

MONTECITO SANITARY DISTRICT



2021 ANNUAL SUMMARY REPORT

NPDES No. CA0047899

Order No. R3-2012-0016



Montecito Sanitary District

1042 Monte Cristo Lane
Santa Barbara, CA 93108
General Manager: Bradley Rahrer, P.E.

A Public Service Agency

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January 27, 2022

California Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401

SUBJECT: NPDES Permit No. CA 0047899
Order No. R3-2012-0016
Annual Summary Report for 2021

Staff of the Regional Board:

In accordance with the requirements of the general provisions of the District's NPDES Permit No. CA0047899, currently in effect and binding, I am pleased to transmit the District's Annual Report for 2021.

On February 7, 2018 the District received a letter from the Central Coast Regional Water Quality Control Board (RWQCB) notifying the District that the Water Board had administratively extended the expiration date of the District's NPDES permit until such time as the permit is reissued. The letter also stated that the District's application for renewal was deemed complete on June 9, 2017. Additionally, the District received correspondence from the RWQCB dated January 28, 2020 and May 22, 2020 informing us that a draft of the reissued NPDES permit would likely be issued in the spring of 2021 due to the RWQCB's workload. In 2021, PG Environmental, on behalf of the RWQCB, made contact with Montecito Sanitary District staff to provide notice that PG Environmental staff was processing and drafting a permit renewal. MSD staff is currently awaiting its finalization.

The report includes the names and job titles of District personnel, the Governing Board of Directors, and an organizational chart. Throughout the 2021 calendar year the following treatment operators were employed by the District:

- Marco Felix, Operator, V-41171, exp. 11/20/2023
- Michael Arce, Operator, III-43612, exp. date 06/22/2024
- Luis Rizo, Operator, II-74119, exp. date 01/01/2024
- Robert Keen, Operator, III-38601, exp. date 11/06/22
- Miguel Villafana, Operator in Training, exp. date 02/03/24

District staff continues to perform the majority of required analytical tests on-site in the District's ELAP-accredited Laboratory. The District's Laboratory Manager, Carole Rollins, holds certification as a Grade 4 Laboratory Analyst with the California Water Environmental Association (CWEA). Marco Felix, Michael Arce, Robert Keen and Luis Rizo each holds a Grade 1 Laboratory Analyst certification.

The monitoring data compiled throughout the calendar year 2021 are presented in both tabular and graphic form. All samples collected were properly representative and met NPDES permit requirements for frequency. All data was generated and analyzed either at the District ELAP-

accredited laboratory, ELAP #2957, or by Oilfield Environmental and Compliance, Inc. (OEC), ELAP# 2438, or their subcontractors.

Required annual effluent samples were collected on June 23rd with the exception of Bioassay samples which were collected on June 7th, 9th and 11th, 2021. The required analyses were performed by OEC laboratory and its subcontractors. Data remains consistent with previous years. All results were within acceptable limits.

On August 30, 2021, Aquatic Bioassay Consulting Laboratories Inc. completed the annual inspection of the District's ocean outfall pipeline. The exterior of the outfall pipeline was inspected and videotaped. The full inspection report is being submitted to the RWQCB via CIWQS with the Annual Summary Report. The outfall pipeline was found to be in good condition.

Regarding the generation and removal of Biosolids, a separate annual report is submitted to the EPA in February of each year as per EPA and District NPDES permit requirements.

The District's Wastewater Treatment Plant Operations & Maintenance Manual was reviewed in December 2021 and staff determined no updates were necessary.

Comments regarding the District's Collection System Maintenance and Renovation Program, as required by the NPDES permit, are included in this report on pages 23 through 25. Also included on pages 26 through 29 is a brief summary of the history of the District, our accomplishments in recent years, and goals for the future. Please feel free to contact me if you have any questions or would like to request additional information.

Sincerely,



Bradley Rahrer, P.E.
General Manager/District Engineer

Montecito Sanitary District
2021 Annual Report

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January 2021 – December 2021

GOVERNING BOARD

Dorinne Lee Johnson	President
Ellwood Barrett II	Vice President
Donald Eversoll	Treasurer
Dana Newquist	Secretary
Gary Fuller	Director

January 2021 – December 2021

STAFF

Administration

Bradley Rahrer, P.E.	General Manager (Hired June 14, 2021)
Tony Wong, P.E. (consultant)	Interim General Manager (Released July 2021)
Jon Turner, P.E. (consultant)	Interim General Manager (Resigned January 31, 2021)
Carrie Poytress, P.E.	Engineering Manager (Resigned September 18, 2021)
Elizabeth Byrne	District Administrator (Resigned December 10, 2021)
Caroline M. Martin	Accounting/Administrative Assistant

Treatment Operations

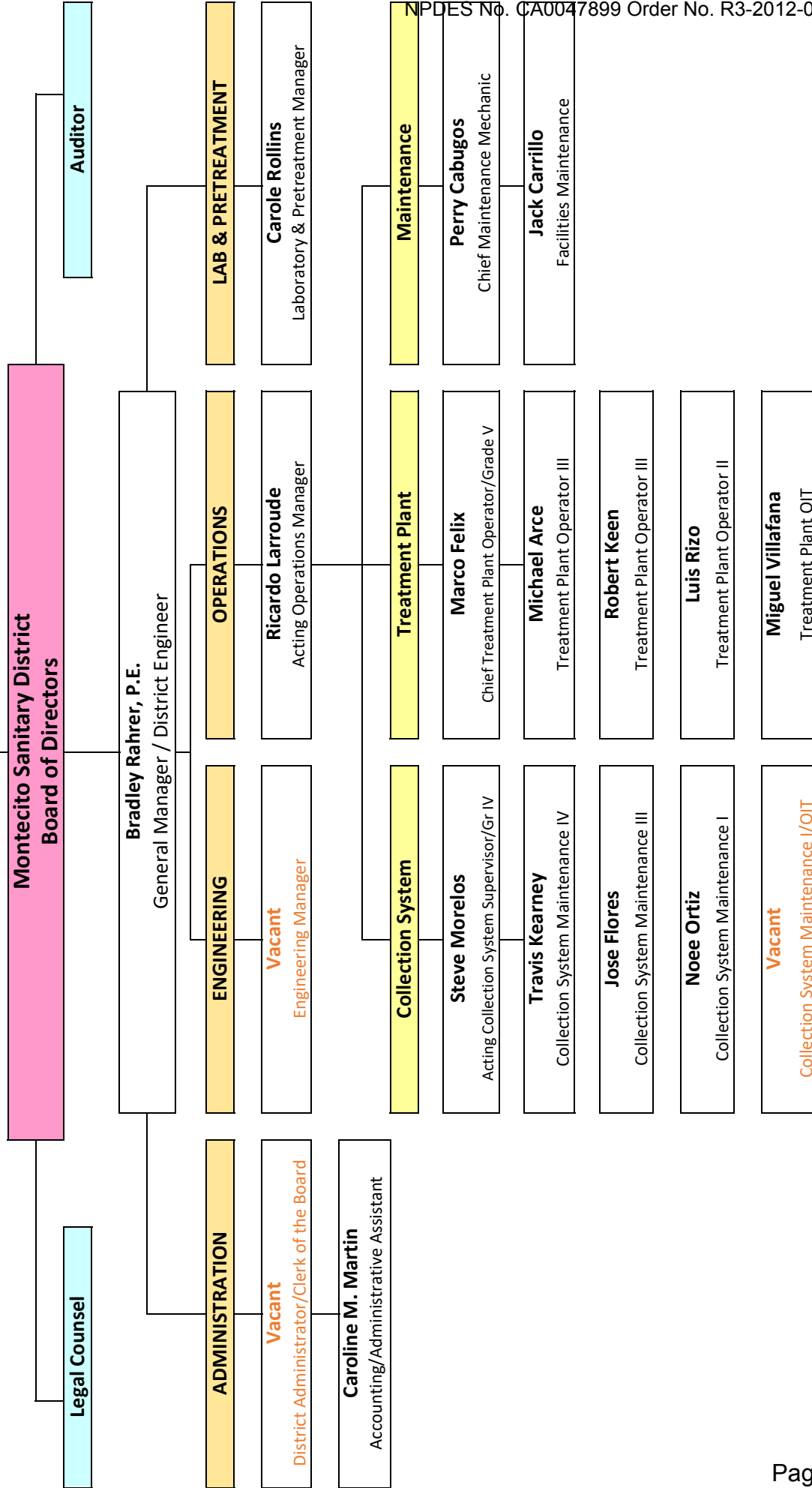
Alex Alonzo	Operations Manager (Retired March 19, 2021)
Marco Felix	Chief Plant Operator V
Michael Arce	Treatment Plant Operator III
Luis Rizo	Treatment Plant Operator II
Robert Keen	Treatment Plant Operator III (Hired January 5, 2021)
Miguel Villafana	Treatment Plant Operator OIT

Carole Rollins	Laboratory & Pretreatment Manager
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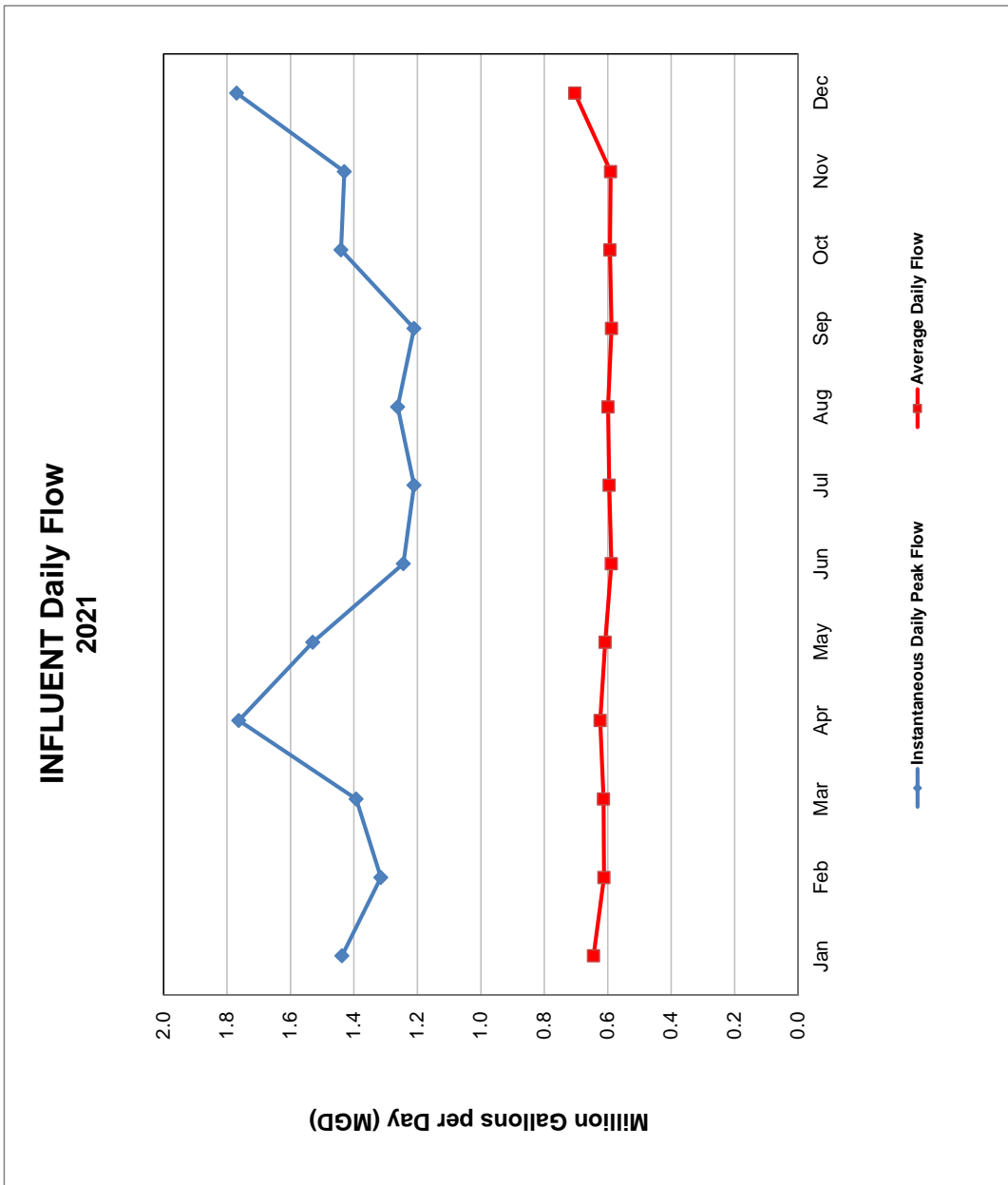
Collection System

Ricardo Larroude	Collection/Maintenance Supervisor
Perry Cabugos	Chief Maintenance Mechanic
Jack Carrillo	Facilities Maintenance
Steve Morelos	Collection System Maintenance IV
William "Travis" Kearney	Collection System Maintenance IV
Noee Ortiz	Collection System Maintenance I
Jose Flores	Collection System Maintenance III

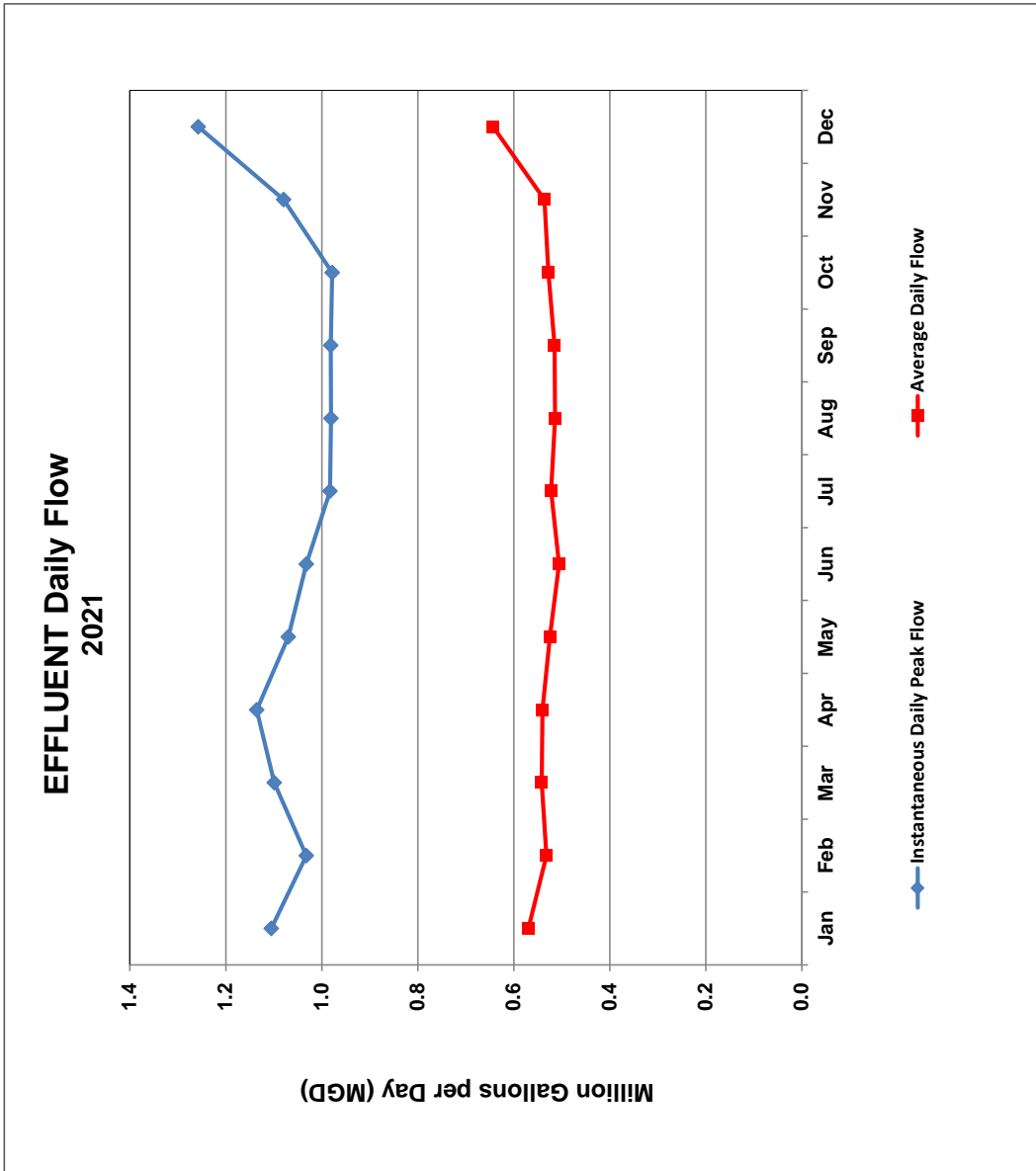
Montecito Sanitary District Property Owners



MILLION GALLONS PER DAY (MGD)		
Month	Instant Daily Peak	Average Daily Flow
Jan	1.44	0.645
Feb	1.32	0.612
Mar	1.39	0.613
Apr	1.76	0.624
May	1.53	0.608
Jun	1.24	0.589
Jul	1.21	0.595
Aug	1.26	0.599
Sep	1.21	0.588
Oct	1.44	0.593
Nov	1.43	0.590
Dec	1.77	0.704
Avg	1.42	0.613



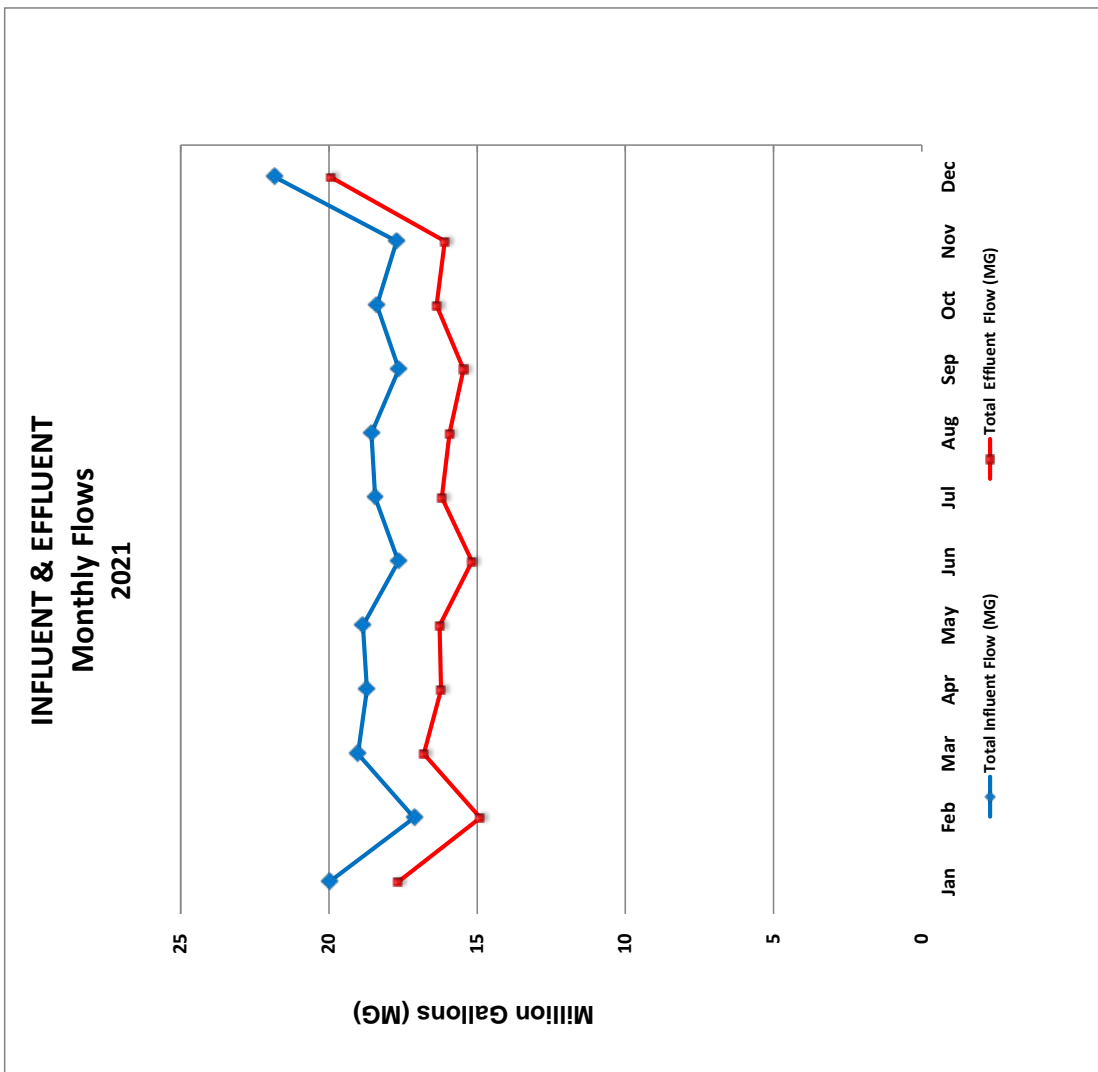
MILLION GALLONS PER DAY (MGD)		
MONTH	Instant Daily Peak	Average Daily Flow
Jan	1.105	0.570
Feb	1.032	0.532
Mar	1.099	0.542
Apr	1.135	0.541
May	1.070	0.525
Jun	1.032	0.506
Jul	0.983	0.522
Aug	0.981	0.514
Sep	0.981	0.515
Oct	0.978	0.528
Nov	1.080	0.536
Dec	1.257	0.643
AVG	1.061	0.539



Month	Total Influent Flow (MG)	Total Effluent Flow (MG)
Jan	19.99	17.67
Feb	17.12	14.89
Mar	19.02	16.80
Apr	18.72	16.22
May	18.85	16.27
Jun	17.66	15.17
Jul	18.44	16.19
Aug	18.56	15.93
Sep	17.64	15.46
Oct	18.38	16.37
Nov	17.71	16.09
Dec	21.82	19.94

Total Annual Flows	223.91	196.98
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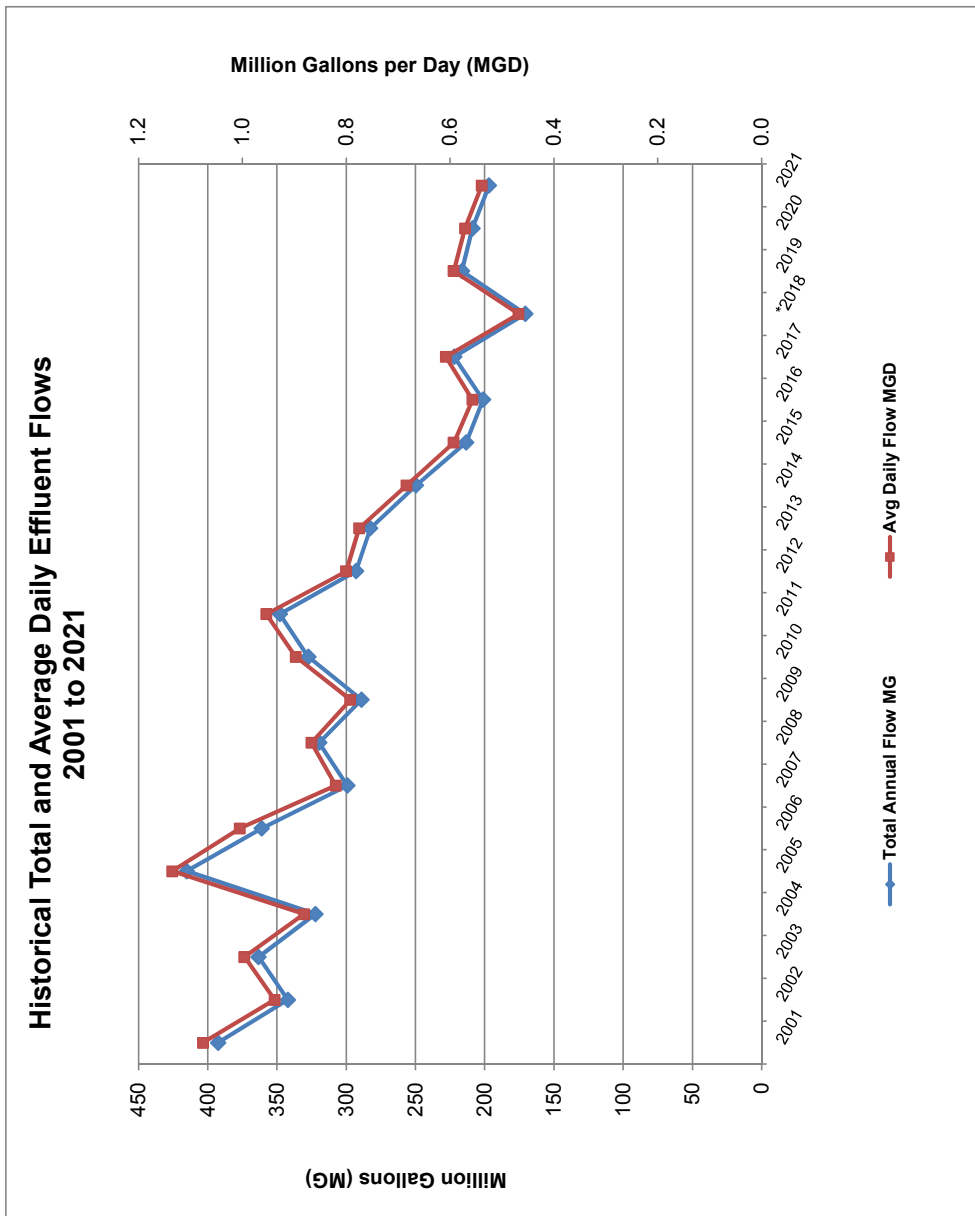
Note: Influent and Effluent flow differences are due to process recycled flows and process cleaning or maintenance which drains water back to the influent flow.



YEAR	Total Annual Flow MG	Avg Daily Flow MGD
2001	392.6	1.076
2002	342.2	0.938
2003	363.4	0.996
2004	322.4	0.881
2005	415.3	1.135
2006	361.2	1.005
2007	299.2	0.820
2008	319.5	0.867
2009	289.0	0.792
2010	327.4	0.897
2011	348.0	0.954
2012	292.9	0.800
2013	282.7	0.775
2014	249.6	0.684
2015	213.4	0.593
2016	201.2	0.557
2017	222.1	0.608
*2018	170.8	0.468
2019	216.5	0.593
2020	208.9	0.571
2021	197.0	0.539

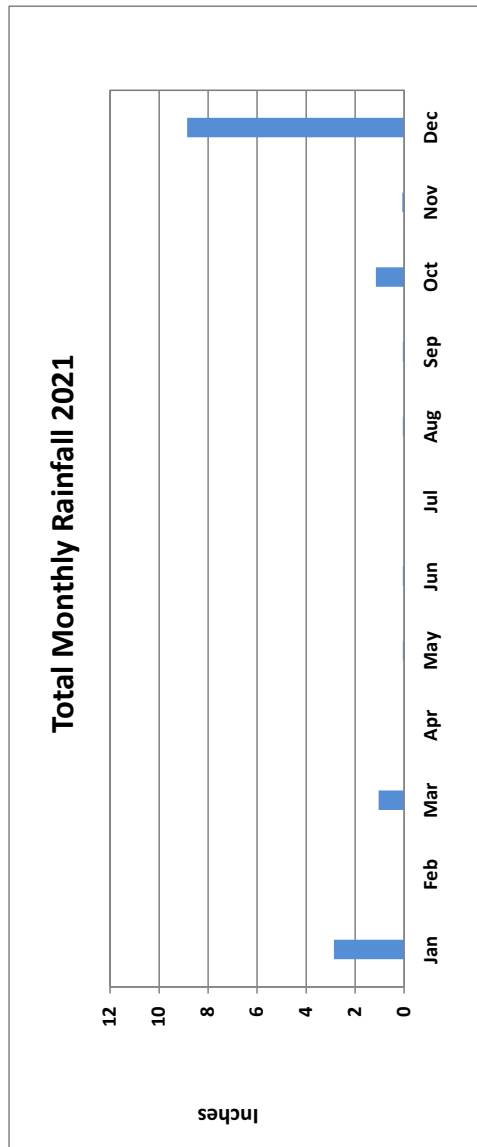
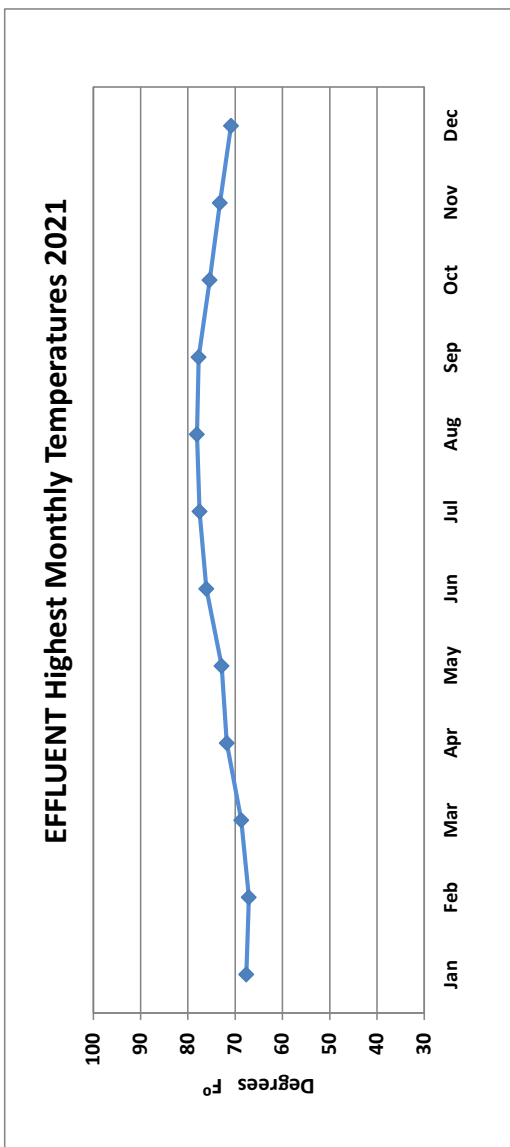
*NOTE: Abnormally low flows for 2018 correspond to the January 9th Thomas Fire Debris Flow and evacuations of the service area.

Influent flows at the treatment plant continued in a downward trend for 2021, reflecting declining water usage. Flow remains less than half of treatment capacity. We do not expect this to change during 2022 and staff cannot predict when or if flows will ever reach treatment capacity. Additionally, two large commercial institutions remain offline and therefore not contributing their normal wastewater discharges due to the COVID-19 pandemic. It is unclear when they will resume normal operations.

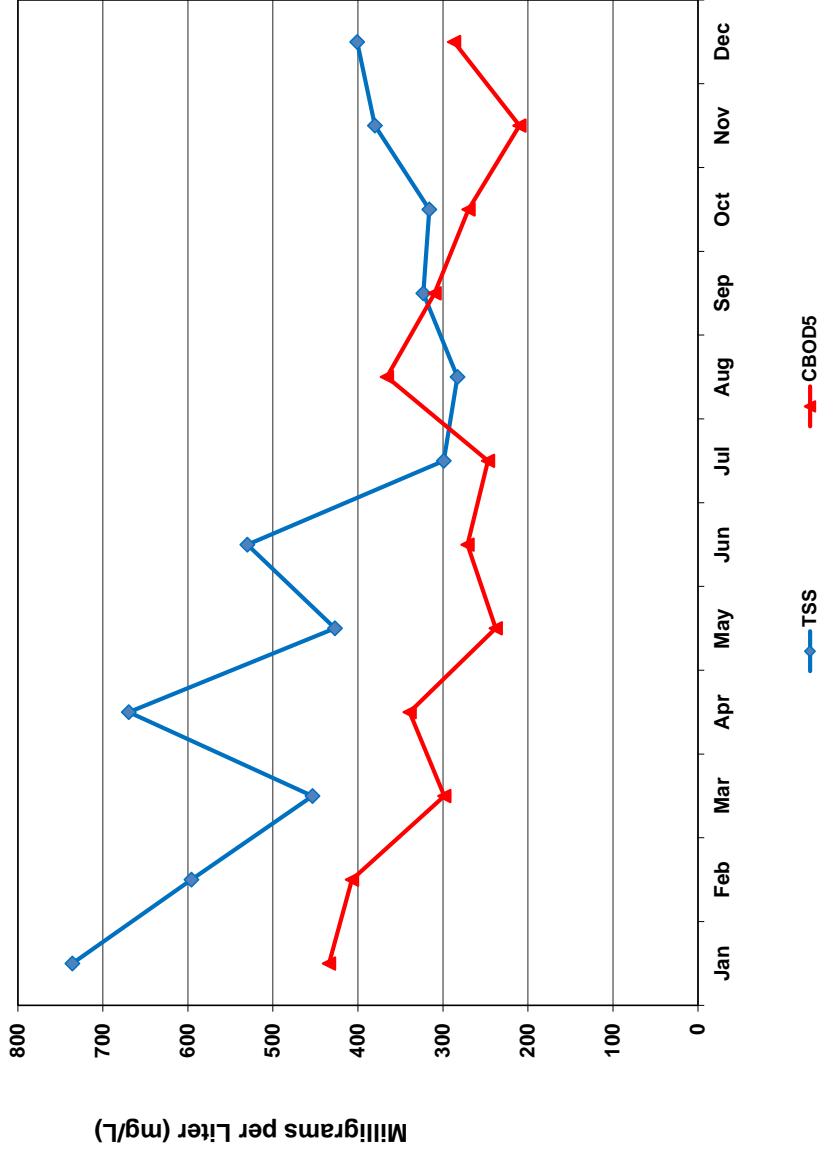


Month	High Temp. °F
Jan	67.6
Feb	67.1
Mar	68.7
Apr	71.8
May	72.9
Jun	76.1
Jul	77.5
Aug	78.1
Sep	77.7
Oct	75.4
Nov	73.2
Dec	70.9

Month	Rainfall Inches
Jan	2.87
Feb	0.01
Mar	1.04
Apr	0.00
May	0.06
Jun	0.06
Jul	0.01
Aug	0.06
Sep	0.05
Oct	1.16
Nov	0.08
Dec	8.85
TOTAL	14.25

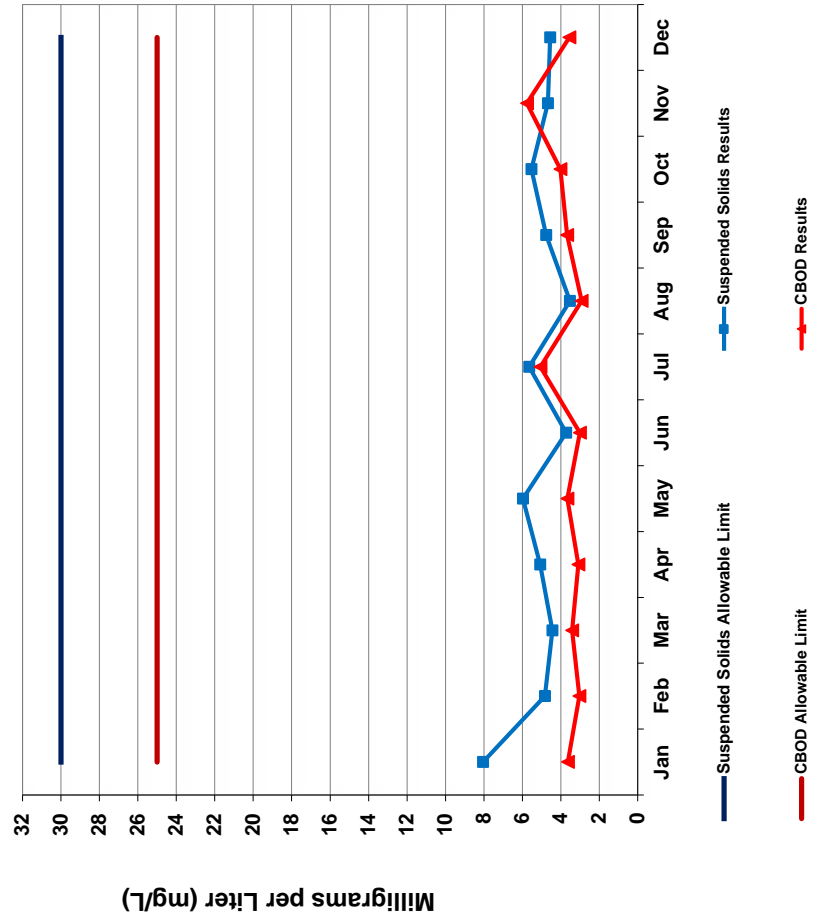


**INFLUENT
 Total Suspended Solids & Carbonaceous Biochemical Oxygen
 Demand
 2021**



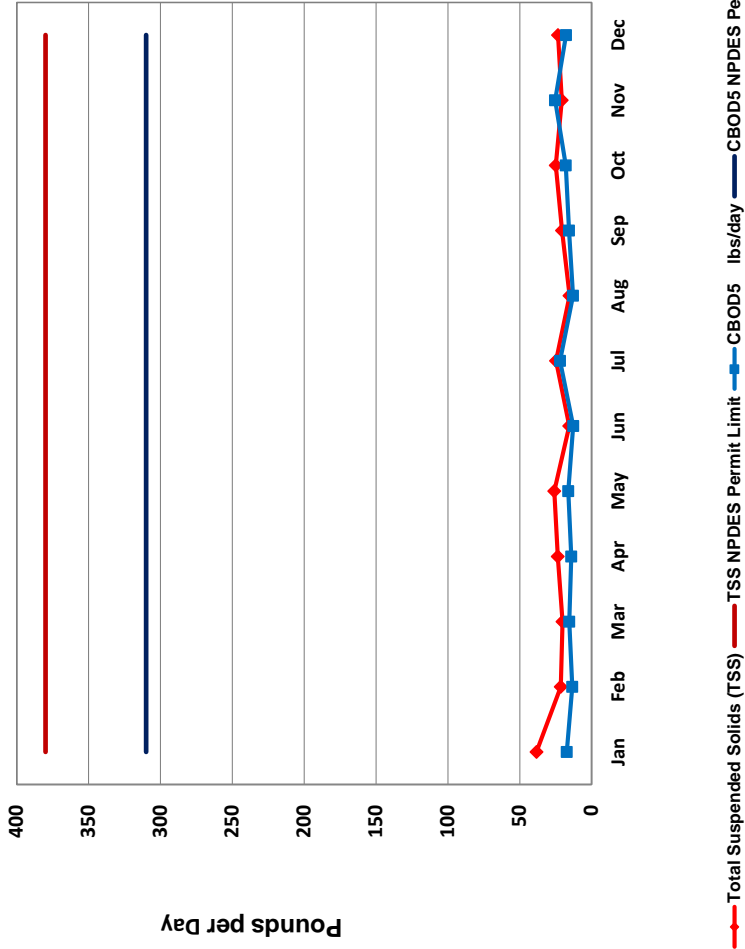
Month	TSS mg/L	CBOD ₅ mg/L
Jan	736	434
Feb	596	407
Mar	454	299
Apr	670	339
May	427	238
Jun	530	271
Jul	299	247
Aug	283	366
Sep	323	310
Oct	316	270
Nov	380	210
Dec	401	287
AVG	451	306

EFFLUENT
Total Suspended Solids &
Carbonaceous Biochemical Oxygen Demand
2021

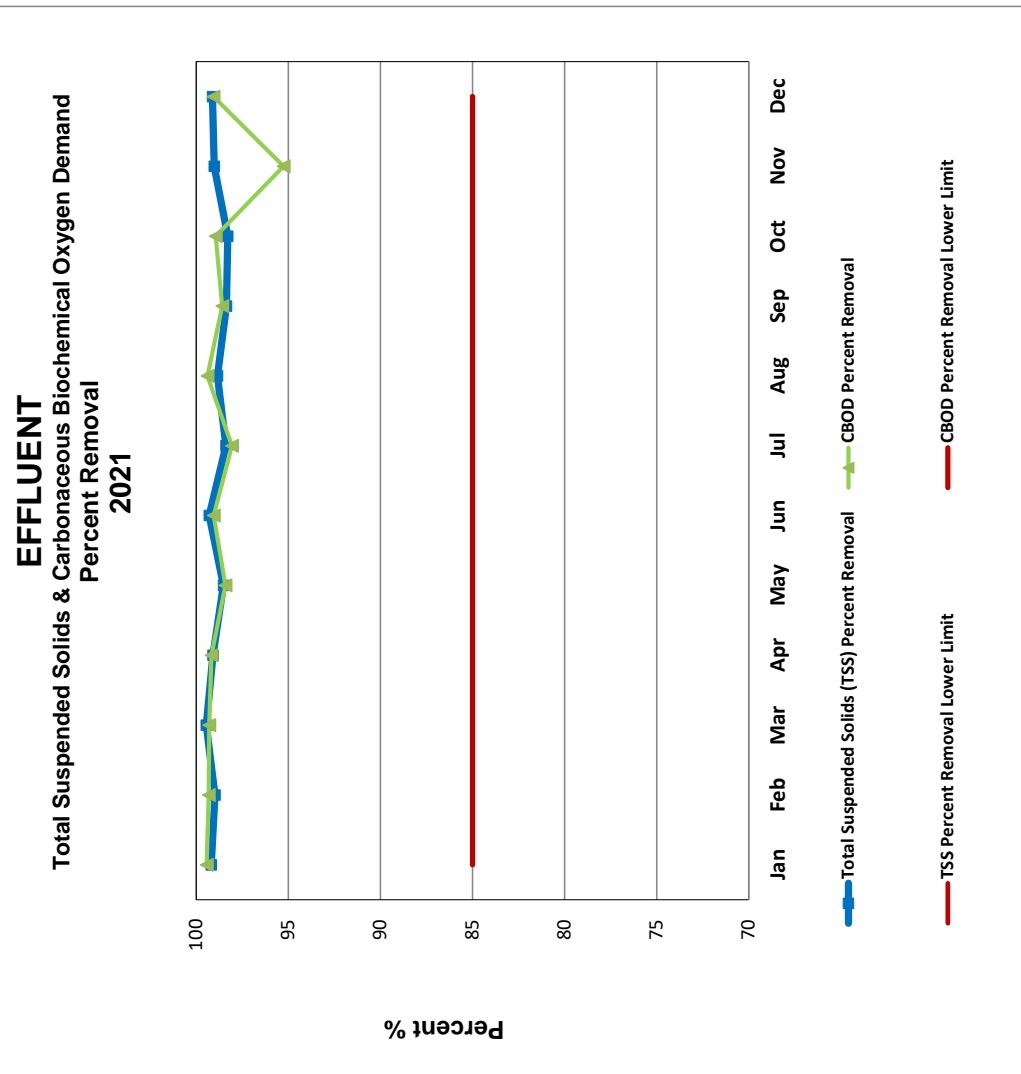


	TSS		CBOD	
	Permit Limit	Results	Permit Limit	Results
	mg/L	mg/L	mg/L	mg/L
Jan	30	8.1	25	3.64
Feb		4.8		3.03
Mar		4.4		3.41
Apr		5.1		3.09
May		6.0		3.66
Jun		3.7		3.00
Jul		5.6		5.07
Aug		3.5		2.92
Sep		4.8		3.68
Oct		5.5		4.03
Nov		4.7		5.77
Dec		4.6		3.56
AVG		5.1		3.74

EFFLUENT
Total Suspended Solids &
Carbonaceous Biochemical Oxygen Demand
2021

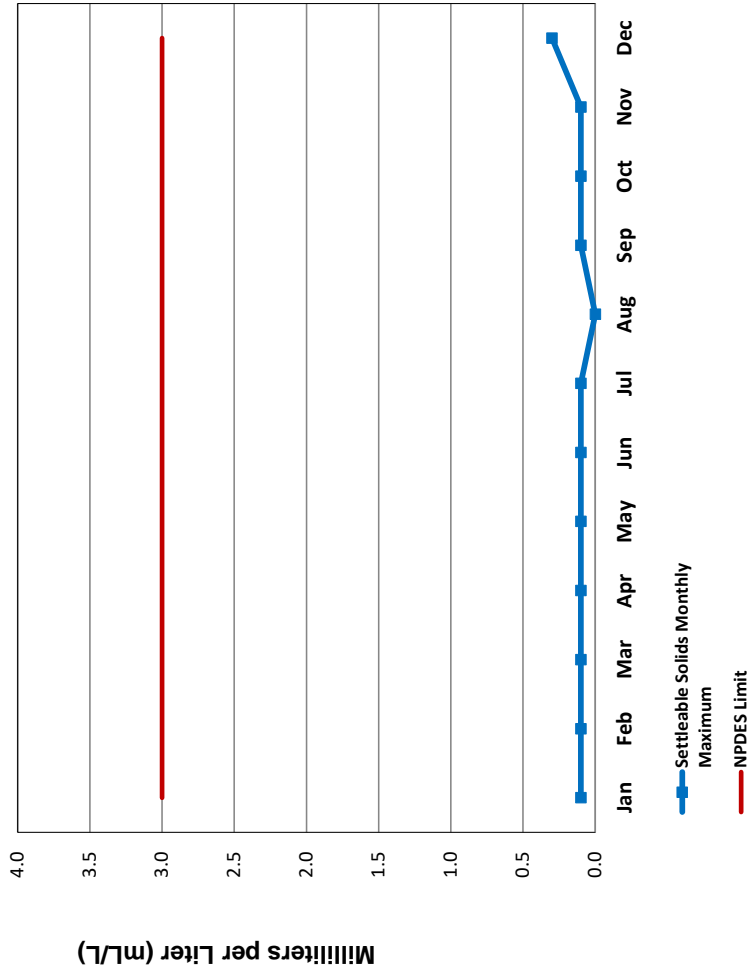


Month	TSS lbs/day	TSS NPDES Permit Upper Limit	CBOD ₅ lbs/day	CBOD ₅ NPDES Permit Upper Limit
Jan	38	380	17	310
Feb	21		13	
Mar	20		16	
Apr	23		14	
May	26		16	
Jun	15		13	
Jul	25		22	
Aug	15		13	
Sep	21		16	
Oct	25		18	
Nov	21		25	
Dec	23		18	
AVG	23		17	



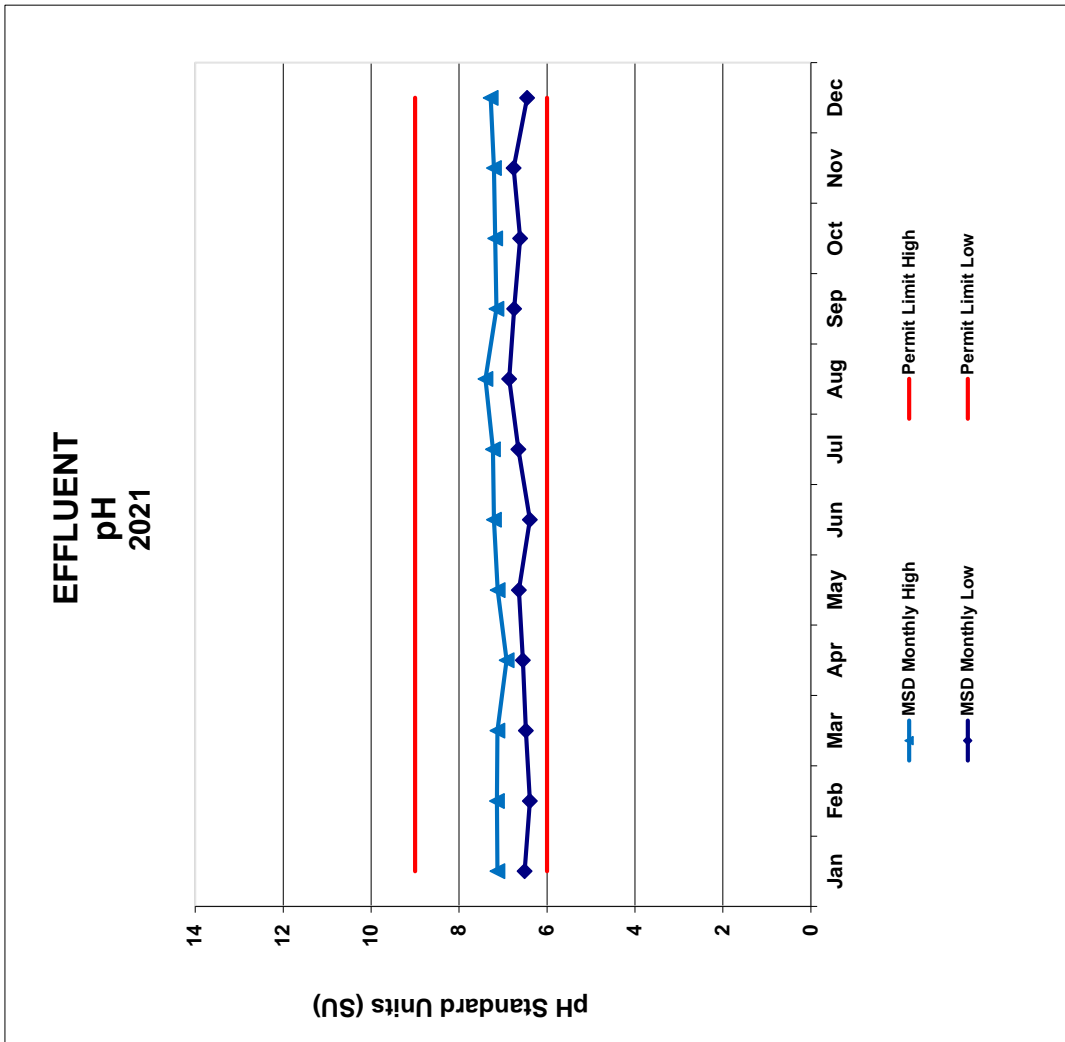
Month	NPDES PERMIT LOWER LIMIT %	TSS Average Percent Removal %	NPDES PERMIT LOWER LIMIT %	CBOD ₅ Average Percent Removal %
Jan	85	99	85	99
Feb		99		
Mar		99		
Apr		99		
May		99		
Jun		99		
Jul		98		
Aug		99		
Sep		98		
Oct		98		
Nov		99		
Dec		99		
AVG		99		99

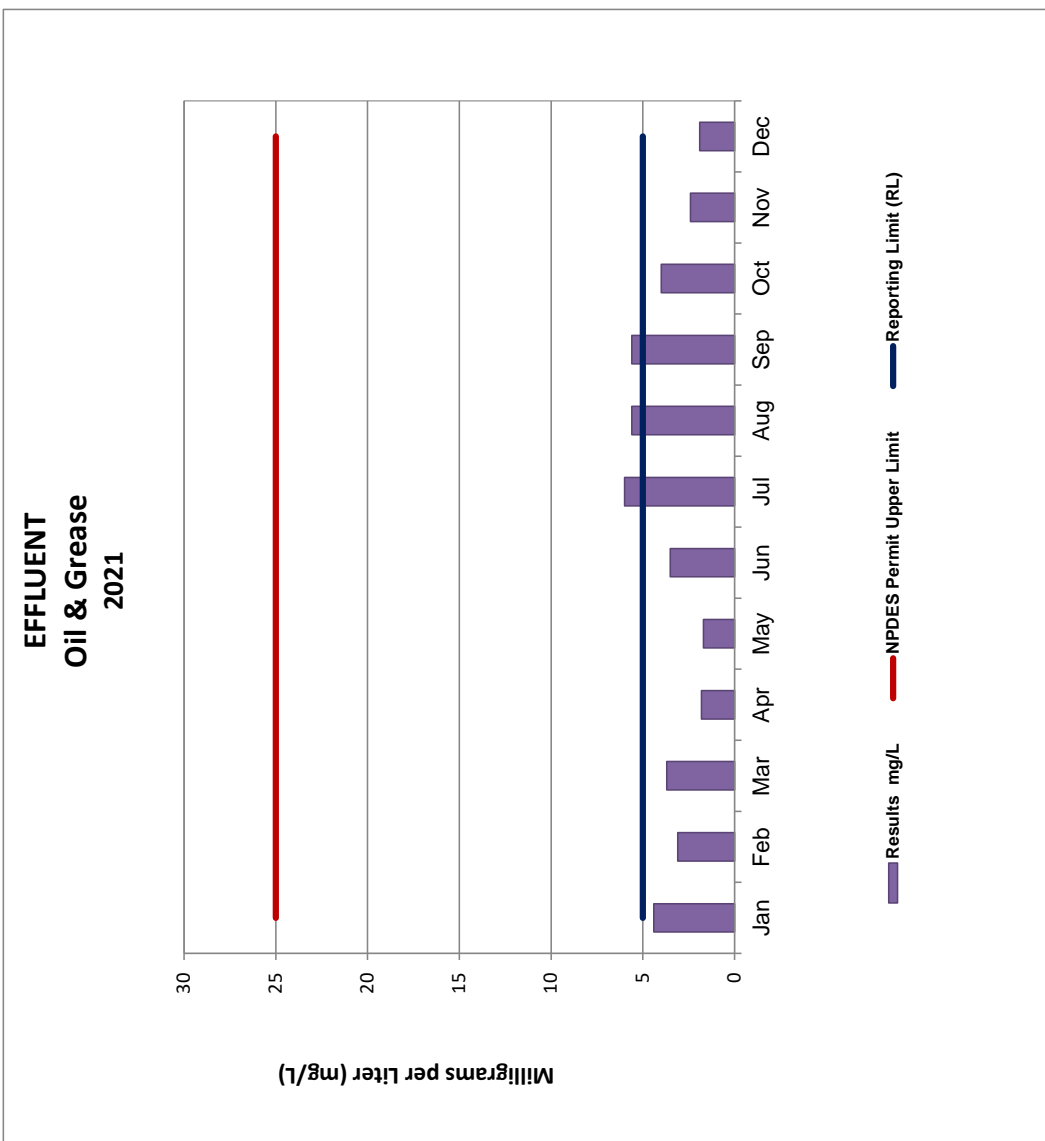
**EFFLUENT
 Settleable Solids
 Monthly Maximum
 2021**



Month	NPDES Permit Limit mL/L	Monthly Maximum mL/L
Jan	3.0	0.1
Feb		<0.1
Mar		0.1
Apr		0.1
May		<0.1
Jun		0.1
Jul		0.1
Aug		<0.1
Sep		<0.1
Oct		<0.1
Nov		0.1
Dec		0.3

Month	MSD Monthly Low	NPDES Low Limit	MSD Monthly High	NPDES High Limit
Jan	6.51	6.0	7.13	9.0
Feb	6.39		7.14	
Mar	6.48		7.13	
Apr	6.55		6.92	
May	6.64		7.12	
Jun	6.39		7.21	
Jul	6.65		7.23	
Aug	6.86		7.40	
Sep	6.75		7.15	
Oct	6.61		7.18	
Nov	6.76		7.21	
Dec	6.45		7.28	
Avg	6.59		7.18	

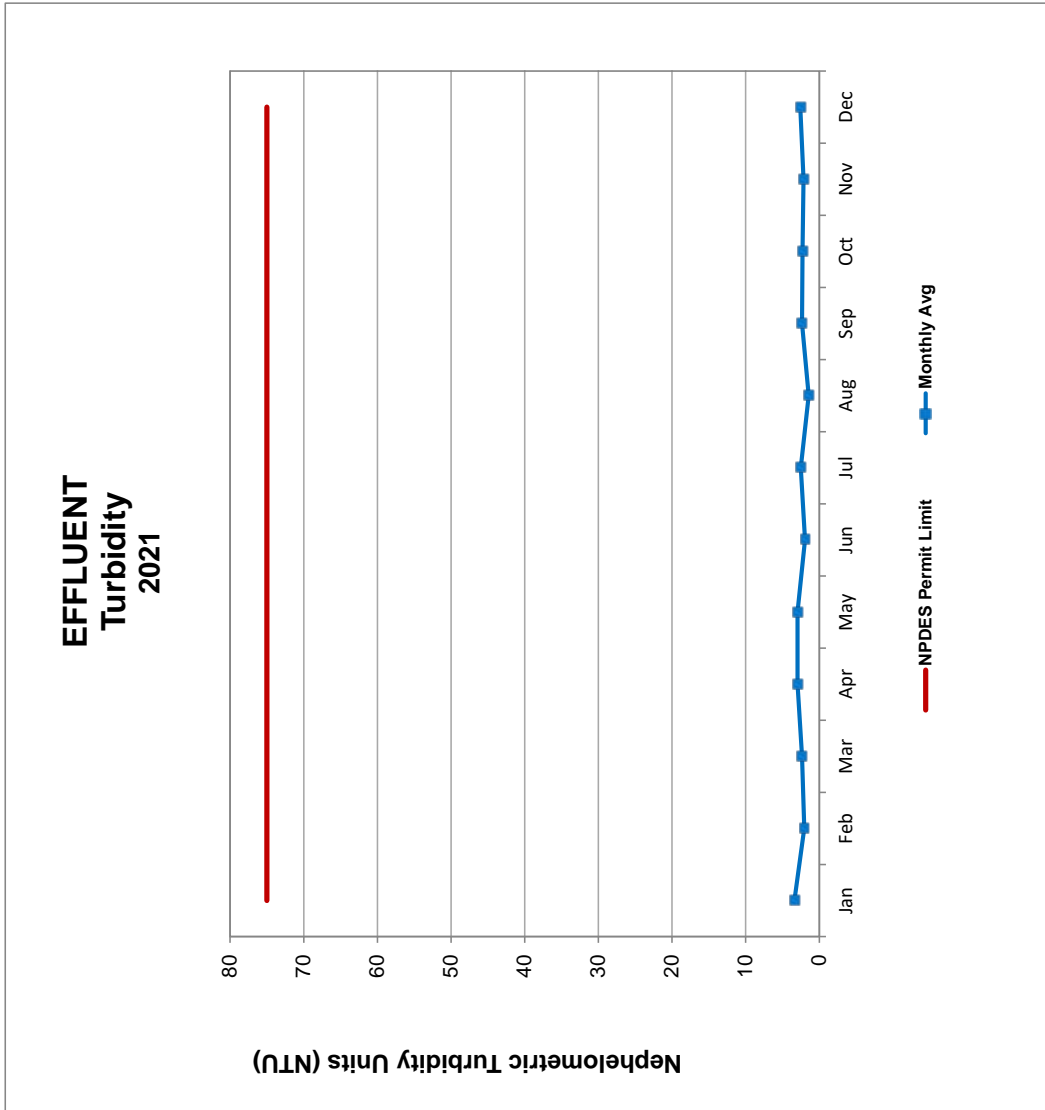




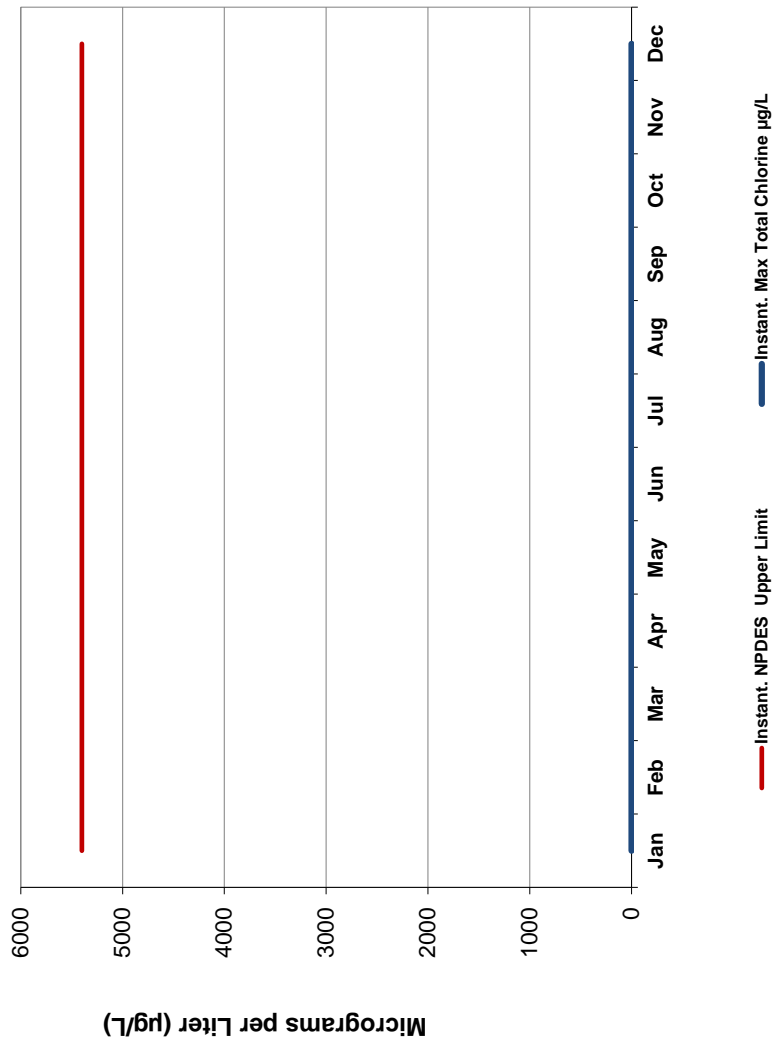
Month	Oil & Grease		
	Results mg/L	RL	NPDES Limit
Jan	DNQ 4.4	5.0	25
Feb	DNQ 3.1		
Mar	DNQ 3.7		
Apr	DNQ 1.8		
May	DNQ 1.7		
Jun	DNQ 3.5		
Jul	6.0		
Aug	5.6		
Sep	5.6		
Oct	DNQ 4.0		
Nov	DNQ 2.4		
Dec	DNQ 1.9		

Does Not Quantify (DNQ) means the reported value is greater than the MDL of 1.4mg/L and less than the RL.

Turbidity - NTU		
Month	NPDES Limit	Monthly Avg
Jan	75	3.39
Feb		2.03
Mar		2.36
Apr		2.96
May		2.97
Jun		1.96
Jul		2.51
Aug		1.45
Sep		2.36
Oct		2.28
Nov		2.16
Dec		2.60
AVG		2.42



**FINAL EFFLUENT
 Total Chlorine Residual - Instantaneous Max (Grab) 2021**



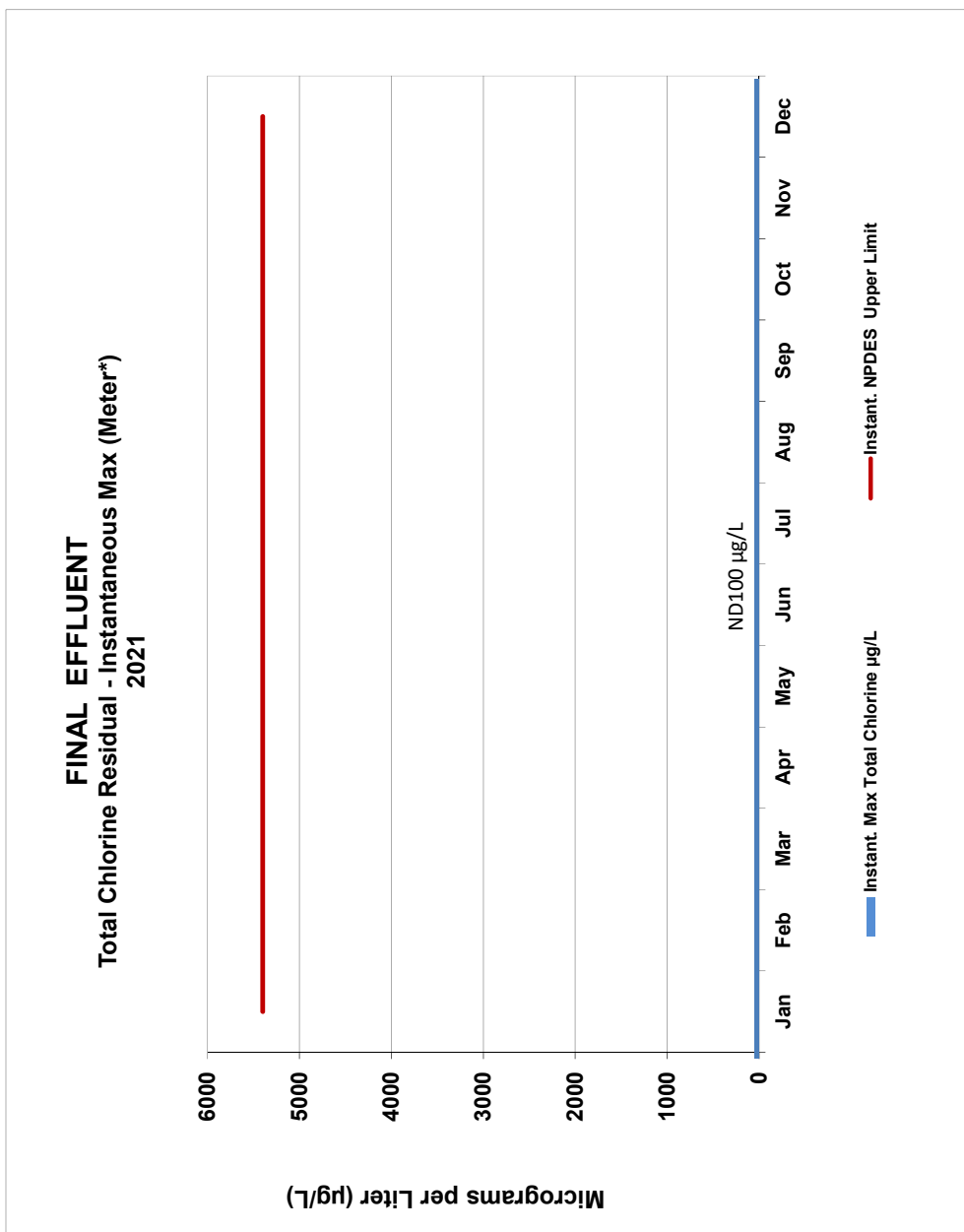
Month	Instant. NPDES Upper Limit	Instant. Max Total Chlorine µg/L
Jan	5400	ND100
Feb		ND100
Mar		ND100
Apr		ND100
May		ND100
Jun		ND100
Jul		ND100
Aug		ND100
Sep		ND100
Oct		ND100
Nov		ND100
Dec		ND100

ND100 means the value is less than the Minimum Detection Limit (MDL) or 100 µg/L.

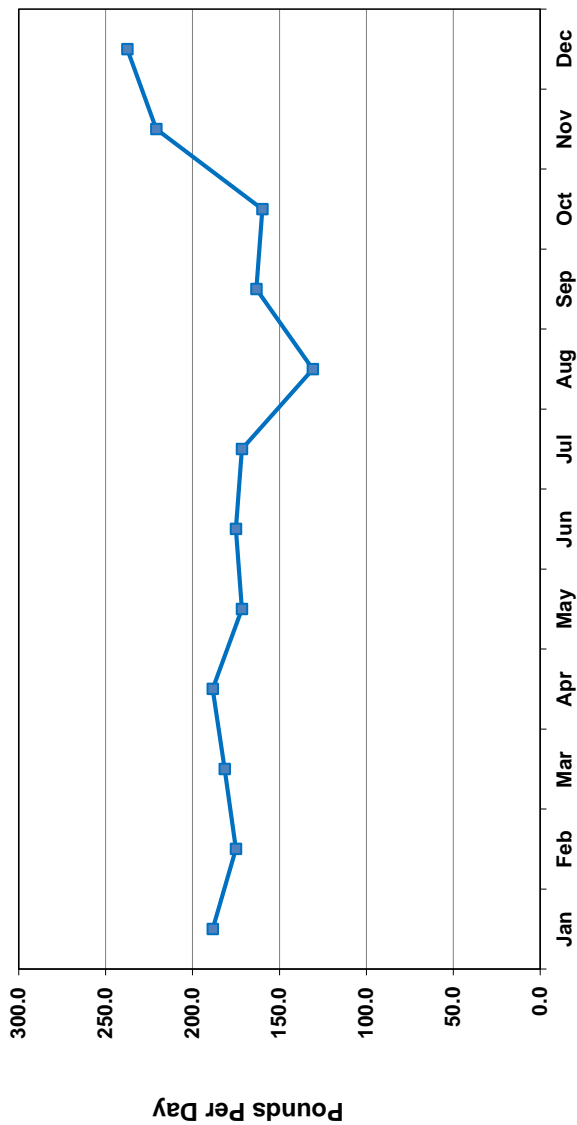
Month	NPDES Instant. Upper Limit µg/L	Instant. Max Total Chlorine µg/L
Jan	5400	ND100
Feb		ND100
Mar		ND100
Apr		ND100
May		ND100
Jun		ND100
Jul		ND100
Aug		ND100
Sep		ND100
Oct		ND100
Nov		ND100
Dec		ND100

**"Meter" refers to instrumentation that continuously monitors and analyzes data.

ND100 means the value is less than the Minimum Detection Limit (MDL) of 100 µg/L.

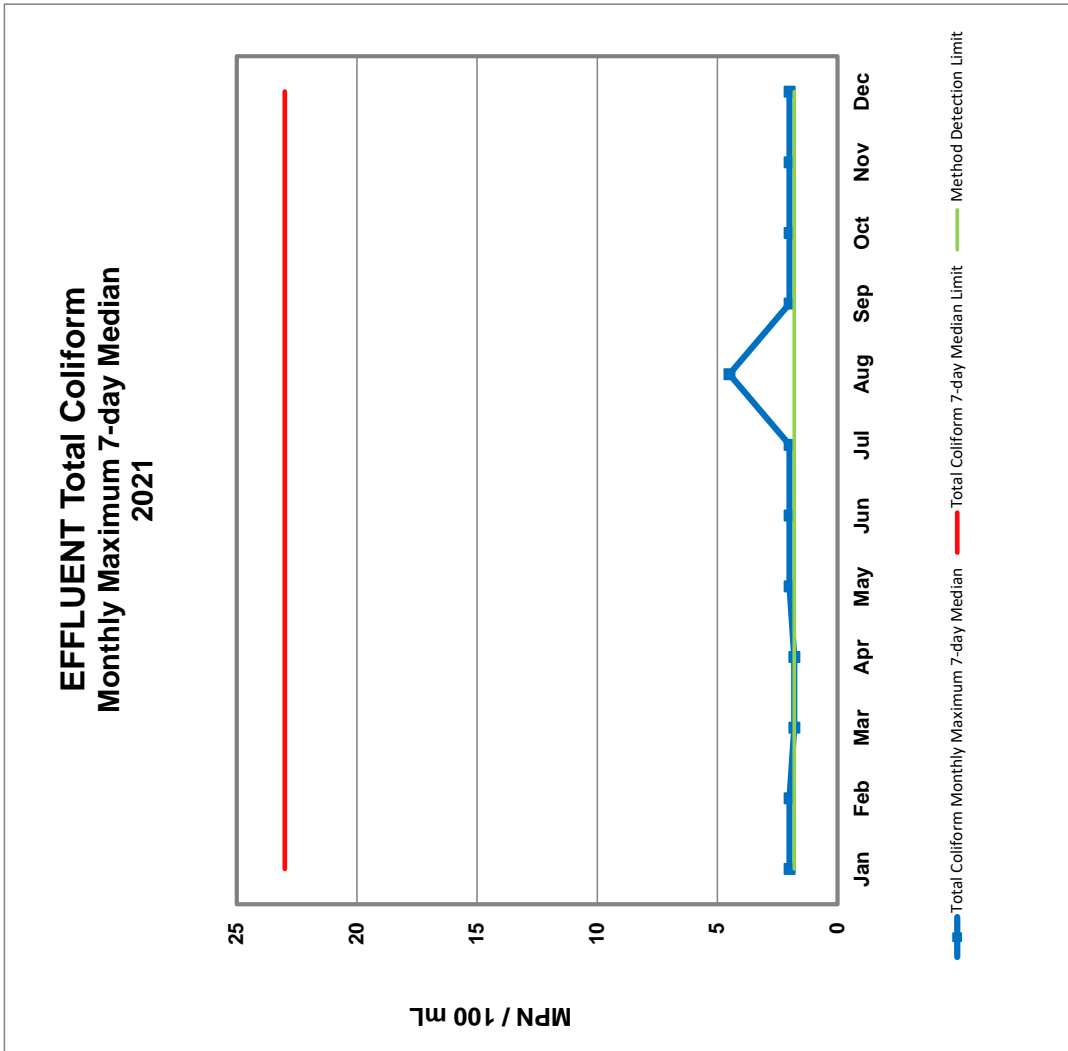


**EFFLUENT
 Chlorine Used
 2021**

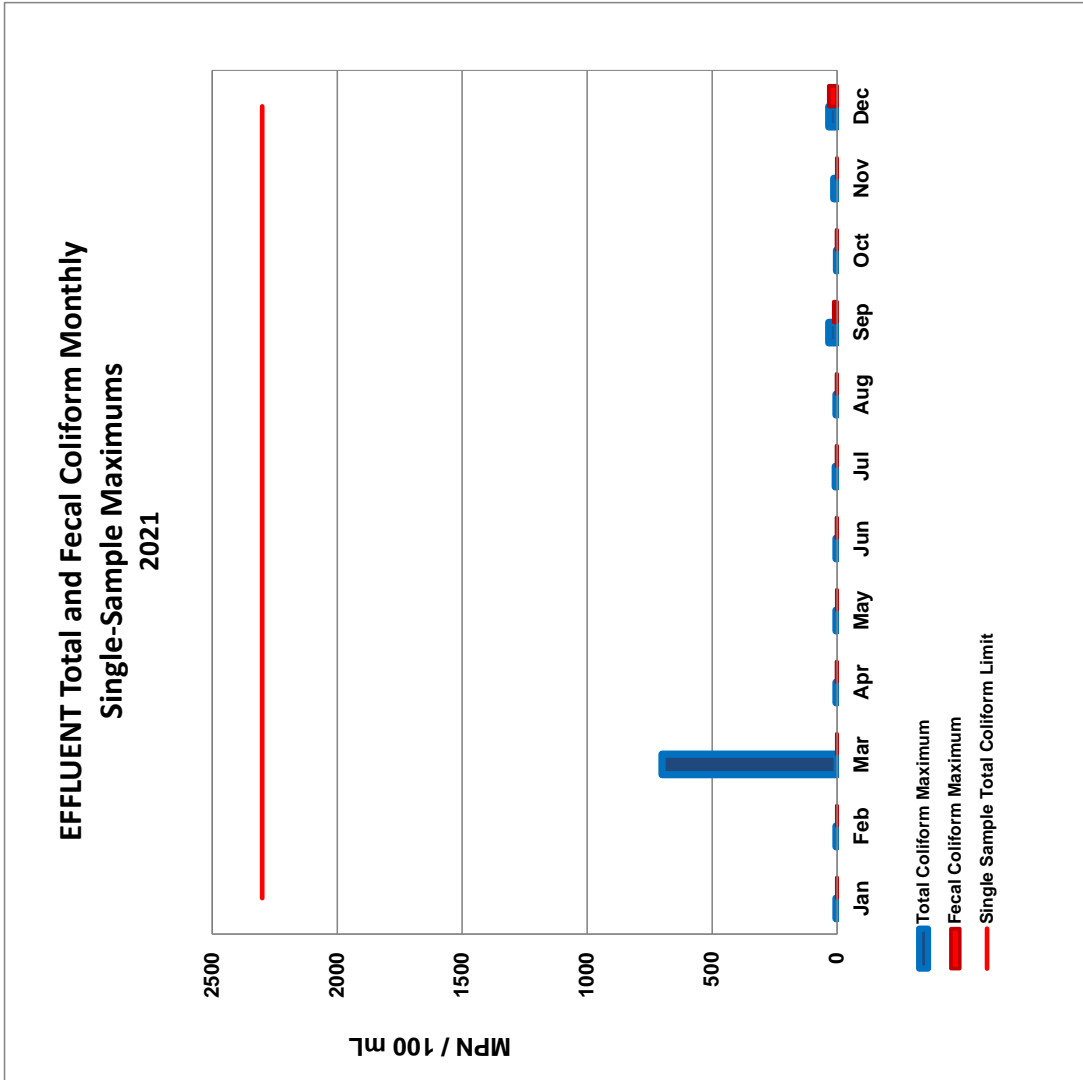


Month	Chlorine Used lbs/day
Jan	188.4
Feb	175.1
Mar	181.5
Apr	188.5
May	171.6
Jun	175.1
Jul	171.6
Aug	130.8
Sep	163.3
Oct	159.9
Nov	220.9
Dec	237.6
AVG	180.4

MPN/100mL		Total Coliform 7-day Median Limit	Method Detection Limit
Month	Total Coliform Monthly Maximum 7- day Median		
Jan	2.0	23	1.8
Feb	2.0		
Mar	1.8		
Apr	1.8		
May	2.0		
Jun	2.0		
Jul	2.0		
Aug	4.5		
Sep	2.0		
Oct	2.0		
Nov	2.0		
Dec	2.0		

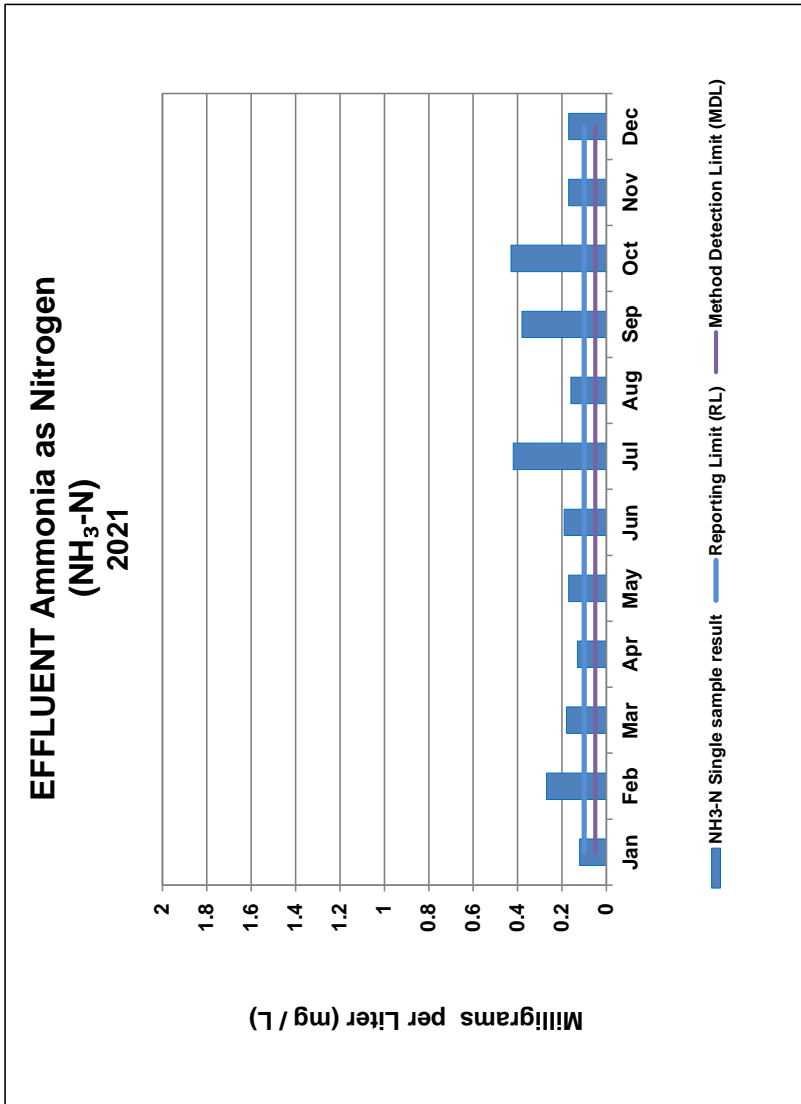


Month	MPN/100mL			Total Coliform Single Sample Limit
	Total Coliform Monthly Maximum	Fecal Coliform Monthly Maximum		
Jan	4.5	1.8		2300
Feb	4.5	1.8		
Mar	700	1.8		
Apr	4.5	2.0		
May	4.5	1.8		
Jun	4.5	2.0		
Jul	7.8	2.0		
Aug	4.5	2.0		
Sep	33	13		
Oct	2.0	2.0		
Nov	13	1.8		
Dec	33	33		



Ammonia / NH - N			
Results	Method Detection Limit (MDL)	Reporting Limit (RL)	NPDES Permit Limit
mg/L	mg/L	mg/L	mg/L
Jan	0.12	0.10	NA
Feb	0.27		
Mar	0.18		
Apr	0.13		
May	0.17		
Jun	0.19		
Jul	0.42		
Aug	0.16		
Sep	0.38		
Oct	0.43		
Nov	0.17		
Dec	0.17		

Note: MDL is the lowest value measured that is distinguishable above a blank. The RL is the value below which data cannot be reported with accuracy.



Tabular Data for 2021 Summary Report

2021 Month	INFLUENT						
	Monthly Total Flow MG	Avg Inst Peak MGD	Avg Flow MGD	Avg TSS mg/L	Avg TSS lbs/day	Avg CBOD ₅ mg/L	Avg CBOD ₅ lbs/day
Jan	20.0	1.44	0.645	736	3953	434	2331
Feb	17.1	1.32	0.612	596	3092	407	2111
Mar	19.0	1.39	0.613	454	2413	299	1591
Apr	18.7	1.76	0.624	670	3561	339	1785
May	18.8	1.53	0.608	427	2108	238	1224
Jun	17.7	1.24	0.589	530	2444	271	1306
Jul	18.4	1.21	0.595	299	1445	247	1194
Aug	18.6	1.26	0.599	283	1426	366	1844
Sep	17.6	1.21	0.588	323	1565	310	1502
Oct	18.4	1.44	0.593	316	1563	270	1335
Nov	17.7	1.43	0.590	380	1860	210	1028
Dec	21.82	1.77	0.704	401	2,186	287	1,556
AVG	18.7	1.77	0.613	451	2120	306	1430
TOTALS	224						

Total Rain Inches	FINAL EFFLUENT							Avg Monthly TSS % Removal
	Total Monthly Flow MG	Avg Inst Peak Flow MGD	Max Flow MGD	Avg Flow MGD	Avg TSS mg/L	Avg TSS lbs/day	Avg Monthly TSS % Removal	
2.87	17.67	1.105	0.844	0.570	8.1	38	99	
0.01	14.89	1.032	0.646	0.532	4.8	21	99	
1.04	16.80	1.099	0.622	0.542	4.4	20	99	
0.00	16.22	1.135	0.576	0.541	5.1	23	99	
0.06	16.27	1.070	0.583	0.525	6.0	26	99	
0.06	15.17	1.032	0.548	0.506	3.7	15	99	
0.01	16.19	0.983	0.569	0.522	5.6	25	98	
0.06	15.93	0.981	0.560	0.514	3.5	15	99	
0.05	15.46	0.981	0.551	0.515	4.8	21	98	
1.16	16.37	0.978	0.662	0.528	5.5	25	98	
0.08	16.09	1.080	0.846	0.536	4.7	21	99	
8.85	19.94	1.257	1.670	0.643	4.6	23	99	
14.25	16.42	1.061	0.723	0.539	5.1	30	98	
	197.0							

Tabular Data for 2021 Summary Report

FINAL EFFLUENT																				
2021 Month	Avg CBOD ₅ mg/L	Avg CBOD ₅ lbs	Avg CBOD ₅ % Removal	NH3-N mg/L	NH3-N lbs/day	O & G mg/L	O & G lbs/day	Avg Turb NTU	pH High SU	pH Low SU	Maximum Effluent Cl2 (Grab) µg/L	Avg Cl ₂ mg/L Before Dechlor	Avg Cl ₂ Total lbs/day	Maximum Temp °F	Max Total Coliform MPN	Total Coliform Max Median MPN/100	Fecal Coliform Maximum MPN/100mL	Maximum Effluent Cl2 (Meter) µg/L	Maximum Settleable Solids mL/L	
Jan	3.64	17	99	0.12	0.57	DNQ 4.4	DNQ 21	3.39	7.13	6.51	ND100	19.99	188.4	67.6	4.5	2.0	1.8	ND100	0.1	
Feb	3.03	13	99	0.27	1.2	DNQ 3.1	DNQ 14	2.03	7.14	6.39	ND100	19.53	175.1	67.1	4.5	2.0	1.8	ND100	<0.1	
Mar	3.41	16	99	0.18	0.88	DNQ 3.7	DNQ 17	2.36	7.13	6.48	ND100	19.60	181.5	68.7	700	1.8	1.8	ND100	0.1	
Apr	3.09	14	99	0.13	0.61	DNQ 1.8	DNQ 8.0	2.96	6.92	6.55	ND100	19.41	188.5	71.8	4.5	1.8	2.0	ND100	0.1	
May	3.66	16	98	0.17	0.79	DNQ 1.7	DNQ 7.0	2.97	7.12	6.64	ND100	16.75	171.6	72.9	4.5	2.0	1.8	ND100	<0.1	
Jun	3.00	13	99	0.19	0.81	DNQ 3.5	DNQ 15	1.96	7.21	6.39	ND100	15.13	175.1	76.1	4.5	2.0	2.0	ND100	0.1	
Jul	5.07	22	98	0.42	1.83	6.0	26	2.51	7.23	6.65	ND100	11.61	171.6	77.5	7.8	2.0	2.0	ND100	0.1	
Aug	2.92	13	99	0.16	0.69	5.6	24	1.45	7.40	6.86	ND100	10.10	130.8	78.1	4.5	4.5	2.0	ND100	<0.1	
Sep	3.68	16	99	0.38	1.59	5.6	23	2.36	7.15	6.75	ND100	14.11	163.3	77.7	33	2.0	13	ND100	<0.1	
Oct	4.03	18	99	0.43	1.89	DNQ 4.0	DNQ 18	2.28	7.18	6.61	ND100	17.36	159.9	75.4	2.0	2.0	2.0	ND100	<0.1	
Nov	5.77	25	95	0.17	0.75	DNQ 2.4	DNQ 11	2.16	7.21	6.76	ND100	18.44	220.9	73.2	13	2.0	1.8	ND100	0.1	
Dec	3.56	18	99	0.17	0.78	DNQ 1.9	DNQ 9	2.60	7.28	6.45	ND100	20.31	237.6	70.9	33	2.0	33	ND100	0.3	
AVG	3.74	17	99					2.42	7.18	6.59		16.86	180.4	73.1						

MONTECITO SANITARY DISTRICT

Collection System Maintenance and Renovation Program 2021

OBJECTIVE

To reduce Sanitary Sewer Overflows (SSO's), increase system reliability, optimize service life of all collection system components through continued systematic assessment and maintenance, and plan for future facility rehabilitation and/or replacement.

GOALS – SHORT AND LONG TERM

Short Term:

1. Continue a systematic maintenance program based on past years' data to prevent SSO's. Identify lines that need to be evaluated by Closed Circuit Television (CCTV) using the NASSCO pipe rating system.
2. Continue a systematic CCTV program based on the pipeline segment ratings to identify intrusion of roots, grease and/or structural defects and check on the effectiveness of the District's cleaning procedures and equipment.
3. Continue to implement a source control program to regulate and reduce Fat, Oil, and Grease (FOG) in the Sewer System and to Require Fat, Oil, and Grease Removal Devices for commercial food preparation facilities (District Ordinance No. 13).
4. Continue to enhance the District's Geographic Information System (GIS) of the collection system piping, including routine updating of the District's maintenance activities consisting of cleaning, CCTV, and manhole inspection.
5. Continue to repair collection system facilities when and if damage is found during regular CCTV'ing activities.
6. Rehabilitate pipe sections that have been identified as needing repair/replacement.
7. The District's Fiscal Year 2020-21 funding for the Private Lateral Rehabilitation Program was \$50,000. The Board voted and approved to discontinue this program effective December 31, 2021.
8. Continue a proactive lift station maintenance program consisting of de-ragging pumps, exercising valves, maintaining backup generators at each of the lift stations.

MONTECITO SANITARY DISTRICT
Collection System Maintenance & Renovation Program – 2021

Long Term:

1. Clean and CCTV the entire collection system for inspection and condition assessment purposes. Complete this condition assessment using the District owned and operated CCTV equipment in accordance with the NASSCO pipe rating system for each line segment.
2. Repair, rehabilitate (reline) and/or replace District vitrified clay pipe (VCP) pipelines as determined necessary by the NASSCO rating.
3. Rehabilitate and replace manholes as determined necessary.
4. Continue to investigate the inflow and infiltration issues that may still exist within the District.

ACTIONS COMPLETED IN 2021

1. District staff performed CCTV inspection of approximately 10.6 miles of District pipeline.
2. District staff cleaned approximately 87.5 miles of collection system piping.
3. Promoted and provided financial incentive for the rehabilitation/replacement of private sewer laterals. In 2021, thirty (30) property owners participated in the Private Lateral Rehabilitation Program by replacing or repairing their deteriorated or damaged laterals. The District issued rebates for a total of \$62,961 to property owners for these repairs.
4. Due to County Road and private drive overlays, 72 manholes were raised to grade at various locations for a total of \$213,768.
5. The District completed sewer main repairs to 80 feet of the District's mainlines for a total cost of \$30,643.
6. On October 28, 2021, a contract was awarded to Tierra Contracting for the construction of the sewer main extension in Lilac Drive/Oak Grove Drive for a cost of \$2,036,855. Work to commence in early 2022.
7. A Notice of Completion was approved by the Board on November 18, 2021 for the Riven Rock Low Pressure Sewer Force Main Project for a total cost of \$378,166.23.

MONTECITO SANITARY DISTRICT
Collection System Maintenance & Renovation Program – 2021

2021 SANITARY SEWER OVERFLOW (SSO) REPORT SUMMARY

PRIVATE

1. 05/14/21 – 202 Olive Mill Road
Property line cleanout for a private sewer lateral overflowed and resulted in a spill of approximately 8 gallons. The property owner's plumber called the District Office requesting a grate to be set in order to clear a private lateral blockage. Upon arrival, Collections Crew identified that wastewater had discharged from the cleanout in the driveway and into a drainage channel. At that time, the District issued a written notice to the owner requiring a CCTV inspection of their private sewer lateral to determine if repairs are required. A video inspection of the sewer lateral was performed on 5/15/21 and found the lateral was all clear and in good condition.
2. 08/10/21 – 815 Hot Springs Road:
Property line cleanout for a private sewer lateral overflowed and resulted in a spill of approximately 22 gallons. Upon arrival, Collections Crew identified that wastewater had discharged and left the property and entered the public right of way. At that time, the District issued a written notice to the owner requiring a CCTV inspection of their private sewer lateral to determine if repairs are required. A video inspection was performed on 11/4/20 and the owner was notified that replacement of the entire sewer lateral was required from the Residence to the District mainline due to root intrusion.
3. 08/28/21- 329 San Ysidro Lane:
Property line cleanout for a private sewer lateral overflowed and resulted in a spill of approximately 17 gallons. Upon arrival, Collections crew found the cleanout in the private drive had overflowed down the driveway and along the public right-of-way. District staff disinfected the affected area, and issued a written notice to the owner requiring a CCTV of the entire sewer lateral to determine the cause of the blockage. Property is in the process of replacing sewer lateral due to construction plan approval.

DISTRICT

CIWQS Spill Event ID: 872247 – Category 1; 116 gallons 1649 Posilipo Lane; 02/19/21 Resident called in a sewer manhole overflowing at the District's Lift Station #4 on Posilipo Lane. Upon arrival, District staff determined the wastewater was coming from a force main by-pass valve located within vault, which entered a drainage channel. The force main was isolated and drained and the area was cleaned and disinfected. SSO was simulated on 2/16/21 to verify amount and the by-pass valve was replaced.

MONTECITO SANITARY DISTRICT

Mission, History and Future Goals

OUR MISSION

To provide the residents of Montecito with a community service commitment to protect public health and to preserve the natural environment through the collection, treatment, and disposal of wastewater in the most cost-effective way possible; and

To meet all regulatory discharge requirements as directed by Local, State, and Federal agencies.

OUR BACKGROUND

The Montecito Sanitary District (MSD) is an independent special district voted into existence in 1947 by the residents of Montecito. A few highlights of MSD's history include the following:

- 1947: The Montecito Sanitary District was voted into existence by the residents.
- 1947-1960: The community worked toward implementation of service by approving a bond issuance, selecting a plant site, and establishing a District boundary.
- 1960: A \$900,000 bond issuance was passed to build a 750,000-gallon per day extended aeration secondary treatment plant, an ocean outfall, and trunk sewer system.
- 1961-1969: Six assessment districts were formed to finance the installation of 70 miles of collection system pipelines.
- 1981: Voters approved a \$3.1 million revenue bond issuance to incorporate new technology and expand the plant's capacity to 1.5 MGD.
- 1982-1999: A second activated sludge reactor basin was added to the treatment plant; two additional secondary clarifiers were constructed; the volume of the aerobic digester was increased; a dissolved air flotation thickener and a belt filter press were installed; a second chlorine contact chamber was constructed along with a de-chlorination chamber; a 250 KW emergency generator was installed at the treatment plant. In the mid 1990's, sodium hypochlorite and sodium bisulfite liquids, replaced gaseous chlorine and sulfur dioxide for safety reasons.

MONTECITO SANITARY DISTRICT

Mission, History and Future Goals -- Continued

- 2000-2006: The District completed the following capital improvement projects: bulk chemical storage tanks were replaced with larger, double wall containment with earthquake restraints; six new disinfection chemical feed pumps for sodium hypochlorite and sodium bisulfite were installed; a paperless data trend process recorder was installed; an aeration system optimization project was completed, the laboratory was upgraded; the influent pump station was replaced, increasing the station's pumping capacity from 3.5 MGD to 5.0 MGD; a SCADA control center was implemented and a new 3,600 square foot maintenance building was constructed.
- 2007-2008: Board of Directors approved "mission critical" capital improvement projects totaling \$11 million. The District issued Certificates of Participation (COP's) to fund the capital program. A new SCADA server with future expandability was put online for the influent pump station control; the waste activated sludge pump was replaced; the aeration air header was replaced with a new stainless steel pipe; purchased a new 125 KW portable emergency generator, the Posilipo Lift Station (Lift Station No. 4) was refurbished including the replacement of the existing 6" dual force mains with dual 8" lines and a new fully redundant pumping system (three new pumps) was installed along with an automatic switch over to generator power.
- 2009-2010: Replacement of the influent channel grinders increasing flow volume from 3.5 mgd to 6.0 mgd; secondary clarifiers (3 & 4) and the effluent channel were refurbished. Completed the refurbishment of two motor control centers (MCC) and replacement of another (MCC); installation of a new 450 KW emergency diesel powered generator providing 100 percent power to the treatment plant and associated facilities during main power outages. The new laboratory building design and site grading was completed in the fall of 2010.
- 2011-2012: The new laboratory building construction was completed. Upgrades to the treatment plant SCADA monitoring system and additional essential treatment plant equipment was added to the SCADA system. An after-hours alarm notification system was added to the SCADA system as the primary notification system with the existing auto dialer (ADA) becoming the back up. Three effluent disinfection chemical dosing pumps were replaced with new pumps.
- 2012-2013 Refurbishment of all four Secondary Clarifiers; installation of two new sodium hypochlorite chemical feed pumps and one sodium bisulfite chemical feed pump; all three Influent Pumps were retrofitted with new high chrome impellers and volutes and the Influent Variable Frequency Drive motors were replaced with new energy efficient units. Capital projects included the remodel of the former lab into an Operations Control Center; the refurbishment of the Belt Filter Press System; the

MONTECITO SANITARY DISTRICT

Mission, History and Future Goals -- Continued

replacement of the sodium hypochlorite and sodium bisulfite analyzers and the replacement of a 3,000-gallon hypochlorite tank.

- 2014-2015: Preventative maintenance was completed on the Secondary Treatment Clarifiers No. 2 and No. 3; the Aeration Basin Blower No.1 and the Belt Press. The Influent grinders at the wastewater treatment plant were replaced. The District Laboratory received accreditation by California ELAP, effective June 1, 2015. Subsequently, the District added coliform analyses by method SM9221B, E to its list of approved laboratory tests. Completed the installation of Mission boxes at the treatment plant for the internet SCADA system to monitor flows.
- 2016–2017: The District completed the Plant Paving and Resurfacing project, the Aeration Air Header Replacement project, installed new swing-fusers in the Aeration Basin. Purchased a new plant air compressor. Capital Improvement Projects included repairs to the air headers in Aeration Basin #1, replacement of the meter and metering pump on the sodium hypochlorite tank, and impeller replacement at Lift Station 4 pumps.
- 2018: The District endured the tragic January 9th Thomas Fire Debris Flow event. On July 31, 2018, the MSD Board of Directors approved a Purchase Order contract with IDE Technologies for the design, manufacturing and delivery of an ultrafiltration and reverse osmosis recycled water pilot project.
- 2019: Completed rough grading for the Essential Services Building (ESB); the ESB design was completed and went out for bid in April; the MSD Board awarded the ESB construction contract to Menemsha Development Group in June. Construction was postponed due to County issues. The Dissolved Air Flootation Thickener (DAFT) was installed by District staff working in conjunction with Cushman Contracting; the Recycled Water Pilot Project skid-mounted ultrafiltration and reverse osmosis systems were delivered, commissioned, and put into operation in September.
- 2020: Operation and analysis of the Recycled Water Pilot Project continued throughout the entire year. The design of a Recycled Water Project to serve the irrigation needs of the Santa Barbara Cemetery was put on hold due to continued discussions with Montecito Water District and approval of the MSD Coastal Development Plan. The MSD Coastal Development Plan including the proposed recycled water treatment facilities, solar panel structures, and the MSD Essential Services Building was approved by the Montecito Planning Commission, but was appealed by the Montecito Water District therefore these projects were put on hold.
- 2021: Operation of the Recycled Water Pilot Project was put on hold by direction of the Board of Director's. The Essential Services Building Contract was cancelled by the

MONTECITO SANITARY DISTRICT
Mission, History and Future Goals -- Continued

direction of the Board of Directors and the project put on hold indefinitely. Construction of the Riven Rock Low Pressure Sewer Force Main project was completed. Completed replacement of one of the influent channel grinders. On December 18, 2021, the Board authorized staff to issue a purchase order for a new Fork Lift.

- 2022: Current / Future District Projects include the following:
 - Continue design for the relocation of the 12" gravity main that crosses Highway 101 due to the conflicts with the proposed highway bridge at Oak Creek.
 - Construction of the Lilac/Oak Grove sewer main extension to be completed in 2022.
 - Continue design of the East Mountain Drive/ Ashley Road sewer extension.
 - Continue design of the electrical rehabilitation project to replace the original electrical motor control centers continued from 2021.
 - On November 18, 2021, the Board of Directors approved a contract for the roof replacement of the District's Board Room and Administration/Operations Buildings. Project to be completed early 2022.
 - A Request for Proposals for the design of a sewer main extension in Alisos Road was approved by the Board of Directors on December 16, 2021.

Montecito Sanitary District

Annual Ocean Outfall

Diver Survey Report

August 30th, 2021



29 North Olive Street

Ventura, California 93001

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Introduction

Background

Aquatic Bioassay conducted an underwater dive survey and video of Montecito Sanitary Districts ocean outfall and diffuser on August 30th, 2021. The purpose of the survey was to inspect the physical integrity of the outfall pipe and note any impediments to flow from the diffuser ports. A copy of the dive video is included with this report.

Objectives

The outfall survey is designed to address the following requirements in the NPDES permit:

‘At least once per year the Discharger shall visually inspect the entire outfall and diffuser structure (e.g., divers) to note its structural integrity and any cracks, breaks, leaks, plugged ports, or other actual or potential malfunctions. The outfall inspections will also check for possible external blockage of ports by sand and/or silt deposition. The Discharger shall report all findings and actions, including any observed cracks, breaks, or malfunctions to the Executive Officer in the applicable annual report. The month for inspection specified by the Discharger shall be a month of good underwater visibility.’

Materials and Methods

Divers, using a GoPro Hero 5 enclosed in an underwater housing, conducted the survey. Once the outfall had been located by global positioning (GPS) and bottom finder, a buoy, attached to a line and a weight, was deployed over the side. Divers entered the water, descended the line, swam to the diffuser terminus, and began videotaping.

The footage was downloaded to computer files, and edited using Adobe Premiere software, then transferred to USB flash drive. The diver’s observations and video were reviewed by the survey team to assess conditions of the outfall. The video is arranged from the deepest part of the dives (outfall terminus) to the shallowest part of the survey (outfall beginning).

Results

Station Event and Sea State Conditions

The 2021 outfall dive survey was conducted aboard the research vessel *Hey Jude*. Weather conditions were calm and clear with very little wind. Swell height was 2 feet, watercolor was green, and turbidity was moderate with 6 to 8 foot visibility (Table 1).

Table 1. Station occupation and sea state condition for the 2021 outfall and diffuser inspection survey.

Outfall Inspection Station Occupation	
Date	30-Aug-2021
Depth at Terminus (ft)	32.4
Weather	Partly Cloudy
Wind Speed (kts)	3
Wind Direction	West
Air Visibility (km)	15
Watercolor	Green
Water Visibility (ft)	6 - 8
Swell Height (ft)	2
Swell Direction	Southwest
Turbidity	Moderate

Condition of Outfall Structure

The outfall extends approximately 1500 feet into the ocean where it terminates in a 100-foot section of diffuser ports where the effluent is discharged. The diffuser section of the outfall contains ten alternating lateral ports (Figure 1). The end cap, located at a depth of 32 ft, was inspected, and filmed first, and then

each lateral port of the diffuser section was filmed. The end cap of the outfall was partially buried; however the end cap was in place. The Tideflex rubber valves located on each of the ten diffuser ports were functioning properly and the port openings were 1/16th inch. The lateral and terminal ports showed considerable biological growth surrounding each port, however this growth did not appear to disrupt flow. There was no evidence of leaks, damage, erosion, holes, plugged ports, cracks or potential malfunctions observed on any part of the diffuser.

The middle section of the outfall was covered by a layer of armored rock. The armor rock bed appeared stable with little displacement throughout this section. The shallow section of the outfall lays on top of a sandy bottom and becomes covered by sand in 16 feet of water. There was some undercutting in this section of the outfall (visible on video at between approximately 11 and 13 minutes, and at approximately 14 minutes), however this was not an issue in terms of pipe integrity. There were no obvious leaks, damage, holes, cracks, or erosion in the middle and shallow section of the outfall.

Flora and Fauna

The outfall structure supports a diverse assemblage of marine species. Several species of algae were observed along the length of the outfall pipe. These included red algae (Rhodophyta), which includes encrusting red algae, bladed red algae, and Turkish towel; and brown algae (Phaeophyta), which includes the giant kelp (*Macrocystis pyrifera*).

Macroinvertebrate species observed during the 2021 outfall dive survey included tunicates, golden gorgonians (*Muricea* sp), giant sea star (*Pisaster giganteus*), sand dollars (*Dendraster exentricus*), sheep crab (*Loxorhynchus grandis*) and the California spiny lobster (*Panulirus interruptus*). Fish species observed during the survey included small unidentified young of year fish, sea perch (family Embiotocidae), kelp bass and barred sand bass (*Paralabrax clathratus* and *P. nebulifer*, respectively)

Summary and Conclusions

The end cap, diffuser section lateral ports, and ballast were visually observed and filmed by divers using a GoPro Hero 5 during the 2021 outfall inspection. Although flow was low during the survey and there was considerable attached biological growth, the ten Tideflex diffuser ports were operating as designed. The outfall and diffuser port dive survey yielded no evidence of external damage, holes, cracks, leaks or

potential malfunctions. The pipe and associated armor rock appeared stable with little or no displacement. There was some undercutting in this section of the outfall, however this was not an issue in terms of pipe integrity.

The outfall section supports a rocky reef community typical of other areas on the southern California coast.

Figure 1. Montecito outfall diffuser port pictures.

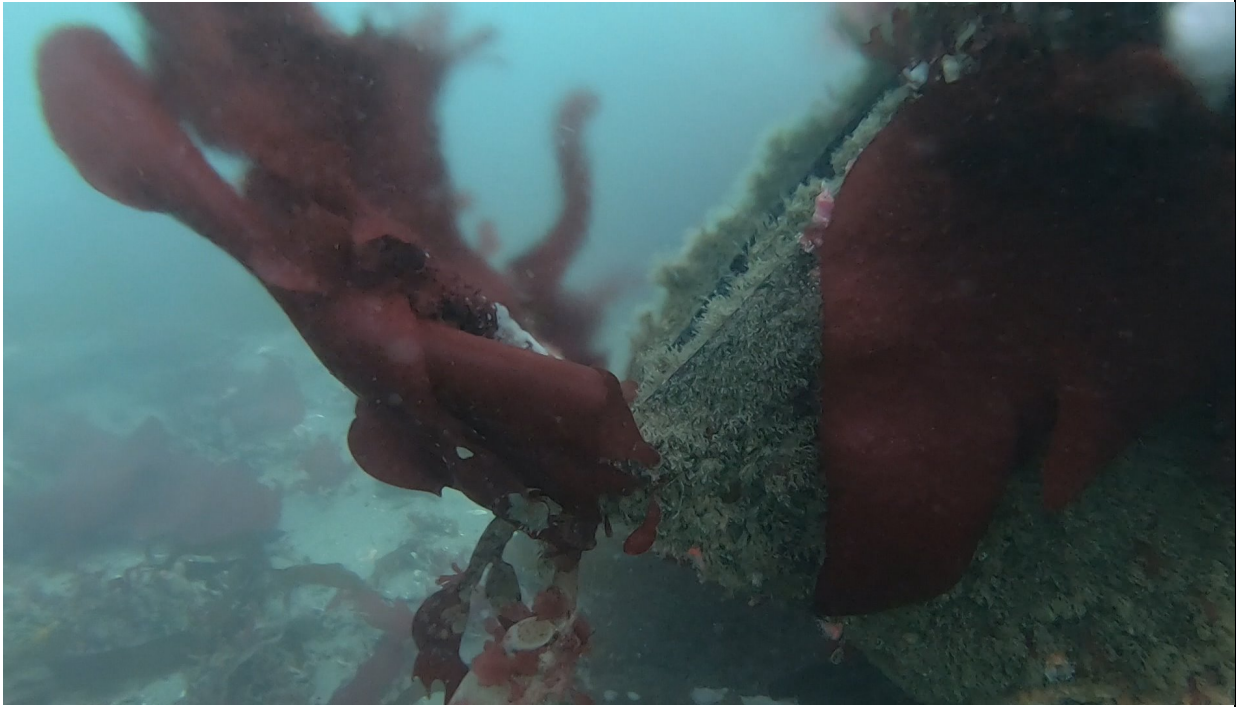
Port No. 1



Port No. 2



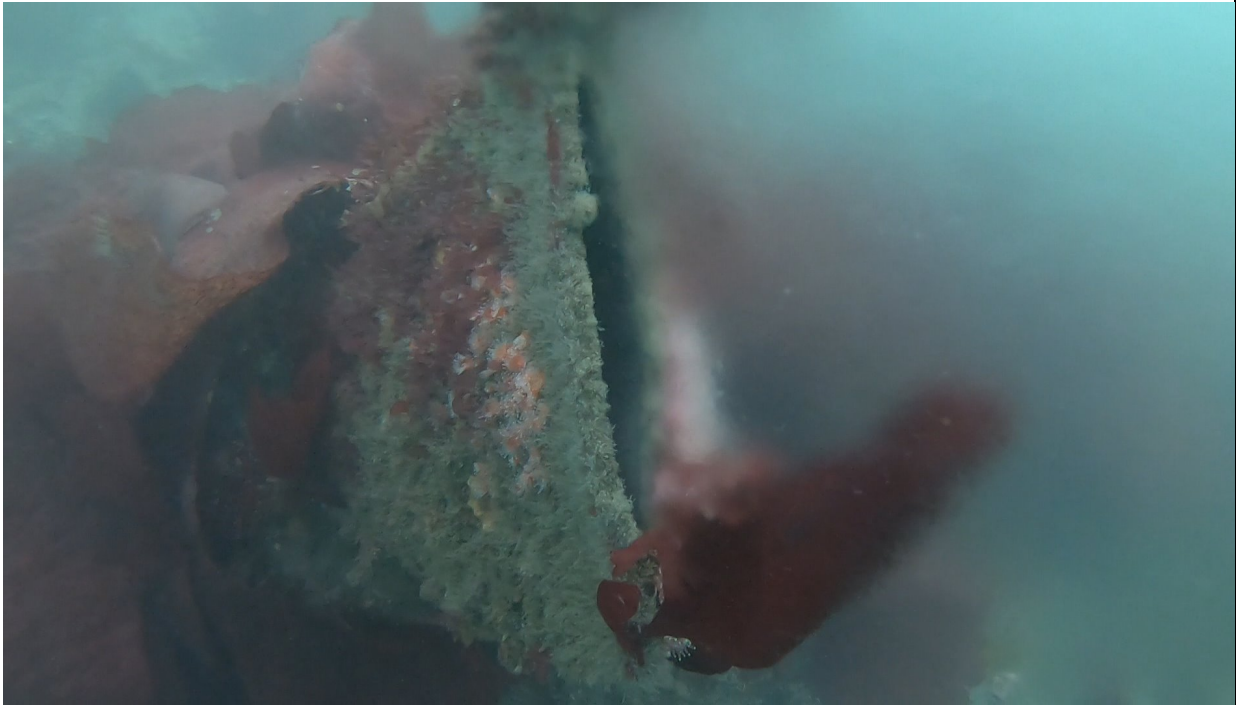
Port No. 3



Port No. 4



Port No. 5



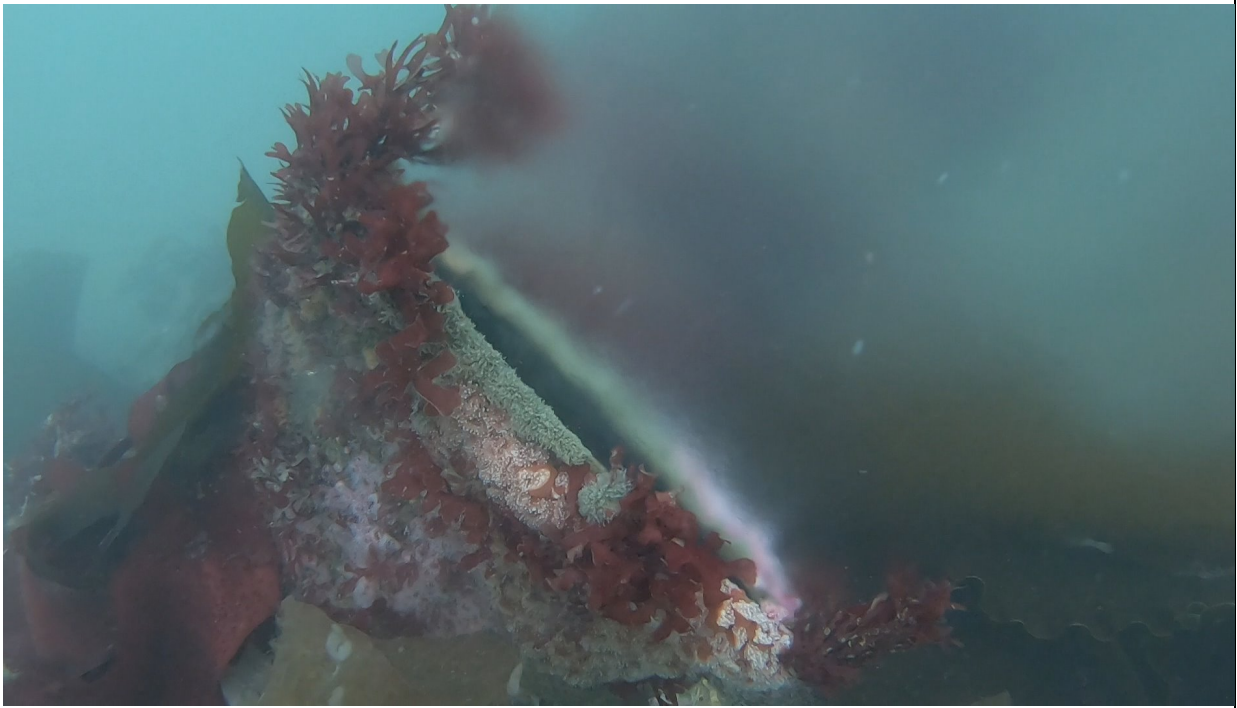
Port No. 6



Port No. 7



Port No. 8



Port 9



Port No. 10

