



JCSD Heli-Hydrant Project

ACWA Excellence in Innovation Award

About JCSD

A Legacy of Excellence



Water



Wastewater



Recycled
Water



Parks &
Recreation



Graffiti
Abatement

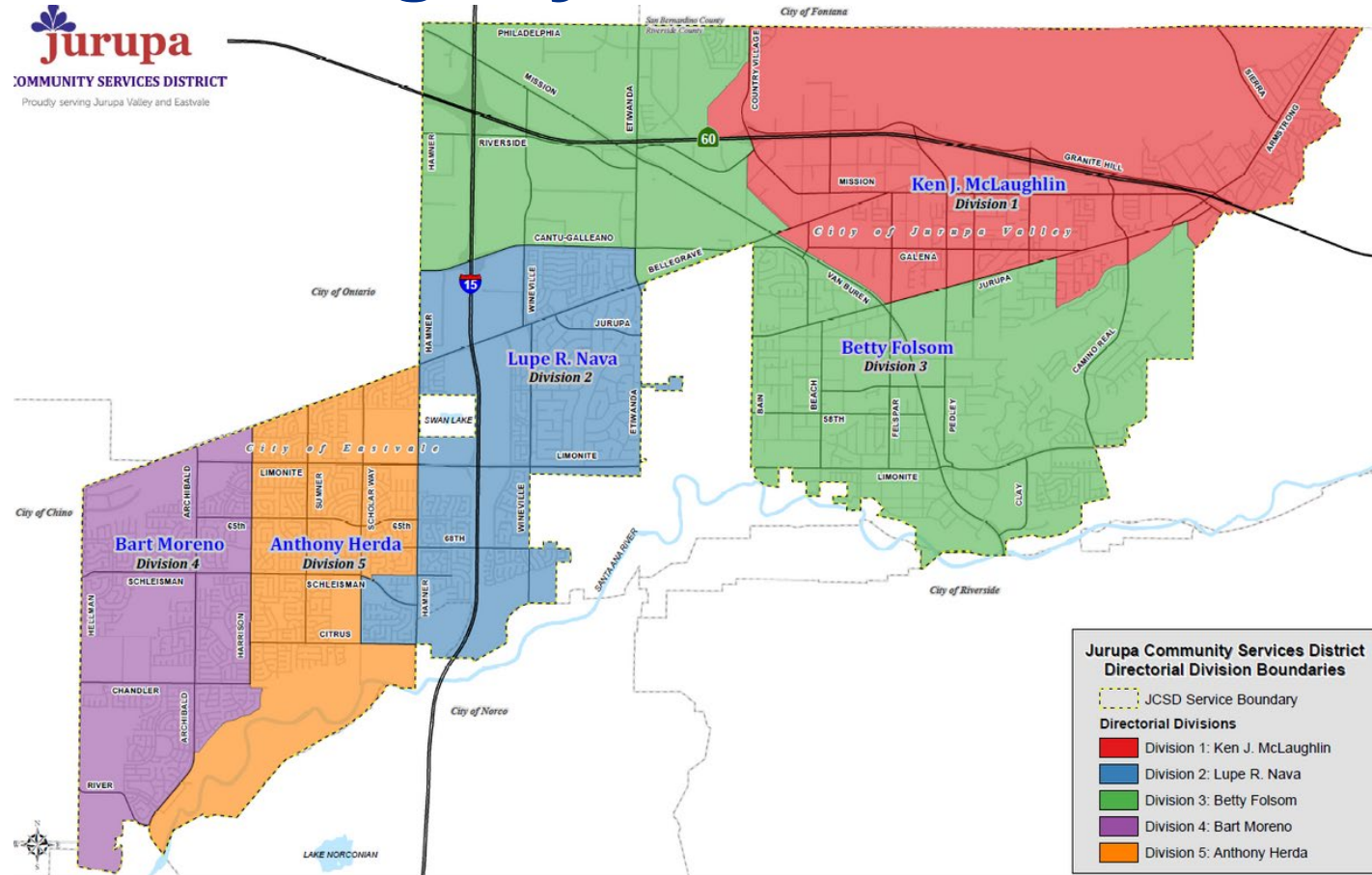


Street Lights



About JCSD

A Legacy of Excellence



About JCSD

A Legacy of Excellence



Division 1

**Kenneth J.
McLaughlin**



Division 2

Lupe R. Nava



Division 3

Betty Folsom



Division 4

Bart Moreno



Division 5

Anthony Herda

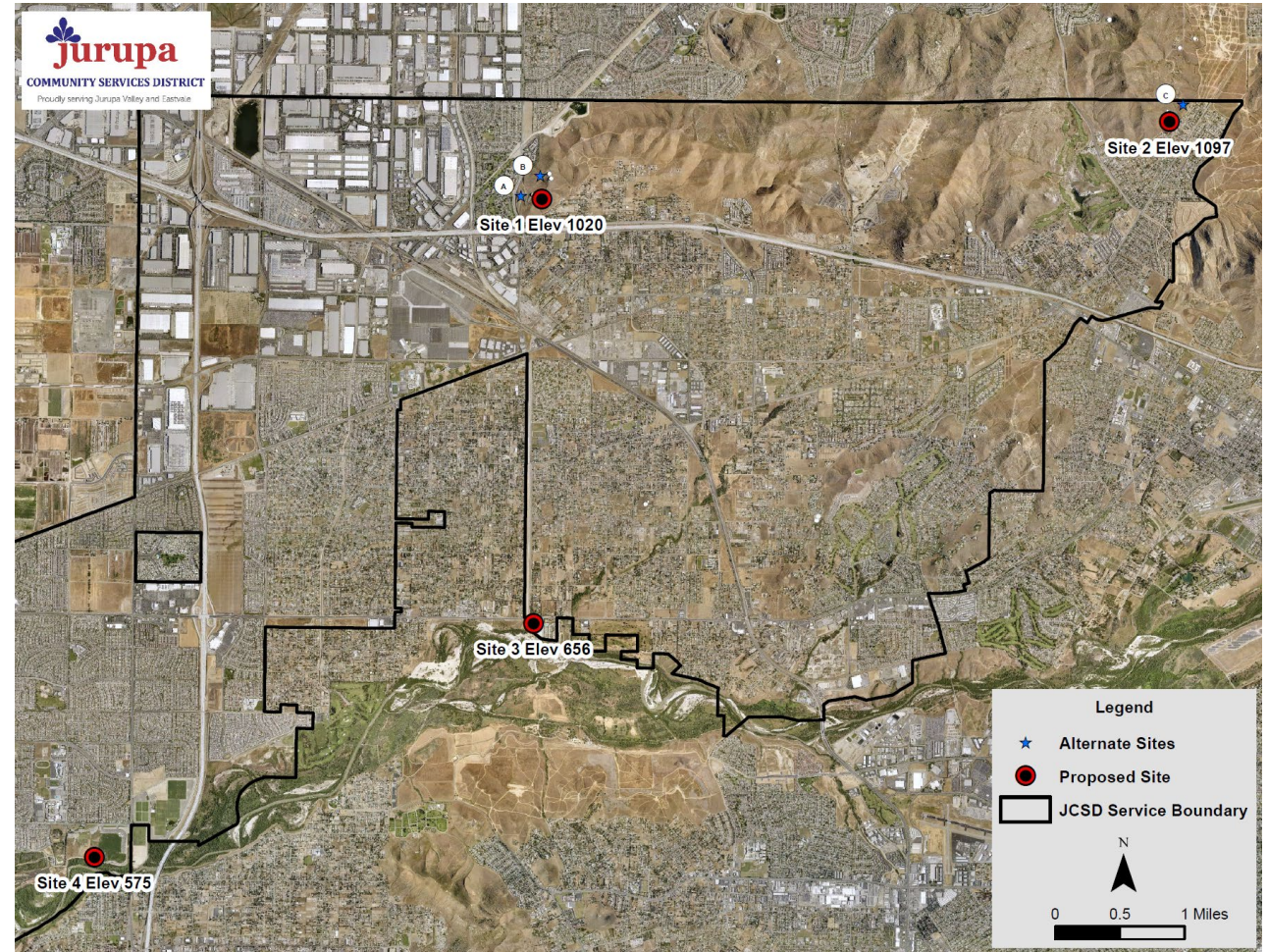


**Chris Berch
General Manager**

What is the Heli-Hydrant Project?



Strategic Locations & Expansion



Innovative Design & Technology



Leadership and Regional Collaboration



Community Impact and Operational Success



Vision for Expansion and Statewide Model



Well Depth Measurement System (WDMS)

Rancho Water

WORKING FOR OUR COMMUNITY



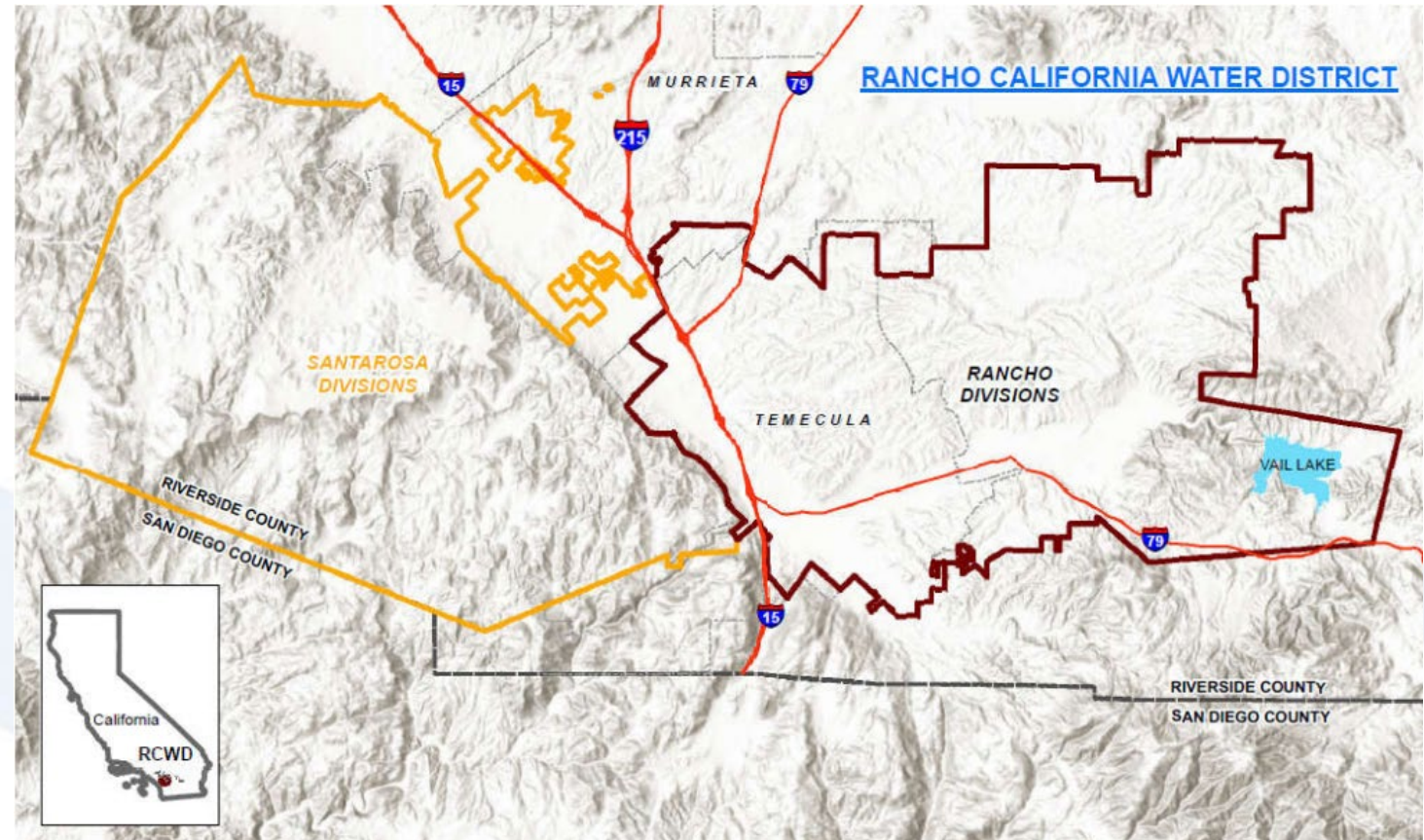
Rancho Water Background



RCWD at a Glance

- 45,551 service connections
- Total production: 48,894 AF
 - Groundwater: 14,317 AF
 - Import: 31,225 AF
 - Recycled: 3,351 AF
- 46 production wells

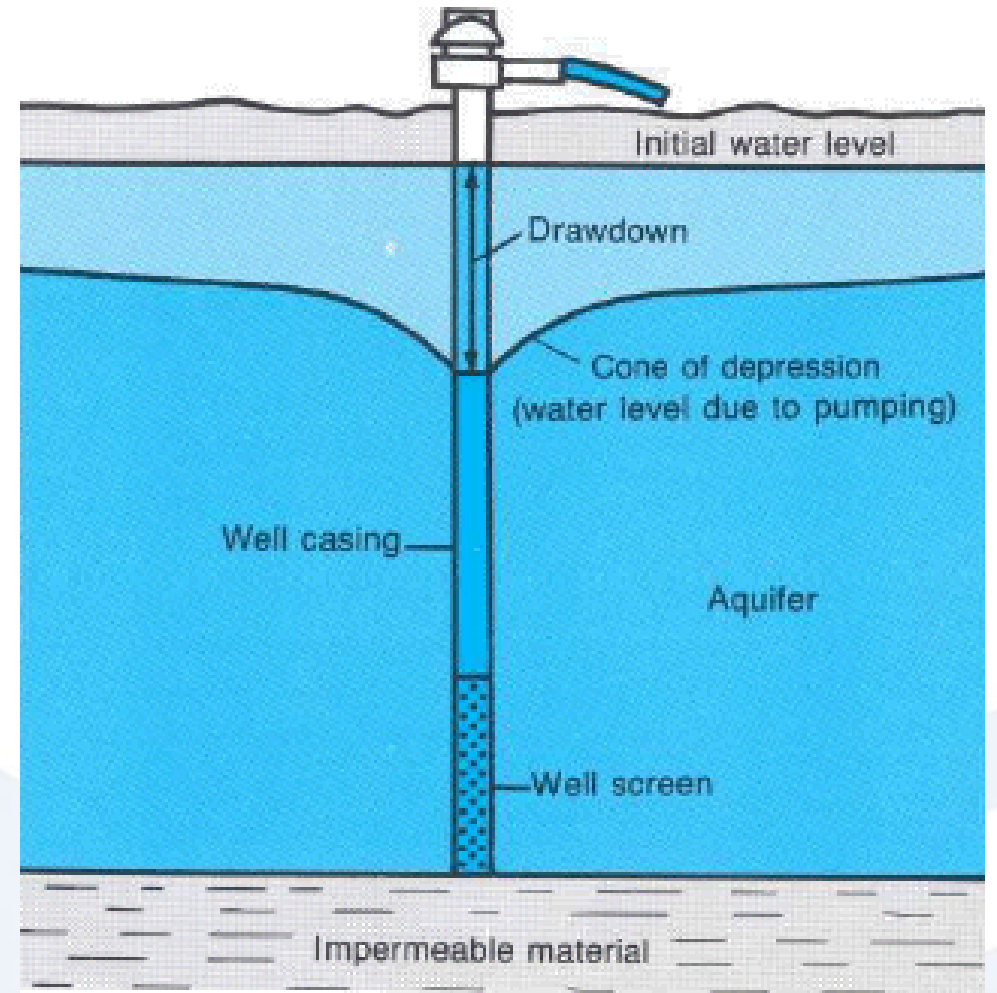
RCWD Service Area Map



The Issues



- Increasing need for water conservation and accurate groundwater monitoring
- Key areas of concern:
 - Underground aquifer depth level monitoring
 - Existing data for rehabs is lacking
 - Specific capacity tests
 - Drawdown tests



WDMS Benefits



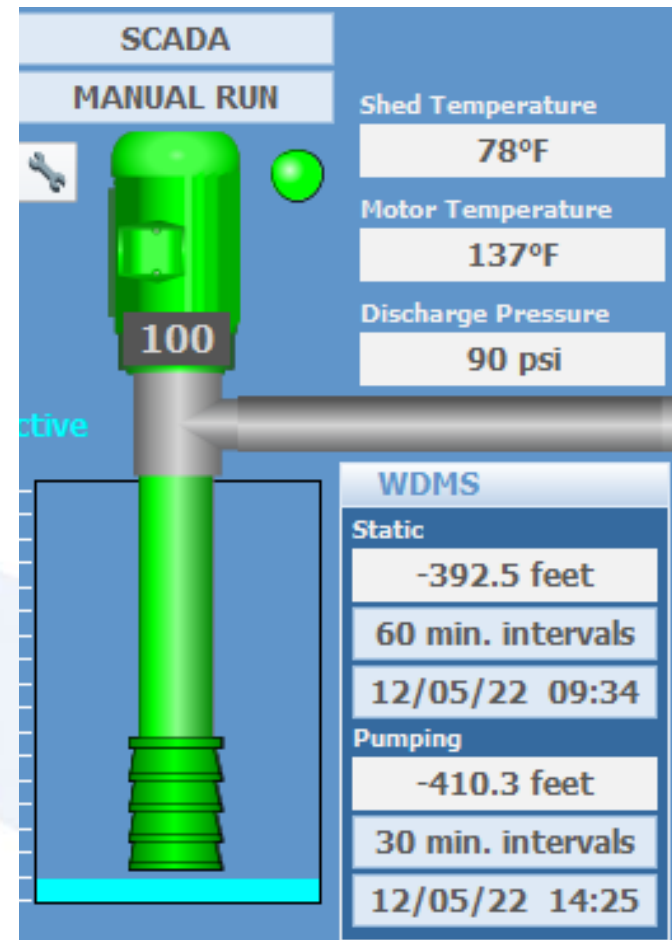
- Enhanced accuracy
- More reliable
- Cost-effective
- Ease of installation and integration with existing infrastructure
- Low-maintenance
- Not time restrictive
- Automated specific capacity and step drawdown testing identifies efficient timing of well rehabs

SCADA Remote Monitoring



- The WDMS can be added to SCADA to allow for remote monitoring and fault detection

WDMS SCADA Display

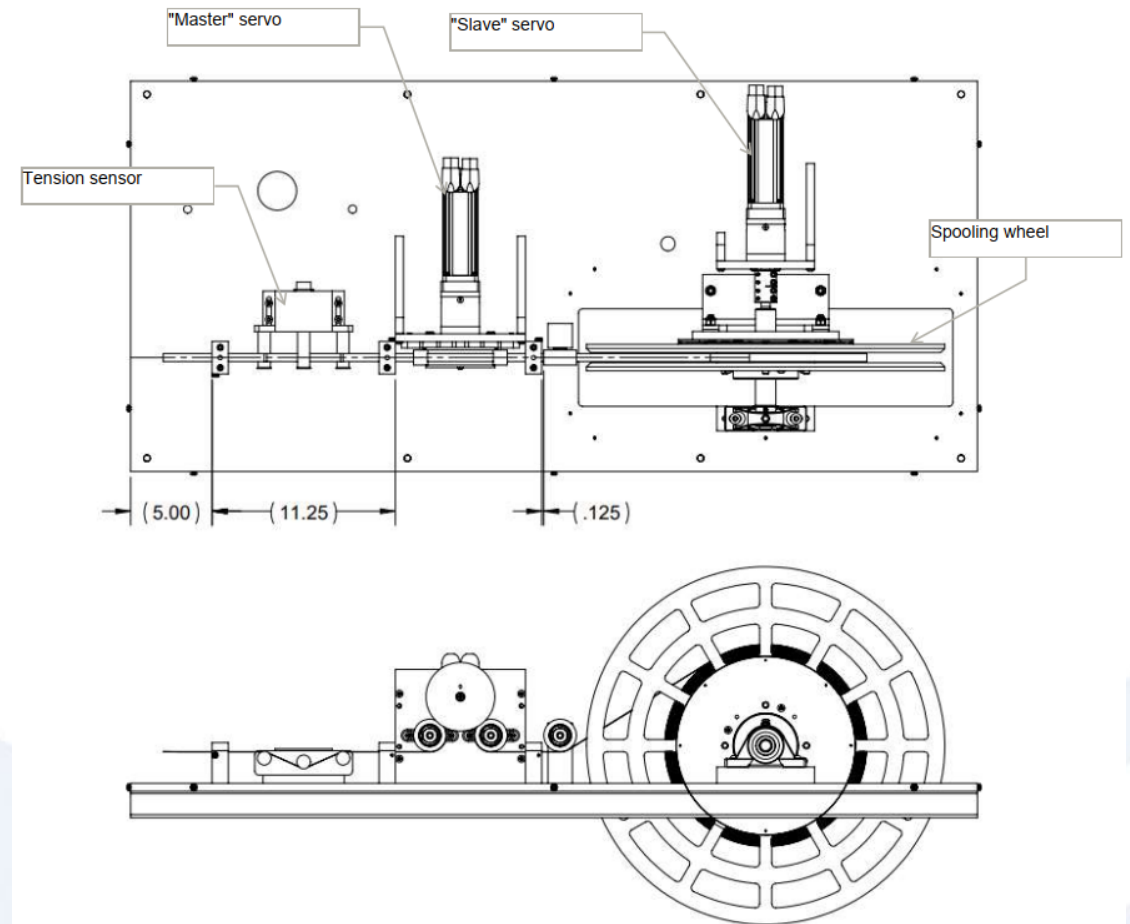


- Shows static level when pump is off
- Shows pumping level when pump is running

Well Depth Measurement System (WDMS)



- Prototype designed in-house mimics and automates manual sounding process
- Utilizes PLC and 2 servo systems for control (not manufacturer specific)

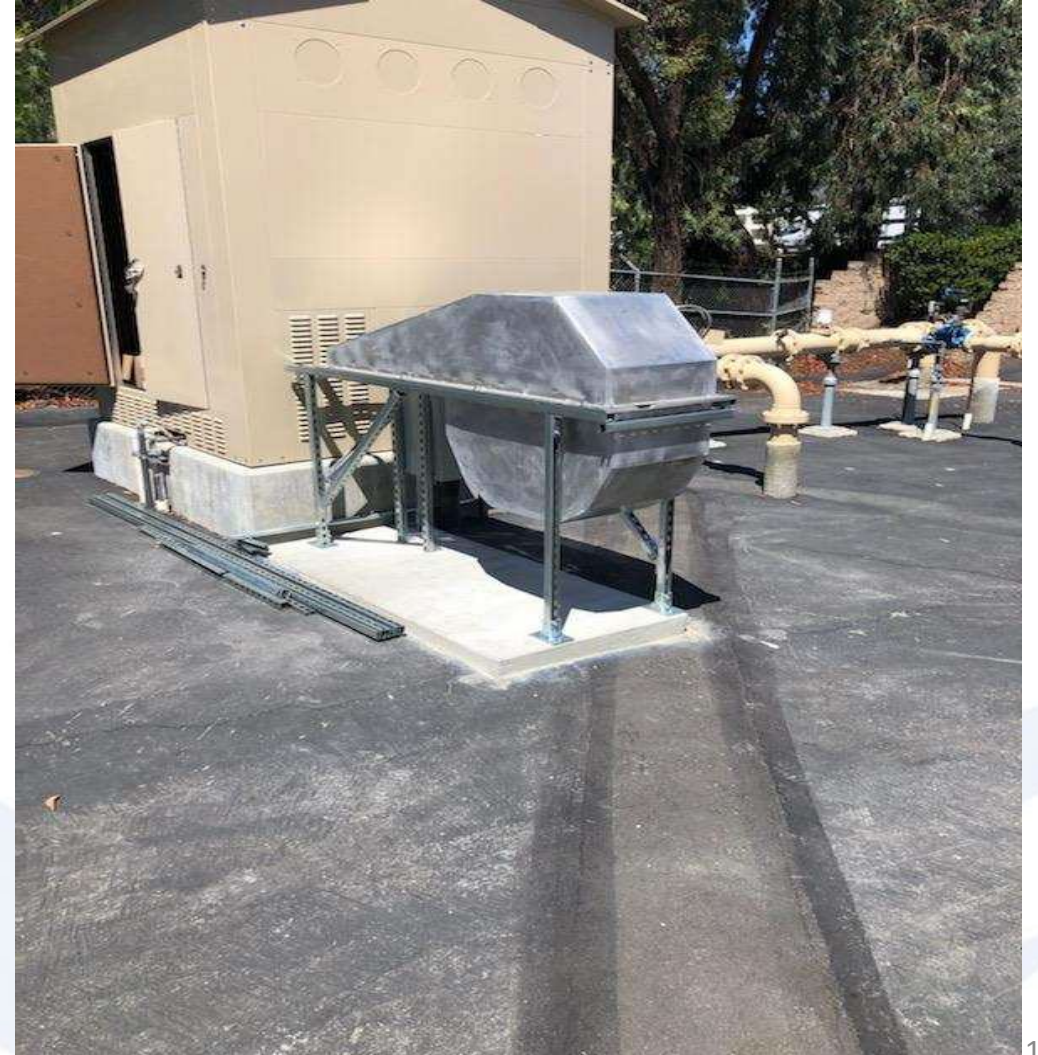


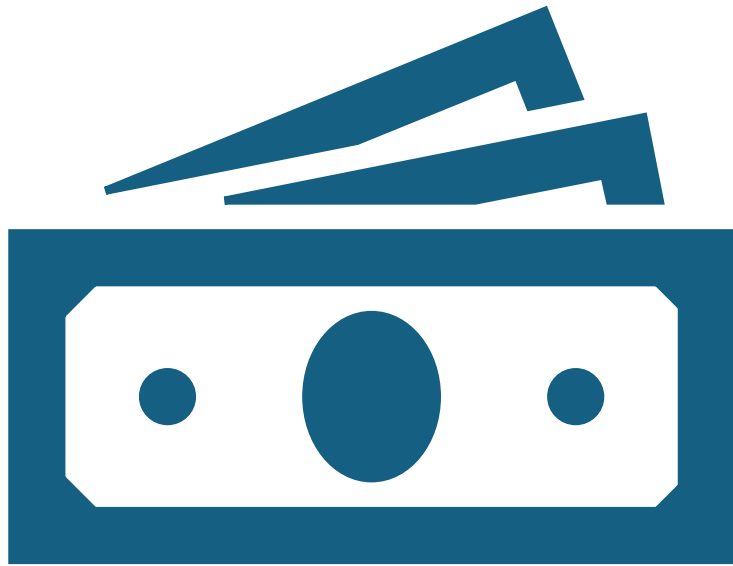


Rancho Water

WORKING FOR OUR COMMUNITY

WDMS Prototype Photos





San Geronio Pass Water Agency Gap Funding Program

ACWA

December 4, 2024



San Gorgonio Pass Water Agency



Encompasses the Cities of Banning, Beaumont, Cabazon, and Calimesa



Approximately 225 sq mi



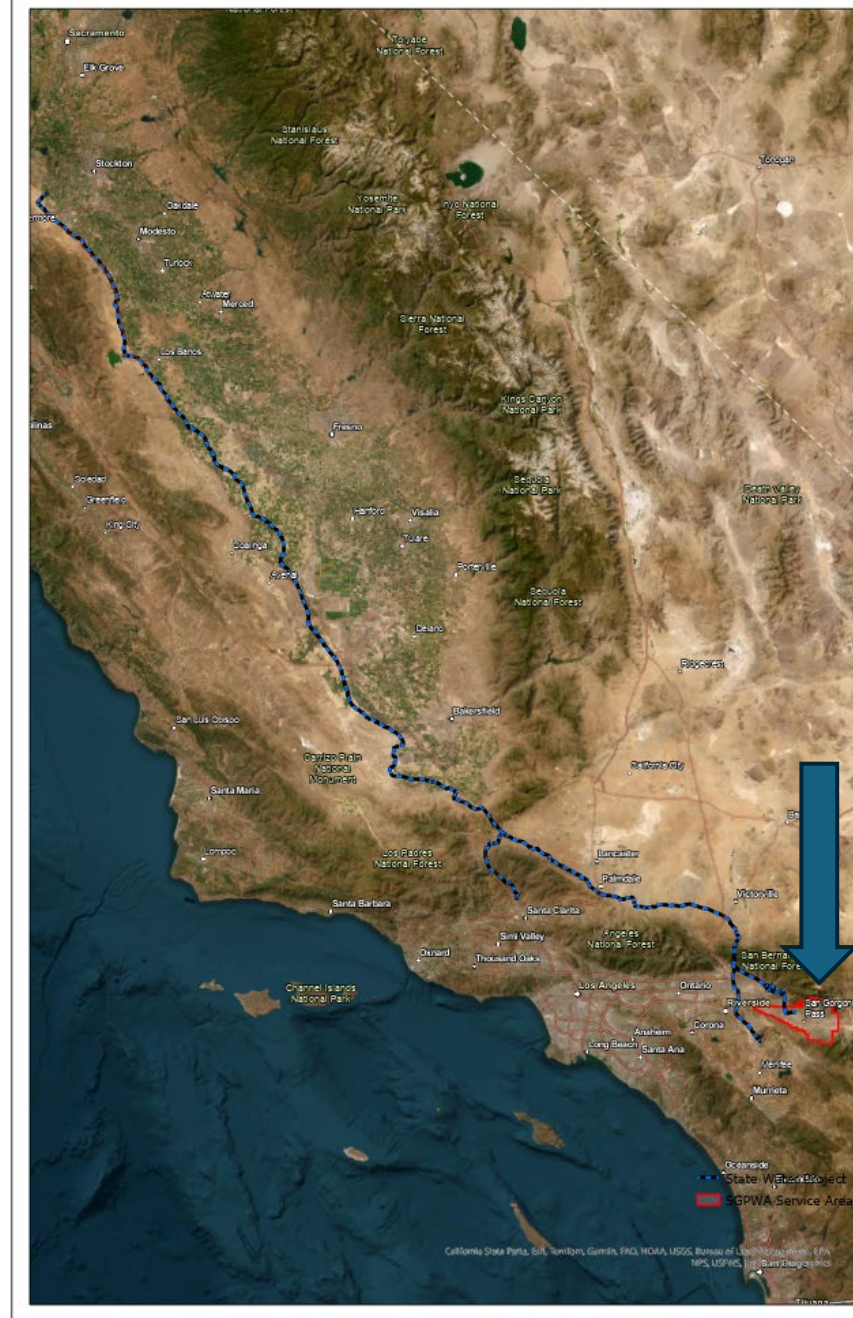
Population over 100,000



End of the line for the State Water Project



Water travels over 500 miles to get to our service area



Successful projects in the program to date include...

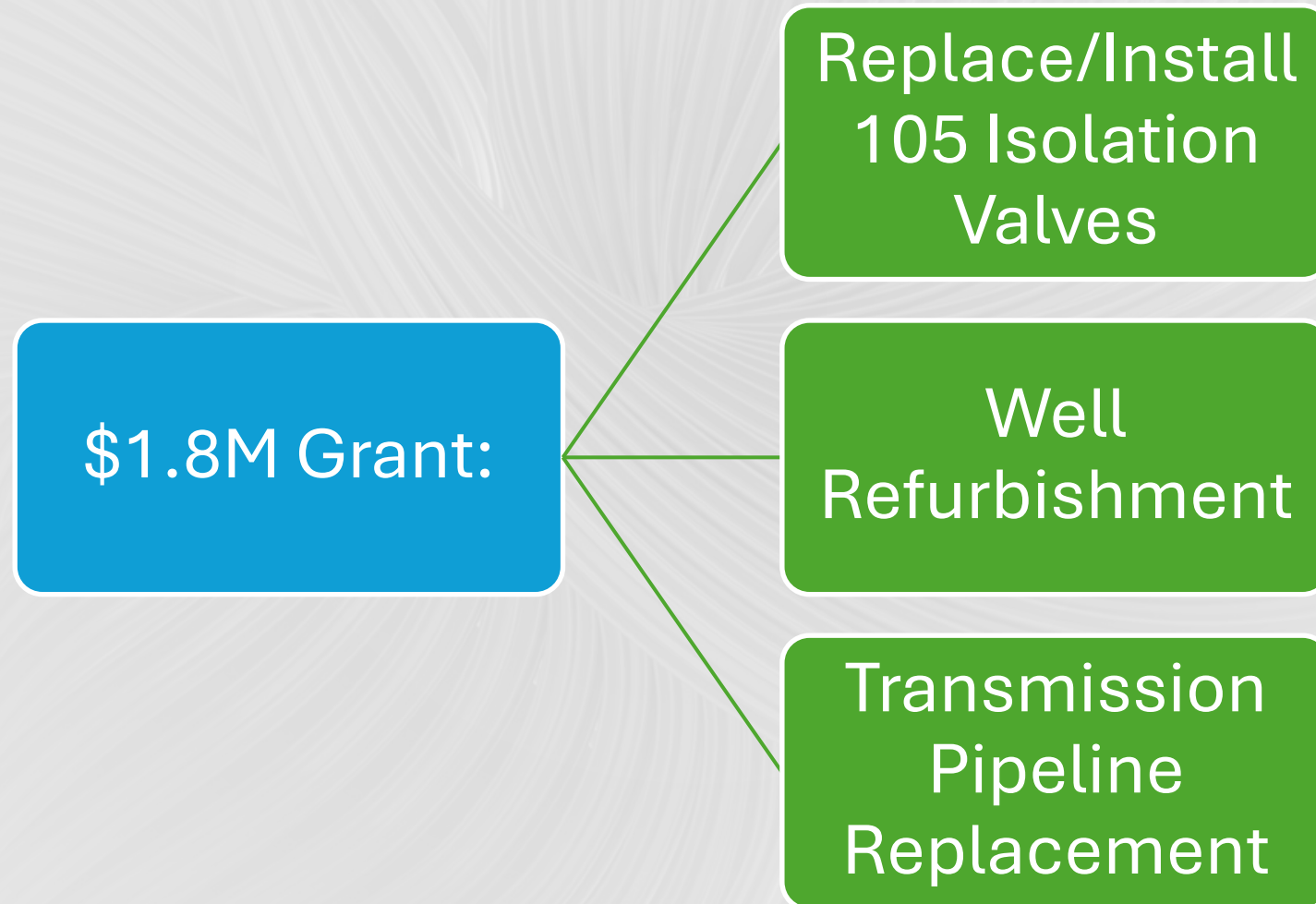
Small Water System	Grant Type and Amount	Project
Cabazon Water District	SWRCB Prop 68: \$500k DWR Prop 1: \$1.25M	Groundwater Well and Isolation Valve Improvement Project
High Valleys Water District	DWR Prop 1: \$1M	Twin Pines Water Supply Reliability and Fire Protection Upgrades
South Mesa Water Company	SWRCB Prop 68: \$10.2M	County Line Pipeline Replacement Project

Part of the Gap Funding Program is to provide technical assistance to small water systems

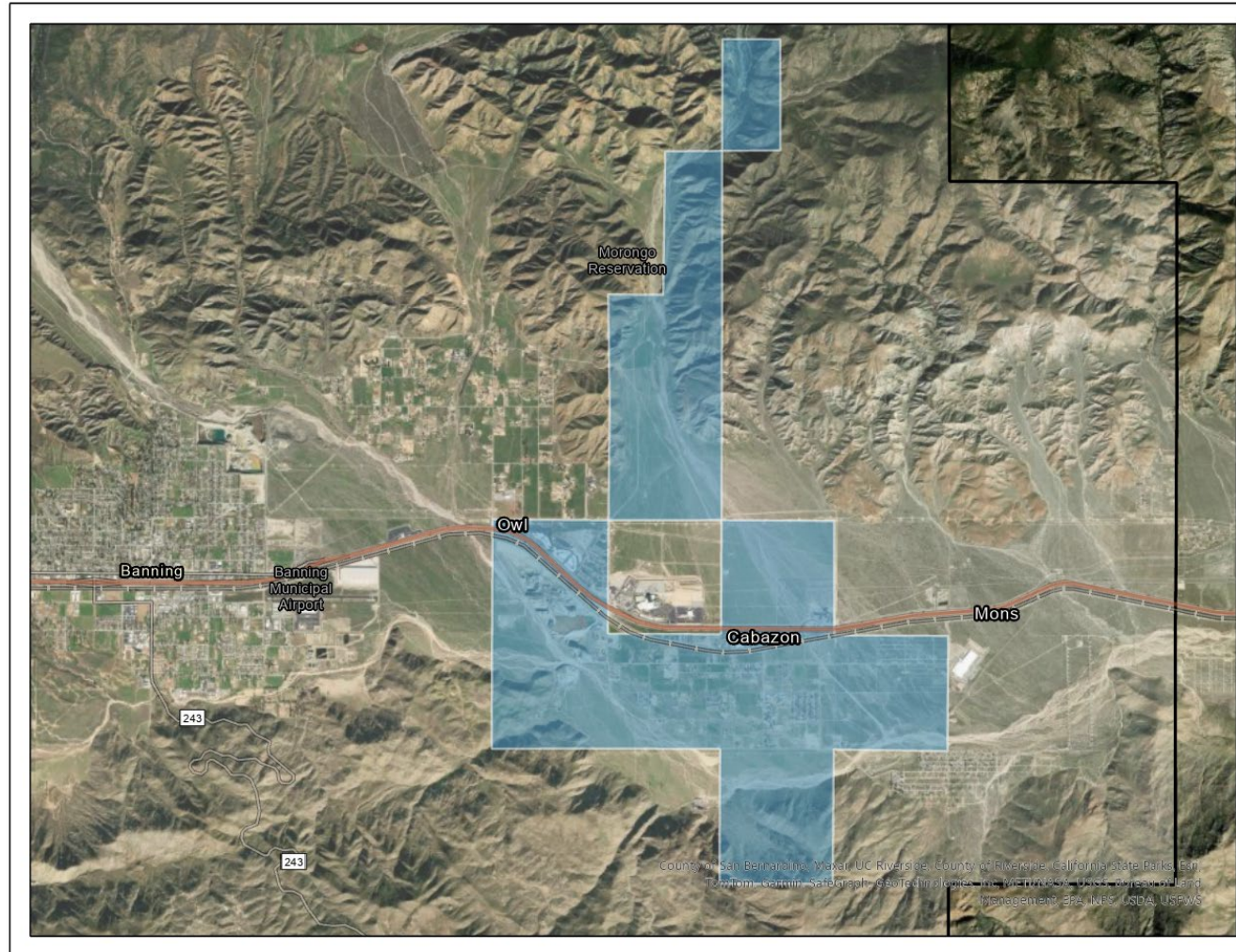
- California Rural Water Association is assisting with this work and has completed technical assistance, needs assessments, leak detection, GIS mapping, and engineering for:
 - Cherry Valley Water Company
 - High Valley Water District
 - Cabazon Water District
 - South Mesa Water Company
 - Banning Heights Mutual Water Company



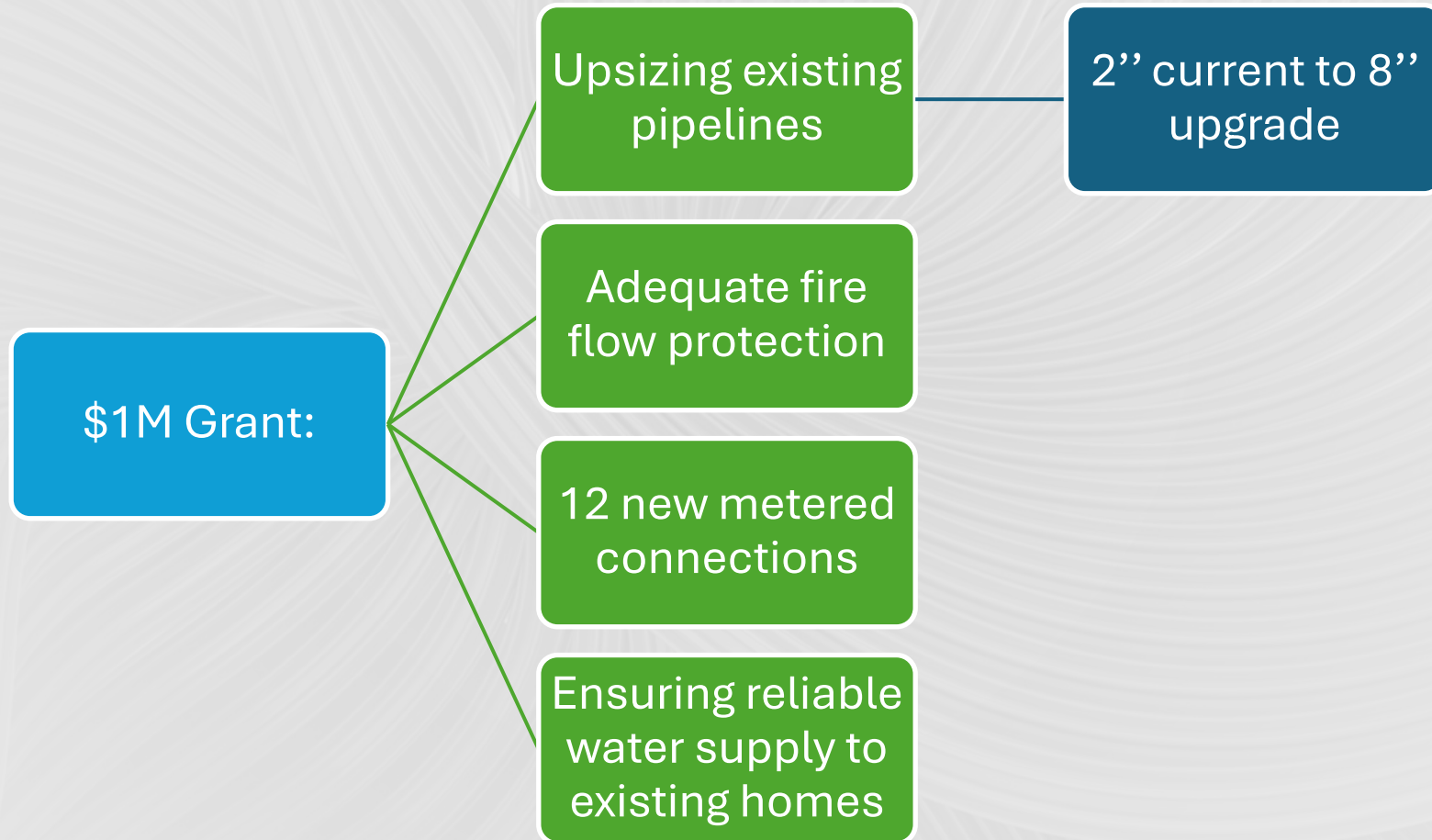
Cabazon Water District: Groundwater Well and Isolation Valve Improvement Project



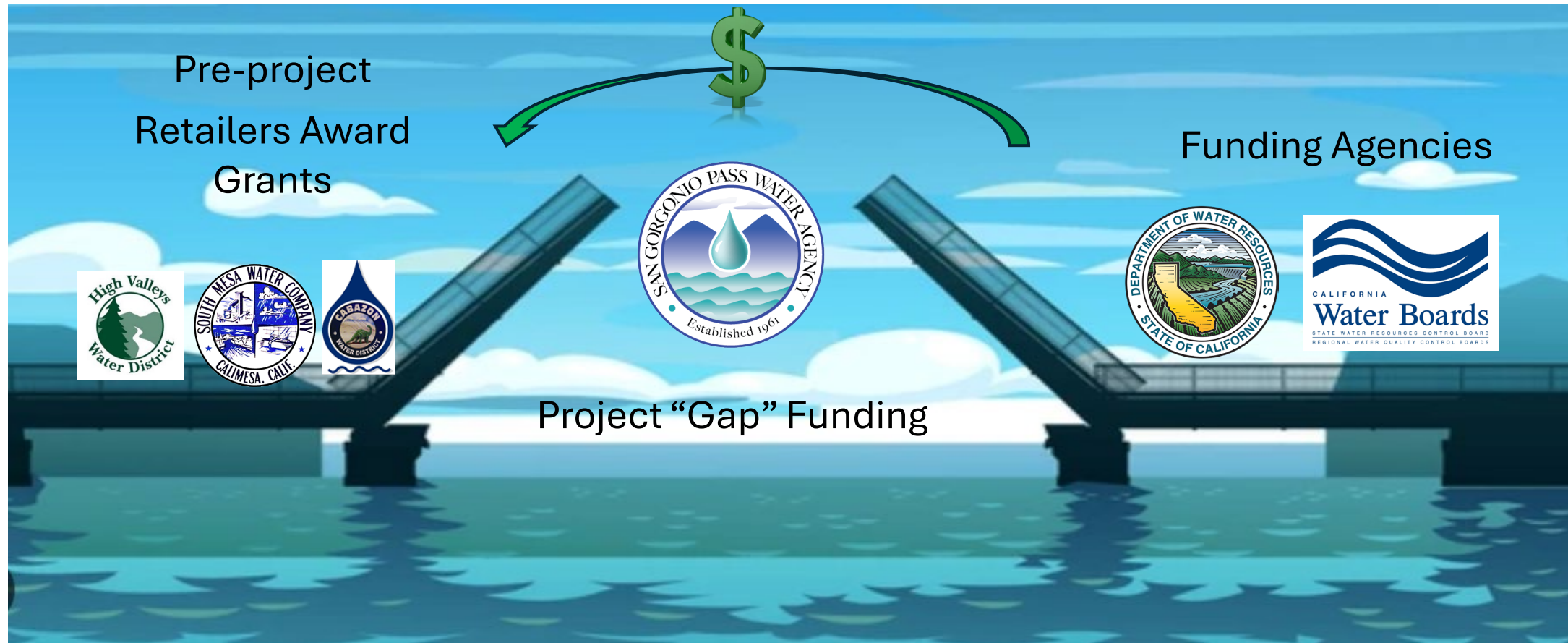
Cabazon Water District: Groundwater Well and Isolation Valve Improvement Project



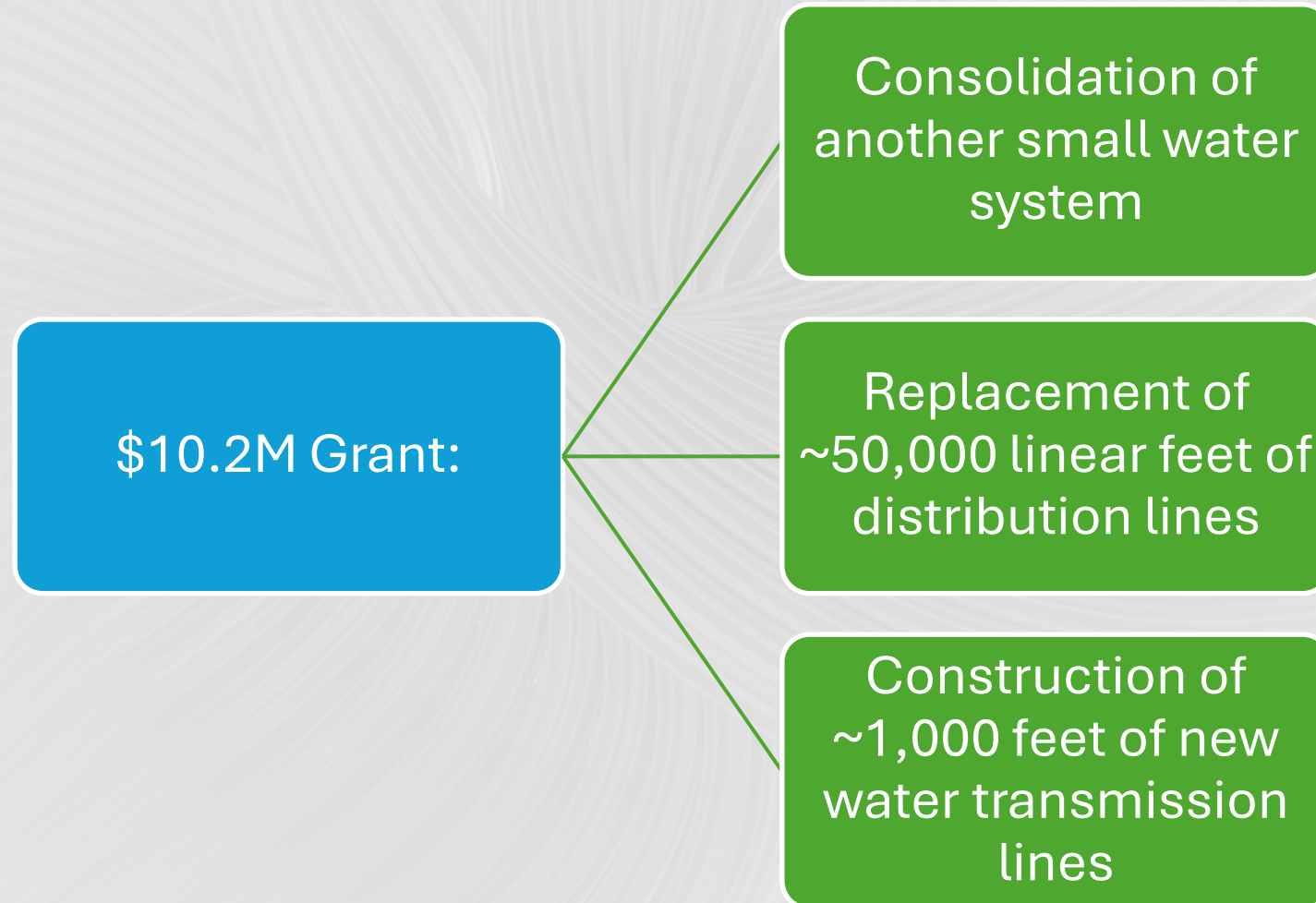
High Valleys Water District: Twin Pines Water Supply Reliability and Fire Protection Upgrades



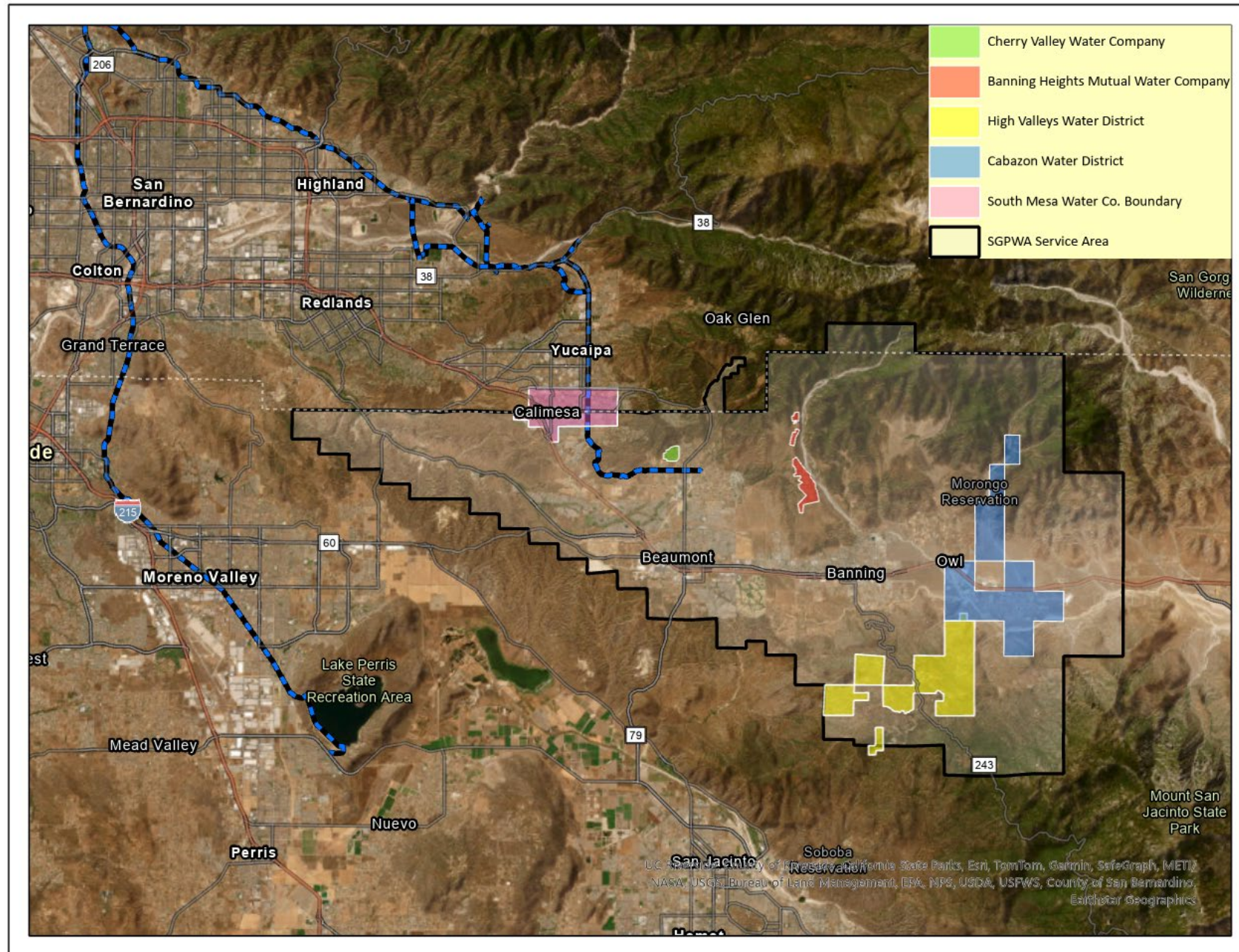
Bridge the “Gap” Funding Program



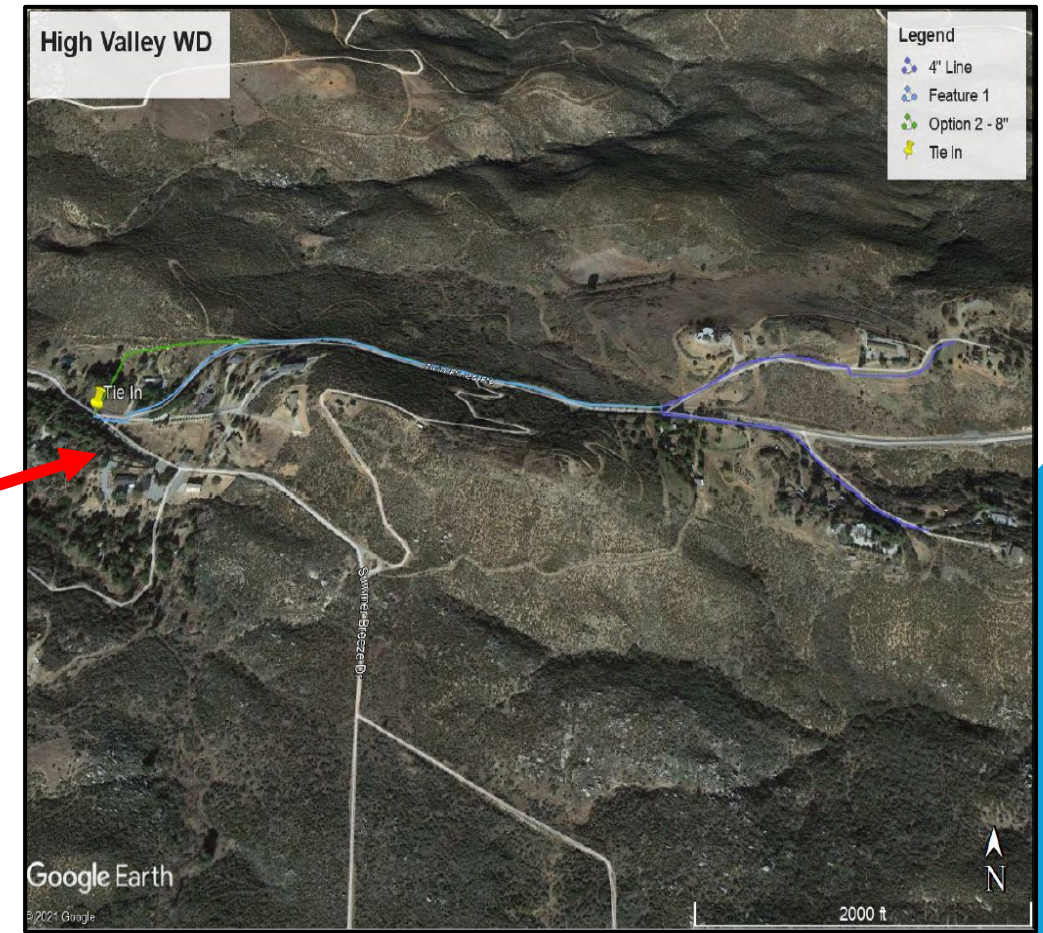
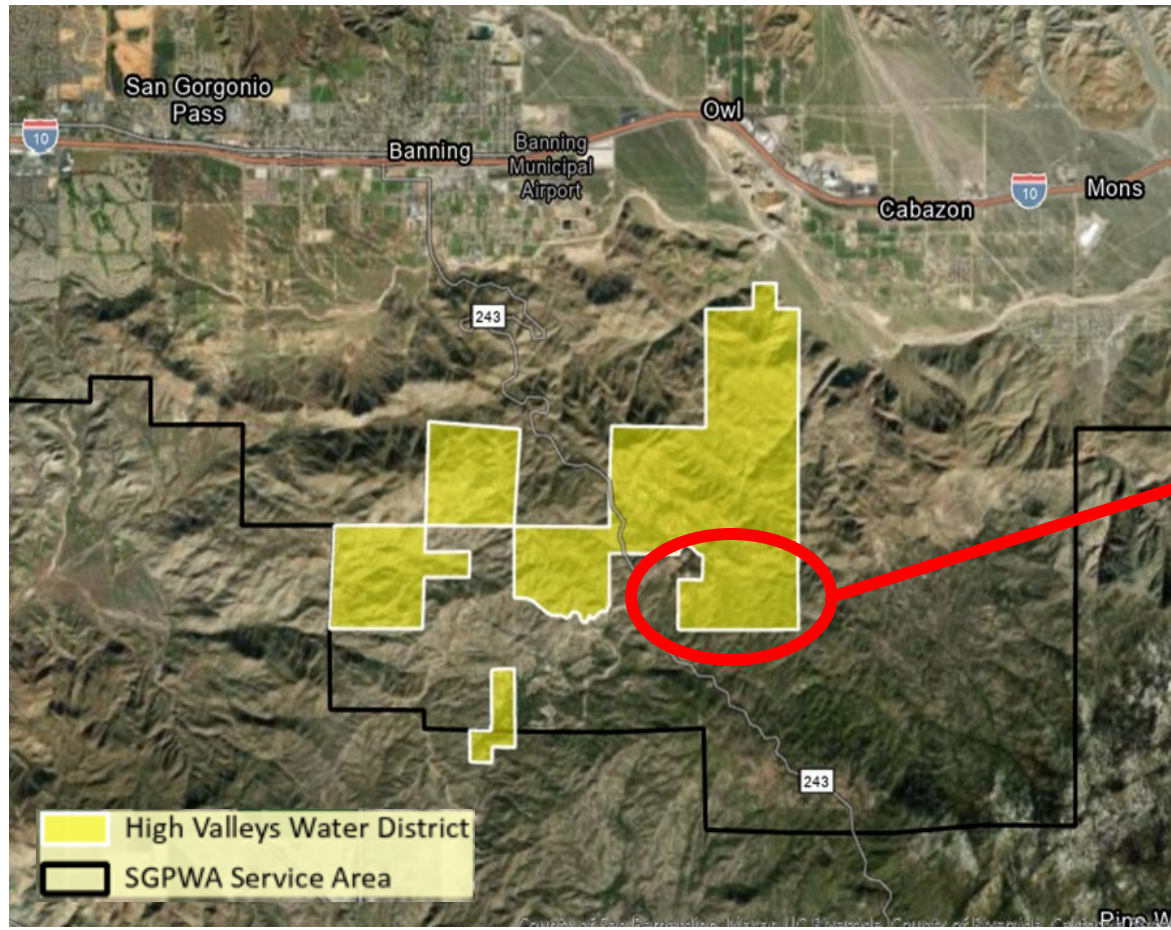
South Mesa Water Company: County Line Pipeline Replacement Project



San Gorgonio
Pass has
multiple small
water systems
including...



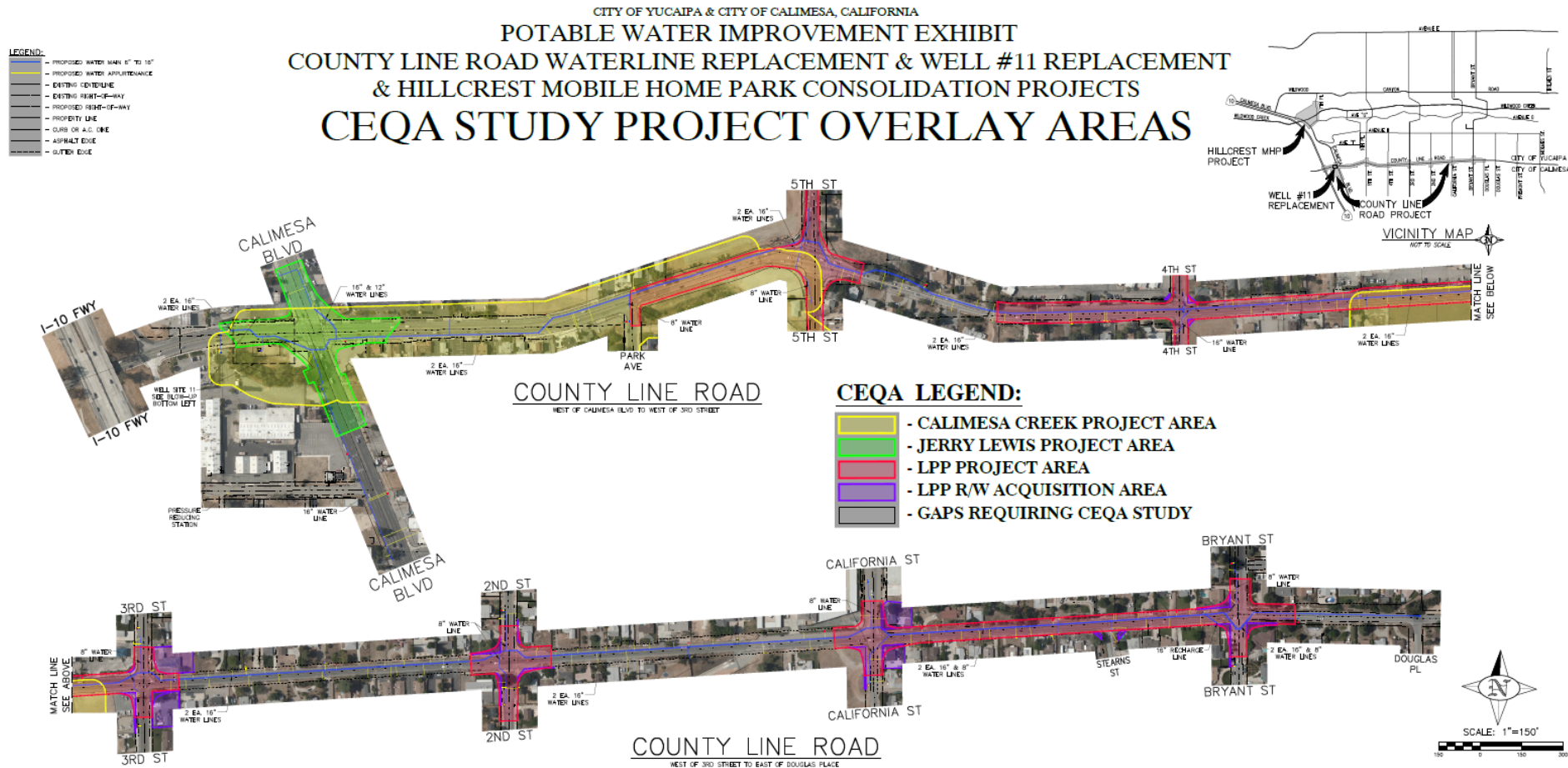
High Valleys Water District: Twin Pines Water Supply Reliability and Fire Protection Upgrades



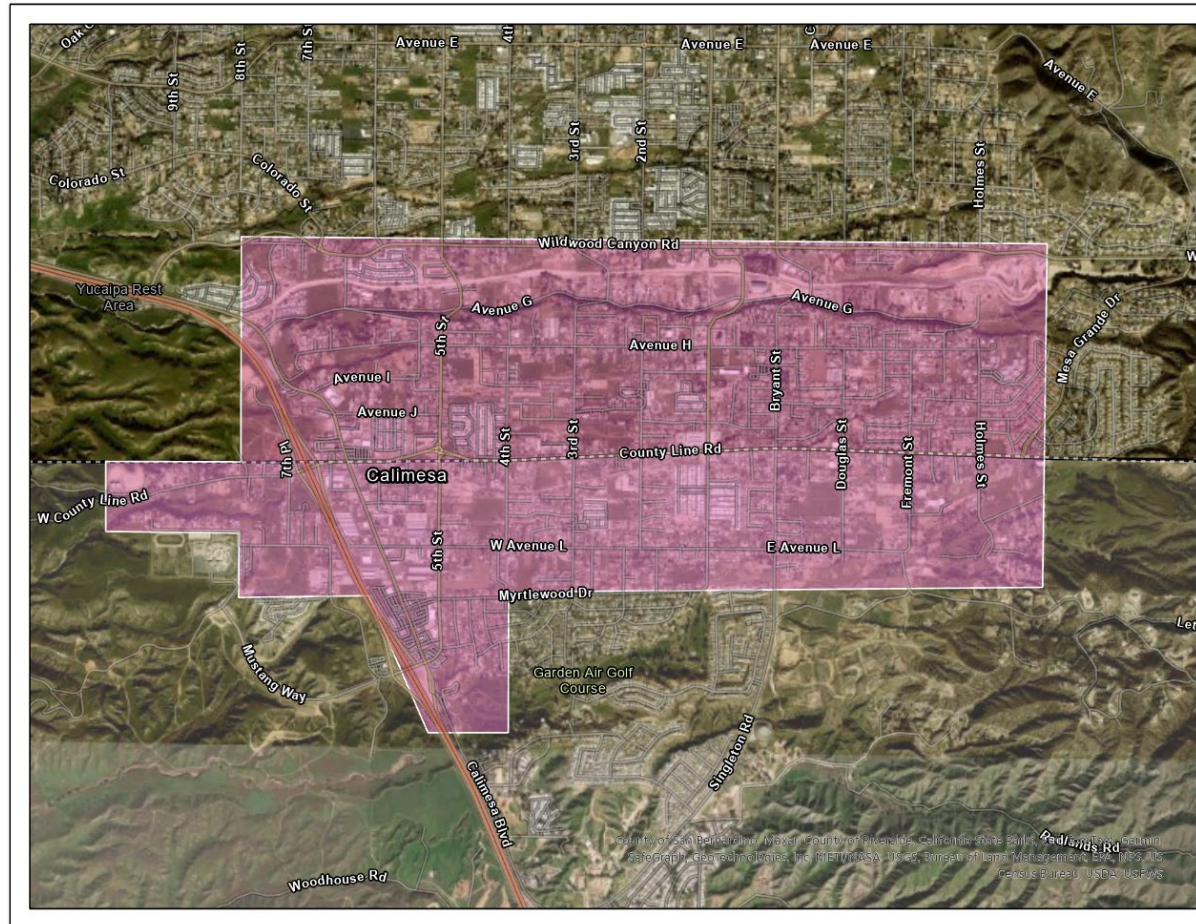
Without grant administrative support and a Gap Funding option, local small systems could not access or use the much-needed support designed for smaller, disadvantaged systems.



South Mesa Water Company: County Line Pipeline Replacement Project



South Mesa Water Company: County Line Pipeline Replacement Project





Cabazon Water District: Groundwater Well and Isolation Valve Improvement Project



North Well Manganese Treatment Project

Western Municipal Water District | 2024 ACWA Awards



About Western Water



Service Area

Provides water, wastewater, and recycled water services to nearly 1 million people in Riverside County.



Core Mission

Deliver reliable, high-quality water while ensuring customer satisfaction and environmental responsibility.



Service Legacy

Acquired Murrieta retail area in 2005; committed to balancing local and imported water sources to maintain a sustainable supply.

PROBLEM & OPPORTUNITY

- Areas of our service area in Murrieta experiencing water discoloration from natural mineral deposits.
- Aesthetic issues due to manganese levels in groundwater.
- Resolve aesthetic water quality issues while keeping local groundwater as a primary resource.



PROJECT OBJECTIVE

- **Goal:** Develop a cost-effective solution to reduce manganese levels below 0.01 mg/L.
- **Benefits:**
 - Improve water aesthetics (reduce discoloration).
 - Strengthen groundwater reliability and sustainability.
 - Avoid increased costs of switching to imported water.

Leighton Consulting, Inc.

LINDRICAL CONCRETE SPECIMENS - ASTM C31, C39, AND C172

Permit No.

Project: VMWD W-316 North Well 2 Treatment Plant
avenue, Suite 500 24308 Kentucky Derby Way
Murrieta, CA

Report No. 16809- 20855

FIELD TEST DATA

ODIUM HYPOCHLORITE TANK

Concrete Mat Foundation

2/2024

Robertson's Ready Mix Weather: Clear, Cold

34001 Mix Design (psi): 4000

88 Capping Method: ASTM C1231

0

ASTM C143: 5

- ASTM C1064: 74

ft) - ASTM C138:

Date Received: 3/25/2024

Specified Strength (psi): 4000

Ticket No: 900921

Cement Type: II/V

Admixture: ZYLA 625

Sampled/Tested By (Field): Alfredo Gonzalez

Samples Tested By (Lab): Garrett Stearns

Air Content % ASTM C231: Air Temp. (F°): 59

LABORATORY TEST DATA

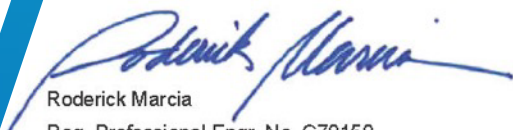
Test Age	Test Date	Diameter	Height	Area	Max. Comp	Compr. PSI	Break Type
7	3/29/2024	4.00	8.00	12.57	47330	3770	Type 5
28	4/19/2024	4.00	8.00	12.57	61120	4860	Type 5
28	4/19/2024	4.00	8.00	12.57	60450	4810	Type 5
28	4/19/2024	4.00	8.00	12.57	58940	4690	Type 5
Hold							HOLD

ult Average 28-day strength meets specification.

28-Day Avg = 4790 (psi)

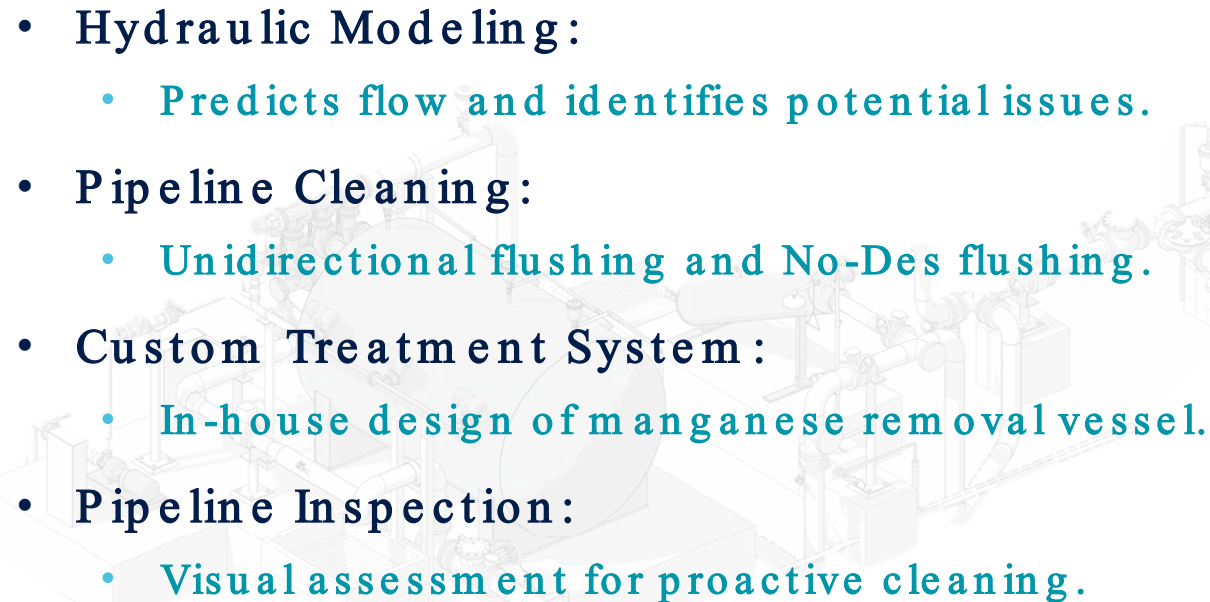
Comments: Sampled concrete also poured at (N) BACKWASH
TANK Concrete Mat Foundation
Admixture: ZYLA 625 (Water-Reducing)
VMWD Western Municipal Water District

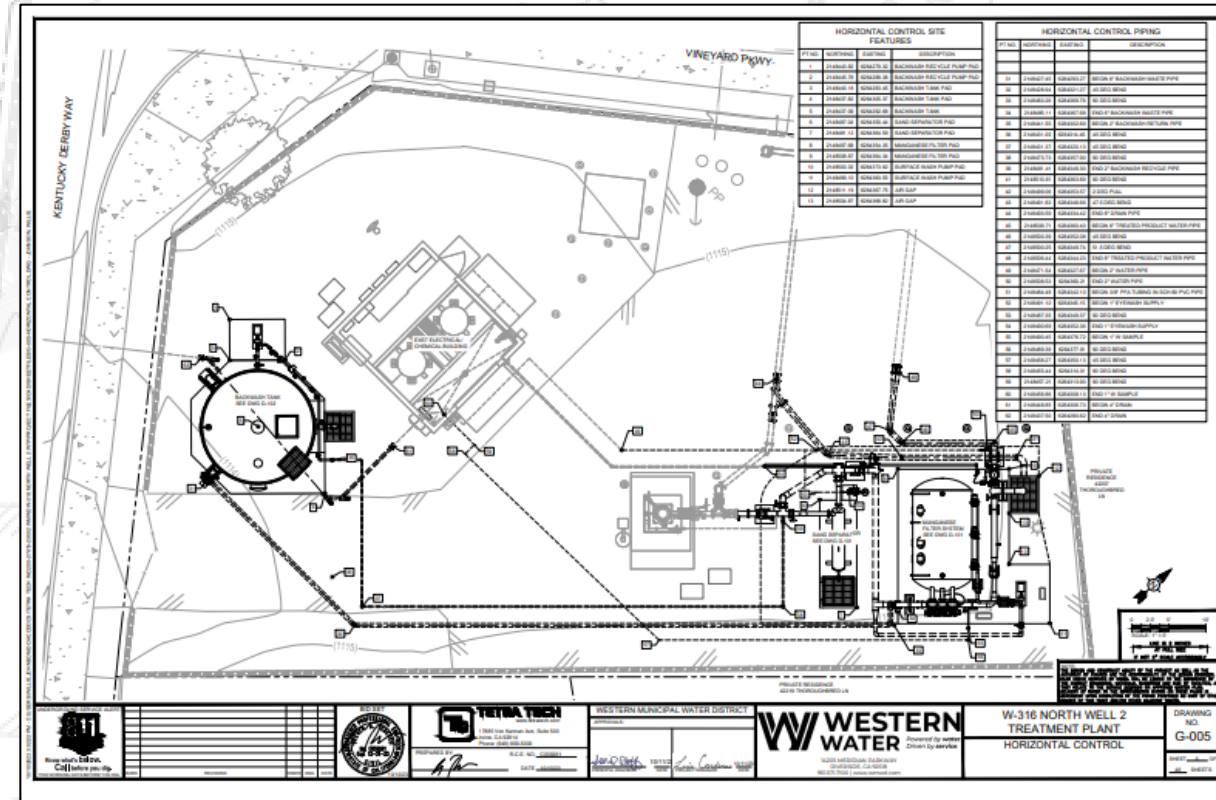
Respectfully submitted,
Leighton Consulting, Inc.



Roderick Marcia
Reg. Professional Engr. No. C70150
Registration Exp. 09/30/2024

INNOVATION & APPROACH

- 
- **Hydraulic Modeling:**
 - Predicts flow and identifies potential issues.
 - **Pipeline Cleaning:**
 - Unidirectional flushing and No-Des flushing.
 - **Custom Treatment System:**
 - In-house design of manganese removal vessel.
 - **Pipeline Inspection:**
 - Visual assessment for proactive cleaning.



PROJECT EXECUTION

- Completed entirely by Western Water staff, from design through construction.
- Internal team work with Board support.
- Reduced overall project costs, benefiting customers.



CUSTOMER ENGAGEMENT

- Outreach campaign to keep customers informed.
- Transparent updates reduced complaints and built trust.
- Two-way communication fostered customer engagement.



RESOURCES & BUDGET

Project Budget: \$2,394,475

- **Cost Savings:** In-house execution significantly cut costs and timeline.



RESULTS

- **Manganese removal**

- Prior to treatment system : Manganese 0.037 milligrams per liter
- Post treatment system : Manganese- non detectable.

- **North Well 2 is producing:**

- 750 gallons per minute
- 1,080,000 gallons per day
- Just over 32 million gallons per month, equaling about 100-acre feet.

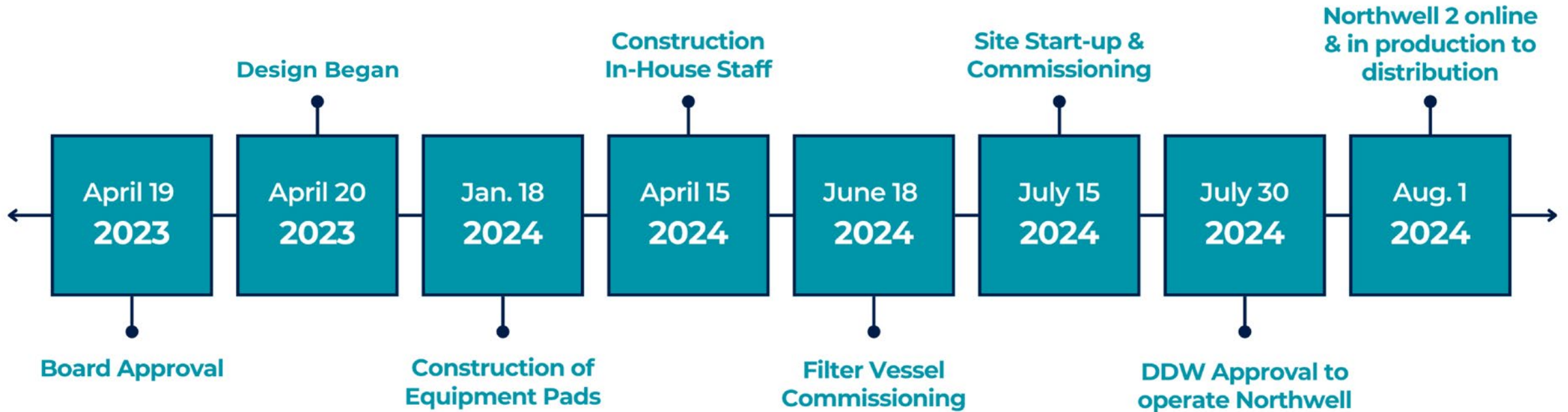


REPLICABILITY

- A replicable approach for other agencies to tackle water quality and reliability challenges.



PROJECT TIMELINE



The image shows a wellhead treatment system installed on a flat rooftop. The equipment includes a large horizontal pump assembly with multiple stages, a vertical pump with a grey motor, and various pipes and valves. Yellow safety bollards are placed around the equipment. In the background, there is a grey block wall and residential houses with tiled roofs under a clear blue sky.

NORTH WELL

WELLHEAD TREATMENT

Questions?

PRESENTED BY:

Dean Standing Warrior, *Western Water*

