



## VILLAGE OF SUTTONS BAY

### Remote Access Attendance

COMMITTEE OF THE WHOLE

420 N Front St.

Suttons Bay, MI 49682

Thursday May 6, 2021, at 8:10 am

Electronic Remote Access, in accordance with Public Act 228 of 2020 Article 3(2) and Resolution 1 of 2021 Declaration of State of Emergency will be implemented in response to COVID-19. The public may participate in the meeting through Zoom access by computer and smart phone and can find the link on our website at [www.suttonsbayvillage.org](http://www.suttonsbayvillage.org)

### AGENDA

#### Call to Order

1. Reports (staff)
  - a. DPW Director Report
  - b. Marina Report
  - c. WWTP Report
  - d. Treasurer Report
2. Roll Call
3. Additions / Deletions to the Agenda
4. Reports / Communications
5. Committee Member Information / Comments
6. Public Comments (*Please limit remarks to no more than three (3) minutes or less*).
7. Old Business
8. New Business
  - a. Suttons Bay Township Culvert Discussion
  - b. Manager's Work Plan
9. Public Comments/Written Communication
10. Committee Member Comments
11. Announcements:
12. Adjourn



Topic: Committee of the Whole

Time: May 6, 2021 08:10 AM Eastern Time (US and Canada)

Join Zoom Meeting

<https://us02web.zoom.us/j/82670596304?pwd=U3Q3WFE1RjlhQ0psN0tMa0hjZ0dUUT09>

Meeting ID: 826 7059 6304

Passcode: 887650

One tap mobile

+13126266799,,82670596304#,,,,\*887650# US (Chicago)

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+1 312 626 6799 US (Chicago)

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Find your local number: <https://us02web.zoom.us/j/keOWkQ8Yy>

		<b>DEPARTMENT OF PUBLIC WORKS</b> <b>REPORT DPW -2021- 04</b>	
Prepared:	April 28, 2021	Pages:	1 of 7
Meeting:	Gen Serv-Utility/Marina	Attachments:	<input checked="" type="checkbox"/>
Subject:	April 2021 Update, DPW		

**GENERAL SERVICE HIGHLIGHTS**

Broadway St. restoration is finally completed.

Painting of the pavilion and bathroom exterior at Sutton Park will start soon weather permitting.

Our DPW team has converted three standard picnic tables into ADA accessible picnic tables for our parks. Item to note, there were zero such items in the park amenities inventory.

Marina beach improvements along with Suttons Park beach will commence back up when we have received the Soil Erosion Permit from the county.

Removal of walkway that has rotted and collapsed which also posed safety issues in the past between South Dock and Coal Dock.

Volleyball sets have arrived, installation will begin soon.

Street sweeping has been completed.

Composting area is completed at the Herman Rd site.

**UTILITY/MARINA HIGHLIGHTS**

Hydrant flushing and system chlorination is wrapping up, water is on to all docks.

Rainfall and weather data is now being tracked, current and historical information available online:

<https://www.wunderground.com/dashboard/pws/KMISUTTO28>

<https://www.pwsweather.com/station/map/pws/suttonsbaydpw>

The vacor is scheduled to start routine cleaning of pump stations, sewers, and storm drains.

Final effluent filter maintenance and rehab was completed at the plant, summary report attached.

Michigan Rural Water Assoc. (MRWA) will be onsite to begin an energy efficiency study and evaluate areas that can and may be optimized to improve treatment processes while conserving energy. This study is free to all members of the association.

**To:** Rob Larrea/Village of Suttons Bay  
Dave Miller/Village of Suttons Bay

**CC:** Liz Hart/Jacobs  
Andrew Waldron/Jacobs  
Zack Niec/Jacobs

**From:** Mark Huggard/Jacobs

**Date:** April 27<sup>th</sup>, 2021

**Subject:** Aqua Disk Filter Maintenance

**1. Process Description:**

The Aqua Aerobics Cloth Disk filter is comprised of two circular disk elements covered with a cloth media. Particulates within the effluent are trapped by the cloth media while the clean (filtered) water passes through the cloth and continues downstream to the UV disinfection stage. The removal of the particulate from the effluent is crucial to ensuring compliance with the facility's NPDES permit. Once the cloth becomes fouled by trapped particulate forward flow is restricted and the liquid level in the tank begins to rise triggering a backwash cycle. The backwash cycle draws clean water back through the filter cloth dislodging the solids, which are then pumped back to the head of the plant. This cycle is automatically repeated as needed to maintain forward flow.

Over time the cloth media begins to breakdown and allow particulate to pass through the cloth and into the final effluent stream. This is evident when pollutant concentrations, especially total suspended solids begin to increase above normal concentrations at normal flow rates, by this measure we determined it was time to replace the original cloth media.

**Cloth Disk Filter Unit**



## 2. Maintenance Details:

Jacobs took advantage of the equipment downtime to perform various inspections and preventive maintenance on the entire disk filter unit. The following table details all maintenance and inspections performed; pictures of inspections are included in Appendix A:

Task performed	Details
Replaced all 12 pile cloth segments, 36 retaining bars and hardware	See section 3a – Issues Found
Changed the gear oil on the filter drive	Preventive maintenance tasks completed annually
Changed the oil on the backwash/waste pump	Preventive maintenance tasks completed annually
Inspection of level transducer and stilling well	Inspection passed
Inspection of high-level mechanical float switch	Inspection passed
Inspected drive chain and sprockets	Inspection passed
Inspected the center tube V ring seal	Inspection passed
Inspected backwash system	Backwash arms, support brackets and hardware passed inspection. See section 3b and 3c – Issues Found for more details
Inspected the wasting system	See section 3b – Issues Found
Inspected the center tube, tube shaft and pillow block bearing.	Inspection passed
Inspected inside and outside tank structure, coating etc	See section 3 – Issues Found
Inspected all pressure and vacuum gauges	Inspection passed
Cleaned all solids and debris from tank	Used Williams and Bay pumping to remove all solids and debris from tank bottom. Tank needed to be clean for repairs detailed in section 3.
Replaced PLC battery and backed up the PLC and HMI programs to external drive	Task was completed by contractor few weeks prior

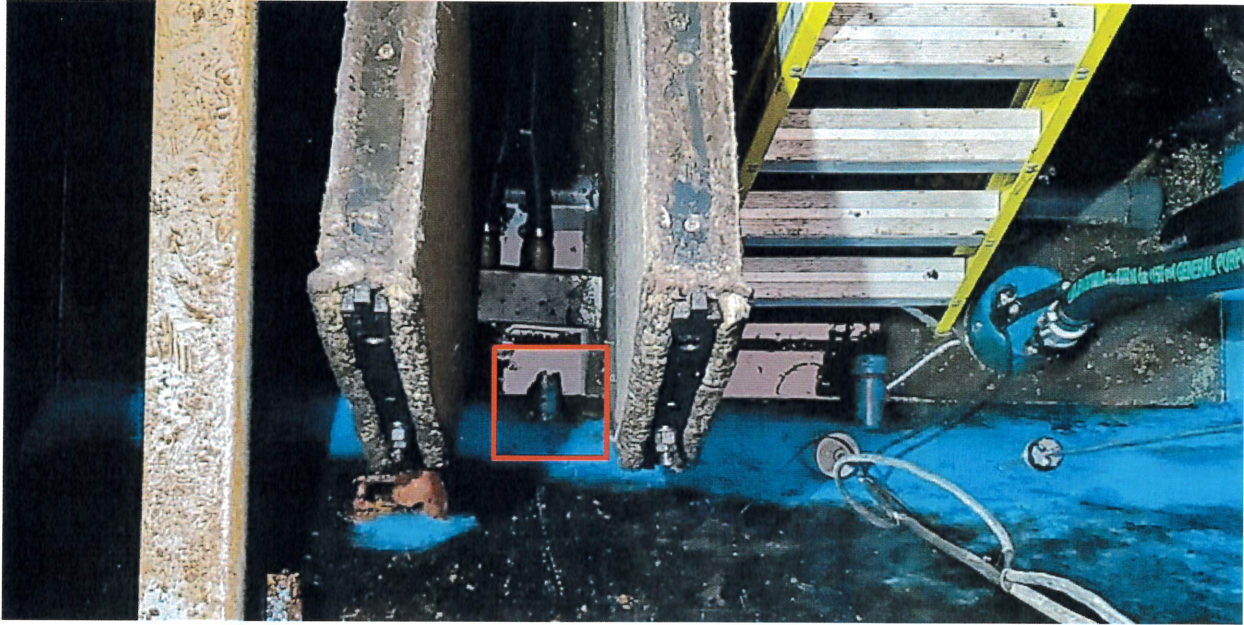
## 3. Issues Found:

- a. We found three frame assemblies with failed stainless-steel retainer mounting inserts. New assemblies were purchased and installed. We will attempt to utilize the components of the remaining three to complete one spare assembly.
- b. The backwash and the wasting hoses were found brittle and all 5 hoses were replaced.
- c. The backwash header and pipe were found lying on the bottom of the tank. The backwash pipe that holds the backwash header had broken off due to corrosion. We inspected the other two pipes (wasting and spare backwash) and found severe corrosion on those pipes as well. All three pipes were cut out and new schedule 80 steel pipes were welded in place by ABI Mechanical. The previous pipes were a thinner walled schedule 40, Jacobs requested a thicker walled schedule 80 pipe be used as replacement. Once the pipes were welded and a leak test was performed the pipes were coated with the manufacturer specified Tnemec® coating. The coating was allowed to cure for 7 days per manufacturer specs.
- d. During the inspection of the tank's interior, we noted coating failures and various areas where pitting and corrosion was occurring on the tank walls.

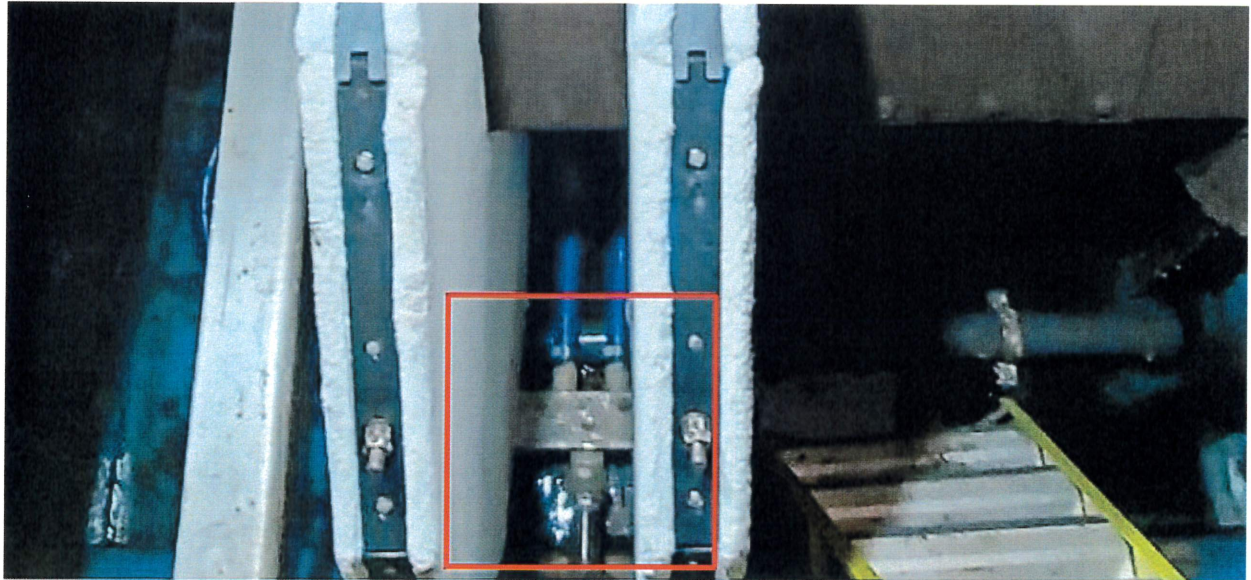
**4. Recommendations:**

- a. Sand blast inner tank walls and recoat with manufacturer specified Tnemec® coating within the next 1-2 years.
- b. Paint exterior of tank within the next 1-2 years.
- c. Obtain cost to replace center tube, shaft, bearings etc. This equipment is currently in good condition but will require replacement eventually. Acquiring cost now will help the Village prepare for these costs, which may be needed in the next 5 to 10 years.

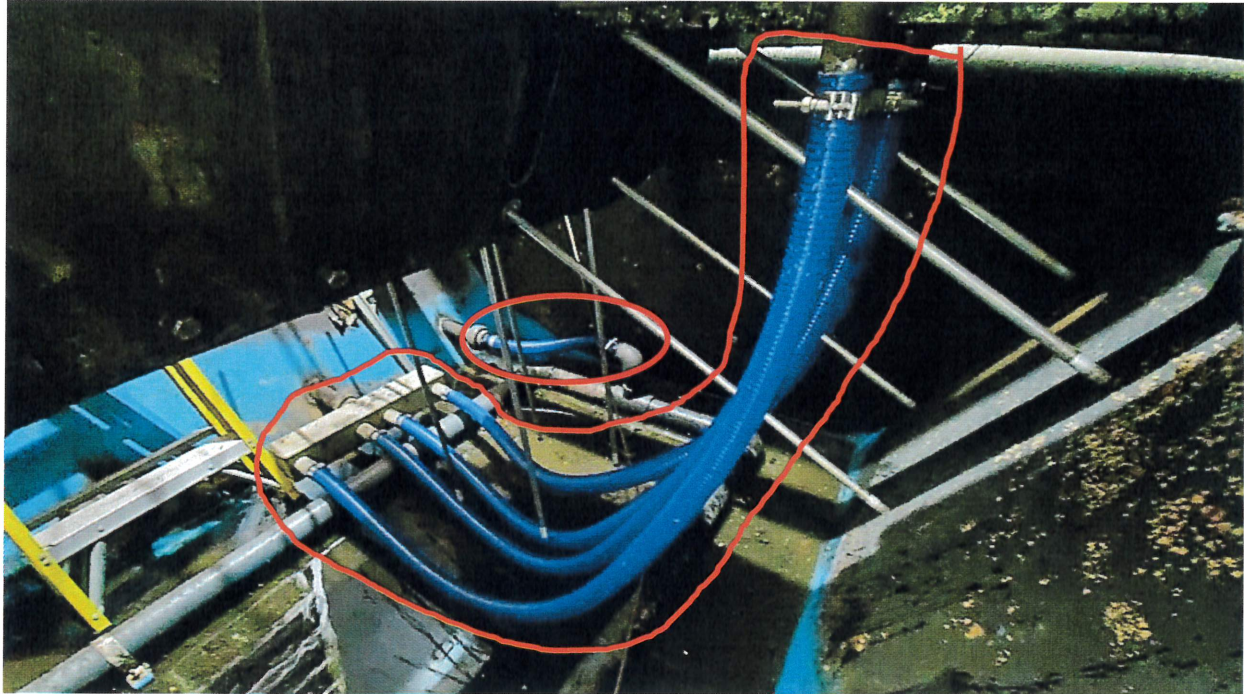
**Broken backwash pipe**



**New repaired backwash pipe**



**New backwash and waste hoses**



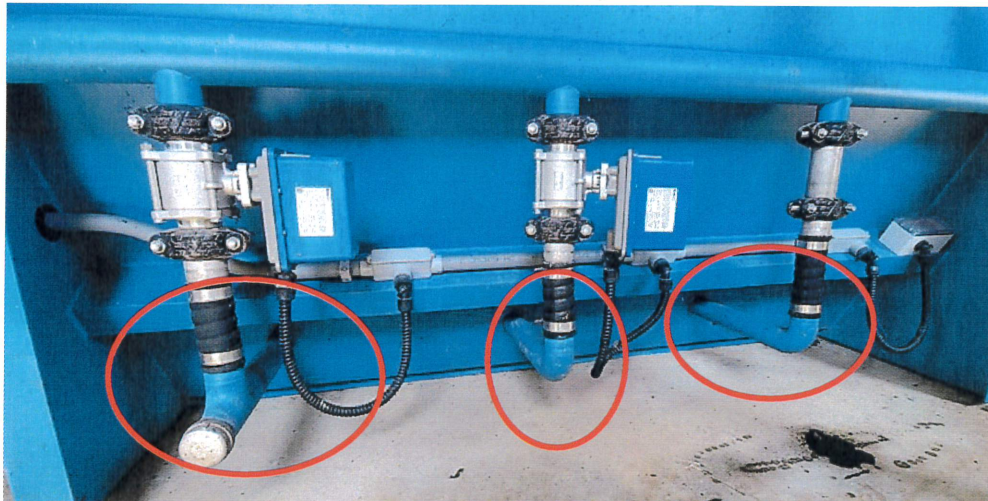
**New cloth assembly install, torqued to proper specifications**



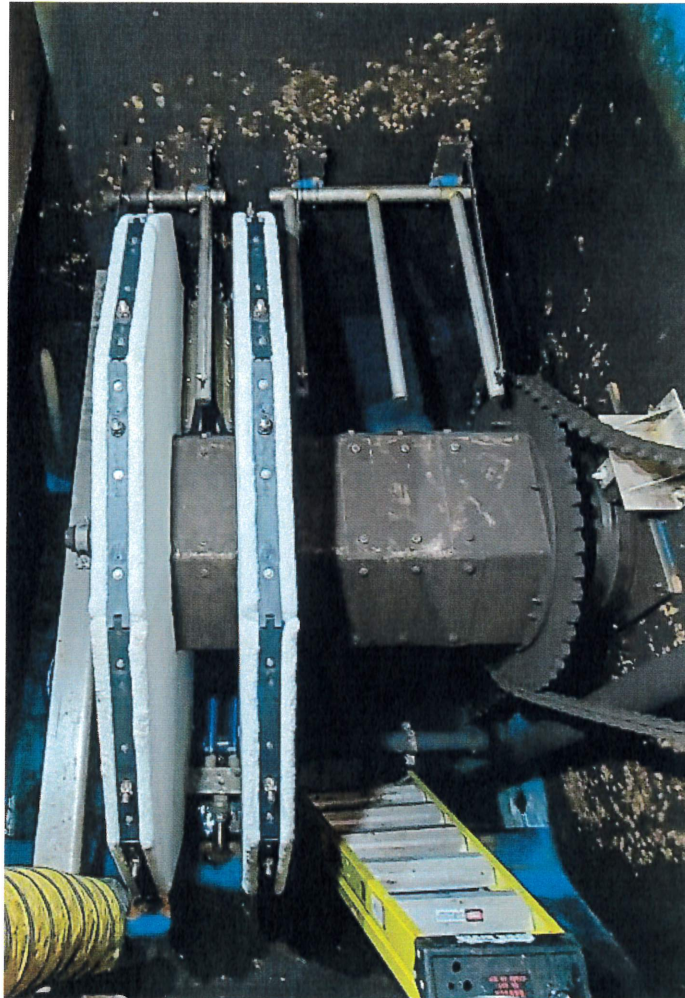
**Tank wall pitting**



**Backwash and wasting lines, all three replaced by ABI Mechanical**



**New pile cloth media**



If you have any questions regarding the content of this report, please feel free to contact us.

Mark Huggard  
Assistant Project Manager  
Jacobs  
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## **Marina Staff Report**

**April 2021**

Reservations began April 15<sup>th</sup>. As normal a majority of July and the beginning of August has been filled. We have rented almost all of the monthly slips with only a few smaller slips left in June and September.

Power washing has begun on the finger piers. The coal dock is almost complete. At this point I am moving around to docks depending on seasonal arrival dates. I am very hopeful that I will be able to finish this project but the weather has not been cooperative. The last time the finger piers were power washed was in the spring of 2016. Power washing is necessary periodically to keep the finger piers from become slippery.

The majority of staff will begin working within the first two weeks of May. This will be extremely helpful in completing spring routine maintenance projects. This season we have added a couple new members to the team with the possibility of one more part time employee.

The inside of the bathhouse has been painted and new countertops and facets will be installed within the next week. The bathhouse was built in 1978, although old we try hard to maintain it and keep it clean.

We have been able to place the spar buoys at the North Park boat launch and a couple of the buoys near the main marina entrance. The remaining buoys will be placed when we receive replacement parts from our supplier.

I am currently working on an order for various signs around the marina, included in that order is a "Fee" sign for the North Park boat launch. The DPW is working on a payment drop box. We are hoping to have this completed and installed within the next couple of weeks.

Presently I am working on a general permit/joint permit for the DEQ and Army Core for the rip rap project to finalize Phase III of the North Pier Stabilization. With heavier east winds and high waters the end of the North Pier saw an extensive amount of deterioration over the winter. Elmer's has already bid the project for \$32,000. Work will commence on this at the end of the marina season in October.

Irrigation on the south side of the harbor will start to be installed the first week of May. With the North end rip rap project set for Fall 2021, irrigation and landscaping for the North Pier will be postponed until Spring of 2022.

Small willow cutting stems have been planted along the shoreline at western end of the Coal Dock area. Willows are a very hardy tree selection for this area. They love water and root system provides protection and stabilization from erosion. Willow is one of the easiest trees to propagate from cuttings.

Edie Aylsworth

Suttons Bay, Harbor Master

**To:** Rob Larrea  
Dave Miller

**From:** Mark Huggard, **Jacobs**

**Date:** April 28<sup>th</sup>, 2021

**Copy:** Kevin Dahl, **Jacobs**  
Elizabeth Hart, **Jacobs**

This report describes our activities during the month of April 2021. If there is additional information you would like included in the report, please let us know.

### Permit compliance:

Available lab results for the month of April indicate full permit compliance.

Jacobs completed and submitted March's Discharge Monitoring Report (DMR) to the Michigan Department of Environment, Great Lakes, and Energy (EGLE). The facility was in full compliance.

### Treatment Plant Aerial View



## Operations:

### March Flow Report

Average Influent Flow 2021*	0.111	Million Gallons per day
Average Influent Flow 2020	0.195	Million Gallons per day
Total monthly hauled truck waste 2021	126,427	Gallons
Total monthly hauled truck waste 2020	77,718	Gallons

\*Data through April 28<sup>th</sup>, 2021

Jacobs completed the following cloth disk filter preventive and corrective maintenance tasks. Separate from this report, a detailed maintenance report, including future recommendations, was provided to the Village.

- Replaced all cloth media
- Replaced 3 failed frame assemblies
- ABI mechanical installed 3 new waste/backwash pipes; existing piping failed due to corrosion
- Replaced all backwash and wasting hoses
- Changed the oil on both the filter drive unit and the backwash pump
- Performed various inspections on all internal and external filter components

Removal of old cloth media



Installed new cloth media



On Thursday April 15<sup>th</sup> and Wednesday April 21<sup>st</sup>, we responded to calls for a plugged hauled truck waste unloading line. In both instances, we disconnected the pipe and found a considerable amount of grease and gravel causing the blockage. The pipe was cleared and tested before returning to service. The owner of the hauling company was notified of the issue and reminded that they are strictly prohibited from unloading any materials outside of holding tank waste. We'll continue to monitor the offloading and take further action as needed.

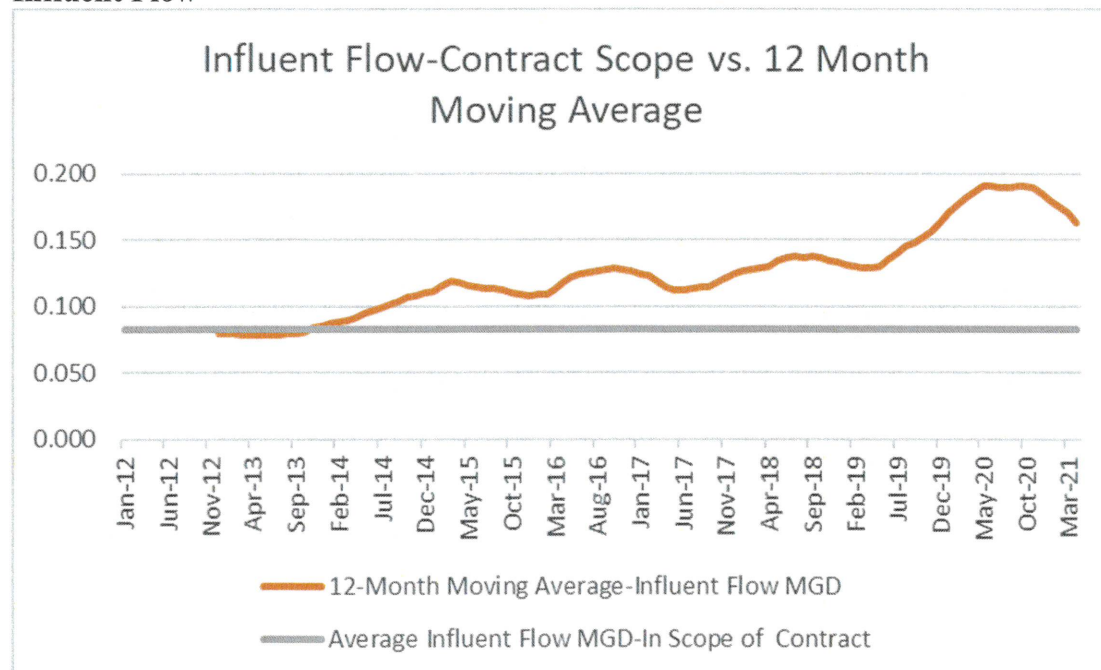
### On the Horizon:

- Install an Uninterrupted Power Supply (UPS) on the UV system.
- Installation of the new lower bearing unit for the influent building's fine screen.
- Install SCADA alarm system failure monitoring and phone line monitoring system.
- Repair leaking yard valve by clarifiers. (Spring/Summer)
- Repair UV bank A air system.
- Equipment building lighting repairs.

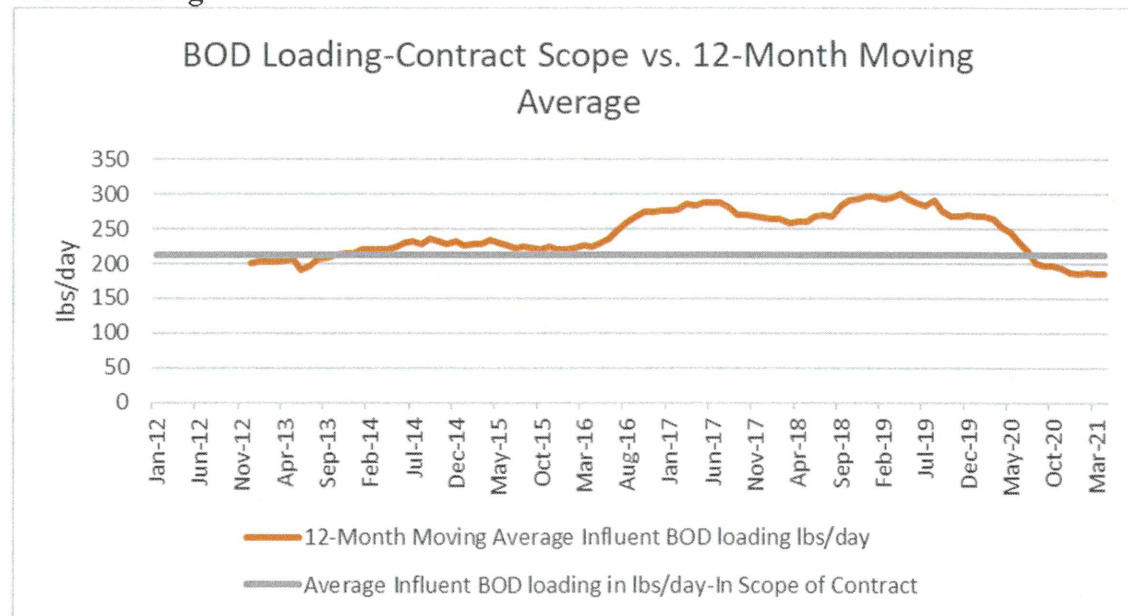
### Plant Influent and Effluent Trends

The following graphs illustrate the facility's influent characteristics encompassed in our scope per Amendment 3 to our 2010 agreement compared to actual influent characteristics. Influent flow characteristics are based on a 12-month moving average.

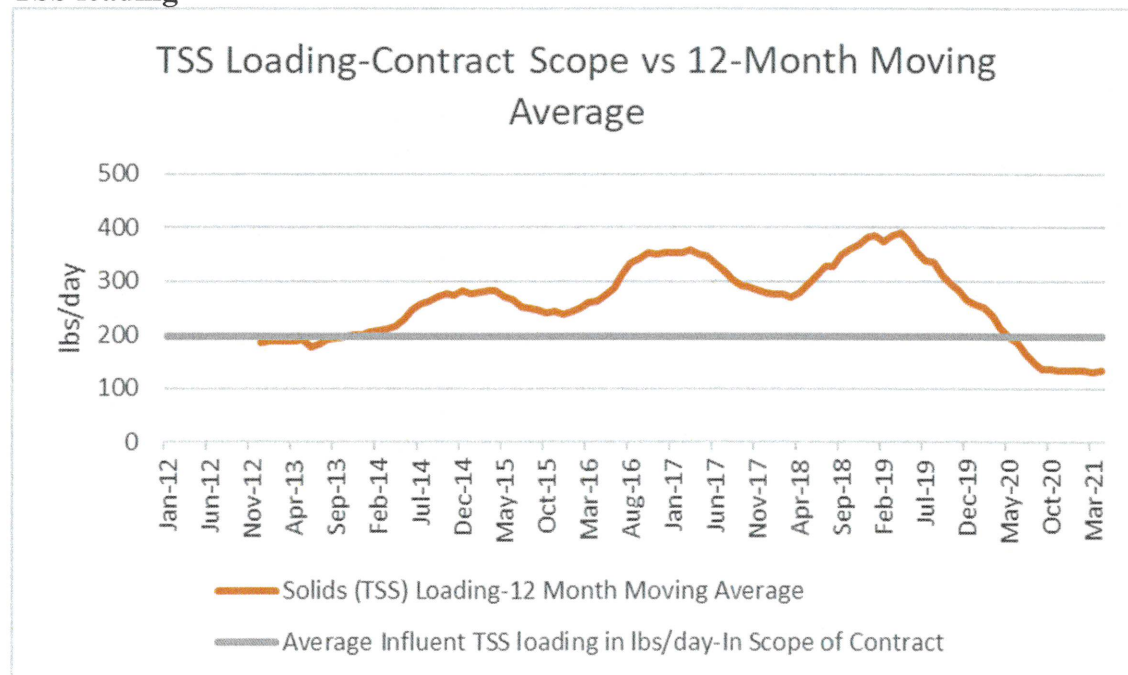
#### Influent Flow



## BOD Loading

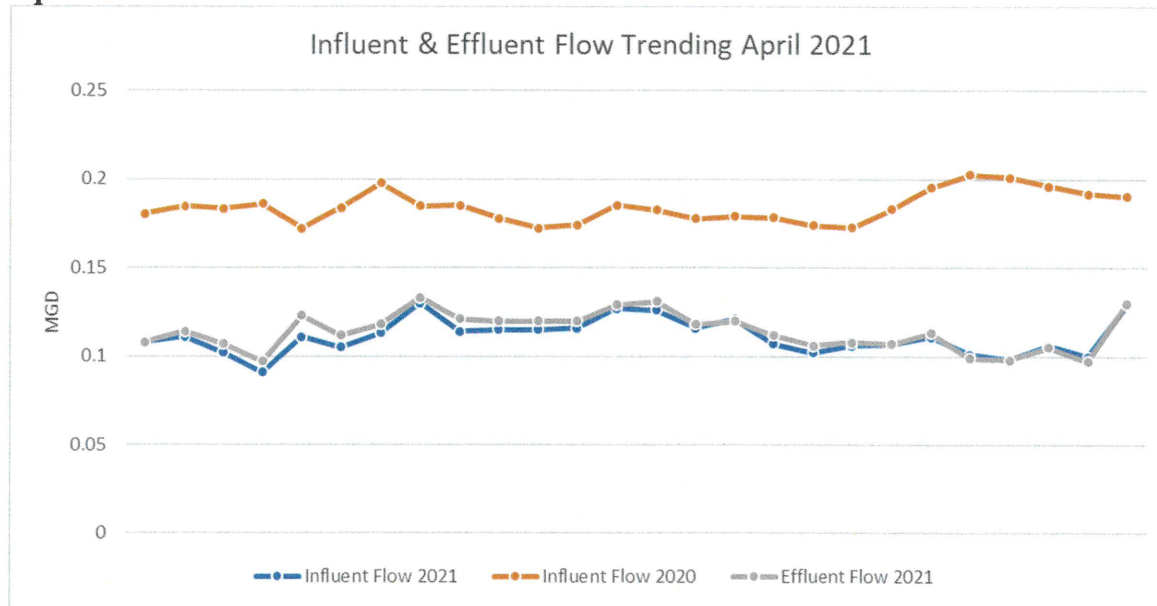


## TSS loading



The following plant flow graph illustrates the facilities current influent and effluent flow trend for the reporting month and the influent flow for the same month of the previous year. The effluent data graph illustrates the current reporting month's effluent permit parameter concentrations, the table above the graph provides the permit limit concentrations for each parameter.

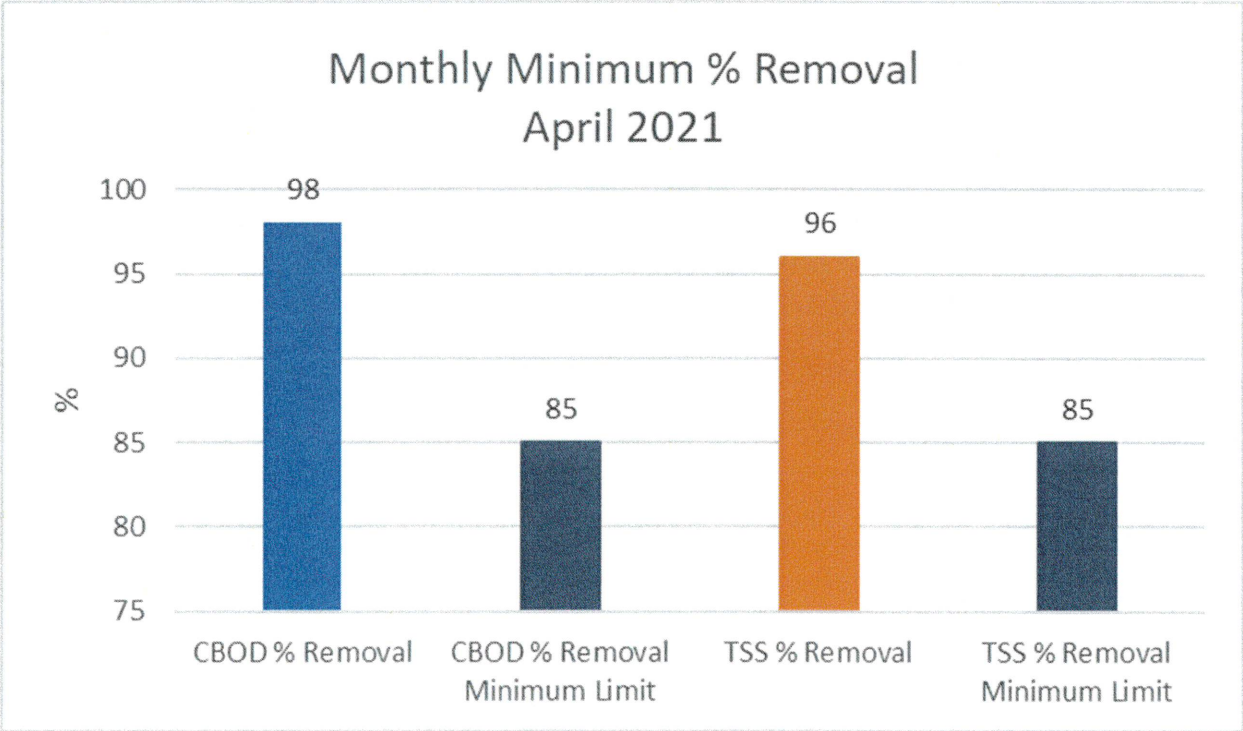
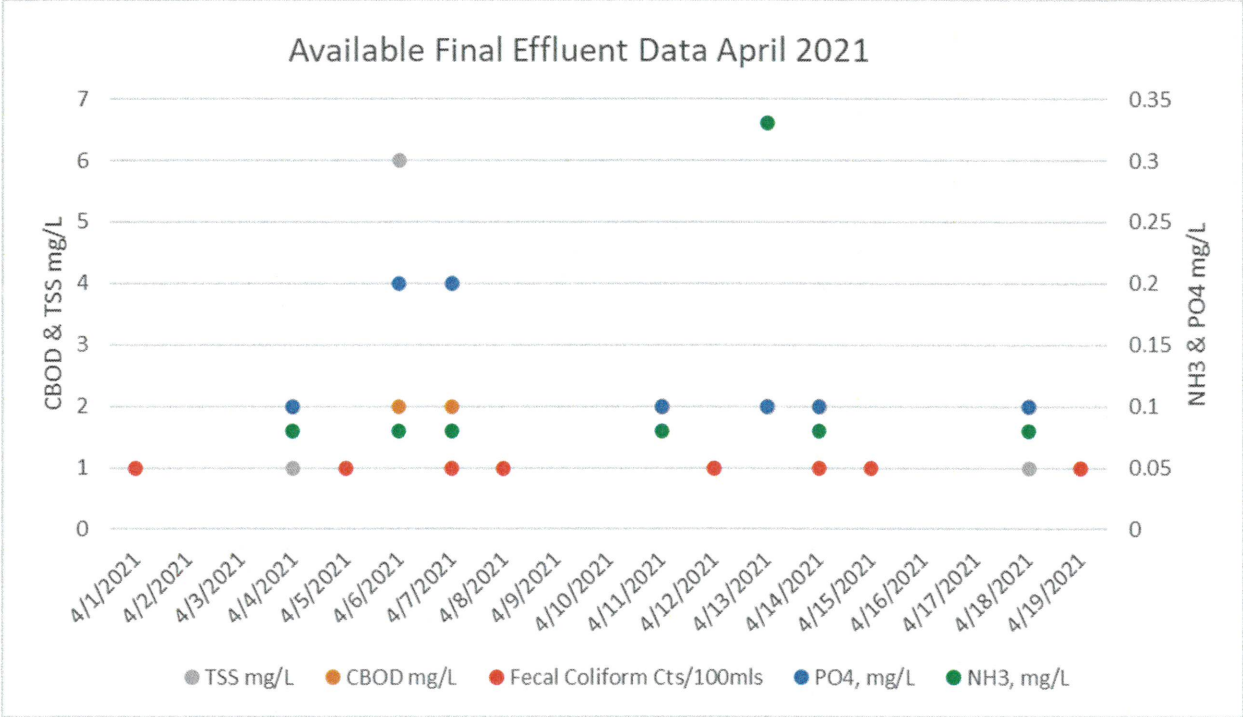
### April Plant Flows



### NPDES permit limits

Parameters	Monthly average	7-day average
Total Suspended Solids	30 mg/L	45 mg/L
Fecal Coliform	200 counts/100 mls	400 counts/100 mls
Carbonaceous Biochemical Oxygen Demand	25 mg/L	40 mg/L
Total Phosphorus, PO <sub>4</sub>	0.5 mg/L	No Limit
Ammonia, NH <sub>3</sub>	Report only, no limit	Report only, no limit
CBOD % Minimum Removal	85%	NA
TSS % Minimum Removal	85%	NA

April Effluent Data



**Financial Report**

Current Month	21-Apr	Comments
Current Month Repairs	\$120.28	New hoses for disk filter backwash and wasting.
Current Month Repair Labor Hrs	93	Hours allocated to disk filter maintenance.
Current Month Chemicals	\$ -	
Current Month Utilities	\$4,189.57	
YTD Repairs	\$4,031.22	
Repair Budget Remaining (\$6,000 Limit)	\$1,968.78	
YTD Repair Labor Hrs	119	
Repair Labor Hrs Remaining (Limit 104 hrs)	(\$15.00)	Note: hours have exceeded contractual limit.
YTD Chemicals	\$ -	
Chemical Budget Remaining (\$4,500 Limit)	\$4,500.00	
YTD Utilities	\$7,820.94	
Utility Budget Remaining (\$33,000 Limit)	\$25,179.06	

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GL NUMBER	DESCRIPTION	2021 AMENDED BUDGET	YTD BALANCE 03/31/2021	ACTIVITY FOR MONTH 03/31/2021	AVAILABLE BALANCE	% BDGT USED
Fund 101 - General Fund						
Fund 101 - General Fund:						
TOTAL REVENUES		885,725.00	7,728.86	2,900.00	877,996.14	0.87
TOTAL EXPENDITURES		900,321.00	81,749.15	31,778.86	818,571.85	9.08
NET OF REVENUES & EXPENDITURES		(14,596.00)	(74,020.29)	(28,878.86)	59,424.29	507.13
Fund 202 - Major Street						
Fund 202 - Major Street:						
TOTAL REVENUES		178,500.00	23,589.33	23,539.15	154,910.67	13.22
TOTAL EXPENDITURES		239,262.00	164,314.16	17,635.61	74,947.84	68.68
NET OF REVENUES & EXPENDITURES		(60,762.00)	(140,724.83)	5,903.54	79,962.83	231.60
Fund 203 - Local Street Fund						
Fund 203 - Local Street Fund:						
TOTAL REVENUES		102,500.00	18,848.29	18,827.84	83,651.71	18.39
TOTAL EXPENDITURES		158,880.00	14,197.33	5,536.00	144,682.67	8.94
NET OF REVENUES & EXPENDITURES		(56,380.00)	4,650.96	13,291.84	(61,030.96)	8.25
Fund 248 - DDA Fund						
Fund 248 - DDA Fund:						
TOTAL REVENUES		5.00	2.54	0.00	2.46	50.80
TOTAL EXPENDITURES		7,385.00	937.01	389.97	6,447.99	12.69
NET OF REVENUES & EXPENDITURES		(7,380.00)	(934.47)	(389.97)	(6,445.53)	12.66
Fund 402 - Property Replacement Fund						
Fund 402 - Property Replacement Fund:						
TOTAL REVENUES		178,050.00	26.24	0.00	178,023.76	0.01
TOTAL EXPENDITURES		124,200.00	0.00	0.00	124,200.00	0.00
NET OF REVENUES & EXPENDITURES		53,850.00	26.24	0.00	53,823.76	0.05
Fund 590 - Sewer Fund						
Fund 590 - Sewer Fund:						
TOTAL REVENUES		543,600.00	126,963.10	53,414.57	416,636.90	23.36
TOTAL EXPENDITURES		802,039.00	99,273.91	36,987.11	702,765.09	12.38
NET OF REVENUES & EXPENDITURES		(258,439.00)	27,689.19	16,427.46	(286,128.19)	10.71
Fund 591 - Water Fund						
Fund 591 - Water Fund:						
TOTAL REVENUES		232,900.00	40,283.31	13,588.83	192,616.69	17.30
TOTAL EXPENDITURES		264,725.00	38,621.67	14,594.89	226,103.33	14.59
NET OF REVENUES & EXPENDITURES		(31,825.00)	1,661.64	(1,006.06)	(33,486.64)	5.22
Fund 594 - Marina Fund						
Fund 594 - Marina Fund:						
TOTAL REVENUES		474,900.00	289,614.47	7,700.00	185,285.53	60.98
TOTAL EXPENDITURES		658,543.00	63,817.73	20,752.59	594,725.27	9.69
NET OF REVENUES & EXPENDITURES		(183,643.00)	225,796.74	(13,052.59)	(409,439.74)	122.95
TOTAL REVENUES - ALL FUNDS						
TOTAL EXPENDITURES - ALL FUNDS						
NET OF REVENUES & EXPENDITURES		2,596,180.00	507,056.14	119,970.39	2,089,123.86	19.53
		3,155,355.00	462,910.96	127,675.03	2,692,444.04	14.67
		(559,175.00)	44,145.18	(7,704.64)	(603,320.18)	7.89