



Wastewater Management

Managing POTW in the age of Covid-19, Wildfire, PSPS

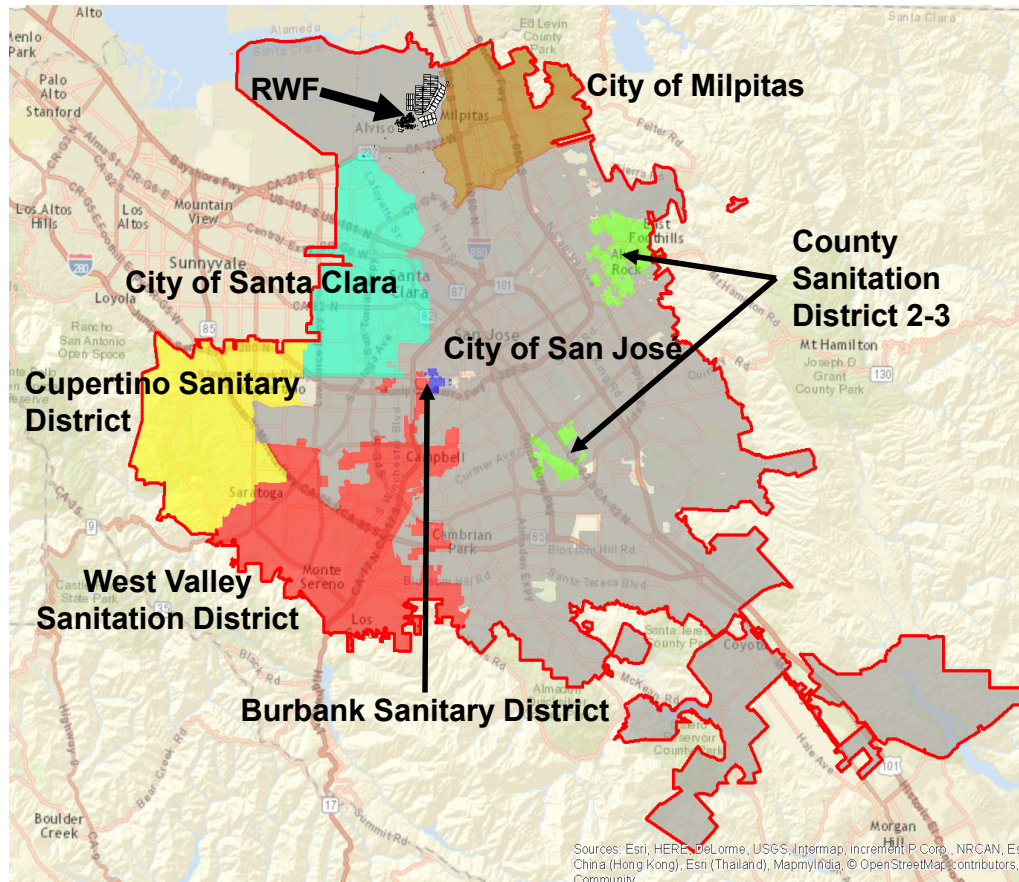
Bay Area Clean Water Agencies Annual Meeting

February 19, 2021



**San José-
Santa Clara
Regional
Wastewater
Facility**

San Jose – Santa Clara Regional Wastewater Facility



- Largest advanced wastewater facility on the West Coast
 - 167 MGD capacity
 - 2,600 acre site
- Serves
 - 1.4 million people
 - 17,000 businesses
 - 8 cities & County areas
- Continually operating 24/7 since 1956

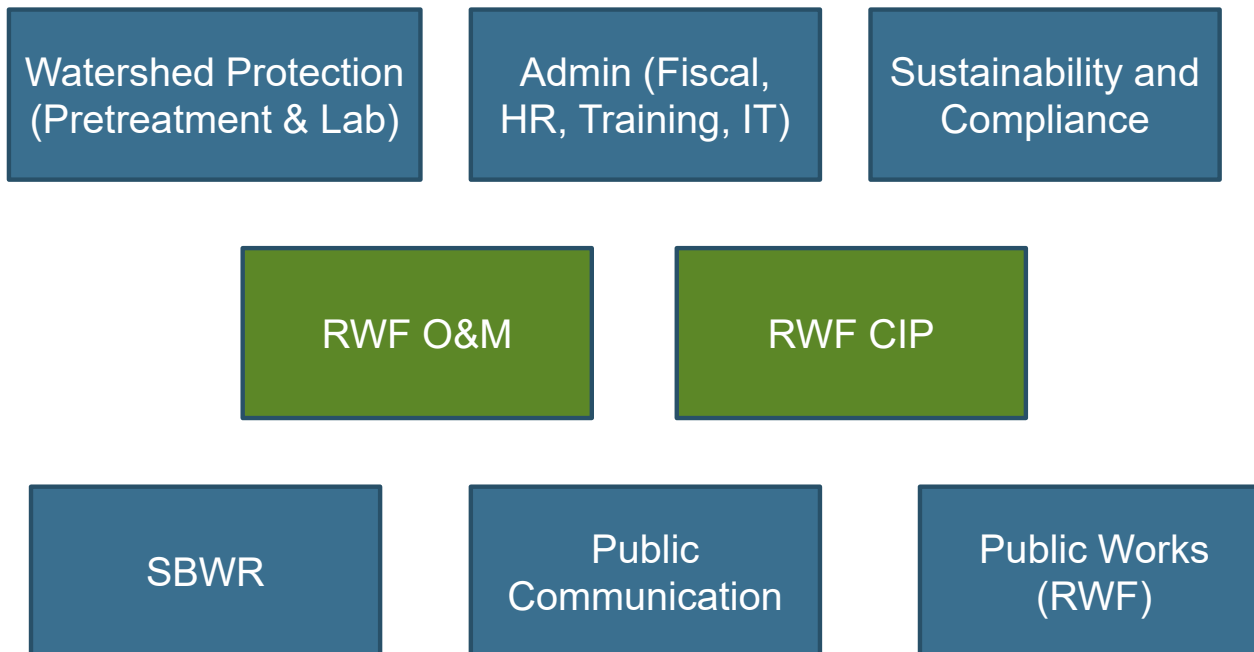
San Jose – Santa Clara Regional Wastewater Facility



2020 What a year it has been

- **The Pandemic COVID-19**
- **Wildfire and Smoke**
- **Public Safety Power Shutdowns**
- **Racial Injustice**

RWF Divisions



Construction Projects at RWF



New Piperack for Digester Gas



New Headworks



New Thermophilic Digesters



Yard Piping Rehab

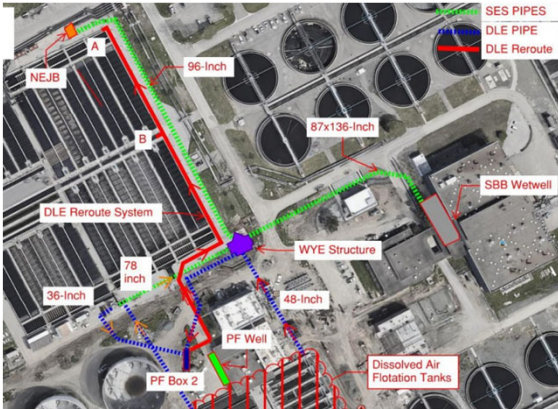


BNR2 Clarifier Rehab



New Cogen (completed)

Construction Projects at RWF



96-inch SS Pipe Rehab



BNR2 RAS Gallery Valve & Flowmeter Repl.



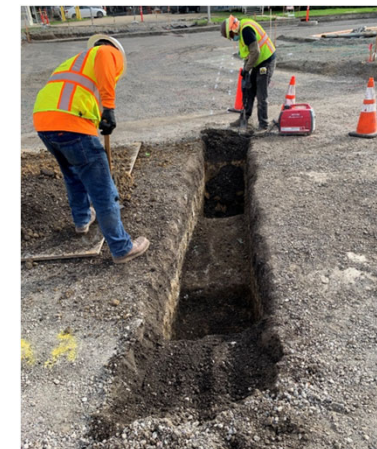
BNR2 Flow Meter Replacement



BNR2 Blower Motor Replacement



New 96 Raw Sewage

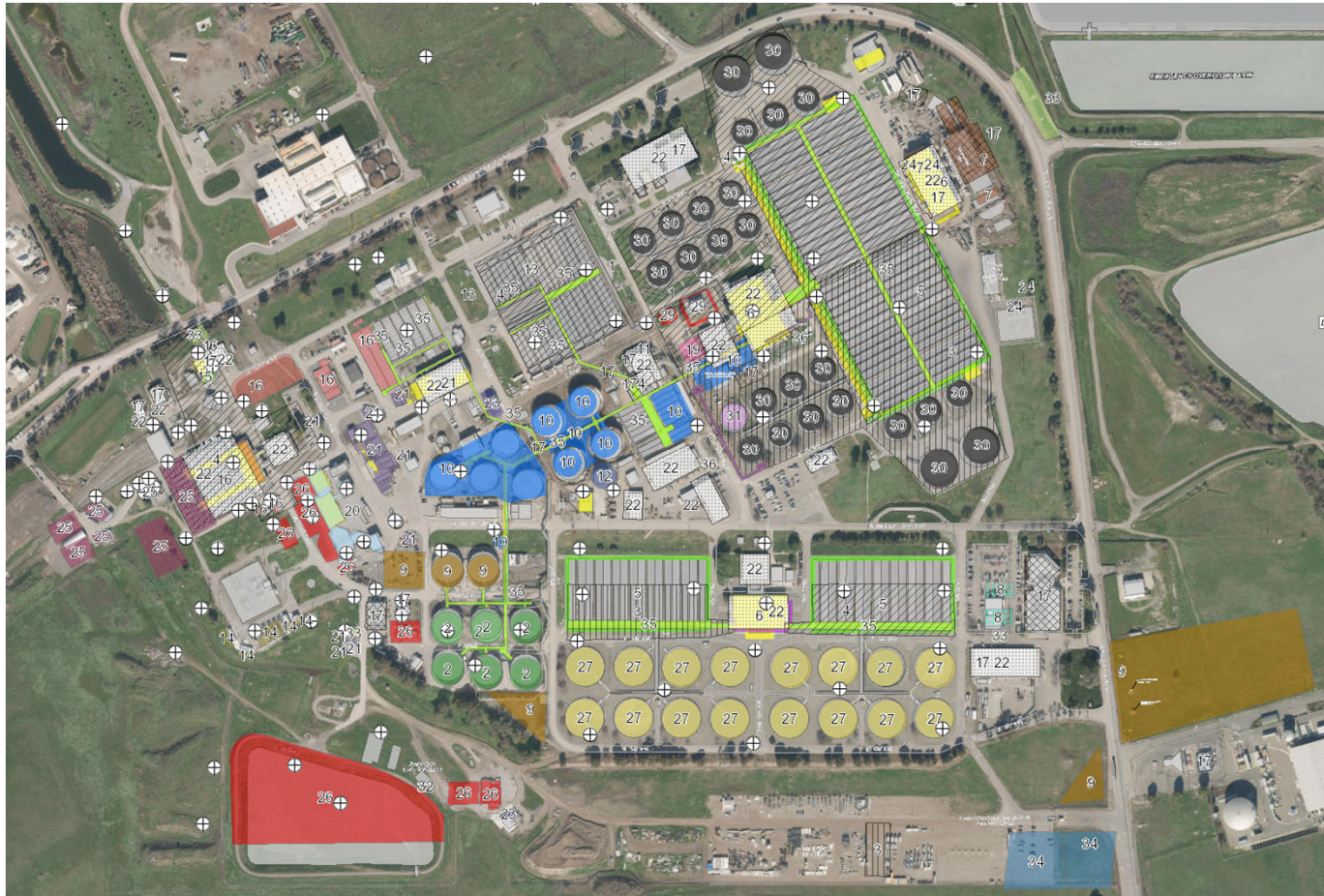


Underground
Utility Locating

Ongoing Construction Projects

- New Headworks
- Cogeneration
- Digester and Thickener Facilities Upgrade
- Filter Rehabilitation
- Nitrification Clarifier Rehabilitation
- Advanced Meter Replacement Phase I and Phase II
- Yard Piping Rehabilitation Phase I
- Sludge Dewatering
- Distributed Controls System Upgrade

Ongoing CIP projects



Continuity of Operation thru the Pandemic (early stages)

- Stay at home order: March 2020
- Quarantine 17 O&M staff (12 Instrumentation, 3 Operator, 2 other maintenance staff)
- Critical Operation and Maintenance Activities with minimal staff

Critical Operation & Maintenance Activities (April 2020)

- Wastewater treatment process
- Electrical cogeneration and distribution
- Control systems
- Critical maintenance and repairs to blowers, pumps, motors, compressors, control devices
- HVAC systems
- Water quality sampling and analysis (Lab)
- Chemical Delivery

Changes during early stages (April 2020)

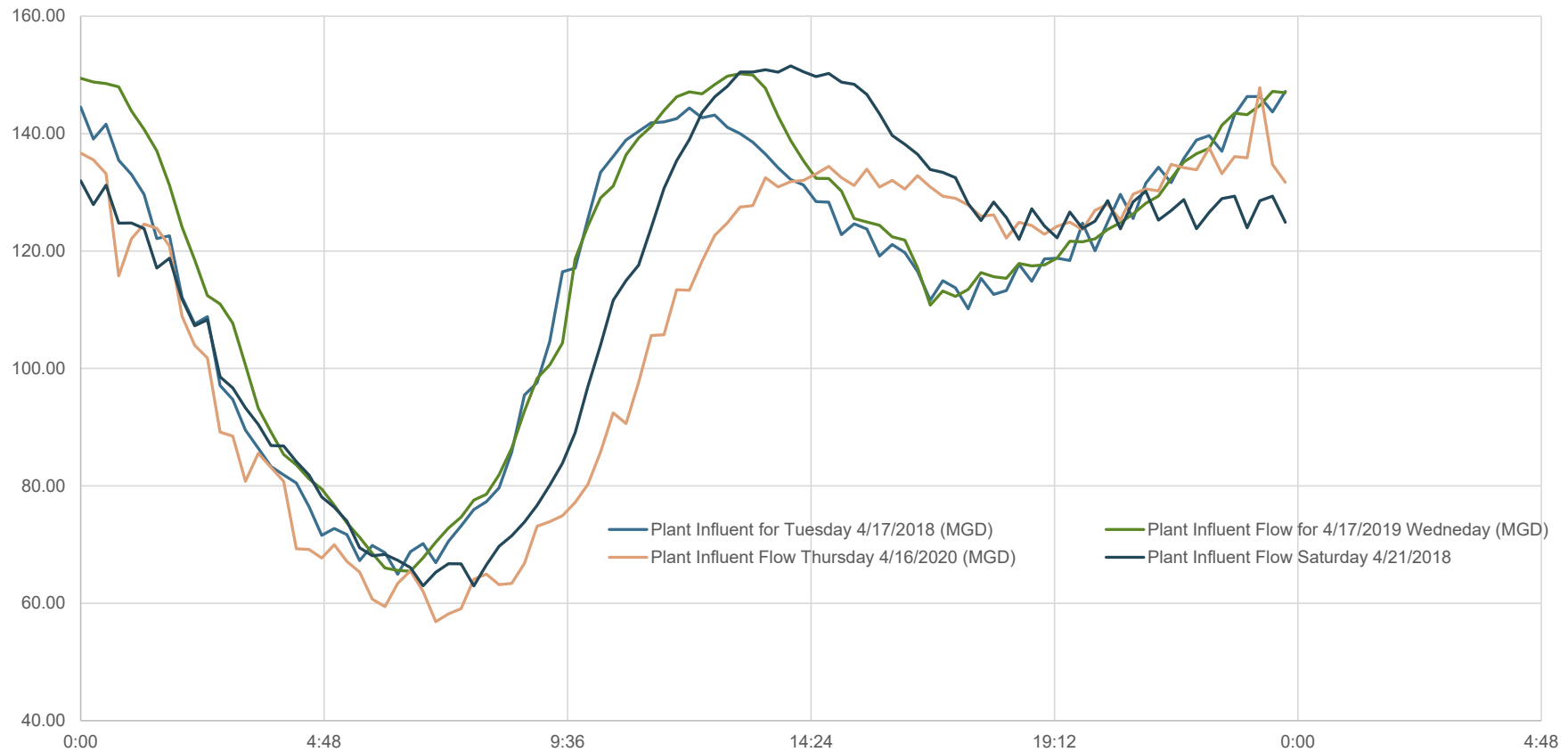
- Splitting shifts for various maintenance groups
- Weekend/holiday schedule of Operators
- Increased level of Standby Staff
- Maintain higher level of inventory of PPEs
- Emergency purchase order approval process
- Updated safety policies and guidelines
- Retiree rehire
- Mutual aid agreements with other agencies

Impacts of Fewer Staff

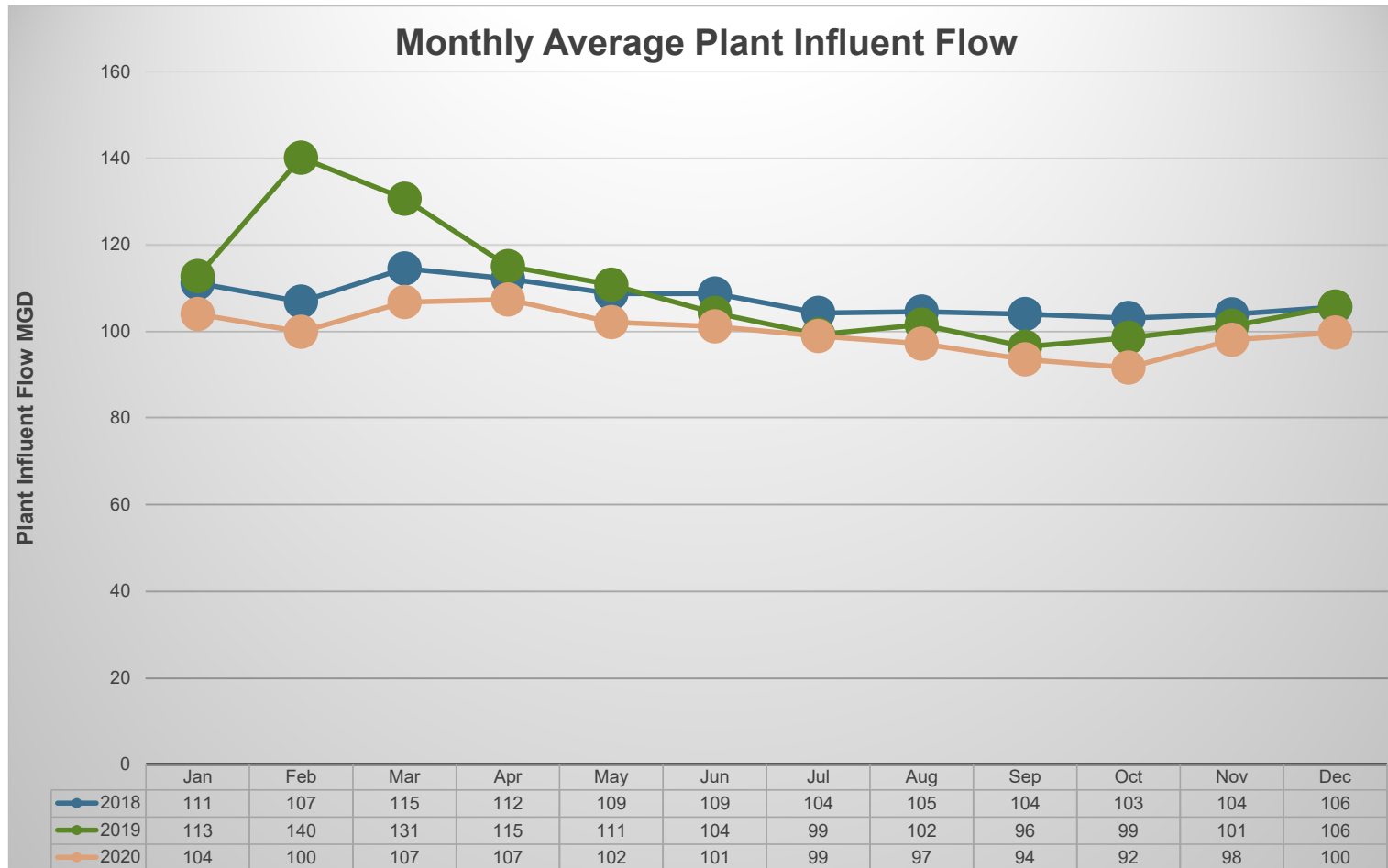
- Minimum process shutdowns:
Capital projects
- Deferral of routine and long-term
maintenance projects
- Less O&M participation in various
construction meetings



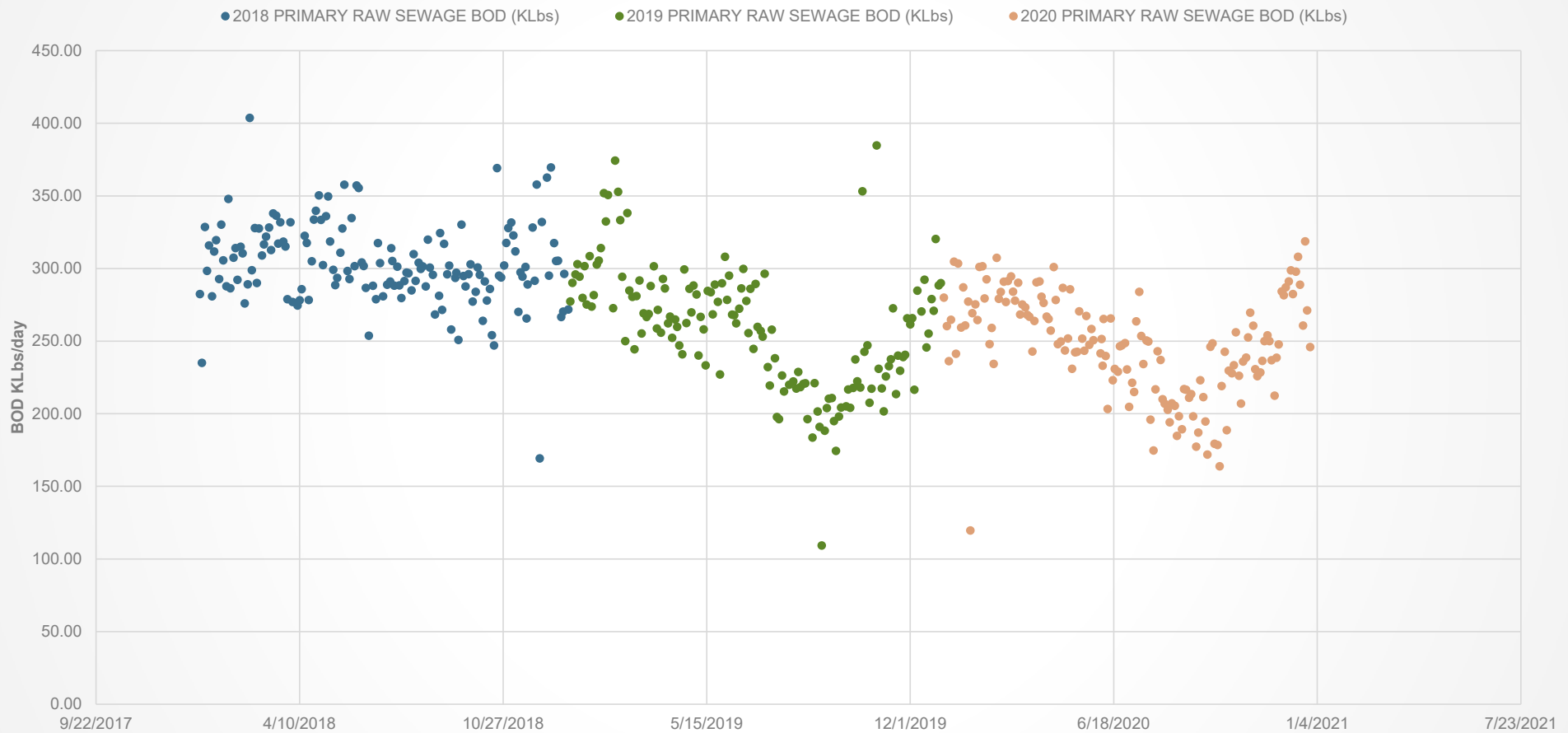
Diurnal Flows during changes



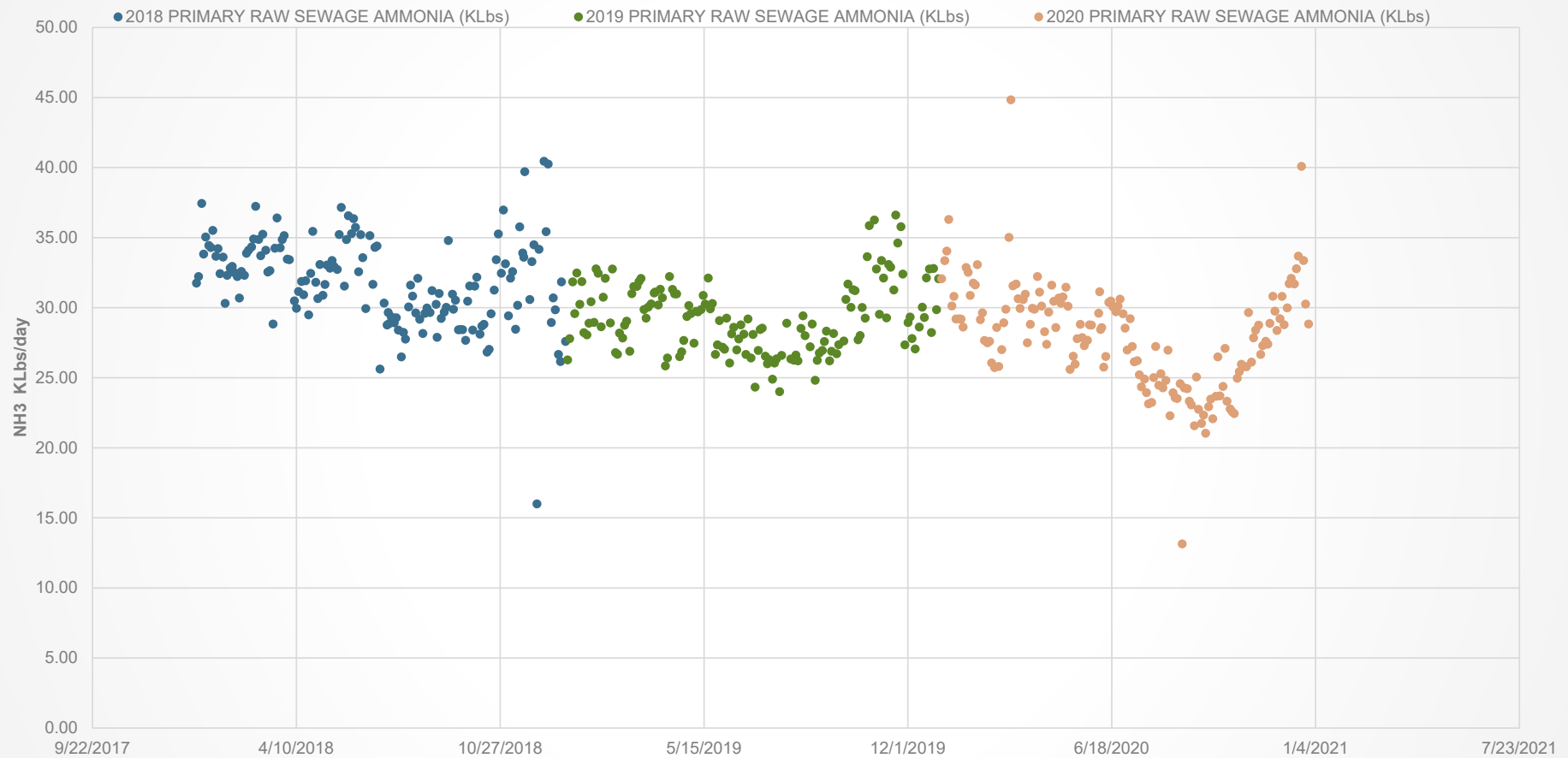
Plant Influent Flow Changes



Plant Influent BOD Loadings KLbs/day 2018-2020



Influent Ammonia KLbs/day



Workplace Changes



NOTICE

COVID-19 PRECAUTIONS

**ALL PERSONNEL SHOULD
WASH THEIR HANDS
FREQUENTLY WITH SOAP
AND WATER FOR AT LEAST
20 SECONDS**

KEEP YOURSELF AND OTHERS SAFE
HELP STOP THE SPREAD



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#ProtectSanJose

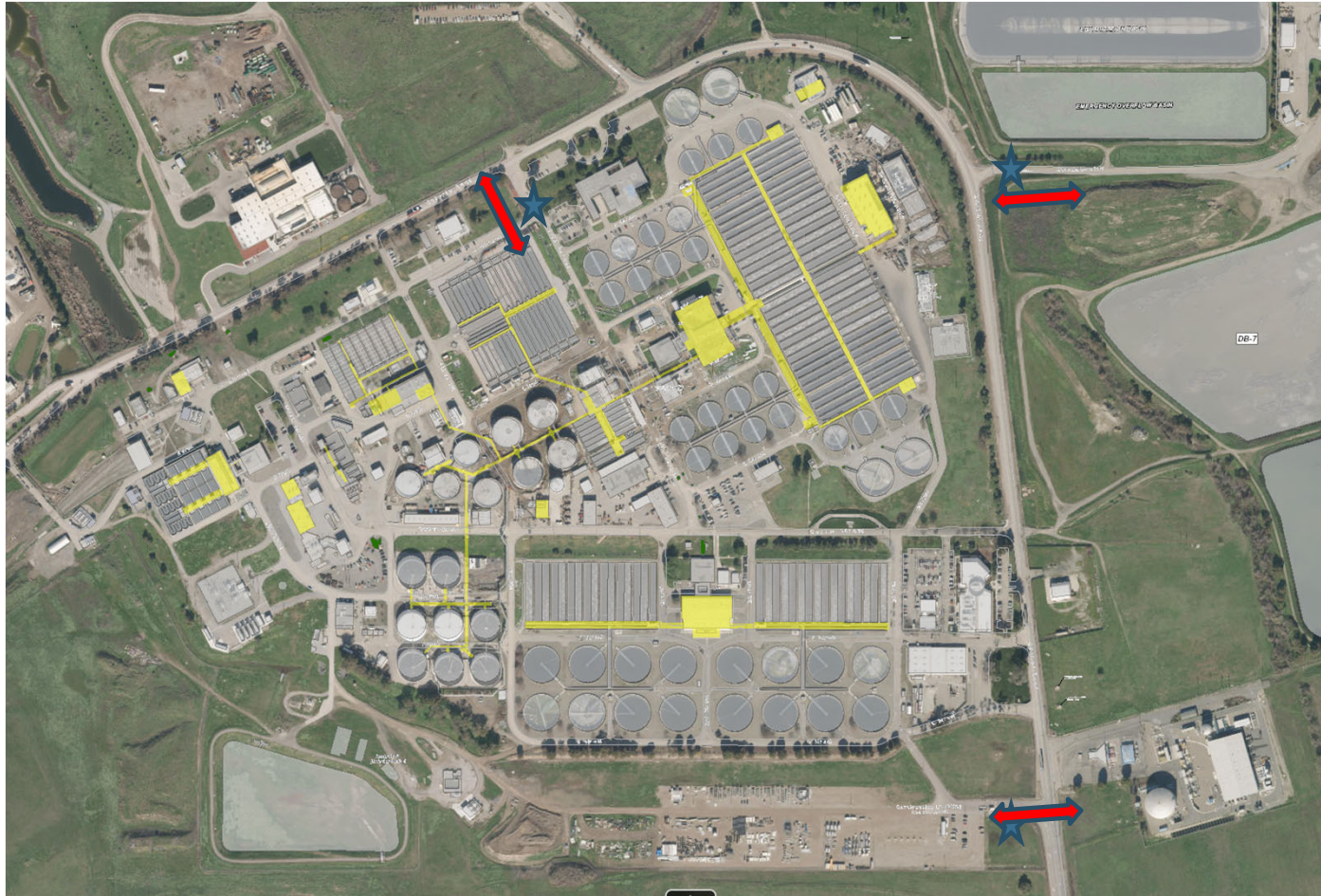
Changes in workplace for COVID-19

- Health Screening at the gates
- Temperature Scan
- Social Distancing
- Mask policy
- Maximum occupancy signs
- Office space modifications
- Staggered start and break times
- Travel Restrictions
- Contact tracing and precautionary measures

Changes in workplace for COVID-19

- Clearance to report to work/return to work
- Household Exposure
- Close Contact Exposure
- What do I do if an employee calls in sick?
- What do I do if I am notified that employee was turned away at the screening

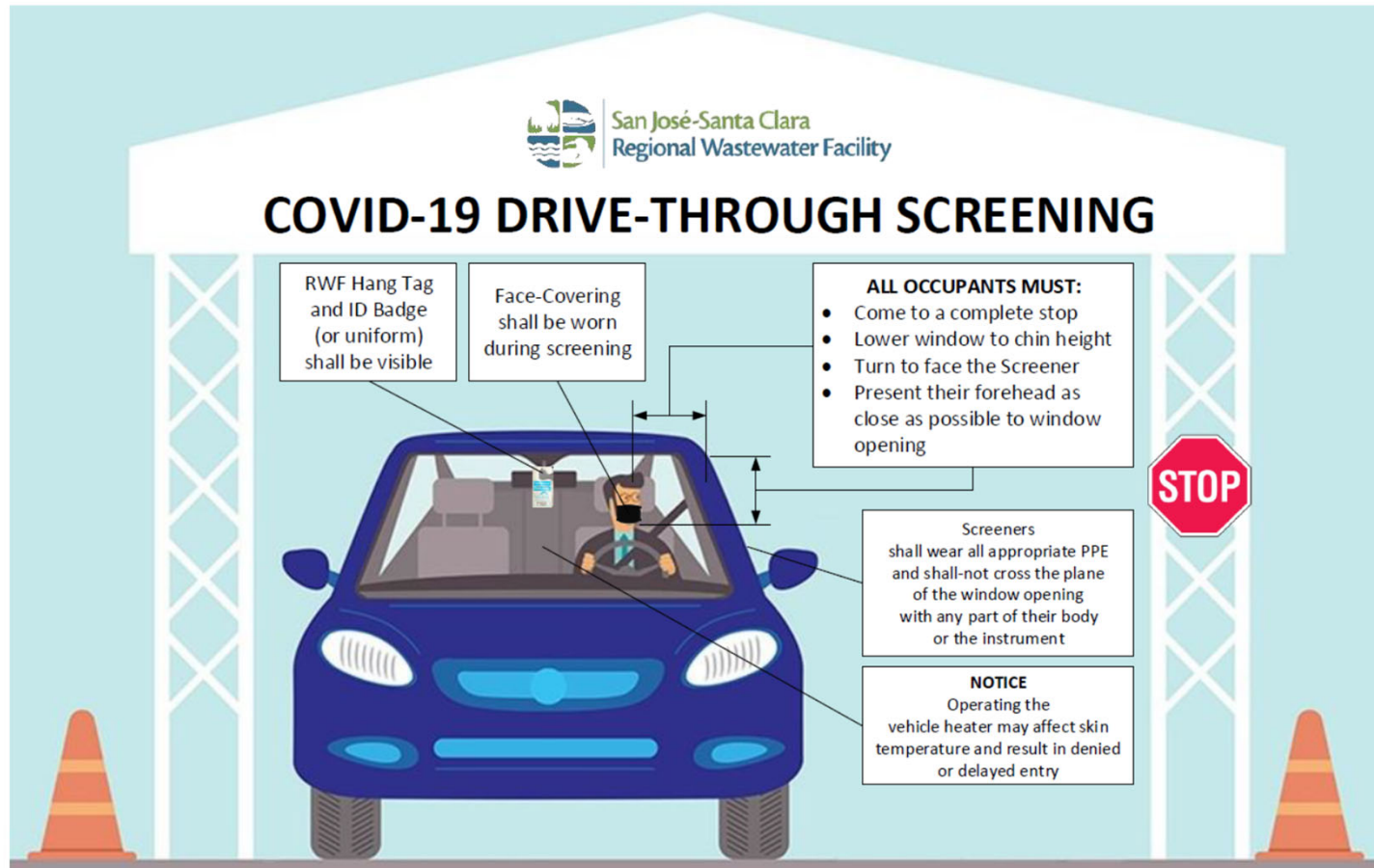
RWF Site Health Screening check points



Entrance Restrictions



RWF Covid-19: Health Screening at Entry



RWF Covid-19 Signages

STOP

Do You Have Any of These Symptoms Today?



Fever or Chills
*Within the last 24 hours



Cough



Shortness of Breath or Difficulty Breathing



Congestion or Runny Nose
*New or Unexplained



Fatigue
*New or Unexplained



Muscle or Body Aches
*New or Unexplained



Headache
*New or Unexplained



New Loss of Taste or Smell



Nausea, Diarrhea, or Vomiting

**DO NOT ENTER
IF YOU HAVE ANY OF THE ABOVE SYMPTOMS**





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Maintain a physical distance of 6 feet



6 Feet

**Face coverings are required
WHEN IN THE PRESENCE OF OTHERS**

Wash your hands with soap and water for at least 20 seconds



Stay home if you are sick or have the following symptoms

- Sore throat
- Cough
- Diarrhea
- Fatigue
- Fever or chills
- Nausea or vomiting
- Muscle or body aches
- New loss of taste or smell
- Shortness of breath or difficulty breathing
- Congestion or runny nose

Office area, conference rooms modifications



Break room lunchroom modifications



Break Rooms, Shared food...

NOTICE

COVID-19 PRECAUTIONS

**FOOD ITEMS NOT
INDIVIDUALLY WRAPPED
SUCH AS COOKIES,
DOUGHNUTS OR MUFFINS
MAY NOT BE LEFT OUT OR
SHARED BETWEEN
PERSONS**

KEEP YOURSELF AND OTHERS SAFE
HELP STOP THE SPREAD

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NOTICE

COVID-19 PRECAUTIONS

**MAXIMUM ROOM
CAPACITY**

2

KEEP YOURSELF AND OTHERS SAFE
HELP STOP THE SPREAD

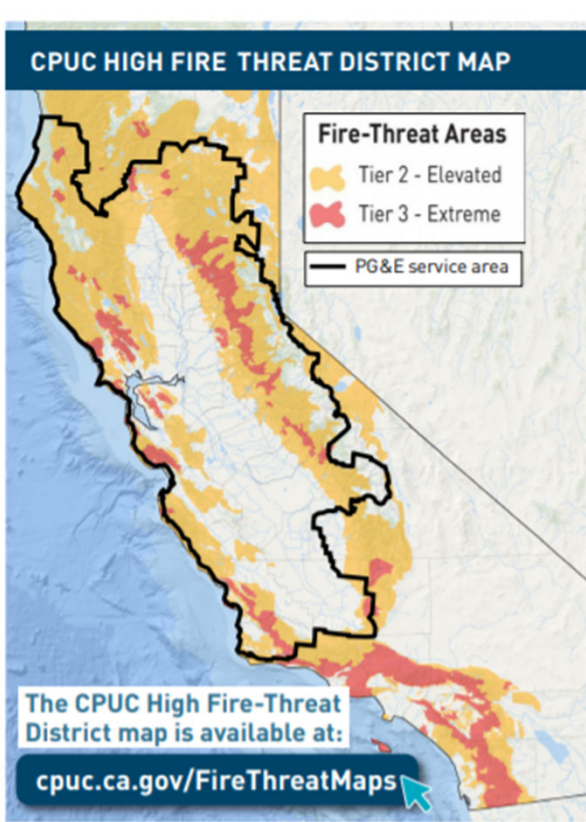
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Concerns Covid exposure from Sewage Treatment

- Raw/untreated sewage at Barscreens “splashing”
- DAF process pressurized air/water release
- Final Effluent is sprayed into secondary clarifiers, as well as used for washdowns, equipment cooling and sealing, and tank cleaning .



Public Safety Power Shutdowns



PUBLIC SAFETY POWER SHUTOFF CRITERIA

4

PG&E initiates Public Safety Power Shutoffs (PSPS) when the weather forecast is for such severe weather that people's safety, lives, homes and businesses may be in danger of wildfires.

As each weather situation is unique, we carefully review a combination of factors when deciding if power must be turned off. Some factors include:



LOW HUMIDITY LEVELS

generally 20% and below



A FORECAST OF HIGH WINDS

particularly sustained winds above 25 miles per hour and wind gusts above 45 miles per hour



DRY MATERIAL ON THE GROUND

and low moisture content of live vegetation



A RED FLAG WARNING

declared by the National Weather Service



REAL-TIME GROUND OBSERVATIONS

from our Wildfire Safety Operations Center and from our crews working across the service territory

Wildfire and smoke of 2020

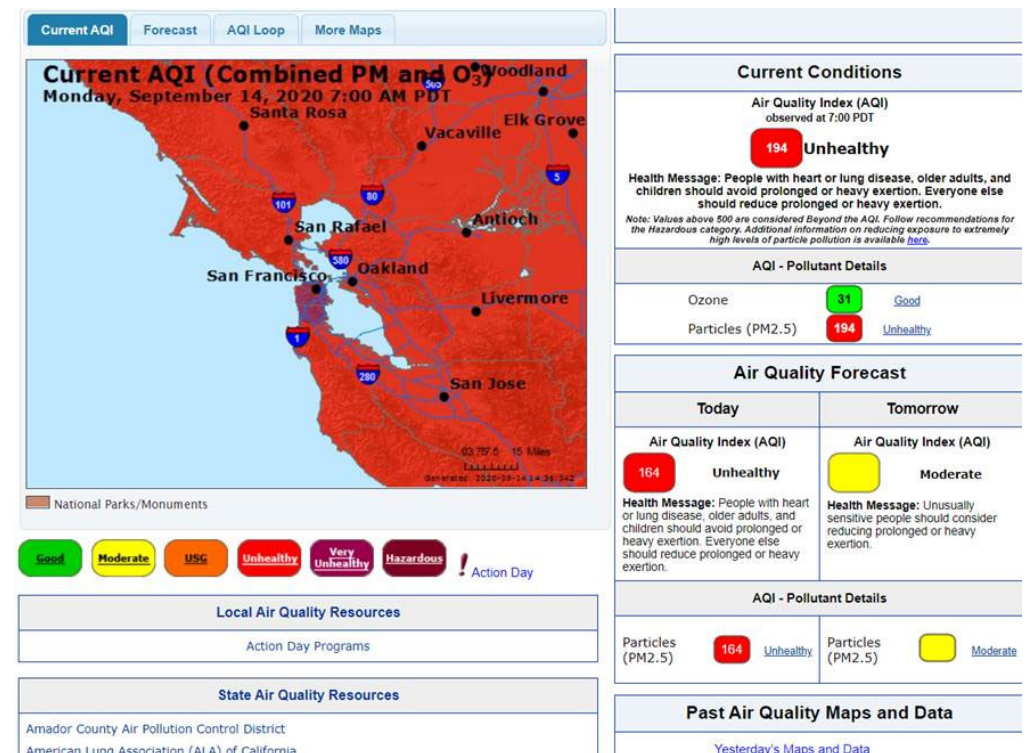
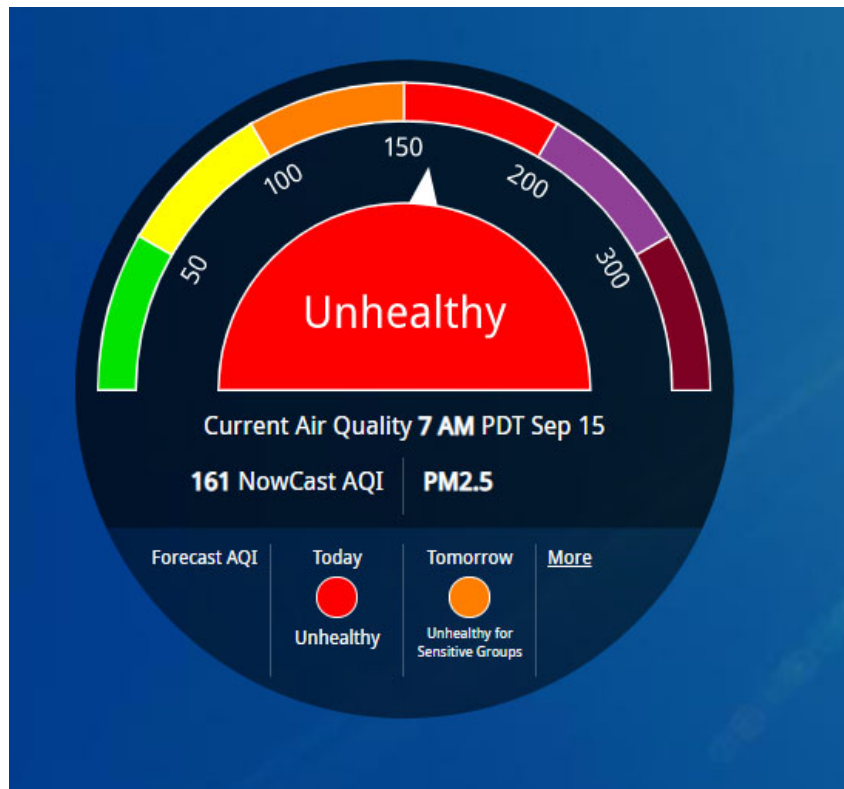


Abcnews.com

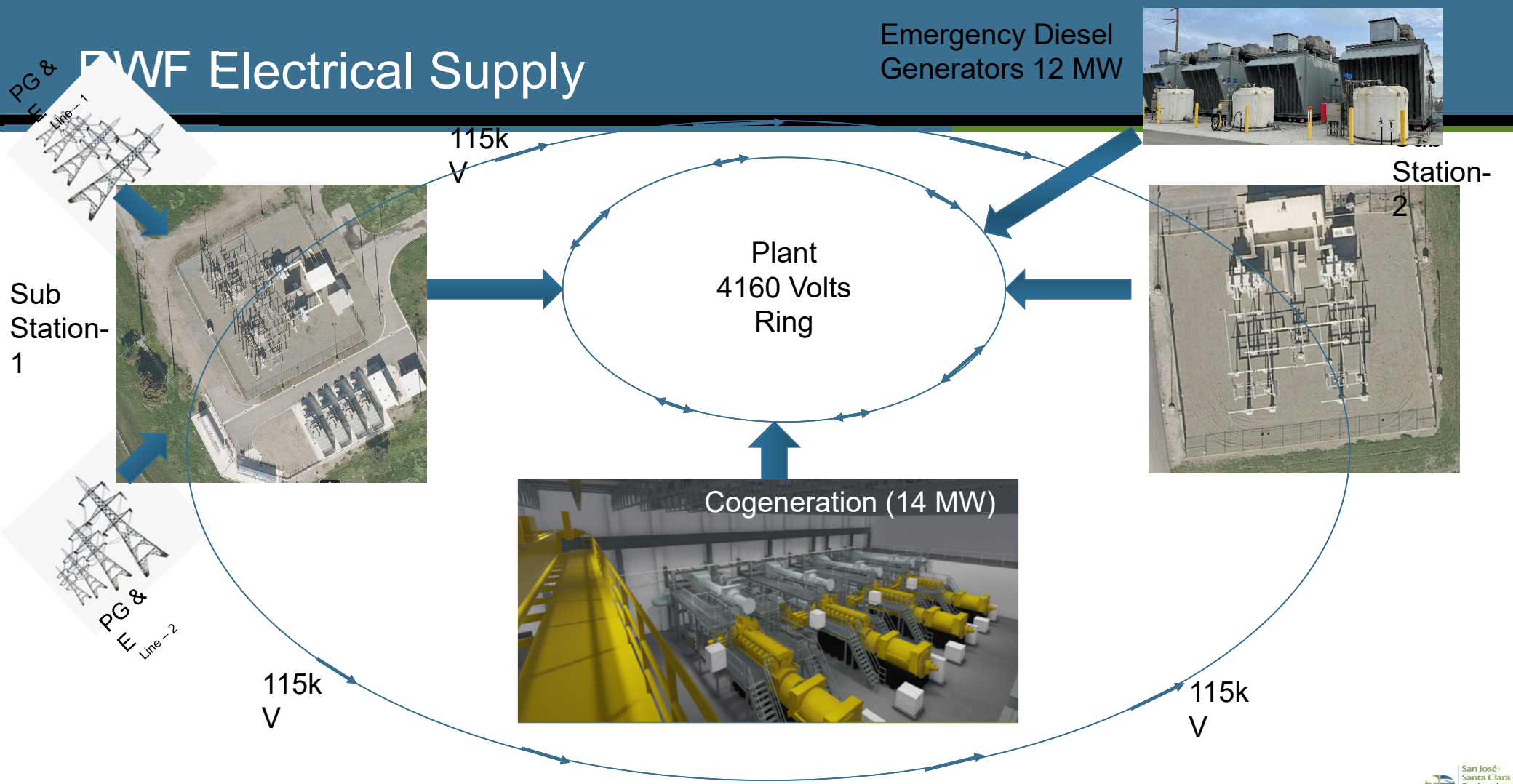


sfgate.com

September 2020



PG & E WWF Electrical Supply



Power Shutdown Scenarios

- Only EMG available: 66 hours
- DG available and EMG: 133 hours
- NG, DG available and EMG: no interruption
- New Cogeneration Engine, NG and EMG: no interruption in services

Air Quality Index PM2.5 (>150) days

- Check the current AQI before and periodically during each shift
- Provide training to employees
- Frequent changes to air filtration system
- Lower employee exposures, minimize outdoor works unless absolutely necessary
- Provide N95 rated masks, respirators and encourage their use

<i>Air Quality Index (AQI)</i>	
<i>Categories for PM2.5</i>	<i>Levels of Health Concern</i>
0 to 50	Good
51 to 100	Moderate
101 to 150	Unhealthy for Sensitive Groups
151 to 200	Unhealthy
201 to 300	Very Unhealthy
301 to 500	Hazardous

Racial Injustice

- Protests and Civil Unrest
- Curfews
- Essential Workers reporting to work

Wishing you all the best for 2021, Thank you all so much!!!

