

# Chapter Meeting

December 7, 2023

San Diego County Water Authority

Thank you to  
our sponsor!  
**Hazen**



# Agenda

- Welcome to San Diego County Water Authority
- Chapter Updates
  - Regulatory Update
  - Funding Update
  - Year in Review
  - Recent and Upcoming Events
  - Officer Elections
- Sponsor Highlight (Joel Bowdan, Hazen)
- Advanced Clean Fleets Rule (Molly Munz, CARB)
- Helix's Fleet Electrification Plan (Joe Garuba, Helix)
- Happy Hour at Khan's Cave!

# Welcome to SDCWA



# Chapter Updates

WateReuse San Diego Officers

# Regulatory Update

## Direct Potable Reuse Regulation

- Revisions released
  - Increased flexibility
- Tentative adoption December 19, 2023

## Cross Connection Control Policy Handbook

- Revisions released
- Comments due December 12, 2023 at noon
- Tentative adoption December 19, 2023
- Effective July 1, 2024

## Making Conservation a CA Way of Life

- Recycled Water Provisions
- Public Hearing October 4, 2023
- DWR interim report due January 1, 2024
- Revised draft regulation in 2024
- Adoption anticipated summer/fall 2024

# Funding Update

- USBR WaterSMART Small-Scale Water Efficiency
  - \$100k, applications due January 16, 2024
- USBR WaterSMART Title XVI Water Reclamation & Reuse
  - \$30M, applications due December 7, 2023 and September 30, 2024
- USBR WaterSMART Water & Energy Efficiency (WEEG)
  - \$500k - \$5M, applications due February 22, 2024 and October 30, 2024
- USBR WaterSMART Planning & Project Design
  - Up to \$400k, second applications due April 2, 2024



WaterReuse San Diego

# Overview of Our Year

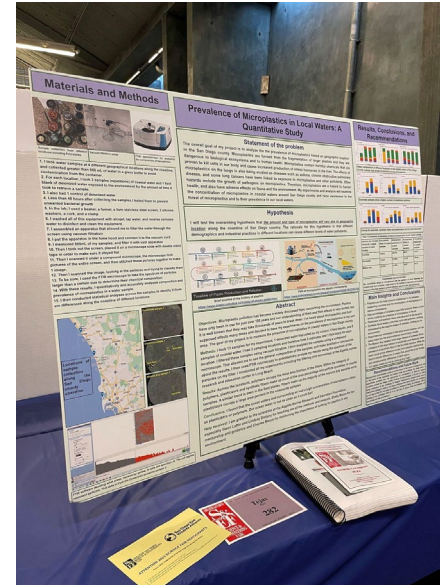
## Q1 Meeting at San Elijo Joint Powers Authority



WaterReuse San Diego

# Overview of Our Year

## Judging at the Greater San Diego Science and Engineering Fair





WaterReuse San Diego

# Overview of Our Year

## Q2 Meeting at East County Advanced Water Purification Facility



WaterReuse San Diego

# Overview of Our Year

## Q3 Meeting at Vallecitos Water District





# Overview of Our Year

## Engagement with the WaterReuse CA Conference

- Technical Committee: Jocelyn Morinishi & Lindsey Stephenson
- Awards Committee: Rosalyn Prickett
- Panel Moderator: Jesica Cleaver
- Technical Session Monitor: Mitch Bartolo
- Registration: Megan Drummy



# WaterReuse CA Updates

- Jennifer West moving on from Managing Director role at WRCA
- New WRCA slate includes:
  - Kim Thorner (Secretary, GM at OMWD)
  - Kyle Swanson (Treasurer, CEO/GM at Padre Dam MWD)
  - Tom Falk (Chapter Representative, Director of Infrastructure and Sustainability at SEJPA)
- Membership for 2024



# Upcoming Events

## **WRSD Q1 Chapter Meeting**

- February 2024
- Location and exact date TBD

## **2024 WaterReuse Symposium**

- March 11-13, 2024 in Denver, CO
- Early Bird registration (Oct 11-Dec 13)

## **Greater San Diego Science & Engineering Fair**

- Wednesday March 13th
- Balboa Park Activity Center
- Please contact us if you are interested in volunteering!

## **2024 WaterReuse CA Conference**

- September 15-17, 2024
- Garden Grove, CA

# Give the Gift of Life and support



## Gift Wrapped "Wonderful" Pistachios

\$22 from every \$25 donation will go toward Water For People's efforts to improve drinking water resources, sanitation facilities, and health & hygiene education programs in developing countries.

**Order early! Quantities are limited!**



Order by **Nov 16** to receive your gift by **Nov 21** in time for Thanksgiving  
Order by **Dec 8** to receive your gift by **Dec 15** in time for Christmas

Suggested Donation: \$25.00 each

Cash (preferred) or Check, payable to CA/NV AWWA-Water For People

For additional information, please contact:

Name:

Phone:

Please reach out to  
Victor Tsai for any  
additional information:

[vtsai@brwncald.com](mailto:vtsai@brwncald.com)

# Chapter Office Elections

WateReuse San Diego Officers

Thank  
you to  
our 2023  
Officers!



**Past-President**  
Jocelyn Morinishi  
Brown & Caldwell



**President**  
Lindsey Stephenson  
Olivenhain MWD



**President-Elect**  
Rosalyn Prickett  
Rincon Consultants



**Treasurer**  
Saeid Afshar  
City of San Diego



**Secretary**  
Jessica Cleaver  
San Diego CWA



**Director of PR**  
Megan Drummy  
Hazen and Sawyer



**Newsletter Editor**  
Mitch Bartolo  
Trussell Tech



# Presenting our 2024 slate!

**Past-President**  
*(previously President)*



**Lindsey Stephenson, PE**  
- Olivenhain MWD,  
Engineering Manager  
- WRSD for 6+ years

**President**  
*(previously President-Elect)*



**Rosalyn Prickett**  
- Rincon Consultants,  
Director of Water  
Resources Planning  
- WRSD for 11+ years

**President-Elect**  
*(nominated)*



**Mitch Bartolo, PE**  
- Trussell Technologies,  
Senior Engineer  
- 7+ years of hands-on  
experience with water reuse

# Presenting our 2024 slate!

## Treasurer

*(nominated, 2-yr term)*



**Aaron Cook, PE**

- Fallbrook PUD, Engineering Manager
- 5+ years experience on FPUD's RW system

## Secretary

*(2nd year of 2-yr term)*



**Jesica Cleaver**

- SDCWA, Water Resources Specialist
- Previously WRSD editor

## Director of PR

*(nominated, 2-yr term)*



**Antonia Estevez-Olea, PE**

- Water Systems Consulting, Associate Engineer
- 5+ years of hands-on experience with water reuse

## Newsletter Editor

*(appointed)*



**Megan Drummy**

- Hazen and Sawyer, Communications Manager
- Previously WRSD Director of PR

# Sponsor Highlight

Joel Bowdan, Hazen & Sawyer

**Hazen**

# Hazen



all  
things  
water®

Drinking

Waste

Storm

Reuse



*Introductions*

**Who We Are**

# Company Overview



Local  
Knowledge  
Global  
Expertise



All Things  
Water



Trusted  
Advisors



Thought  
Leaders

*Superior  
technical work*

to achieve your water quality  
and water quantity goals

**all  
things  
water®**

Since 1951



Stormwater



Water Resources



Conveyance



Drinking Water



Wastewater



Reuse



CSO



Biosolids

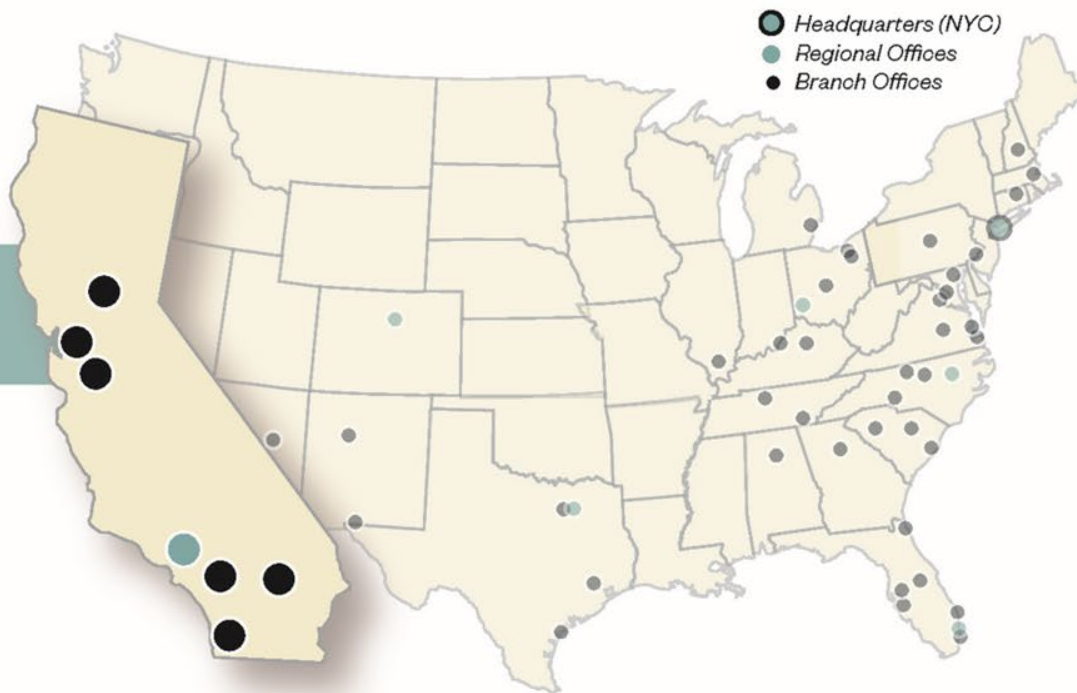
# Hazen Resources in California

## Since 1951

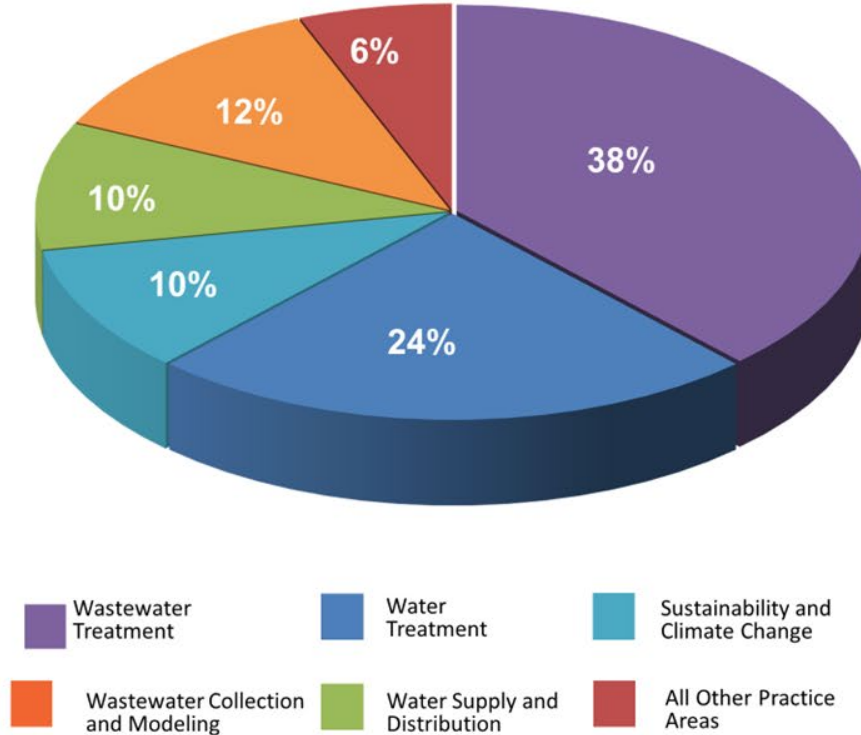
Hazen and Sawyer has been focused on **all aspects of water.**

### *Significant Resources in the West*

- In California since 2011
- Grown to over 150 employees
- All discipline support
- Significant client base in Southern California



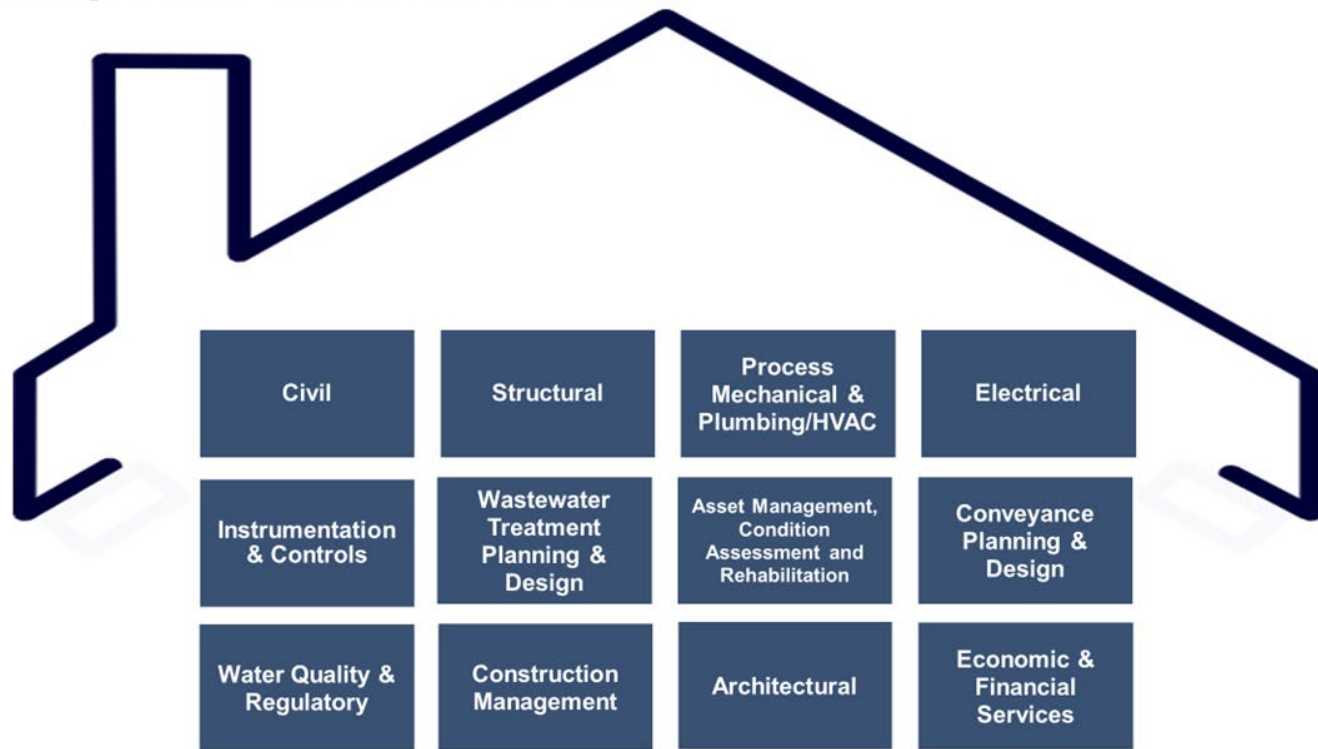
# Ideally Suited to Implement Water, Wastewater & Reuse Projects



- ✓ Planning
- ✓ Design
- ✓ Construction Management
- ✓ Start-up and Training
- ✓ Pilot Testing
- ✓ Process Modeling
- ✓ Operations Support
- ✓ SCADA Integration
- ✓ Optimization



## All Disciplines Under One Roof

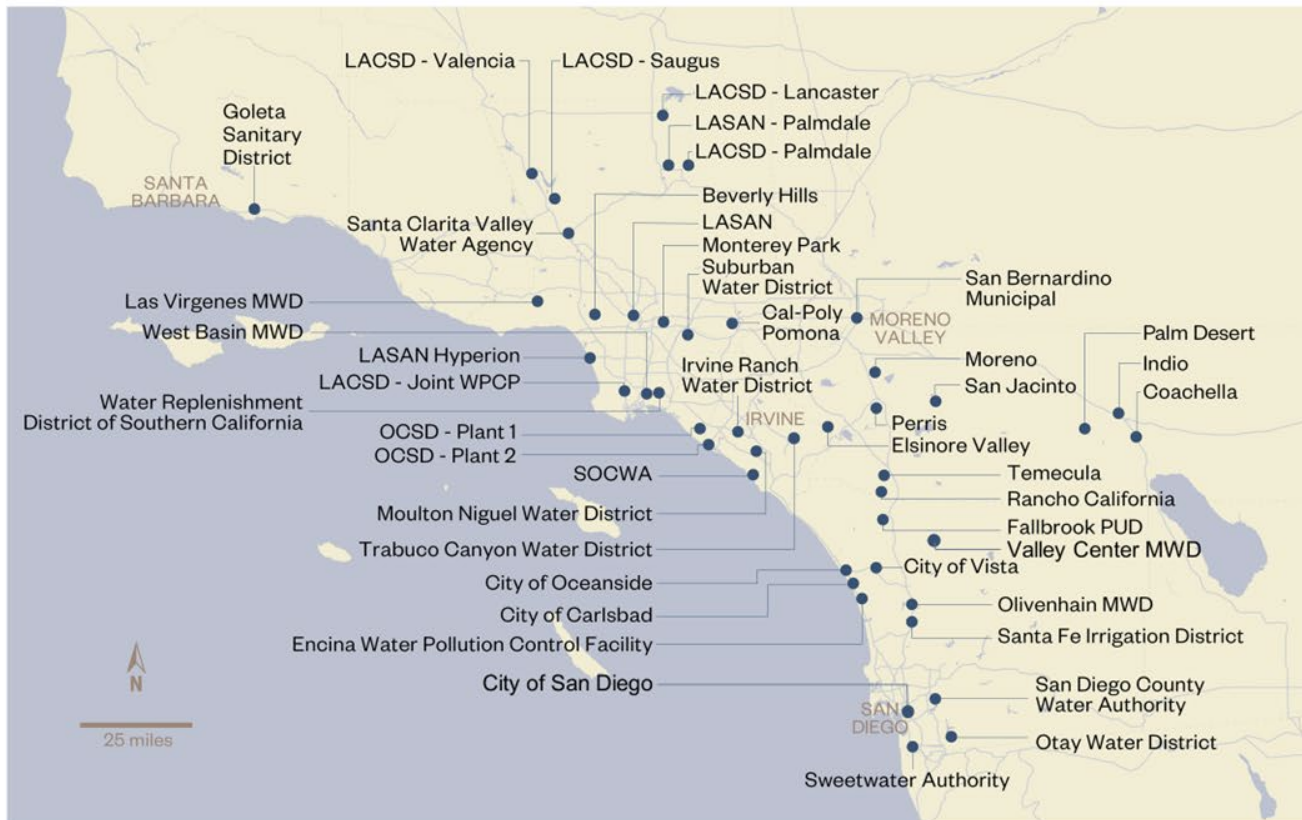


# Consistently Ranked as a Top Water/Wastewater Firm



According to the *Engineering News-Record (ENR)*, Hazen has consistently ranked as one of the top firms in the nation entirely devoted to water and wastewater.

# Actively Engaged in the Southern California Water Market



# Climate Change Experience

# Climate Concerns

## CLIMATE STRESSORS: CHALLENGES AND OPPORTUNITIES

### *Perfect Storm*



Ability to withstand "perfect storms" - combinations of events - flooding in a burn area, dust storms from wind and drought, or generator fuel deliveries interrupted by flooding or fire.

### *Flooding*



Upgrade flow control, hydroelectric, pumping facilities, and electrical equipment for reliable automatic operation  
  
Improve storm drainage erosion control.

### *Sea Level Rise*



Elevate impacted mechanical and electrical equipment, and install water tight doors, louvers, hatches. Protect coastal infrastructure.

### *Fire*



Clear spaces and control PFAS in fire retardants.  
  
Standby power and fuel during fire induced power shutdowns

### *Drought*



Can lead to flood, wind, and fire hazards; plan for standby power and fuel supplies for power shutdowns.

### *Wind*



Downed powerlines contribute to spread of wildfire; Fireproof wooden power poles and establish defensible space.

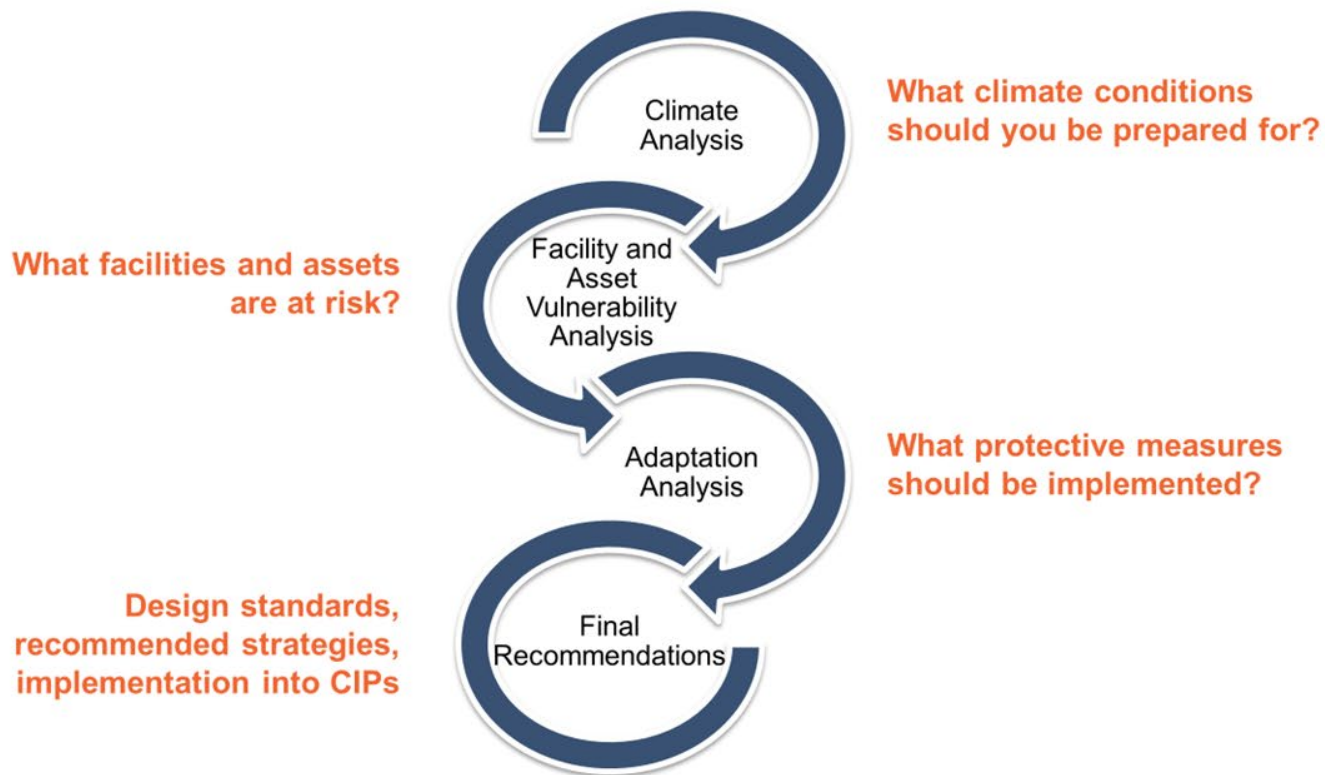
### *Extreme Heat*



Design standards, health protocols, operations protect chemicals, electrical and mechanical equipment, and most importantly your staff



# Development of Climate Change Plans



# SDCWA Climate Change Risk Assessment

## ❖ Natural Hazards Threats Identified

- ✓ Flooding
- ✓ Sea Level Rise
- ✓ Fire
- ✓ Drought
- ✓ Extreme Temperature
- ✓ Wind








## ❖ Impacts to Infrastructure & Resiliency Measure Improvement

- ✓ Redundant access to critical facilities
- ✓ Fuel storage for emergency standby power
- ✓ Armor access roads and stream crossings
- ✓ Protect/upgrade facilities in or near flood plains.

**Hazen**

 Our Region's Trusted Water Leader  
San Diego County Water Authority

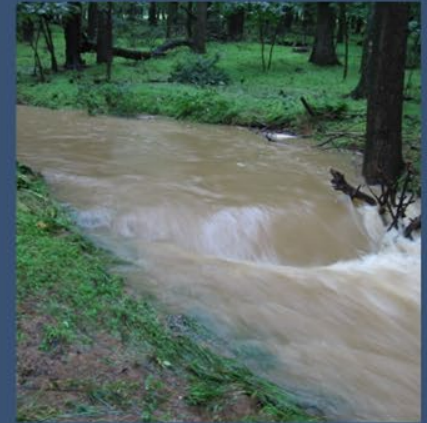
Table ES-1: Summary of Stressors, Impacted Facilities, Vulnerabilities, and Measures

| Facility Types  | Potential Vulnerabilities  | Operational Measures  | Long-Term Planning   | Threat Level and Stressor   |
|---|--|---|--|---|
| Pumped Storage Facility                                     | • Low reservoir levels and changed water quality                                   | • Monitor conditions that negatively impact energy production   | • Energy Plan<br>• Reservoir Management Plan   | Medium<br> |
| Facilities that Rely on Electricity                         | • Dry conditions contribute to increased frequency of Public Safety Power Shutoffs | • Verify fuel storage facilities and supply contracts to provide adequate volume for power outages          | • Standby power and renewable power in an Energy Plan or<br>• Facilities Plans<br>• AQMD permits                         | Medium<br> |
| Reservoirs and Water Treatment                              | • Diminished water quality   | • In-Reservoir management<br>• Watershed protection<br>• Treatment Operations                               | • Management Plans<br>• Operation Strategies<br>• Facilities Plans   | Medium<br> |
| Pipelines and Facilities beneath streams and in Floodplains | • Inundation, erosion, scour, structural damage, sea level rise                    | • Record conditions after major storms<br>• Repair damage<br>• Raise openings above anticipated floodplains | • Measure pipeline cover at creek crossings<br>• Facilities Plans<br>• Coordination with Flood Control District Planning | Medium<br> |
| Facilities that allow flood waters into aqueducts           | • Contamination during and following floods  | • Test seals<br>• Verify fail-safe positions on equipment and valves  | • Hazard Mitigation Plan   | Medium<br> |
| Facilities in Elevated and Extreme Fire Threat              | • Fire, smoke, heat, loss of access, residual effect of burn areas                 | • Review and update Emergency Action Standard Operating Procedures  | • Evaluate facilities with wooden roofs<br>• Hazard Mitigation Plan<br>• Facilities Plans                                | Medium<br> |
| Facilities in High Heat Areas                               | • Electrical, mechanical and chemical efficiency                                   | • Manage chemical inventory<br>• Evaluate pump station cooling  | • Design Standards<br>• Facilities Plans   | Low<br>    |

Climate Stressor Legend



# all things water®



# Advanced Clean Fleets Rule

Molly Munz, California Air Resources Board

# Operations Center Electrification Project

Joe Garuba, Helix Water District

# Helix Water District

## Operations Center Electrification Project



# Agenda

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- Background
- Regulatory Environment
- Actions to Date
- Project Cost/Funding
- Schedule
- Lessons Learned
- Questions



# We deliver water to over 277,000 people everyday

**Our service area covers 50 square miles**

City of El Cajon

City of La Mesa

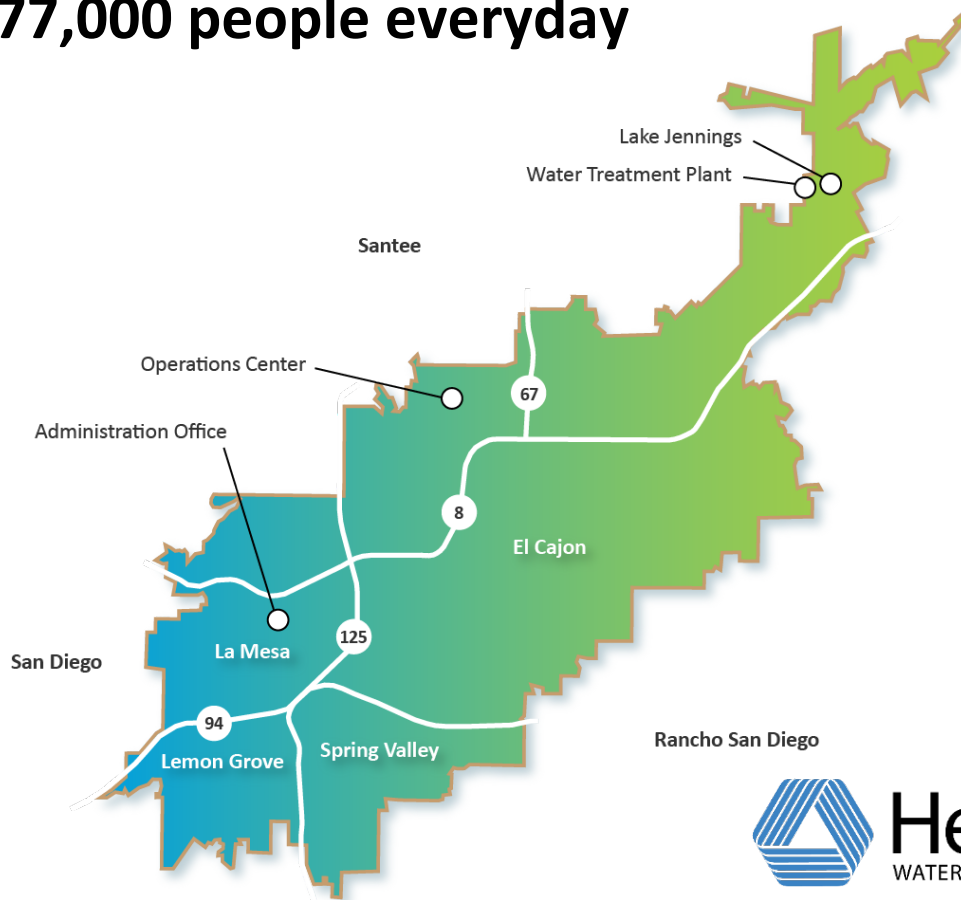
City of Lemon Grove

Portions of the County:

Spring Valley

Mount Helix

Lakeside



**Helix**  
WATER DISTRICT

# California Regulatory Requirements

| Measures   | Adoption | Implementation |
|--|----------|----------------|
| Advanced Clean Cars II                             | 2022     | 2026           |
| ACT and HD Omnibus                                 | 2020     | 2024           |
| U.S. EPA Clean Trucks Plan                         | 2021     | ~2027          |
| Ocean Going Vessels At Berth                       | 2020     | 2024           |
| Small Off-Road Engines                             | 2021     | 2024           |
| Transport Refrigeration Unit                       | 2021     | 2024           |
| Zero-Emission Forklift                             | 2022     | 2025           |
| Heavy-Duty I/M*                                    | 2021     | 2023           |
| Zero-Emission Drayage and<br>Advanced Clean Fleet* | 2021     | 2023           |
| Commercial Harbor Craft*                           | 2021     | 2023           |
| In-Use Locomotive*                                 | 2022     | 2024           |
| Cargo Handling Equipment*                          | TBD      | TBD            |
| Construction & Mining*                             | TBD      | TBD            |

The State of California is using transportation electrification to combat air pollution.

**We will be required** to meet and implement these state mandates.

# HWD: What we have done

Over the past 7 years Helix has:

- Installed 10 chargers at the administration office
- Installed 11 chargers at the operations yard

Helix fleet includes:

- 6 PHEV Prius
- 2 PHEV Ford Escape
- 4 F-150 Lightnings (Up to 10 by June 2024)

Helix has a comprehensive fleet replacement schedule with approved criteria.

# Looking Ahead-Operations Center Electric Vehicle Charging Analysis



Charging infrastructure analysis parameters:

- Helix will meet all state regulations
- No change to work schedule
- No increase in vehicles
- No increase in staff

Analysis result:

**70+ chargers needed**



# OC Electrification Plan

31 Charging Ports  
20/40 kW

48 Charging Ports  
180 kW

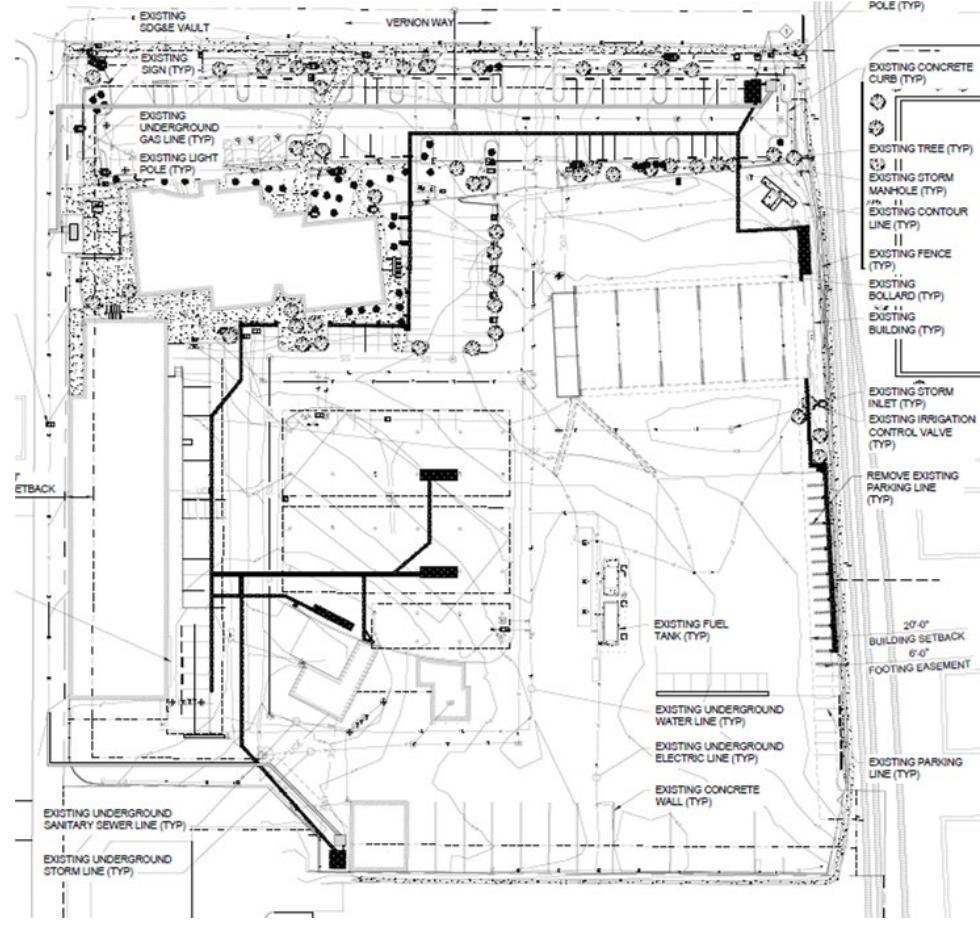
4 Charging Ports  
350 kW

Total Charging Power  
5.7 MW



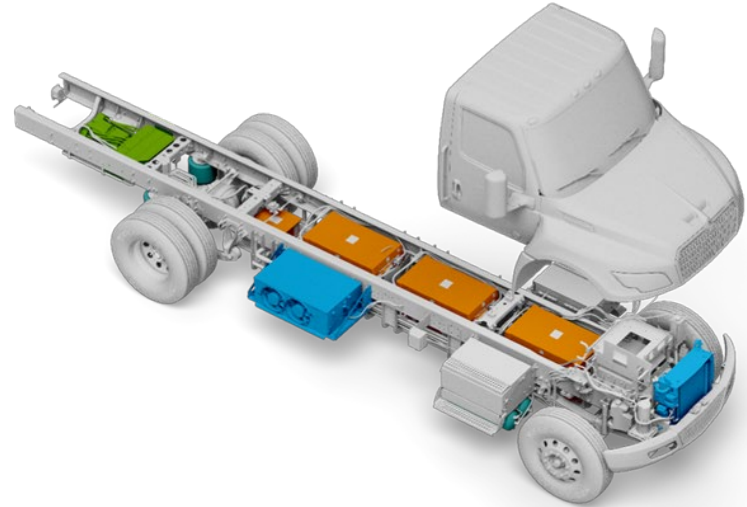


# Site Impacts



# OC Electrification Analysis

- Analysis resulted in numerous questions
  - Charging choices
  - Power supply
  - Redundancy
  - Emergency backup power
  - Charging management/software
  - Space constraints
  - Impacts to operations



# Estimated Project Cost - \$10M+

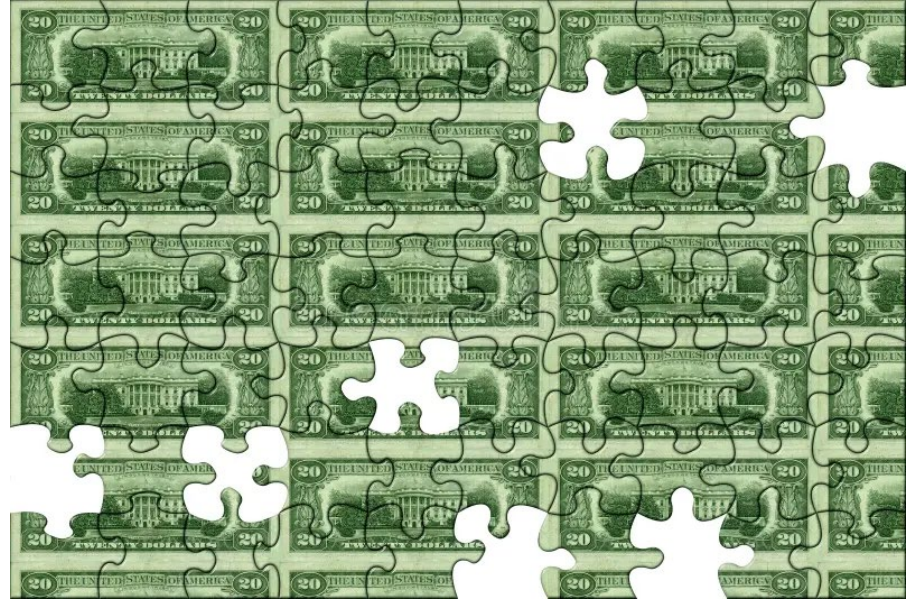
- Design \$0.8 million (10% of Construction)
- Construction \$8.0 million
- Special Inspection \$0.4 million
- Software Management \$0.3 million
- Contingency \$0.8 million (10% of Construction)

• ~~Projected Total~~ ~~\$10.3 million~~

❖ Does not include cost of backup generator.

# Funding Opportunities

- SDGE Power Your Fleet
- SDGE Charger Rebate
- CARB/APCD Grants
- California Energy Commission Grants
- Inflation Reduction Act Tax Credit



# Project Schedule

## FY 2023

- February 2023 Board signs APCD grant

## FY 2024

- July 2023 District awards design contract to Black and Veatch.
- February 2024 District signs SDGE PYF agreement
- March 2024 Purchase long lead items.
- March 2024 Final design complete.
- May 2024 Construction out to bid.

## FY 2025

- August 2024 District awards construction.
- Nov 2024 Construction begins.

## FY 2026

- April 2026 Construction complete.
- May 2026 Charging system operational.
- June 2026 Grant funding reimbursed.



# Lessons Learned



- Figure out your fleet replacement
- Clarify charging locations
- Recognize usage patterns
- Define vehicle charging needs/battery size/schedule
- Consider medium/heavy duty needs including PTO
- Develop a plan of attack – Lots of options

# Questions?

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# Please Join us for Happy Hour!

## Hazen

9350 Clairemont Mesa Blvd F  
San Diego, CA 92123  
(Appetizers will be provided)

