



Cambria Community Services District Regular Board Meeting August 23, 2018

Wastewater Department

A welder replaced the hand rails on the stairs and fixed a few holes. This wasn't apart of the contract and needed to be done. The total cost for the additional work was \$4,175.



This was a large hole that was allowing air to escape. The department had several holes like this covered up.



The handrails have been completed at the center ring catwalk areas of the sludge digesters. The orange colored railings in the foreground were replaced last fiscal year.

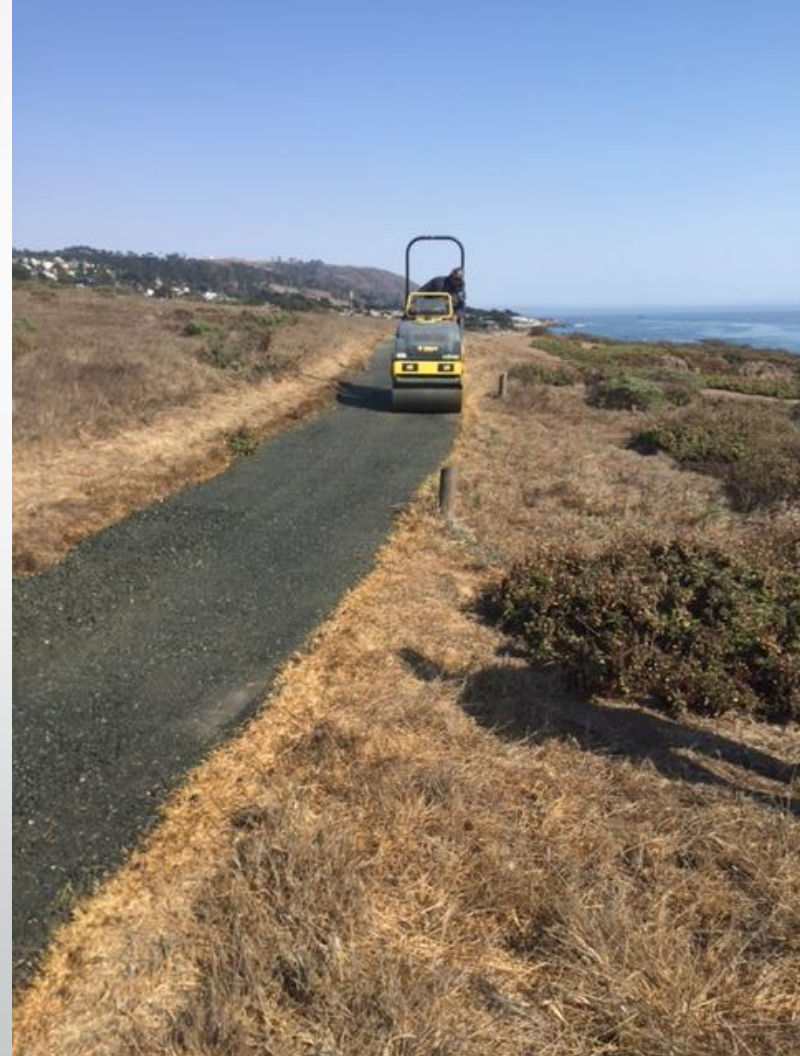
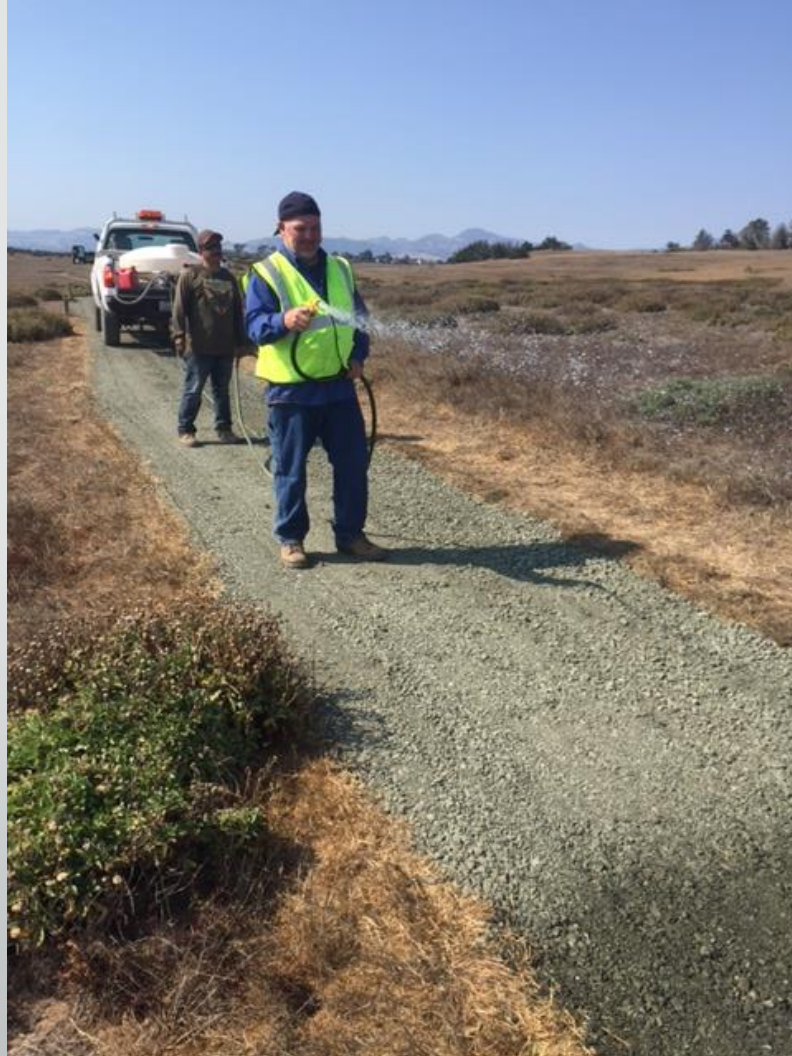


Water Department

This is the new Ditch Witch vacuum excavator. This machine will be very helpful in repairing leaks as well as in emptying valve cans so we can operate and exercise valves.



Facilities & Resources Department Bluff Trail Project





Cambria
Community
Services District

Wastewater
and
Water
Department
Infrastructure
Projects
2015-2018

Wastewater Treatment & Collection System Plant Improvements

March 2015

New controls & new pump assembly on lift station B



Wastewater Treatment & Collection System Plant Improvements

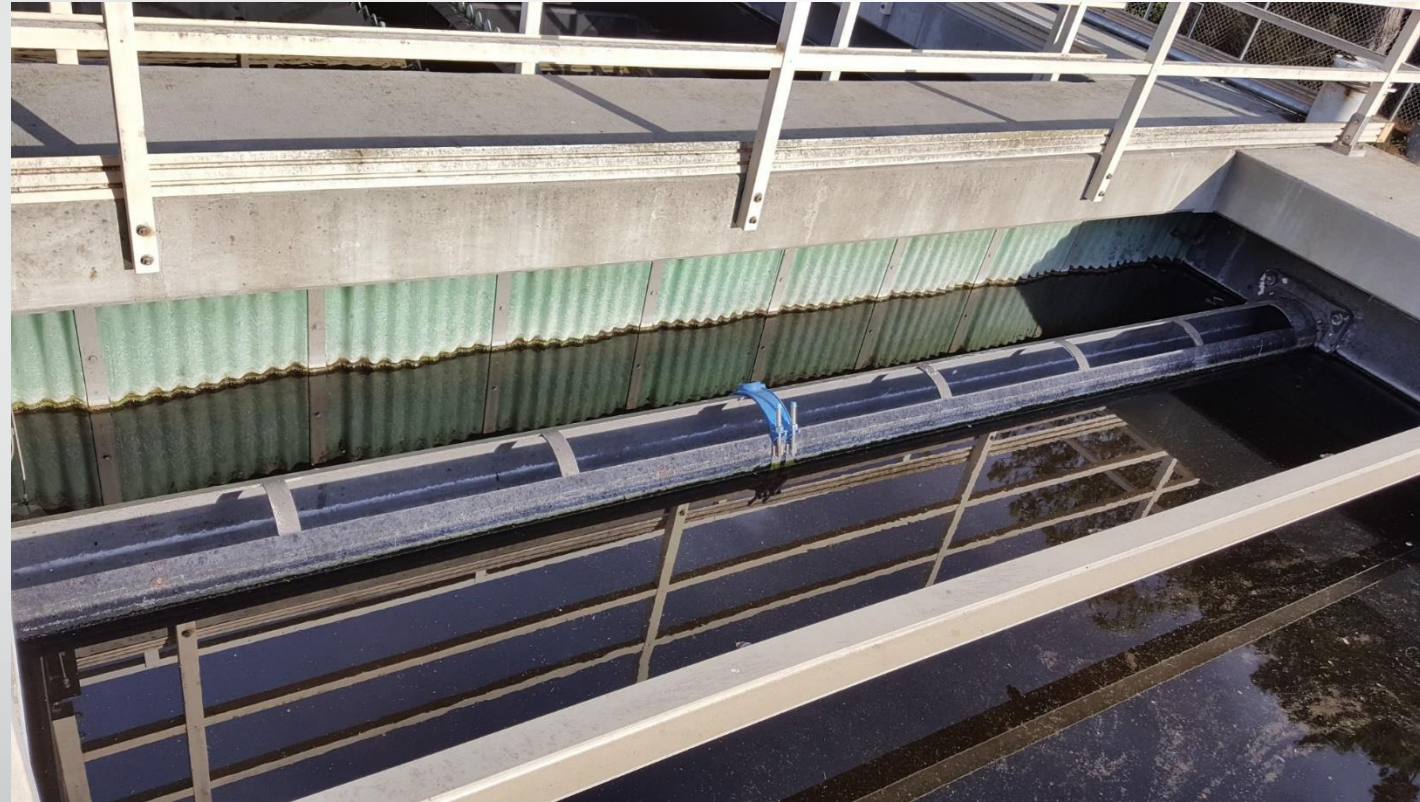
April 2015

New generator installed at the Moonstone Beach lift station



Wastewater Treatment & Collection System Plant Improvements

December 2015
Rebuilt clarifier



Wastewater Treatment & Collection System Plant Improvements

December 2015

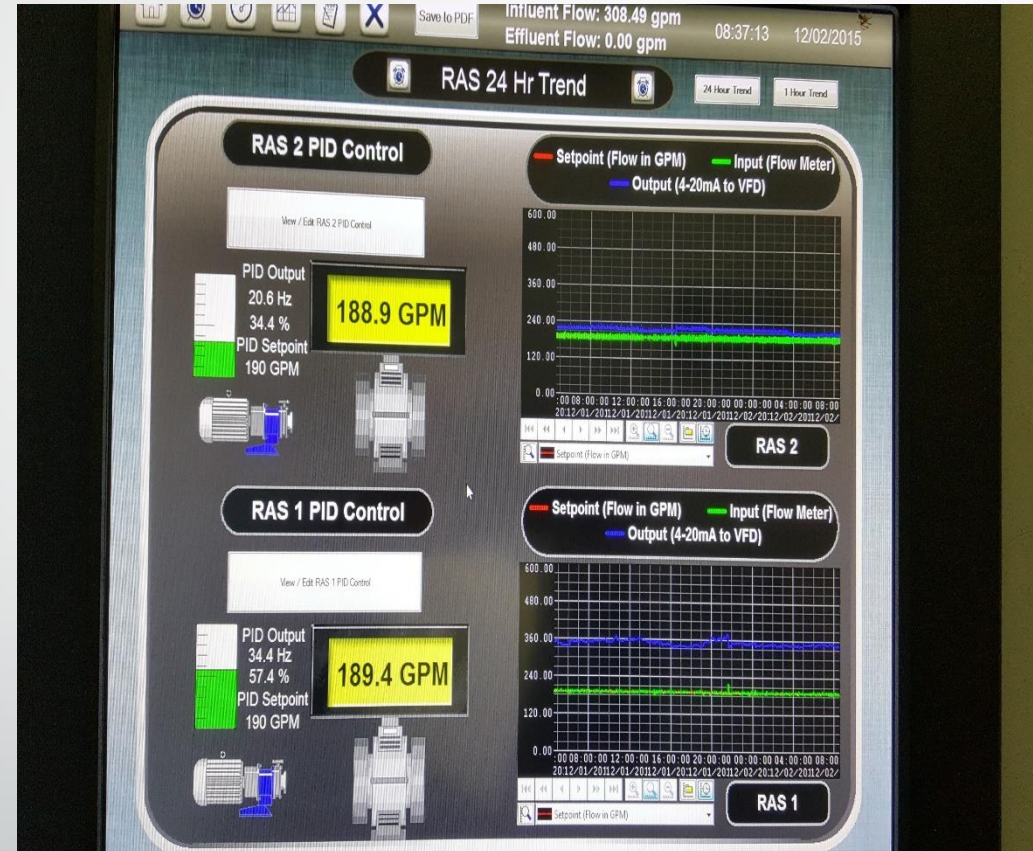
Incorporated an anoxic zone and reduced nitrate levels from 30-40 P.P.M. to 1.0 P.P.M. or less



Wastewater Treatment & Collection System Plant Improvements

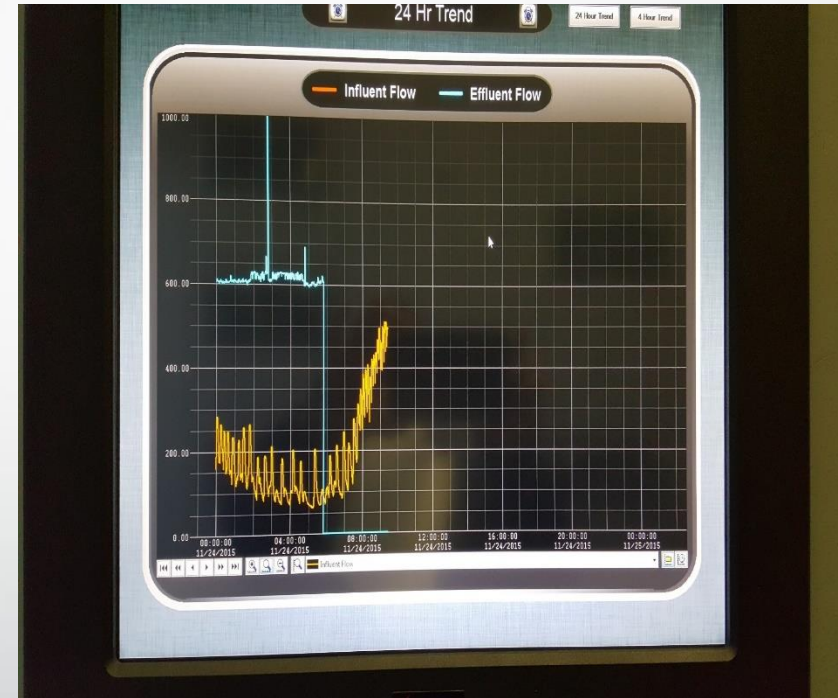
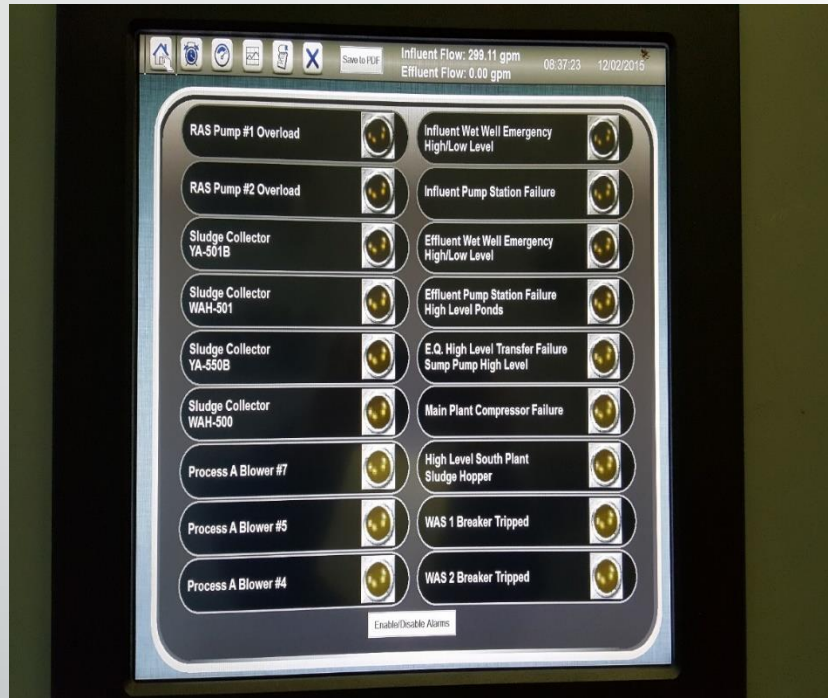
December 2015

SCADA controls return activated sludge pumps



Wastewater Treatment & Collection System Plant Improvements December 2015

Installed motion



Wastewater Treatment & Collection System Plant Improvements

December 2015

Auto motion



Wastewater Treatment & Collection System Plant Improvements

December 2015

Put digester into proper operational status. It had never been cleaned



Wastewater Treatment & Collection System Plant Improvements December 2015 Cleaned digester and repaired lines



Wastewater Treatment & Collection System Plant Improvements

December 2015

Rebuilt filtronics & iron removal water plant completely automated system



Wastewater Treatment & Collection System Plant Improvements December 2015 Enhanced effluent quality



Wastewater Treatment & Collection System Plant Improvements

December 2015

Rebuilt blower



Wastewater Treatment & Collection System Plant Improvements

December 2015
Repaired the smaller blower



Wastewater Treatment & Collection System Plant Improvements June 2016

Improved Operational Efficiencies – Removed sludge from the plant and made arrangements to have the sludge removed as it's produced



Wastewater Treatment & Collection System Plant Improvements

June 2016

Staff replaced the degraded hand rails



Wastewater Treatment & Collection System Plant Improvements

August 2016

Replaced the bypass valve at the grit chamber



Wastewater Treatment & Collection System Plant Improvements August 2016

After the bypass valve was replaced they cleaned the lines



Wastewater Treatment & Collection System Plant Improvements August 2016

After the bypass valve was replaced, they installed new asphalt. This was a major undertaking

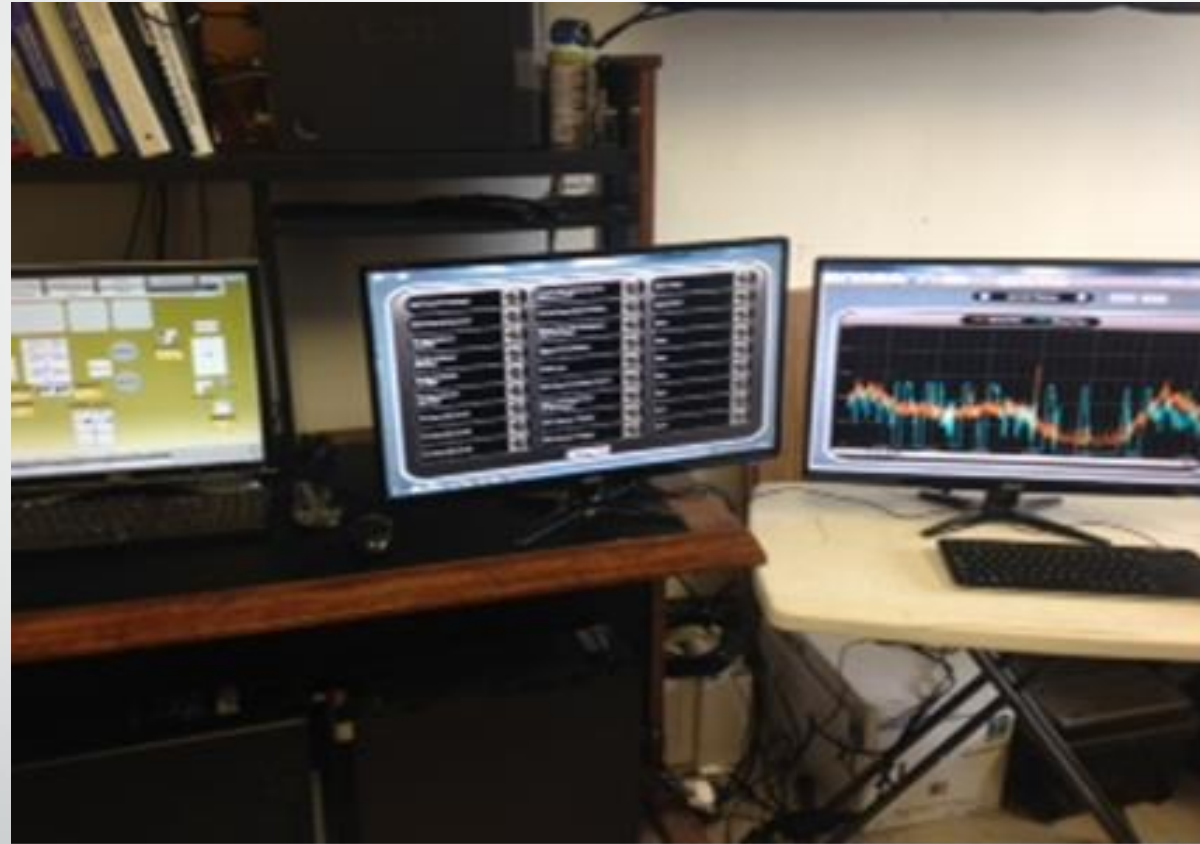


Wastewater Treatment & Collection System Plant Improvements August 2016

The department emptied the flow effluent equalization ponds and pumped sludge to the digesters



Wastewater Treatment & Collection System Plant Improvements
August 2016
Completed SCADA upgrades



Wastewater Treatment & Collection System Plant Improvements August 2016 SCADA upgrades for pump controls



Wastewater Treatment & Collection System Plant Improvements
August 2016
Installed variable frequency drives



Wastewater Treatment & Collection System Plant Improvements

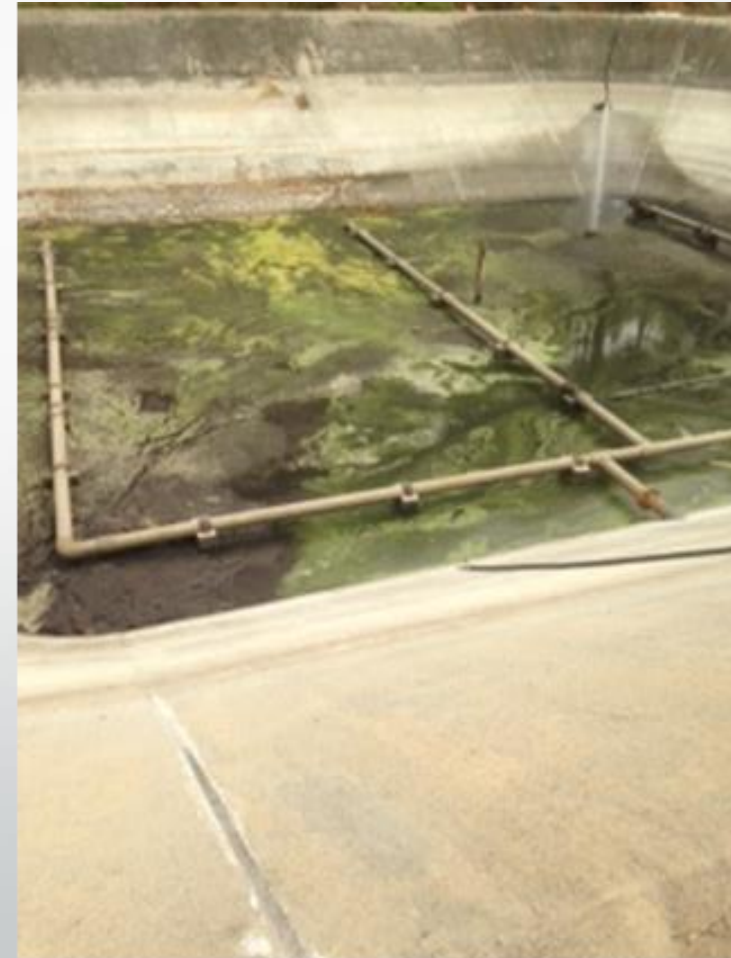
August 2016

Fixed both effluent pumps and variable frequency drives. Pumps replaced and fully automated



Wastewater Treatment & Collection System Plant Improvements August 2016

The flow effluent equalization ponds were emptied and cleaned



Wastewater Treatment & Collection System Plant Improvements

August 2016

Replaced the Fiscalini Tank



Wastewater Treatment & Collection System Plant Improvements August 2016 through October 2016

The fences along the perimeter of the plant were repaired

August 2016



October 2016



Wastewater Treatment & Collection System Plant Improvements

September 2016

Replaced the Fiscalini Tank



Wastewater Treatment & Collection System Plant Improvements
September 2016
Installed new controls at lift station B₄



Wastewater Treatment & Collection System Plant Improvements September 2016

Completely rebuilt SR₄ well and fully automated with fail safe capability. They also painted the SR₄ building



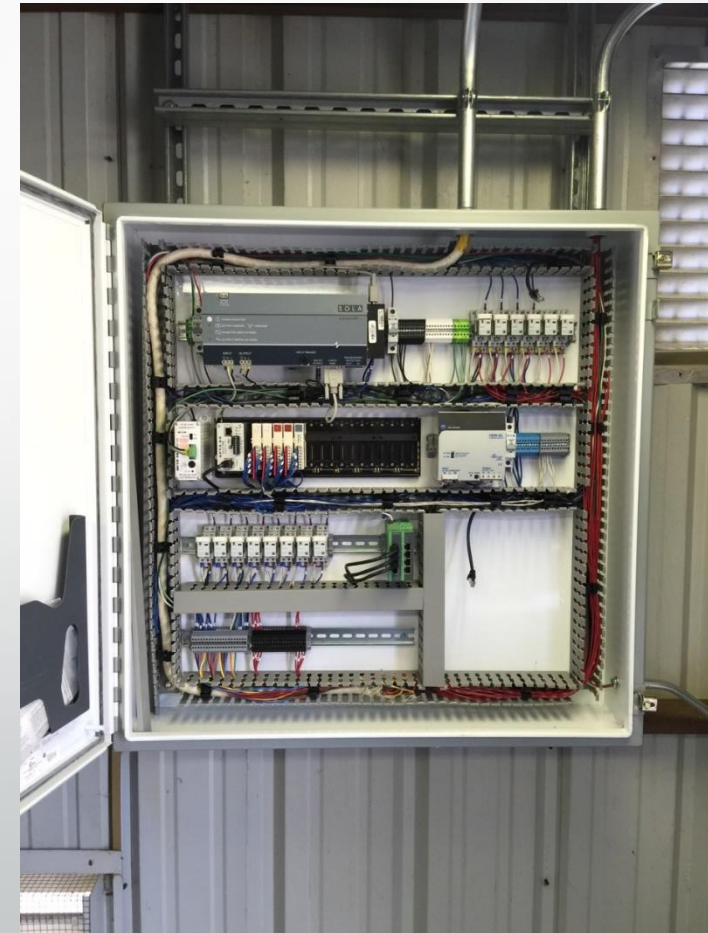
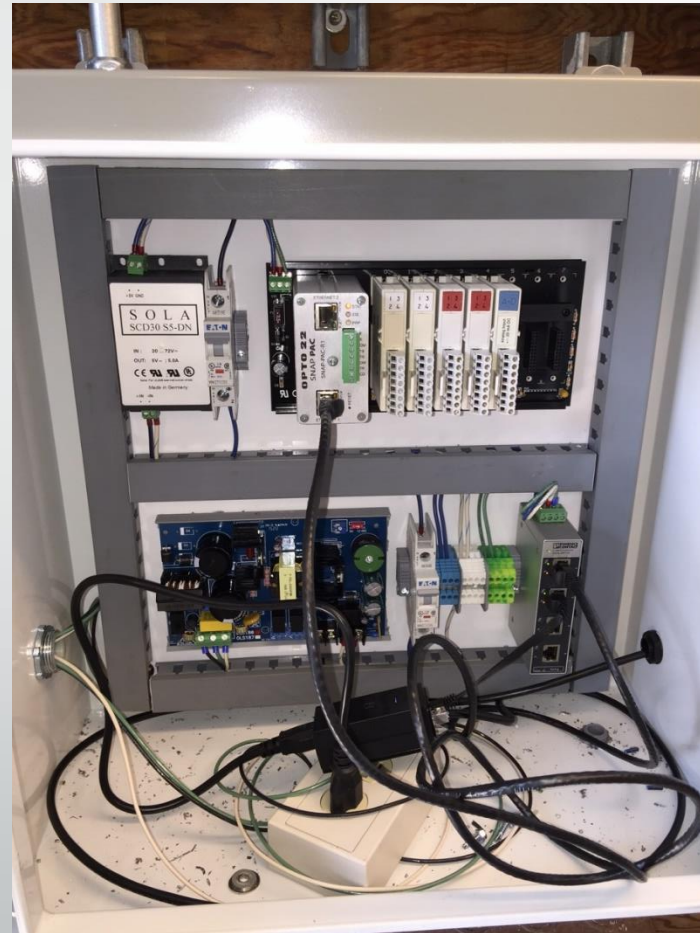
Wastewater Treatment & Collection System Plant Improvements
September 2016
They painted the SR₄ well tanks



Wastewater Treatment & Collection System Plant Improvements

October 2016

Improvements to the control panels before and after pictures



Wastewater Treatment & Collection System Plant Improvements October 2016

At least 45 manholes have been repaired and replaced
Twenty manhole inserts have been installed, thus reducing intrusion and
infiltration



This hole represents 5 gallons
per
minute of flow
or
7200 gallons per day
from one manhole

Wastewater Treatment & Collection System Plant Improvements October 2016

The staff identified manholes that needed access



Wastewater Treatment & Collection System Plant Improvements

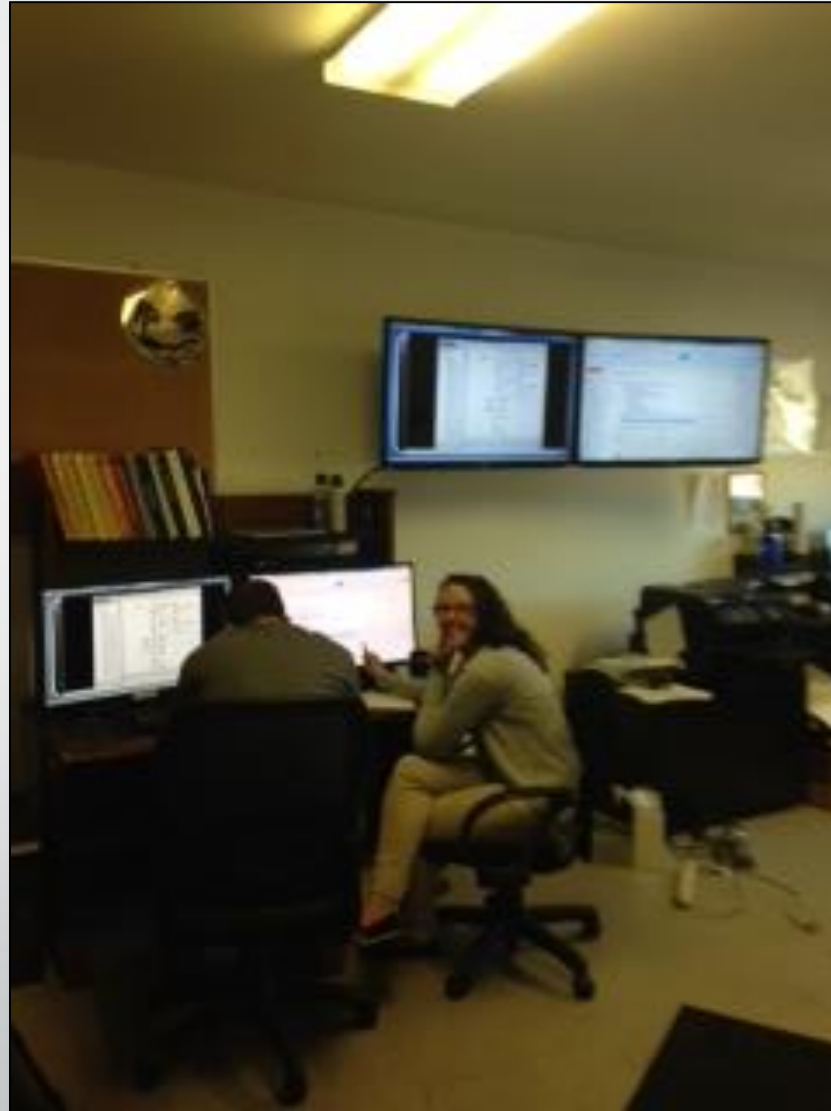
November 2016

The 2" abandoned pipe on Pineridge was repaired on November 2, 2016
Ongoing repairs to the distribution system continue



Wastewater Treatment & Collection System Plant Improvements November 2016

New SCADA and Programming was installed



Wastewater Treatment & Collection System Plant Improvements November 2016

Both drive motors were replaced for clarifiers 1 and 2
Both waste activated sludge pumps were replaced



Wastewater Treatment & Collection System Plant Improvements

November 2016

New handrails were installed



Wastewater Treatment & Collection System Plant Improvements December 2016

Sludge was collected in the new trailer and the digestors are functioning properly for the first time in many years
It also reduced plant odor



Wastewater Treatment & Collection System Plant Improvements

December 2016

The old lift station panel 9 was replaced



Wastewater Treatment & Collection System Plant Improvements

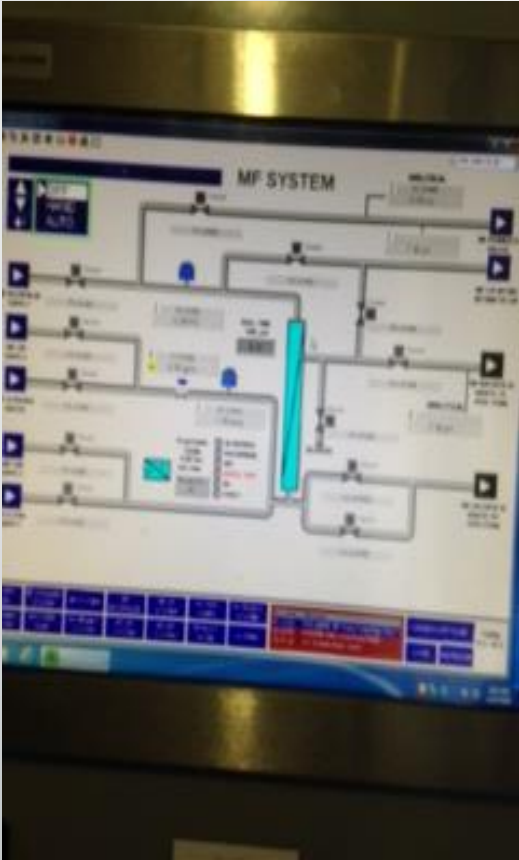
December 2016

All handrails have been completely painted



Wastewater Treatment & Collection System Plant Improvements December 2016

Lift station 8 went live on SCADA and they are continuing upgrades to the lift stations



Wastewater Treatment & Collection System Plant Improvements March 2017

VFD's are on both effluent pumps and they are programmed to handle flow direct from the clarifiers



Wastewater Treatment & Collection System Plant Improvements

March 2017

The generator block heater was replaced and they serviced all of the above ground generators



Wastewater Treatment & Collection System Plant Improvements

March 2017

Effluent pump #1 had a new discharge and was rebuilt

Both pumps had new 95% efficient motors installed

The old Miltonic's level control along with the rusted control panels was replaced with a transducer and a small junction box





Wastewater Treatment & Collection System Plant Improvements March 2017

The rotating assembly was replaced in the pump that used to send sludge from the south tank to the north tank

We had replacement motors in stock for all motors on the screw press
The Allen Bradley controls have been backed up for the screw press and the VFD was replaced

An extension for the discharge was installed on the screw press to allow the filling of the trailers

The trailers are now picked up when full

The plant doesn't stockpile the sludge

Wastewater Treatment & Collection System Plant Improvements March 2017

The aeration basin recirculation pumps were hard lined in

New davit cranes were installed to remove both RAS and WAS pumps

The hand rails on both the aeration basin and the clarifiers have been painted with a 25 year two part epoxy

The stairs and supports have been painted

RAS flow meter has been replaced and the second flow meter was installed

Both RAS and WAS are now controlled with SCADA

WAS pump #2 has been replaced along with the VFD



Wastewater Treatment & Collection System Plant Improvements

March 2017

Blower #4 has been installed and the bearings on the two blowers have been replaced

The alarms have also been connected to SCADA



Wastewater Treatment & Collection System Plant Improvements

May 2017

Staff has continued to fix leaks

This leak was fixed at Kent Street (behind the Shell station)



This leak was fixed at Kent Street (behind the Shell station)



Wastewater Treatment & Collection System Plant Improvements

May 2017

Twenty five new PamRex water proof manhole covers were replaced on the 25 most needed manhole lids in the collection system



Wastewater Treatment & Collection System Plant Improvements

May 2017

Staff replaced old valves



Wastewater Treatment & Collection System Plant Improvements

May 2017

Lift station 9 was approved for an electrical upgrade

The SCDA panel was moved to a safer location above ground and replaced with efficient controls



Wastewater Treatment & Collection System Plant Improvements

June 2017

The department was unable to remove this welded manhole cover, so they replaced it with a water tight cover



Wastewater Treatment & Collection System Plant Improvements

June 2017

Staff replaced the digester walkways



Wastewater Treatment & Collection System Plant Improvements

June 2017

The lid was not attached to the lift station and the rings broke off, making it inaccessible

The department installed a new water tight lid



Wastewater Treatment & Collection System Plant Improvements

July 2017

Both lids are in a wetland and were weeping water months after the rains stopped
They both have 4 holes in the top that allow water into the system with the smallest of rains

Manholes like this are big contributors to the heavy flows during winter rains

These are also very hard to access due to the wet ground

Now that we have a new lid and ring we will remove the tree that is working its way into the manhole.



Wastewater Treatment & Collection System Plant Improvements July 2017

During heavy rains the manhole was underwater and not sealed
A water tight lid and ring was installed



Wastewater Treatment & Collection System Plant Improvements July 2017

A new panel was installed and is being used as a pull box
All the breakers are now in the panel, outside the pump house



Before



After

Wastewater Treatment & Collection System Plant Improvements

July 2017

The first suction line was replaced at lift station B-3



Wastewater Treatment & Collection System Plant Improvements

July 2017

This is a section of the suction line that failed
FRM was the contractor that installed the stainless steel suction line at the lift station
CCSD staff replaced the 4 inch cast iron piping with PVC
Holes had to be bored around the old piping to remove it



Wastewater Treatment & Collection System Plant Improvements July 2017



The new electrical panel that was installed outside the pump house with SCADA

Staff can track this lift station from the WWTP or any remote location



This is accessible to the operator without the need of entering the pump house

This removed the old out-of-date electronics and replaced them with state of the art communications

This lift station was the first to have remote SCADA controls added along with backup controls for redundancy

In the future, all lift stations will be brought to this level of communication and capabilities

Wastewater Treatment & Collection System Plant Improvements July 2017

The new clarifier drive was installed by FRM
Before and after pictures



Wastewater Treatment & Collection System Plant Improvements

July 2017

The new suction line was installed



Wastewater Treatment & Collection System Plant Improvements July 2017

The lift station 8 guide rails were replaced with stainless guide rails



Water Department Improvements

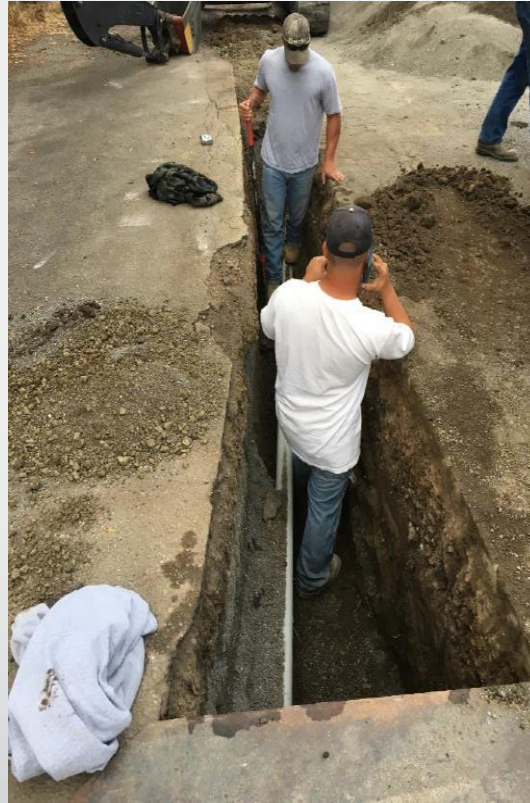
July 2017

This is manhole cover was lifted 8 inches and the lid was replaced

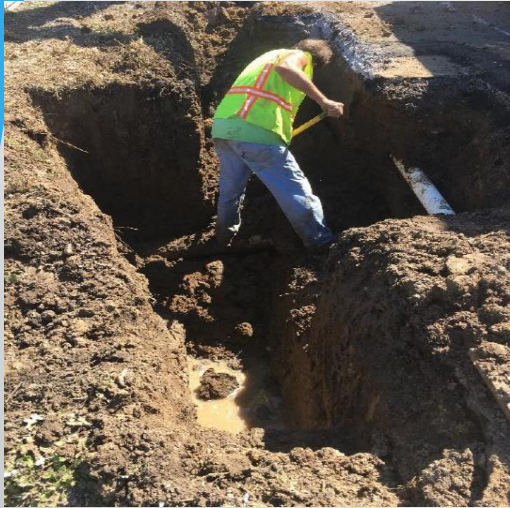


Water Department Improvements October 2017

Work was done in the alley that runs parallel with Burton Drive



Water Department Improvements October 2017 A leak was repaired on the Pembroke



Wastewater Treatment & Collection System Plant Improvements November 2017

United Rentals delivered the new 6 inch pump and staff installed and tested it



Wastewater Treatment & Collection System Plant Improvements November 2017

West Coast Trees cut down three pine trees at the WWTP and spread the chips around the plant entrance



Wastewater Treatment & Collection System Plant Improvements

December 2017

The pressure relief valve was purchased and used on the non-potable water system

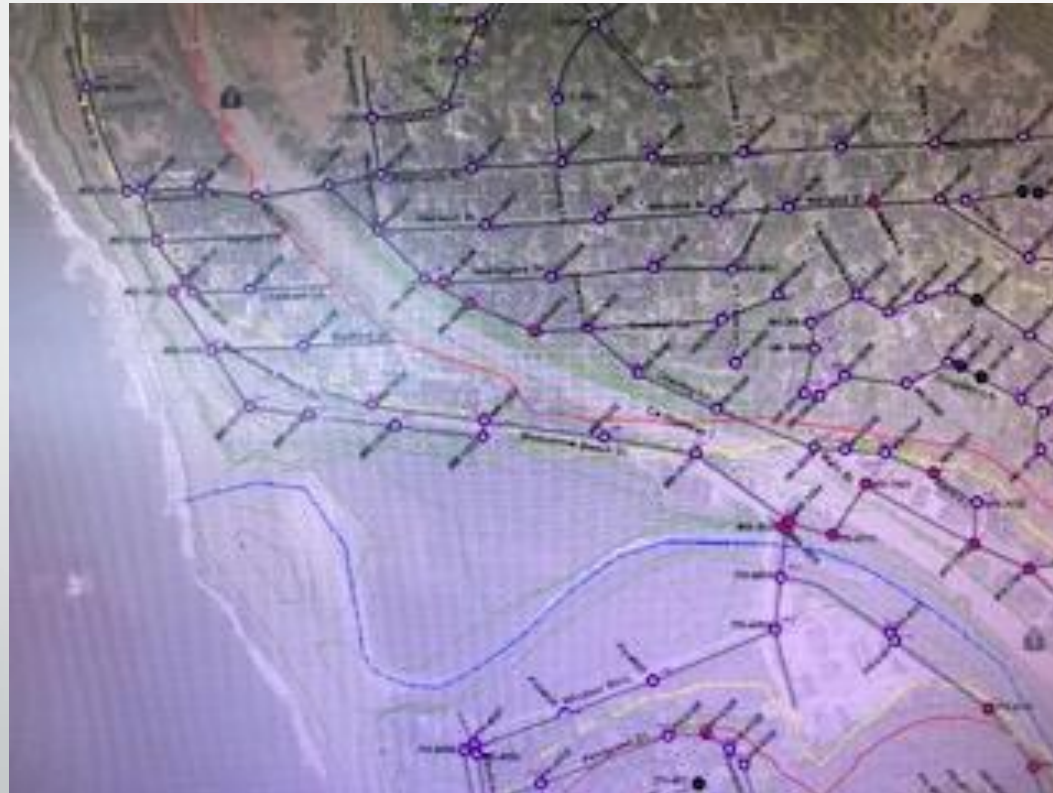


Wastewater Treatment & Collection System Plant Improvements December 2017

This is a snapshot of the GIS map for the collection system

The program was added to the collection system

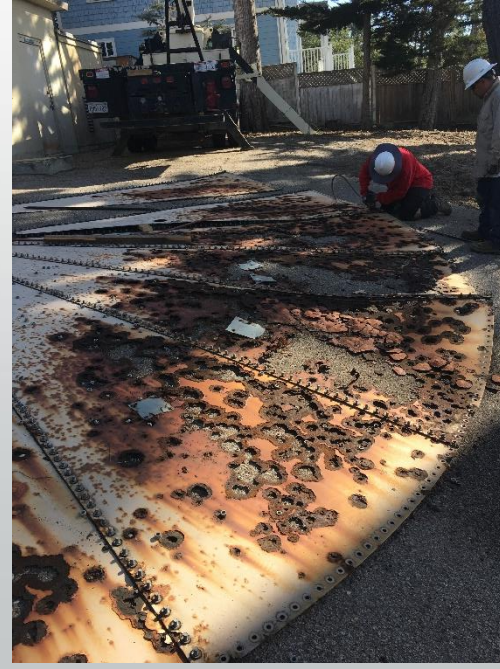
The department can step onto a manhole and find out what needs to be done and what has been done over the last year



Water Department - Stuart Street Tank Project

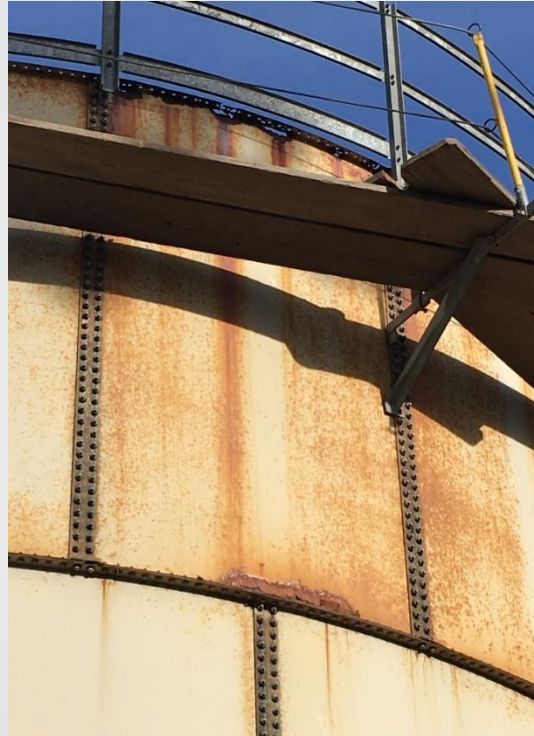
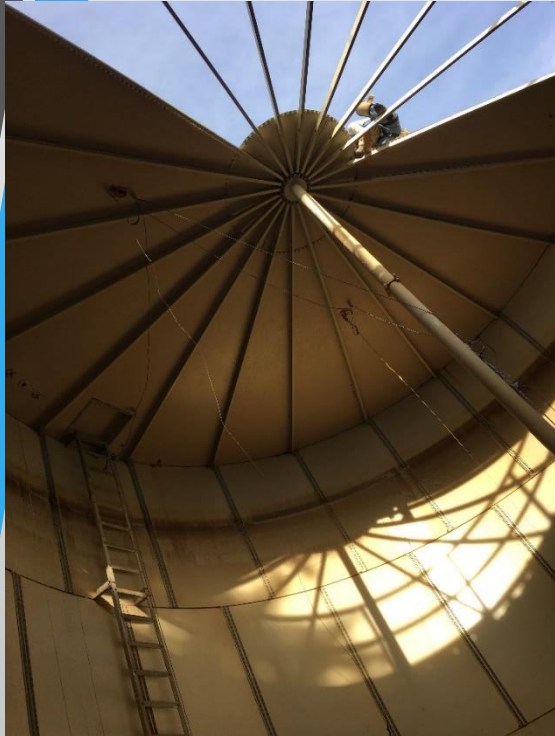
January 2018

Superior Tank removed the most severely corroded roofing in January 2018. After removal of the roof and rust scale, it was determined that 3 shell panels were too far gone to bolt to. Everyone agreed that changing the contract to add the replacement of those shell panels would increase the likelihood that this tank can stay in service for the desired five more years. The cost and schedule to change out the panels while Superior was on site, with the adjacent roof off, is significantly lower than having them come back later.



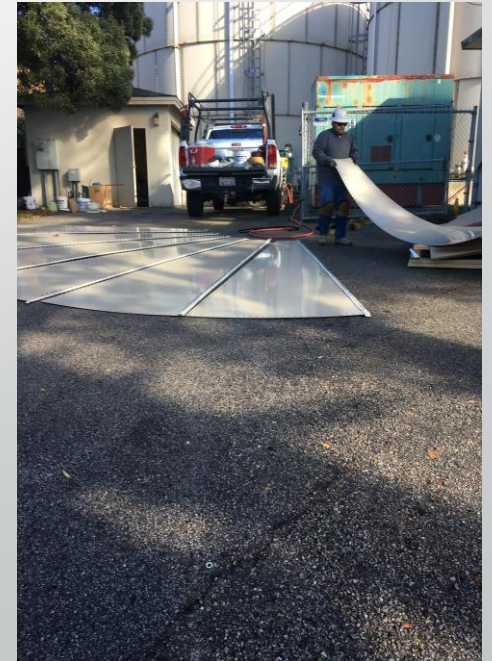
Water Department - Stuart Street Tank Project

January 2018



Water Department - Stuart Street Tank Project

January 2018



Water Department – Stuart Street Tank Project January 2018



Water Department Improvements January 2018

The water that goes through the regulator is for the chlorine analyzer and the turbidimeter for the entire SS wellfield
This pressure regulator is located at SS3

