



WATERREUSE
SAN DIEGO

Chapter Meeting

July 16, 2020

Lesley Dobalian, President

Tom Falk, President-Elect

Scott Lacy, Past-President

Jocelyn Lu, Secretary

Hooman Partow, Treasurer

Melissa McChesney, Dir. Of PR & Membership

Rosalyn Prickett, Newsletter Editor

Local & Conference Updates

Recent Sponsors of the San Diego Chapter of WateReuse



Mission: *The mission of the San Diego Regional Chapter of the WateReuse Association is to provide a forum for the exchange of information to promote the beneficial use of recycled water in the San Diego region.*

For more information: <https://watereuse.org/sections/watereuse-california/chapters/san-diego-chapter/>



February 19th Chapter Meeting



- Presentation by Hooman Partow and Todd Engstrom on City of San Diego's Recycled Water Master Plan Update
- Tour of South Bay Water Reclamation Plant



Pure Water Oceanside

Experience  pure water
oceanside

- Potable Reuse Construction Groundbreaking in February 2020 and scheduled to be complete by 2022
- Non-Potable Water Expansion Completed in June 2020
- Received Plant of the Year Award from CWEA – San Diego Section



Officials plant a symbolic map pin at the location of the new Pure Water Oceanside advanced water purification project (Photo: Steve Marcotte/OsideNews)

City of Oceanside Breaks Ground on Pure Water Oceanside

in News February 20, 2020

Pure Water Oceanside is on the map to be the first operating advanced water purification project in San Diego County

Oceanside CA— The City of Oceanside broke ground, Wednesday, on Pure Water Oceanside, a project that will purify recycled water to create a new local source of high-quality drinking water that is clean, safe, drought-proof, and environmentally sound. Scheduled to be completed before the end of 2021, Pure Water Oceanside will be the first operating advanced water purification facility in San Diego County.

<https://www.osidenews.com/2020/02/20/city-of-oceanside-breaks-ground-on-pure-water-oceanside/>

Local Water Reuse Project Updates

- Pure Water San Diego
- East County Advanced Water Purification Program
- City of Escondido – MFRO for Agriculture
- Any others?

WateReuse California (Virtual Conference)

June 24th – 25th

- Keynote Presentation: Kristin Peer, Deputy Secretary and Special Counsel for Water Policy at Cal EPA – “COVID-19 Challenges and California’s Water Resilience Portfolio”;
- Live and interactive panel discussions with California water regulators and leaders in California’s reuse community;
- Presentation of the WateReuse California Awards of Excellence;
- Interactive sponsor and exhibitor hall;
- More than 50 cutting edge presentations about water reuse that will include audience Q&A, downloadable materials, and opportunities for connecting beyond the sessions; and
- Live President’s reception virtual cocktail party.



The WateReuse California virtual conference will be available online until July 31, 2020.

<https://watereuse.org/sections/watereuse-california/2020-watereuse-california-annual-conference/>

35th Annual (2020) WateReuse Symposium



- Implementation of the National Water Reuse Action Plan;
- Framing a water reuse research strategy;
- New skills and new opportunities — the water reuse workforce of the future;
- National policy developments related to water reuse;
- Breaking down implementation barriers for onsite non-potable water systems;
- International presentations from partners in Israel and Brazil; and
- Over 100 technical sessions that you can view at your own pace

<https://watereuse.org/news-events/conferences/35th-annual-watereuse-symposium/>

Event Updates

Greater San Diego Science and Engineering Fair

*March 11th, 2020
Balboa Park*

- 450 Projects
- +700 Students: Junior & Senior High School Students
- ~150 students moving into subsequent competitions
- +300 judges



BALBOA PARK ACTIVITY CENTER



Image Source: <https://www.gsdsef.org/>

Greater San Diego Science and Engineering Fair

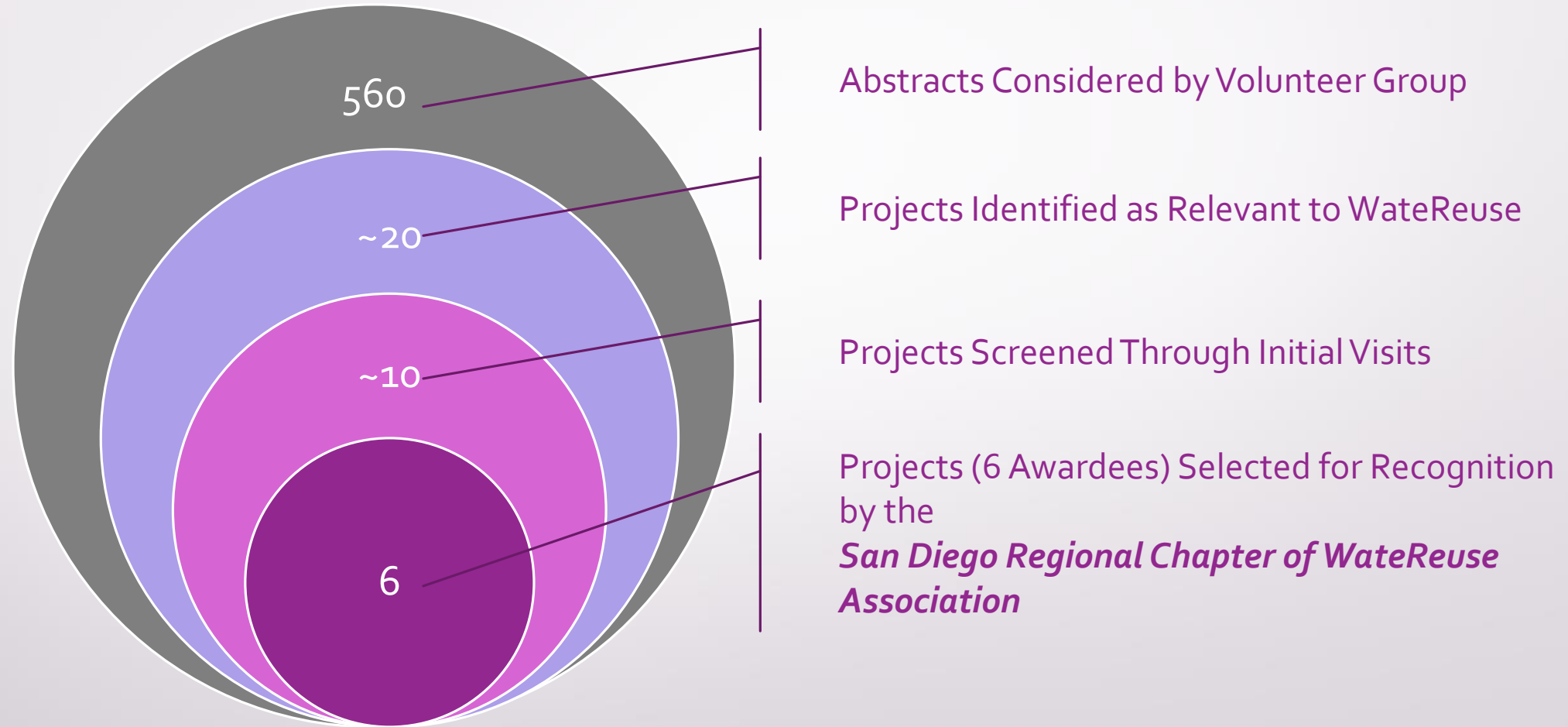
Chapter Volunteers (8):

Left to Right

- Melissa McChesney
- Patricia Tennyson
- Tom Falk
- Lesley Dobalian
- Scott Lacy
- Evan Owen
- Alexander Garbedian
- Emma Shea



Greater San Diego Science and Engineering Fair



Greater San Diego Science and Engineering Fair

Project	Awardee
Photocatalytic Treatment of Wastewater and Hydrogen Production	Audrey Vargas
Engineering an Affordable and Sustainable Water Filtration Device	Aurora Czajkowski
Finding an Effective, Self-Cleaning Water Treatment Solution	Mohammad Khan
Water and Nitrates	Sam Fries
Generating Energy from Sewer Water Flow	Jennine Manalo
Testing the Effectiveness of Commercially Available Water Filters for Total Dissolved Solids and Microbial Growth	Erin Grace Tuscano

San Diego Earth Fair



Image Source: <http://www.earthdayweb.org/EarthFair.html>

April 19th - September 13th

Balboa Park

- 60,000 visitors
- +300 Exhibitors

Canceled for 2020 – looking ahead to 2021!



Regulatory and Legislative Updates

State Regulatory and Legislative Updates

- WaterReuse CA Regulatory Priorities
- Recycled Water Policy Implementation
- AB 3256 (Garcia) Climate/Stimulus Bond
- Clean Water SRF Program

Recycled Water in 2020 Urban Water Management Plans

- No legislative changes to the Water Code regarding recycled water since the preparation of the 2015 UWMPs
- DWR Tables will again address:
 - wastewater collected in service area
 - recycled water use in service area
 - recycled water projection compared to 2020 actuals
 - methods to expand future water recycling
- SBx7-7 compliance is not required to consider recycled water in gross water use calculations
- **Timeline:** Draft Guidebook in late Aug/early Sept
 - Final Guidebook in Nov 2020
 - WUE Data Portal in Spring 2021

<input type="checkbox"/> Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.								
Name of Agency Producing (Treating) the Recycled Water:								
Name of Agency Operating the Recycled Water Distribution System:								
Supplemental Water Added in 2020								
Source of 2020 Supplemental Water								
Beneficial Use Type	General Description of 2015 Uses	Level of Treatment <i>Drop down list</i>	2020	2025	2030	2035	2040	2045 (opt)
Agricultural irrigation								
Landscape irrigation (excludes golf courses)								
Golf course irrigation								
Commercial use								
Industrial use								
Geothermal and other energy production								
Seawater intrusion barrier								
Recreational impoundment								
Wetlands or wildlife habitat								
Groundwater recharge (IPR)*								
Surface water augmentation (IPR)*								
Direct potable reuse								
Other (Provide General Description)								
Total:			0	0	0	0	0	0

<input type="checkbox"/> Recycled water is not directly treated or distributed by the supplier. The supplier will not complete the table below.							
Name of Receiving Supplier or Direct Use by Wholesaler	Level of Treatment <i>Drop down list</i>	2020	2025	2030	2035	2040	2045 (opt)
Add additional rows as needed							
Total		0	0	0	0	0	0

Recycled Water in 2020 Urban Water Management Plans

- UWMP Guidebook Working Group reviewed DWR's draft chapters last week
- Addition of two distinct sets of worksheets (optional):
 - Water Use – potable vs non-potable
 - Water Supply – potable vs non-potable
 - *Monthly assessments* (including water supply reliability and 5-year drought reliability assessments)
- Supplier to categorize recycled water as either potable or non-potable use
- For potable reuse – report recycled water as both a use (e.g. groundwater recharge with recycled water) and a supply source



Customer Water Use Worksheet (Non-potable)														= auto-filled cell						
Part 1: Current (2020) Gross Water Use (Non-potable)														Part 2: Projected Gross Water Use (Non-potable)						
2020	Use Category	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	2020 Tot.	2025	2030	2035	2040	2045 (opt)	
	Single-family Residential													0	0					
	Multi-family Residential													0	0					
	Commercial/ Institutional													0	0					
	Industrial													0	0					
	Institutional and Governmental													0	0					
	Landscape Irrigation													0	0					
	Sales to Other Agencies													0	0					
	Agricultural													0	0					
	Other 1													0	0					
	Other 2													0	0					
	Other 3													0	0					
	Customer Water Use Subtotal:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Distribution System Water Loss														0	0	0	0	0	0
2020 Total Gross Water Use	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Past Use	2016																			
	2017																			
	2018																			
	2019																			

Water Supply Worksheet (Non-potable)

= auto-filled cell

Part 1: SUMMARY: Existing Non-potable Supply Tables

Total Supply eAR (for comparison)		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total
Multi-Year Drought	2020 Actual Use	0	0	0	0	0	0	0	0	0	0	0	0	0
	Normal Year	0	0	0	0	0	0	0	0	0	0	0	0	0
	Single Dry Year	0	0	0	0	0	0	0	0	0	0	0	0	0
	2021 (1st year)	0	0	0	0	0	0	0	0	0	0	0	0	0
	2022 (2nd year)	0	0	0	0	0	0	0	0	0	0	0	0	0
	2023 (3rd year)	0	0	0	0	0	0	0	0	0	0	0	0	0
	2024 (4th year)	0	0	0	0	0	0	0	0	0	0	0	0	0
2025 (5th year)	0	0	0	0	0	0	0	0	0	0	0	0	0	

Part 2: SUMMARY: Existing and Planned Non-potable S

Total Supply		2025	2030	2035	2040	2045 (opt)
Multi-Year Drought	Normal	0	0	0	0	0
	Single Dry Year	0	0	0	0	0
	Year 1	0	0	0	0	0
	Year 2	0	0	0	0	0
	Year 3	0	0	0	0	0
	Year 4	0	0	0	0	0
	Year 5	0	0	0	0	0

Part 1: Individual: Existing Non-potable Supply (current monthly conditions)

Potable Supply Source		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total
Source 1: (describe source here)														0
Multi-Year Drought	20 Actual use of supply													0
	Normal Year													0
	Single Dry Year													0
	2021 (1st year)													0
	2022 (2nd year)													0
	2023 (3rd year)													0
	2024 (4th year)													0
2025 (5th year)													0	
Source 2: (describe source here)														0
Multi-Year Drought	20 Actual use of supply													0
	Normal Year													0
	Single Dry Year													0
	2021 (1st year)													0
	2022 (2nd year)													0
	2023 (3rd year)													0
	2024 (4th year)													0
2025 (5th year)													0	
Source 3: (describe source here)														0
Multi-Year Drought	20 Actual use of supply													0
	Normal Year													0
	Single Dry Year													0
	2021 (1st year)													0
	2022 (2nd year)													0
	2023 (3rd year)													0
	2024 (4th year)													0
2025 (5th year)													0	

Part 2: Individual: Existing and Planned Non-potable S

Potable Supply Source		2025	2030	2035	2040	2045 (opt)
Multi-Year Drought	Normal					
	Single Dry Year					
	Year 1					
	Year 2					
	Year 3					
	Year 4					
	Year 5					



Save the Outfall, Save the Avocadoes: Design-Build for Advanced Treatment

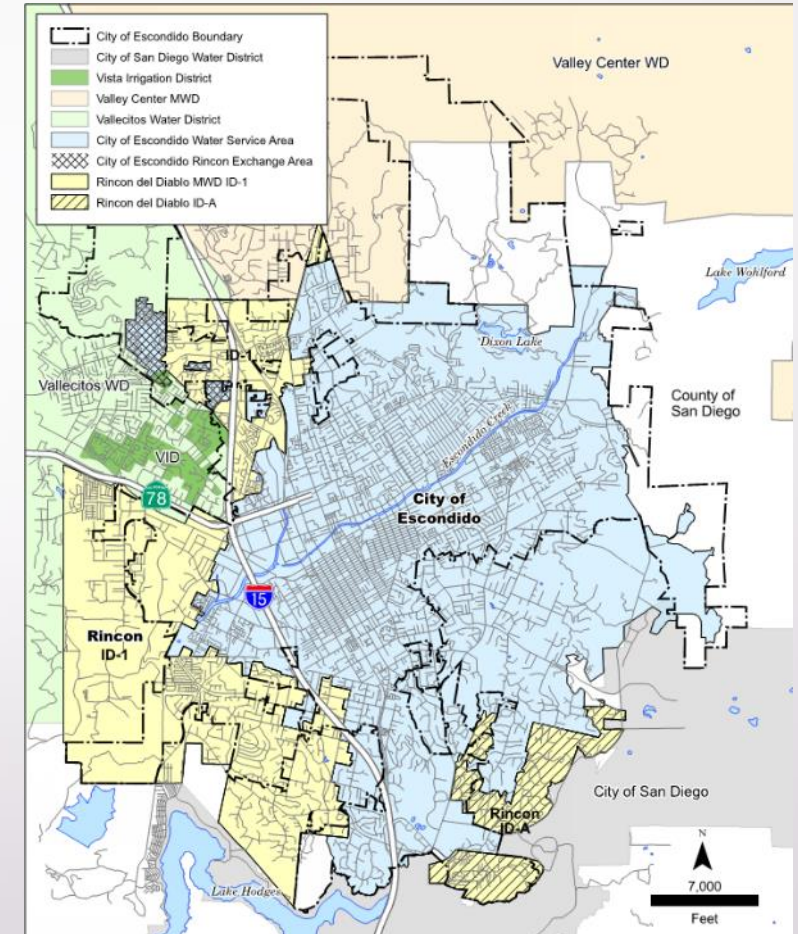
July 16, 2020



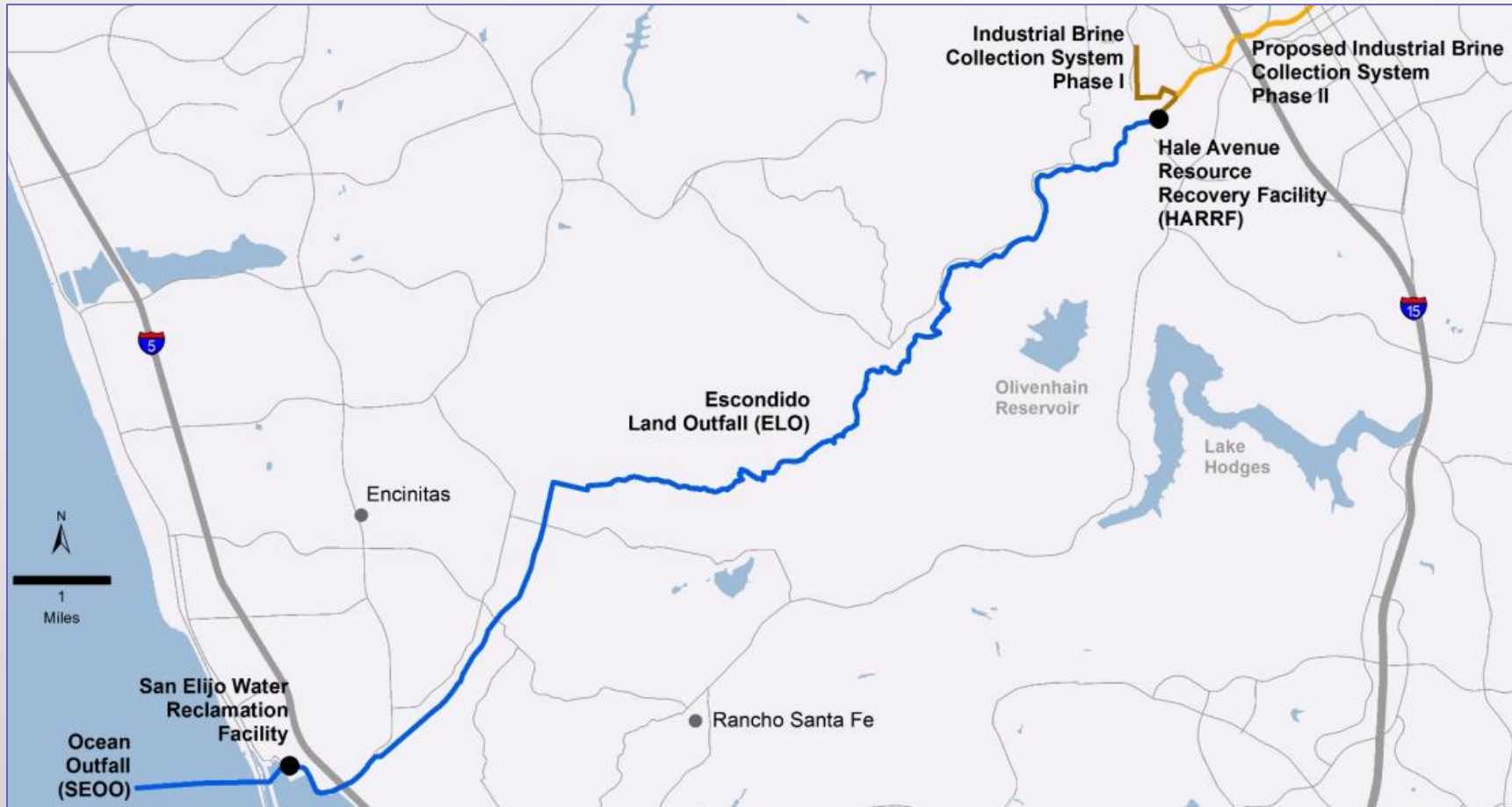
Scott Lacy, Brown and Caldwell
Angela Morrow, City of Escondido

City of Escondido – Public Utilities

- Water: ~26,000 service connections from Escondido-Vista WTP
- Wastewater: serves ~142,000 people through the Hale Avenue Resource Recovery Facility (HARRF)
- Recycled water: HARRF designed to produce up to 9 mgd of Title 22 recycled water



Offsetting the Ocean Outfall

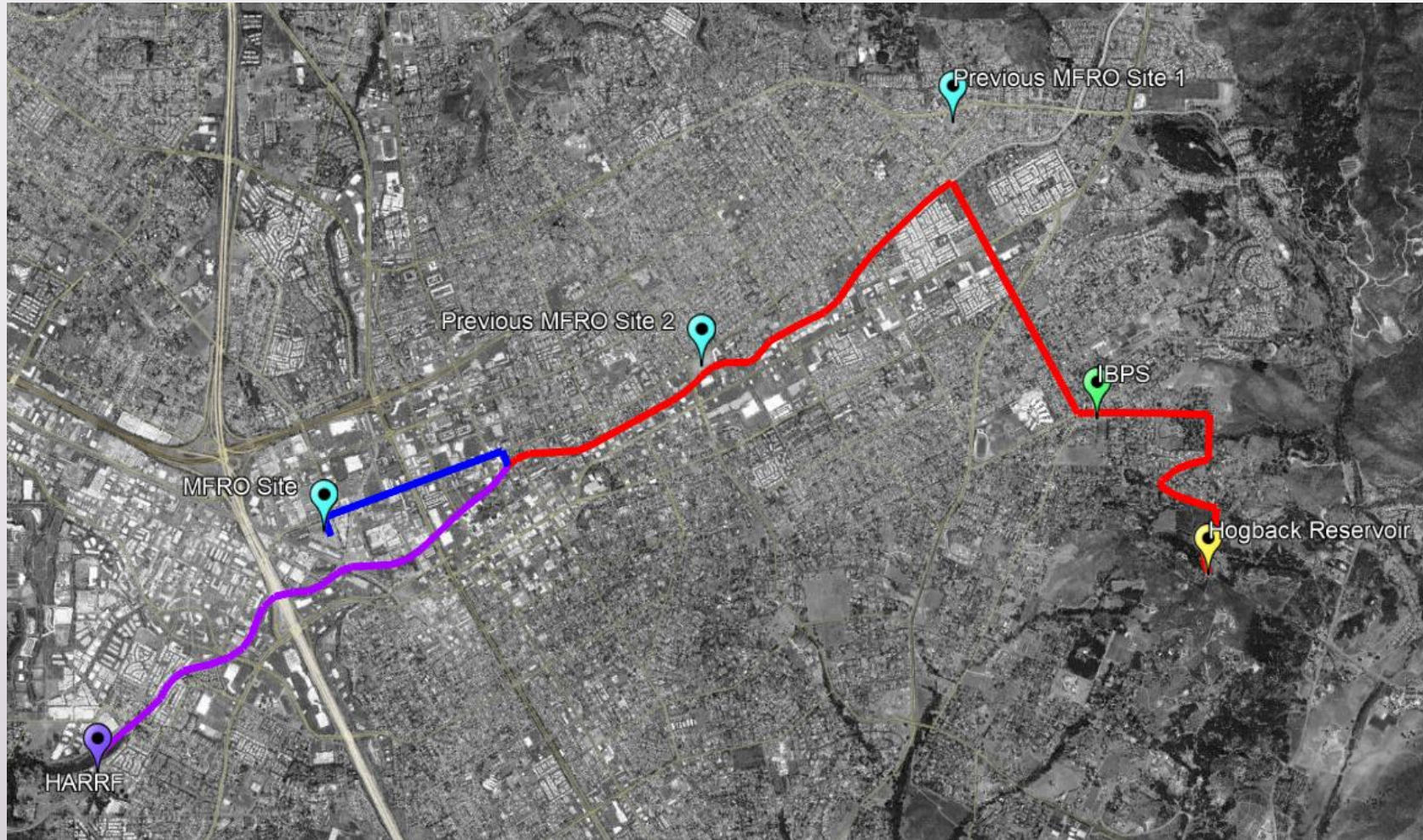


Creating a Solution with Stakeholders

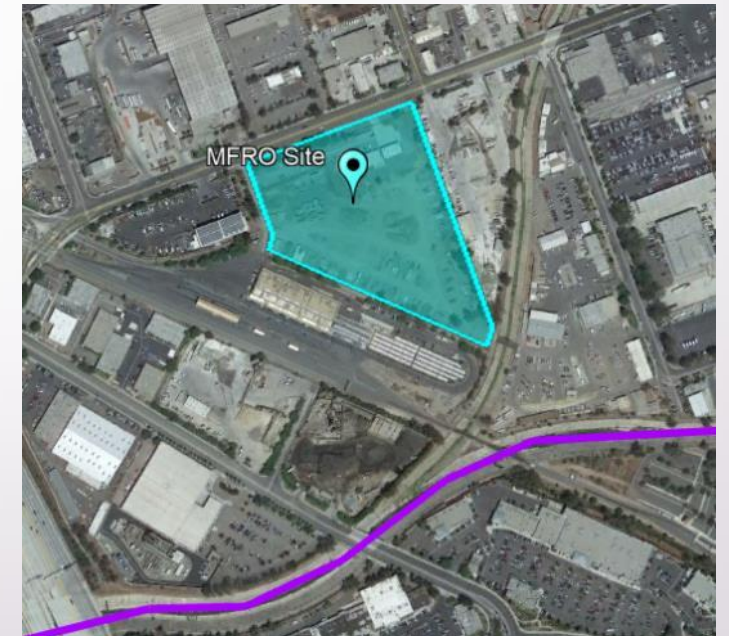
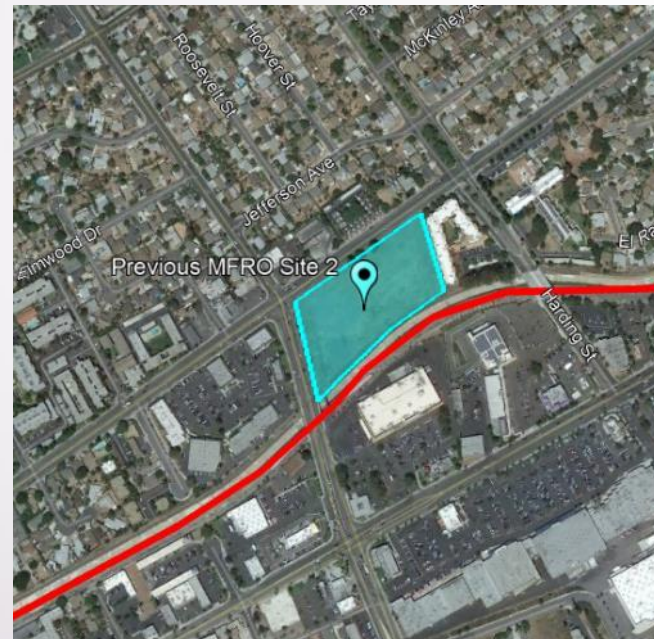
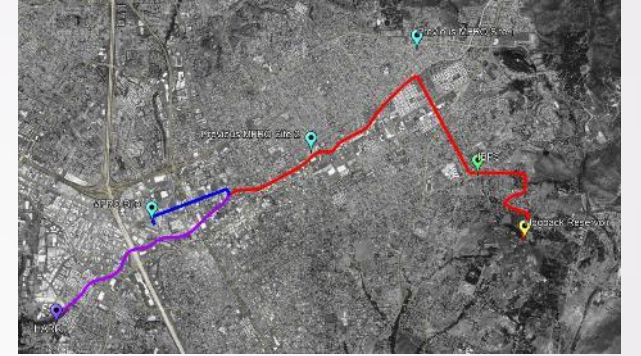
- Allowance for recycled water storage to augment discharge plan
- 10 mg of pond storage
- 1.2 mg repurposed hilltop reservoir
- Reduced chloride for avocados
- Contracted water rate structure
- Delivery guaranteed via raw water supplemental capacity



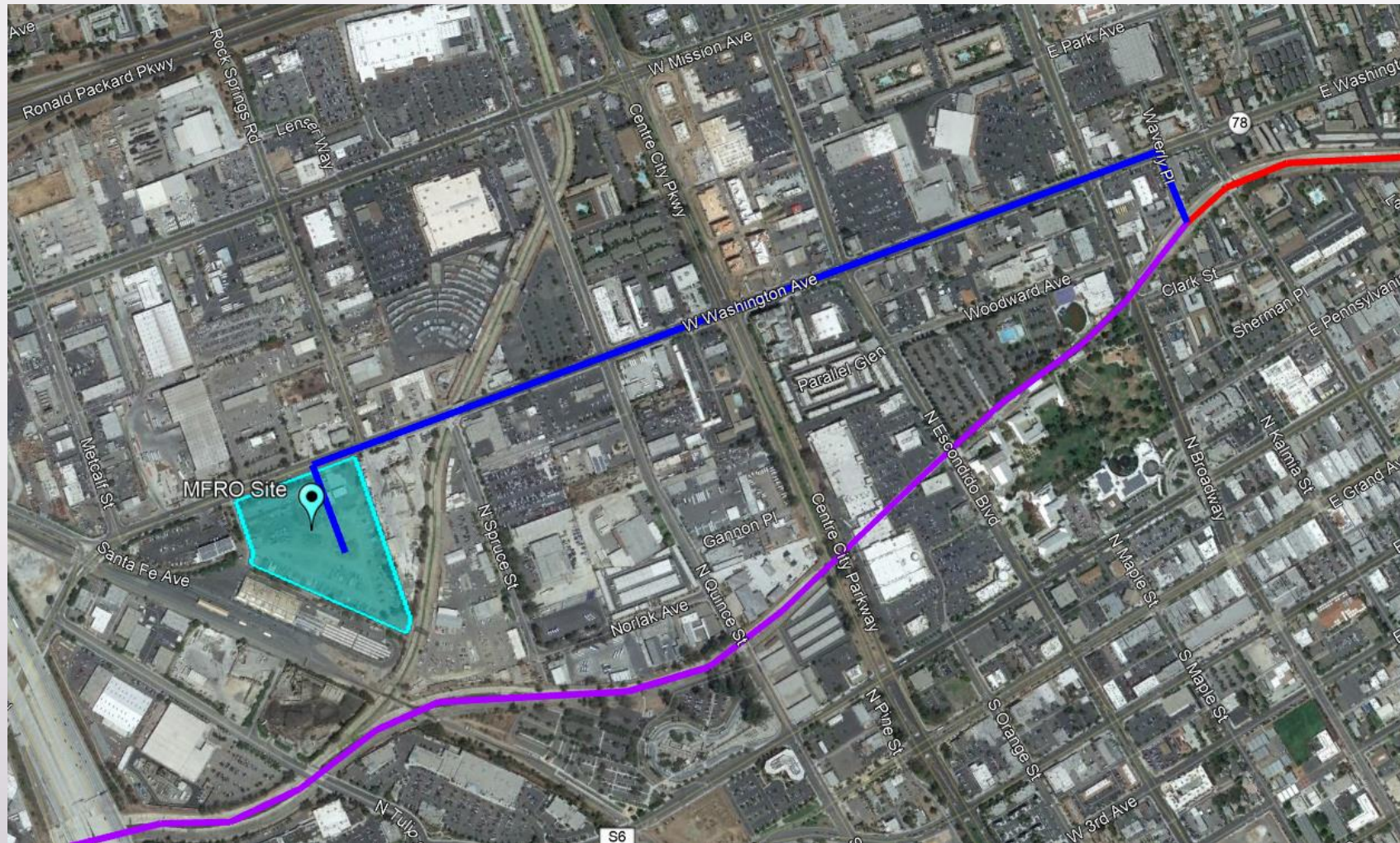
MFRO for Agriculture Project Components



MFRO Project Sites



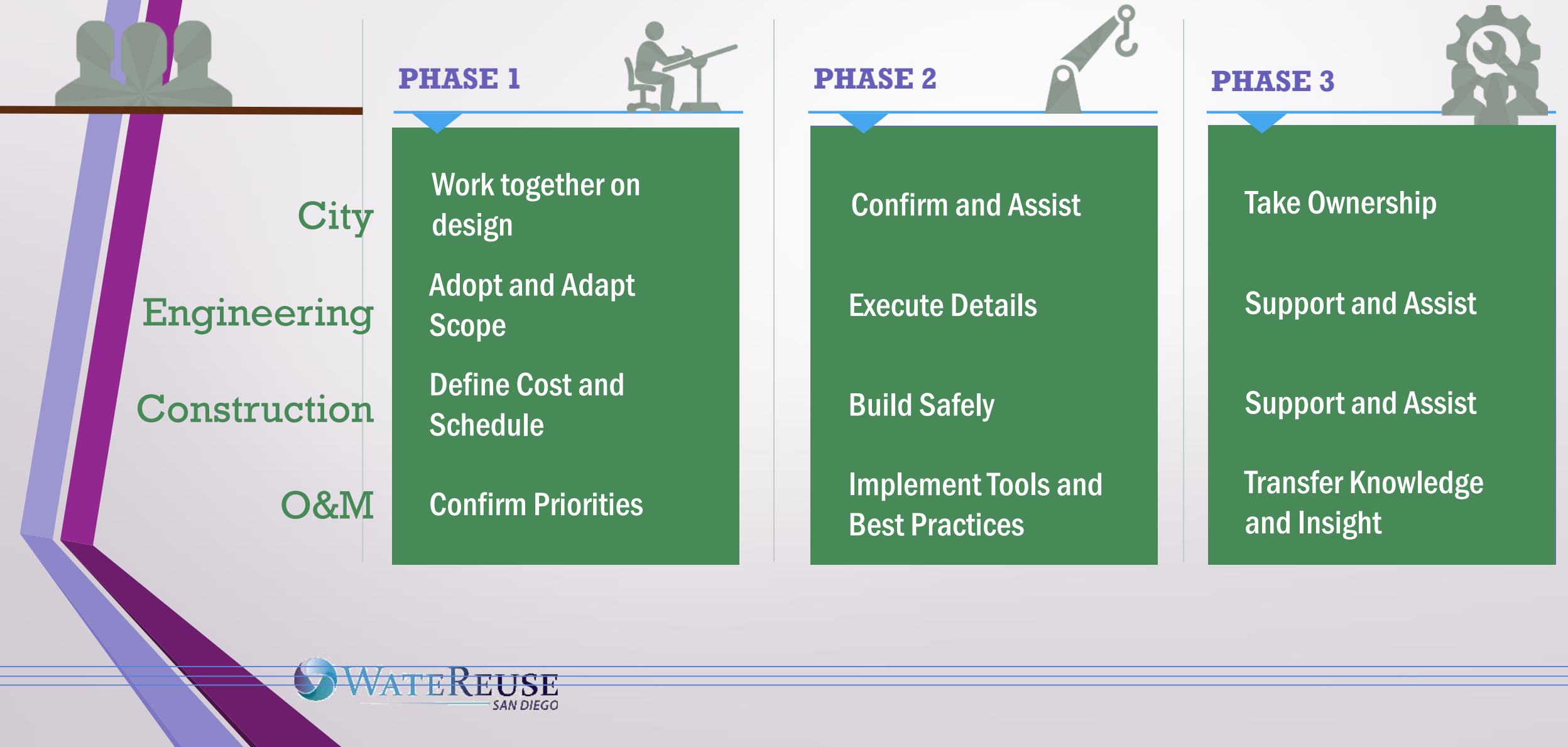
MFRO Product Water Pipeline



Intermediate Booster Pump Station

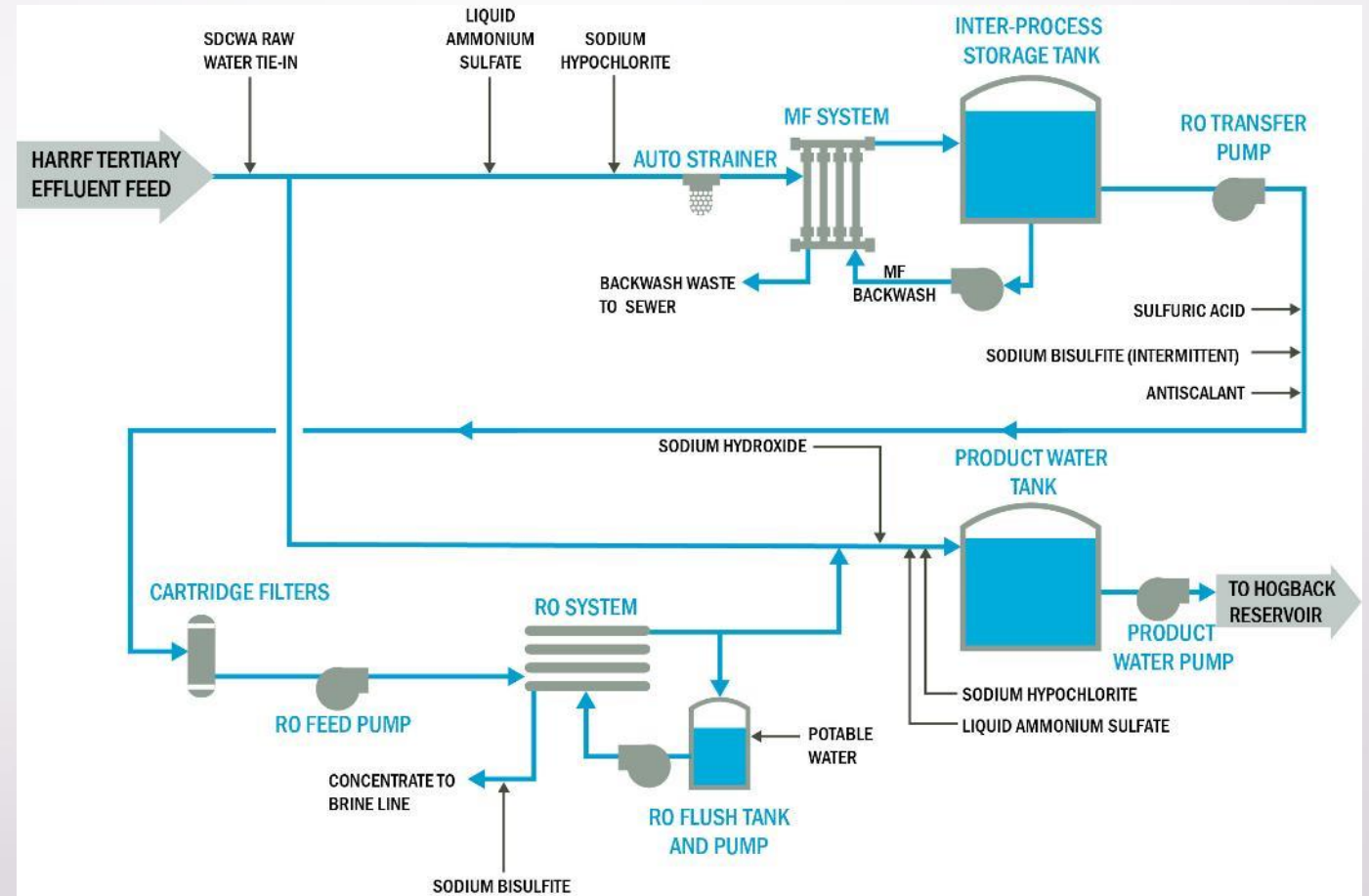


Progressive Design-Build Process

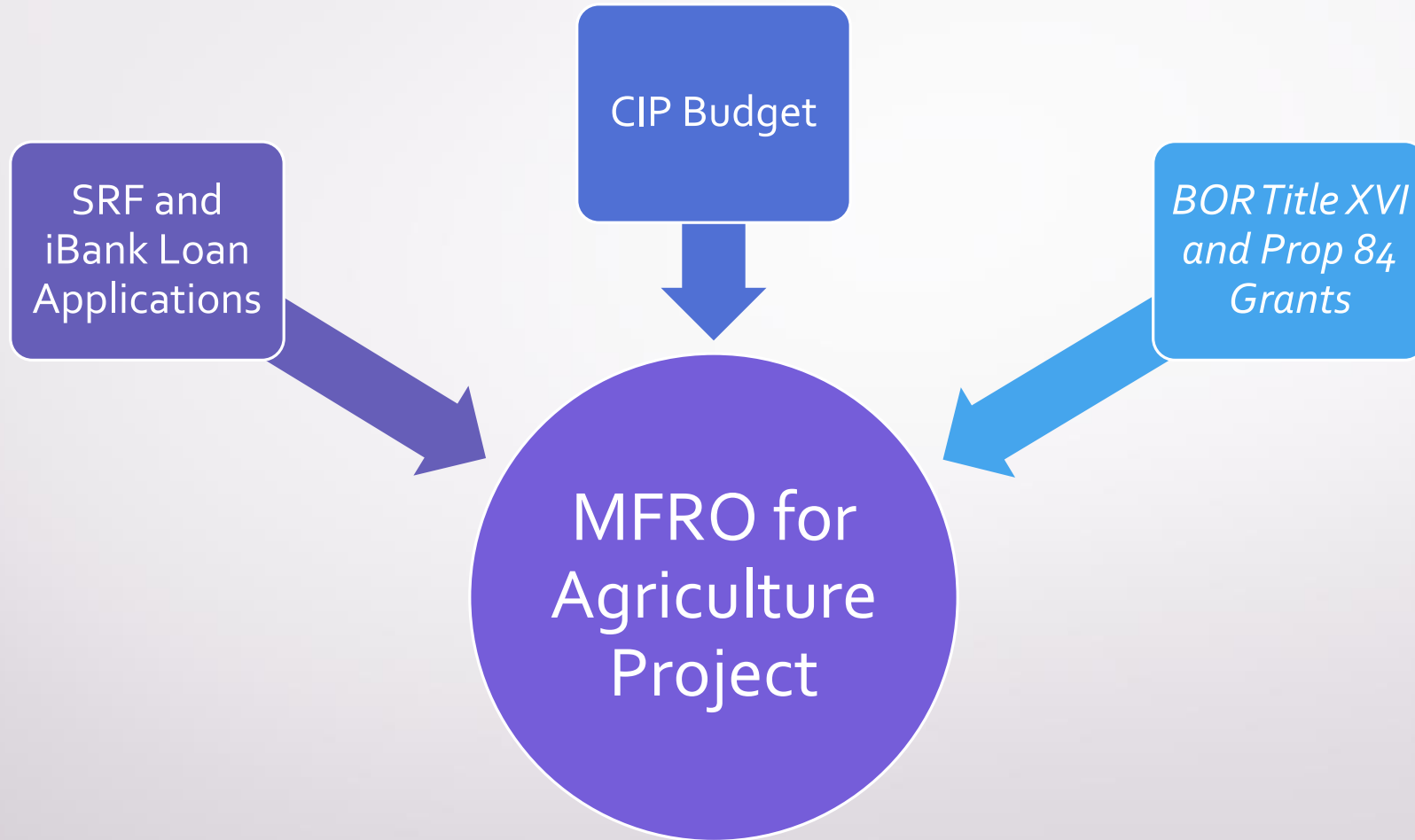


MFRO Facility – Process Flow Diagram

- HARRF Tertiary Effluent
- Membrane Filtration
- Reverse Osmosis
- Blend to target TDS
- Product Water Tank



Project Funding Scheme



Acknowledgements



Angela Morrow, PM
John Del Fante, Ops/Process
Pete Klein, Elec/Mech
& many others



Gary Silverman, PM
Tony Ruiz, Lead Estimator
Matt Appleton, CM
& many others

JP Semper, PM
Scott Lacy, DM
Jocelyn Lu, Project Engineer
& many others



Next Chapter Meeting(s)

October 2020...

- Date to be confirmed (likely virtual again)
- Recap of WateReuse Symposium
- Roundtable with regulators
- Update from WateReuse California
- **Sponsor Needed!**

December 2020...

- Date to be confirmed
- Officer Elections
- 20th Anniversary of San Diego Chapter