	10	4	0

- There were 140 effluent samples taken in the month of August with zero [0] NPDES Permit exceedances.

Gallons Treated vs Sludge Disposed

Month	Effluent Treated, MG	Sludge Disposed, Gals
August 2017	39.29	98,000
August 2018	35.54	62,500
August 2019	44.90	78,500 *

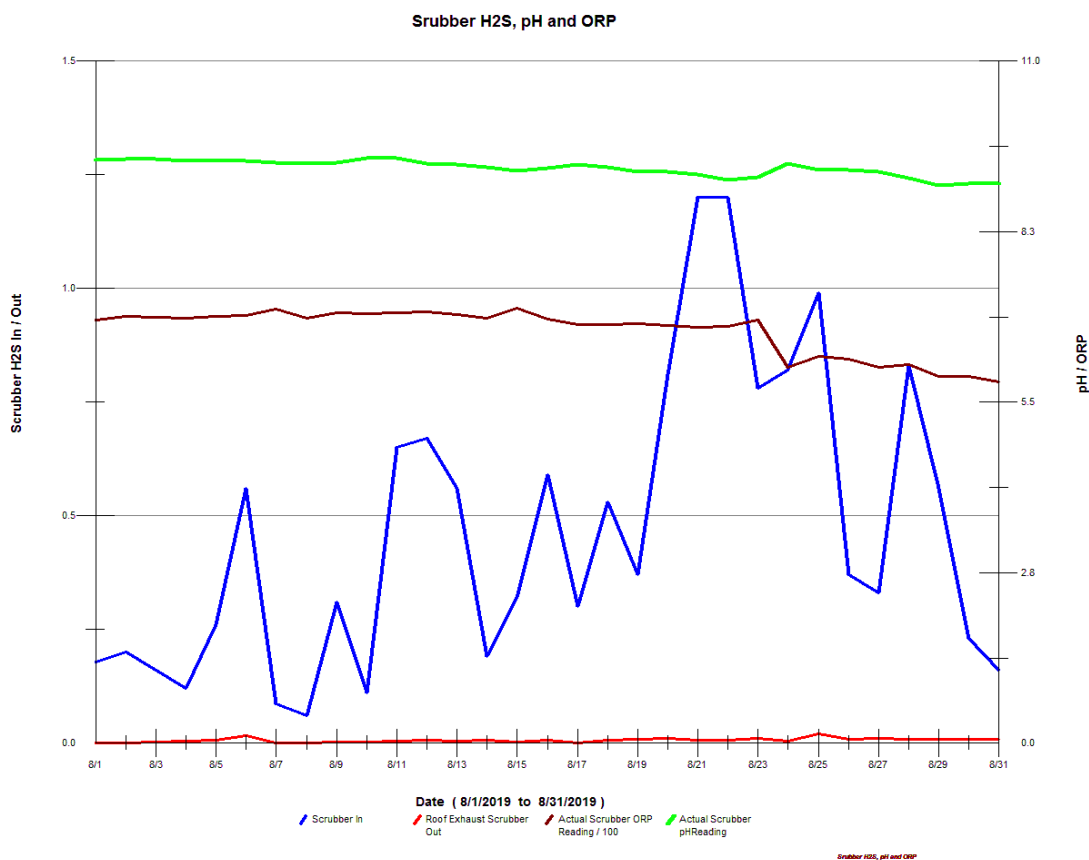
* Some impact from interceptor cleaning, with increased solids processed/disposal

5 ODOR CONTROL

There was one call to report a brief odor from the WWTP, [resident at 1122 Nantasket Ave], but a few minutes later at the time that call came into W&C, the odor had quickly dissipated. Therefore, this was not considered a formal odor complaint. No call out response was taken.

The gravity thickener and primary clarifier remained off-line in August as these tanks have historically been the source of a lot of the odors within the facility, if in service during the warmer weather months. The above ground sludge storage tank was in service to receive thickened sludge from the RST thickening process, and this tank is typically emptied during the weekday Monday through Friday period, lessening the chance for odors during the filling of the truck. This avoids any potential odors over the weekend period. The secondary scum well is also pumped out during the week, to avoid odors on the weekend. There is continued flushing of the aeration tank troughs to minimize build-up of solids that can cause odors. The off-line aeration tanks and clarifiers kept empty to prevent odors.

The odor scrubber system was on-line for entire the month. The scrubber fan speed remains at the mid-range due to moderate levels of hydrogen sulfide production. With the continued addition of Bioxide at PS 3, the H₂S levels have been stable. The facility realizes electrical savings, when the fan operates at a lower speed.



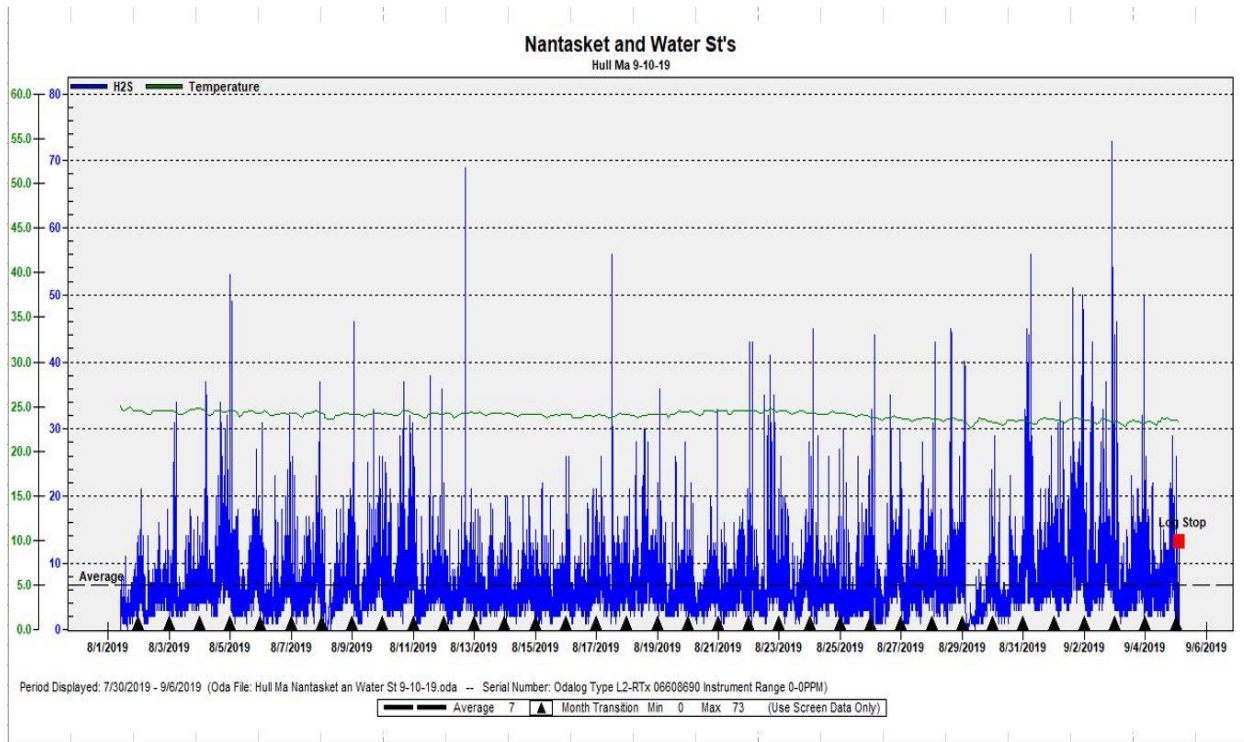
Graph shows some small peaks for H₂S to the scrubber, but these are all below 1.2 ppm. These [blue] peaks are primarily due to the H₂S peaks, at the time of the Jerome meter sampling, which is a grab sample. The time of day when the grab sample was collected can affect the H₂S reading observed. The portable H₂S meter was functional during the month.

- “In-Pipe” bacteria addition continued with all 24 dosing stations operational. No additional actions taken for headworks sulfide reduction plan proposed by “In-Pipe. The inspection/replacement with full bottles took place on 8/16/19. Additional kick-start vegetable protein and bacteria was added in August. The kick-start program will continue to follow this plan following the summer months, and we will evaluate the overall effectiveness and odor reduction. All work being tracked on the Utility Cloud [UC].
- Continued the bi-weekly change outs of the bacteria bottles at three lift stations Microbe Dosing Stations (MDU's) with installation just in front of the three largest pump stations [in the wet wells or manhole just prior to the station. [PS 3, PS 5, PS 9] The re-load plan is delivering an additional 5.4 liters per month in total (1.8 liters x 3 locations). The goal is to see if we get a step change and reduce odors, while at the same time potentially reducing sludge. This change is being monitored closely over the summer months, for pump stations and at the plant.
- On-going – frequent pumping out of the secondary scum wells. Tank cleaning performed quickly and as needed. For the warmer weather months, this activity is scheduled during the week, to avoid unforeseen odor issues on the weekends.
- Mixing systems/aerators all functional at the pump stations, except for pump station #3. New Medora Gridbee mixing system for PS 3 not installed yet. Mixer/Aerators at PS 1, PS4. PS6 & PS 9 are on timed control through SCADA.

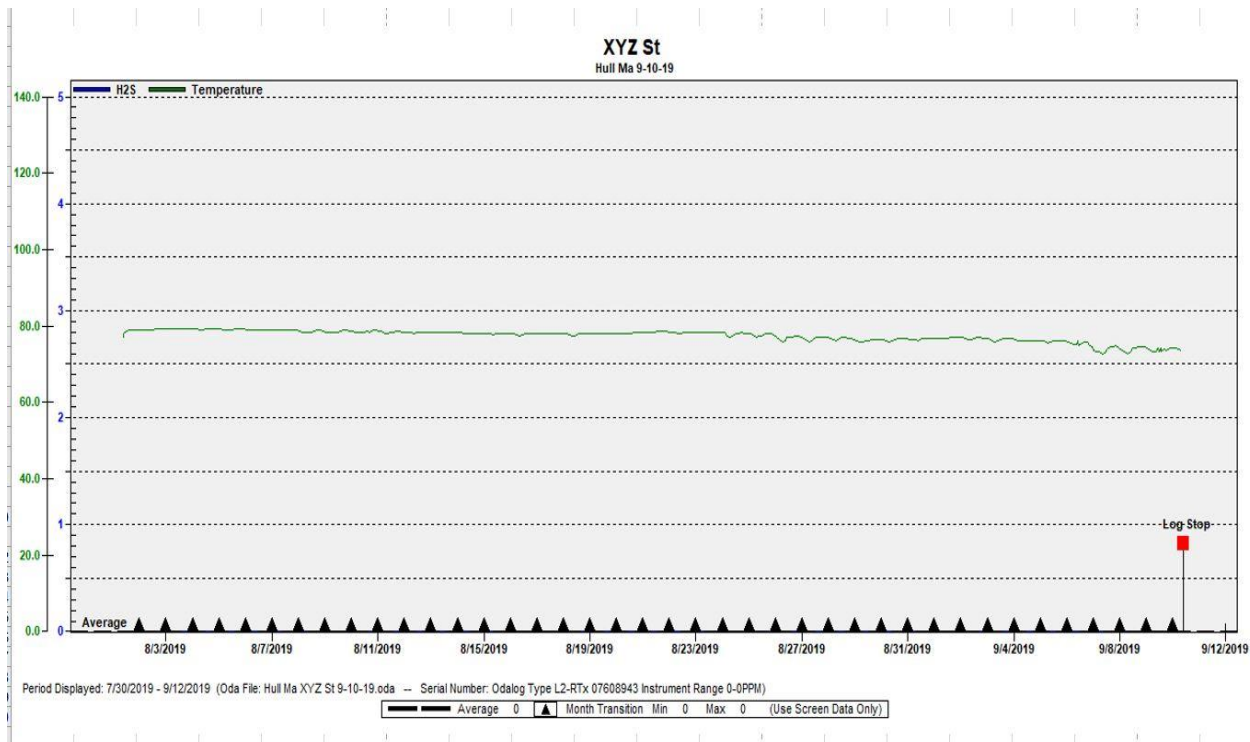
The Bioxide system continued to operate at a feed rate at 137 gpd. The August data from the odor data loggers was downloaded from 4 manhole locations on 9/10/19. Overall, everything continues to look very good in the main interceptor system and at the plant. The Nitrate residual is carrying all the way down the Hull interceptor sewer line, indicating effective treatment the H2S.

Notes from Evoqua's site visit: [similar to July]

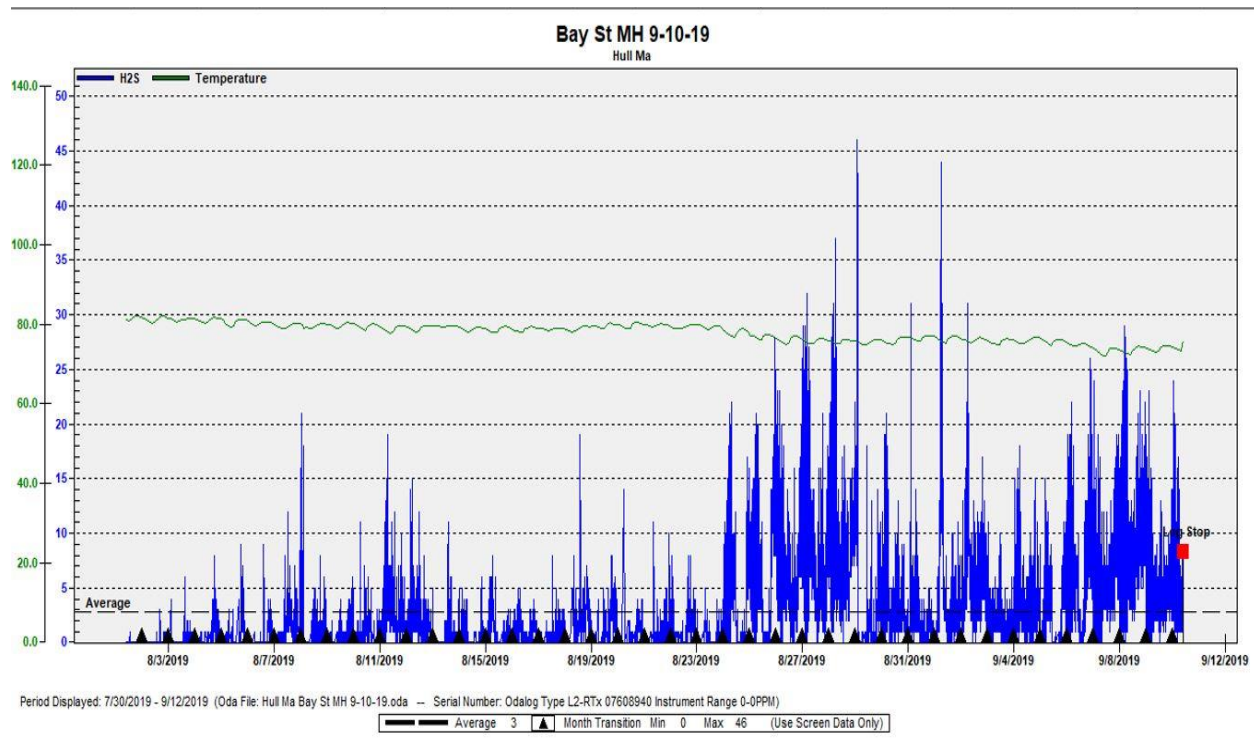
- PS 3 - (no changes in feed rates)
- Nantasket & Water St MH showed 10+ on nitrate plus high H2S. This H2S is coming from Water St Line (Bay St MH) based on residual sulfide test
- XYZ Street MH shows good Nitrate and 0 ppm sulfide which is good.
- MH #20125 (just before WWTP, Nantasket Line) shows Nitrate and high sulfide. Spinnaker Flow is contributing the H2S shown on graph, we know this due to past liquid and vapor data tests.



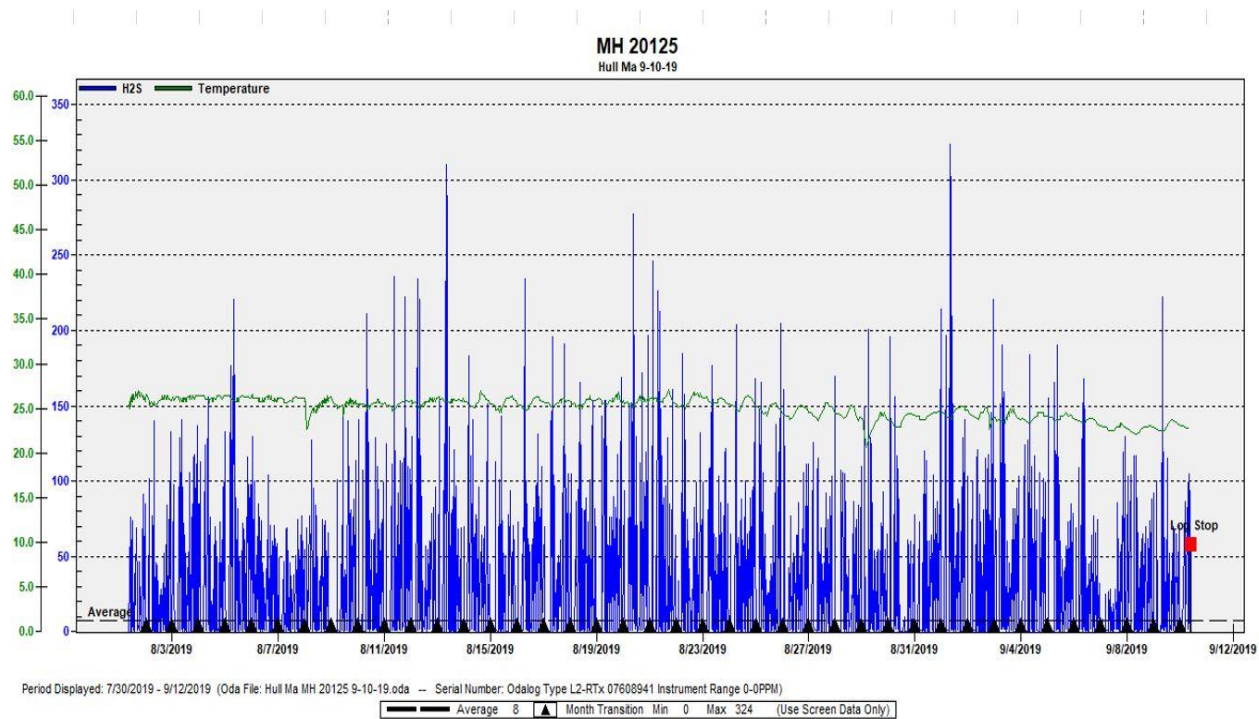
Water Street and Nantasket Ave Manhole [end of force main from PS 3] and where PS 4 discharges also. A lot of spikes in H2S mostly from PS 4.



Manhole on Nantasket Ave at XYZ Streets - no H2S detected on meter



Manhole at Bay Street and Porazzo Road. [sewage coming from PS 4] Some H2S spikes from PS 4



MH 20125 Nantasket Ave that receives flow from Spinnaker Island – a lot of H2S spikes

6 MAINTENANCE SUMMARY

6.1 TASKS COMPLETED THIS MONTH

The SEMS monthly work order summary for August is compiled and attached as a pdf file for review.

Key items of note are listed below.

- 1) In-Pipe units – battery change out and circuit board troubleshooting and replacement as needed.
- 2) All grinder pump panels Alarm Stickers were replaced on panels. This was door to door and proper Town identification was used.
- 3) On-going E-1 Repairs at FRMahony. Replaced 3 grinder pumps: 101 Rockaway Ave., 26 Dellawanda Rd., 38 Barnstable St. Also visited 115 N. Truro to investigate E-1 panel issues.
- 4) On-going issue – continuing to add oil to sec clarifier gear boxes, since only one S.C. is online. All the existing Amwell units have leaks [lower gear box seals are no good]. The only exception is primary clarifier #2, where the unit is ok. We are using a flowable grease product that of heavier consistency to lessen the amount of leakage. The estimated use of product with just SC1 online is about 0.5 gallons per week. The other 2 units - [SC #2 and GT #1] will need to be filled up before use.
- 5) Weekly exercise without loads and Monthly load tests completed on all generators including the portable generator and pump stations.
- 6) On-going repairs to the Rotary sludge thickening [RST] unit – drum wheel replacement on-going as needed. Other repairs noted below.
- 7) Effluent flow meter at plant – Service call by True North Systems. Flow meter output card had failed. Replaced card, recalibrate.



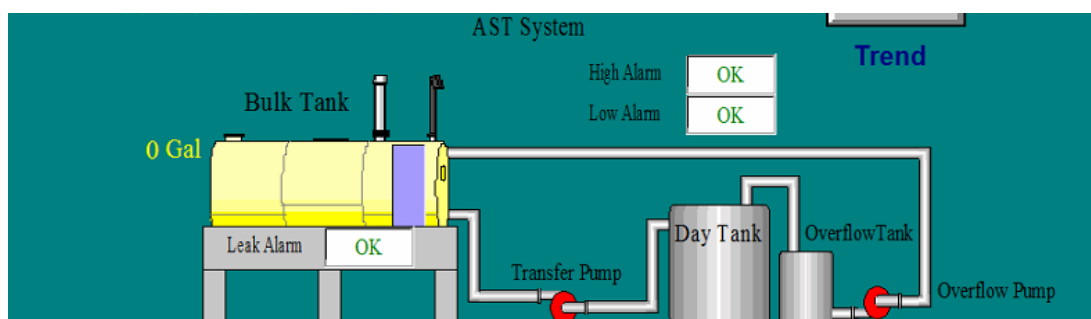
8)

- 9) Scrubber fan unit maintenance – monthly maintenance performed – belts and motor are good.

- 10) PS 5 – replaced broken check valve springs, on both pumps to eliminate water hammer when the pump shuts off.



- 11) AST - SCADA programing and graphics updated in system, with high and low alarms for the day tank.



- 12) Electrician in for replacement of emergency light fixtures and exit signs where needed. Also, troubleshooting of the RST thickened sludge pump drive unit.
- 13) RAS Pump #1 [older volute] developed a leak due to internal wear and tear. Disassembled the pump for inspection. A temporary repair was made using steel putty and ceramic putty to line the inside of the pump bowl assembly.



Lining of RAS volute with ceramic putty



Reassembled RAS pump #1

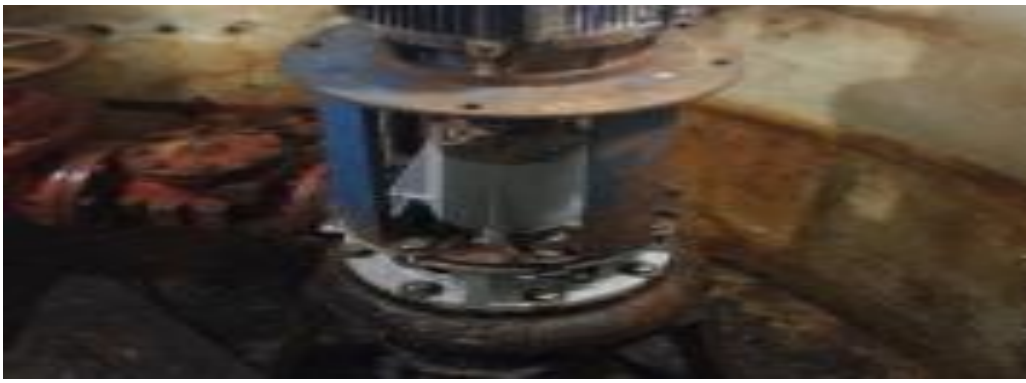
- 14) Mechanical room in basement – plant water system piping leak on 8/26. Used rescue tape and clamps to seal off temporarily, until parts come in for the repair. Existing overhead duct work is in the way and may present obstruction with the repair.



- 15) Several RAS pump cleanings required due to rag build-up. Photo shows typical accumulation of rags/debris removed inside the impeller that is manually removed, by disassembling the rotating assembly from the pump volute [bowl]. The increase in cleaning frequency may be due to the ongoing interceptor cleaning project.



- 16) Secondary scum pump #2 – expansion damper [chamber on pump] corroded and will need to be replaced. Part was ordered.
- 17) PS 9 – install rebuilt rotating assembly into pump # 2. Mechanical seal had failed and was leaking excessively. The rebuilt spare was one recently rebuilt with a new shaft, bearings, and mechanical seal.



- 18) Mechanical bar screen – site inspection by Duperon on 8/14/19. No issues found, and overall unit condition is very good. Some corrosion issues due to previously high H₂S levels in previous years. Duperon to look for some cleaning agents for the stainless steel. W&C staff assisted the technician with inspection.



Wash compactor for bar screen



Flex rake bar screen



Discharge chute going up one level

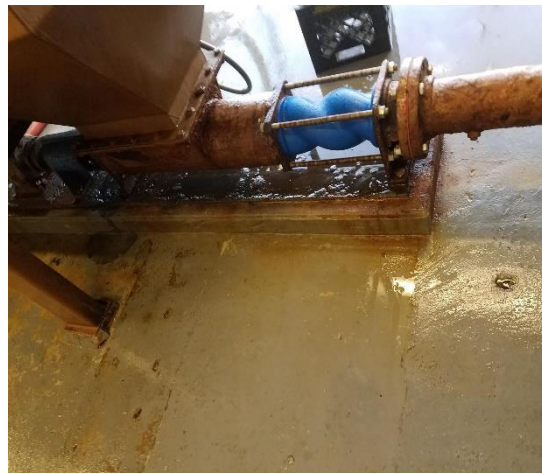
- 19) Several Dig-Safe mark outs and sewer manhole frame and cover inspections completed, due to emergencies, upcoming paving projects, planned replacements. Responded to all calls regarding rattling manhole covers, broken manhole covers/rims, sunken manholes covers/rims. Where possible new manhole cushion rings installed. All collection system work that W&C completed is documented in the monthly Work Order Report and utility cloud.

- 20) An additional remote Scada connection was programmed in using the sonic wall [firewall] versus the TeamViewer software issues until licensing issues could be cleared up. SCADA group working on getting the “TeamViewer” connection re-instituted. Remote log in is very useful for monitoring the plant and pump stations during inclement weather and when staff are dispatched during non-routine hours.

- 21) Replaced worn stator on the RST thickened sludge pump. Also inspect pump for potential other issues [corroded hopper]



Worn stator [stationary rubber insert]



Reassembled pump

- 22) PS9 – failed level transducer on 8/19. Installed temporary transducer to get through the next several days. Staff performed a confined space entry to retrieve old transducer. A lot of debris was removed from the bottom of the wet well. Also, on the bottom of the wet well, the suction pipe for pump #1 was found to be severely corroded and broken and the iron pipe was broken off at the wall.



Debris collected from bottom of the wet well



Jody S showing corroded and broken pump suction pipe



Please see the attached summary of the Asset Management accounts for contract year (5).

7 SAFETY



Dave W performing zero voltage check for LOTO for RAS pump

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 August. Employee had returned to work in mid-July with some work restrictions, but able to perform most duties. Cleared for regular duties in late August.
- Ongoing - Daily safety briefing meetings, review site safety policies with sub-contractors, safety tailgate topics. Pure Safety topic- August "Animal Safety"
- Monthly staff safety meeting conducted on 8/29/19; AV and RH presented.
 - Reminders for daily safety briefing topics and discussion points & documentation. Review "Lessons Learned" from July 2019 - Near misses and incidents from other company projects.
 - Discuss EEE and West Nile virus concerns from mosquito bites.
 - Toolbox topic – forklift safety
 - Safety discussion point – sun safety tips
 - Review new chemical totes – safety outlet valve
 - Safety discussion point – fall protection equipment recall
 - National Safety Council – good source of tips for safety awareness. Discussed several topics

8 STAFF DEVELOPMENT

Training is an important part of any operation to ensure employee health and safety is assured, quality standards are maintained, 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:

- Ryan Holman's work schedule transitioned from Monday through Friday to Tuesday through Saturday. Also, he was incorporated into the "on-call" rotation.
- Monthly staff Safety training – completed – Pure Safety and monthly safety meeting. W&C "near-miss" incidents at all projects for July discussed.
- Operational updates and process control discussions, especially with recent electrical issues and plant shut-downs, pump station operations, odor issues, dig-safes, etc.
- Jim G continues to work with staff on various SEMS updates – work order management & scheduling, gas meters – PM and CM, and calibration.
- RCM – Reliability Centered Maintenance workshops – Criticality [3-day] held at the facility – several days in August.

Staffing related items:

- Mike Anderson [former intern] and currently working for W&C part-time worked on special projects – AST S.O.P., and equipment inventory updates. He will continue to provide part-time assistance as needed in Hull.
- Continued involvement with Mass Maritime [MM] internship program/career fair for future interns. Corporate human resources department leading the effort for future intern for next year's winter and summer months.
- Andrew Zamanian, a junior at MM and our summer intern for this summer, participated in many of the daily rounds, and collection system activities and special projects. He concluded his internship on August 30th. He presented a small discussion of his experiences at the Hull facility.
- Sunday rotation schedule in place with Jim Gagliardi working every other Sunday, and remaining weekends being filled by Roger B., Aram V., and Bill B. When Bill is not scheduled for a Sunday, he will be on a Monday-Friday schedule.
- Supplementing staff needs with O&M tech support where needed. Jody S providing coverage when staff levels are lower due to sickness, vacation, or training. Continuing to transition in Richard [Dick] Gould from the Linden Ponds project for various fill-in coverage as needed. Continued with daily pump station rounds/inspections and weekend lab tasks.
- New members of W&C human resources and recruiting team toured facility with Chris Keneagy and Ryan H on 8/1/19.

9 COLLECTION SYSTEM

9.1 WET WELL CLEANING

The actual schedule for wet well cleaning: May 2019 to April 2020:

(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, 2019				X	X			
June, 2019								
July, 2019								
Aug., 2019	X			X	X		X	
Sept. 2019								
Oct., 2019								
Nov, 2019								
Dec., 2019								
Jan., 2020								
Feb., 2020								
March 2020								
April 2020								

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

9.2 COLLECTION SYSTEM MAINTENANCE

Woodard & Curran assisted/conducted camera work and sewer system support in the Hull collection system at the following areas during the month of August.

- 10 Second Street.
- 88 Spring Street
- 24 Western Ave
- Nantasket Ave & Atlantic Spot Repair required Multiple pump station shut down and bypass W&C / BB supported all day.

Manholes:

- Staff responded to many rattling manhole covers, broken manhole covers/rims and sunken manholes covers/rims. A number of the calls were repeat calls, due to contractors working in the Town on various projects and due to frame and cover replacements that had some defective components.

Dig Safe mark outs:

- Numerous Dig-Safe mark outs were completed throughout the Town of Hull in order to assist/facilitate the Town's paving projects and the emergency repairs of the broken water lines, broken sewer laterals due to gas main work.

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

10 PROJECT MANAGEMENT & ADMINISTRATION

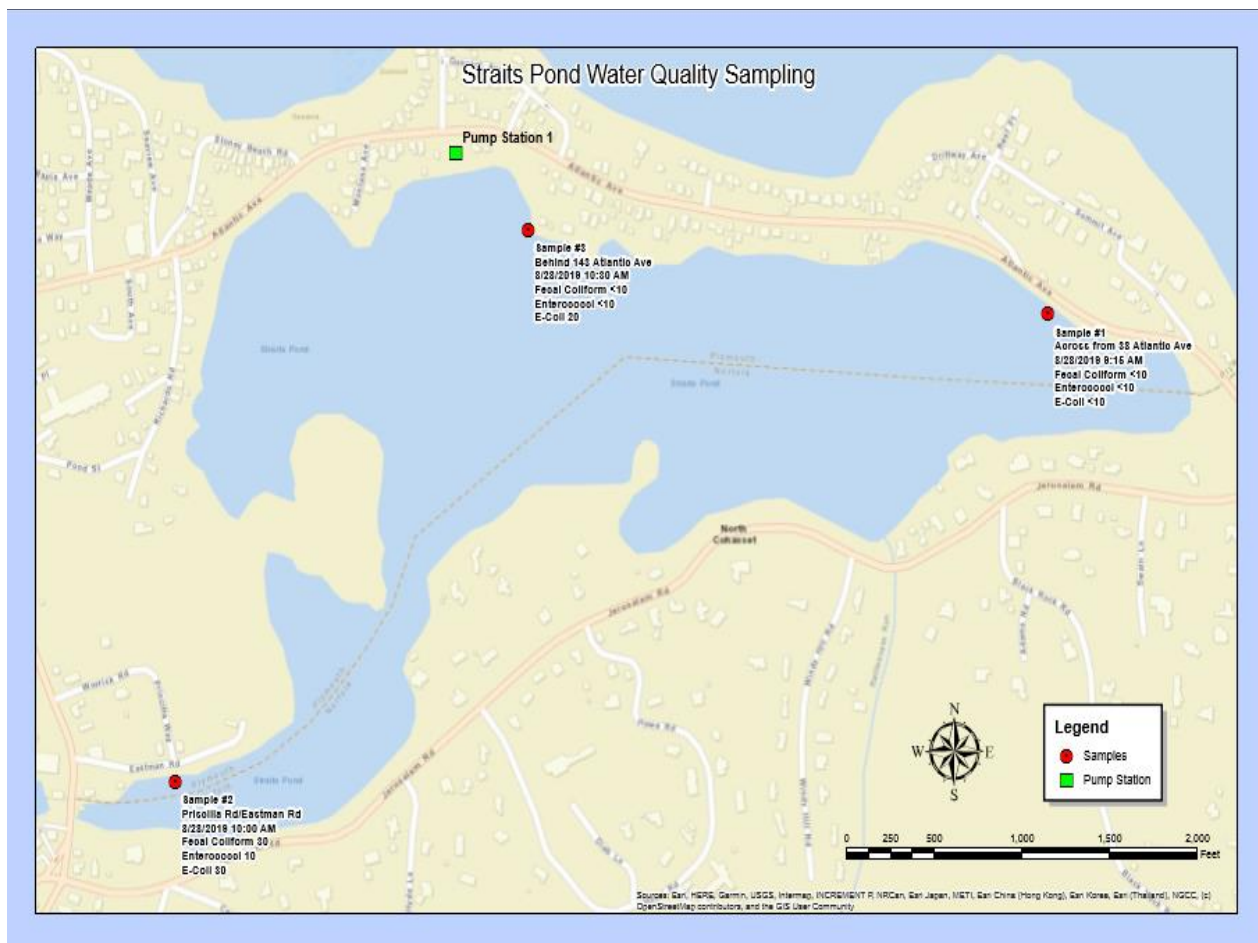


10.1 ON-GOING PROJECTS AND SUPPORT ITEMS

- As noted last month, a review of account status between W&C and Hull Sewer Dept. for 04M was completed. The remaining expenses posted, and final totals presented. The current summary for the account status for and the year 5 asset management accounts, as of 9/12/19, is included as an attached pdf file with this report. The 05M checkbook spreadsheet with proposed maintenance task plan for the year was set up and presented as an attachment with this report. The plan has been updated to reflect recent changes in the spending plan, with adjustments made as projects were completed. There is still some adjustment need in areas where there is “on going” work. [i.e. sub-contractors, goods and services, etc.]
- Continue to provide assistance to the sewer department with proposed items for purchase from encumbered funds, primarily from the critical spares list. [i.e. Amwell gear boxes, portable generator, effluent submersible pump]. The Amwell gear boxes are currently in production, and W&C is working to finalize the other items. The generator was removed from the encumbered projects list and will be obtained through the Sourcewell “buyers” co-operative.
- Utility Cloud was fully operational during the month of August with additional work being tracked through the GIS / asset management / cloud-based program. Input data and information is growing each month as the staff works with Bill and Andy Crawford on specific workflow usage in Hull. A copy of the UC printout for August is attached. The grinder pump sticker replacement project was tracked in the UC. Additional staff training planned for daily use of the software.
- The proposal plan for the D Street stormwater pump station upgrade was submitted for review and approval. A portable trash pump remains set up at the station with float control for remote starting capability, which will be very beneficial during heavy rain periods. The auxiliary trash pump was not needed during the month of August.
- Provided assistance, when requested by T&B or sewed department for the HVAC system upgrade for the operations building. This included review of floor plans, lab relocation, duct work, and electrical relocation.

- Assisted W&C engineers on task order projects as questions arose. Bill B working with Nick V and Tim H for the PS 5 pump selection, draw-down testing, and other station needs. W&C Hull Team is also helping on the headworks by-pass project and the systems that will be affected during this shutdown of the headworks. Participated in meetings/discussions for the facilities plan kick-off, fund allocation for all plant projects that include bond articles, SRF funds, on-going sewer remediation projects, and 05M asset management accounts. Multiple tours given including Pump station condition assessment.
- Continued work on the Annual Operating Report for contract years 3 and 4.
- Drylet bacterial process enhancement continued in August. The process plan is to continue use of the product, if benefits seen. The effectiveness and costs will be reviewed annually. [See effluent/compliance section]. The interceptor cleaning project phase has had a noticeable impact on the solids inventory in the facility. There has been a significant increase in the solids handling, sludge thickening and disposal costs.
- No further work done to date, regarding an alternative use for one of the existing primary clarifiers, especially the #1 PC, is still being considered, since the drive in not functional. Conversion to a mixed tank and/or floating aerator is being considered and this option would allow for hydraulic flow into the tank, keep it aerated and aerobic [little or no odor] and not restrict flow from the D-box, which is currently a concern. We have demonstrated and seen that having the primary tanks and the gravity thickener tank off-line in the warmer months eliminates many of the odors around the facility. Nothing further has been researched other than the budgetary quotes previously received. This re-purposing of the tank will be reviewed under the facilities plan.
- Pump Station #1 – The force main break that occurred in August was summarized above in the compliance section. The inside piping for the bypass drain will be completed and re-plumbed after the large electrical panel [severely corroded] is removed. The panel is not being used to a large extent, and the few wires running through the box will be redirected into a new and smaller junction box.

W&C O&M staff assisted at PS1 with the investigations of the force main incident, worked with contractor for pump station force main drain back, access pits for FM condition assessment, and pump & haul co-ordination, and the eventual resumption of the station operation [8/22]. As a result of the force main break issue, at the request of the sewer department, water samples were collected from Straits Pond to determine if the incident had any effect on the pond's water quality. Based upon the preliminary bacteria sample data, there was no impact. A site map of the pond and locations sampled is noted below.



- The Duperon site visit was completed on August 14th as noted in the maintenance section. The site visit reported no deficiencies, other than corrosion of certain components, due to hydrogen sulfide. A recommendation for the cleaning/passivation was discussed, but not something that Duperon can do cost effectively. The plant water line feeding the wash compactor was repaired with PVC piping, due to the corrosion of the existing copper lines.
- A contractor was selected for the operations building stairwell roof repairs. Several roofing contractors had been contacted and the estimated repairs are approximately \$20,000, and will be performed by South Shore Roofing, once the company's contractor review process is completed.
- Pump Station 9 [PS 9] – Currently operational, with one of the pumps [#2] having a leaking mechanical seal. One of the pump assemblies was replaced with a used one for the short-term, while service is being done on the removed pump assembly. The spare pump assembly was been repaired, and to be scheduled for installation. The "special order" check valve was received from the manufacturer in July. The other pump assembly parts have been ordered. This check valve, one isolation valve, and pump assemblies will be replaced hopefully in August. At PS #9, the structural and overall station condition assessment and corrective action is part of the larger structural project being discussed.
- Followed up and still waiting for the upgraded keypads for the deragger units at PS6. Hull will receive the first of the new units, when available [expected delivery in September]. The units will provide greater monitoring and programming capabilities.

- New accounts payable program for W&C rolled out in August with the Hull facility being one of the test facilities. Going forward all invoices will be electronically scanned and processed using the program “Invoice Capture at Concur Solutions”

The new system will offer enhanced features including:

- **Automated processing:** Automated invoice capture, approvals, and payment will decrease or eliminate duplicate invoices, charges, and payments, and cut down on processing time.
 - **Web and mobile capabilities:** Instant web-based and mobile application access to all invoices will result in time savings in the research of transactions.
 - **Improved interface:** Process invoices more easily with an intuitive design.
 - **Digital invoices vs. paper:** Greater efficiency in document retrieval and supports sustainability efforts through reduced paper handling and storage.
- CMOM Year 3 Checklist was submitted in accordance with Administrative Order on Consent, Docket No. CWA-01-AO-16-09.