



PUREWater Soquel

Water Transformed



**WaterReuse California NorCal Chapter
May 1, 2026**

A LITTLE ABOUT SOQUEL CREEK WATER DISTRICT

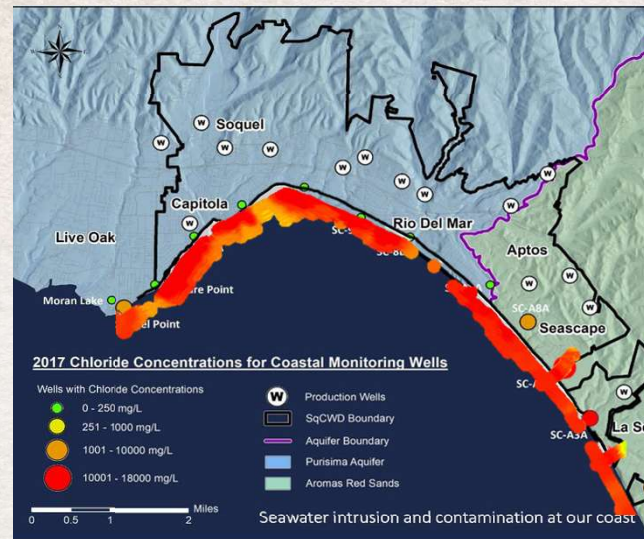
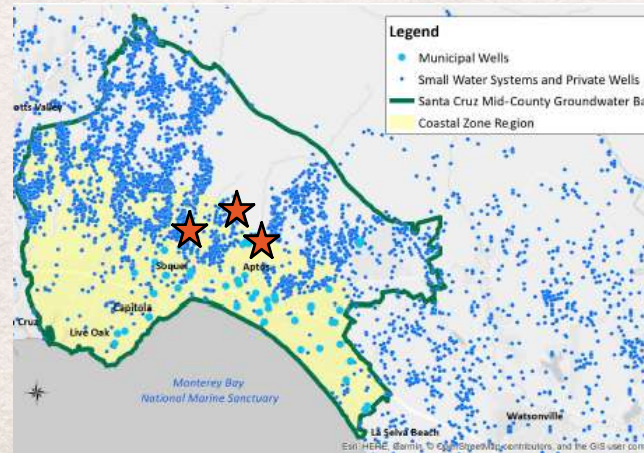


- California Special District
- Governed by 5 elected officials who comprise our Board of Directors
- Serve the areas of Aptos, La Selva Beach, Opal Cliffs, Rio DelMar, Seascape, Soquel, and portions of Capitola
- 165+ miles of pipeline, 20 wells, 18 Tanks, 80 monitoring wells
- Produce about 3,300 acre-feet per year of water which equals over 90 million gallons per month
- 45,000 Customers
- 46 Employees



OUR WATER CHALLENGES

- Groundwater is the only source of water for Soquel Creek Water District and much of the SC Mid-County Region
- Critically overdrafted as identified by the State of California with a mandate to be sustainable by 2040
- Contaminated with seawater intrusion along the coast



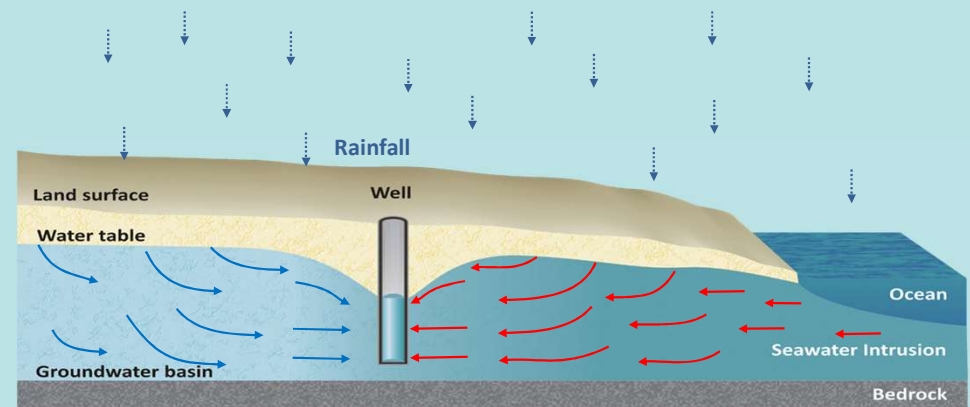
OUR SOLUTION



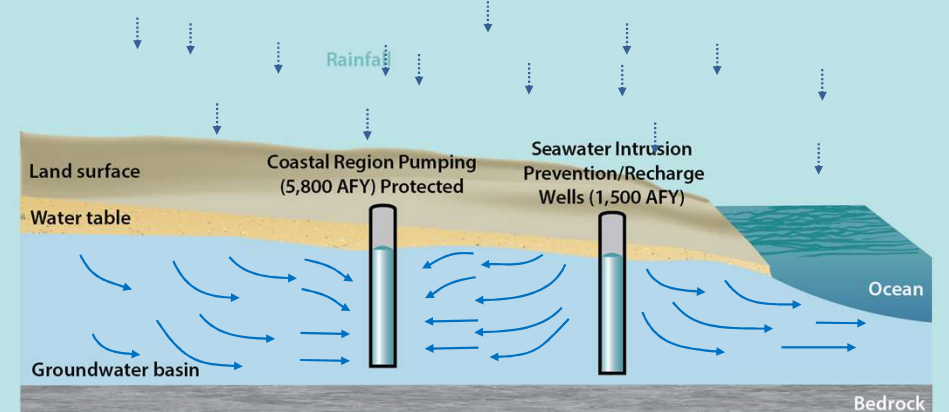
Pure Water Soquel will

- replenish the groundwater basin
- will create a seawater intrusion barrier
- will restore the Groundwater Basin to sustainable levels

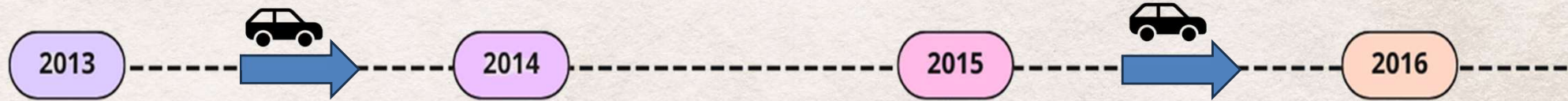
Seawater Intrusion



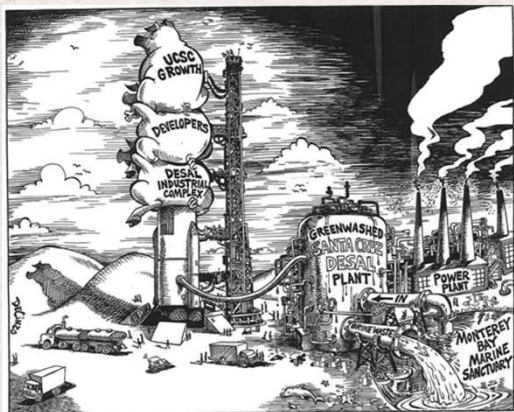
With Pure Water Soquel



12 YEARS IN THE MAKING (2013-2025)



- Failed desalination project with City of Santa Cruz
- District launches re-evaluation of new supply options



T-MINUS \$140 MILLION AND COUNTING... ALL SYSTEMS ARE GO!

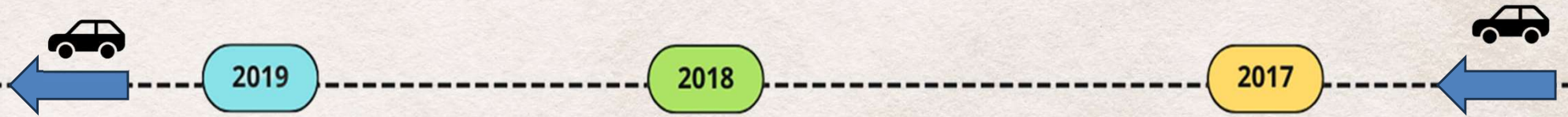
- SGMA (State Groundwater Management Act) passes
- Community Water Plan
- Board chooses groundwater replenishment with purified water for further evaluation

- Technical feasibility study begins

- Environmental Review (CEQA) begins



12 YEARS IN THE MAKING (2013-2025)



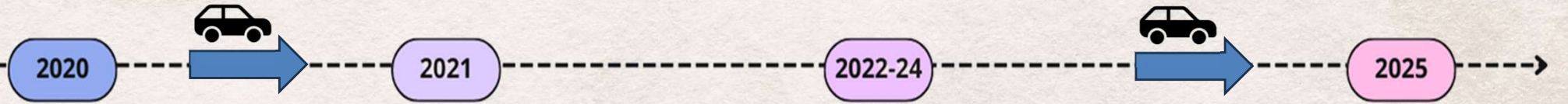
- CA Prop 1 Grant
- EPA low-interest loans
- District releases 2 RFQs for PWS program

- Education Trailer debuts
- Learning Center debuts
- Board Approves EIR

- Board accepts feasibility study
- Environmental Impact Report (EIR) preparation
- NWRI (National Water Research Institute) Panel



12 YEARS IN THE MAKING (2013-2025)



- Coastal Commission permit approved
- District releases Bids for recharge wells and drilled
- COVID

- Conveyance Project breaks ground on May 24
- Treatment breaks ground on Dec 10
- Monitoring wells drilled

- Construction activities
- US Bureau of Reclamation Grant
- BBC Storyworks Video
- Additional funding from Prop 1
- Central Coast Regional Quality Control Board adopts order
- Service contract approved for Jacobs to run facility

- Start-up and commissioning
- Performance testing
- Site Inspection with DDW – June 4
- CA DDW Letter to permitting injection of purified water into the Basin – June 17



12 YEARS IN THE MAKING (2013-2025)

SCHEDULED FOR LAUNCH on MONDAY, DECEMBER 1, 2025

THE TIME HAS COME

MISSION: POSSIBLE

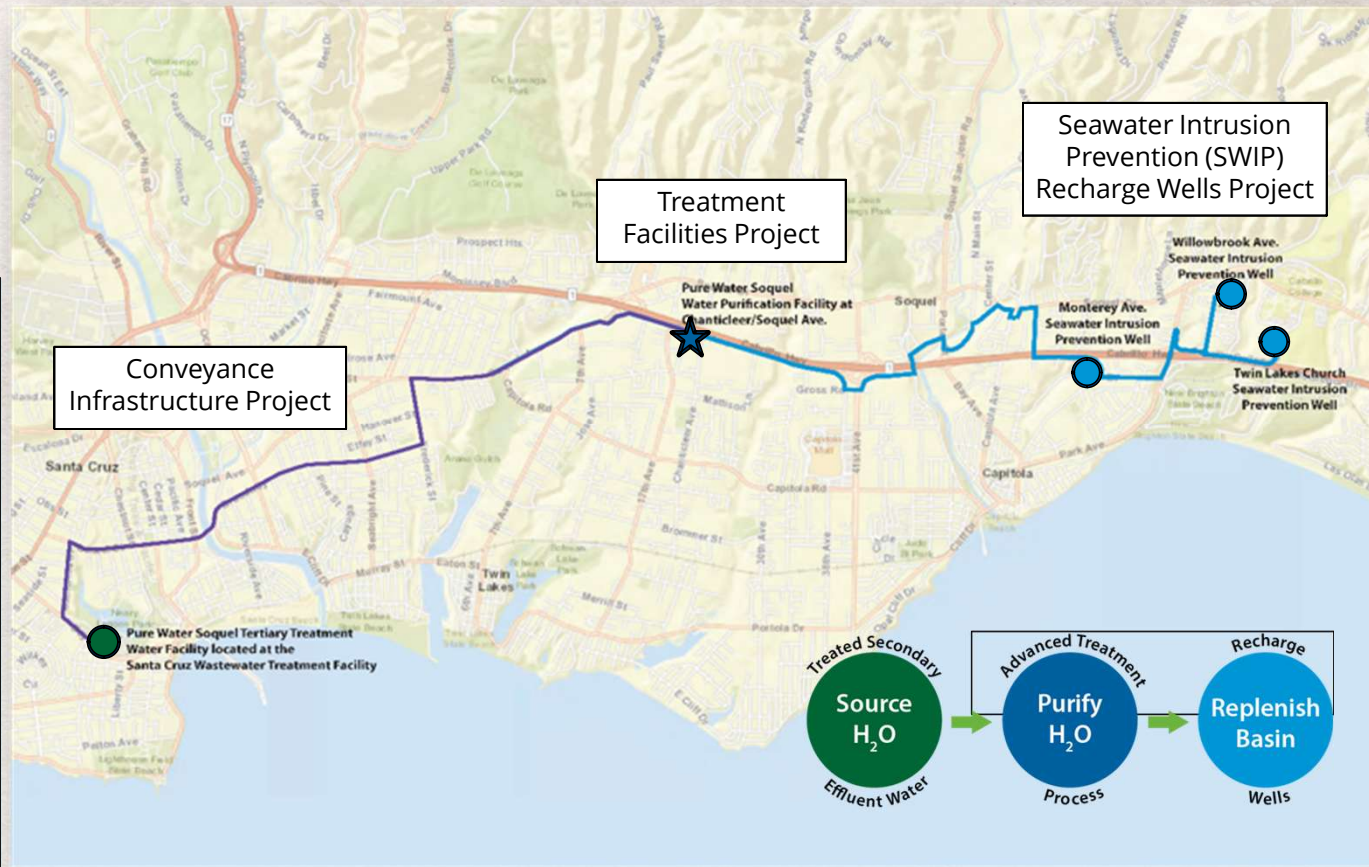
A Hydro-Odyssey from the AWPF to the SWIP Wells

Thank You Aquanauts!

Purified water began replenishing the groundwater basin on December 1, 2025

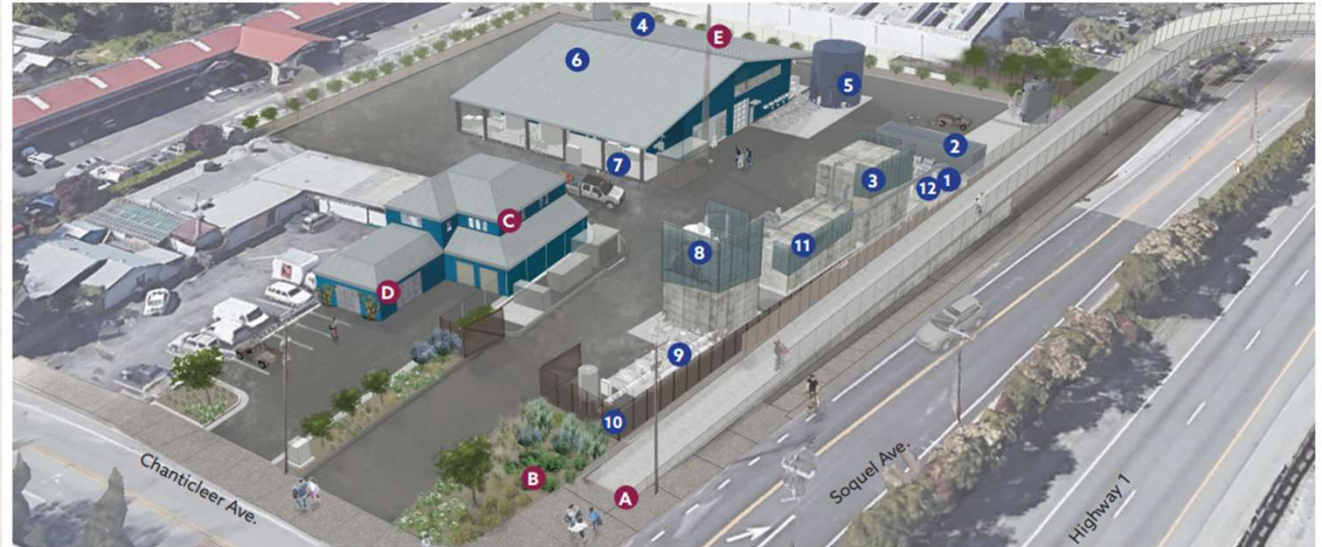


- 1.3 MGD Advanced Purified Water
 - 2x16" Pipelines (Source Water to Pure Water Soquel and Reverse Osmosis Concentrate back to the SCWWTF)
 - 14" Pipeline (Purified Water to SWIP Wells)
 - 3 Seawater Intrusion Prevention (SWIP) Wells
 - 9 Monitoring Wells
- Designed for Potential Future Expansion to meet Basin, Drought, and Climate Change Needs and Goals





PWS Advanced Water Purification Center at Chanticleer Ave.



FOLLOW THE DROPS - CREATING PURIFIED WATER

- | | |
|--|--|
| 1 16" Source Water Pipeline from SCWWTF | 6 RO System |
| 2 Ozone System | 7 Ultraviolet Light with Advanced Oxidation Process (UV/AOP) |
| 3 Ozone Contact/Membrane Filtration (MF) Feed Tank | 8 Purified Water Tank and Decarbonation Unit |
| 4 MF System | 9 Purified Water Pump Station |
| 5 Reverse Osmosis (RO) Feed Tank | 10 14" Purified Water Pipeline to SWIP Wells |

OTHER COMPONENTS

- A Bike/Pedestrian Bridge (by RTC)
- B Demonstration Garden
- C Operations Offices
- D Education Center
- E Communications Pole

RO CONCENTRATE: STEPS 1-6 AND BELOW

- 11 Reverse Osmosis Concentrate (ROC) Wet Well
- 12 16" RO Concentrate Pipeline to SCWWTF Outfall



PURIFICATION PROCESS

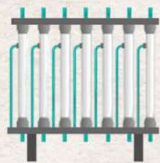
2.4 MGD for potable reuse/purification

Treated secondary effluent from the SCWWTF



Ozone

removes nitrite from source water



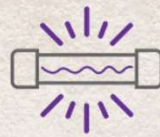
Ultrafiltration

Water moves through a bundle of straw-like filters. Each filter is perforated with small holes 1/300th the width of a human hair. These holes allow water to pass through while removing solids, bacteria, protozoa and many viruses.



Reverse Osmosis

Contaminants 100x smaller than a virus, as well as chemicals, are stopped by this barrier, resulting in near distilled water. The same process is used by water companies, baby food manufacturers, and for kidney dialysis.



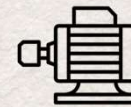
Ultraviolet Light with Advanced Oxidation

Process uses concentrated UV light, similar to the sun's rays, and an oxidant such as bleach together to destroy the remaining trace levels of chemicals and pharmaceuticals.

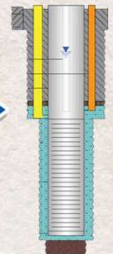


Post Treatment

Minerals are added back into match the groundwater basin to prevent leaching.



Purified Water Pump Station



Purified Water:

Goes to our three Seawater Intrusion Prevention Wells

SEAWATER INTRUSION PREVENTION (SWIP) WELLS AND AQUIFER UNITS

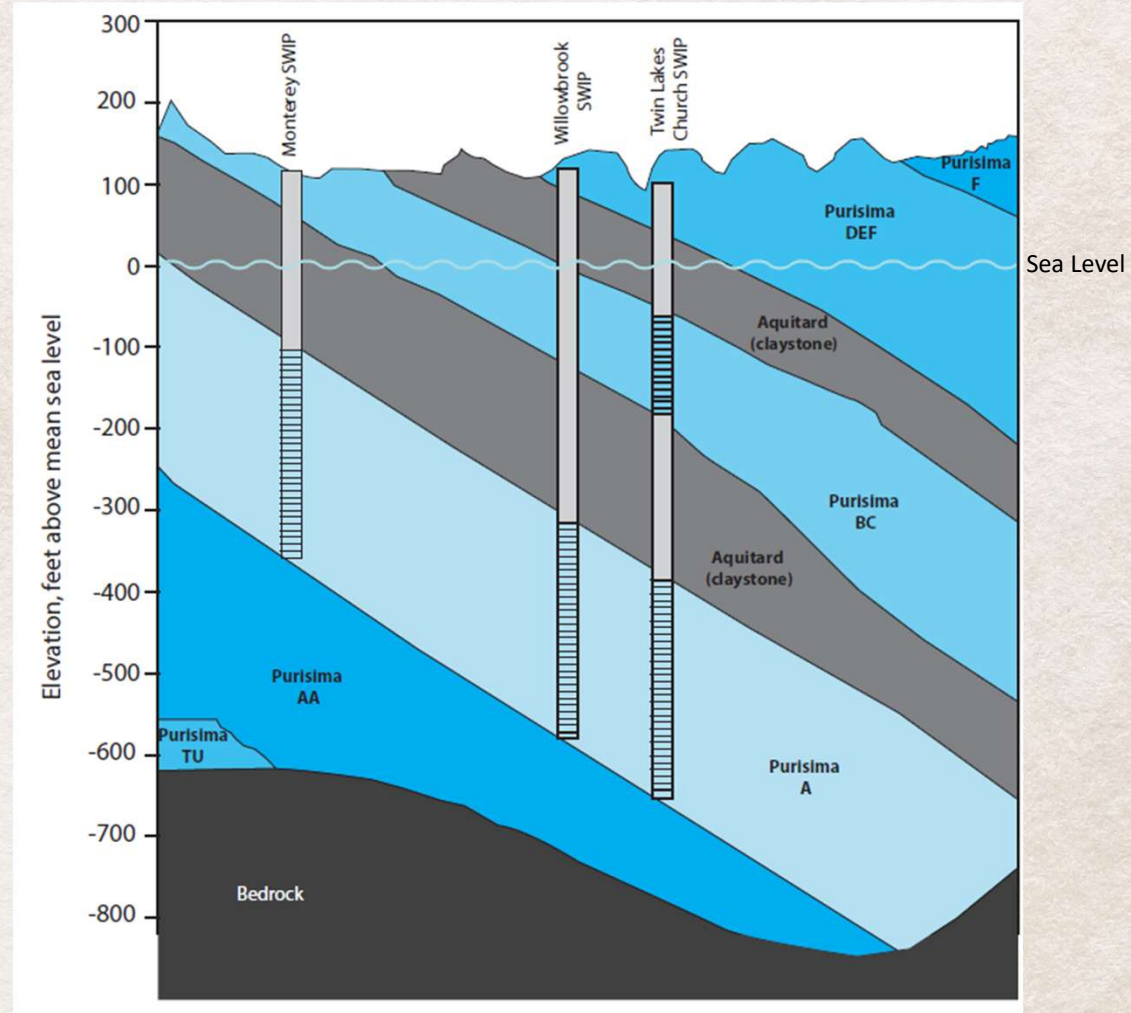
Aptos

Twin Lakes – 850 feet

Willowbrook - 770 feet

Capitola

Monterey – 500 Feet



CURRENT ACTIVITIES



Volume replenished through end of March 2026 (in acre-feet)



New Pure Water Soquel Butterfly Logo Installed (March 2026)



Tours, Tours, and More Tours (January 2026)

START UP UPDATE

Intrinsic Tracer Study – Started December 1, 2026

Intrinsic parameters:

Data Loggers

Water Levels

Specific Conductance

Temperature

Samples

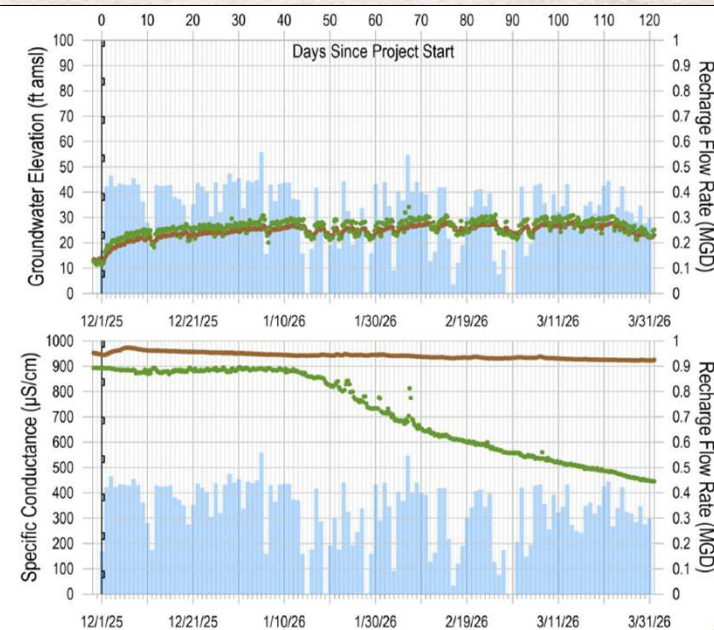
TDS

Specific Conductance

Common ions

Datalogger Monitoring Monterey Monitoring Wells

- Immediate increases in GW elevations at PWS startup (~15 ft rise)
- GW elevation fluctuations reflect system downtimes and pumping at Tannery II
- SC data indicates purified water arrival at inner well MM-1
- Steady SC decrease after ~40 days of operation



EXPLANATION

●●● MM-1 ●●● MM-2 — Project Operation Start ■ Monterey SWIP Well Daily Recharge Rate

START UP UPDATE (CONTINUED)

Dye Tracer Study – Started April 7, 2026



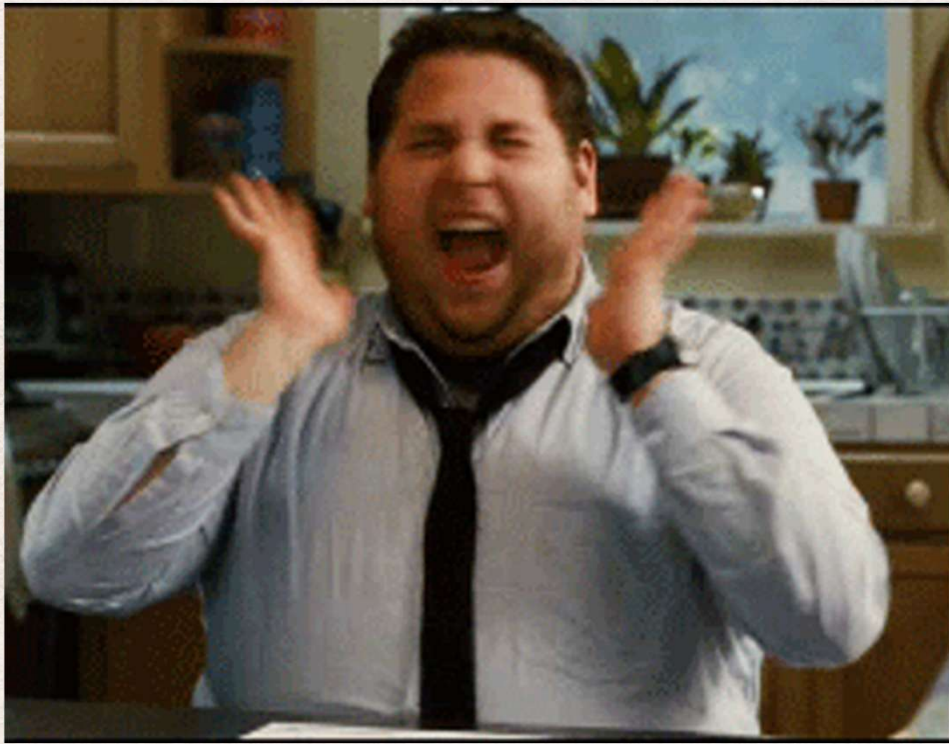
Installing the quill



Preparing the Fluorescein dye (fluorescent dye tracer used)



OTHER THINGS TO NOTE AMONGST FELLOW COLLEAGUES...



FUNDING PARTNERS

COLLABORATION PARTNERS



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THANK YOU!

