



DOHENY OCEAN
DESALINATION
PROJECT

Local Water, Local Control.
Sponsored by South Coast Water District

Doheny Ocean Desalination Project

CalDesal Annual Conference
February 16, 2023



**SOUTH COAST
WATER DISTRICT**
Partnering With The Community

Agenda

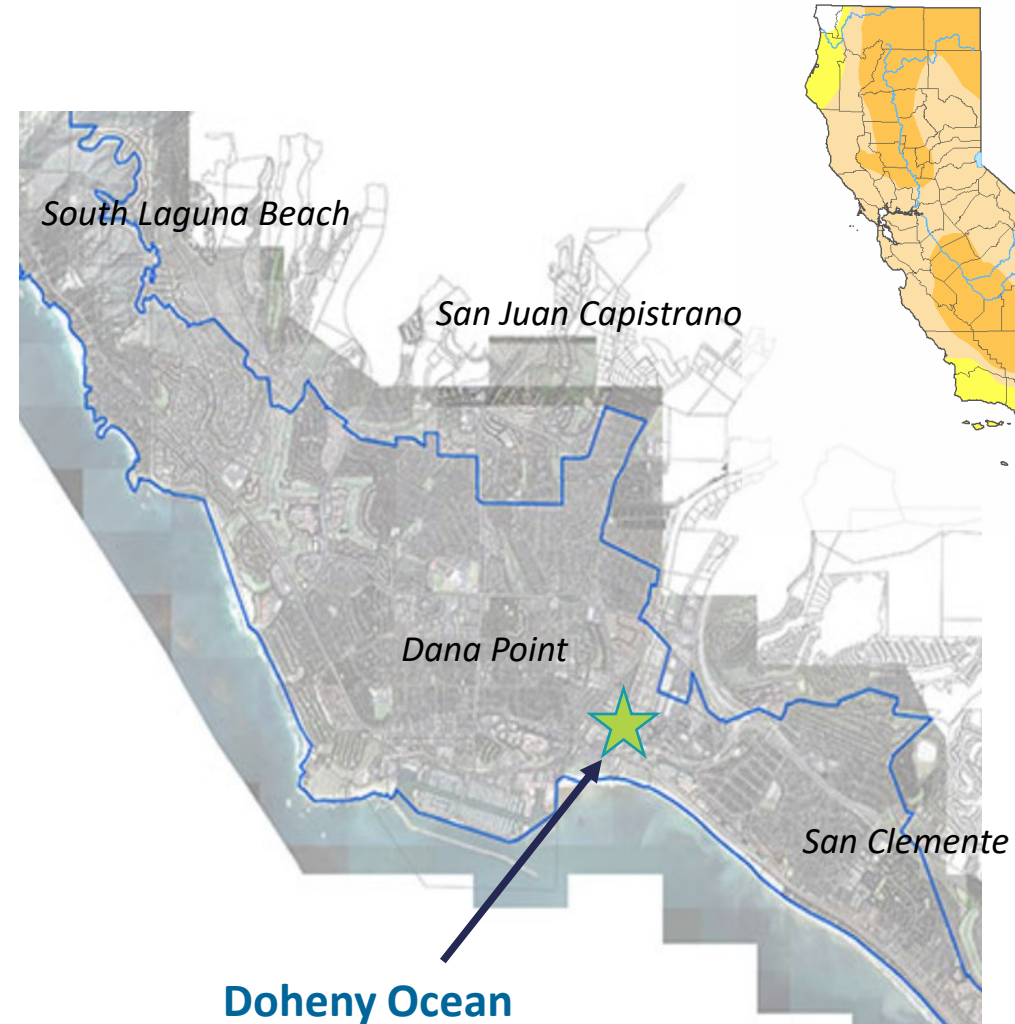


- South Coast Water District
- Need for the Project
- Project Description
- Project Permitting

South Coast Water District (SCWD)

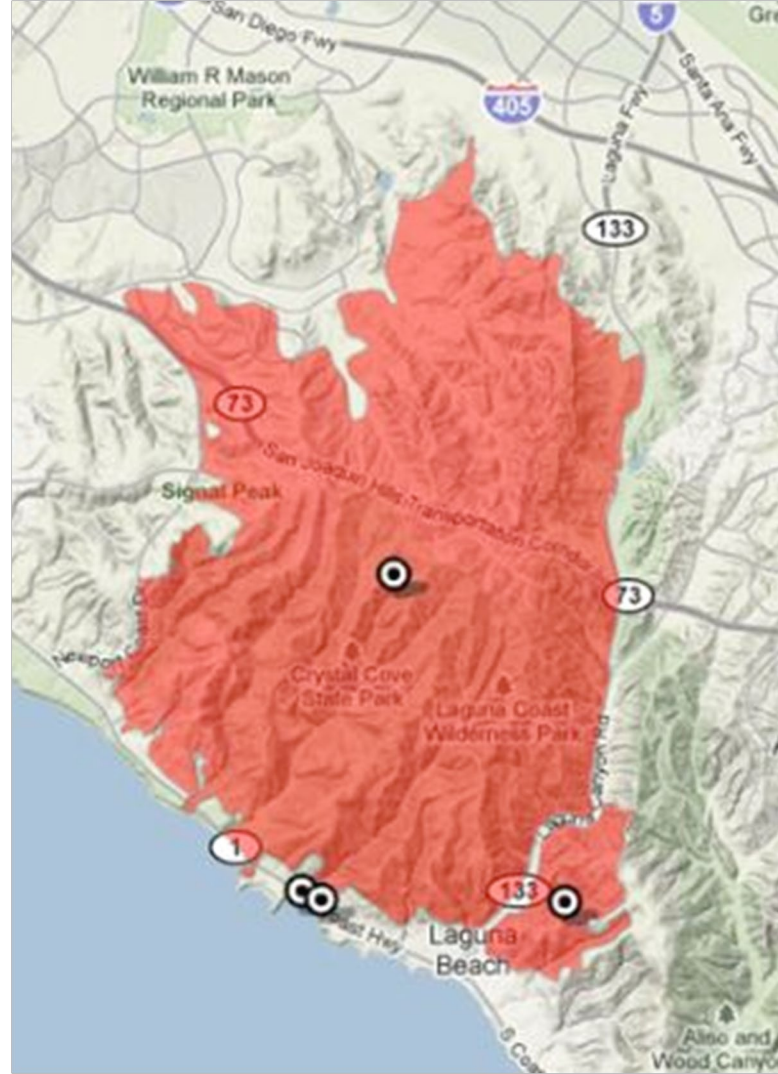
Water, Recycled Water, and Wastewater Public Agency serving:

- South Laguna Beach
 - Dana Point
 - Portions of San Clemente
 - Portions of San Juan Capistrano
-
- ~40,000 Residents
 - 1,000 Businesses
 - Over 2 Million visitors per year

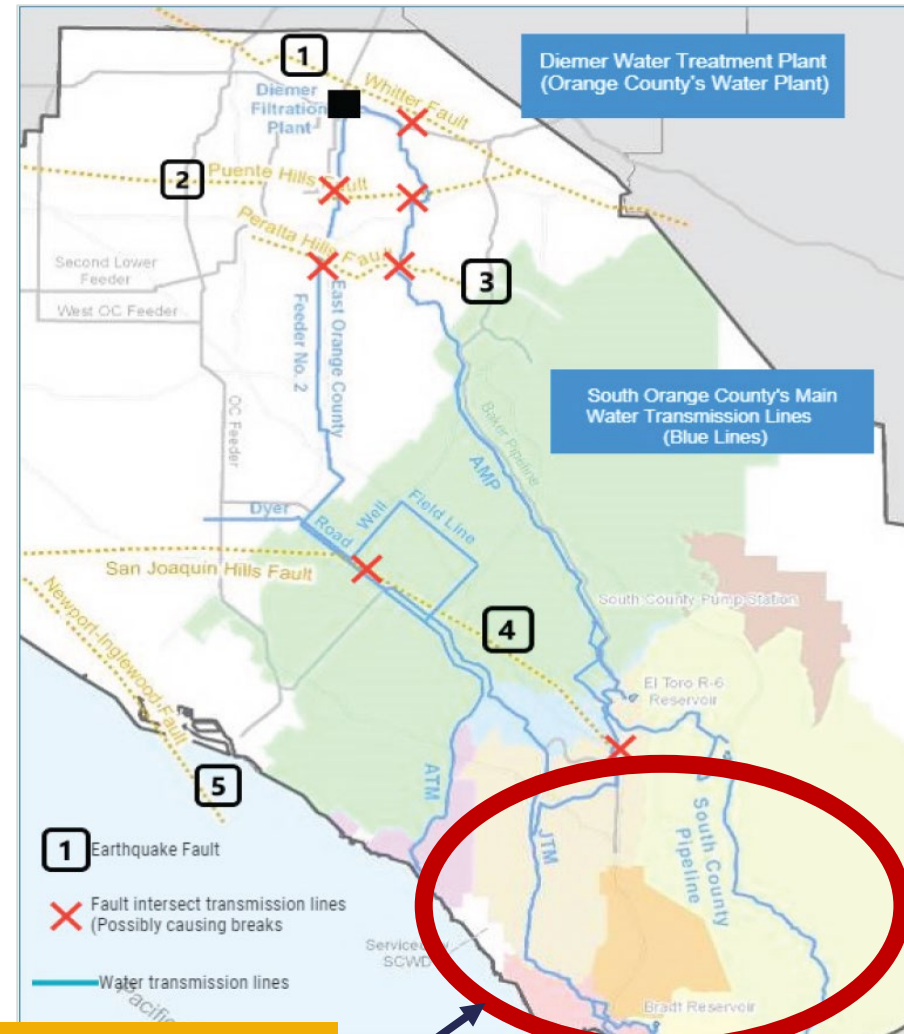


**Doheny Ocean
Desalination Plant
Project Site**

Water Reliability for Natural Disasters and Unprecedented Drought



Water Reliability for Seismic Risks

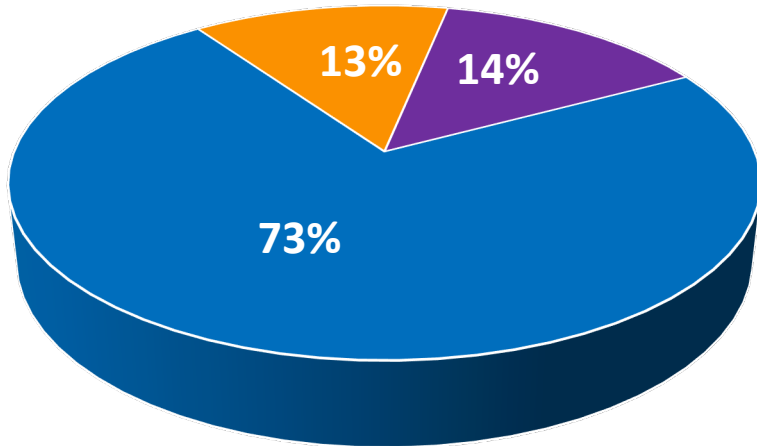


South OC – 90% Dependent on MWD Imported Supply

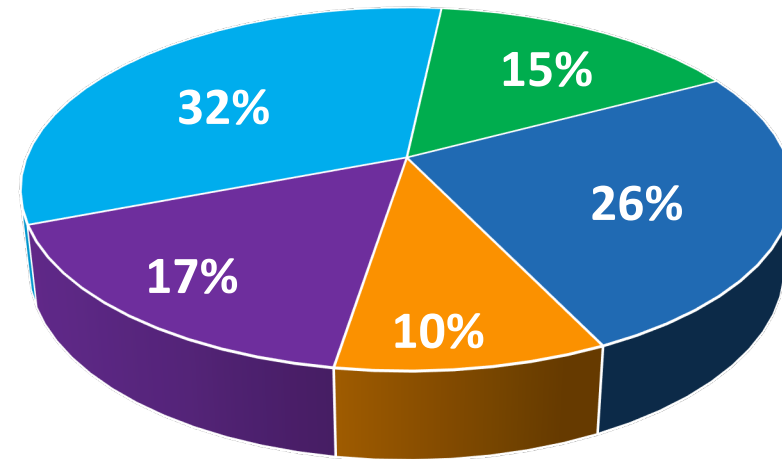
SCWD's Water Supply Portfolio

Doheny Project would provide up to 5 Million Gallons per Day (MGD)

CURRENT PORTFOLIO



2035 PORTFOLIO*



- Metropolitan Water District (MWD) Imported
- Local Groundwater
- Recycled Water
- Doheny Ocean Desalination
- Indirect/Direct Potable Reuse (IPR / DPR)

*SCWD's Board Approved 2021 Integrated Water Resource Plan (IWRP)

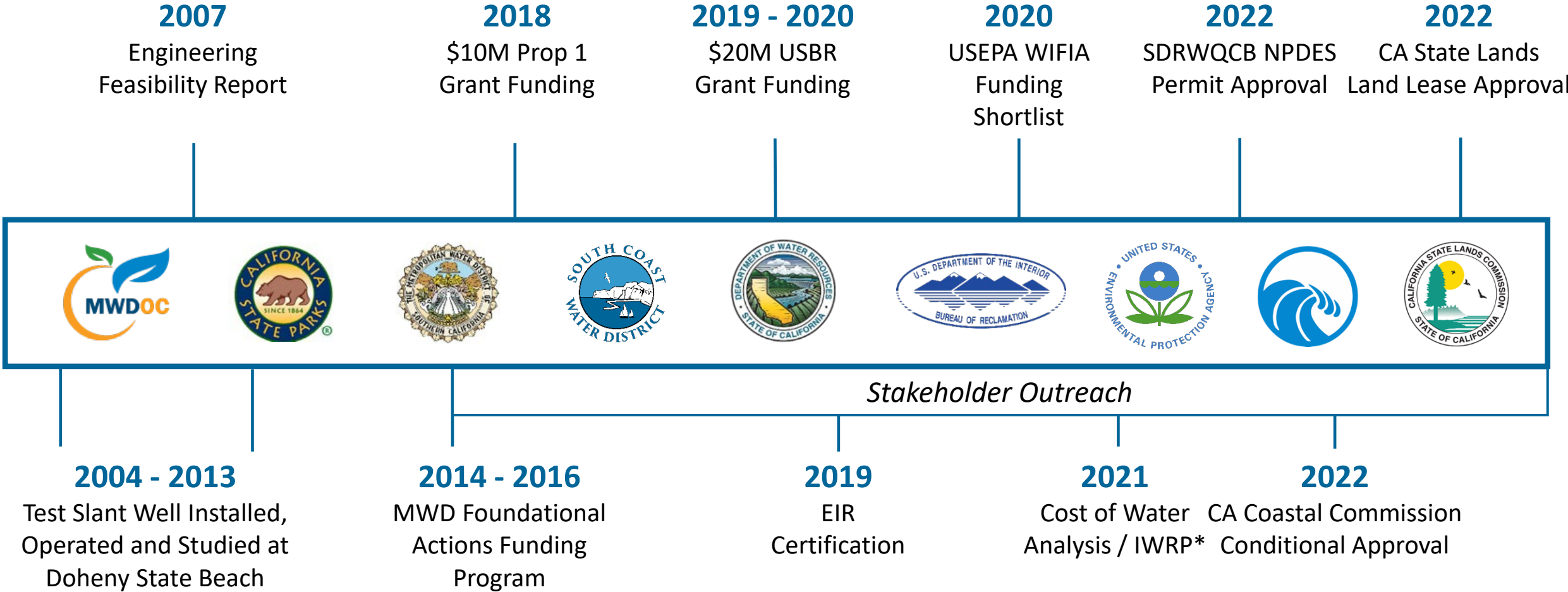
Doheny Ocean Desalination Project

Why Ocean Desalination?



- **System and Supply Reliability – Drought and Earthquakes**
- **Drought Proof and Resilient to Climate Change**
- **Sustainable Local Water at a Reasonable Cost**
- **Up to 5 MGD of drinking water supplies**
- **Potential Long-Term Local and Regional Benefits**

Project History



***SCWD's Board Approved 2021 Integrated Water Resource Plan (IWRP)**

California Ocean Plan

2015 Desalination Amendment

Desalination Facility Intakes

- *Best available site, design, technology, and mitigation measures to minimize intake and mortality of all forms of marine life*
- *Subsurface intakes are preferred intake technology*

Desalination Facility Brine Discharges

- *Salinity maximum is 2.0 ppt above natural background salinity no further than 100 meters from discharge*
- *Comingling brine with wastewater is preferred discharge methodology*

WATER QUALITY CONTROL PLAN OCEAN WATERS OF CALIFORNIA



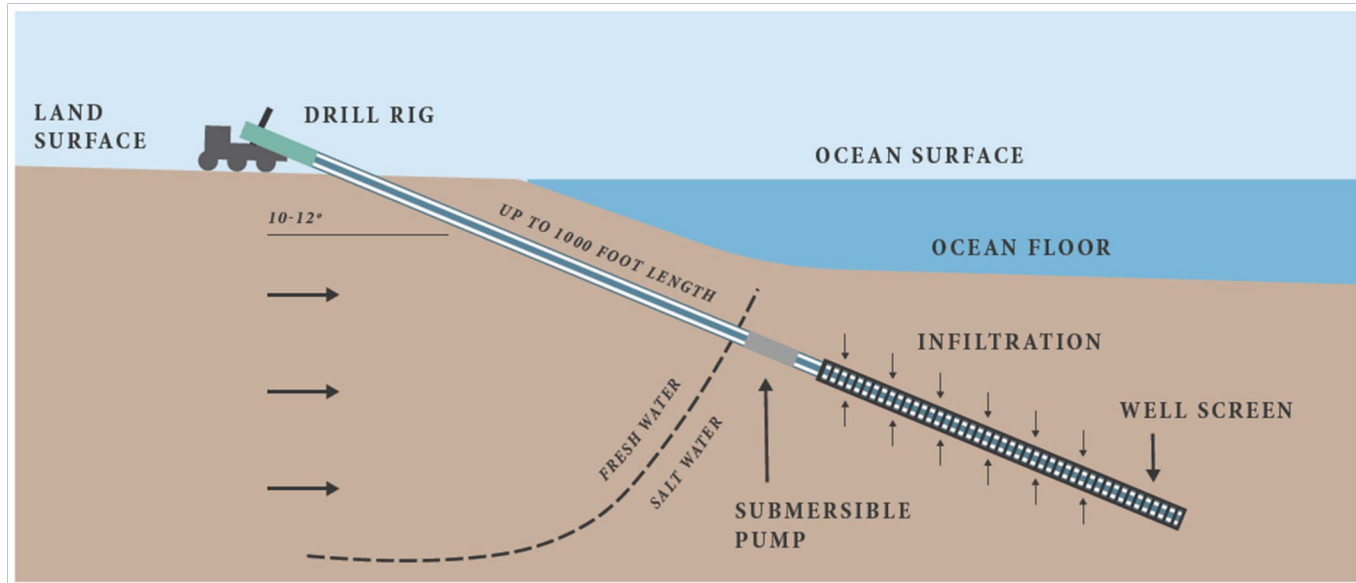
2015

STATE WATER RESOURCES CONTROL BOARD
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State Ocean Plan Preferred Methods: Subsurface Intake

Subsurface Water Intake – Slant Well Technology

- Intake method preferred by regulators and Ocean Plan Desalination Amendment
- Wells draw ocean water from below the ocean floor
- Slant Wells fully buried at Doheny State Beach
- Submersible pumps reduce noise
- Subsurface intakes avoids all impacts to marine life



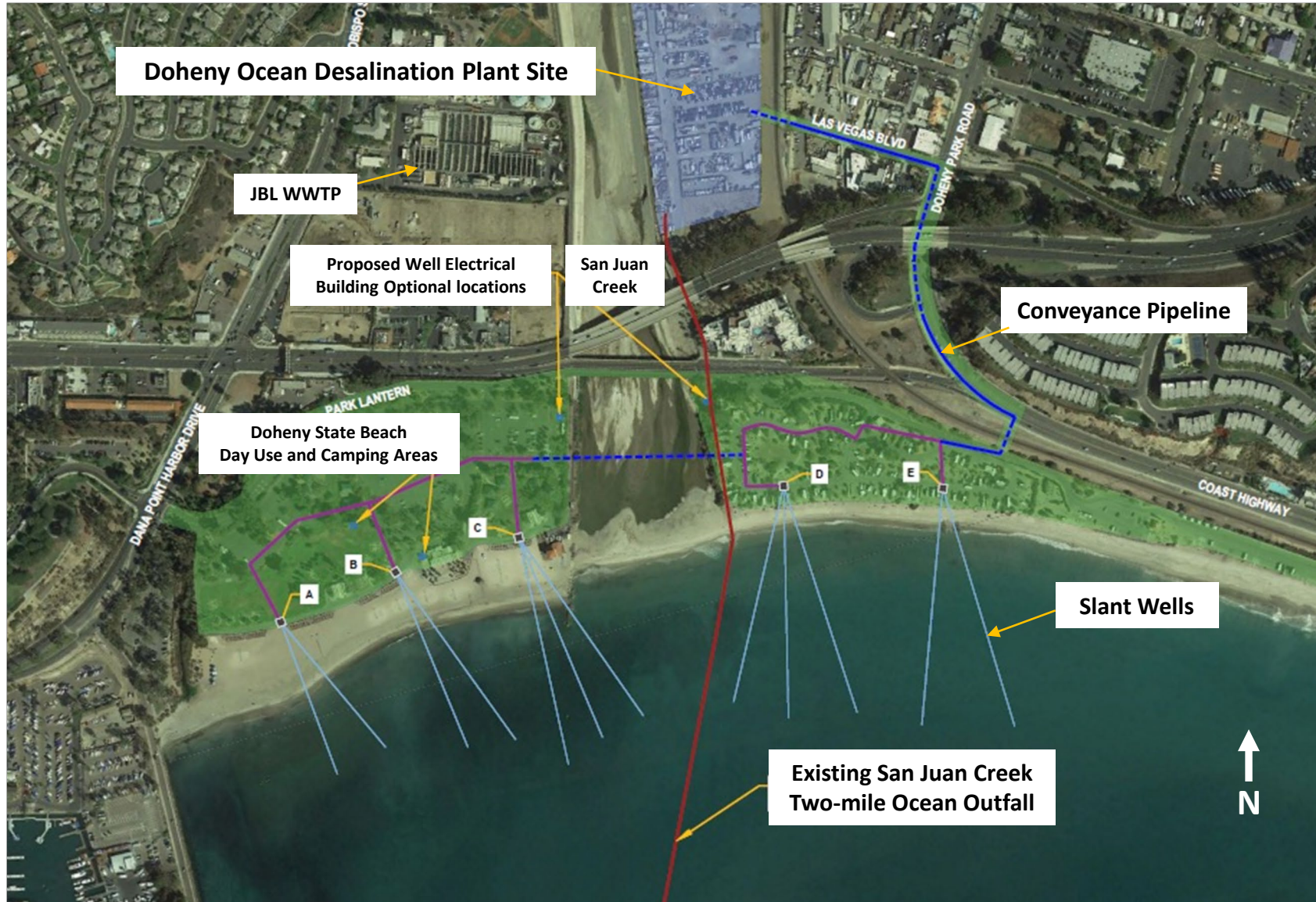
State Ocean Plan Preferred Methods: Commingled Discharge

Commingled Discharge

- Brine diluted with treated wastewater through existing San Juan Creek Ocean Outfall more than two miles offshore
- Blended effluent would minimize impact on coastal and marine water quality



“Ideal” Project Site & Preferred Technology



Desalination Treatment Processes

Pretreatment (Potential for Fe and Mn)

Chemical Handling Facilities

Reverse Osmosis (with Partial Second Pass RO)

Energy Recovery

UV

Post Treatment (Remineralization)

Potable Water Storage Tank

Distribution Pumps

Brine Holding Tank and Discharge Pumps

Control / Administration Building

Seawater Desalination is Subject to Surface Water Treatment Rule



Project Cost

Grants Secured:

California Department of
Water Resources Desalination
Construction Grant

\$10M

+

US Bureau of Reclamation
Water Infrastructure Improvement for
the Nation (WIIN) Act Grants
(Sponsor: Congressman Levin)

\$20M

+

EPA Grant – Slant Well
(Sponsor: Senator Padilla)

\$2.4M

SCWD will continue to pursue grants up to Federal Cap of \$30M

Capital Cost \$140 Million



Cost of Water Impact to Monthly Bill

Cost of Ocean Desal Water (\$/AF) projected to be ~ 20-25% higher than imported water

BUT...

NOT Directly Proportional to Rate Impact!

	Residential Customer
5 MGD Project (2 MGD for SCWD; 3 MGD for partners)	
Monthly additional cost	<u>\$2.38</u> (additional <u>2%</u>)
2 MGD Project (2 MGD for SCWD)	
Monthly additional cost	<u>\$7.20</u> (additional <u>6%</u>)

Revenue Requirement – FY 2026-27

The cost of desal is 13% to 16% of the total costs

	Revenue Requirements - FY 2026-27					
	No Desal		5 mgd Project (SCWD share)		2 mgd Project	
	a	b	c	d	e	f
1 Base Revenue Requirement						
2 Personnel	\$11,466,700	37%	\$11,466,700	37%	\$11,466,700	35%
3 Operations	\$2,374,700	8%	\$2,374,700	8%	\$2,374,700	7%
4 Debt Service	\$3,728,000	12%	\$3,728,000	12%	\$3,728,000	11%
5 Reserves	\$5,354,400	17%	\$5,354,400	17%	\$5,354,400	16%
6	\$22,923,800	75%	\$22,923,800	73%	\$22,923,800	71%
7						
8 Water Supply						
9 MET Purchases	\$7,799,300	25%	\$4,477,500	14%	\$4,477,500	14%
10 Desal						
11 Debt Service	\$0	0%	\$1,582,000	5%	\$1,962,000	6%
12 Electricity	\$0	0%	\$2,144,800	7%	\$2,145,000	7%
13 Other O&M	\$0	0%	\$1,195,600	4%	\$1,999,000	6%
14 LRP Credit	\$0	0%	(\$1,010,800)	-3%	(\$1,011,000)	-3%
15 Water supply subtotal	\$7,799,300	25%	\$8,389,100	27%	\$9,572,500	29%
16 Total revenue requirement	\$30,723,100	100%	\$31,312,900	100%	\$32,496,300	100%
17 Increment over No Desal			\$589,800		\$1,773,200	
			2%		6%	

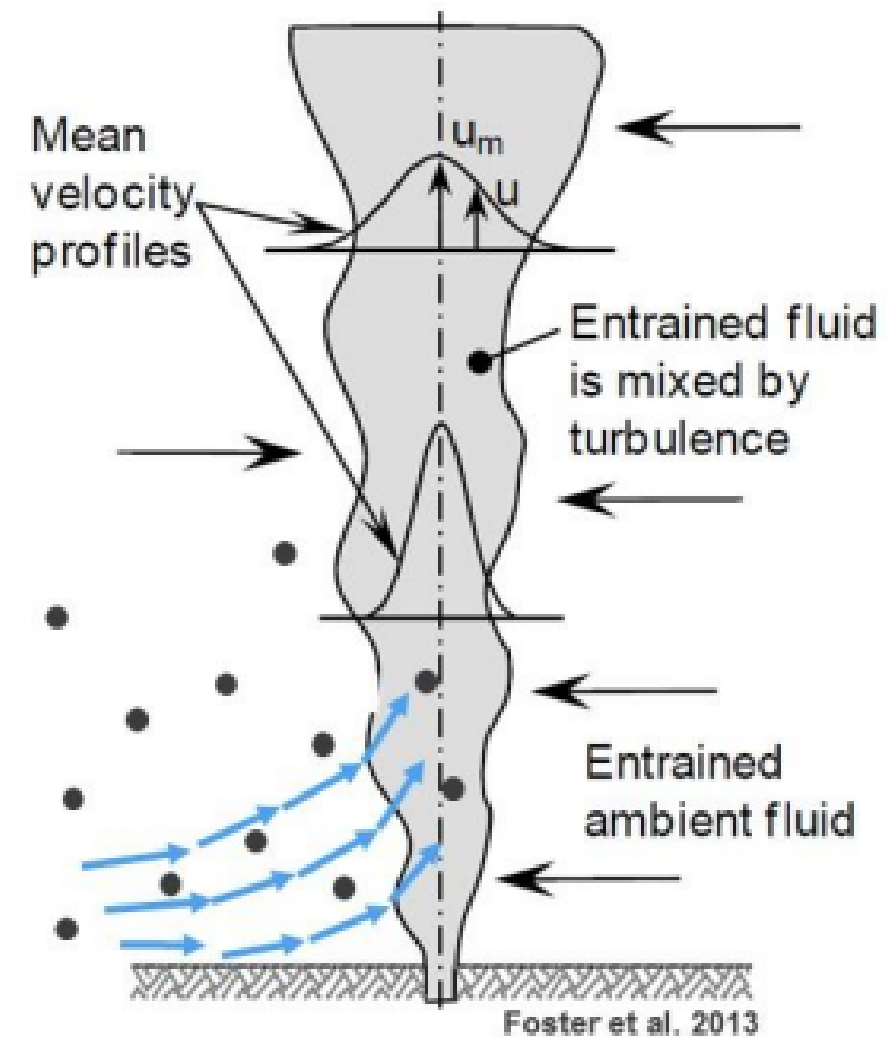
Permitting & Easements

SUBMITTED	IN PROGRESS
<p>RWQCB/State Board</p> <ul style="list-style-type: none"> NPDES/ROWD/Ocean Plan Compliance (Approved March 9, 2022) 	<p>State Parks – Doheny State Beach</p> <ul style="list-style-type: none"> Lease negotiations
<p>Coastal Commission - Coastal Development Permit (CDP)</p> <ul style="list-style-type: none"> Approved October 13, 2022 	<p>Federal Consultation</p> <ul style="list-style-type: none"> Army Corps of Engineers, US Fish & Wildlife Service, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, State Historic Preservation Office
<p>State Lands Commission Lease</p> <ul style="list-style-type: none"> Approved December 9, 2022 	

California State Water Resources Control Board and San Diego Regional Water Quality Control Board

- Public Hearing March 9, 2022
- Ocean Plan Compliance Determination
- NPDES Discharge Permit
- Mitigation
 - *...and mitigation measures to minimize intake and mortality of all forms of marine life*
 - Turbulence Mortality of incremental brine discharge
 - Preliminary Estimates are 7.45 acres

Next Steps: Year long Larval Study and Updated ETM and APF Analysis to finalize mitigation number



California State Parks - Modified Project – Reduced Footprint and Impacts



NOTE: Alignments are conceptual or will be generally within developed areas of future planned streets and are subject to change during final design.

Collaborative effort - Align Project construction with State Parks DSB General Plan implementation

Repair and restoration of DSB Campground:

- New water sewer and electrical hookups
- Improvements to pedestrian/bike access and circulation
- Replace interpretive area, landscape, and restrooms



California Coastal Commission

- Public Hearing October 13, 2022
- Conditionally Approved Coastal Development Permit
- 16 Special Conditions
 - Public Coastal Access, loss of coastal camping
 - Improvements to Doheny State Beach Campgrounds
 - Seismic conditions, coastal hazards, sea level rise
 - Marine Life Mitigation
 - Energy and Greenhouse Gas Minimization
 - Environmental Justice / Low-Income Ratepayer Assistance and Disadvantaged Communities
 - Tribal Consultation and Cultural Resources

Next Steps: Develop a number of Plans to address areas of concern



A pivot on desalination plants: California approves project in Orange County

CALIFORNIA

California Coastal Commission OKs desalination plant in Orange County

NEWS • ENVIRONMENT • News

Coastal Commission approves ocean desalination plant off Orange County coast

Agency permit is a key step. Commissioners say Doheny project ticks most boxes and can serve as model for converting ocean water into drinking water.



Amid historic drought, California approves \$140 mln desalination plant

California State Lands

- November 2022 - Addendum to Final EIR to address Campground Modifications
- Public Hearing December 9, 2022
- Land lease for slant wells below mean high tide line and modified lease for ocean outfall
- Areas of Concern
 - 20-year slant well lease
 - Greenhouse Gas Mitigation – preference to local projects
 - Environmental Justice / Low-Income Ratepayer Assistance and Disadvantaged Communities
 - Tribal Consultation and Cultural Resources

Next Steps: Submit certain CDP Plans to State Lands when available



State Clearinghouse No. 2016031038
ADDENDUM TO THE
FINAL ENVIRONMENTAL IMPACT REPORT
DOHENY OCEAN DESALINATION PROJECT

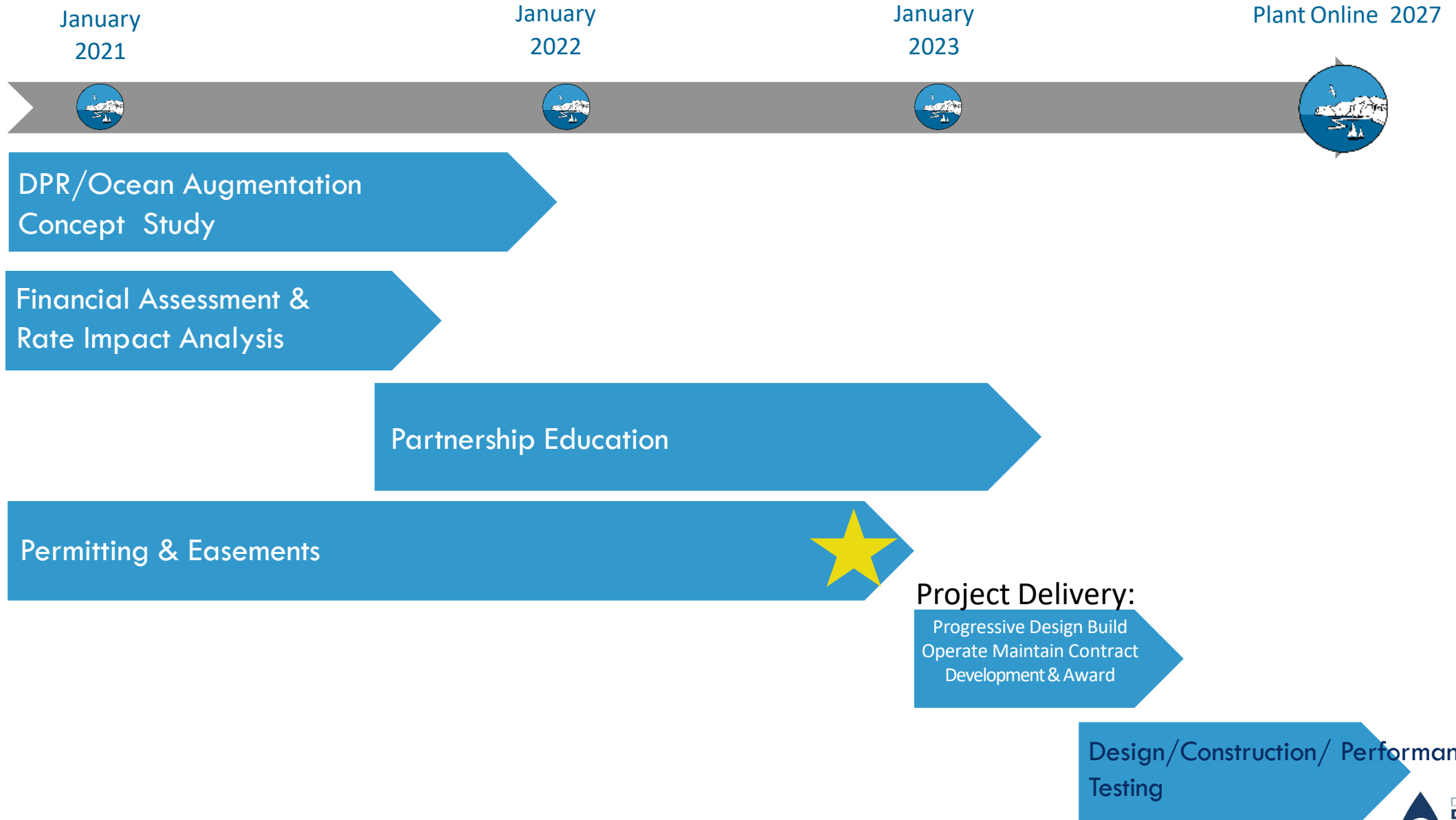
November 2022



CEQA Responsible Agency:
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825

CEQA Lead Agency/Applicant:
South Coast Water District
31592 West Street
Laguna Beach, CA 92651

Anticipated Implementation Schedule



It Takes a Team!





**SOUTH COAST
WATER DISTRICT**

Partnering With The Community

Thank You!