NORTH SAN MATEO COUNTY SANITATION DISTRICT
a subsidiary of the City of Daly City
OPERATION OFFICES
153 Lake Merced Blvd., Daly City, California 94015
(650) 991-8200
(650) 991-8220 (Fax)

January 28, 2022

Burrell, William
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Dear Mr. Burrell:

The attached 2021 Annual Self-Monitoring Report is submitted in accordance with the requirements of Order No. R2-2017-0026 for the North San Mateo County Sanitation District. The entire year has been submitted electronically through CIWQS.

I certify under penalty of perjury that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on this inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. {40 CRF 122.22(d)}

All correspondence regarding this transmittal or other matters concerning the North San Mateo County Sanitation District, should be addressed as follows:

Shawnna Maltbie
City Manager/District General Manager
333 – 90th Street
Daly City, CA 94015

A copy of all such correspondence shall be sent to the plant at the following address:

Thomas Piccolotti, Director
Water and Wastewater Resources Department
153 Lake Merced Boulevard
Daly City, CA 94015

Questions of a technical nature may be directed to me at (650) 991-8204, Monday through Friday, between the hours of 5:30 a.m. and 3:00 p.m.

Sincerely yours,

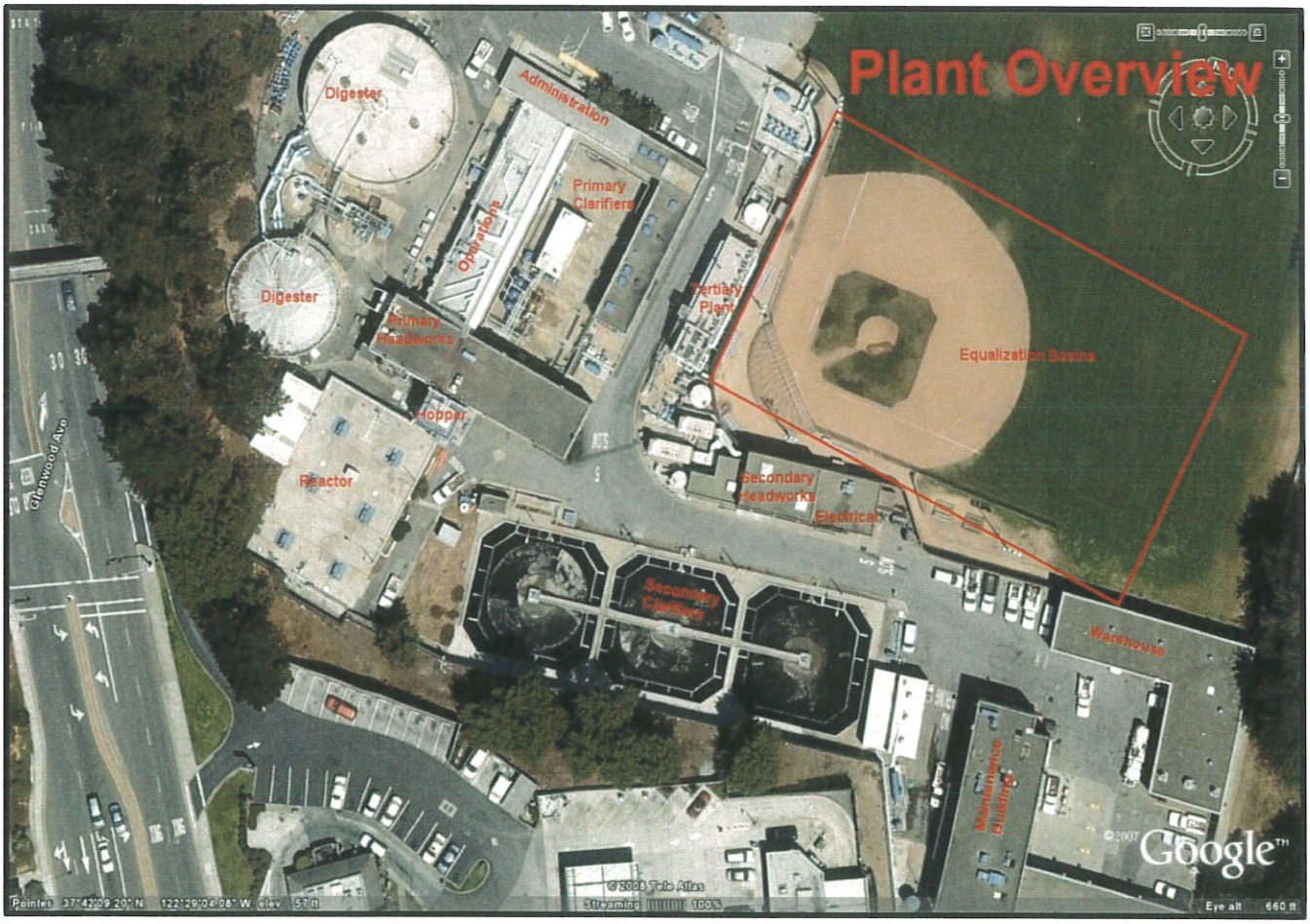
Gregory M Krauss
Chief of Operations

L22-020
Attachments
cc: State Waterboard
Shawnna Maltbie, City Manager/District General Manager

North San Mateo County Sanitation District – Annual Self-Monitoring Report (SMR)

NPDES Permit CA0038369

Order Number R2-2017-0026



January 2022

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FACILITY DESCRIPTION

Facility Overview

The North San Mateo County Sanitation District (District), a subsidiary of the City of Daly City, owns and operates a secondary wastewater treatment facility (Facility) that treats domestic wastewater from the City of Daly City, portions of San Mateo County, the Town of Colma, San Francisco County Jail, and the Westborough Water District within the City of South San Francisco. The combined service population is approximately 120,000.

The Facility treatment system consists of screening, compaction, primary clarification, flow equalization, activated sludge aeration, secondary clarification, chlorination by sodium hypochlorite, and dichlorination by sodium bisulfate. Biosolids generated during the treatment process are processed with de-gritting, gravity and air flotation thickening, anaerobic digestion, and dewatering by centrifuge. The treated biosolids are then hauled off-site for disposal.

The District conveys a large portion of its treated wastewater through the Vista Grande Tunnel structure and a 27-inch force main located at Fort Funston in San Francisco County. Treated effluent is then discharged through a submerged diffuser extending 2,500 feet from the shoreline and terminating at a depth of approximately 32 feet (-32 MLLW). The remaining treated wastewater receives tertiary treatment and is recycled for reclamation projects.

Wastewater Treatment Process

Flow into the Facility is measured with a Parshall flume, and then flows through two micro-screens where it is dispersed evenly to six primary basins. Two additional primary basins (no. 7 and 8) are only brought into service when needed during wet weather flows. The primary effluent is then split with 70% of the flow pumped to the two pure oxygen activated sludge reactors that each has three turbine mixers. The other 30% of the flow is stored in equalization basins until the late evening when it is then pumped back into the secondary system for treatment. Flow from the activated sludge basins is then dispersed between three secondary clarifiers for settling. The effluent flow then flows over the weirs into the chlorine contact mixing chamber.

During all times of the year, treated effluent may then be discharged through the ocean outfall. Additionally, during the dry season, approximately 2.77 MGD of treated effluent can be pumped to the tertiary treatment system to support reclamation activities.

Biosolids Treatment Process

During the wastewater treatment process, the primary basins collect settable solids which are pumped to two gravity thickeners where ferrous chloride is added. The thickened solids are then removed and pumped to two anaerobic digesters. Overflow from the gravity thickeners flows back to the headworks.

Primary and secondary scum is pumped to an air flotation tank along with the waste activated sludge and treated with a polymer. The thickened sludge is then pumped to an anaerobic digester while the overflow discharges into the primary effluent sump and is pumped to the secondary system.

Digester temperatures are kept at 95° to 100°F. The laboratory performs total solids and volatile solids test each day to confirm vector reduction. The digested solids are then treated with polymer and centrifuged. The centrate from the centrifuge discharges into the headworks. Dewatered biosolids are then pumped to a storage silo were the contract hauler fills a trailer for disposal.

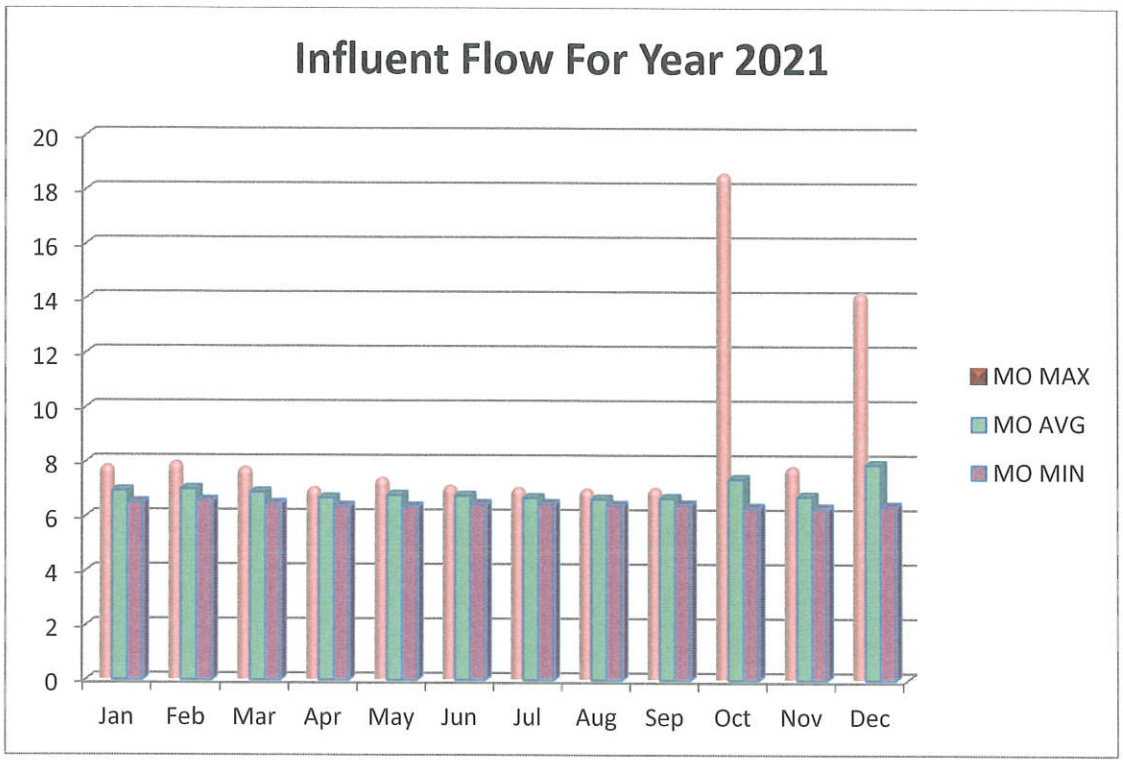
SUMMARY OF PLANT PERFORMANCE

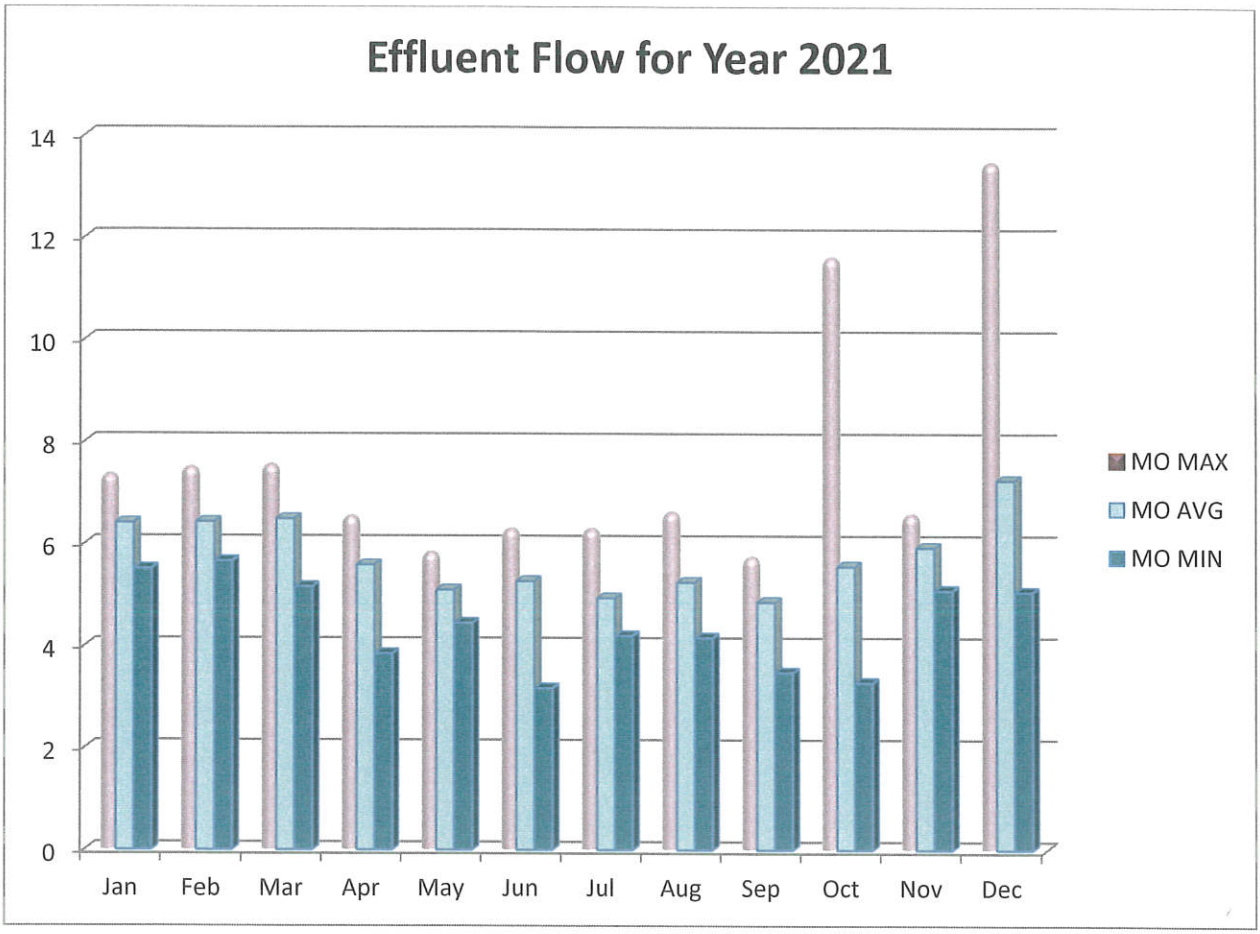
The NSMCSD maintained a high level of performance over the entire reporting period, all NPDES permit requirements were met for 2021. A description of Plant Performance follows.

NSMCSD Wastewater Flows

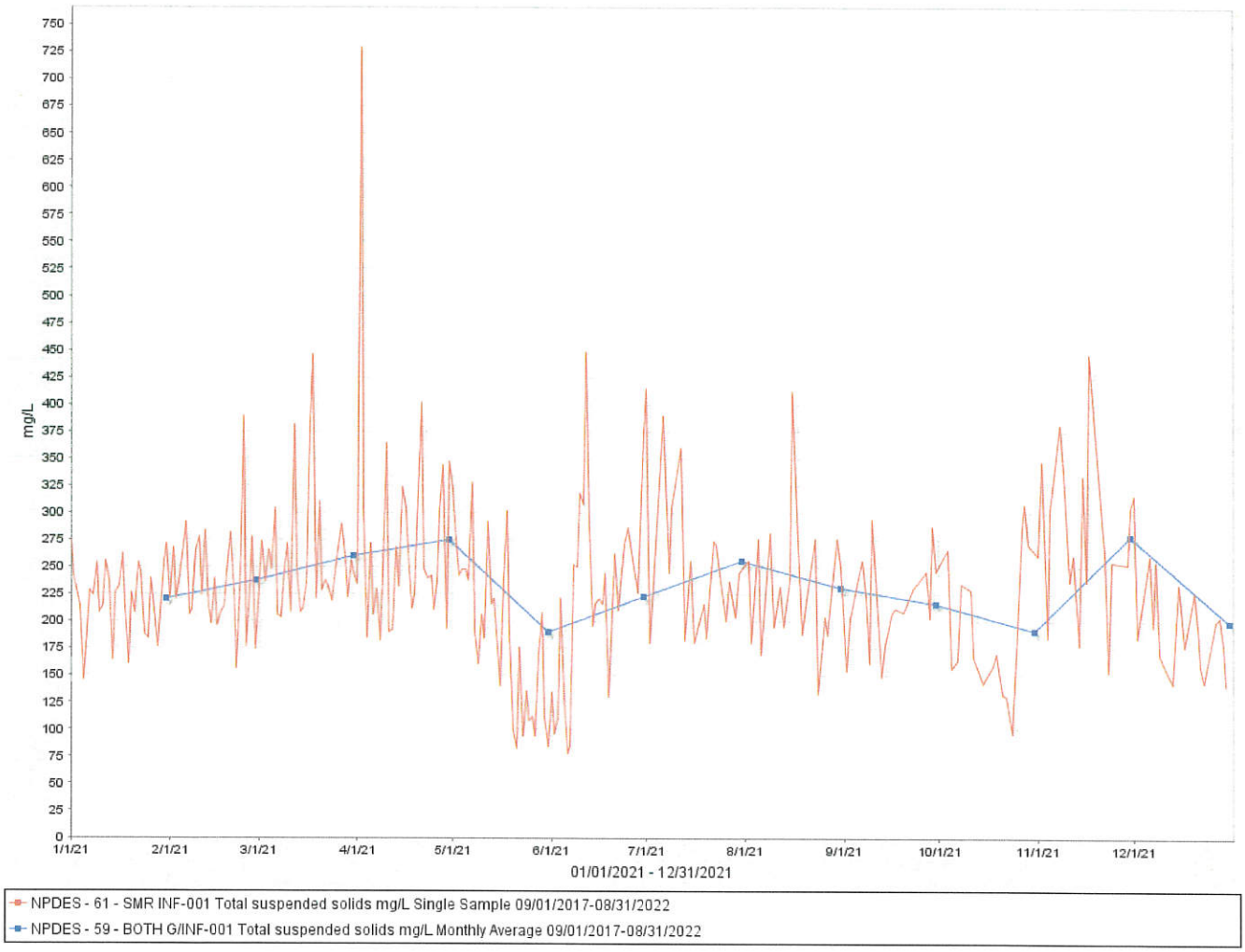
The NSMCSD is permitted for an average dry weather flow of 8.0 million gallons per day (MGD) and the facility design flow is 10.3 million gallons per day (MGD). The average annual influent and effluent flow rates for the reporting period were 6.92 MGD and 5.76 MGD, respectively.

GRAPHICAL COMPLIANCE SUMMARY

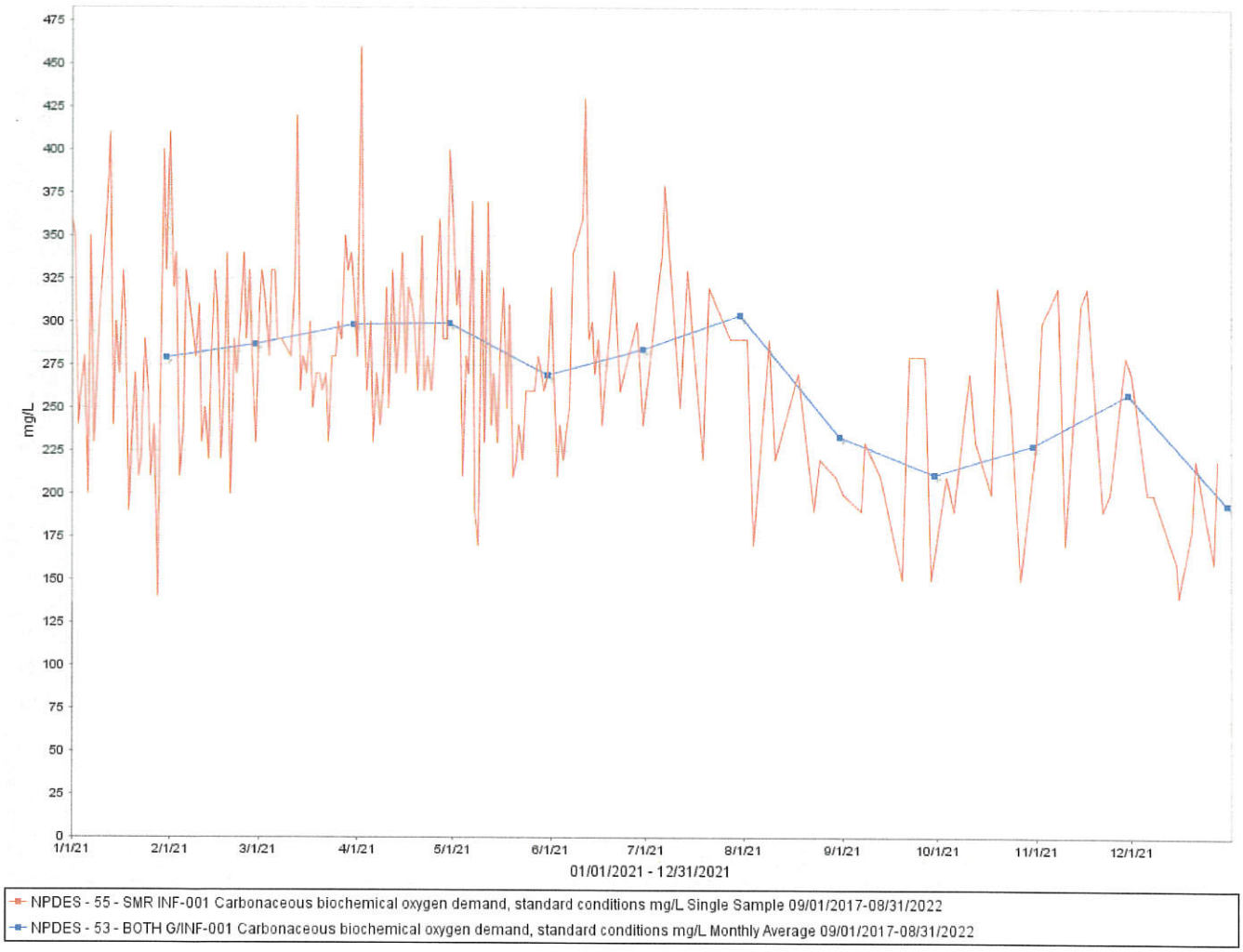

Influent Flow For Year 2021
20
18
16
14
12
10
8
6
4
2
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
MO MAX
MO AVG
MO MIN


Effluent Flow for Year 2021
14
12
10
8
6
4
2
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
MO MAX
MO AVG
MO MIN

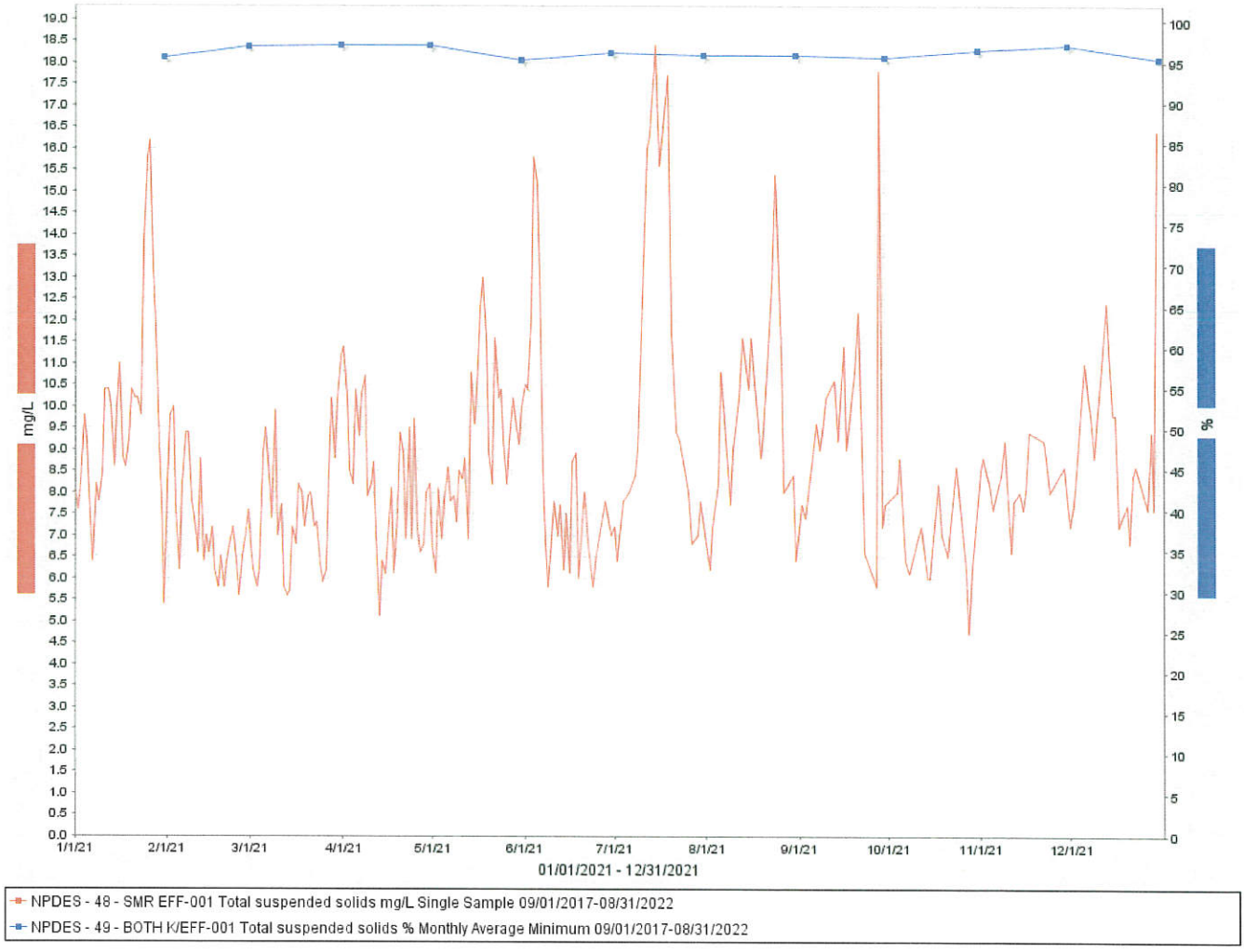
Influent Total Suspended Solid



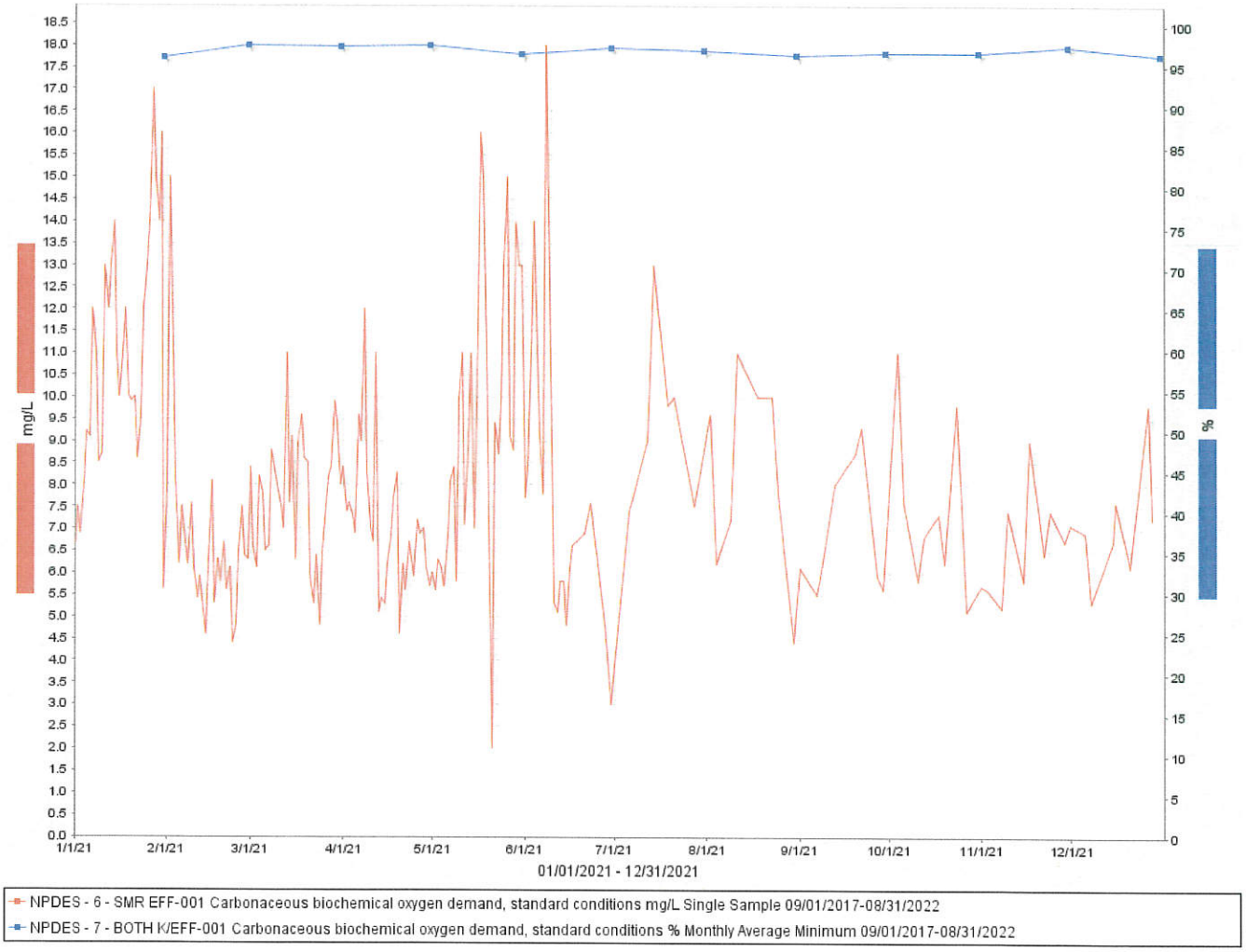
Influent Biochemical Oxygen Demand



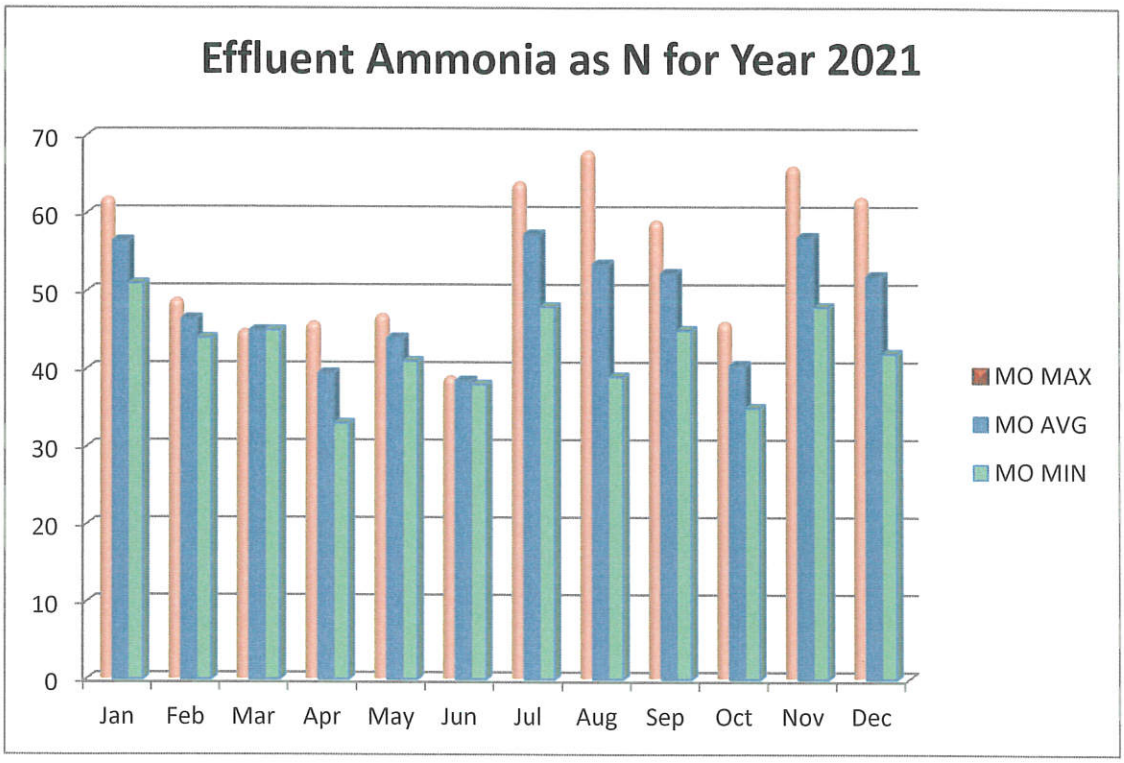
Effluent Total Suspended Solids & % Removal



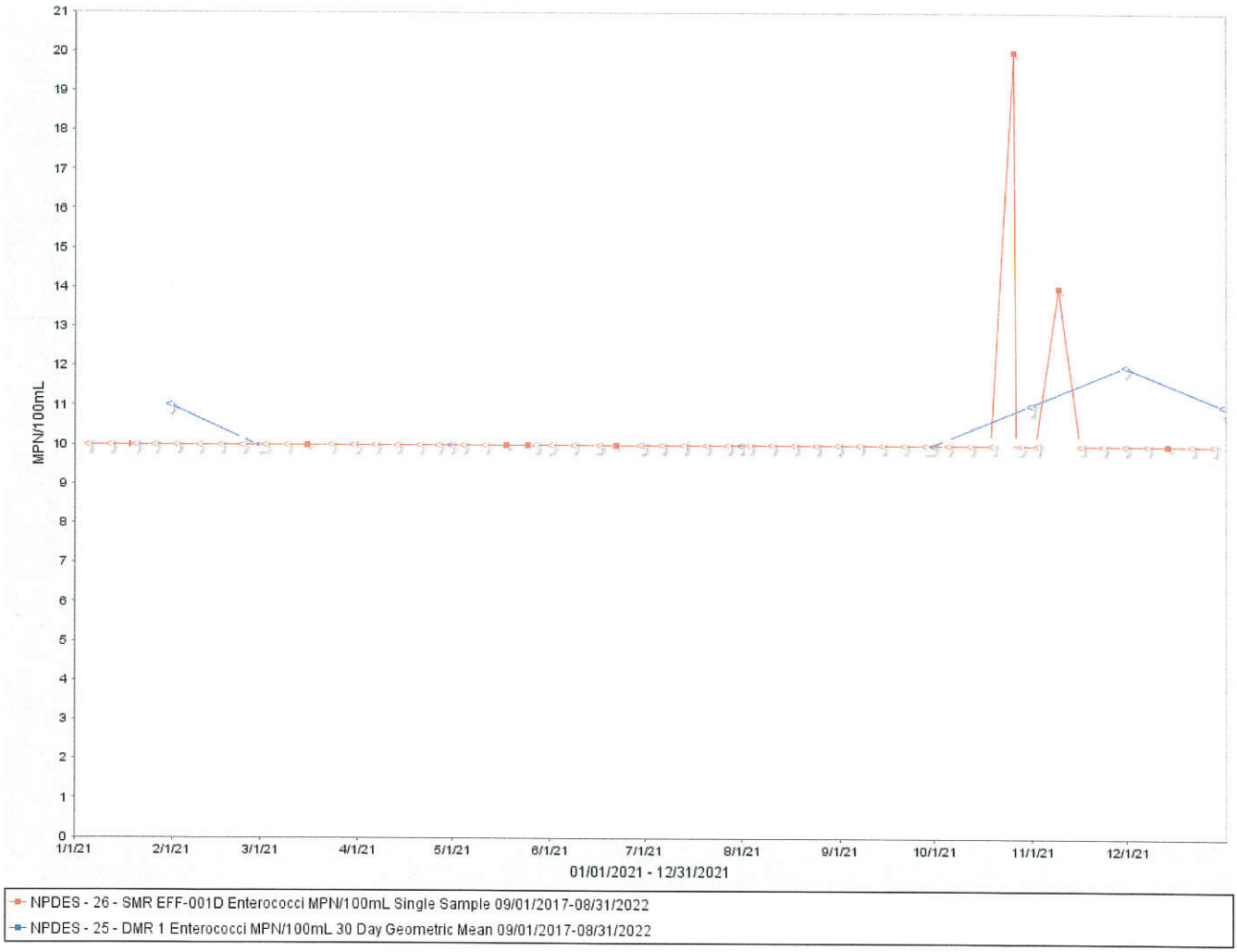
Effluent Biochemical Demand & % Removal



Effluent Ammonia



Effluent Enterococcus data



SLUDGE AND BIOSOLIDS MANAGEMENT

The Biosolids produced at the NSMCSD produced a total of approximately 5306.56 wet tons. The biosolids treatment and disposal was in compliance with regulations set forth in 40 CFR, Part 503. All 5309.56 Wet Tons of biosolids were disposed of at Synagro's contracted disposal and composting facilities, per contract with Synagro Inc. The average solids content for year was 23.36%

TERTIARY RECYCLED WATER ANNUAL PRODUCTION

The NSMCSD tertiary treatment facility includes flocculation, filtration through its Dina-sand filtration system, and disinfection producing recycled water in compliance with Title 22, disinfected tertiary. The plant is permitted for 2.77 MGD for distribution to four golf courses, two parks, and various median strips along John Daly Blvd. and Junipero Serra Blvd. within the City of Daly City. In calendar year 2021, the district delivered 195.82 million Gallons of recycled water to its customers.

List of Analyses Performed for NSMCSD by Contract Certified Laboratory's

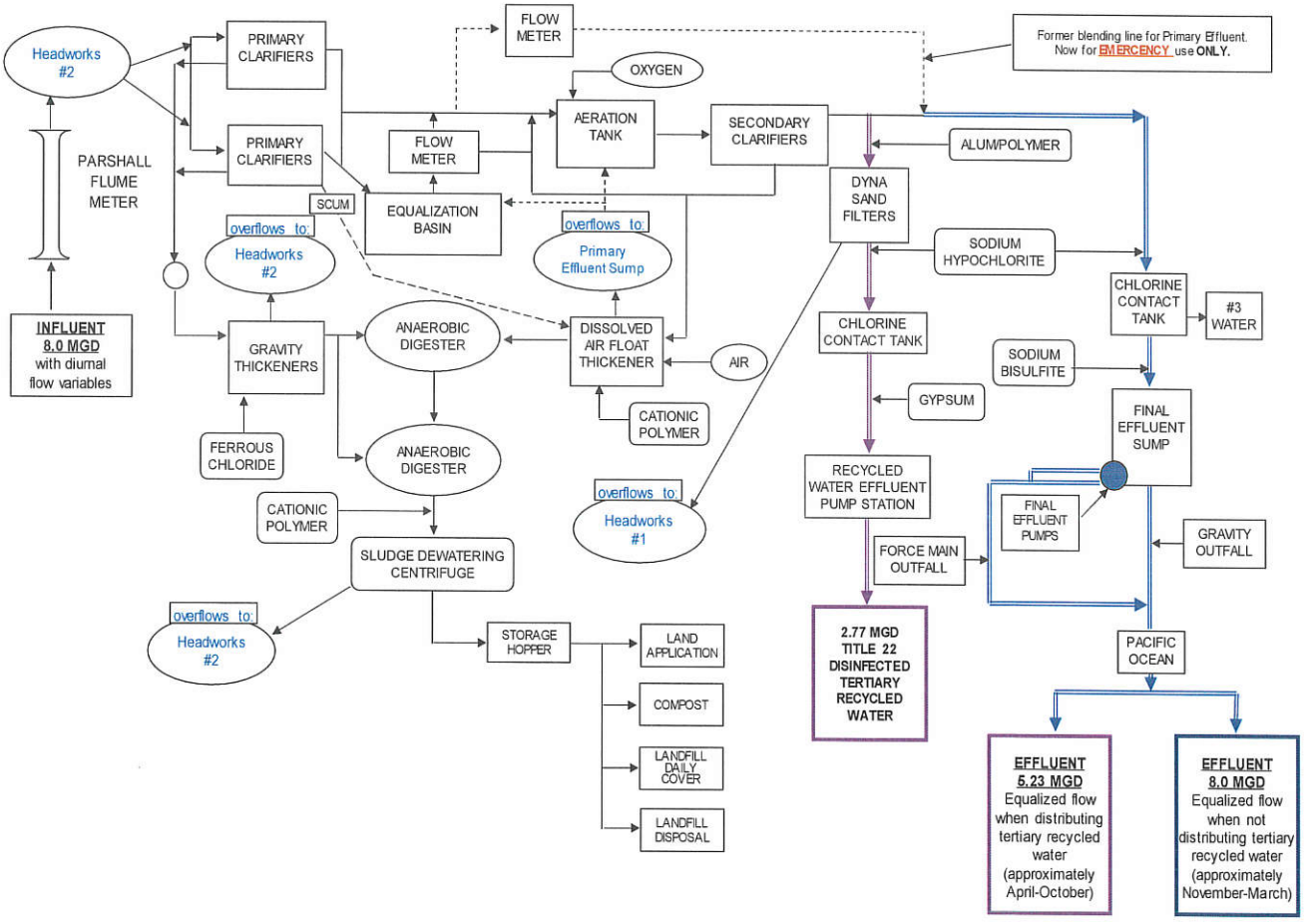
Method	Analysis	Lab
EPA 200.8	Metals	Alpha Analytical Laboratories, Inc.
10-204-00-1X	Cyanide	Alpha Analytical Laboratories, Inc.
EPA 624.1	Volatiles	Alpha Analytical Laboratories, Inc.
EPA 625.1	Semi Volatiles	Alpha Analytical Laboratories, Inc.
EPA 1631E	Mercury	Alpha Analytical Laboratories, Inc.
EPA 608.3	Pesticides, PCB	Alpha Analytical Laboratories, Inc.
EPA 218.6	Hexavalent chromium	Alpha Analytical Laboratories, Inc.
EPA 900.0	Gross Alpha and Beta	Alpha Analytical Laboratories, Inc.
GC-MAI-Organic	Tributylin	Alpha Analytical Laboratories, Inc.
EPA 625.1 SIM	Polycyclic Aromatic Hydrocarbons (PAH)	Alpha Analytical Laboratories, Inc.
SM 4500-NH3 C	Ammonia	Alpha Analytical Laboratories, Inc.
EPA 600/3-79-091	Unionized Ammonia	Alpha Analytical Laboratories, Inc.
EPA 1613 B	Dioxins	Alpha Analytical Laboratories, Inc.
EPA 1664 B	Oil & Grease	Alpha Analytical Laboratories, Inc.
SM 9221	Fecal Coliform MPN	Cel Analytical, Inc.
SM 9221	Total Coliform MPN	Cel Analytical, Inc.
EPA 1600	Enterococcus MF	Cel Analytical, Inc.
EPA/600/R-95-136 ***Mytilus galloprovincialis***	Chronic Toxicity	Pacific Eco Risk

Laboratory	Address	Website

Alpha Analytical Laboratories, Inc.	208 Mason Street Ukiah, CA 95482	http://www.alphalab.com/
Cel Analytical, Inc	82 Mary Street, Suite #2 San Francisco, CA 94103	http://www.celanalytical.com/
Pacific EcoRisk	2250 Cordelia Rd. Fairfield, CA 94534	http://www.pacificecorisk.com/
Eurofins EMLab P&K	6000 Shoreline Ct #205, South San Francisco, CA 94080	https://www.eurofinsus.com/Built/

Plan View Drawings of Facilities with Flow Routing

NORTH SAN MATEO COUNTY SANITATION DISTRICT
WASTEWATER TREATMENT PLANT SCHEMATIC



OPERATOR CERTIFICATION SUMMARY CHART

Name	Certificate #	Renewal-Expiration Date	Grade
Gregory M Krauss	V-27969	6/19/23	V
Frank Ascariz	III-40063	7/30/23	III
Tharanga Abeysekera	1308214421	9/30/22	CWEA Lab IV
Michael Popiel	V-28415	7/18/23	V
Brandon Wardle	IV-28888	1/19/24	IV
Tony Pereur	II-43056	9/20/24	II
Lawrence Eubanks	III-10823	6/30/23	III
Norman Mallari	V-28481	9/26/24	V
Christopher Broadway	II-43180	4/3/21	II
Miguel Espinoza	I-34451	12/30/24	III
Darin Schumacker	III-11027	12/31/23	III
John Grumley	I-40516	9/8/23	II
Anh Dao	II-43152	7/23/22	II
Ernie Alvarez	ii-40684	6/30/22	II

SEWER IMPROVEMENT PROJECTS

During North San Mateo County Sanitation District sewer projects, all connections to the city mains are inspected for integrity. Residences are notified if there is a problem with their lateral. The project contractor can make cost effective repairs if the owner elects to have them make the repairs.

The district recognized the opportunity to inspect and correct laterals through the building permit plan review **process**. Plan reviews require the applicant to state if they intent to keep or abandon the existing sewer lateral. If they intent to keep, they are required to CCTV their lateral with District staff present. If the lateral is found in bad condition, they are required to repair or replace as part of their work activity. Lastly, collection staff keeps records of parcels that have had the districts collection system crew respond to a blockage. District staff TV the owner's lateral and documents the issues on an updated 'hot list'. Owners are sent a CCTV report of the lateral condition and the need to make repairs before a major incident occurs. If no repairs are made, the notice to repair remains on the City required Residential Requirement Report property record that is disclosed as part of any property sale. Moreover, the Sanitation District also adopted Ordinance # 90 on October 25, 2004. This Ordinance spells out owner responsibility on maintenance of their private service lateral and enables District staff to proactively enforce corrective actions on discharge of wastewater onto the public right of way as a public nuisance should the owner fail to heed identified corrective actions.

The following Sewer Capital improvement projects were completed in 2021:

EMERGENCY RESPONSE AND SPILL PREVENTION CONTROL PLAN

The district has updated and revised its Spill Prevention and Control Plant for 2018 to include a revision of posable plant discharges in addition to updating its chemicals used and stored throughout the treatment plant. Additionally, emergency contact personnel with and responsibilities and procedures have been included in the spill plan. Also, we have made an agreement with NRC to provide assistance with spill mitigation and removal

CAPITAL IMPROVEMENT PROJECT SUMMARY

In 2021 The following WWTP Capital Projects were completed:

- A new Bar screen and rag compactor were installed in Headworks #2.
- In 2021 The plants effluent flow meter was replaced
- The WAS valves and control module were replaced with new valves a new PLC controller
- The Gravity Tank Pump timers we replaced with a PLC Controller
- The Primary Sludge Pump timers were replaced with a PLC Controller
- Gravity Thickener #2 was coated, and internal drive will be replaced next month