2020 ANNUAL OPERATIONS AND MAINTENANCE REPORT FOR THE NOVATO SANITARY DISTRICT

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Overview

The continued priorities for 2020 were to meet the goals of zero lost time incidents, or Occupational Safety Health Act recordable incidents, and there were no treatment plant effluent violations. This is a year-in and year-out objective plainly stated and firmly established throughout Veolia North America (*Veolia*). A term we apply to this end is "Zero Harm". 2020 represents our eighth consecutive year of zero effluent violations and ninth year of zero recordable incidents. We celebrate this success with the Novato Sanitary District on its vision and commitment to the protection of water quality and the environment.

Key areas of focus throughout the year included:

- Safety Training
- No Safety Incidents (recordable, lost time, or medical)
- Participation in Company *Near Miss* Reporting Program (focused on prevention)
- Regulatory Compliance
- Odor Monitoring
- Reporting (internal and external)
- Records Keeping and Data Base Management
- Facility Energy Management Program
- Employee Education and Certification / Professional Advancement
- Community Outreach and Participation
- Effective Asset Management by using Oracle Work Asset Management System (OWAM) for Maintenance Tracking, Scheduling, Inventory, and Purchasing
- Operation, Management and Oversight of Laboratory and Pretreatment Program

Treatment Plant Design Criteria

Wastewater is collected throughout the Novato Sanitary District service area and conveyed by gravity as well as mechanical means (pump stations) to the Novato Treatment Plant (*NTP*). Listed below are the descriptions of each of the processes. Table 1.0 below provides the influent flow design criteria.

Table 1.0

DESIGN CRITERIA		
Condition	Value	Unit
Average Dry Weather Flow	7.0	MGD
Peak Wet Weather Flow (Max Day)	30.7	MGD
Max Peak Wet Weather (1-3 Hour)	47.0	MGD
Average BOD Loading	14,600	Lbs/D
Average TSS Loading	17,600	Lbs/D

Preliminary Treatment - Influent Pump Station and Headworks

When the wastewater arrives at the NTP, it is pumped from the influent pump station to the headworks. The headworks provides screening of coarse materials and removal of grit which consists of heavy matter such as sand, silt, and gravel.

Flow and Loading Measurement

Flow at the NTP is measured using a parshall flume and hydro ranger™ ultra-sonic flow meter in combination. Composite samples for biochemical oxygen demand (BOD) and total suspended solids (TSS) are collected downstream of screening and grit removal. Composite samples are proportioned throughout the sampling period (normally 24 hours).

Primary Treatment – Primary Clarifiers

An efficient primary clarifier typically removes approximately 60 – 70% of the solids from raw wastewater. Clarifiers are large tanks that slow the flow of water and allow the force of gravity to remove solids. Heavier solids referred to as "sludge" settles to the bottom. Lighter material such as fat, oil, grease and plastic, referred to as "scum" rises to the surface. Both sludge and scum are removed from the waste stream and pumped to a digester for additional treatment. The NTP primary clarifiers are covered to contain air/odor associated with raw sewage. Air/odor is removed and discharged to odor scrubbing biofilters.

Secondary Treatment – Aeration Basins & Secondary Clarifiers

After screening, grit removal, and primary solids removal, all wastewater receives full secondary treatment. Large rectangular tanks with baffle walls, mechanical mixers, air diffusers, and recirculation pumps make up the aeration basins. Four aeration basins, each with a capacity of more than 850,000 gallons, provides complete secondary treatment under all flow conditions. Each aeration basin has three anoxic (no dissolved oxygen) zones accounting for almost 25% of the tank volume. The anoxic zones convert nitrate and nitrite to nitrogen gas to reduce the level of total nitrogen in the effluent.

Ultra Violet (UV) Disinfection

Prior to discharge wastewater must be disinfected. Ultra violet light disrupts the DNA of pathogens and other life forms leaving them incapable of reproduction.

Effluent Disposal – Bay Discharge / Reclamation / Storage

Discharge to San Pablo Bay is prohibited beginning June 1st through August 31st. Bay discharge is permitted (with stringent effluent limits) in the months of May, September and October. Throughout the non-discharge season effluent is stored for future use, specifically for pasture irrigation. The District's NPDES Permit effective September 1st, 2020 allows for year-round discharge to San Pablo Bay with stringent effluent limits from May 1st through October 31st.

Effluent Reuse – Recycled Water

Recycled water was produced in 2020 for irrigation of parks, landscaping, and golf courses. Additionally, a portion of the recycled water is provided to a car wash facility. Recycled water receives added treatment in order to comply with stringent Title 22 regulations.

Treatment Plant Performance Tables

The tables that follow provide the summary for the plant performance, maintenance program, consumables and energy results for the period January 1, 2020 through December 31, 2020. The total number of samples taken in 2020 changed due to the National Pollution Discharge Elimination System (NPDES) permit issuance. The Annual Waste Characteristics & Loading Summaries are provided below in Tables 2.0 – 9.0 and in the attachment section of this report.

Table 2.0

2020 Influent Flows and Loading Summary			
Condition	Value	Unit	Notes
Average Dry Weather Flow	3.43	MGD	Aug /Sep/Oct
Peak Wet Weather Flow (Max Day)	8.86	MGD	Jan 16th
Max Peak Wet Weather (1-3 Hour)	14.00	MGD	Jan 16th
Average Biochemical Oxygen Demand (BOD)	320	mg/L	
Average BOD Loading	9,936	Lbs/Day	
Average Total Suspended Solids (TSS)	298	mg/L	
Average TSS Loading	9,402	Lbs/Day	

Table 3.0

2020 Plant Performance		
Total Volume of Wastewater	1409	Million Gallons
Total Volume of Reclaimed Water (Reclamation, Recycled, California State Coastal Conservancy)	535	Million Gallons
Recycled – Title 22 (Novato Sanitary District, North Marin Water District Deer Island)	208	Million Gallons
Flow Discharged to San Pablo Bay	874	Million Gallons
Average BOD Effluent	6	mg/L
Total Pounds of BOD Treated	3,760,339	Lbs
Average TSS Effluent	3	mg/L
Total Pounds of TSS Treated	3,501,816	Lbs
Total Pounds of Bio-solids Treated	2,697,616	Lbs
Total Cubic Feet of Biogas Produced	24,718,339	Cu Ft

Table 4.0

2020 Violations / Excursions	
Total Number	0
NPDES (Bay Discharge)	0
Waste Discharge Reporting (WDR) (Reclamation)	0

Table 5.0

2020 Plant Effluent		
	Value	Unit
BOD Removal	98	%
TSS Removal	99	%

Table 6.0

2020 Consumables and Energy Summary	
Total Million Gallons	1,409
*Electricity – kWh / Year	3,603,223
Electricity – kWh / MG	2,557
Natural Gas Cubic/Feet/Year	143,400
*Natural Gas – Therms / Year	1434
Natural Gas – Therms / MG	1
Diesel Fuel – Gallons / Year	6,081
Diesel Fuel – Gallons / MGD	4

*Excludes Administration Building and Recycled Water Plant

Table 7.0

2020 Waste Discharge Limits / Reclamation			
Parameter	Limit	Units	Violations
BOD Monthly Average	40	mg/L	0
Total Coliform – 5 Sample Median	240	mpn/100 ml	0
Total Coliform - Maximum	10,000	mpn/100 ml	0
pH – High	9.0	s.u.	0
pH – Low	6.0	s.u.	0

Table 8.0

2020 NPDES Wet Season Limits - November – April			
Parameter	Limit	Units	Violations
BOD Weekly	40	mg/L	0
BOD Monthly	25	mg/L	0
TSS Weekly	40	mg/L	0
TSS Monthly	25	mg/L	0

BOD Removal (minimum)	85	%	0
TSS Removal (minimum)	85	%	0
Enterococcus – 6 Week Rolling Geometric Mean	30	Col/100 ml	0
Enterococcus – No More than 10 Percent All Samples	110	CFU/100mL	
Fecal Coliform - Median	140	mpn/100 ml	0
Fecal Coliform - 90th Percentile	430	mpn/100 ml	0
Ammonia – Daily Maximum	21	mg/L	0
Ammonia - Monthly Average	5.9	mg/L	0
pH – High	8.5	s.u.	0
pH – Low	6.5	s.u.	0
Oil & Grease - Daily Maximum	20	mg/L	0
Oil & Grease - Monthly Average	10	mg/L	0

Table 9.0

2020 NPDES Dry Season Limits - May, September, & October			
Parameter	Limit	Units	Violations
BOD Weekly	30	mg/L	0
BOD Monthly	15	mg/L	0
TSS Weekly	20	mg/L	0
TSS Monthly	10	mg/L	0
BOD Removal (minimum)	85	%	0
TSS Removal (minimum)	85	%	0
Enterococcus – 6 Week Rolling Geometric Mean	30	Col/100 ml	0
Enterococcus – No More than 10 Percent All Samples	110	CFU/100mL	
Fecal Coliform - Median	140	mpn/100 ml	0
Fecal Coliform - 90th Percentile	430	mpn/100 ml	0
Ammonia – Daily Maximum	21	mg/L	0
Ammonia - Monthly Average	5.9	mg/L	0
pH – High	8.5	s.u.	0
pH – Low	6.5	s.u.	0
Oil & Grease - Daily Maximum	15	mg/L	0
Oil & Grease - Monthly Average	5	mg/L	0

Operational Program

Throughout 2020, the majority of the treatment plant equipment operated full time with the exception of the equipment listed below:

Novato Treatment Plant - Equipment Out of Service – Due to Planned Servicing, Maintenance, or Replacement

- Aeration Basin #1 & #3 (standby)
- Primary Clarifier #2 (standby)
- Secondary Clarifier #2 (standby)

Environmental Services Program

Bay Area Clean Water Agencies (BACWA)

Liz Falejczk, Veolia Water Environmental Services Supervisor, and Erik Brown, Novato Sanitary District Deputy General Manager attended the annual BACWA meeting. Liz also attended most of the regular meetings until ZOOM® scheduled meetings were scheduled for the Permits, Laboratory and Pretreatment committees.

Pretreatment Program Billing

Liz worked with Laura Creamer, Novato Sanitary District Finance Officer throughout 2020 to complete invoicing/billing for: quarterly and annual surcharge for two significant industrial users, and permit issuance, renewal, and sampling.

Monitoring Wells

The groundwater monitoring wells around the Designated Land Disposal (DLD) site and the old sludge disposal site at the Ignacio Treatment Plant were sampled on October 28th and May 27th as part of the EPA Part 503 Biosolids requirements.

National Pollutant Discharge Elimination System (NPDES) Permit Renewal

The permit was renewed in 2020 through a collaborate effort from the District, its consultant Woodward and Curran, and Veolia Water. The new permit took effect on September 1, 2020.

Environmental Laboratory Accreditation Program (ELAP)

The biannual renewal application was forwarded to ELAP as required. The electronic confirmation of the successful renewal of the certification of the laboratory was received on January 29, 2021. The certification now expires January 31, 2022.

Public Education

The activities included;

- February 19th, Liz and Lynda Farmery, Veolia Administrative/Safety participated in the Senior Health Fair at the Margaret Todd Center located in Novato, CA.

- February 19th, Liz and Julie Hoover, Novato Sanitary District Administrative Secretary held a public education event at Atria Tamalpais Creek assisted living facility located Novato, CA.

- On February 25th, Liz attended the public education group committee meeting at the Sausalito Marin City Sanitary District. The remainder of the meetings were conducted on Zoom®.

- In March 2020, the Pollution Prevention onsite outreach activities were suspended due to the COVID-19 pandemic.

Training
In October 2020, Liz attended all-day computer virtual technical sessions at the Coalition of Accredited Laboratories 2020 Annual Conference.

GeoTracker Reporting
In April 2020, Liz Falejczyk, Veolia Water Environmental Services Supervisor completed the required recycled water volumetric reporting into GeoTracker. This reporting tracks the influent volumes through the wastewater treatment levels and ultimate discharge to the Bay, Reclamation (for pasture irrigation) or Recycled Water. Worked with North Marin Water District to finalize the recycled water values.

Whole Effluent Toxicity Testing
Quarterly Acute (96 hours) and Chronic (7 days) Toxicity testing is required during Bay Discharge season. Testing was performed in April, September, and October in 2020. All tests were performed by Aqua Science (Davis, CA), and results reported in compliance with the NPDES permit. The Acute Toxicity testing results yielded 100% survival. The Chronic Toxicity test results for survival and growth were reported as <1.0 TUc. Table 4.0 below provides the 2018-2020 results.

Table 4.0 Historical Toxicity Testing 2018-2020

Test Date	1/18	4/18	9/18	12/18	2/19	6/19	10/19	2/20	4/20	9/20	10/20
EC_{25} (%)	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
NOEC (%)	100	100	100	100	100	100	100	100	100	30	100
Tuc ($100/EC_{25}$)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

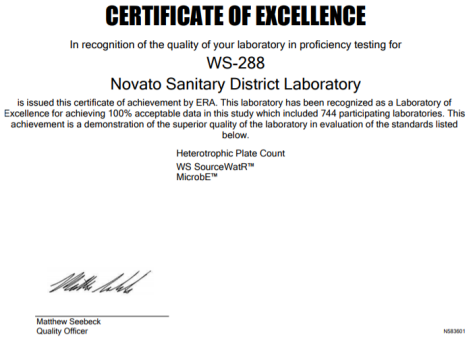
Abbreviations	
EC^{25} (%)	Effect Concentration 25 Percent
NOEC (%)	No Observed Effect Concentration
TUc ($100/EC^{25}$)	Toxic Unit-Chronic (100/Effect Concentration 25 Percent

Proficiency Testing

U.S. EPA DMR-QA 40 Proficiency Testing Studies were conducted in 2020 and 100% acceptable results were achieved. This was a collaborative effort between Veolia employees Kurt Hawkyard and Liz Falejczyk. Certificates of Excellence are provided below. In addition the DMR-QA studies performed by all contract laboratories that routinely perform or support self-monitoring analyses required by National Pollution Discharge Elimination System permit were evaluated for proficiency and submitted to the State Water Board Quality Assurance Officer/State DMR-QA Coordinator.

In April 2020, Kurt Hawkyard, Veolia Water Laboratory Technician completed several annual proficiency performance tests required to maintain the California Environmental Laboratory Accreditation Program. The tests completed were Enterococcus, Chlorine Residual (two methods) and pH. All results were within the acceptable range.

In October 2020, Liz Falejczyk, Veolia Water Environmental Services Supervisor and Kurt Hawkyard, Veolia Water Laboratory Technician completed several annual proficiency performance tests required to maintain the California Environmental Laboratory Accreditation Program. The tests completed were alkalinity, conductivity, hardness, total suspended solids, total and fecal coliforms and E. coli, total volatile solids, ammonia, and turbidity. All results were within the acceptable range.



CERTIFICATE OF EXCELLENCE

In recognition of the quality of your laboratory in proficiency testing for

WS-288

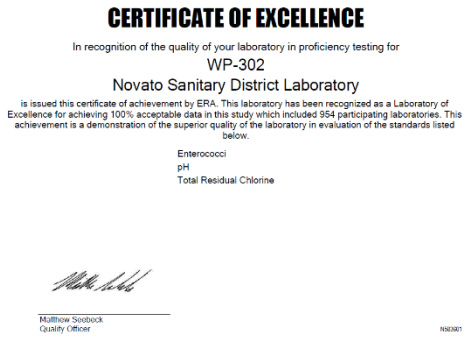
Novato Sanitary District Laboratory

is issued this certificate of achievement by ERA. This laboratory has been recognized as a Laboratory of Excellence for achieving 100% acceptable data in this study which included 744 participating laboratories. This achievement is a demonstration of the superior quality of the laboratory in evaluation of the standards listed below.

Heterotrophic Plate Count
WS SourceWatR™
MicrobE™

Matthew Seebeck
Quality Officer

NS83601



CERTIFICATE OF EXCELLENCE

In recognition of the quality of your laboratory in proficiency testing for

WP-302

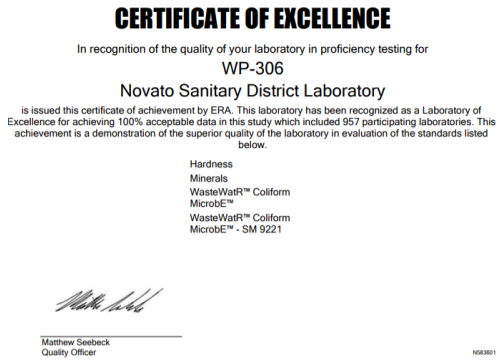
Novato Sanitary District Laboratory

is issued this certificate of achievement by ERA. This laboratory has been recognized as a Laboratory of Excellence for achieving 100% acceptable data in this study which included 954 participating laboratories. This achievement is a demonstration of the superior quality of the laboratory in evaluation of the standards listed below.

Enterococci
pH
Total Residual Chlorine

Matthew Seebeck
Quality Officer

NS83601



CERTIFICATE OF EXCELLENCE

In recognition of the quality of your laboratory in proficiency testing for

WP-306

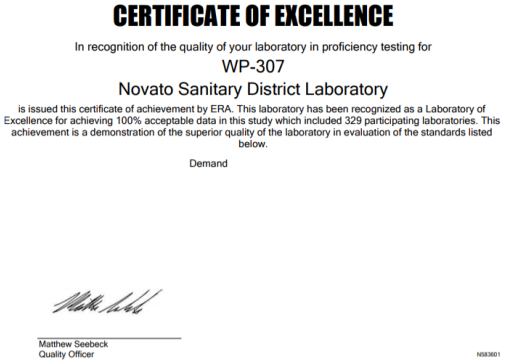
Novato Sanitary District Laboratory

is issued this certificate of achievement by ERA. This laboratory has been recognized as a Laboratory of Excellence for achieving 100% acceptable data in this study which included 957 participating laboratories. This achievement is a demonstration of the superior quality of the laboratory in evaluation of the standards listed below.

Hardness
Minerals
WasteWatR™ Coliform MicrobE™
WasteWatR™ Coliform MicrobE™ - SM 9221

Matthew Seebeck
Quality Officer

NS83601



CERTIFICATE OF EXCELLENCE

In recognition of the quality of your laboratory in proficiency testing for

WP-307

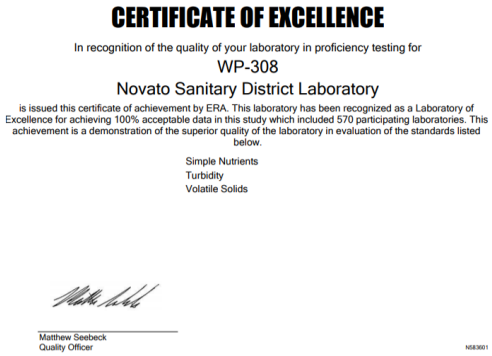
Novato Sanitary District Laboratory

is issued this certificate of achievement by ERA. This laboratory has been recognized as a Laboratory of Excellence for achieving 100% acceptable data in this study which included 329 participating laboratories. This achievement is a demonstration of the superior quality of the laboratory in evaluation of the standards listed below.

Demand

Matthew Seebeck
Quality Officer

NS83601



CERTIFICATE OF EXCELLENCE

In recognition of the quality of your laboratory in proficiency testing for

WP-308

Novato Sanitary District Laboratory

is issued this certificate of achievement by ERA. This laboratory has been recognized as a Laboratory of Excellence for achieving 100% acceptable data in this study which included 570 participating laboratories. This achievement is a demonstration of the superior quality of the laboratory in evaluation of the standards listed below.

Simple Nutrients
Turbidity
Volatile Solids

Matthew Seebeck
Quality Officer

N583601

Retrospective Screening for SARS-CoV-2 in the Bay Area
Sampling of influent composite samples began in July 2020 and continued throughout the year at the request of the Berkeley Water Center (BWC) at the University of California, Berkeley. BWC provided all the supplies necessary for the weekly (at present) sampling events, including sample bottles, packaging and return labels for delivery back to their laboratory.

Per- and Polyfluoroalkyl Substances (PFAS) Testing
Novato Sanitary District was chosen to participate as one of 13 of 39 Bay Area wastewater treatment plants by the San Francisco Bay Regional Water Quality Control Board. Liz Falejczyk, Veolia Environmental Compliance Supervisor and John O'Hare, Veolia Project Manager performed PFAS sampling on influent, effluent, and biosolids. The samples were then shipped to a special laboratory in Canada. At the close of 2020, the results had not been received.

Community Outreach Activities 2020

Veolia is proud to be a member of the Novato community and we are committed to supporting local activities. The following are events and organizations supported by Veolia in 2020.

- Senior Health Fair Booth – Pre COVID-19
- School Fuel Event Cancelled due to concerns for the Pandemic
- Rotary Club - January - Mid March 2020 in person meetings attended. Mid-March - December attended Zoom® online meetings
- Novato Chamber of Commerce - Member since 2010
- Margaret Todd Senior Center Monthly Birthday Celebrations - held in February 2020. The remainder of year's events were cancelled.

Asset Management Program

Computerized Maintenance Management System (CMMS)
Key components of an Oracle Work Asset Management (OWAM or WAM) software program include:

- OWAM is a robust multi-layered asset management system which provides modules for purchasing, inventory control, asset life cycle cost, as well as the typical scheduling and maintenance tracking tools.

- Preventive maintenance (PM) is a scheduled maintenance activity generally tied to equipment runtime or time periods (weekly / quarterly).
- Equipment inventory is crucial to all phases of Asset Management. Equipment at the NTP has been entered into the OWAM data base.
- Criticality Assessment is typically performed every 5 years. The last assessment was conducted in 2019.

2020 MAINTENANCE ACTIVITIES OVER $10,000.00 – DISTRICT FUNDED

April	**Equipment**	**Activity**
	Ignacio Pump Station Standby Generator	Leete® - Replaced generator rear bearing/housing unit
	Headworks Screenings Grinder	Replaced gear box and rotor
	Sludge Transfer Pump #1	Replaced mechanical seal
September	**Equipment**	**Activity**
	Novato - High Voltage Electrical Maintenance	Testing performed by HART®
October	**Equipment**	**Activity**
	Ignacio Standby Generator	Radiator recore - Cal Diesel & Power®

2020 MAINTENANCE ACTIVITIES – VEOLIA FUNDED

January	**Equipment**	**Activity**
	Gravity Belt Thickener #1	Replaced high pressure belt wash water pump
	2004 Toyota Prius	Replaced front windshield
	Gravity Belt Thickener #2	Replaced electrical motor on high pressure water pump
	Digester #2 Mixing Pump	Spare pump installed and placed online
	Mixed Liquor Pump #3	Replaced variable frequency drive
February	**Equipment**	**Activity**
	Digester #2 Mixing Pump	Rebuilt as a spare assembly
	Ultraviolet (UV) Disinfection Standby Generator	Replaced Batteries
	Administration Building Standby Generator	Replaced Batteries

	Primary Clarifier #2 Scum Trough Sensor	Sensor replaced, new conduit and electrical wires installed
March	**Equipment**	**Activity**
	UV Disinfection Standby Generator	Replaced Electronic Control Unit
	Novato and Ignacio Heating Ventilation Air Conditioning (HVAC) Units	Annual maintenance service
	Ignacio Pump Station - Effluent Flow Meter	Replaced flow meter
	UV Bridge Crane	Replaced motor/drive
	Digester #1 Mixing Pump	Replaced with rebuilt spare assembly
	Recycled Water Plant - Filter Screen #1	Performed annual service and cleaning
	Digested Sludge Transfer Pump #1	Replaced gear box
April	**Equipment**	**Activity**
	Final Digested Flow Meter	Replaced flow meter
	Aeration Turblex Blowers #1 & #2	Installed remote mount kits for human machine interface (HMI) soft start
	Ignacio Pump Station Line Pressure Transmitter	Replaced pressure transmitter
	An aerobic Digester Heat Loop Recirculation Pump #4	Replaced motor and motor starter
	Novato Headworks HMI	Replaced HMI Unit
	Administration Building Standby Generator	Replaced diesel engine alternator
	Novato Headworks Flow Meters - Channel #1 & #2	Replaced flow meters
May	**Equipment**	**Activity**
	Novato Operations Control Room - Uninterruptable Power Source	Performed annual service/battery check
	Novato and Ignacio Facilities - Flow Meters	Performed annual calibration/service
	Novato and Ignacio Facilities - Fire Extinguishers	Performed annual service/recharge
June	**Equipment**	**Activity**
	Novato and Ignacio Facilities - Thermography Assessment	Performed annual service at WWTP & Ignacio
	Novato and Ignacio Facilities - Electrical Evaluation	Performed annual service at WWTP & Ignacio

	Novato and Ignacio Heating Ventilation Air Conditioning (HVAC) Units	Semi-Annual service
	Anaerobic Digester Hot Water Boiler	Performed annual inspection and combustion testing
	Administration Building Standby Generator	Repaired exhaust system
	Novato Standby - Generator #2 & 3	Replaced block heaters
July	**Equipment**	**Activity**
	Novato - Hypochlorite Pump #1	Replaced motor and tachometer
	Novato - Displays for Level Transmitters	Replaced 5 new digital displays
	Emergency Generators & Wet Weather Pumps WWTP & Ignacio	Performed annual service/inspection at WWTP & Ignacio
	Administration Building Standby Generator	Replaced current transformers
	UVT Transmitter/Analyzer	Replaced analog card
	Gravity Belt Thickener - Filtrate Pump #1 & #2	Replaced contact kits
August	**Equipment**	**Activity**
	Novato - Forklift	Performed annual service
	Novato - Overhead Cranes	Performed annual inspection/certification
September	**Equipment**	**Activity**
	Primary Clarifier #1 - Odor Fan #2	Replaced shaft and propeller
	Anaerobic Digester Hot Water Boiler	Replaced power flame and back cover plate
	UV Disinfection - HMI	Replaced HMI
	Novato, Ignacio, Recycled Water Facilities - Flygt Pumps	Performed annual inspections
October	**Equipment**	**Activity**
	Primary Clarifier #2 - Sludge Scum Pump #3	Replaced electrical motor
	Jermone Meter	Annual calibration & service
	Headworks Channel #2 - Grit Vortex System	Replaced blower/compressor & motor electrical overload unit
	UV Standby Generator	Purchased & programmed spare ECU
	Aeration Basin # 1F - Dissolved Oxygen Meter Transmitter	Replaced transmitter
November	**Equipment**	**Activity**

	Turblex Multistage Blower #2	Reloaded software computer program - due to a speed control condition
December	**Equipment**	**Activity**
	Influent Pump #1 - Wet Well #1	Replaced cooling fan
	Aeration Blower Room	Repaired roll up door

Safety and Training 2020

The Environmental, Health, Safety & Transportation (EHS&T) department's team of professionals is dedicated to creating a safe, secure and compliant workplace through ongoing education, awareness and risk-control programs. We provide support to Veolia operations, as well as due diligence activities for future business opportunities, with our Corporate, Industrial, and Municipal & Commercial presence. We also seek to influence employee safety and well-being beyond the workplace through reinforcement of positive lifestyle choices and behaviors.
We focus our continual improvement efforts in alignment with Veolia's five (5) pillars:

- Management Involvement
- Employee Involvement and Development
- Communication and Dialogue
- H&S Risk Management
- H&S Performance Monitoring & Control

Veolia Water recognizes the importance of an effective health and safety program to the well-being of each employee, the general public, clients/facility owners, and to the overall success of our company. Veolia Water is committed to providing its employees a healthful and safe place of employment. To that end, Veolia Water provides the proper training, materials, and equipment so that work can be performed safely and in compliance with the Occupational Safety and Health Administration (OSHA) Regulations and other applicable standards.
Veolia Water has had no incidents from June 1, 2010 to present at the NTP. 2020 was an incident free year. In recognition of this achievement - each employee received a cash incentive reward from Veolia Water for 9 years no loss time.

Management, Operation and Maintenance Technician Training
The California Water Environment Association and Rural Community Assistance Corporation provide technical training to support the re-certification of professional licenses which Veolia Water staff attended throughout 2020.

Safety Training Calendar

VEOLIA

2020 Veolia M&C EHS Training Calendar

Month	Safety Topic	Notes
1st Quarter		
January Online - JJK	HazCom: What You Need to Know OSHA Annual	For all employees who are eligible for the safety bonus: Brief employees on site SDS locations and types of HazMat labeling systems used onsite Laboratory Chemical Hygiene Plan, where applicable - annual review, certification, and training
February Classroom	Lockout/Tagout - Corporate Program	Review Site LOTO Program Changes - e.g., new equipment or changes that require updates to site Energy Control Procedures Recommend review of Veolia's Global High Risk Management "Control of Hazardous Energy" Standard with employees.
March Online - JJK	2 Online Courses: Fire Prevention & Response Fire Extinguisher Use OSHA Annual	All employees eligible for safety bonus must take 'Fire Prevention and Response.' Employees designated to use Fire Extinguishers (e.g., Hot Work Fire Watch) must also take 'Fire Extinguisher Use.' Optional to have training provided by outside vendor for hands-on training in lieu of JJK Fire Extinguisher Use
2nd Quarter		
April Classroom	Confined Spaces & Permit Spaces - Corporate Program OSHA Annual	Review site PRCS program changes, affected spaces etc. Recommend review of Veolia's Global High Risk Management "Confined Spaces" Standard with employees.
May Online - JJK	Walking-Working Surfaces - What Employees Need to Know	For all employees who are eligible for the safety bonus.
June Classroom	Hearing Conservation and Safety OSHA Annual	
3rd Quarter		
July Online - JJK	Heat Stress	
August Classroom	Electrical Safety - Corporate Program In 2 Parts	NOTE: All plant employees must complete Part 1 of this training. Part 2 of this training is only applicable to those employees who conduct Energized Electrical Work. Recommend review of Veolia's Global High Risk Management "Electricity" Standard with employees.
Sept. Classroom	Respiratory Protection OSHA Annual	For affected workers who must don respirators as part of their work requirements. For employees who only use dust masks on a strictly voluntary basis, review one slide on dust mask use and provide copy of 29 CFR 1910.134 Appendix D (handout).
4th Quarter		
October Online - JJK	Scissor Lifts for General Industry, Aerial Lifts for General Industry or Ladder Safety for General Industry	If project does not use Scissor Lifts, enroll employees in Aerial Lift course, if neither type of man-lift is used at the project, enroll employees in Ladder Safety course.
November Classroom	Hot Work & Welding Safety - Corporate Program In 2 Parts	NOTE: All plant employees must complete Part 1 of this training. Part 2 of this training is only for employees who conduct Hot Work. Recommend review of Veolia's Global High Risk Management "Hot Work" Standard with employees.
December Online - JJK	Bloodborne Pathogens: Safety in the Workplace OSHA Annual	For all employees who are eligible for the safety bonus or otherwise designated to provide first aid as part of their work requirements - Not required if employees receive BBP training as part of first aid training

Notes: Training sessions are classroom format unless otherwise noted as Online-JJK. Some training topics must be complemented with site-specific content, refer to the Notes column. The Notes column also provides guidance on which employees must take a particular training and alternative options. "OSHA Annual" denotes annual OSHA required training.

Date: 12/13/19

VEOLIA

Veolia International Safety Week and Public Education Activities

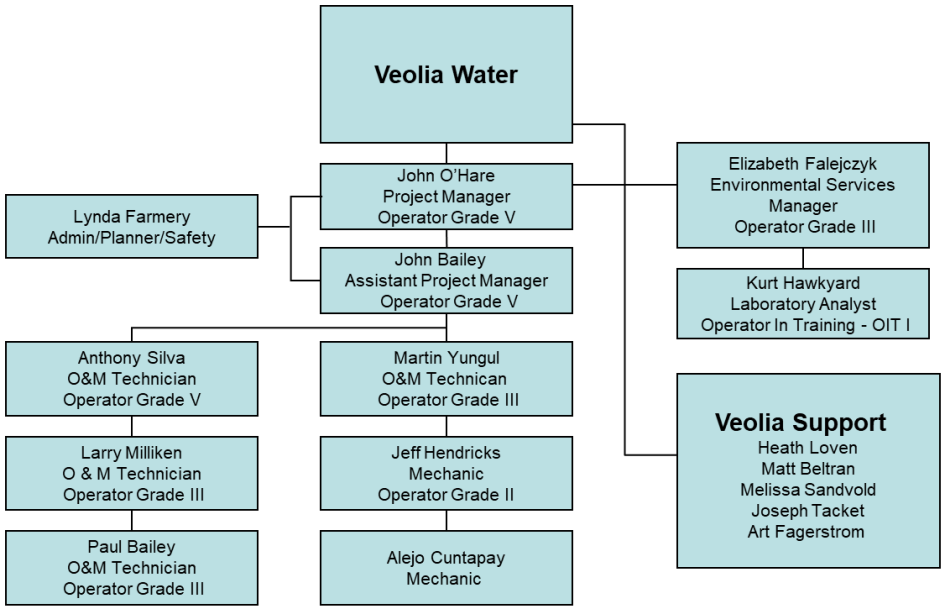
Above – John Bailey, Assistant Project Manager signing the international post as a sign of commitment.
Below - Liz Falejczk, Veolia Water Environmental Services Supervisor attending the Marin Health Day. February 2020 pre-COVID-19 restrictions.

Additional Safety Training conducted in 2020

Pandemic Site Work Safety Plan Review
Forklift Operator Safety/Certification
70e Electrical Refresher Training
Lock Out Tag Out Refresher Training
Mental Safety Assessment Training
Basic Electrical Training
Novato and Ignacio Facilities - Spill Prevention and Countermeasure Plan

Staffing and Organization

Organization Chart
Veolia Water
California Wastewater Treatment Plant Operators



Certification Status (Details)

John P. O'Hare – Project Manger
Grade V California Wastewater Treatment Plant Operator #10669, June 30, 2021
Grade IV, Wastewater Treatment Plant Operator, Association of Boards of Certification # S40011R, November 21, 2021
Grade VII, Wastewater Treatment Plant Operator, Massachusetts #977, December 31, 2021
Grade IV, Collection Systems, Massachusetts #882-C (1986)
Grade I, Environmental Compliance Inspection, CWEA #04074112, July 31, 2021
Grade I, Laboratory Analyst, California, CWEA #05013114, March 31, 2021
Grade I, Plant Maintenance Technologist, CWEA #050751016, July 31, 2021
Grade I, Water Distribution Operator, California Department of Public Health #34234 April 1, 2023

John Bailey – Assistant Project Manager
Grade V California Wastewater Treatment Plant Operator #4123, December 31, 2021

Anthony M. Silva – Operator III
Grade V California Wastewater Treatment Plant Operator #10973, December 31, 2023
Grade II Collection System Maintenance Technician, CWEA #354, January 31, 2022

Larry Milliken – Operator III
Grade IV California Wastewater Treatment Plant Operator #41483, August 12, 2023

Paul Bailey – Operator III
Grade III California Wastewater Treatment Plant Operator #28322, December 24, 2022

Martin Yungul – Operator III
Grade III California Wastewater Treatment Plant Operator #43219, July 17, 2023
Grade II Water Treatment Operator, California Department of Public Health #38976, December 1, 2023
Grade II Water Distribution Operator, California Department of Public Health #48443, May 20, 2022

Jeffrey D. Hendricks – Operator II
Grade II California Wastewater Treatment Plant Operator #28377, December 31, 2023
Grade I Plant Maintenance Technologist #070750011, July 31, 2021
Grade I Collection System Maintenance #801210049, January 31, 2021

Elizabeth G. Falejczyk – Environmental Services Supervisor
Operator III California Wastewater Treatment Plant Operator #6334, August 17, 2021

Kurt Hawkyard – Laboratory Technician/Pretreatment Programs Inspector
Operator In Training OIT-I Novato WWTP, August 15, 2022
Laboratory Analyst Grade I #130931002, June 30, 2021
Industrial Waste Grade II #1308211129, June 30, 2021
Environmental Compliance Inspector, Grade II #130821437, March 31, 2021

Summary of Shifts - 2020

The facility is currently being manned 10 hours per day with two alternating shifts, which rotate every 7 days. This schedule was developed in March 2020 due to the concern regarding the pandemic and continued operations of the facility. There is a designated minimum Grade III on call operator with access (cellphone, pager and tablet) to the facility supervisory control and data acquisition system for the other 14 hours. Below is the overview of the shift days.

Team 1 – 5 employees

- Sunday- Tuesday (3 days) followed by Sunday-Wednesday (4 days)

Team 2 – 6 employees

- Wednesday – Saturday (4 days) followed by Thursday - Saturday(3 days)
- Administrative Assistant

Additional Veolia Support

- Melissa Sandvold – Vice President of Operations
- Matt Belltran – Director of Health and Safety, Veolia Municipal and Commercial Manager
- Heath Loven– Technical Director / Technical Support, West Region
- Art Fagerström, PE, BCEE, Technical Manager, Corporate Technical Support
- Joe Hart – Regional Asset Manager
- Dave Coffman – Asset Manager, West Region
- Matt Nausin – Maintenance Supervisor, Richmond Project
- Dennis Flosi – Instrumentation and Controls Specialist, Richmond Project

Contract Adjustments

The Amended and Restated Novato Operations and Maintenance Service Agreement adopted February 18, 2014 is a fixed price contract. Included in the base contract fee are management, operation, and maintenance. Exceptions to the fixed price include:

Schedule 13 – Pass through Costs

Section 5.6 – Performance Bond

Schedule 8 – Cost Adjustment and Escalation Indices

Schedule 8 – Flow and Loading Adjustments

Schedule 11 – Usage Caps

- Electrical
- Natural Gas
- Diesel Fuel

Schedule 5 – Operation of Recycled Water Facility

Equipment Repair in excess of $10,000

Fiscal Year 2019/20 service fee adjustment was 2.865%.

Title 22 – Recycled Water Production Report for 2020

All water produced by the Novato Sanitary District (NSD) Recycled Water Facility was distributed by the North Marin Water District (NMWD).

In 2020, compliance testing for coliform was performed at the NMWD laboratory, NMWD is a State of California Environmental Laboratory Accreditation Program certified facility.

Recycled Water Table 6.0 below provides a summary of the quantity and quality of recycled water produced by NSD.

Table 6.0 Recycled Water Plant

Novato Sanitary District 2020 Recycled Water Production Data							
Month	Water Delivered (Million Gal)	Effluent Turbidity (NTU)		Effluent CT Value (mg min/L)		Effluent Coliform (mpn/100 ml)	
Criteria	1.7 mgd	<2		>450		<2.2	
		Max	Ave	Min	Ave	Max	7 Med
January	N/A	N/A	N/A	N/A	N/A	N/A	N/A
February	4.794	1.1	0.6	>450	>450	<1	<1
March	9.832	1.3	0.5	>450	>450	15	<1
April	12.700	1.0	0.6	>450	>450	<1	<1
May	22.401	1.1	0.6	>450	>450	4	<1
June	34.612	0.9	0.5	>450	>450	<1	<1
July	37.591	1.1	0.5	>450	>450	<1	<1
August	33.995	1.5	0.7	>450	>450	<1	<1
September	20.492	1.7	0.5	>450	>450	<1	<1
October	20.571	1.0	0.5	>450	>450	<1	<1
November	8.593	0.9	0.3	>450	>450	24	<1
December	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL	205.58	+ Deer Island 2.99 MG = 208.57					

Attachments

Annual Waste Characteristics & Loading Summary

NOVATO SANITARY DISTRICT - VEOLIA

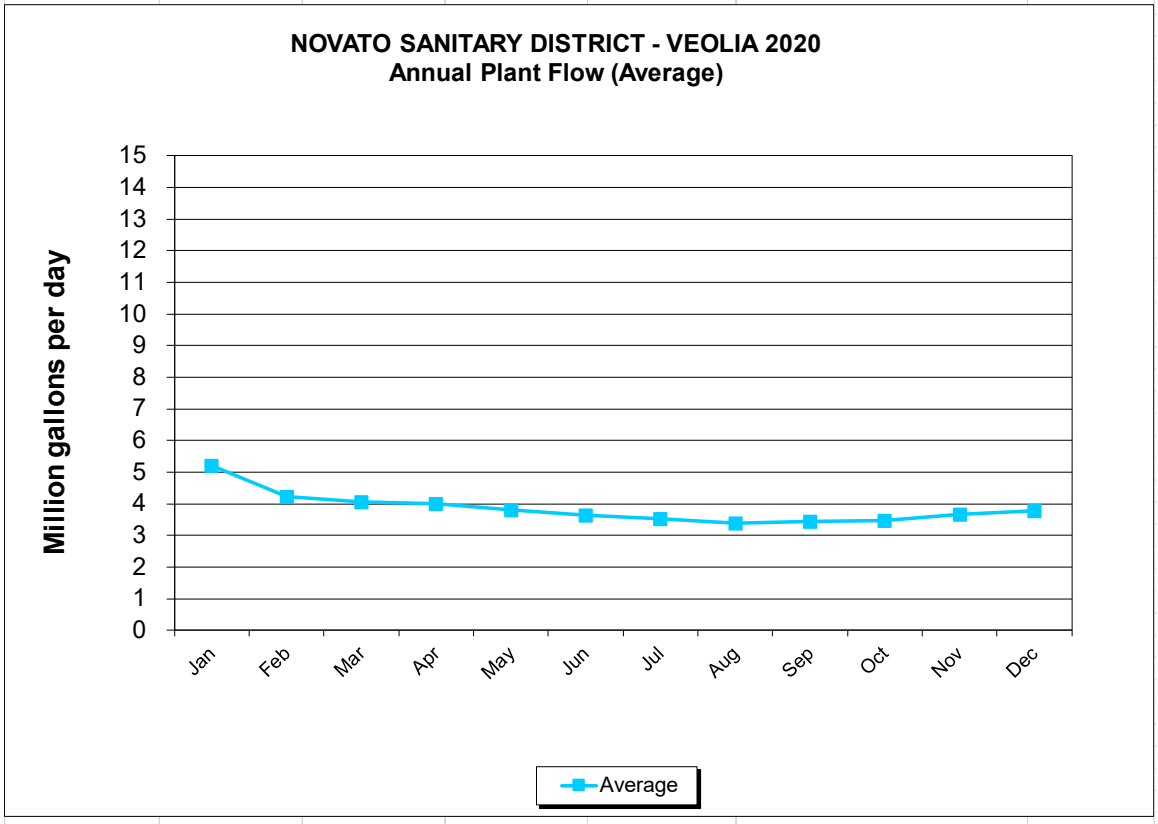
PLANT FLOW

Annual Waste Characteristics & Loading Summary

(IN GALLONS TIMES 1,000,000)

YEAR: 2020 PRINT DATE: 19-Feb-2021

	Total Flow	High	Low	Average		
January	161.50	8.82	3.00	5.21	Peak Wet Weather Flow (MAX Day)	8.86
February	122.26	5.52	2.78	4.22	Max Peak Wet Weather (1-3 Hour)	14.00
March	125.85	4.67	3.71	4.06		
April	120.47	5.19	3.48	4.02		
May	118.16	4.49	2.81	3.81		
June	109.05	3.93	3.34	3.64		
July	109.53	4.38	3.27	3.53		
August	105.25	3.73	2.87	3.40	Three month dry weather averages:	3.40
September	103.20	3.98	3.11	3.44		3.44
October	107.11	5.46	3.10	3.46		3.46
November	109.71	4.28	3.23	3.66		
December	117.39	4.54	3.27	3.79		
ANNUAL TOTAL	1409.48					
ANNUAL MAX.	161.50	8.82			Max.	14.00
ANNUAL MIN.	103.20		2.78		Min.	3.40
ANNUAL AVG.	117.46			3.85	**Avg. Dry Weather Flow**	**3.43**

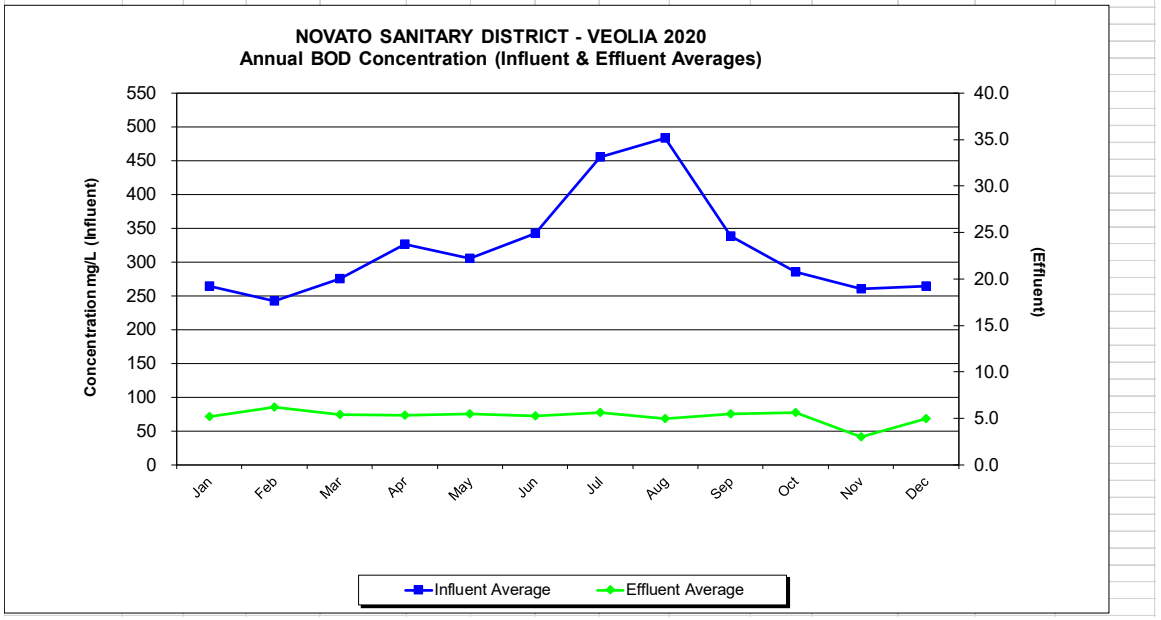


NOVATO SANITARY DISTRICT - VEOLIA
BOD (Influent & Effluent)

Annual Waste Characteristics & Loading Summary

YEAR: 2020 PRINT DATE: 16-Feb-2021

	INFLUENT							EFFLUENT						
	Concentration (mg/L)			No. of Samples	Loading (lb/day)			Concentration (mg/L)			No. of Samples	Loading (lb/day)		
	High	Low	Average		High	Low	Average	High	Low	Average		High	Low	Average
January	380	130	264	5	16131	6375	11035	6.0	5.0	5.2	6	294	185	218
February	250	230	243	4	9495	7766	8673	10.0	5.0	6.2	5	834	209	352
March	290	260	275	4	10061	8348	9302	6.0	5.0	5.4	5	208	166	182
April	470	326	326	5	14386	6085	10517	6.0	5.3	5.3	6	192	160	175
May	360	280	305	4	11169	6796	9163	8.0	5.0	5.5	12	260	117	182
June	424	300	342	5	12695	8757	10254	8.0	5.0	5.3	14	262	139	160
July	710	300	455	5	20784	8507	13307	7.0	5.0	5.6	13	213	139	165
August	584	376	484	4	15196	10003	13190	5.0	5.0	5.0	12	150	130	142
September	466	248	338	5	13875	6888	9704	6.0	5.0	5.5	6	179	140	157
October	434	210	285	5	11691	5815	7961	7.0	5.0	5.6	5	200	135	157
November	300	229	260	5	9157	7105	7988	3.0	3.0	3.0	6	96	88	93
December	289	248	264	5	8784	7387	8139	5.0	5.0	5.0	6	176	136	153
ANNUAL HIGH	710	376	484	5	20784	10003	13307	10.0	5.3	6.2	14	834	209	352
ANNUAL LOW	250	130	243	4	8784	5815	7961	3.0	3.0	3.0	5	96	88	93
ANNUAL AVG.	413	261	320	5	12785	7486	9936	6.4	4.9	5.2	8	255	145	178



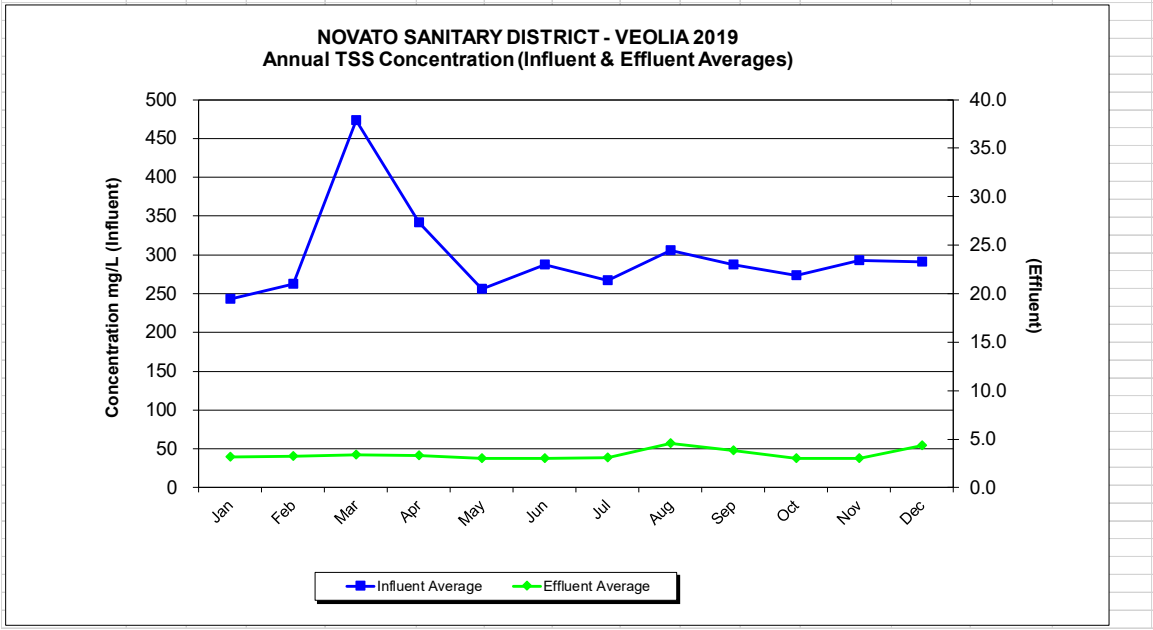
NOVATO SANITARY DISTRICT - VEOLIA

SUSPENDED SOLIDS (Influent & Effluent)

Annual Waste Characteristics & Loading Summary

YEAR: 2020 PRINT DATE: 16-Feb-2021

	INFLUENT							EFFLUENT						
	Concentration (mg/L)			No. of Samples	Loading (lb/day)			Concentration (mg/L)			No. of Samples	Loading (lb/day)		
	High	Low	Average		High	Low	Average	High	Low	Average		High	Low	Average
January	318	183	243	5	13499	8974	10213	4.0	3.0	3.2	5	152	111	132
February	270	246	263	4	11146	8309	9433	4.0	3.0	3.2	4	138	97	120
March	862	283	474	4	28613	9984	15866	4.0	3.0	3.4	4	139	96	115
April	447	300	341	5	13682	9583	11032	3.0	3.0	3.3	5	128	92	109
May	266	242	256	4	8500	6234	7657	3.0	3.0	3.0	4	102	70	93
June	305	268	288	5	9964	7744	8639	3.0	3.0	3.0	5	98	84	90
July	285	251	267	5	8343	7117	7786	4.0	3.0	3.1	5	118	83	90
August	338	266	306	4	9472	7587	8337	10.0	3.0	4.6	4	285	78	131
September	344	260	287	5	9955	7373	8201	5.0	3.0	3.8	5	149	85	110
October	302	242	273	5	8181	6701	7669	3.0	3.0	3.0	5	90	81	84
November	332	258	293	5	10300	8026	8981	3.0	3.0	3.0	5	96	88	93
December	346	243	291	5	11052	7681	9016	6.0	3.0	4.3	5	190	82	135
ANNUAL HIGH	862	300	474	5	28613	9984	15866	10.0	3.0	4.6	5	285	111	135
ANNUAL LOW	266	183	243	4	8181	6234	7657	3.0	3.0	3.0	4	90	70	84
ANNUAL AVG.	368	254	298	5	11892	7943	9402	4.3	3.0	3.4	5	140	87	108



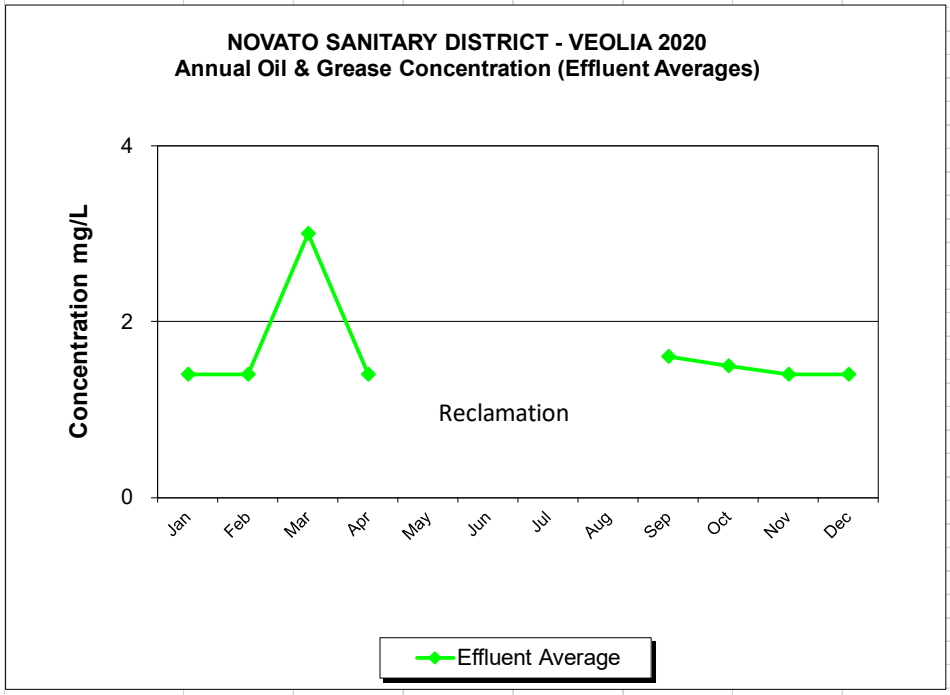
NOVATO SANITARY DISTRICT - VEOLIA
OIL & GREASE (Effluent)

Annual Waste Characteristics & Loading Summary

YEAR: 2020 PRINT DATE: 16-Feb-2021

* = Reclamation

	EFFLUENT						
	Concentration (mg/L)			No. of Samples	Loading (lb/day)		
	High	Low	Average		High	Low	Average
January	1.4	1.4	1.4	1	1.4	1.4	1.4
February	1.4	1.4	1.4	1	1.4	1.4	1.4
March	3.0	3.0	3.0	1	3.0	3.0	3.0
April	1.4	1.4	1.4	1	1.4	1.4	1.4
May							
June							
July							
August							
September	1.6	1.6	1.6	1	1.6	1.6	1.6
October	1.5	1.5	1.5	1	1.5	1.5	1.5
November	1.4	1.4	1.4	1	1.4	1.4	1.4
December	1.4	1.4	1.4	1	1.4	1.4	1.4
ANNUAL HIGH	3.0	3.0	3.0		3.0	3.0	3.0
ANNUAL LOW	1.4	1.4	1.4		1.4	1.4	1.4
ANNUAL AVG.	1.6	1.6	1.6		1.6	1.6	1.6



NOVATO SANITARY DISTRICT - VEOLIA

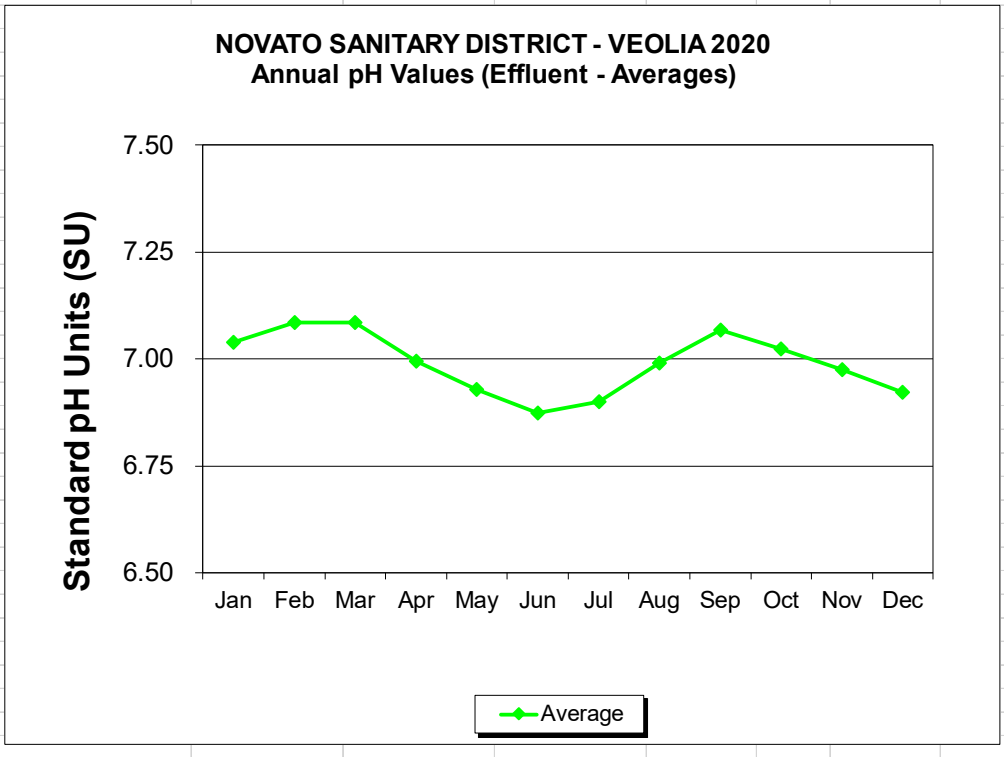
pH (Effluent)

Annual Waste Characteristics & Loading Summary

YEAR: 2020 PRINT DATE: 16-Feb-2021

	High	Low	Average	Number of Samples
January	7.2	6.9	7.0	23
February	7.3	7.0	7.1	20
March	7.3	7.0	7.1	22
April	7.1	6.9	7.0	22
May	7.0	6.8	6.9	21
June	7.0	6.7	6.9	23
July	7.0	6.8	6.9	22
August	7.1	6.9	7.0	21
September	7.2	6.9	7.1	22
October	7.2	6.9	7.0	22
November	7.2	6.9	7.0	21
December	7.0	6.8	6.9	23

				Number of Samples Total =			262
ANNUAL MAX.	7.30	7.00	7.09				
ANNUAL MIN.	7.00	6.70	6.87	1st Qtr.	65	2nd Qtr.	66
ANNUAL AVG.	7.13	6.88	6.99	3rd Qtr.	65	4th Qtr.	66



NOVATO SANITARY DISTRICT - VEOLIA

TEMPERATURE (Effluent)

Annual Waste Characteristics & Loading Summary

YEAR: 2020 PRINT DATE: 16-Feb-2021

	High	Low	Average	Number of Samples
January	18.1	16.8	17.5	23.0
February	19.2	16.3	17.9	20.0
March	19.4	17.3	18.4	22.0
April	21.2	17.9	19.6	22.0
May	24.4	20.3	21.6	21.0
June	24.4	22.2	23.4	23.0
July	25.5	23.4	24.2	22.0
August	25.9	24.1	24.9	21.0
September	25.7	24.1	24.7	22.0
October	25.0	22.1	24.0	22.0
November	23.3	19.8	21.6	21.0
December	20.9	18.3	19.6	23.0

				Number of Samples Total =			262
ANNUAL MAX.	25.9	24.1	24.9				
ANNUAL MIN.	18.1	16.3	17.5	1st Qtr.	65	2nd Qtr.	66
ANNUAL AVG.	22.8	20.2	21.5	3rd Qtr.	65	4th Qtr.	66