



# AGENDA

18700 Ward St.  
Fountain Valley, CA 92708  
(714) 378-3200

WATER ISSUES COMMITTEE MEETING  
WITH BOARD OF DIRECTORS \*  
ORANGE COUNTY WATER DISTRICT  
**Wednesday, July 9, 2025 12:00 p.m., L-1**

\*The OCWD Water Issues Committee meeting is noticed as a joint meeting with the Board of Directors for the purpose of strict compliance with the Brown Act and it provides an opportunity for all Directors to hear presentations and participate in discussions. Directors receive no additional compensation or stipend as a result of simultaneously convening this meeting. Items recommended for approval at this meeting will be placed on the **July 16** Board meeting Agenda for approval.

**This meeting will be held in person. As a convenience for the public, the meeting may also be accessed by Zoom Webinar and will be available by either computer or telephone audio as indicated below. Because this is an in-person meeting and the Zoom component is not required, but rather is being offered as a convenience, if there are any technical issues during the meeting, this meeting will continue and will not be suspended.**

**Computer Audio: Join the Zoom Webinar by clicking on the following link:**

<https://ocwd.zoom.us/j/98592928069>

**Webinar ID: 985 9292 8069**

**Telephone Audio: (213) 338 8477**

Teleconference Sites:

10382 Bonnie Drive, Garden Grove  
20 Civic Center, Santa Ana  
1454 Madison Street, Tustin  
303 W. Commonwealth Ave., Fullerton  
1502 North Broadway, Santa Ana  
6151 Baja Drive, Anaheim  
100 South Main Street, Los Angeles

\* Members of the public may attend and participate at all locations.

## PLEDGE OF ALLEGIANCE

## ROLL CALL

## ITEMS RECEIVED TOO LATE TO BE AGENDIZED

RECOMMENDATION: Adopt resolution determining need to take immediate action on item(s) and that the need for action came to the attention of the District subsequent to the posting of the Agenda (requires two-thirds vote of the Board members present, or, if less than two-thirds of the members are present, a unanimous vote of those members present.)

## VISITOR PARTICIPATION

Time has been reserved at this point in the agenda for persons wishing to comment for up to three minutes to the Board of Directors on any item that is not listed on the agenda, but within the subject matter jurisdiction of the District. By law, the Board of Directors is prohibited from taking action on such public comments. As appropriate, matters raised in these public comments will be referred to District staff or placed on the agenda of an upcoming Board meeting.

At this time, members of the public may also offer public comment for up to three minutes on any item on the Consent Calendar. While members of the public may not remove an item from the Consent Calendar for separate discussion, a Director may do so at the request of a member of the public.

## **CONSENT CALENDAR (ITEMS NO. 1 – 6)**

All matters on the Consent Calendar are to be approved by one motion, without separate discussion on these items, unless a Board member or District staff request that specific items be removed from the Consent Calendar for separate consideration.

1. MINUTES OF WATER ISSUES COMMITTEE MEETING HELD JUNE 11, 2025  
RECOMMENDATION: Approve minutes as presented
2. AUTHORIZE AMENDMENT NO. 1 TO SANTA ANA WATERSHED ASSOCIATION AGREEMENT NO. 1369  
RECOMMENDATION: Agendize for July 16 Board meeting: Authorize Amendment No. 1 to Agreement No. 1369 to fund continued Arundo removal efforts for an amount of \$100,000
3. AMENDMENT NO. 5 TO AGREEMENT WITH TETRA TECH FOR SANTIAGO PUMP STATION MODIFICATIONS PROJECT DESIGN AND CONSTRUCTION SUPPORT SERVICES AND NOTICE INVITING BIDS  
RECOMMENDATION: Agendize for July 16 Board meeting:
  - 1) Authorize Amendment No. 5 to Agreement No. 1336 with Tetra Tech for an amount not to exceed \$150,000 for additional design services for the Santiago Pump Station Modifications Project Design and Construction Support Services
  - 2) Authorize publication of Notice Inviting Bids for Contract No. SB-2025-2, Santiago Pump Station Modifications
4. RATIFICATION OF ACCESS AGREEMENTS FOR EXISTING MONITORING WELL SITES FOR FIRST HALF OF 2025  
RECOMMENDATION: Agendize for July 16 Board meeting: Ratify execution of well access agreements issued to OCWD for the period of January 1 through June 30, 2025 for a total cost of \$13,923
5. PURCHASE ORDERS TO AB SCIEX LLC FOR MULTI-YEAR SERVICE SUPPORT AGREEMENTS TO COVER LAB LIQUID CHROMATOGRAPH / MASS SPECTROMETERS  
RECOMMENDATION: Agendize for July 16 Board meeting: Authorize issuance of Purchase Order to SCIEX in the amount of \$151,736 for support service agreements for FY25-26, up to \$155,529 for FY26-27, and up to \$159,417 for FY27-28
6. REQUEST FOR PROPOSALS FOR INJECTION WELL REDEVELOPMENT SERVICES  
RECOMMENDATION: Agendize for July 16 Board meeting: Authorize issuance of a Request for Proposals for services to redevelop Talbert Barrier and Mid-Basin Injection Wells

**END OF CONSENT CALENDAR**

**MATTERS FOR CONSIDERATION**

7. AGREEMENT TO YELLOW JACKET DRILLING, INC. FOR SOIL BORINGS AT ANAHEIM LAKE (IFQ-24-002)

RECOMMENDATION: Agendize for July 16 Board meeting: Authorize issuance of a Service Agreement with Yellow Jacket Drilling, Inc. to drill soil borings at Anaheim Lake using the sonic drilling method for an amount not to exceed \$62,000

8. AUTHORIZE AGREEMENT WITH HAZEN AND SAWYER FOR DEVELOPMENT OF POWER BI DASHBOARD FOR RO TRAINS A, B, AND C

RECOMMENDATION: Agendize for July 16 Board meeting: Authorize issuance of an agreement with Hazen and Sawyer in the amount of \$60,000 for development of a Power BI dashboard to support monitoring and analysis of membrane system performance in RO Trains A, B, and C

**INFORMATIONAL ITEM**

9. EMERGENCY WATER SUPPLIES TO SOUTH ORANGE COUNTY UPDATE

**CHAIR DIRECTION AS TO ITEMS IF ANY TO BE AGENDIZED AS MATTERS FOR CONSIDERATION AT THE JULY 16 BOARD MEETING**

**DIRECTORS' ANNOUNCEMENTS/REPORTS**

**GENERAL MANAGER'S ANNOUNCEMENTS/REPORTS**

**ADJOURNMENT**

## WATER ISSUES COMMITTEE MEMBERS

### Committee Members

Cathy Green – Chair  
Erik Weigand – Vice Chair  
Roger Yoh  
Van Tran  
Dina Nguyen

### Alternates

Valerie Amezcua  
Fred Jung  
Natalie Meeks  
Steve Sheldon  
Denis Bilodeau

In accordance with the requirements of California Government Code Section 54954.2, this agenda has been posted at the guard shack entrance and in the main lobby of the Orange County Water District, 18700 Ward Street, Fountain Valley, CA and on the OCWD website not less than 72 hours prior to the meeting date and time above. All written materials relating to each agenda item are available for public inspection in the office of the District Secretary. Backup material for the Agenda is available at the District offices for public review and can be viewed online at the District's website: [www.ocwd.com](http://www.ocwd.com)

Pursuant to the Americans with Disabilities Act, persons with a disability who require a disability-related modification or accommodation in order to participate in a meeting, including auxiliary aids or services, may request such modification or accommodation from the District Secretary at (714) 378-3234, by email at [cfuller@ocwd.com](mailto:cfuller@ocwd.com) by fax at (714) 378-3373. Notification 24 hours prior to the meeting will enable District staff to make reasonable arrangements to assure accessibility to the meeting.

As a general rule, agenda reports or other written documentation has been prepared or organized with respect to each item of business listed on the agenda and can be reviewed at [www.ocwd.com](http://www.ocwd.com). Copies of these materials and other disclosable public records distributed to all or a majority of the members of the Board of Directors in connection with an open session agenda item are also on file with and available for inspection at the Office of the District Secretary, 18700 Ward Street, Fountain Valley, California, during regular business hours, 8:00 am to 5:00 pm, Monday through Friday. If such writings are distributed to members of the Board of Directors on the day of a Board meeting, the writings will be available at the entrance to the Board of Directors meeting room at the Orange County Water District office.



MINUTES OF BOARD OF DIRECTORS MEETING  
WATER ISSUES COMMITTEE  
ORANGE COUNTY WATER DISTRICT  
June 11, 2025 @ 12:00 p.m.

Director Green called the Water Issues Committee meeting to order at 12:00 p.m. in the Conference Room L-1. Public access was also provided via Zoom webinar. The Secretary called the roll and reported a quorum as follows:

Committee Members

Cathy Green  
Erik Weigand  
Roger Yoh           arrived @ 12:03 p.m.  
Van Tran  
Dina Nguyen       arrived @ 12:04 p.m.

Alternates

Valerie Amezcua   arrived @ 12:02 p.m.  
Fred Jung           arrived @ 12:09 p.m.  
Natalie Meeks     (absent)  
Steve Sheldon     arrived @ 12:02 p.m.  
Denis Bilodeau    arrived @ 12:02 p.m.

OCWD

John Kennedy – General Manager  
Chris Olsen – Executive Director of Engineering/Water Resources  
Mehul Patel – Executive Director of Operations  
Jason Dadakis – Executive Director of Water Quality & Technical Resources  
Roy Herndon – Chief Hydrogeologist  
Dave Mark – Principal Hydrogeologist  
Adam Hutchinson – Recharge Planning Manager  
Randy Fick – Treasurer/CFO  
Ryan Bouley – Director of Engineering  
Larry Esguerra – Senior Engineer  
Sheryl Parsons – Natural Resources Director  
Pat Versluis – Director of Water Quality  
Ben Smith – Director of Recharge & Wetland Operations  
Shawn Neville – Principal Planner  
Alex Waite – Principal Engineer  
Jeremy Jungreis – General Counsel  
Leticia Villarreal – Assistant District Secretary

**CONSENT CALENDAR**

The Consent Calendar was approved upon motion by Director Tran, seconded by Director Weigand and carried [3-0], as follows:

**Ayes: *Green, Weigand, Tran***

1. Minutes of Water Issues Committee Meeting

**The Minutes of the Water Issues Committee meeting held May 14, 2025, were approved as presented.**

2. Award Contract No. GA-2024-1 GAP Process Building Exterior Stair Replacement Project to Vicon Enterprise

**Recommended for approval at June 18 Board meeting:**

1. **Receive and file Affidavit of Publication of Notice Inviting Bids for Contract GA-2024-1 GAP Process Building Exterior Stair Replacement Project;**
2. **Accept bid and award contract GA-2024-1 to the lowest responsive bid and responsible bidder, Vicon Enterprise, in the amount of \$470,000;**
3. **Authorize issuance of Amendment 1 to Agreement No. 1507 with Scheevel Engineering for construction phase services in the amount of \$22,800.00; and**
4. **Establish Project budget in the amount of \$535,050**

3. Contract No. LAB-2024-1: Change Order Ratification and Budget Increase

**Recommended for approval at June 18 Board meeting:**

1. Ratify issuance of Change Order No. 1; and
2. Increase project budget by \$50,000 for a total project budget in the amount of \$1,175,000

4. Contract No. SA-2025-1 City of Santa Ana PFAS Treatment at John Garthe Reservoir Notice Inviting Bids and Request for Proposals for Construction Management

**Recommended for approval at June 18 Board meeting:**

1. Authorize publication of Notice Inviting Bids for Contract No.SA-2025-1, City of Santa Ana PFAS Treatment at John Garthe Reservoir Project; and
2. Authorize issuance of a Request for Proposal for Construction Management Services for the City of Santa Ana PFAS Treatment at John Garthe Reservoir Project

5. Award Contract No. FV-2024-1 Annex Building Roof Replacement Project to C.I. Services Inc.

**Recommended for approval at June 18 Board meeting:**

1. Receive and file Affidavit of Publication of Notice Inviting Bids for Contract FV-2024-1 Annex Building Roof Replacement Project;
2. Ratify issuance of Addendum #1;
3. Accept bid and award contract FV-2024-1 to the lowest responsive bid and responsible bidder, C.I Services Inc, in the amount of \$168,000; and
4. Establish Project budget in the amount of \$177,400

6. Anaheim Lake Valve Vault Project: Request for Proposals for Construction Management and Inspection Services

**Recommended for approval at June 18 Board meeting: Authorize issuance of RFP for Construction Management and Inspection Services for Contract No. A-2025-1, Anaheim Valve Vault Project.**

7. Adoption of the Orange County Regional Water and Wastewater Multi-Jurisdictional Hazard Mitigation Plan for 2025

**Recommended for approval at June 18 Board meeting: Approve and adopt the revised Orange County Regional Water and Wastewater Multi-Jurisdictional Hazard Mitigation Plan.**

8. Fullerton Main Plant (Wells 5, 6 & 8) and Well 7A PFAS Water Treatment Plant Engineers Report; Categorical Exemption, Contract No. FUL-2025-1 Notice Inviting Bids, and Authorization To Reimburse City Of Fullerton for Well 7A PFAS Water Treatment Project

**Recommended for approval at June 18 Board meeting:**

1. Approve the Engineer's Report for the City of Fullerton Main Plant (Wells 5, 6 & 8) and Well 7A PFAS Water Treatment Projects and determine the projects feasible, necessary and beneficial to the lands of the District;
2. Authorize filing of a Categorical Exemption for the City of Fullerton Main Plant (Wells 5, 6 & 8) in compliance with the California Environmental Quality Act (CEQA) guidelines;
3. Authorize publication of Notice Inviting Bids for Contract No. FUL-2025-1, Fullerton Main Plant (Wells 5, 6 & 8) PFAS Water Treatment Plant; and
4. Authorize reimbursement to the City of Fullerton for constructing the Main Plant Well 7A PFAS Water Treatment Project in an amount not to exceed \$750,000

9. Amendment to ABM Electrical Power Services, LLC Agreement Number 1586 for Field Headquarters Site Wide Electrical Maintenance and Testing

**Recommended for approval at June 18 Board meeting: Authorize issuance of Amendment No. 1 to ABM Electrical Power Services, LLC in the amount of \$4,260 for services to inspect, clean, test and certify 12 sites' power distribution equipment and increase agreement 1586 total cost to \$58,620.**

10. Award Contract No. GWRS-2025-2 Microfiltration West Basement Acoustic Panel Project to Pacific Sound Control

**Recommended for approval at June 18 Board meeting:**

1. **Receive and file Affidavit of Publication of Notice Inviting Bids for Contract GWRS-2025-2 Microfiltration West Basement Acoustic Panel Project;**
  2. **Ratify issuance of Addendum No. 1 and Addendum No. 2;**
  3. **Accept bid and award contract GWRS-2025-2 to the lowest responsive bid and responsible bidder, Pacific Sound Control, in the amount of \$519,628; and**
  4. **Establish the Microfiltration West Basement Acoustic Panel Project budget in the amount of \$675,000**
11. Project Funding Agreement with the Water Research Foundation for Pilot Study on PFAS Treatment

**Recommended for approval at June 18 Board meeting:**

1. **Approve and authorize agreement with The Water Research Foundation (WRF) in the amount of \$300,000 for the study titled "Estimating PFAS using total fluorine methods in influent and effluents from a pilot-scale adsorption system";**
2. **Authorize \$100,000 pre-payment to WRF for study co-funding (District cash contribution); and**
3. **Approve and authorize contractor agreements with Kleinfelder for an amount not to exceed \$18,000 and regeneration subcontract for an amount not to exceed \$20,000**

#### **MATTER FOR CONSIDERATION**

12. Authorize Issuance of Request for Proposals for Flow Reversal Reverse Osmosis Retrofit Construction Study

Principal Engineer Alex Waite informed the committee that the GWRS operates at a maximum capacity of 130 million gallons per day which means that it needs to take in about 174 million gallons from OC San. He shared that many technologies were investigated through reviews, bench scale and pilot scale tests. He advised that through this process, Research and Development found that Flow Reversal Osmosis Retrofit (FRRO) takes the static RO that's currently installed at GWRS and makes it dynamic thus recovery has gone from 85% of max production to 90% or higher. He reported that from 2021 to 2023 there was a pilot study that achieved a stable recovery of 89 to 90%. Mr. Waite noted that the next step is to conduct a constructability study that would look at analyzing the cost and taking the information that was developed at the preliminary level and develop that information with more detail at a full constructability analysis, and then to finally identify the best candidate for a full scale retrofit.

**Upon motion by Director Weigand, seconded by Director Nguyen and carried [5-0], the Committee recommended for approval at the June 18 Board meeting: Authorize issuance of Request for Proposals for the Flow Reversal Reverse Osmosis Retrofit Constructability Study.**

**Ayes: Green, Weigand, Yoh, Tran, Nguyen**

**INFORMATIONAL ITEMS**

13. OC San Biosolids Deep Well Injection Project

OC San's General Manager Rob Thompson presented on the Biosolids Deep Well Injection (DWI) project. He stated OC San is currently conducting a feasibility study on DWI for biosolids management, on average the county produces 550 tons a day. He shared OC San currently uses agricultural reuse as the primary go to system with the balance being composted and going to Kern or San Bernardino county. He explained that OC San had been studying deep well injection. He pointed out that the oil industry has used deep oil injection of oil field waste for years. Mr. Thompson reported that a study was conducted over 20 years ago along with the city of Los Angeles and it has operated successfully since. He relayed that this innovative approach seems to create significant long-term carbon sequestration and reduce the need for long-haul truck transportation, thereby cutting down carbon emissions and costs. He noted that this process aims to keep the biosolids and gases completely separated from the groundwater basin, providing a secure method for managing residuals containing substances like PFAS, microplastics and pharmaceuticals.

14. Prado Basin Sand Removal

General Manager John Kennedy provided an update on the Prado Basin Sand removal. He informed the committee that staff will soon recommend going out to bid to hire a contractor. He advised that OCWD has an obligation of moving 250,000 yards of sand for the permit. He mentioned there has been interest from the city of San Clemente and Orange County Transit Authority needing the sand.

**CHAIR DIRECTION AS TO ITEMS IF ANY TO BE AGENDIZED AS MATTERS FOR CONSIDERATION AT THE JUNE 18 BOARD MEETING**

**ADJOURNMENT**

There being no further business, the meeting was adjourned at 12:43 p.m.

\_\_\_\_\_  
Cathy Green, Chair



## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 9, 2025

**To:** Water Issues Committee  
Board of Directors

**From:** John Kennedy

**Staff Contact:** S. Parsons/L. Haney

**Budgeted:** Yes

**Budgeted Amount:** \$100,000

**Cost Estimate:** \$100,000

**Funding Source:** General Fund  
**Program/ Line Item No.** 1080.53001

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: AUTHORIZE AMENDMENT NO. 1 TO SANTA ANA WATERSHED  
ASSOCIATION AGREEMENT NO. 1369**

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### SUMMARY

In July 2024, the Board approved a one-year extension of Agreement No. 1369 with the Santa Ana Watershed Association (SAWA) as a temporary measure to continue Arundo removal services on OCWD property while a regional approach was developed. The intent was for this agreement to bridge the gap in funding and maintenance until the Santa Ana Watershed Project Authority (SAWPA) could launch a regional working group to coordinate a watershed-wide Arundo removal effort. As that transfer has not occurred, staff recommend extending the OCWD agreement an additional year at a cost of \$100,000 to fund continued Arundo removal efforts in FY25-26. This funding is included in the Natural Resources program budget.

### Attachments:

- Agreement No. 1369 with Santa Ana River Watershed Association for Arundo Removal Work
- Amendment No. 1 to Agreement No. 1369 with Santa Ana Watershed Association for Arundo Removal Work

### RECOMMENDATION

Agendize for July 16 Board Meeting: Authorize Amendment No. 1 to Agreement No. 1369 to fund continued Arundo removal efforts for an amount of \$100,000.

### BACKGROUND/ANALYSIS

OCWD has partnered with the Santa Ana Watershed Association (SAWA) for over a decade to conduct Arundo removal within Prado Basin. These efforts support OCWD's regulatory commitments under federal permits tied to water conservation operations at Prado Dam, most recently under the Biological Opinion for the Five-Year Minor Deviation to 508 feet for the Prado Dam Interim Water Control Manual, which requires OCWD to implement Arundo removal projects within the Prado Basin (Reasonable and Prudent Measure 4). This work also supports the District's water supply strategy by removing an invasive, water-intensive plant from the watershed.

Agreement No. 1369 was initially extended in 2024 as a one-year, interim solution while the Santa Ana Watershed Project Authority (SAWPA) explored a regional Arundo management framework. However, no regional program has been implemented to date, and OCWD continues to face active Arundo regrowth that requires ongoing control. Much of this regrowth is occurring in areas where initial removal was funded by a Santa Ana River Conservation and Conjunctive Use Program (SARCCUP) grant from the Department of Water Resources (DWR), and maintenance of these areas is required for a minimum of four more years. Continued Arundo control is also critical to OCWD's ability to exercise its salvage water right of approximately 5,000 acre-feet per year that is based on the 20 acre-feet per acre per year of water savings gained through Arundo removal.

Part III, Special Provisions, Section K of the Agreement, contains the following language provided by OCWD legal counsel:

*“Contractor shall use the most current health and safety procedures, equipment and protective clothing, and shall require that all employees or sub-contractors performing services per this Agreement abide by all federal, state and local regulations regarding the safe application of pesticides or herbicides, and shall further require prior to commencing work on the tasks identified in Exhibit F, Scope of Services, that all of Contractor’s employees and/or subcontractors that will perform the tasks listed in Exhibit F have obtained the most up to date training on the proper and safe application of herbicides and pesticides that will be used by Contractor to accomplish the tasks in Exhibit F. Contractor will follow all federal, state, and local regulations and recommended best practices related to all work required in Exhibit F, including mechanical and chemical vegetation removal methods, and shall comply with all applicable safety practices/procedures required of OCWD contractors per Exhibits D and E of this Agreement. Contractor shall also consult with pertinent regulatory agencies and trade associations on the safest methods for applying pesticides and herbicides that may be required for Contractor to accomplish the tasks listed in Exhibit F.”*

SAWA will avoid the use of herbicides where feasible. However, in areas where mechanical removal is not sufficient for effective long-term control of Arundo, herbicide may be used provided it follows the provisions outlined above.

SAWA maintains the required insurance coverage for this work, including \$2 million in general/commercial liability, \$1 million in workers' compensation, and \$1 million per claim in professional liability (with a \$2 million aggregate), aligning with OCWD's risk management requirements. The Agreement includes standard indemnification language that requires SAWA to defend and hold OCWD harmless from any claims arising out of their performance under the contract, except in cases of OCWD's own active negligence or willful misconduct.

To maintain compliance and avoid setbacks to habitat recovery and water supply, OCWD staff executed a one-year extension through July 1, 2026. The requested \$100,000 addition of budgeted funds will provide necessary funding to continue Arundo removal efforts during this extended term.

## **PRIOR RELEVANT BOARD ACTIONS**

07/17/2024, R24-7-86: Amendment to license agreement with Santa Ana Watershed Association for Arundo Removal on District Lands in Prado Basin

6/24/2023, M23-71: Extend the termination date for the OCWD-SAWA Agreement for one year to June 19, 2024, and direct staff to draft a new agreement.

12/05/2018, R18-12-164: (1) Approve and authorize execution of Amendment No. 1 to License Agreement with Santa Ana Watershed Association, reducing the acreage for Arundo removal from 212 acres to 100 acres and extending the termination date of the agreement to December 31, 2023; (2) Authorize establishment of the OCWD Arundo Re-Growth Control Fund with a maximum fund amount not to exceed \$750,000; and (3) Authorize transfer of funds received from Santa Ana Watershed Association from control of Arundo on District lands, up to a maximum of \$750,000, into OCWD Arundo Re-Growth Control Fund.

07/24/2013, R13-7-87: Approve and authorize execution of Agreement with Santa Ana Watershed Association for removal of Arundo on OCWD property in Prado Basin

6/19/2013, R13-6-69: Approved and authorized execution of Santa Ana Watershed Program Agreement

AGREEMENT NO. 1369  
with  
SANTA ANA WATERSHED ASSOCIATION  
for  
ARUNDO REMOVAL WORK

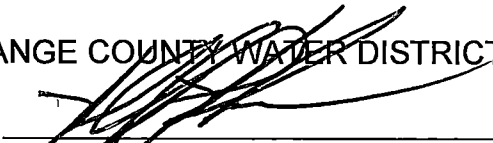

This Agreement (the "Agreement") is made and entered into as of April 17, 2019, by and between the ORANGE COUNTY WATER DISTRICT, a special governmental district organized and operating under the laws of the State of California (hereinafter "OCWD") and the SANTA ANA WATERSHED ASSOCIATION (hereinafter "SAWA") ("Contractor"). (The term Contractor includes professionals performing in a consulting capacity.)

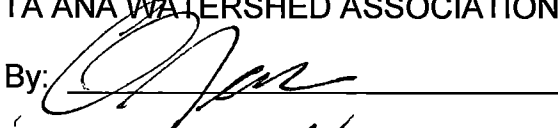

PART I  
FUNDAMENTAL TERMS

- A. Location of Project: Prado Basin
- B. Description of Services/Goods to be Provided: SAWA to conduct Arundo removal work in accordance with PART IV, Scope of Services, included herein.
- C. Term: Unless terminated earlier as set forth in this Agreement, the services shall commence on May 1, 2019 ("Commencement Date") and the term of this Agreement shall continue through its expiration on September 30, 2023.
- D. Party Representatives:
- D.1. OCWD designates the following person/officer to act on OCWD's behalf: Richard Zembal.
- D.2. Contractor designates the following person to act on Contractor's behalf: Brian J. Brady.
- E. Notices: All notices and other writings required to be delivered under this Agreement to the parties shall be delivered at the addresses set forth in Part II ("General Provisions").
- F. Attachments: This Agreement incorporates by reference the following Attachments to this Agreement:
- |      |           |                    |
|------|-----------|--------------------|
| F.1. | Part I:   | Fundamental Terms  |
| F.2. | Part II:  | General Provisions |
| F.3. | Part III: | Special Provisions |
| F.4. | Part IV:  | Scope of Services  |
| F.5. | Part V:   | Budget             |

G. Integration: This Agreement represents the entire understanding of OCWD and Contractor as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with regard to those matters covered by this Agreement. This Agreement supersedes and cancels any and all previous negotiations, arrangements, agreements or understandings, if any, between the parties, and none shall be used to interpret this Agreement.

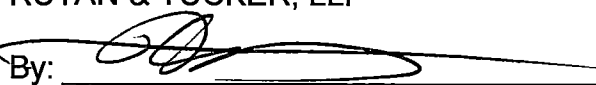
IN WITNESS WHEREOF, the parties have executed and entered into this Agreement as of the date first set forth above.

ORANGE COUNTY WATER DISTRICT  
By:   
Michael R. Markus, P.E., D.WRE  
General Manager  
By:   
Vicente Sarmiento, Esq., President  
Dated: 9/12/19

SANTA ANA WATERSHED ASSOCIATION  
By:   
Title: CHAIRMAN  
By:   
Title: Executive Director

APPROVED AS TO FORM:

Contractor Information:

RUTAN & TUCKER, LLP  
By:   
Jeremy N. Jungreis, General Counsel

Address for Notices and Payments:  
1835 Chicago Avenue, Suite C  
Riverside, CA 92507

Attention: Brian J. Brady  
Telephone: 951/780-1012  
Facsimile No.: 951/780-5893

PART II  
GENERAL PROVISIONS

SECTION ONE: SERVICES OF CONTRACTOR

1.1 Scope of Services. In compliance with all terms and conditions of this Agreement, Contractor shall provide the goods and/or services shown on Part IV hereto ("Scope of Services"), which may be referred to herein as the "services" or the "work." If this Agreement is for the provision of goods, supplies, equipment or personal property, the terms "services" and "work" shall include the provision (and, if designated in the Scope of Services, the installation) of such goods, supplies, equipment or personal property.

1.2 Changes and Additions to Scope of Services. OCWD shall have the right at any time during the performance of the services, without invalidating this Agreement, to order extra work beyond that specified in the Scope of Services or make changes by altering, adding to, or deducting from said work. No such work shall be undertaken unless a written order is first given by OCWD to Contractor, incorporating therein any adjustment in (i) the Budget, and/or (ii) the time to perform this Agreement, which adjustments are subject to the written approval of the Contractor. It is expressly understood by Contractor that the provisions of this Section 1.2 shall not apply to services specifically set forth in the Scope of Services or reasonably contemplated therein. Contractor hereby acknowledges that it accepts the risk that the services to be provided pursuant to the Scope of Services may be costlier or time consuming than Contractor anticipates and that Contractor shall not be entitled to additional compensation therefor.

1.3 Standard of Performance. Contractor agrees that all services shall be performed in a competent, professional, and satisfactory manner in accordance with the standards prevalent in the industry, and that all goods, materials, equipment or personal property included within the services herein shall be of good quality, fit for the purpose intended.

1.4 Performance to Satisfaction of OCWD. Contractor agrees to perform all work to the satisfaction of OCWD within the time specified. If OCWD reasonably determines that the work is not satisfactory, OCWD shall have the right to take appropriate action, including but not limited to: (i) meeting with Contractor to review the quality of the work and resolve matters of concern; (ii) requiring Contractor to repeat unsatisfactory work at no additional charge until it is satisfactory; (iii) suspending the delivery of work to Contractor for an indefinite time; (iv) withholding payment; and (v) terminating this Agreement as hereinafter set forth.

1.5 Instructions from OCWD. In the performance of this Agreement, Contractor shall report to and receive instructions from OCWD's representative identified in Part I, or his or her designee. Tasks or services other than those specifically described in the Scope of Services shall not be performed without the prior written approval of the OCWD.

1.6 Familiarity with Work. By executing this Agreement, Contractor warrants that Contractor (i) has thoroughly investigated and considered the scope of services to be performed, (ii) has carefully considered how the services should be performed, and (iii) fully understands the facilities, difficulties, and restrictions attending performance of the services under the Agreement. If the services involve work upon any site, Contractor warrants that Contractor has or will investigate the site and is or will be fully acquainted with the conditions there existing, prior to commencement of services hereunder. Should the Contractor discover any conditions, including any latent or unknown conditions, which will materially affect the performance of the services hereunder, Contractor shall immediately inform the OCWD of such fact and shall not proceed except at Contractor's risk until written instructions are received from the OCWD's Representative.

1.7 Prohibition Against Subcontracting or Assignment. Contractor shall not contract with any other entity to perform in whole or in part the services required hereunder without the express written approval of OCWD. In addition, neither the Agreement nor any interest herein may be transferred, assigned, conveyed, hypothecated, or encumbered voluntarily or by operation of law, whether for the benefit of creditors or otherwise, without the prior express written approval of OCWD. In the event of any unapproved transfer, including any bankruptcy proceeding, OCWD may, in its sole and absolute discretion, void the Agreement. No approved transfer shall release any surety of Contractor of any liability hereunder without the express consent of OCWD.

1.8 Compensation. Contractor shall be compensated in accordance with the terms of Part V hereto ("Budget"). Included in the Budget are all ordinary and overhead expenses incurred by Contractor and its agents and employees, including meetings with OCWD representatives, and incidental costs incurred in performing under this Agreement. Contractor shall be compensated for actual costs incurred by subcontractors or other services, and no mark-up will be paid to contractor by OCWD. Unless otherwise specified in Part V, OCWD shall compensate Contractor on a time-and-materials basis at the rates listed in Part V. Contractor shall submit an invoice referencing this Agreement, the Work Order number, date and description of services performed, and the amount. OCWD shall pay the Contractor within 30 days of receipt of the invoice.

## SECTION TWO: INSURANCE AND INDEMNIFICATION

2.0 Insurance – See attached Exhibit A to this Agreement.

2.1 Indemnification.

The parties mutually acknowledge that OCWD has retained Contractor to perform the services set forth in this Agreement based upon the special skills, expertise and experience of Contractor. Accordingly, in performing the services under this Agreement, Contractor shall use the skill and care that a highly specialized professional,

with expertise in the field, would use under similar circumstances. Further, the parties mutually agree that, to the extent that Contractor retains subcontractors or subcontractors to perform any portion of any of the tasks or services under this Agreement, Contractor has a duty to OCWD to ensure that the tasks and services performed by such subcontractors or subcontractors meet the same professional level, skill and expertise expected of Contractor.

2.2.1 Except as set forth in subdivision 2.2.2 or 2.2.3, Contractor shall indemnify, defend (with legal counsel acceptable to OCWD) and hold harmless OCWD and the OCWD Personnel from and against any and all actions, suits, claims, demands, judgments, attorneys fees, costs, damages to persons or property, losses, penalties, obligations, expenses or liabilities ("Claims") that may be asserted or claimed by any person or entity arising out of Contractor's performance of any tasks or services for or on behalf of OCWD, whether or not there is concurrent negligence on the part of OCWD and/or any OCWD Personnel, but excluding any Claims arising from the active negligence or willful misconduct of OCWD or any OCWD Personnel where the active negligence or willful misconduct is determined to be the actual and proximate cause of the alleged injury.

2.2.2 The provisions of this subdivision 2.2.2 apply only in the event that Contractor is a "design professional" within the meaning of California Civil Code section 2782.8(c). If Contractor is a "design professional" within the meaning of Section 2782.8(c), then, notwithstanding subdivision 2.2.1 above, to the fullest extent permitted by law (including, without limitation, Civil Code sections 2782 and 2782.6), Contractor shall defend (with legal counsel reasonably acceptable to OCWD), indemnify and hold harmless OCWD and OCWD Personnel from and against any Claim that arises out of, pertains to, or relates to, directly or indirectly, in whole or in part, the negligence, recklessness, or willful misconduct of Contractor, any subcontractor, subcontractor or any other person directly or indirectly employed by them, or any person that any of them control, arising out of Contractor's performance of any task or service for or on behalf of OCWD under this Agreement. Such obligations to defend, hold harmless and indemnify OCWD or any OCWD Personnel shall not apply to the extent that such Claims are caused in part by the sole active negligence or willful misconduct of OCWD or such OCWD Personnel. To the extent Contractor has a duty to indemnify OCWD or any OCWD Personnel under this subdivision 2.2.2, Contractor shall be responsible for all incidental and consequential damages resulting directly or indirectly, in whole or in part, from Contractor's negligence, recklessness or willful misconduct.

2.2.3 The provisions of this subdivision 2.2.3 apply only in the event that this Agreement is a "construction contract" within the meaning of Civil Code Section 2782(b) and 2783. If this Agreement is a "construction contract" within the meaning of those statutes, then notwithstanding subdivision 2.2.1 above, to the fullest extent permitted by law, Contractor shall indemnify, defend (with legal counsel acceptable to OCWD) and hold harmless OCWD and the OCWD Personnel from and against any and all Claims that may be asserted or claimed by any person or entity arising out of Contractor's performance of any tasks or services for or on behalf of OCWD, whether or not there is concurrent passive negligence on the part of OCWD and/or any OCWD

Personnel, but excluding any Claims arising from the active negligence or willful misconduct of OCWD or any OCWD Personnel.

### SECTION THREE: LEGAL RELATIONS AND RESPONSIBILITIES

3.1 Compliance with Laws. Contractor shall keep itself fully informed of all existing and future state and federal laws and all county, municipal and OCWD ordinances and regulations which in any manner affect those employed by it or in any way affect the performance of services pursuant to this Agreement. Contractor shall at all times observe and comply with all such laws, ordinances, and regulations and shall be responsible for the compliance of all work and services performed by or on behalf of Contractor. When applicable, Contractor shall not pay less than the prevailing wage, which rate is determined by the Director of Industrial Relations of the State of California.

3.2 Licenses, Permits, Fees and Assessments. Contractor shall obtain at its sole cost and expense all licenses, permits, and approvals that may be required by law for the performance of the services required by this Agreement. Contractor shall have the sole obligation to pay any fees, assessments, and taxes, plus applicable penalties and interest, which may be imposed by law and arise from or are necessary for Contractor's performance of the services required by this Agreement, and shall indemnify, defend, and hold harmless OCWD against any such fees, assessments, taxes, penalties, or interest levied, assessed, or imposed against OCWD thereunder.

3.3 Covenant Against Discrimination. Contractor covenants for itself, its heirs, executors, assigns, and all persons claiming under or through it, that there shall be no discrimination against any person on account of race, color, creed, religion, sex, marital status, national origin, or ancestry, in the performance of this Agreement. Contractor further covenants and agrees to comply with the terms of the Americans with Disabilities Act of 1990 (42 U.S.C. §12101 et seq.) as the same may be amended from time to time.

3.4 Independent Contractor. Contractor shall perform all services required herein as an independent Contractor of OCWD and shall remain at all times as to OCWD a wholly independent Contractor. OCWD shall not in any way or for any purpose become or be deemed to be a partner of Contractor in its business or otherwise, or a joint venture, or a member of any joint enterprise with Contractor. Contractor shall not at any time or in any manner represent that it or any of its agents or employees are agents or employees of OCWD. Neither Contractor nor any of Contractor's employees shall, at any time, or in any way, be entitled to any sick leave, vacation, retirement, or other fringe benefits from the OCWD; and neither Contractor nor any of its employees shall be paid by OCWD time and one-half for working in excess of forty (40) hours in any one week. OCWD is under no obligation to withhold State and Federal tax deductions from Contractor's compensation. Neither Contractor nor any of Contractor's employees shall be included in the competitive service, have any property right to any position, or any of the rights an employee may have in the event of termination of this Agreement.

3.5 Use of Patented Materials. Contractor shall assume all costs arising from the use of patented or copyrighted materials, including but not limited to equipment, devices, processes, and software programs, used or incorporated in the services or work performed by Contractor under this Agreement. Contractor shall indemnify, defend, and save the OCWD harmless from any and all suits, actions or proceedings of every nature for or on account of the use of any patented or copyrighted materials.

3.6 Proprietary Information. All proprietary information developed specifically for OCWD by Contractor in connection with, or resulting from, this Agreement, including but not limited to inventions, discoveries, improvements, copyrights, patents, maps, reports, textual material, or software programs, but not including Contractor's underlying materials, software, or know-how, shall be the sole and exclusive property of OCWD, and are confidential and shall not be made available to any person or entity without the prior written approval of OCWD. Contractor agrees that the compensation to be paid pursuant to this Agreement includes adequate and sufficient compensation for any proprietary information developed in connection with or resulting from the performance of Contractor's services under this Agreement. Contractor further understands and agrees that full disclosure of all proprietary information developed in connection with, or resulting from, the performance of services by Contractor under this Agreement shall be made to OCWD, and that Contractor shall do all things necessary and proper to perfect and maintain ownership of such proprietary information by OCWD.

3.7 Ownership of Data, Reports and Documents. The Contractor shall deliver to OCWD's representative identified in Part I, at the end of the project, notes and surveys made, all reports of tests made, studies, reports, plans, a copy of electronic and digital files, and other materials and documents which shall be the property of OCWD. The Contractor is not responsible to third parties of OCWD's use of data, reports and documents on other projects. OCWD may use or reuse the materials prepared by Contractor in any manner desired without additional compensation to Contractor. Any work performed by Contractor under this Agreement shall be the property of OCWD.

3.8 Retention of Funds. Contractor hereby authorizes OCWD to deduct from any amount payable to Contractor (whether arising out of this Agreement or otherwise) any amounts the payment of which may be in dispute hereunder or which are necessary to compensate OCWD for any losses, costs, liabilities, or damages suffered by OCWD, and all amounts for which OCWD may be liable to third parties, by reason of Contractor's negligent acts, errors, or omissions, or willful misconduct, in performing or failing to perform Contractor's obligations under this Agreement. OCWD in its sole and absolute discretion, may withhold from any payment due Contractor, without liability for interest, an amount sufficient to cover such claim or any resulting lien. The failure of OCWD to exercise such right to deduct or withhold shall not act as a waiver of Contractor's obligation to pay OCWD any sums Contractor owes OCWD.

3.9 Termination By OCWD. OCWD reserves the right to terminate this Agreement at any time, with or without cause, upon written notice to Contractor. Upon receipt of any notice of termination from OCWD, Contractor shall immediately cease all services hereunder except such as may be specifically approved in writing by OCWD.

Contractor shall be entitled to compensation for all services rendered prior to receipt of OCWD's notice of termination and for any services authorized in writing by OCWD thereafter. If termination is due to the failure of Contractor to fulfill its obligations under this Agreement, OCWD may take over the work and prosecute the same to completion by contract or otherwise, and Contractor shall be liable to the extent that the total cost for completion of the services required hereunder, including costs incurred by OCWD in retaining a replacement Contractor and similar expenses, exceeds the Budget.

3.10 Right to Stop Work; Termination By Contractor. Contractor shall have the right to stop work only if OCWD fails to timely make a payment required under the terms of the Budget. Contractor may terminate this Agreement only for cause, upon thirty (30) days' prior written notice to OCWD. Contractor shall immediately cease all services hereunder as of the date Contractor's notice of termination is sent to OCWD, except such services as may be specifically approved in writing by OCWD. Contractor shall be entitled to compensation for all services rendered prior to the date notice of termination is sent to OCWD and for any services authorized in writing by OCWD thereafter. If Contractor terminates this Agreement because of an error, omission, or a fault of Contractor, or Contractor's willful misconduct, the terms of Section 3.9 relating to OCWD's right to take over and finish the work and Contractor's liability therefor shall apply.

3.11 Waiver. No delay or omission in the exercise of any right or remedy by a nondefaulting party on any default shall impair such right or remedy or be construed as a waiver. A party's consent to or approval of any act by the other party requiring the party's consent or approval shall not be deemed to waive or render unnecessary the other party's consent to or approval of any subsequent act. Any waiver by either party of any default must be in writing.

3.12 Legal Actions. Legal actions concerning any dispute, claim, or matter arising out of or in relation to this Agreement shall be instituted and maintained in the Superior Courts of the State of California in the County of Orange, or in any other appropriate court with jurisdiction in such County, and Contractor agrees to submit to the personal jurisdiction of such court.

3.13 Rights and Remedies are Cumulative. The rights and remedies of the parties are cumulative and the exercise by either party of one or more of such rights or remedies shall not preclude the exercise by it, at the same or different times, of any other rights or remedies for the same default or any other default by the other party.

3.14 Attorneys' Fees. In any action between the parties hereto seeking enforcement of any of the terms or provisions of this Agreement or in connection with the performance of the work hereunder, the party prevailing in the final judgment in such action or proceeding, in addition to any other relief which may be granted, shall be entitled to have and recover from the other party its reasonable costs and expenses, including but not limited to reasonable attorney's fees, expert witness fees and courts costs. If either party to this Agreement is required to initiate or defend litigation with a third party because of the violation of any term or provision of this Agreement by the

other party, then the party so litigating shall be entitled to its reasonable attorney's fees and costs from the other party to this Agreement.

3.15 Force Majeure. The time period specified in this Agreement for performance of services shall be extended because of any delays due to unforeseeable causes beyond the control and without the fault or negligence of OCWD or Contractor, including but not restricted to acts of God or of the public enemy, unusually severe weather, fires, earthquakes, floods, epidemics, quarantine restrictions, riots, strikes, freight embargoes, wars, litigation and/or acts of any governmental agency, including OCWD, if the delaying party shall within ten (10) days of the commencement of such delay notify the other party in writing of the causes of the delay. If Contractor is the delaying party, OCWD shall ascertain the facts and the extent of delay, and extend the time for performing the services for the period of the enforced delay when and if in the judgment of OCWD such delay is justified. OCWD's determination shall be final and conclusive upon the parties to this Agreement. In no event shall Contractor be entitled to recover damages against OCWD for any delay in the performance of this Agreement, however caused. Contractor's sole remedy shall be extension of this Agreement pursuant to this Section 3.15.

3.16 Non-liability of OCWD Officers and Employees. No officer, official, employee, agent, representative or volunteer of OCWD shall be personally liable to Contractor, or any successor in interest, in the event of any default or breach by OCWD, or for any amount which may become due to Contractor or its successor, or for breach of any obligation of the terms of this Agreement.

3.17 Conflict of Interest. No officer, official, employee, agent, representative or volunteer of OCWD shall have any financial interest, direct or indirect, in this Agreement, or participate in any decision relating to this Agreement which affects his or her financial interest or the financial interest of any corporation, partnership, or association in which he or she is interested, in violation of any Federal, State, or OCWD statute, ordinance, or regulation. The Contractor shall not employ any such person while this Agreement is in effect.

3.18 Compliance with California Unemployment Insurance Code Section 1088.8. If Contractor is a sole proprietor, then prior to signing the Agreement, Contractor shall provide to the OCWD a completed and signed Form W-9, Request for Taxpayer Identification Number and Certification. Contractor understands that pursuant to California Unemployment Insurance Code Section 1088.8, the OCWD will report the information from Form W-9 to the State of California Unemployment Development Department, and that the information may be used for the purposes of establishing, modifying, or enforcing child support obligations, including collections, or reported to the Franchise Tax Board for tax enforcement purposes.

#### SECTION FOUR: MISCELLANEOUS PROVISIONS

4.1 Records and Reports. Upon request by OCWD, Contractor shall prepare and submit to OCWD any reports concerning Contractor's performance of the services rendered under this Agreement. OCWD shall have access, upon reasonable notice, to

the books and records of Contractor related to Contractor's performance of this Agreement. All drawings, documents, and other materials prepared by Contractor in the performance of this Agreement (i) shall be the property of OCWD and shall be delivered at no cost to OCWD upon request of OCWD or upon the termination of this Agreement, and (ii) are confidential and shall not be made available to any individual or entity without prior written approval of OCWD. Contractor shall keep and maintain all records and reports related to this Agreement for a period of three (3) years following termination of this Agreement, and OCWD shall have access to such records upon 48 hours' notice.

4.2 Notices. Unless otherwise provided herein, all notices required to be delivered under this Agreement or under applicable law shall be personally delivered, or delivered by United States mail, prepaid, certified, return receipt requested, or by reputable document delivery service that provides a receipt showing date and time of delivery. Notices personally delivered or delivered by a document delivery service shall be effective upon receipt. Notices delivered by mail shall be effective at 5:00 p.m. on the second calendar day following dispatch. Notices to the OCWD shall be delivered to the following address, to the attention of the OCWD Representative set forth in Paragraph D.1 of the Fundamental Terms of this Agreement:

To OCWD                      Orange County Water District  
Representative:        P. O. Box 8300  
   Fountain Valley, CA 92728-8300

Invoices only shall be properly identified with the corresponding Agreement No. and sent to one of the following:

[apinvoices@ocwd.com](mailto:apinvoices@ocwd.com)

**OR** to the address shown below:

Orange County Water District  
Attention: Accounts Payable  
P. O. Box 20845  
Fountain Valley, CA 92728-0845

Notices to Contractor shall be delivered to the address set forth below Contractor's signature on Part I of this Agreement to the attention of Contractor's Representative set forth in Paragraph D.2 of the Fundamental Terms of this Agreement. Changes in the address to be used for receipt of notices shall be affected in accordance with this Section 4.2.

4.3 Construction and Amendment. The terms of this Agreement shall be construed in accordance with the meaning of the language used and shall not be construed for or against either party by reason of the authorship of this Agreement or any other rule of construction which might otherwise apply. The headings of sections and paragraphs of this Agreement are for convenience or reference only and shall not be construed to limit or extend the meaning of the terms, covenants and conditions of

this Agreement. This Agreement may only be amended by the mutual consent of the parties by an instrument in writing.

4.4 Severability. Each provision of this Agreement shall be severable from the whole. If any provision of this Agreement shall be found contrary to law, the remainder of this Agreement shall continue in full force.

4.5 Authority. The person(s) executing this Agreement on behalf of the parties hereto warrant that (i) such party is duly organized and existing, (ii) they are duly authorized to execute and deliver this Agreement on behalf of said party, (iii) by so executing this Agreement, such party is formally bound to the provisions of this Agreement, and (iv) the entering into this Agreement does not violate any provision of any other Agreement to which said party is bound.

4.6 Special Provisions. Any additional or supplementary provisions or modifications or alterations of these General Provisions shall be set forth in Part III of this Agreement ("Special Provisions").

4.7 Precedence. In the event of any discrepancy between Part I ("Fundamental Terms"), Part II ("General Provisions"), Part III ("Special Provisions"), Part IV ("Scope of Services"), and/or Part V ("Budget"), Part III shall take precedence and prevail over Parts I, II, IV and V; Part II shall take precedence and prevail over Parts I, IV and V; Part IV shall take precedence and prevail over Parts I and V; and Part V shall take precedence over Part I.

4.8 OCWD Contract Management Authority. The OCWD General Manager (or his or her duly authorized representative) shall have the authority to make approvals, issue interpretations, execute documents to implement or clarify this Agreement, waive provisions, and/or enter into certain amendments of this Agreement on behalf of OCWD so long as such actions do not result in any of the following: (a) an increase in the Budget set forth in Part V hereto, (b) a decrease in the scope of services without a corresponding reduction in the Budget, or (c) an increase in the risk of liability to OCWD. Such approvals, interpretations, waivers and/or amendments may include extensions of time to perform.

PART III  
SPECIAL PROVISIONS

A. The Contractor shall comply with the Insurance Requirements of Exhibit A, added in its entirety.

B. Prior to and as a condition of entering into an agreement for work scheduled herein on which it submits a proposal, the contractor shall provide the District with proof of the contractor's and all subcontractors' current registrations to perform public work pursuant to Labor Code Section 1725.5 effective March 1, 2015.

C. Effective January 1, 2016, all general contractors and subcontractors must submit certified payroll records to the Labor Commissioner using the Department of Industrial Relations' (DIR's) electronic certified payroll reporting (eCPR) system. It shall be the responsibility of each general contractor and subcontractor to comply with its obligation under this Section.

D. The contractor shall comply with the Prevailing Wage Requirements of Exhibit B, added in its entirety.

E. The contractor shall comply with the State Law Mandated Contract Provisions of Exhibit C.

F. The contractor shall comply with the Contractor Safety Program, a copy of which is appended as Exhibit D of this Agreement. Contractor shall also complete and submit the "Instructions for Contractors" forms (pages Nos. 1-4) Exhibit E with the executed Agreement to the District.

G. The Contractor must address environmental and regulatory issues, and any corresponding restrictions or requirements relating to Contractor's work.

H. Seasonal work constraints, either due to birds and other fauna, or water levels must be followed in accordance with Scope of Services, Section IV- C, Exhibit F.

I. Coordination with other activities of OCWD, its contractors or lessees in the area per Scope of Services, Section IV-D.

J. Project sign to be supplied, placed and maintained by Contractor for the duration of the project. See sign requirements attached hereto as Exhibit G.

K. Contractor shall use the most current health and safety procedures, equipment and protective clothing, and shall require that all employees or subcontractors performing services per this Agreement abide by all federal, state and local regulations regarding the safe application of pesticides or herbicides, and shall further require prior to commencing work on the tasks identified in Exhibit F, Scope of Services, that all of Contractor's employees and/or subcontractors that will perform the tasks listed in

Exhibit F have obtained the most up-to-date training on the proper and safe application of herbicides and pesticides that will be used by Contractor to accomplish the tasks in Exhibit F. Contractor will follow all federal, state and local regulations and recommended best practices related to all work required in Exhibit F, including mechanical and chemical vegetation removal methods and shall comply with all applicable safety practices/procedures required of OCWD contractors per Exhibits D and E of this Agreement. Contractor shall also consult with pertinent regulatory agencies and trade associations on the safest methods for applying pesticides and herbicides that may be required for Contractor to accomplish the tasks listed in Exhibit F.

L. Contractor will comply with all applicable grant requirements, including Labor Compliance. Attached hereto as Exhibit H is a copy of the Grant Agreement for reference.

M. Contractor will, where applicable, solicit bids and award work in a manner consistent with OCWD policies and other applicable state regulations and guidelines. Attached hereto as Exhibit I is an outline of the OCWD policies for the awarded work.

N. Environmental Analysis and Compliance with CEQA. Contractor shall ensure that all actions taken per the Agreement are consistent with the scope of actions approved in the Environmental Impact Report for the SARCCUP Project, including, but not limited to, all mitigation and monitoring obligations pertinent to the tasks identified in the Scope of Work in Exhibit F.

O. The removal of 240 acres and spray work on all 640 acres is expected to begin in Fall 2019, and spray to be continued for the duration of the contract period through 2021 or 2023 if a time extension is granted by DWR. Project spray work should take place two to three times per year as needed.

PART IV  
SCOPE OF SERVICES

A. Services shall be performed in accordance with the Scope of Services, attached hereto as Exhibit F.

PART V  
BUDGET

A. The total budget for Arundo Donax removal is \$3,728,898. Approximately \$2,000,000 is budgeted for work to be completed in Fall 2019 through June 2020. The remaining \$1,728,898 is budgeted for work to be completed in July 2020 through September 2023.

B. SAWA January 1, 2019 Billable Rates (updated 4/22/2019) is attached as Exhibit J.

C. The contractor shall submit an invoice following each of the removal and treatment cycles for the uncompensated work performed to date and shall provide sufficient details to support all payments under documentation requirements of prevailing wages. Payments are on a per acre treated basis or by terms agreed upon prior to commencement of work.

D. Any requirement for payment of obligated funds, under the terms of this agreement, shall be subject to the availability of the appropriated funds, payment of prevailing wages to whom appropriate, and required reporting of same.

# **EXHIBIT A**

## INSURANCE REQUIREMENTS

FOR

SAWA, AGREEMENT NO. 1369

The Contractor shall not commence work under this Contract until it has obtained the insurance required hereunder in a company or companies having an A.M. Best rating of A:VII and acceptable to the OCWD nor shall the Contractor allow any subcontractor to commence work on its subcontract until all insurance required herein of the Contractor has been obtained by such subcontractor.

The Contractor shall at the time of the execution of the Agreement present certificate(s) of insurance evidencing the coverage required by this agreement. Such evidence shall include a separate additional insured endorsement and other provisions required herein.

At least thirty (30) calendar days prior to the expiration of any such policy, a signed complete certificate of insurance, with all endorsements required herein, showing that such insurance coverage has been renewed or extended will be filed with the OCWD.

At the time of contract document preparation, efforts were made to include all known insurance requirements which would take place during the contract. It is possible additional insurance requirements may be made by another agency or government entity to provide additional insurance not included here. At the direction of the agency/entity, the Contractor shall comply and satisfy the additional insurance requirements.

The Contractor shall procure and maintain for the duration of the contract, and for five (5) years thereafter, insurance against claims for injuries or death to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees, or subcontractors.

Coverage shall be at least as broad as the following:

1. General Liability – Commercial General Liability (CGL) – Insurance Services Office (ISO) Commercial General Liability Coverage (Occurrence Form CG 00 01) including products and completed operations, property damage, bodily injury, personal and advertising injury with limit of at least five million dollars (\$5,000,000) per occurrence or the full per occurrence limits of the policies available, whichever is greater. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (coverage as broad as the ISO CG 25 03, or ISO CG 25 04 endorsement provided to the OCWD or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability – Insurance Services Office (ISO) Business Auto Coverage (Form CA 00 01) covering Symbol 1 (Any Auto) with limit of one million dollars (\$1,000,000) for bodily injury and property damage each accident.
3. Workers' Compensation Insurance – The Contractor shall provide Workers' Compensation coverage as required by the State of California, with Statutory

Limits, and Employer's Liability Insurance with limit of no less than \$1,000,000 per accident for bodily injury or disease.

Waiver of Subrogation (also known as Transfer of Rights of Recovery Against Others to Us) – The Contractor hereby agrees to waive rights of subrogation to obtain endorsement necessary to affect this Waiver of Subrogation in favor of the OCWD, its directors, officers, employees, and authorized volunteers, for losses paid under the terms of this coverage which arise from work performed by the Named Insured for the OCWD; this provision applies regardless of whether or not the OCWD has received a Waiver of Subrogation from the insurer.

4. Builder's Risk – (Course of Construction) is not required.
5. Contractor's Pollution Liability with limits of no less than \$5,000,000 per occurrence or claim, and \$10,000,000 policy aggregate.
6. Professional Liability is not required.

If the Contractor maintains broader coverage and/or higher limits than the minimums shown above, the OCWD requires and shall be entitled to the broader coverage and/or higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum of insurance and coverage shall be available to the OCWD.

Other Required Provisions – The Commercial General Liability policy and Contractor's Pollution (if necessary) are to contain, or be endorsed to contain, the following provisions:

1. Additional Insured Status – The OCWD, its directors, officers, employees, and authorized volunteers are to be given insured status (at least as broad as ISO Form CG 20 10 11 85 or if not available, through the addition of **both** CG 20 10 10 01 and CG 20 37 10 01) with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations. General Liability coverage can be provided in the form of an endorsement to the Contractor's insurance.
2. Primary Coverage – For any claims related to this project, the Contractor's insurance coverage shall be primary at least as broad as ISO CG 20 01 04 13 as respects to the OCWD, its directors, officers, employees, and authorized volunteers. Any insurance or self-insurance maintained by the OCWD, its directors, officers, employees, and authorized volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

Notice of Cancellation – Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to the OCWD.

Acceptability of Insurers - The Contractor agrees that it will comply with such provisions before commencing work. All of the insurance shall be provided on policy forms and through companies satisfactory to the OCWD. The OCWD reserves the right to obtain complete, certified copies of all required insurance policies, including the policy declarations page with endorsement number. Failure to continually satisfy the insurance requirements is a material breach of contract.

Deductibles and Self-Insured Retentions – Insurance deductibles or self-insured retentions must be declared by the Contractor and approved by the OCWD. At the election of the OCWD, the Contractor shall either cause the insurer to reduce or eliminate such self-insured retentions as respects the OCWD, its directors, officers, employees, and authorized volunteers or the Contractor shall provide a financial guarantee satisfactory to the OCWD guaranteeing payment of losses and related investigations, claim administration, and defense expenses. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or the OCWD.

Verification of Coverage – Evidence of Insurance – The Contractor shall furnish the OCWD with copies of certificates and amendatory endorsements effecting coverage required by this Contract. All certificates and endorsements are to be received and approved by the OCWD before work commences. However, failure to obtain the required documents prior to the working beginning shall not waive the Contractor’s obligation to provide them. The OCWD reserves the right to require complete, certified copies of all required insurance policies, including policy Declaration pages and Endorsement pages, required by these specifications, at any time. Failure to continually satisfy the insurance requirements is a material breach of contract.

Continuation of Coverage – The Contractor shall, upon demand of the OCWD deliver evidence of coverage showing continuation of coverage for at least five years after completion of the project. Contractor further waives all rights of subrogation under this agreement. When any of the required coverages expire during the term of this agreement, the Contractor shall deliver the renewal certificate(s) including the General Liability Additional Insured endorsement and evidence of Waiver of Rights of Subrogation against the OCWD (if Builder’s Risk Insurance is applicable) to OCWD at least ten days prior to the expiration date.

Subcontractors – In the event that the Contractor employs other contractors (subcontractors) as part of the work covered by this agreement, it shall be the Contractor’s responsibility to require and confirm that each subcontractor meets the minimum insurance requirements specified above (via as broad as ISO CG 20 38 04 13). The Contractor shall, upon demand of the District, deliver to the OCWD copies of such policy or policies of insurance and the receipts for payment of premiums thereon.

Note 1: Any combination of a minimum \$1,000,000 per occurrence General Liability and Excess Liability to meet the \$5,000,000 total may be accepted.

Note 2: The General Liability and/or Automobile Liability coverage shall include mobile equipment.

Note 3: All insurance terms provided by the Contractor for this contract are subject to approval and acceptance by the OCWD.

Note 4: The OCWD, its directors, officers, employees, authorized volunteers, shall be named, by separate endorsement, as additional insured on the policy and any other named additional insured as deemed necessary.

Note 5: Contract Name and/or Contract Number shall be indicated on insurance certificate.

# **EXHIBIT B**

## PREVAILING WAGE REQUIREMENTS

- A. CONTRACTOR hereby expressly acknowledges and agrees that OCWD has never previously affirmatively represented to CONTRACTOR, its employees or agents in writing or otherwise that the work to be covered under this Agreement is not a "public work," as defined in Section 1720 of the Labor Code. It is agreed by the parties that, in connection with the development, construction (as defined by applicable law) and operation of the project, including, without limitation, any public work (as defined by applicable law), if any, CONTRACTOR shall bear all risks of payment or non-payment of state and/or federal prevailing wages and/or the implementation of Chapter 804, Statutes of 2003 and/or Labor Code Sections 1726 and 1781, as the same may be enacted, adopted or amended from time to time, and/or any other provision of law. To the extent applicable, OCWD will enforce all penalties required by law for CONTRACTOR's failure to pay prevailing wages.
- B. Labor Code of California. The CONTRACTOR's attention is directed to Division 2, Part 7, Chapter 1 of the Labor Code of the State of California and especially to Article 2 (Wages); and Article 3 (Working Hours), thereof.
1. In accordance with Section 1773 of the Labor Code, the Board of Directors of the District has found and determined the general prevailing rates of wages in the locality in which the public Work is to be performed are those contained in that certain document entitled PREVAILING WAGE SCALE, copies of which are maintained at the District's principal office, and are available to any interested party on request. CONTRACTOR shall post a copy of said document at each job site.
  2. The CONTRACTOR is aware of and will comply with the provisions of Labor Code Section 1776, including the keeping of payroll records and furnishing certified copies thereof in accordance with said section. Pursuant to Labor Code Section 1771.4, the CONTRACTOR must submit certified payroll records to the Labor Commissioner using the Department of Industrial Relations' (DIR's) electronic certified payroll reporting (eCPR) system. If required by the Special Provisions, the CONTRACTOR shall also submit certified payrolls to the Engineer, including certified payrolls for all Subcontractors, at any tier, performing work on the site, regardless of the dollar amount or type of subcontract, on a weekly basis. If by the 15th of the month, the CONTRACTOR has not submitted satisfactory payrolls for all work performed during the monthly period ending on or before the 1st of that month, the District will retain an amount equal to ten

(10%) percent of the estimated value of the Work performed during the month from the next monthly estimate. Retention for failure to submit satisfactory payrolls shall be additional to all other retention provided for in the Contract.

3. Pursuant to Labor Code Section 1810 it is stipulated hereby that eight (8) hours labor constitutes a legal day's work hereunder.
  4. Pursuant to Labor Code Section 1815, work performed by employees of contractors in excess of eight (8) hours per day, and 40 hours during any one week, shall be permitted upon public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than 1 ½ times the basic rate of pay.
  5. Pursuant to Labor Code Section 1813, it is stipulated hereby that the CONTRACTOR shall, as a penalty to the District, forfeit \$25 for each worker employed in the execution of this Contract by the CONTRACTOR or by any subcontractor hereunder for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one (1) calendar week in violation of the provisions of Article 3 (commencing with Section 1810), Chapter 1, Part 7, Division 2 of the Labor Code.
  6. The CONTRACTOR is aware of and will comply with the provisions of Labor Code Sections 1777.5 and 1777.6 with respect to the employment of apprentices. Pursuant to Section 1777.5 it is hereby stipulated that the CONTRACTOR will be responsible for obtaining compliance therewith on the part of any and all subcontractors employed by him or her in connection with this Contract.
  7. Pursuant to Labor Code Section 1775, it is hereby stipulated that the CONTRACTOR shall, as a penalty to District, forfeit not more than \$200 for each calendar day, or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of the Department of Industrial Relations for the work or craft in which the worker is employed for the Work under the contract by CONTRACTOR or by any subcontractor under the CONTRACTOR.
- C. Pursuant to Labor Code section 1771.1, no contractor or subcontractor may be listed on a bid proposal for a public works project submitted on or after

March 1, 2015 unless registered with the Department of Industrial Relations. Furthermore, Contractor is hereby notified that no contractor or subcontractor may be awarded, on or after April 1, 2015, a contract for public work on a public works project unless registered with the Department of Industrial Relations.

Pursuant to Labor Code section 1771.4, Contractor is hereby notified that this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations

# **EXHIBIT C**

## STATE LAW MANDATED CONTRACT PROVISIONS

- A. **Licenses.** The CONTRACTOR shall be properly licensed and shall not employ a subcontractor who is debarred pursuant to Labor Code Sections 1777.1 and 1777.7.
- B. **Assignment of Rights.** By entering into this Agreement, the CONTRACTOR offers and agrees to assign to OCWD all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Agreement. This assignment shall be made and become effective at the time that OCWD tenders final payment to the CONTRACTOR, without further acknowledgment by the parties.
- C. **Trenches.**
1. If the CONTRACTOR is required to dig a trench or other excavation that extends deeper than four feet below the surface, CONTRACTOR shall promptly, and before the following conditions are disturbed, notify OCWD of the following:
    - a. Material that the CONTRACTOR believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code, that are required to be removed to a Class I, Class II or Class III disposal site in accordance with provisions of existing law;
    - b. Subsurface or latent physical conditions at the site differing from those indicated; and
    - c. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the agreement.
  2. Upon notice, if OCWD determines after an investigation that the conditions do materially differ, or do involve hazardous waste, and cause a decrease or increase in the CONTRACTOR's cost of, or the time required for, performance of any part of the work, OCWD may issue a change order to reflect the differing conditions.
    - a. For all Agreements involving an expenditure of \$25,000 or more where an excavation of any trench five feet or more in depth is expected, the CONTRACTOR shall submit a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of trenches. If such plan varies from the shoring system standards, the plan shall be prepared by a registered civil or

structural engineer. The project shall not proceed unless OCWD or a registered civil or structural engineer, employed by OCWD, to whom authority to accept has been delegated, approves such plan.

**D. Excavation Requirements.**

1. CONTRACTOR shall promptly, and before the following conditions are disturbed, notify OCWD, in writing, of any:
  - a. Material that the CONTRACTOR believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
  - b. Subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.
  - c. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.
2. OCWD shall promptly investigate any aforementioned reported conditions and, if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the CONTRACTOR's cost of, or the time required for, performance of any part of the work, then OCWD shall issue a change order under the procedures described in the Contract Documents to reflect the increase or decrease in cost.
3. In the event that a dispute arises between OCWD and the CONTRACTOR whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the CONTRACTOR's cost of, or time required for, performance of any part of the work, the CONTRACTOR shall not be excused from any scheduled completion date provided in the Contract Documents, but shall proceed with all work to be performed. The CONTRACTOR shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

**E. Third Party Claims.** Both OCWD and CONTRACTOR agree that each shall notify the other party upon receipt of any third-party claim relating to the project.

**F. Retention of Securities.** The CONTRACTOR may substitute securities for any monies withheld by OCWD to ensure performance under this Agreement.

**G. Enforcement of Wage Laws.** The statutory provisions for penalties for failure to pay prevailing wages, if applicable, and for failure to comply with all applicable wage and hour laws will be enforced by OCWD.

- H. **Relocation of Utilities.** CONTRACTOR shall be compensated on the same basis and as it is being paid under this Agreement for the costs of locating, repairing damage not due to the failure of the CONTRACTOR to exercise reasonable care, and removing or relocating such utility facilities not indicated in the plans and specifications with reasonable accuracy, and for equipment on the project necessarily idled during such work. CONTRACTOR shall not be assessed liquidated damages for delay in completion of the project, when such delay was caused by the failure of OCWD or the owner of the utility to provide for removal or relocation of such utility.
- I. **Resolution of Payment Disputes.** CONTRACTOR agrees to release all claims for non-disputed payments in accordance with the provisions of Civil Code Section 3262.
- J. **Child and Family Support.** CONTRACTOR acknowledges the importance of child and family support obligations and shall fully comply with all applicable state and federal laws relating to child and family support enforcement, including, but not limited to, disclosure of information and compliance with earnings assignment orders, as provided in Chapter 8 (commencing with Section 5200) of Part 5 of Division 9 of the Family Code. CONTRACTOR further acknowledges that, to the best of its knowledge, it has fully complied with the earnings assignment order of all employees and has provided the names of all new employees to the New Hire Registry maintained by the Employment Development Department, regardless of what agency grants the funds.
- K. **Contractor Claims.** All disputes relating to CONTRACTOR payments or extension of time arising out of or in relation to this Agreement shall be determined in accordance with this Section.
1. For purposes of this section only, the term "Claim" shall mean a separate demand by the CONTRACTOR, on behalf of itself or a subcontractor, sent to the District by registered or certified mail with return receipt requested, with reasonable documentation to support the Claim, for one or more of the following:
    - a. A time extension, including without limit, for relief from damages or penalties for delay assessed by the District.
    - b. Payment by the District of money or damages arising from work done by, or on behalf, the CONTRACTOR and payment for which is not otherwise expressly provided or for which the CONTRACTOR has not otherwise entitled.
    - c. Payment of an amount that is disputed by the District.
  2. The CONTRACTOR shall submit a Claim to the District, and furnish all Claim documentation, no later than forty five (45) days after the event or situation causing or giving rise to the Claim, unless a different deadline is otherwise stated in the Contract or in law for such claim. A notarized False Claim certification, in accordance with Paragraph 10 below, must be

filed with the Claim. Failure by the CONTRACTOR to submit a Claim and furnish the required False Claim certification and Claim documentation within the time set forth above shall constitute waiver of the CONTRACTOR's right to compensation or extra time for such Claim.

3. Claim documentation shall conform to Generally Accepted Accounting Principles and shall be in the following format:
  - a. General Introduction.
  - b. General Background Discussion.
  - c. Issues.
    - 1) Index of Issues (listed numerically).
    - 2) For each issue:
      - (a) Background.
      - (b) Chronology.
      - (c) Contractor's position (reason for District's potential liability).
      - (d) Supporting documentation of merit or entitlement.
      - (e) Supporting documentation of damages.
      - (f) Begin each issue on a new page.
  - d. All critical path method schedules, both as-planned, monthly updates, schedule revisions, and as-built along with the computer disks of all schedules related to the claim.
  - e. Productivity exhibits (if appropriate).
  - f. Summary of Issues and Damages.
4. References, photocopies, or explanation shall cite supporting documentation of merit for each issue. Supporting documentation may include, but shall not be limited to, general conditions; general requirements; technical specifications; drawings; correspondence; conference notes; shop drawings and submittals; shop drawing logs; survey books; inspection reports; delivery schedules; test reports; daily reports; subcontracts; fragmentary CPM schedules or time impact analyses; photographs; technical reports; requests for information; field instructions; and all other related records necessary to support the CONTRACTOR's claim.
5. Supporting documentation of damages for each issue shall be cited, photocopied, and explained. Supporting documentation may include, but shall not be limited to, any or all documents related to the preparation and submission of the bid; certified, detailed labor records including labor distribution reports; material and equipment procurement records; construction equipment ownership cost records or rental records; subcontractor or vendor files and cost records; service cost records;

purchase orders; invoices; project as-planned and as-built cost records; general ledger records; variance reports; accounting adjustment records; and any other accounting materials necessary to support the CONTRACTOR's Claim.

6. Upon receipt of a Claim, the District shall conduct a reasonable review of the Claim and, within 45 days, provide the CONTRACTOR with a written statement identifying what portion of the Claim is disputed and what portion is undisputed. The District and the CONTRACTOR may, by mutual agreement, extend the time period for the District's administrative review of the Claim. The District shall pay to the CONTRACTOR any undisputed portion of the Claim within 60 days after issuing its written statement.
7. If the CONTRACTOR disputes the District's written response, or if the District fails to respond to a Claim within the 45-day time period, the CONTRACTOR may transmit a written demand, by registered or certified mail, return receipt requested, for an informal conference to meet and confer for settlement of the issues in dispute. The District shall schedule a meet and confer conference within 30 days of its receipt of the written demand. Within 10 business days following the conclusion of the meet and confer conference, if any portion of the Claim remains in dispute, the District shall provide the CONTRACTOR a written statement identifying the portion of the Claim that remains in dispute, and the portion that is undisputed. The District shall make payment on any portion of the Claim that is undisputed within 60 days after issuing its written statement.
8. In the event that any portion of the Claim remains in dispute, the CONTRACTOR may, by written notice to the District, submit any disputed portion of the Claim to non-binding mediation (including, but not limited to, non-binding neutral evaluation or a dispute review board) with the District and CONTRACTOR sharing the costs equally. The District and the CONTRACTOR shall mutually agree to a mediator within 10 business days after the District receives the CONTRACTOR's written demand for mediation. If the District and CONTRACTOR are unable to agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim.
9. In the event that any portion of the Claim remains in dispute following the conclusion of the non-binding mediation, the CONTRACTOR may file a claim pursuant to Government Code Section 900, *et seq.*, as a prerequisite to filing suit. The running of the period of time within which a claim must be filed under Government Code Section 900, *et seq.*, shall be tolled from the time the CONTRACTOR submits the Claim until the conclusion of the non-binding mediation.
10. A notarized certificate containing the following language shall accompany each Claim submitted by the CONTRACTOR:

Under the penalty of law for perjury or falsification and with specific reference to the California False Claims Act, Government Code Section 12650 the undersigned,

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Company)

hereby certifies that the claim for the additional compensation and time, if any, made herein for the work on this Contract is a true statement of the actual costs incurred and time sought, and is fully documented and supported under the Contract between the parties.

**(Attach California All-purpose Acknowledgement form to certification)**

**Failure to submit the notarized certificate will be cause for denying the claim.**

11. Should the CONTRACTOR be unable to support any part of the Claim and it is determined that such inability is attributable to falsity of such certification or misrepresentation of fact or fraud on the part of the CONTRACTOR, the CONTRACTOR shall be liable to the District as provided for under California Government Code Section 12650.

# **EXHIBIT D**



# **Contractor Environmental Health & Safety (EHS) Handbook**

Orange County Water District  
18700 Ward Street  
Fountain Valley, CA 92708

**ATTENTION: Orange County Water District (OCWD) Contractors**

This handbook is designed to help you understand and comply with OCWD's Contractor Safety requirements.

This handbook is not intended to replace Federal, State or Local regulations regarding Contractor performance. Contractor shall keep itself fully informed of all existing and future state and federal laws and all county and city ordinances and regulations which in any manner affect the activities of Contractor and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. Contractor shall at all times observe and comply with all such existing laws, ordinances, regulations, orders and decrees, and shall protect and indemnify OCWD, its officers, directors, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree.

Your full support and cooperation are required to comply with all the regulations including those contained in this handbook. References to "contractor" shall also include subcontractors, vendors, consultants and the like. OCWD reserves the right to change or waive the policies and provisions herein contained, at any time at its discretion.

Questions regarding OCWD Contractor Safety Program should be directed to your project manager.

Thank You For Your Cooperation.

OCWD Management

**This handbook is not intended to replace Federal, State or Local regulations regarding Contractor performance**

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XXI.	CONTRACTOR'S ENVIRONMENTAL HEALTH & SAFETY (EHS) AGREEMENT	

## I. CONTRACTOR SAFETY REVIEW

Prior to initiating any contract work at any OCWD facility, contractors must:

- Agree to follow the requirements set forth herein and all additional applicable Federal, State and local safety and environmental rules, regulations, ordinances and the like.
- Complete a Safety Review Process (to include pre-work orientation). OCWD Project Manager and Risk & Safety will evaluate the information and forms for approval to perform work at OCWD.

## II. SECURITY

**Trespassing:** Contractors, sub-contractors and their employees must confine themselves to the immediate site of their work, except when traveling between site and entrance or other places where they may have proper business.

**Parking / Motor Vehicles / Deliveries:** Contractor employees are permitted to park only in designated areas. The on-site speed limit is 15 miles per hour. All traffic signs must be obeyed. Pedestrians have the right-of-way. Contractors must arrange with the OCWD representative for the on-site delivery of materials, equipment and tools required for work performance. Contractors must obtain permission from the OCWD representative prior to using loading docks and platforms.

**Alcoholic Beverages / Illegal Drugs:** Alcoholic beverages and illegal or controlled drug substances are strictly prohibited on all OCWD premises.

**Firearms / Explosives:** Firearms and ammunition are not permitted on OCWD property. Explosive power tools are permitted with prior written approval from OCWD Project Manager. Only employees who have been trained in the operation of the particular tool in use shall be allowed to operate a powder-actuated tool.

**Emergency Alarms and Evacuation Routes:** Contractors need to review the site evacuation map with the project manager and communicate the information to their staff.

**Contractors Equipment:** Contractors will supply all equipment, which will be maintained in good operating condition, for work required by the project. A contractor is not permitted to use forklift equipment, ladders, tools, etc. owned by OCWD.

### **III. EMERGENCY PROCEDURE**



Emergencies that require a 911 call must be followed by a call to our internal emergency line for notification and building/area access for emergency personnel. OCWD's internal emergency line is extension 3300 from an OCWD internal phone or 714-378-3300 from a cell phone.

When the fire alarm sounds leave the building by the nearest safe exit and go to the designated assembly area to report your presence so you can be accounted for. Do not re-enter the building until the "All Clear" has been given by emergency personnel.

### **IV. GENERAL DRESS AND CONDUCT**

Contractor personnel will wear suitable clothing consistent with facility requirements. Shorts, tank tops, sandals and open toed shoes are not permitted.

Contractor personnel will behave in a mature and professional manner. Horseplay, foul language, fighting, or harassment of any kind will not be tolerated.

### **V. FOOD, BEVERAGES AND DRINKING WATER**

Not all water systems at OCWD facilities are potable or suitable for drinking. Contractor personnel shall not drink from any non-potable sources. Water obtained from drinking fountains, bottled water sources and fresh water dispensing units are acceptable.

Contractor shall provide its own water to employees as required by the Heat Illness Prevention Program.

Eating is permitted in vending areas, lunchrooms and designated areas. Food and drinks are not allowed in laboratory areas at any time.

## VI. SMOKING



**NO SMOKING**

Smoking (including cigarettes, pipes, cigars, electronic cigarettes, vaporizers, and vape pens) is not permitted in any buildings, facilities, vehicles, or any other indoor work area, under any circumstances. Smoking shall also be prohibited within 20 feet of entryways and windows of buildings and facilities leased or owned by the District as well as within 50 feet of all confined spaces (i.e. sewers, manholes, sewer lift stations, vaults, reservoirs, etc.) *Cal/OSHA, §5148. Prohibition of Smoking in the Workplace.*

## VII. HOUSEKEEPING

Contract personnel must maintain proper housekeeping practices while onsite. At the end of each day, contractors must remove all rubbish, equipment, tools and machinery and leave the area clean. OCWD will provide a designated location to set up trailers, craft equipment and materials. These areas must be kept clean and orderly. All materials and equipment, including tools and tool boxes, are to be stored within the areas designated by OCWD representatives.

Refuse burning and/or open fires are prohibited.

Do not mix contractor generated waste with OCWD facility waste.

Contractors are required to cover and/or use plastic barriers, e.g., Visqueen, as appropriate, to protect sensitive computer, laboratory, and other equipment, furniture, flooring, and office areas where dust, dirt, debris, etc. can be generated from work activities involving ceiling tiles, drywall, flooring, saw cutting, jack-hammering and the like.

When generating dust indoors, (e.g. jackhammering, abrasive blasting, etc.) contractors must provide air filtration system or similar ventilation system to pull dust away from workers and occupied areas (similar to asbestos negative pressure ventilation).



## **VIII. UTILITIES AND SERVICES**

Contractors must never dispose of paints, acids, caustics, cleaning agents, grease, or any other hazardous material down sinks, floor drains or storm drains.

All spills must be reported to the Risk & Safety Department immediately.

Contractors are not permitted to make connections to site electric, water, wastewater, steam, compressed air or other plant utilities without approval from the OCWD Project Manager.

No water may be used from any fire hydrants, fire standpipes or risers, or hose stations for any purpose other than to fight a fire.

New or modified electrical / plumbing and utility circuits must be identified and tagged. Prints are to be updated as any changes occur.

Electrical power, steam, water (hot, cold, chilled, etc.), natural gas, vacuum, etc. shall not be shut off to any equipment, machinery or other services without approval from the Project Manager.

## **IX. RISK & SAFETY INSTRUCTIONS**

OCWD has developed safety procedures to protect our employees, visitors, contractors, community, facilities and the environment. Upon request, Contractors can be provided with in-house safety procedures applicable to their work. For further clarification on any of these rules or if requirements are not fully understood, contractors must contact the OCWD Project Manager or Risk & Safety Department.

OCWD site will be considered multi-employer site per Cal OSHA §336.10 and all contractors and subcontractors will be held accountable for safety of their own employees as well as OCWD employees. No shortcuts will be tolerated and we expect full cooperation from our contractors when it comes to safety compliance.

Safety policies and procedures must be followed at all times without exception. Safety concerns shall be reported directly to the OCWD Project Manager who must consult the Risk & Safety Department to resolve potential hazards or outstanding safety concerns and issues.

All work related injuries, illnesses, accidents and/or incidents must be reported to the OCWD Project Manager and to the Risk & Safety Department immediately.

## **X. SAFETY EQUIPMENT**

Contractor's employees should use eyewash and safety showers in applicable emergency situations.

Obey all OCWD safety signs and hazard warnings including the use of safety

glasses/goggles in designated areas. Signs are posted for everyone's safety.

The use of appropriate signs (i.e., danger, wet floor, etc.) is mandatory where hazards exist to communicate and prevent accidents & injuries.

All overhead work must be roped off. Planking and scaffolds must be secured safely.

All open ditches, trenches, excavations, potholes and the like must be marked by barriers and signs.

Contractors must not remove any safety equipment (fire exit signs, fire extinguishers, safety mirrors, railings, chains, etc.) without prior approval from the Risk & Safety Department.

All ladders must meet the applicable regulatory requirements. Metal ladders are not to be use for electrical work or stored near electrical panels. It is prohibited for anyone to stand on the top two steps of any ladder.

## **XI. CUTTING, WELDING AND HOT WORK**



A hot work permit must be obtained and signed daily from the Maintenance Department (or Control Room supervisor for after-hour/weekend work) for burning, welding, cutting, brazing, soldering and other work involving open flame or an electric arc per OCWD Fire Prevention Plan.

The permitted Hot Work area must be prepared and checked by the contractor prior to any welding and/or burning being performed. Inspection of the area should at a minimum include removing all combustible material from the area.

Proper safety equipment must be worn in the Hot Work process.

Fire watch must be performed by the contractor after the Hot Work and inspected by OCWD Maintenance Department or OCWD Inspector. Hot Work Permits must be returned to the Maintenance Department for fire watch signoff.

Hot Work Permits must be returned to the Maintenance Manager or designee for fire watch signoff and final checkup.

A Class ABC fire extinguisher **MUST** be nearby when there is Hot Work being performed.

*Cal/OSHA, § 4848. Fire Prevention in Welding and Cutting*

*Cal/OSHA § 6777, Hot Work Permits*

*Cal/OSHA §1537. Welding, Cutting, and Heating of Coated Metals*

*Cal/OSHA § 1536. Ventilation Requirements for Welding, Brazing, and Cutting*

## **XII. CONFINED SPACES**



Contractor personnel are not permitted to enter any confined space at OCWD until approved by the OCWD Project Manager. Contractors are required to provide a copy of the following prior to entering Confined Spaces:

- Training documentation for those entering confined spaces
- Copy of completed entry permit

The OCWD Project Manager or designee will inform the contractor about known hazards of the confined space.

Contractor is required to inform the OCWD Project Manager of any hazards confronted or created in the confined space.

Confined Space Entry PERMIT and MONITORING must be completed prior to entry.

Permit-Required Confined Spaces means a confined space that has one or more of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere;
- Contains a material that has the potential for engulfing an entrant;
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or contains any other recognized serious safety or health hazard.

Examples of permit required confined space include but not limited to: tanks, manholes, vaults, pipes, and secondary containment pits.

*Cal/OSHA §5157. Permit-Required Confined Space.*

### XIII. ROOF AND ELEVATED SURFACE WORK



No access to the roof is allowed without the OCWD Project Manager or the Maintenance Manager notice. No smoking is allowed on the roof. Communication such as a two way radio or cell phone is required. Contract employees are not allowed to work near unguarded skylights without fall prevention equipment.

- *Article 16. Standard Railings (Cal/OSHA Construction Safety Orders 1620 - 1621)*
- *Article 19. Floor, Roof and Wall Openings (Cal/OSHA Construction Safety Orders 1632 - 1633)*
- *Article 21. Scaffolds - General Requirements (Cal/OSHA Construction Safety Orders 1635.1 1637)*
- *Article 22. Scaffolds - Various Types (Cal/OSHA Construction Safety Orders 1640 - 1655)*
- *Article 24. Fall Protection (Cal/OSHA Construction Safety Orders 1669 - 1672)*
- *Article 2. Standard Specifications (Cal/OSHA General Industry Safety Orders, 3209 – 3239).*

### XIV. LOCKOUT / TAGOUT



Contractor personnel must comply with all requirements of the OCWD Lockout / Tagout procedure when working on any system with potential energy from any source (electric, mechanical, hydraulic, steam, etc.).

OCWD designated Operations personnel, will place their lock first and will be the last person to remove their lock during a lockout process involving contractors. All contractors and personnel working on a locked out system must have their own locks. All locks must be applied for all workers and the system not restarted until the last lock is removed. It is forbidden for anyone to remove another person's lock.

*CAL/OSHA §3314. The Control of Hazardous Energy for the Cleaning, Repairing, Servicing, Setting-Up, and Adjusting Operations of Prime Movers, Machinery and Equipment, Including Lockout/Tagout.*

## XV. COMPRESSED GASES



Contractor personnel must comply with all requirements for identifying, storing and safely using cylinders of compressed gases (air, oxygen, helium, acetylene, argon, hydrogen, nitrogen, liquid nitrogen, etc.). Free standing gas cylinders (unsecured) are not allowed on site. All gas cylinders must be used, stored and secured properly (i.e. chained, strapped)

*Cal/OSHA §4650. Storage, Handling, and Use of Cylinders and Compressed Gases.*

## XVI. ASBESTOS



Contractors are prohibited from using any materials, supplies, or other objects that contain or may potentially contain asbestos or asbestos fibers.

Contractors who identify materials that are suspected of containing asbestos must immediately stop work and notify the OCWD Project Manager.

*CAL/OSHA §1529. Asbestos.*

## XVII. FIRE PROTECTION



Self-closing safety cans with flame arrestors must be used with all flammable liquid of 5 gallons or more.

Fire protection and emergency equipment (fire extinguishers, pull alarms, exits, hydrants, etc.), must not be blocked with materials and equipment.

The use of portable gasoline-powered equipment within OCWD buildings and on the roofs of OCWD buildings is prohibited.

Approval from the OCWD Risk & Safety Department is required before temporarily obstructing roadways that could block the movement of emergency equipment, plant vehicles or agency (fire trucks, ambulances, police cars, etc.)

*CAL/OSHA §3221. Fire Prevention Plan*

## XVIII. HAZARD COMMUNICATION



Contractors must provide Safety Data Sheets (SDS) of all chemicals that will be brought onsite to the Risk & Safety Department. Contractors must inform the OCWD Project Manager of any hazardous conditions which might arise in the performance of their job.

Safe chemical handling procedures must be used by contractor personnel to ensure exposure levels remain safe for all OCWD employees.

Personal Protective Equipment (PPE) specified and recommended in the SDS should be worn properly at all times the chemical(s) is in use.

*CAL/OSHA §5194. Hazard Communication*

## XIX. PROTECTIVE CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT (PPE)



Contractor personnel will use PPE required for the job (e.g. eye protection with side shields, goggles, welding helmet, hearing protection, hard hats, and safety shoes, etc.). PPE will be worn in all posted areas or whenever hazards associated with the task being performed warrant further protection. Eye protection must always be worn when using hand or power tools and when working with chemicals.

Contractors are responsible for supplying their workers with the required PPE while performing work at OCWD.

*CAL/OSHA §3380. Personal Protective Devices*

BASIC SAFETY INSPECTION	Y	N/A
<b>Eye protection</b> worn when working with power tools and when possible contact with flying particles, hazardous substances, projections or injurious light rays and in designated areas (i.e. lab).	X	
<b>Hard Hats</b> worn in construction areas and where there is a potential for falling objects.	X	
<b>Proper Attire</b> worn (e.g. long pants and sturdy shoes or safety shoes) in required areas/construction sites.	X	
<b>Hearing Protection</b> worn in required areas or when noise is at or above 85 dB.	X	
<b>Emergency Equipment &amp; Exits</b> are not blocked and easily accessible in case of an emergency.	X	
<b>Aisles and Floors</b> are kept free of obstruction that can cause slip, trip, & falls (e.g. cords, tools, equipment).		X
Tools are put away and stored properly after usage.	X	
<b>Safety Data Sheets</b> provided for hazardous chemicals brought onsite.	X	
<b>Hazardous Materials</b> are clearly labeled in compliance with Hazard Communications & GHS requirements.	X	
<b>Safety Signs and Barriers</b> used as required.	X	
<b>Protection of OCWD Property &amp; Equipment</b> during work (e.g. computers covered properly).		X
<b>Proper housekeeping</b> maintained; area cleaned up at end of shift.	X	
<b>Required Permits</b> available (i.e. Hot Works, Confined Space).	X	
<b>No live Electrical Work</b> without I&E Manager approval.	X	
<b>Lockout/Tagout</b> specific procedure available and followed.		X
<b>Confined space</b> permit and monitoring completed prior to entry into confined space.		X
<b>Asbestos</b> containing materials are not brought onsite.		X
Contractor employees are informed on OCWD <b>emergency process &amp; notification</b> . Workers calling 911 must also call OCWD's emergency number: (714) 378-3300 to notify.	X	
<b>Evacuation is required</b> when the fire alarm is activated. Roll call will be conducted at the assembly area.		X
Immediate Notification to OCWD project manager if FM-200 alarm is activated.		X
Use of <b>Portable Gasoline-Powered Equipment</b> within and on the roofs of OCWD buildings is strictly <b>Prohibited</b> .		X
<b>Gas cylinders</b> used, transported & stored properly (on carts & properly strapped to prevent tipping).	X	
<b>Self-Closing Safety Cans</b> with flame arrestors used for 5 gallons or more of <b>Flammable liquids</b> .	X	
<b>Working at Heights</b> (unprotected/unguarded above 48 inches) appropriate fall protection/guarding to protect against falls.		X
Ladders inspected & used properly. <b>NO Standing or working on the top cap or the step below the top cap of a stepladder.</b>		X
<b>Excavation/Trenching</b> permit for excavation 5 feet or deeper.		X
<b>Powered Industrial Vehicle</b> operator's pre-use inspection completed and available upon request.		X
<b>Crane operators</b> trained/certified as required.		X
<b>Traffic Control</b> work comply with Cal/OSHA and Cal Trans requirements. This includes proper work zone set up and high visibility safety apparel for workers.		X
Other:		

**NOTE:** *These are NOT intended to replace Federal, State, Local laws or Ordinances and Regulations regarding Contractor Environmental Health & Safety (EHS) performance. All work in areas where there is imminent danger to employees will cease until the dangerous condition is removed.*


## CONTRACTOR'S ENVIRONMENTAL HEALTH & SAFETY AGREEMENT

I have read the information stated in the OCWD's Contractor Environmental Health & Safety Handbook. I understand that the information provided covers brief highlights of the OCWD's safety programs. It is my responsibility to review the updated programs and communicate the safety information & requirements to my employees.

I understand that the Contractor's Environmental Health & Safety Handbook is not intended to replace Federal, State or Local regulations regarding Contractor performance. Contractor shall keep itself fully informed of all existing and future state and federal laws and all county and city ordinances and regulations which in any manner affect the activities of Contractor and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. Contractor (including contractor employees and subcontractors) shall at all times observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees, and shall protect and indemnify OCWD, its officers, directors, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree.

Contractor Company Santa Ana Watershed Assoc.

Contractor Name & Title  
(Please Print): Brian J. Brady, Executive Director

Contractor Signature: 

Date: 8/12/19

FORWARD A SIGNED COPY OF THE CONTRACTOR'S AGREEMENT PAGE TO RISK & SAFETY DEPARTMENT

# **EXHIBIT E**

## SAFETY REQUIREMENTS

In the performance of this contract, The Contractor shall comply with all applicable federal, state and local statutory and regulatory requirements including, but not limited to California Department of Industrial Relations (Cal/OSHA) regulations; and the U.S. Department of Transportation Omnibus Transportation Employee Testing Act, related to their scope of work and operations. In case of conflict in regulations, the most stringent shall apply. The Contractor shall provide all safeguards, safety device and protective equipment and take any other needed actions necessary to protect the life and health of employees on the job and the safety of the public, and to protect property in connection with the performance of the work covered by the contract. Safety precautions shall include but shall not be limited to: adequate life protection and life-saving equipment; adequate illumination; instructions in accident prevention for all employees, such as the use of machinery guards, safe walkways, scaffolds, ladders, bridges, gang planks, confined space procedures, trenching and shoring, fall protection and other safety devices; equipment and wearing apparel as are necessary or lawfully required to prevent accidents, injuries, or illnesses (including but not limited to exposure to the Coccidioides fungus and Valley Fever); and adequate facilities for the proper inspection and maintenance of all safety measures.

Contractor must obtain all applicable Division of Occupational Safety and Health (Cal/OSHA) permit(s) and others required by California Labor Code and California Government Code, prior to the initiation of any practices, work, method, operation, or process related to the work covered in the contract. Permits required by governmental authorities will be obtained at Contractor's expense.

It is a condition of this contract, and shall be made a condition of each subcontract which the Contractor enters into pursuant to this contract, that the Contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under Cal/OSHA safety and health standards.

The Contractor shall be responsible for the safeguarding of all utilities. At least two working days before beginning work, the Contractor shall call the Underground Service Alert (USA) in order to determine the location of sub-structures. The Contractor shall immediately notify the OCWD and the utility owner if he/she disturbs, disconnects, or damages any utility.

In accordance with Section 6705 of the California Labor Code, the Contractor shall submit to OCWD specific plans to show details of provisions for worker protection from caving ground during excavations of trenches of five feet or more in depth. The excavation/trench safety plan shall be submitted to and accepted by OCWD prior to starting excavation. The trench safety plan shall have details showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground. If such a plan varies from the shoring system standards established by the Construction Safety Orders of the California Department of Industrial

Relations (Cal/OSHA), the plan shall be prepared by a California registered civil or structural engineer. As part of the plan, a note shall be included stating that the registered civil or structural engineer certifies that the plan complies with the Cal/OSHA Construction Safety Orders, or that the registered civil or structural engineer certifies that the plan is not less effective than the shoring, bracing, sloping or other provisions of the Safety Orders. In no event shall the Contractor use a shoring, sloping or protective system less effective than that required by said Construction Safety Orders. Submission of this plan in no way relieves the Contractor of the requirement to maintain safety in all areas. If excavations or trench work requiring a Cal/OSHA permit are to be undertaken, the Contractor shall submit his/her permit with the excavation/trench work safety plan to OCWD before work begins.

## **INSTRUCTIONS FOR CONTRACTORS**

All licensed contractors interested in performing work for Orange County Water District (OCWD) must complete and provide the information requested in the “Contractor Required Information packet;” meet the criteria listed below and participate in a pre-project safety orientation meeting:

The Criteria below is required in order to comply with OCWD’s Contractor Safety Program and Cal/OSHA’s Multi-Employer Worksite Standard\*

*\*California Labor Code Sections 6400, 6401, 6401.7, 6402 through 6404 and Title 8, California Code of Regulations, Sections 336.10 and 336.11*

### **CONTRACTOR CRITERIA REQUIREMENTS:**

- EMR equal to or greater than 1.25 for each year in the last three years.
- Received a regulatory citation (i.e. Cal/OSHA) and penalties assessed against your firm for any “serious,” “willful” or “repeat” violations of its safety or health regulations in the past three years?

Yes  No

If “yes,” attach a separate signed page describing the citations, including information about the dates of the citations, the nature of the violation, the project on which the citation(s) was or were issued, the amount of penalty paid, if any. If the citation was appealed and a decision has been issued, state the case number and the date of the decision.

*NOTE: If you have filed an appeal of a citation, and the Appeals Board has not yet ruled on your appeal, you need not include information about it.*

- Failure to provide all requested information

### ***ONE OR MORE OF THESE CRITERIA SHALL DISQUALIFY A CONTRACTOR***

#### **DEFINITIONS:**

- **Serious:** *A serious violation exists when the workplace hazard could cause an accident or illness that would most likely result in death or serious physical harm, unless the employer did not know or could not have known of the violation.*
- **Willful:** *A willful violation is defined as a violation in which the employer either knowingly failed to comply with a legal requirement (purposeful disregard) or acted with plain indifference to employee safety.*
- **Repeat:** *a violation where the employer has corrected, or indicated correction of an earlier violation, for which a citation was issued, and upon a later inspection is found to have committed the same violation again within a period of three years immediately preceding the latter violation*
- **EMR:** *Experience Modification Rate (EMR or “X-Mod”) - A Ratio of actual losses (workers compensation) versus expected losses over a rolling three - year period average. The EMR is issued by the Workers’ Compensation Insurance Carrier. The EMR produces a metric in which the number “1” is considered the industry average, less than one is considered good experience and more than 1 is considered poor experience. The EMR is typically used by OSHA & Cal/OSHA and by the Casualty Insurance Industry as a measure of a Contractor or Subcontractor’s “safety” performance. An EMR at 1.25 is red flagged by Cal/OSHA.*

## CONTRACTOR REQUIRED INFORMATION

### PART 1: CONTRACTOR INFORMATION SECTION - To Be Completed By Contractor

- Contractor's Name: Santa Ana Watershed Assoc.  
 Contractor's License (copy of license): \_\_\_\_\_  
 California Registration Number: \_\_\_\_\_  
 Certificate of Insurance (copy of insurance)  
 Experience Modification Rate (EMR) for each of the past three premium years:

Current year: .82 Previous year: .82 Year prior to previous year: 1.28

- Copy of 3 Years of OSHA 300A Annual Summary (If greater than 10 employees)  
 How many serious injuries and/or fatalities has your company had in the last 3 years: 0  
 How many Regulatory Violations has your company had in the last 3 years? 0

### PART 2: SAFETY PROGRAM SECTION - To Be Completed By Contractor

All Written Safety Programs & Training Documentation must be available to OCWD upon request	YES	NO
Does your company maintain a written Injury Illness Prevention Program (IIPP) in accordance with GISO, Title 8, Section §3203 or §1509 and Labor Code (LC §6401.7)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does your company maintain documentation on employees' IIPP training? [§3203 or §1509(b)]	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does your company maintain "Code of Safe Practices" documentation? [Title 8, §1509(b)]	<input type="checkbox"/>	<input type="checkbox"/>
Does your company maintain disciplinary documentation for unsafe behavior of employees or subcontractors (if applicable)? [Title 8, §3203 or §1509]	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does your company maintain a documented Hazard Communication Program that complies with GHS Labeling and Safety Data Sheets (SDS)? [8 CCR §5194]	<input type="checkbox"/>	<input type="checkbox"/>
Does your company maintain inspection records and written evidence that safety and health concerns have been reviewed and corrective actions taken? [LC§6401.7(b) and (D)]	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are procedures for communicating critical (hazardous) job activities (Job Safety Plan) written and reviewed with all employees and subcontractors? [LC 6401.7(a)(5)]	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does your company have a written accident investigation program in which all accidents/incidents are investigated and corrective action implemented (including those of subcontractors, if applicable)? [8CCR §3203(a)(5) and (b) or §1509]	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does your company have a written Emergency Action Plan that is communicated to employees and subcontractors? (i.e., medical, fire, chemical spill, etc.)? [8 CCR §3220]	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are the above written programs, including training documentations and safety meetings on file? [LC §6401.7© and 8CCR §1509(e)]?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, where are the documentations maintained? <u>1835 Chicago, Riverside, CA.</u>		

**CONTRACTOR REQUIRED INFORMATION CONTINUED**

**Part 2 - PROJECT SPECIFIC SAFETY PROGRAM SECTION - To Be Completed By Contractor**  
(check each section below that is applicable to the project and provide documentation information)

Our company has a written Confined Space Program that includes pre-entry monitoring, pre-entry permit, and employee training? [T8 CCR §5157]

Where is the documentation maintained? \_\_\_\_\_

Our company has a written Electrical Safety Program? [T8 CCR §2700 - §2989 and T8 CCR §2299 - §2599 and NFPA 70E]

Where is the documentation maintained? \_\_\_\_\_

Our company has a written Fall Prevention Program that includes Personal Fall Arrest Systems, Personal Fall Restraint Systems, Positioning Devices and employee training? [T8 CCR §1670]

Where is the documentation maintained? \_\_\_\_\_

Our company has written Trenching/Excavation Program that includes employee training? [T8 CCR §1541.1]

Where is the documentation maintained? \_\_\_\_\_

Our company has a written Lockout/Tagout Program that includes employee training? [T8 CCR §3314(j)]

Where is the documentation maintained? \_\_\_\_\_

Our company has a Hot Work Program that includes employee training? [T8 CCR §4848]

Where is the documentation maintained? \_\_\_\_\_

Our company has a Traffic Control Program that includes employee training? [T8 CCR, Construction Safety Orders, Article 11, 1597 - 1599]

Where is the documentation maintained? \_\_\_\_\_

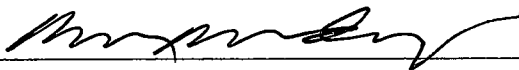
Other applicable programs (please list): \_\_\_\_\_

✓ Contractor shall ensure employees under his/her supervision (including subcontractors) have been trained in safe work practices necessary to safely perform their job. Contractors are responsible for communicating the Job Safety Plan to their employees & subcontractors.

COMMENTS:

BRIAN J. BRADY

Name of Contractor Representative (please print)



Contractor Representative's Signature

8/12/19

Date Signed:

*A bidder's failure to respond affirmatively to the questions listed in the "Part 2 - Safety Program Section" of Appendix B including the sections applicable to the work shall be grounds for the District to reject the bid as non-responsive.*


## Contractor's Environmental Health & Safety (EHS) Agreement

I have read the information stated in the OCWD's *Contractor Environmental Health & Safety (EHS) Handbook*. I understand that the information provided covers brief highlights of the OCWD's safety programs. It is my responsibility to review the updated programs and communicate the safety information & requirements to my employees.

I understand that the Contractor's Environmental Health & Safety Handbook is not intended to replace Federal, State or Local regulations regarding Contractor performance. Contractor shall keep itself fully informed of all existing and future state and federal laws and all county and city ordinances and regulations which in any manner affect the activities of Contractor and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. Contractor (including contractor employees and subcontractors) shall at all times observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees, and shall protect and indemnify OCWD, its officers, directors, employees and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order or decree.

Contractor Company Santa Ana Watershed Assoc.

Contractor Name & Title  
(Please Print): Brian J. Brady, Executive Director

Contractor Signature: 

Date: 8/12/19

# **EXHIBIT F**

# EXHIBIT F

## SCOPE OF SERVICES

### Arundo Donax Removal and Control on the Santa Ana River and in the Prado Basin

The Orange County Water District (OCWD or District) is participating in the Santa Ana River Conservation and Conjunctive Use Program (SARCCUP), which is partially funded by a Proposition 84 grant administered by the Department of Water Resources (DWR). OCWD is responsible for removal of 640 acres of Arundo donax and other invasive species on the Santa Ana River upstream of Prado Dam (Figures 1-8). Approximately 400 acres of Arundo has already been removed in the Highway Burn area and is being treated for regrowth under a separate contract OCWD has with ACS through June 2020 (Figure 9).

The scope of services for the SARCCUP Arundo donax removal and control includes the following:

1. Initial removal and treatment for 2 - 4 years of all remaining Arundo stands on the mainstem of the Santa Ana River from the Rialto Channel to the Prado Basin (where access is granted);
2. Initial removal and treatment for 2 - 4 years of all Arundo on District property in the Prado Basin (total of 1 + 2 = approximately 240 acres)
3. Ongoing follow-up treatment of 400 acres in the Highway Burn area starting in July 2020 following the completion of the ACS contract.

OCWD is entering into an agreement with the Santa Ana Watershed Association (SAWA) to execute this scope of services in accordance with OCWD and DWR grant requirements. The work is expected to commence in Fall 2019 and continue through September 2021 with the possibility of an additional 2 years of treatment if grant funding expenditure deadlines can be extended.

#### Contact Information:

OCWD ARUNDO REMOVAL PROGRAM MANAGER, Richard Zembal, Director of Natural Resources, [RZembal@OCWD.com](mailto:RZembal@OCWD.com)  
Telephone: 714/378-3213

OCWD ARUNDO REMOVAL FIELD MANAGER, Bonnie Johnson, Habitat Restoration Manager, [Bjohnson@OCWD.com](mailto:Bjohnson@OCWD.com)  
Telephone: 714/378-8262

SARCCUP PROGRAM MANAGER, Adam Hutchinson, Recharge Planning Manager, [AHutchinson@OCWD.com](mailto:AHutchinson@OCWD.com)  
Telephone: 714/378-3214

SAWA ARUNDO REMOVAL PROJECT MANAGER, James Law, [jlaw@sawatershed.org](mailto:jlaw@sawatershed.org)  
Telephone: 909/771-6903

**Project Schedule:**

Commencement of Work:	Fall 2019
Mandatory Coordination Meetings:	Biweekly at OCWD Prado Office 14980 River Road Corona, CA 92880
Written Update Reports: Work	Every 6 months
Completion Date:	September 30, 2023

**Scope of Services**

**Santa Ana River and Prado Basin Arundo Control**

OCWD owns and manages resources on 2,150 acres in the Prado Basin (Basin) including a 50-pond wetland system on approximately 450 acres. On or about April 18, 2015, a fire erupted that burned approximately 1,020 acres in the Basin including approximately 450 acres of Giant Reed, *Arundo donax*. This Scope is for initial removal and treatment of 240 acres on the river and in the Basin in year 1 and for re-treatment of regrowth of invasives species including, but not limited to: giant reed (*Arundo donax*), salt cedar (*Tamarisk ssp.*), castorbean (*Ricinus communis*), Palm trees, and other weeds capable of preventing native vegetation from re-establishing on 640 acres including 400 acres that were treated in the aftermath of the Highway Burn area beginning in 2015. The Highway Burn area is being treated under a separate contract with ACS until June 2020.

I. **Purpose:** The purpose of this invasive plant removal project is to conduct removal and spraying of giant cane (*Arundo donax*) and associated weeds on the Santa Ana River from the Rialto Drain downstream into District lands in the Prado Basin, Riverside County, CA.

II. **Project Area:** The project area encompasses properties on the Santa Ana River from Rialto down to the City of Corona, CA (Figures 1 - 9). Note that areas shown on Figures 1-9 are approximate and may change based on field conditions.

### III. Project Management:

Santa Ana Watershed Association: James Law, Project Manager

Orange County Water District, Field Operations Coordinators: Richard Zembal, Natural Resources Director; Bonnie Johnson, Habitat Restoration Manager

SARCCUP Program Manager: Adam Hutchinson, Recharge Planning Manager

### IV. General Requirements:

- A. Prepare and implement a removal and spraying plan for each work area. Removal acreage shall total 240 acres in year one; spray treatment will follow and total 640 acres throughout the contract period. The plan shall include removal techniques and the amount and type of herbicide, mixing ratios, adjuvants used and the dates of application. The type of equipment used needs to be approved by OCWD project manager prior to use. Excessive drift shall be avoided at all times. Cut-stump treatments will be utilized when treating adjacent to the creek to limit impacts to aquatic wildlife.
- B. Contractor will maintain monitoring logs throughout the contract period and thereafter as needed or required.
- C. Seasonal work constraints – Work will only occur when conditions allow. No herbicide applications will occur if there is projected rain or if winds exceed 10 mph. During migratory nesting seasons a qualified biologist(s) will monitor all work.
- D. Coordination with other activities will be on-going between SAWA and OCWD to ensure there are no conflicts.

### V. Specific Requirements:

- A. **Progress Reports:** The Contractor shall provide reports after each treatment to OCWD showing the progress of removal and areas sprayed; an estimate on the amount removed and sprayed, and billing following each round of treatment. A final removal and spray report will be required at the end of treatment annually. Accompanying all reports shall be maps of removal and treatment areas showing treated acreages documented with GPS readings to verify locations and acreages.

- B. **Non-native Vegetation Removal:**

Several techniques and types of tools and equipment can be used to remove non-native species, including but not limited to: removal by hand using loppers, chainsaws, brush cutters, tractor-mounted mulching mowers, arm-mounted tractor/cutter and other approved power equipment. Care must be taken to minimize impacts to native habitat that could result from the transport of personnel and equipment conducting

removal activities. Where removal is done by hand, stockpile areas can be established in order to chip the stalks after supervised removal from sensitive habitat. In most areas, material chipped is scattered onsite to decompose and function as mulch. Contractor shall use the most effective technique for each work site and will do so in full compliance with permits and regulations.

The methods used for treating *Arundo* stands are different, depending on the makeup of the stands. Pure stands of invasive plants that are easily accessible on flat terrain can be taken out with mechanical equipment like tractor-mounted mulching mowers. Impacts to any associated native plants will be avoided by using hand labor to take out the cane adjacent to native material. Stands of invasive plants often intermix or abut willows (*Salix ssp.*), cottonwoods (*Populus fremontii*), mule fat (*Baccharis salicifolia*) and other native riparian vegetation. Spraying of native vegetation is not allowed. All native plants and animals are protected from damage by equipment, personnel, and all other non-native vegetation control activities. Native shrubs and trees can be trimmed if necessary to provide access and to protect them from incidental spraying with herbicide but only under close supervision by a qualified biologist. Hand-removal is the only method allowed in mixed stands or when sensitive species occupy adjacent habitat.

After biomass reduction, new growth will be sprayed with an EPA-approved herbicide application. Over several years of re-treatments the huge root masses eventually dry out and are rendered unable to support new plant growth. Spraying of the sprouts will be done when they reach 2-4 feet, or taller, to get enough leaf surface for good chemical uptake and root-kill.

- C. **Spraying of Non-native Vegetation:** The spraying of giant reed (*Arundo donax*) will occur when the canes have re-grown to a height of 2-4 feet. Spraying of re-growth will occur two - three times per year through 2021 (or 2023 if extension is granted).

If re-growth does occur due to inadequate applications, the Contractor will be required to cut the re-growth at their own expense and retreat the area.

Spraying can be done by the following methods; trailered tank with sprayer, backpack sprayers or other low noise spray equipment. All spraying will be done by ground applications and should occur when conditions are most favorable for uptake of the herbicide. This will depend upon the acres needing treatment and local weather conditions. Spraying will occur in the following areas:

1. **Pure stands:** Pure stands of invasive plants are considered groups of plants that do not have any other native vegetation

growing among them. Some stands of invasive plants may have native vegetation surrounding them.

2. **Mixed stands:** Mixed stands are invasive plants that occur in or among willow (*Salix* spp.), cottonwoods (*Populus fremontii*), and mulefat (*Baccharis salicifolia*).
  3. **Treatment of other plants:** Treatment, drift or damage to native vegetation shall be avoided at all times. Treatment of other problematic invasive weeds that attempt to establish in the treatment areas is encouraged.
- D. Hazardous conditions and changing weather should be expected. Hazards such as mud, quick sand, snakes, poison oak, dust, ash, and flooding are possible. The Contractor should ensure that personnel and equipment avoid these areas or conditions whenever possible.
  - E. The Contractor shall ensure that only the target plants are treated. The Contractor shall have sufficient knowledge to ensure that plants and animals that are threatened or endangered are not harmed. Bird species may or may not nest nearby. If a species is found by the monitoring biologist or the Contractor, all work shall stop immediately. Right to resume work will be determined by the area biologist or other authority. The Contractor shall be a licensed pesticide applicator or pesticide advisor and certified in aquatics. Contractor shall have past experience in invasive plant removal and control and is able to recognize the target plants at any stage of growth.
  - F. On the last day of treatment, or when all plants have been killed to the satisfaction of OCWD, then OCWD shall schedule a final inspection of the area with the Contractor. All areas that have been treated shall be inspected. If portions of the treatment area need another treatment beyond that of the contract, the Contractor shall treat the area within two weeks. Treatment beyond the last day of coverage may be needed and will be considered as an additional new contract, if funding is available.
  - G. Right-of-Entry permits shall be obtained by the Contractor for all work areas. Access to project areas on OCWD lands will be coordinated through OCWD.
  - H. Natural re-vegetation will be promoted after adequate herbicide treatment. The site will be monitored as deemed appropriate by OCWD.

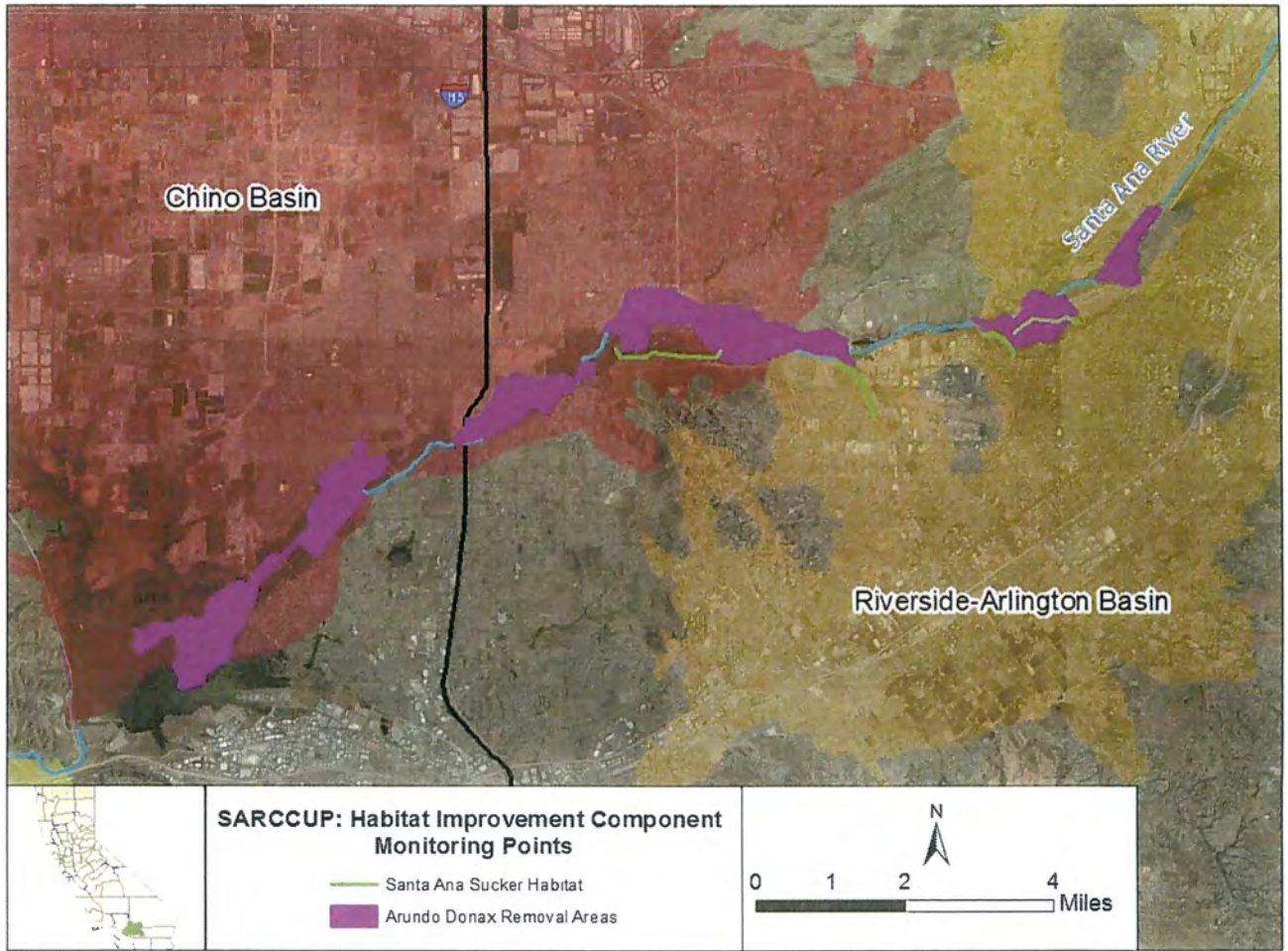
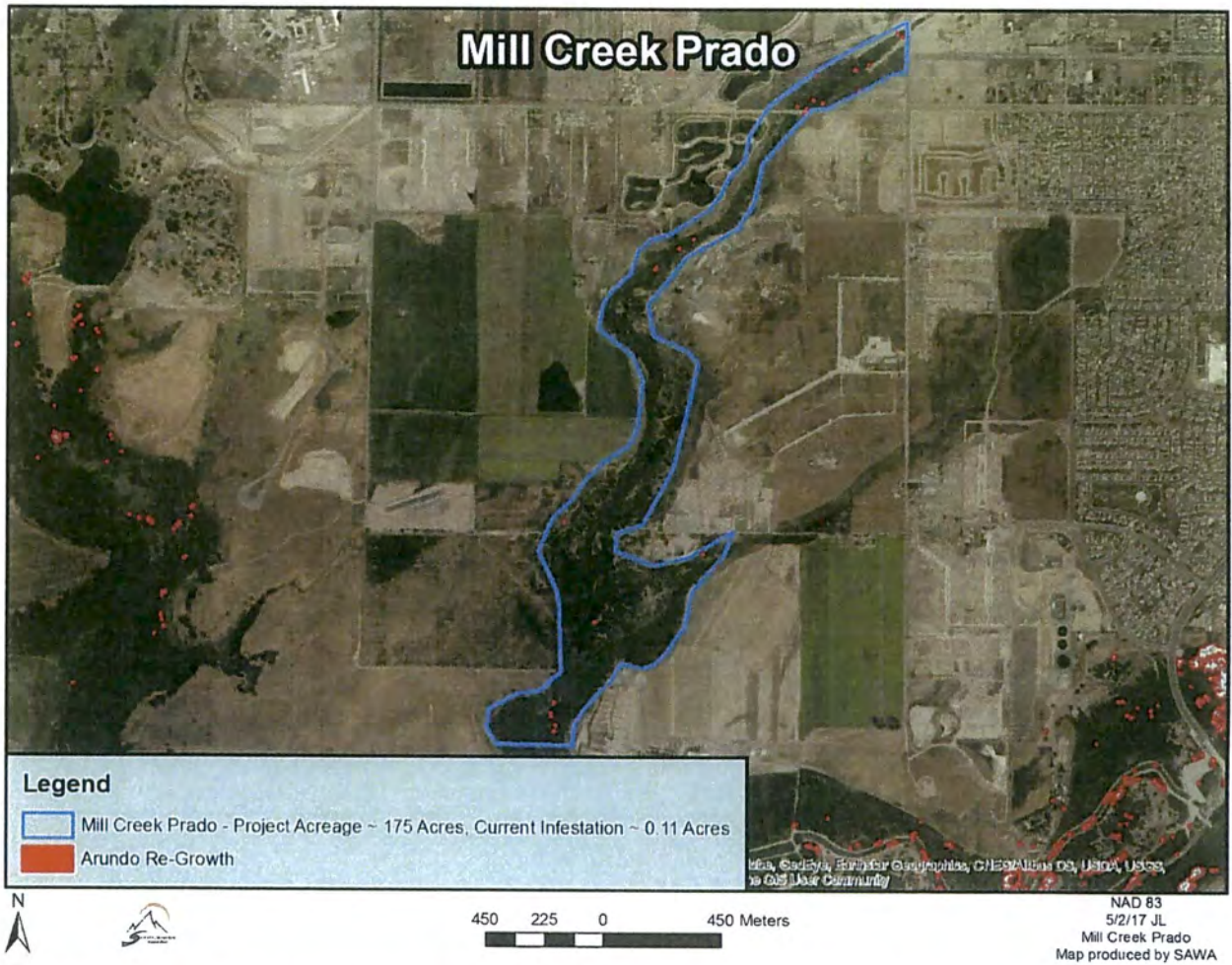
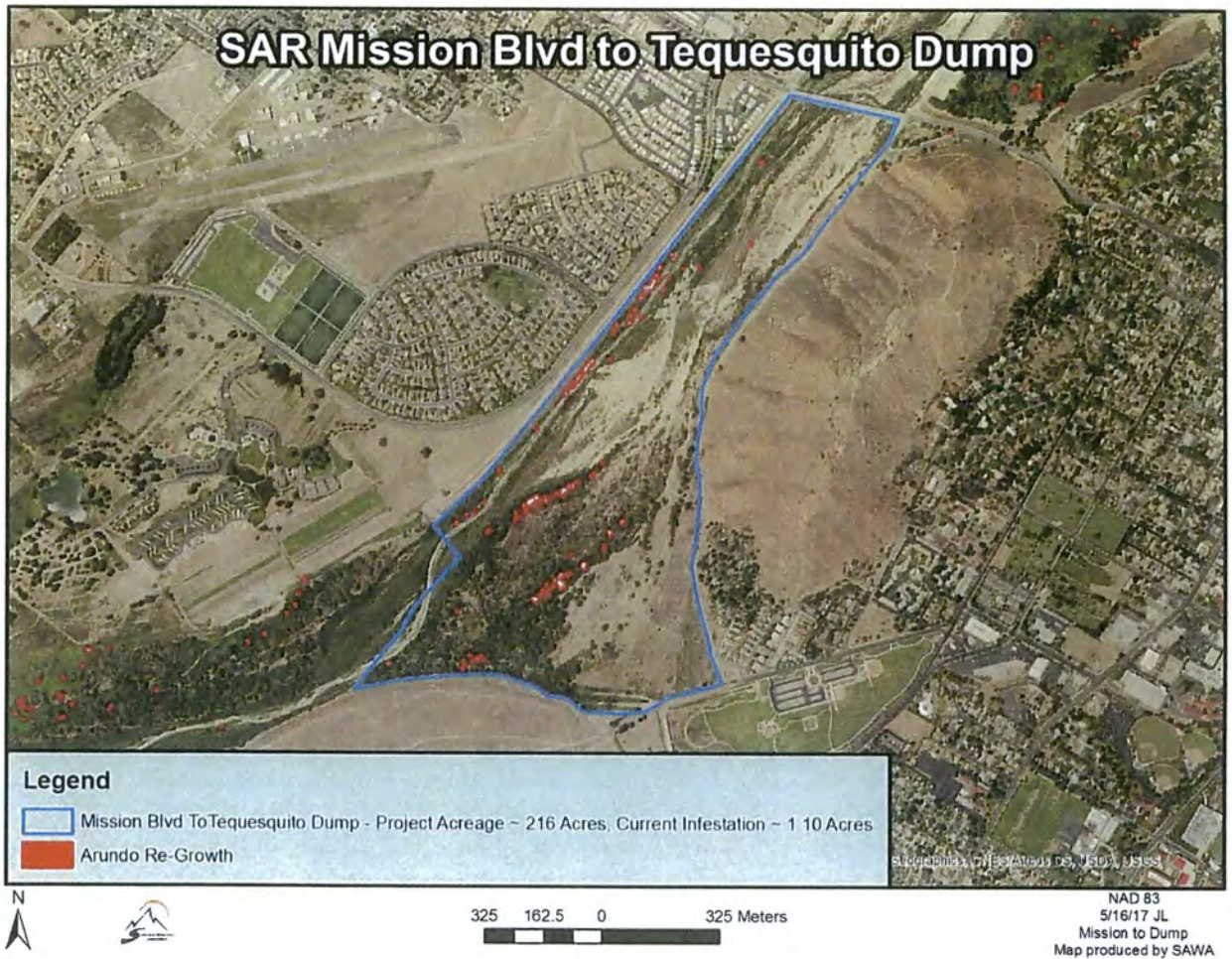


Figure 1. Arundo Treatment Areas.

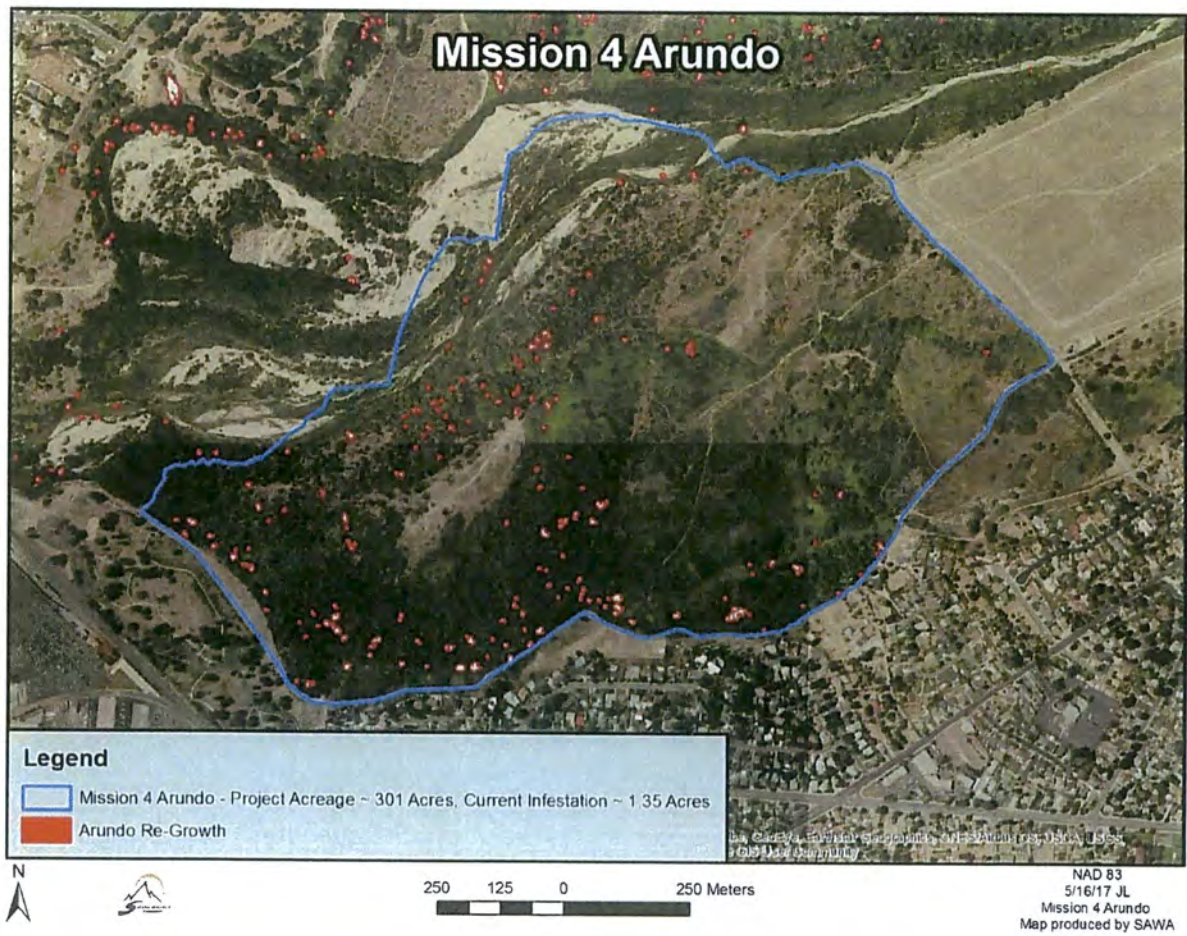




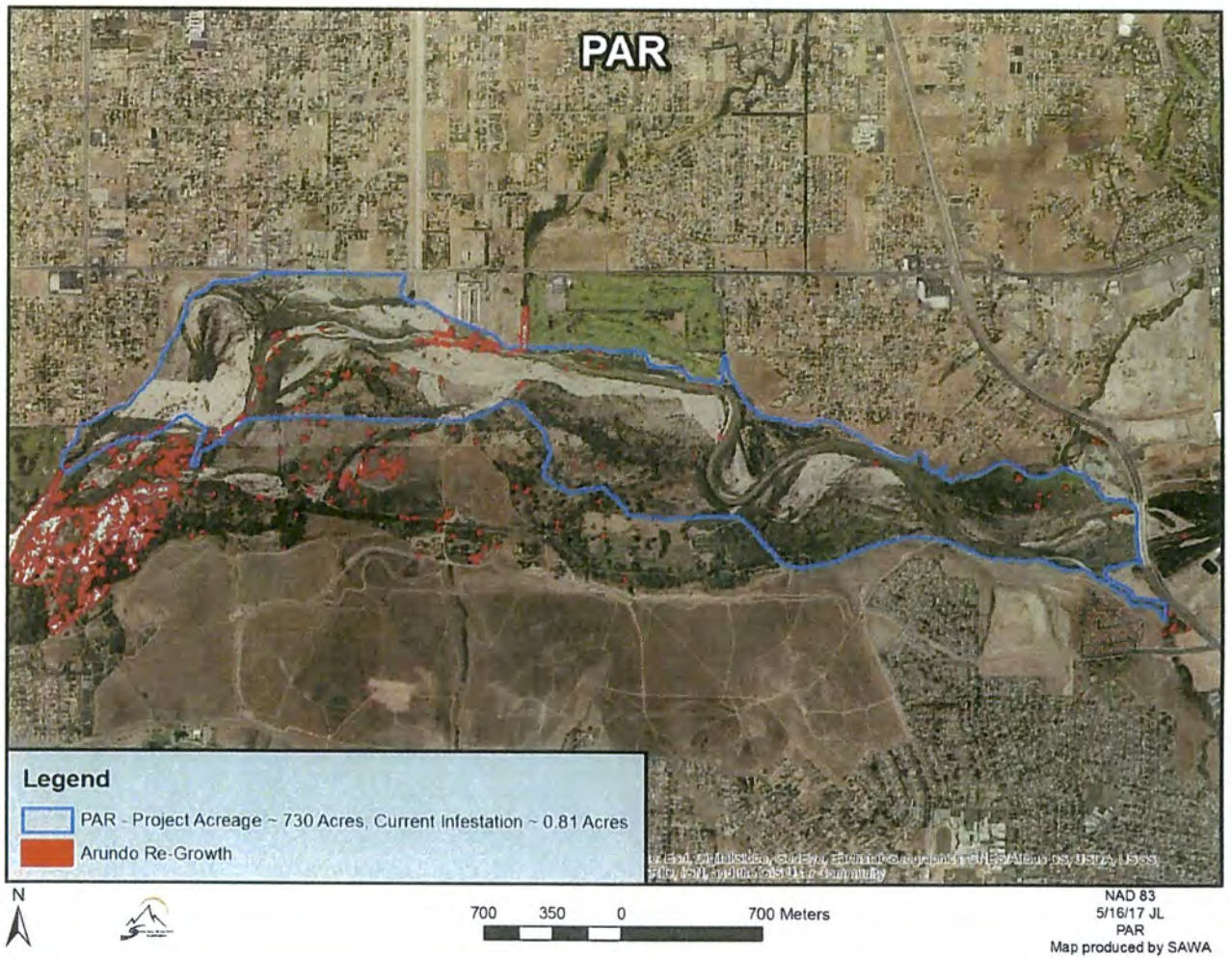
**Figure 3. Arundo Regrowth on Mill Creek**



**Figure 4. Arundo Regrowth on the Santa Ana River from Mission Boulevard to Tequisquite Dump.**



**Figure 5. Arundo Regrowth on the Santa Ana River from Tequesquite Dump to Van Buren Boulevard.**



**Figure 6. Santa Ana River Below Van Buren Boulevard.**

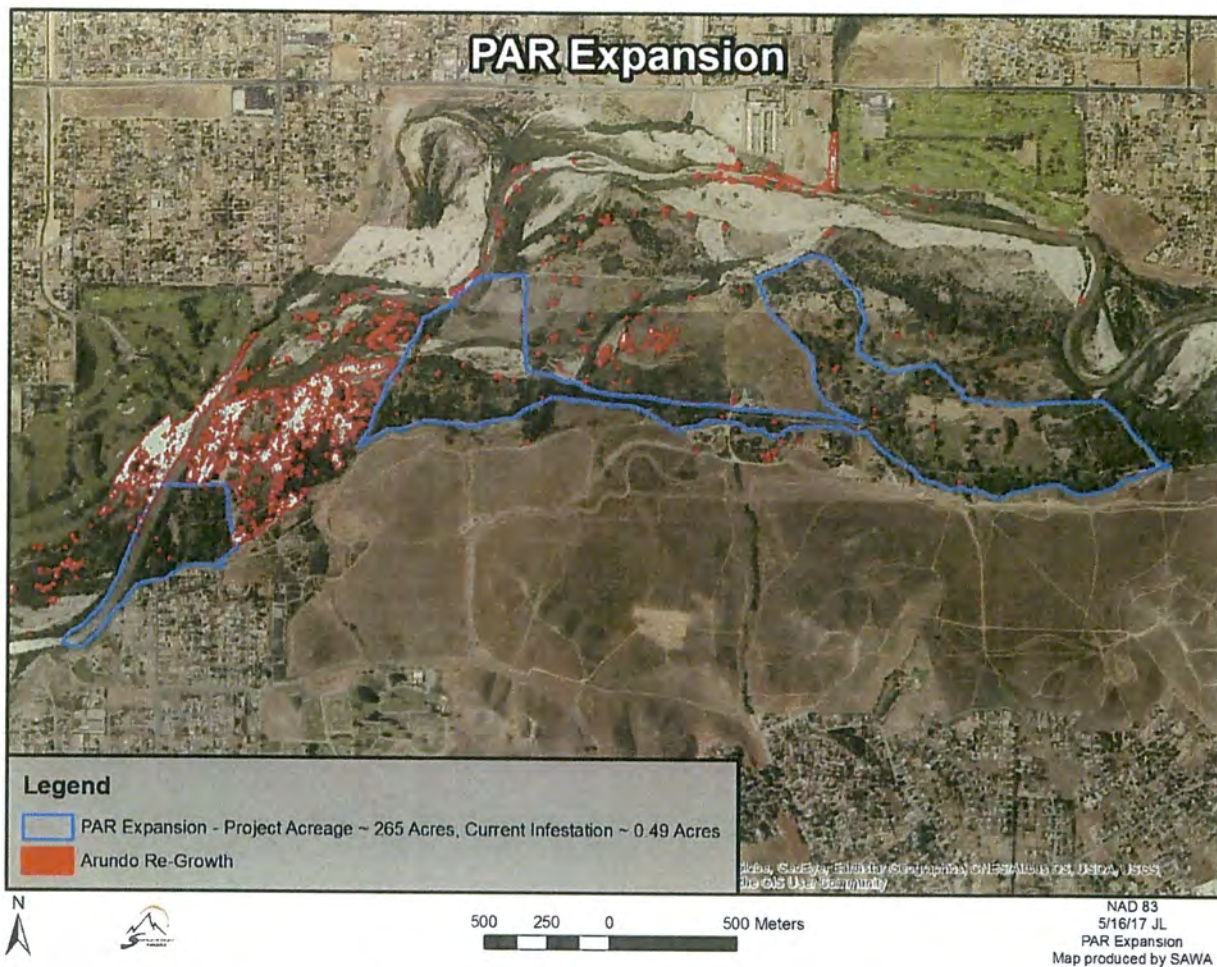


Figure 7. PAR Expansion Area.

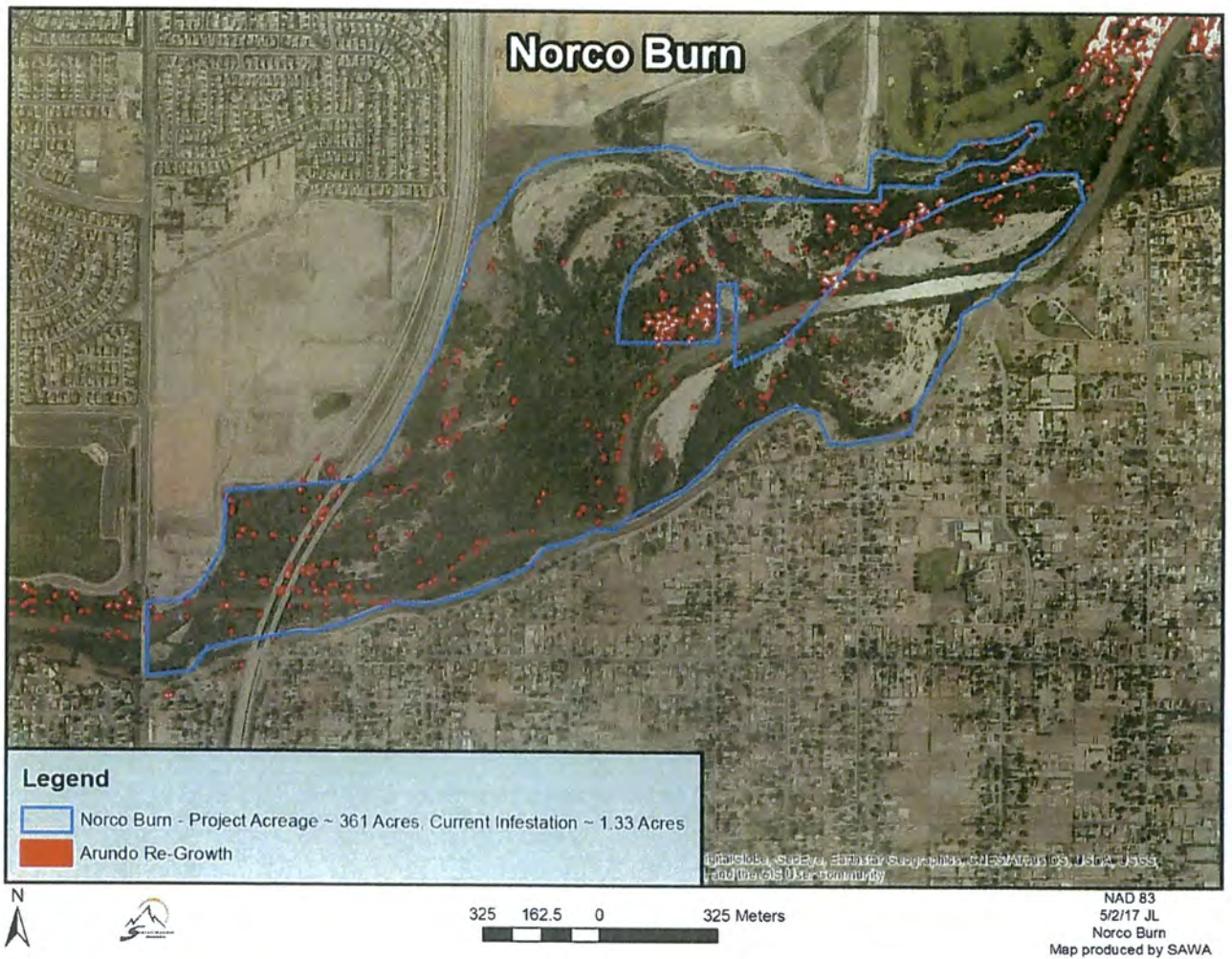
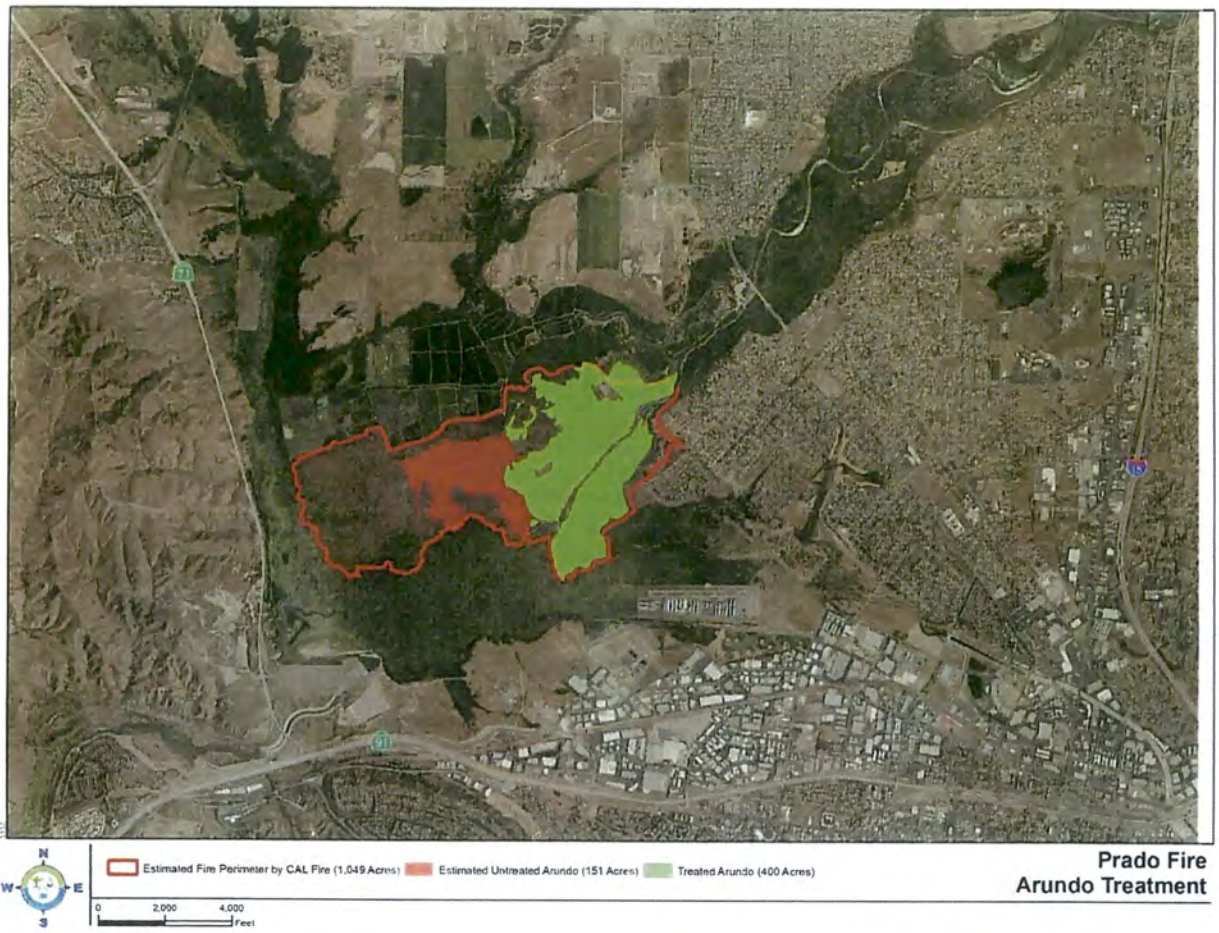


Figure 8. Santa Ana River to the Vicinity of Hamner Avenue.



**Figure 9. Arundo To Be Treated and Removed in the Prado Basin Below River Road, including the 400-acre Highway Burn Area.**

# **EXHIBIT G**

# EXHIBIT “G”

## PROJECT SIGN

Prior to the start of construction, SAWA shall place a project sign at OCWD’s Prado Field Office located at 14980 River Road, Corona, CA 92880. SAWA shall submit a prototype of the construction sign to the District for review and approval before posting the sign.

The sign shall be: (a) prepared in a professional manner; (b) be at least four feet tall by eight feet wide; and (c) be made of 3/4-inch thick exterior grade plywood or other approved material.

At a minimum, the following shall be included on the project sign:

Project Title: Arundo Donax Removal

Purpose of Project: To remove non-native Arundo Donax and other invasive plants to restore habitat and reduce water use.

Estimated Construction Duration: 2019-2023

Project Cost: \$3,728,900. Of this cost, \$1.47M is funded by the Department of Water Resources: (DWR) and disbursed by the Santa Ana Watershed Project Authority (SAWPA).

SAWA Contact: to be determined

OCWD contact: Bonnie Johnson, 714-378-8262

OCWD’s color Logo

SAWA color logo

One Water One Watershed Logo

Santa Ana Watershed Project Authority Logo

Department of Water Resources Logo

This project is financed under the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84), administered by the State of California, Department of Water Resources.

SAWA shall be responsible to maintain the sign in good condition for the duration of the project.

# **EXHIBIT H**

PROPOSITION 84 INTEGRATED REGIONAL WATER MANAGEMENT 2015 ROUND  
IMPLEMENTATION GRANT FUNDING CONTRACT  
BETWEEN THE

SANTA ANA WATERSHED PROJECT AUTHORITY

AND

ORANGE COUNTY WATER DISTRICT

This Proposition 84 Integrated Regional Water Management Program ("IRWMP") Implementation Grant Funding Contract ("Contract") is made between Santa Ana Watershed Project Authority ("SAWPA") and Orange County Water District, (the "Sub-Grantee"). SAWPA and the Sub-Grantee may be individually referred to as "Party" and collectively referred to as the "Parties".

WHEREAS, Section 79560 et seq. of the Water Code establishes the IRWMP providing approximately \$900 million for local assistance grants to be allocated to projects to protect from drought, improve water quality and improve water security by reducing dependence on imported water; and

WHEREAS, on November 1, 2016, the California Department of Water Resources ("DWR") and SAWPA entered into a Proposition 84 IRWMP Implementation Grant Agreement No. 4600011515 ("Grant Agreement") as subsequently amended, attached hereto as **Attachment "A"**, providing that SAWPA would serve as the program manager for the \$64,267,686 in grant funds to be disbursed to the Sub-Grantee and other agencies, consistent with IRWMP and California Environmental Quality Act ("CEQA") requirements, and ensuring that the maximum benefit of such funds are realized in the Santa Ana River Watershed; and

WHEREAS, consistent with the Grant Agreement, SAWPA intends to disburse to the Sub-Grantee a portion of the \$64,267,686 in grant funds for the Santa Ana River Conservation and Conjunctive Use Program ("SARCCUP") Project ("Project") by way of this Contract with the Sub-Grantee. Other agencies implementing the Project are San Bernardino Valley Water District, Eastern Municipal Water District, Orange County Coastkeeper, Inland Empire Utilities Agency, and Western Municipal Water District ("other SARCCUP Sub-Grantees");

WHEREAS, on February 1, 2019, the DWR and SAWPA executed Amendment No. 1 to the Grant Agreement which added the Coastal Plain of Orange County Groundwater Basin as a location for storing water as part of the Project;

THEREFORE, based on the foregoing incorporated recitals and in consideration of the mutual covenants and conditions set forth in this Contract, the Parties hereby agree to the following:

**SECTION 1.            PROJECT DESCRIPTION**

The Project is a multi-agency, watershed-wide program developing dry-year yield ("DYY") supply by banking wet-year water that also integrates water conservation measures, habitat enhancements, and recreational use. Through the DYY program, the Project will develop an approximately **180,000 acre-foot** ("AF") SARCCUP Conjunctive Use Program ("Program") providing for management and facilities to have the capacity to store and convey through such methods as direct pumping or in lieu transfers approximately 180,000 AF to different water agencies in the Santa Ana River Watershed over a ten year period. Additionally, increased supply for the Santa Ana River Watershed will be made available due to water conservation associated with removing approximately 640 acres of the invasive and heavy

water-using plant Arundo Donax and implementing conservation-based water rates by up to five retail water agencies. To allow the implementation of SARCCUP's Conjunctive Use Program and other water supply projects, approximately **40.5** acres of in-stream riparian habitat will be restored and approximately 3.5 miles of stream habitat will both be created for the benefit of the Santa Ana sucker fish in the Santa Ana River Watershed. One mile of educational hiking trail and approximately **40 acres** (gross)- in the form of recharge basins, will be created in the Santa Ana River Watershed. A drought tolerant landscaping maintenance outreach program called **Smartscape** operated by Orange County Coastkeeper/Inland WaterKeeper will also be implemented as needed throughout the Santa Ana River Watershed to support effective water use efficiency.

## **SECTION 2. SUB-GRANTEE DELIVERABLES**

The Sub-Grantee, along with other SARCCUP Sub-Grantees, will finalize a decision support model and take into consideration the Santa Ana River Watershed's hydrology, planned and existing facilities, and groundwater put- and- take scenarios in order to better define agreements and needs for possible future expansion.

The Sub-Grantee, per the Grant agreement, will implement the Program by storing at least **36,000 AF**, or **180,000 AF collectively with other Project Sub-Grantees**, of wet-year water over each ten-year period<sup>1</sup> and through such actions such as direct pumping or in lieu transfers in dry years convey that amount, over the ten year period, to its own customers and other Santa Ana River Watershed water agencies.

The Sub-Grantee will implement the SARCCUP Arundo Component ("Arundo Component") by eradicating approximately **640 acres** of the invasive and heavy water-using plant Arundo Donax just upstream of Prado Dam in Riverside County by utilizing heavy machinery in the floodplain, herbicide and maintenance sweeps by working with its partners. The Sub-Grantee will also complete a study of the effectiveness of removal of Arundo Donax in terms of an overall goal of eradicating Arundo Donax from the Santa Ana River Watershed ("Study Component") without seeking reimbursement through this Contract. The Study Component shall be complete before the Sub-Grantee requests grant reimbursement through this Contract.

In order to implement the Program, the Sub-Grantee, along with other SARCCUP Sub-Grantees will execute joint agency **agreement(s)** ("Agreements") that establish the 180,000 AF groundwater bank that the Program will operate.

In order to monitor deliverables, the Sub-Grantee, along with the other SARCCUP Sub-Grantees will implement the **Project Monitoring Plan** as described in Paragraph 21 of the Grant Agreement. The Project Monitoring Plan must be approved by SAWPA and DWR before the Sub-Grantee implements any sampling or monitoring activities. The Sub-Grantee will report on the benefits of the Project based on the Project Monitoring Plan using a final **Project Completion Report** and **Post Performance Reports** described in Section 19 and Section 21 of this Contract.

The Sub-Grantee will provide all other deliverables described in the **Grant Agreement** such as the deliverables listed in Paragraph 15 of the Grant Agreement.

## **SECTION 3. CONTRACT DOCUMENTS; ORDER OF PRECEDENCE; SUB-GRANTEE GENERAL COMMITMENT**

This Contract incorporates and includes as part of its terms and conditions the Grant Agreement.

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<sup>1</sup> Performance subject to California Civil Code 1511(2).

In the event of any inconsistency between this Contract and the Grant Agreement, except as otherwise specifically provided, the inconsistency shall be resolved by giving precedence to the Grant Agreement.

The Sub-Grantee shall comply with all terms, provisions, conditions, and commitments of this Contract and the Grant Agreement. Such compliance shall include providing SAWPA with all deliverables, budget detail, reports and all other documents required by the Grant Agreement.

On behalf of and for the benefit of SAWPA, Sub-Grantee shall comply with all of the obligations and requirements of the Grant Agreement as if the Sub-Grantee were the "Grantee" under the terms of the Grant Agreement. Such compliance shall be to the fullest extent necessary and as may be required by SAWPA in order to enable SAWPA to comply with the Grant Agreement as "Grantee."

**SECTION 4.                    SUB-GRANTEE'S ESTIMATED ELIGIBLE PROJECT COSTS; GRANT AMOUNT; LOCAL FUNDING MATCH**

The Sub-Grantee's estimated reasonable cost of the Project at the time of SAWPA's and DWR's approval of the Project is **Four Million Four Hundred Twenty Five Thousand Eight Hundred Fifty Eight dollars (\$4,425,858)**. Subject to all of the terms, provisions, and conditions of this Contract, including appropriate invoicing and reporting, and subject to the availability of the grant funds, SAWPA shall reimburse Projects costs from grant funds in a sum not to exceed **One Million Four Hundred Seventy Two Thousand Fifty Seven dollars (\$1,472,057)**. Work performed after **January 17, 2014**, is eligible for grant reimbursement. Per **Exhibit D** of the Grant Agreement, the DWR shall withhold retention. SAWPA's actual grant disbursements to the Sub-Grantee under this Contract shall not exceed payments received from the DWR. If actual Project costs exceed the Project's estimated reasonable cost, SAWPA shall have no obligation to provide grant funds for such exceedance.

Work performed to advance the Project after **January 1, 2011** is eligible to be counted as the Sub-Grantee's local funding match used to complete the Project.

If the Sub-Grantee proceeds to implement the Project, the final grant amount will be determined in accordance with the provisions of this Contract. If the Sub-Grantee fails or refuses to proceed with or complete construction of the Project, SAWPA shall consider such failure or refusal to be a material violation and breach of this Contract. SAWPA shall have all rights and remedies as are otherwise available to it for breach of this Contract by the Sub-Grantee.

Eligible Project costs include the reasonable costs of studies, engineering, design, land and easement acquisition, legal fees, preparation of environmental documentation, environmental mitigations, monitoring, and Project construction. Costs that are not eligible for reimbursement or eligible to be counted as the Sub-Grantee's local funding match are described in Paragraph ten (10) of the Grant Agreement.

Reasonable administrative expenses may be included as eligible project costs and will depend on the complexity of the project preparation, planning, coordination, construction, acquisitions, implementation, and maintenance. Reasonable administrative expenses are the necessary costs incidentally but directly related to the Project including the portion of overhead and administrative expenses that are directly related to the Project.

**SECTION 5.                    SCOPE OF WORK; TASKS**

The Scope of Work is described in the Grant Agreement Work Plan. The Sub-Grantee is entirely responsible for the following:

- **Task 8.43.1** – Arundo Donax Removal Design
- **Task 12.43.1** – Arundo Donax Removal

The Sub-Grantee is responsible collectively with the other SARCCUP Sub-Grantees for the completion of the following tasks, which are cooperatively managed among the SARCCUP Sub-Grantees:

- **Task 1** – Project Management
- **Task 2** – Labor Compliance Program
- **Task 3** – Reporting
- **Task 5** – Feasibility Studies.
- **Task 6** – SARCCUP CEQA Documentation.
- **Task 7** – Permitting.
- **Task 9** – Project Monitoring Plan.
- **Task 10** – Construction Contracting.
- **Task 11** – Construction Administration.

The Sub-Grantee understands that time is of the essence, and agree to expeditiously proceed with and complete the Project.

#### **SECTION 6.            DISBURSEMENT**

Grant funds will be disbursed in accordance with the disbursement provisions of the Grant Agreement. SAWPA will disburse grant funds received from DWR to Sub-Grantee within 30 days of receipt of grant funds, except as described in Section 15, Withholding of Grant Disbursements. Retention is stipulated in **Exhibit D** of the Grant Agreement.

#### **SECTION 7.            FISCAL MANAGEMENT SYSTEMS AND ACCOUNTING STANDARDS**

The Sub-Grantee agrees that, at a minimum, its fiscal control and accounting procedures shall be sufficient to permit tracking of grant funds to a level of expenditure adequate to establish that such funds have not been used in violation of State law or this Contract. The Sub-Grantee shall maintain separate project accounts in accordance with generally accepted government accounting standards and the conditions outlined in Exhibit D of the Grant Agreement.

#### **SECTION 8.            TERM**

This Contract shall not be effective until it has been executed by SAWPA. The Term of this Contract shall be the same as the Term of the Grant Agreement as amended, unless sooner terminated pursuant to the provisions of this Contract or the Grant Agreement.

#### **SECTION 9.            COVENANT TO OPERATE AND MAINTAIN PROGRAM AND COMPONENT**

The Sub-Grantee shall properly staff, operate and maintain all portions of the Arundo Component and the Program during the Arundo Component's and Program's useful life (per section 20 of the Grant Agreement)

and in accordance with this Contract, the Grant Agreement, and all applicable state and federal laws, rules and regulations, provided Sub-Grantee shall not be required to use its own funds to reconstruct or replace the Arundo Component if sites are destroyed or damaged beyond repair resulting from acts of God, wars, or sabotage. In the event that the Sub-Grantee assigns or transfers all or any portions of the Arundo Component and the Program to another entity, the Sub-Grantee shall be responsible to ensure that the assignee or transferee of all or any portions of the Arundo Component and the Program shall properly staff, operate and maintain all portions of the Arundo Component and the Program during its useful life and in compliance with this Contract, the Grant Agreement, and all applicable state and federal laws, rules and regulations. The Parties to this Contract understand and agree that this covenant shall survive the expiration or termination of this Contract not to exceed the useful life of the Arundo Component and the Program. The Parties understand and agree that this covenant is for the benefit of SAWPA and DWR and shall be enforceable during the useful life of the Arundo Component and the Program. The Parties agree that the useful life of the Arundo Component is **5 (five)** years from and after Arundo Component completion. The Parties agree that the useful life of the Program is **30 (thirty) years** from and after Project completion, and that the Sub-Grantee's obligations with regard to the Program in this Section are understood to be obligations to work collectively with the other SARCCUP Sub-Grantees. Through the Program's useful life, the Sub-Grantee shall continue to store at least **36,000 AF** or **180,000 AF** collectively with other SARCCUP Sub-Grantees, of wet-year water per ten-year period, and through such actions such as direct pumping or in lieu transfers in dry years convey that amount, in each ten-year period, to its own customers and to other Santa Ana River Watershed water agencies.

The Sub-Grantee shall not abandon, substantially discontinue use of, lease, or dispose of the Arundo Component and the Program, including its construction, implementation, or any significant part or portion thereof, during the useful life of the Arundo Component and the Program without SAWPA's and DWR's prior written approval.

#### **SECTION 10.            ASSIGNMENT**

Neither this Contract, nor any duties or obligations under this Contract, nor any of the Arundo Component and Program referenced in this Contract shall be assigned by any Party without the prior written consent of the other Party.

Should an assignment or transfer occur, whenever SAWPA or the Sub-Grantee are named or referred to herein, such reference shall be deemed to include the successor to the powers, duties and functions that are presently vested in SAWPA and the Sub-Grantee, and all Contract and covenants required hereby to be performed by or on behalf of SAWPA and/or the Sub-Grantee shall bind and inure to the benefit of the respective successors thereof whether so expressed or not.

#### **SECTION 11.            COMPLIANCE WITH LAWS AND REGULATIONS**

The Sub-Grantee agrees that it shall, at all times, comply with and require its contractors and subcontractors to comply with all applicable federal and state laws, rules, regulations and guidelines. The Sub-Grantee shall comply with, implement, and fulfill all environmental mitigation measures applicable to the Project, and which may otherwise be required by this Contract, the Grant Agreement, CEQA, and the State CEQA Guidelines.

#### **SECTION 12.            ACKNOWLEDGEMENT OF CREDIT/SIGNAGE REQUIREMENTS**

The Sub-Grantee shall include appropriate acknowledgement of credit to the State, SAWPA and to all cost-sharing partners for their support when promoting the Project or using any data and/or information developed under this Contract and/or the Grant Agreement.

During construction of the Arundo Component, the Sub-Grantee shall install a weather-proof sign at the location of the Arundo Component in compliance with **Exhibit D** of the Grant Agreement. In addition to the sign requirements required under **Exhibit D**, the sign shall include the One Water One Watershed logo and the SAWPA logo (all available from SAWPA).

Before it is constructed, the Sub-Grantee shall provide the draft design layout of the sign to SAWPA for approval. Sub-Grantee shall notify SAWPA that the sign has been erected by providing them with a site map with the sign location noted and a photograph of the sign.

### **SECTION 13.            CONSTRUCTION ACTIVITIES AND NOTIFICATION**

The Sub-Grantee shall immediately notify SAWPA in writing of:

- (1) Any substantial change in the scope, budget, or work performed by the Sub-Grantee in implementation of the Project. The Sub-Grantee agrees that no substantial change in the scope of the Project may be undertaken until written notice of the proposed change has been provided to SAWPA, and SAWPA and DWR have given written approval for such a change;
- (2) Any public or media event publicizing the accomplishments and/or results of this Grant Agreement and provide the opportunity for attendance and participation. Sub-Grantee must notify SAWPA at least **twenty (20) calendar days** prior to the event.
- (3) Unscheduled cessation of all major construction work on the Arundo Component where such cessation of work is expected to or does continue for a period of **thirty (30) calendar days** or more;
- (4) Any circumstance, combination of circumstances, or condition which is expected to delay Project completion for a period of **ninety (90) calendar days** or more beyond the initial estimated date of completion of the Project previously provided to SAWPA;
- (5) Completion of construction of the Arundo Component and provide SAWPA and DWR the opportunity to participate in the inspection. Sub-Grantee must notify SAWPA at least **twenty (20) calendar days** prior to final inspection.

### **SECTION 14.            PAYMENT OF PROJECT COSTS**

The Sub-Grantee shall provide for and make payment for all Project costs. All costs and payments for the Project shall be paid by the Sub-Grantee promptly and in compliance with all applicable laws. All grant disbursements will be reimbursements.

### **SECTION 15.            WITHHOLDING OF GRANT DISBURSEMENTS**

SAWPA may withhold all or any portion of the grant funds provided for by this Contract in the event that:

- (1) The Sub-Grantee has violated, or threatens to violate, any term, provision, condition, or commitment of this Contract;
- (2) The Sub-Grantee fails to maintain reasonable progress toward completion of the Project;  
or

- (3) The State directs SAWPA to withhold any such grant funds.

**SECTION 16. INVOICING**

- (A) Invoices shall be completed on a State-provided invoice form and shall meet the following format requirements:
  - (1) Invoices must contain the date of the invoice, the time period covered by the invoice, and the total amount due.
  - (2) Invoices must be itemized. The amount claimed for salaries/wages/consultant fees must include a calculation formula (i.e. hours or days worked times the hourly or daily rate = the total amount claimed). Refer to **Attachment "C"** of this Contract.
  - (3) Each invoice shall clearly delineate those costs claimed for reimbursement from the State's grant amount ("Grant Amount") and those costs that represent the local funding match as applicable. State funding cannot be used for local funding match. In each invoice, sufficient evidence (i.e. receipts, copies of checks, timesheets) must be provided for all costs reflective of the Grant Amount and local funding match.
- (B) Invoices also shall include the following information:
  - (1) Costs incurred for work performed in implementing the Project during the period identified in the particular invoice.
  - (2) Costs incurred for any interests in real property (land or easements) that have been necessarily acquired for a project during the period identified in the particular invoice for the construction, operation, or maintenance of a project.
  - (3) Appropriate receipts and documentation that show the total outlays for the Grant Amount and local cost share.

**SECTION 17. QUARTERLY PROGRESS REPORTS**

Quarterly Progress Reports shall be completed using the templates provided as shown in **Attachment "B"** of this Contract. Quarterly Progress Reports shall provide a brief description of the work performed, activities, milestones achieved, any accomplishments as well as any problems encountered in the performance of the work. Each Quarterly Progress Report shall be delivered to SAWPA within **sixty (60) calendar days** after the close of the reporting period. Quarterly Progress Reports are required until the Project Closeout Documentation is received and submitted to the State.

**SECTION 18. RECORDS AND REPORTS**

- (A) Without limitation on the requirement that project accounts be maintained in accordance with generally accepted government accounting standards, the Sub-Grantee shall comply with the records and reporting requirements imposed by the Grant Agreement, and shall also:
  - (1) Establish an official Project file that documents all significant actions relative to the Project;

- (2) Establish separate accounts that adequately and accurately itemize and describe all amounts received and expended on the Project, including but not limited to all grant funds received under this Contract;
  - (3) Establish separate accounts that adequately and accurately itemize and describe all income received which is attributable to the Project, specifically including any income attributable to grant funds disbursed under this Contract;
  - (4) Establish an accounting system that adequately and accurately itemizes and describes final total costs of the Project, including both direct and indirect costs;
  - (5) Establish such accounts and maintain such records as may be necessary for the State, DWR and SAWPA to fulfill federal reporting requirements, including any and all reporting requirements under federal tax statutes or regulations; and
  - (6) If Force Account is used by the Sub-Grantee for any phase of the Project, establish an account that adequately and accurately itemizes and describes all employee hours, and associated tasks charged to the Project per employee.
- (B) The Sub-Grantee shall require all Project contractors and subcontractors to maintain books, records, and other material relative to the Project in accordance with generally accepted accounting standards, and to require that such contractors and subcontractors retain such books, records, and other material for a minimum of **three (3) years** after final payment under the Grant Agreement. The Sub-Grantee shall require that such books, records, and other material shall be subject, at all reasonable times, to inspection, copying, and audit by SAWPA, DWR or its authorized representatives.
- (C) The Sub-Grantee shall maintain its books, records and other material concerning the Project in accordance with generally accepted government accounting standards and as required by the Grant Agreement.
- (D) All documents required or requested to be provided to SAWPA shall be submitted electronically in both the native format (e.g. Microsoft Word, Microsoft Excel, etc.) and PDF. All documents shall be public domain or the property of SAWPA once submitted.
- (E) The Sub-Grantee agrees to expeditiously provide, during work on the Project and for **three (3) years** after final payment under the Grant Agreement, such reports, data, information and certifications as may be reasonably required by SAWPA or DWR. Such documents and information shall be provided in electronic format.

**SECTION 19. PROJECT REVIEW AND EVALUATION; FINAL REPORTS AND AUDIT**

- (A) SAWPA may perform a Project review or otherwise evaluate the Project to determine compliance with the contract documents at any time or if questions about the proper use or management of the funds arise. SAWPA may review or evaluate the contractor or vendor for compliance with the terms and conditions of the contract document. The Project review and evaluation may be performed by SAWPA or may be contracted to a responsible third party. Any findings and recommendations of the Project review and evaluation shall be addressed by the Sub-Grantee within **sixty (60) calendar days** of the date such findings and recommendations are provided to the Sub-Grantee and before the next invoice is paid by SAWPA.

- (B) At least **fifteen (15) calendar days** prior to submission of the final Project invoice, Sub-Grantee shall provide SAWPA the Disposition of Equipment per **Exhibit D** of the Grant Agreement.
- (C) In addition to the documents and deliverables required to be provided by the Grant Agreement, within **seventy five (75) calendar days** after completion of the Project the Sub-Grantee shall provide to SAWPA, a final **Project Completion Report**. The final Project Completion Report shall include, at a minimum, the information required in **Exhibit G** of the Grant Agreement.

The final Project Completion Report shall be accompanied by such other financial information as may be required by SAWPA or DWR to verify Sub-Grantee entitlement to grant funds, to assure program integrity, and to comply with any federal or state requirements. A duly authorized representative of the Sub-Grantee shall certify the Project Completion Report as correct.

- (D) SAWPA may call for an audit of financial information relative to the Project, where SAWPA determines that an audit is desirable to assure program integrity or where such an audit becomes necessary because of federal or state requirements. Where such an audit is called for, the audit shall be performed by a Certified Public Accountant independent of the Sub-Grantee and at the cost of the Sub-Grantee. The audit shall be in the form required by SAWPA.

#### **SECTION 20. PROJECT CLOSEOUT DOCUMENTATION**

To ensure that the Project is closed out in a manner that provides an auditable file for SAWPA, Sub-Grantee shall follow a close-out procedure that includes payment of all subcontracts, completion of all punch lists, defects correction, satisfaction of warranty or guarantee issues, and any other requirements for the completion of the scope of work. Such close-out procedures shall include those procedures contained in the Grant Agreement or otherwise required by SAWPA and DWR.

#### **SECTION 21. POST-PERFORMANCE REPORTS**

**Post-Performance Reports** as described in **Exhibit G** of the Grant Agreement shall be submitted to SAWPA by the Sub-Grantee within **seventy (70) calendar days** after the first operational year of the Project has elapsed. This record keeping and reporting process shall be repeated annually for a total of **three (3) years** after the completed Project begins operation. The format of the Post Performance Report is outlined in both the Post-Performance Report Section 19(f) and in Exhibit G of the Grant Agreement. The Parties understand and agree that this covenant shall survive the expiration or termination of this Contract while not to exceed the Post-Performance Reporting period.

#### **SECTION 22. MONITORING REQUIREMENTS**

- (A) All groundwater projects and projects that include groundwater monitoring requirements are consistent with the Groundwater Quality Monitoring Act of 2001.
- (B) Projects that affect water quality shall include a monitoring component that allows the integration of data into statewide monitoring efforts, including where applicable, the Surface Water Ambient Monitoring Program administered by the State Water Resources Control Board.
- (C) Groundwater quality and ambient surface water quality monitoring data that include chemical, physical, or biological data shall be submitted to SAWPA with a narrative description of data submittal activities (included in project reports) as described below:

- (1) Surface water quality monitoring data shall be prepared by the Sub-Grantee for submission to the California Environmental Data Exchange Network (CEDEN). CEDEN data templates are available on the CEDEN website (<http://www.ceden.org>). Inclusion of additional data elements described on the data templates is desirable. Data ready for submission should be uploaded to the CEDEN Regional Data Center via the CEDEN website and a copy shall be given to SAWPA.
  - (2) If the Project's Work Plan in the Grant Agreement contains a groundwater ambient monitoring element, groundwater quality monitoring data shall be submitted by the Sub-Grantee to the State for inclusion in the State Water Resources Control Board's Groundwater Ambient Monitoring and Assessment (GAMA) Program. Information on the GAMA Program can be obtained at [http://www.waterboards.ca.gov/water\\_issues/programs/gama](http://www.waterboards.ca.gov/water_issues/programs/gama). If further information is required, the Sub-Grantee can contact the State Water Resources Control Board GAMA Program. A copy of all data submitted shall be given to SAWPA.
- (D) If groundwater level data is collected, the Sub-Grantee shall submit to DWR groundwater level data using the California Statewide Groundwater Elevation Monitoring (CASGEM) online data submission system. Grantee should use their official CASGEM Monitoring Entity or Cooperating Agency status to gain access to the online submittal tool and submit data. If the data is from wells that are not part of the monitoring network, the water level measurements should be classified as voluntary measurements in the CASGEM system. If the grantee is not a Monitoring Entity or Cooperating Agency, please contact your DWR grant project manager for further assistance with data submittal. The activity of data submittal should be documented in appropriate progress or final project reports, as described in Exhibit G of the Grant Agreement. Information regarding the CASGEM program can be found at <https://www.water.ca.gov/Programs/Groundwater-Management/Groundwater-Elevation-Monitoring--CASGEM>.

**SECTION 23. TERMINATION; IMMEDIATE REPAYMENT; INTEREST**

- (A) SAWPA may terminate this Contract at any time prior to completion of the Project for Sub-Grantee's violation of any provision of this Contract upon written notice by SAWPA if the violation and failure of Sub-Grantee to come into compliance within a reasonable time as established by SAWPA.
- (B) In the event of such termination, the Sub-Grantee agrees, upon demand, to immediately repay to SAWPA an amount equal to the amount of grant funds disbursed to the Sub-Grantee prior to such termination. In the event of termination, prejudgment interest shall accrue on all amounts due from the date that notice of termination is mailed to the Sub-Grantee to the date of full repayment by the Sub-Grantee.
- (C) SAWPA may terminate this Contract should DWR terminate SAWPA as program manager, or terminate funding for this Contract or the Project or should DWR terminate its standard agreement with SAWPA on this Project. Upon such DWR-caused termination, SAWPA shall not be liable to Sub-Grantee for any damages, costs or expenses resulting from such termination.

**SECTION 24. DAMAGES FOR BREACH AFFECTING TAX EXEMPT STATUS**

In the event that any breach of any of the provisions of this Contract or other action by the Sub-Grantee shall result in the loss of tax exempt status for any bonds, or if such breach shall result in an obligation on the part of the SAWPA to reimburse the federal government by reason of any arbitrage profits, the Sub-

Grantee shall immediately reimburse SAWPA and/or DWR in an amount equal to any damages paid by or loss incurred by the State due to such breach.

**SECTION 25.           ARBITRATION**

Any dispute which may arise under this Contract by and between the SAWPA and the Sub-Grantee, including the Sub-Grantee's subcontractors, laborers, and suppliers, shall be submitted to binding arbitration. The arbitrator shall decide each and every dispute in accordance with the laws of the State of California, and all other applicable laws. Unless the Parties stipulate in writing to the contrary, prior to the appointment of the arbitrator, all disputes shall first be submitted to non-binding mediation.

**SECTION 26.           COSTS AND ATTORNEY FEES**

In the event of arbitration or litigation between the parties hereto arising from this Contract, it is agreed that the prevailing party shall be entitled to recover reasonable costs and attorney fees.

**SECTION 27.           WAIVER**

Any waiver of any rights or obligations under this Contract or the Grant Agreement shall be in writing and signed by the Party making such waiver, and approved by SAWPA and the DWR.

**SECTION 28.           AMENDMENT**

This Contract may be amended at any time by mutual written agreement of the Parties.

**SECTION 29.           SAWPA REVIEWS; SUB-GRANTEE AS INDEPENDENT CONTRACTOR**

- (A) The Parties agree that review or approval of the Project or Project plans and specifications by SAWPA is for administrative and eligibility purposes only and does not relieve the Sub-Grantee of its responsibility to properly plan, design, construct, operate, and maintain the Project. As between SAWPA and the Sub-Grantee, the Sub-Grantee agrees that it has sole responsibility for proper planning, design, construction, operation, and maintenance of the Project.
- (B) The Sub-Grantee is an independent contractor exclusively responsible for the design, construction, operation and maintenance of the specific project funded by this Contract and that the Sub-Grantee is not acting as SAWPA's agent, nor is SAWPA acting as an agent of the Sub-Grantee.

**SECTION 30.           INDEMNIFICATION**

- (A) Sub-Grantee shall defend, indemnify and hold harmless SAWPA, DWR, and their respective directors, commissioners, officers, employees, agents, and assigns (collectively, the "Indemnified Parties") from and against any claims, losses, damages, attorneys' fees and expenses arising from any and all contracts, contractors, subcontractors, suppliers, laborers, and any other person, entity or corporation furnishing or supplying such services, materials or supplies in connection with the Project funded, in part, by this Contract or arising from the transactions, funding and construction activities contemplated by such contracts. Sub-Grantee shall indemnify and save Indemnified Parties harmless from any and all claims, losses, damages, attorneys' fees and expenses that may arise from any breach or default by Sub-Grantee in the performance of its obligations under this Contract, or any act of negligence by the Sub-Grantee or any of its agents, contractors, subcontractors, servants, employees or licensees concerning the

subject matter of this Contract or the Project. No indemnification is required under this Section for claims, losses or damages arising out of the sole and exclusive misconduct or negligence under this Contract by SAWPA. Sub Grantee shall require its contractors or subcontractors to name the SAWPA, DWR, and their officers, agents and employees as additional insureds on their liability insurance for activities undertaken pursuant to this Agreement.

- (B) The Sub-Grantee understands and agrees that it has complied and will comply with CEQA and the State CEQA Guidelines for the project which is the subject matter of this Contract. Sub-Grantee understands and agrees that it is ultimately and solely responsible, as the lead agency, for compliance with CEQA and any mitigation measures required for the Project. The Sub-Grantee hereby agrees to indemnify, defend and hold harmless SAWPA and the DWR from any and all claims or actions related to this Project that may be made by any third party or public agency alleging, among other things, violations of CEQA or the State CEQA Guidelines.
- (C) In addition to complying with the insurance requirements contained in the Grant Agreement, including **Exhibit D** of the Grant Agreement, the Sub-Grantee shall ensure that adequate insurance coverage is provided by Sub-Grantee and/or its contractors and subcontractors on the Project funded, in part, by this Contract. Such insurance shall include adequate coverage for comprehensive commercial general liability, business auto liability, workers compensation liability, professional and errors and omissions liability, property insurance, including all builders risk insurance. Such insurance coverage shall, at a minimum, insure against injuries to third parties, damage to property owned by third parties, physical damage to the Arundo Component and all related facilities, theft of building materials and supplies intended for the Arundo Component, delays in Arundo Component completion, delays in Arundo Component completion due to strikes and governmental actions, liquidated damages, employee injuries and work-related illnesses, design errors resulting in increased project costs, environmental damage caused by construction activities related to the Arundo Component, and nonperformance by the contractors and subcontractors. Such insurance coverages shall be provided by admitted insurance companies authorized to do business in the State of California, and with a minimum "Best's Insurance Guide" rating of "A:VII". The Parties understand that Sub-Grantee is self-insured and has established a self-funded reserve for this purpose which will satisfy the requirements of this Subparagraph 29(C).

**SECTION 31.            PROJECT AND INFORMATION ACCESS**

The Sub-Grantee agrees to ensure that SAWPA, DWR, or any authorized representative thereof, shall have reasonable access to the Arundo Component site at all reasonable times during Arundo Component construction, and thereafter for the useful life of the Project and the SARCCUP Conjunctive Use Program.

**SECTION 32.            OPINIONS AND DETERMINATIONS**

Where the terms of this Contract provide for action to be based upon the opinion, judgment, approval, review, or determination of either party hereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary and capricious.

**IN WITNESS THEREOF**, the parties have executed this Contract on the later date set forth below.

SANTA ANA WATERSHED PROJECT  
AUTHORITY

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Richard E. Haller, General Manager

ORANGE COUNTY WATER DISTRICT  
**Sub-Grantee**

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Michael R. Markus, General Manager

# **EXHIBIT I**

## 6.8 PROCUREMENT GUIDELINES – COMPETITIVE BIDS

The following guidelines will be followed by the Purchasing Manager in obtaining pricing and competitive bids under general Procurement methods.

EXPENDITURE RANGE	PROCUREMENT METHOD
Less than \$5,000	Noncompetitive negotiation
\$5,000 to \$9,999	A minimum of two (2) verbal quotations are required
\$10,000 to \$19,999	A minimum of two (2) written quotations are required
\$20,000 to \$50,000	A minimum of three (3) written quotations are required
\$50,000 or more	IF BUDGETED, a minimum of three (3) written quotations and Board authorization for award of purchase order is required. IF NOT BUDGETED, Board discretion to either accept three (3) written quotations and award purchase order or follow formal advertisement for bid procedures.

# **EXHIBIT J**

**BUDGET**  
**SAWA Staff**

**SAWA Jan 1, 2019 Billable Rates**  
**Board Approved 12/21/18**

Updated 4/22/19  
**USFWS**

Name	Title	Billable Rate	USFWS Billable Rate w/out OH	USFWS 10% OH rate added to final invoice total
Aimar, Melody	WHMS Manager	\$ 108.34	\$ 63.73	\$ 70.10
Almanza, Martin	Field Supervisor	\$ 61.21	\$ 36.01	\$ 39.61
Almanza, Martin	Field Supervisor - OT	\$ 91.82	\$ 54.01	\$ 59.41
Arellano, Maria	Office Specialist	\$ 48.56	\$ 28.56	\$ 31.42
Arellano, Maria	Office Specialist - OT	\$ 72.84	\$ 42.85	\$ 47.13
Beckman, Allyson	WHMS Supervisor	\$ 92.09	\$ 54.17	\$ 59.58
Brady, Brian	Executive Director	\$ 145.15	\$ 85.38	\$ 93.92
Burton, Jessica	Biologist II	\$ 59.73	\$ 35.14	\$ 38.65
Burton, Jessica	Biologist II - OT	\$ 89.59	\$ 52.70	\$ 57.97
Carpenter, Jenna	Biology Assistant	\$ 27.51	\$ 16.18	\$ 17.80
Carpenter, Jenna	Biology Assistant - OT	\$ 41.26	\$ 24.27	\$ 26.70
Chan, Florence	Biologist II	\$ 67.50	\$ 39.71	\$ 43.68
Chan, Florence	Biologist II - OT	\$ 101.26	\$ 59.56	\$ 65.52
El Morsy, Jennette	Aministrative Services Manager	\$ 100.99	\$ 59.41	\$ 65.35
Falatek, Patience	Biologist II	\$ 61.21	\$ 36.01	\$ 39.61
Falatek, Patience	Biologist II - OT	\$ 91.82	\$ 54.01	\$ 59.41
Faucher, Jacob	HRS Lead Technicia	\$ 44.38	\$ 26.11	\$ 28.72
Faucher, Jacob	HRS Lead Technician - OT	\$ 66.57	\$ 39.16	\$ 43.08
Gallagher, Aaron	Biologist II	\$ 48.43	\$ 28.49	\$ 31.34
Gallagher, Aaron	Biologist II - OT	\$ 72.64	\$ 42.73	\$ 47.01
Hernandez, Anthony	HRS Technician	\$ 38.65	\$ 22.73	\$ 25.01
Hernandez, Anthony	HRS Technician - OT	\$ 57.97	\$ 34.10	\$ 37.51
Hernandez, Arcenio	HRS Lead Technician	\$ 49.24	\$ 28.96	\$ 31.86
Hernandez, Arcenio	HRS Lead Technician OT	\$ 73.86	\$ 43.45	\$ 47.79
Housel, Nicole	Biologist II	\$ 65.29	\$ 38.41	\$ 42.25
Housel, Nicole	Biologist II - OT	\$ 97.94	\$ 57.61	\$ 63.37
Keyes, Jonathan	HRS Technician	\$ 39.78	\$ 23.40	\$ 25.74
Keyes, Jonathan	HRS Technician - OT	\$ 59.67	\$ 35.10	\$ 38.61
Law, James	HRS Manager	\$ 102.33	\$ 60.19	\$ 66.21
Locatelli, Anthony	Biologist II	\$ 62.72	\$ 36.90	\$ 40.59
Locatelli, Anthony	Biologist II - OT	\$ 94.09	\$ 55.34	\$ 60.88
Lugo, Paul	HRS Technician - Termed 4/26/19	\$ 40.05	\$ 23.56	\$ 25.92
Lugo, Paul	HRS Technician - OT Termed 4/26/19	\$ 60.08	\$ 35.34	\$ 38.88
O'Keeffe, Kevin	HRS Technician	\$ 35.27	\$ 20.75	\$ 22.82
O'Keeffe, Kevin	HRS Technician - OT	\$ 59.67	\$ 35.10	\$ 38.61
Porterfield, Britton	HRS Technician	\$ 39.78	\$ 23.40	\$ 25.74
Porterfield, Britton	HRS Technician - OT	\$ 59.67	\$ 35.10	\$ 38.61
Rodriguez, Andres	HRS Technician	\$ 35.27	\$ 20.75	\$ 22.82
Rodriguez, Andres	HRS Technician - OT	\$ 59.67	\$ 35.10	\$ 38.61
Sterrett, Brenden	HRS Technician	\$ 35.27	\$ 20.75	\$ 22.82
Sterrett, Brenden	HRS Technician - OT	\$ 59.67	\$ 35.10	\$ 38.61
Trujillo, Nathaniel	HRS Lead Technician	\$ 45.01	\$ 26.48	\$ 29.12
Trujillo, Nathaniel	HRS Lead Technician OT	\$ 67.52	\$ 39.72	\$ 43.69

**OT = Over Time Rates**

**OCWD**

Name	Title	Rate	USFWS Rate w/out	USFWS has a 10% OH
Macbeth, Cameron	Field Biologist	\$ 83.81	\$ 49.30	\$ 54.23

**SEASONAL/CONTRACT BIOLOGISTS**

Name	Title	Billable Rate	USFWS Billable Rate w/out OH	USFWS USFWS project has a 10% OH rate added to final invoice total
Hoffman, Sue	Biologist II	\$ 59.50	\$ 35.00	\$ 38.50

**Field Assistants**

Name	Title	Billable Rate	USFWS Billable Rate w/out OH	USFWS USFWS project has a 10% OH rate added to final invoice total
Maria Arechiga	Field Assistant	\$ 21.25	\$ 16.39	\$ 18.03
Valente (Reed) Ayala	Field Assistant	\$ 21.25	\$ 16.39	\$ 18.03
Brittney Dantuono	Field Assistant	\$ 21.25	\$ 16.39	\$ 18.03
Corina Jimenez	Field Assistant	\$ 21.25	\$ 16.39	\$ 18.03
Kaitlyn Purington	Field Assistant	\$ 21.25	\$ 16.39	\$ 18.03
Amber Suto	Field Assistant	\$ 21.25	\$ 16.39	\$ 18.03
Karen Tercero	Field Assistant	\$ 21.25	\$ 16.39	\$ 18.03

**AMENDMENT NO. 1 TO AGREEMENT NO. 1369**  
**with**  
**SANTA ANA WATERSHED ASSOCIATION**  
**for**  
**ARUNDO REMOVAL WORK**

As of July 17, 2024, the Orange County Water District, herein "OCWD", and SANTA ANA WATERSHED (SAWA), herein "CONTRACTOR", agree as follows:

**SECTION 1.           PURPOSE**

OCWD retained CONTRACTOR to provide consulting services by Agreement No. 1369 dated April 17, 2019, hereinafter called "original agreement." The parties desire to modify the original agreement to extend term and add additional costs and services.

**SECTION 2.           EXTENSION IN TERM**

PART I, FUNDAMENTAL TERMS, item C. Term, delete in its entirety and replace with the following:

“C.    Term: Unless terminated earlier as set forth in this Agreement, the services and the term of this Agreement shall continue through its expiration on July 1, 2025.”

**SECTION 3.           ADDITIONAL SERVICES OF CONTRACTOR**

PART IV, SCOPE OF SERVICES, item B is added to the original agreement to read:

“B.    The CONTRACTOR shall provide additional services in accordance with Exhibit F, included and attached hereto.”

**SECTION 4.           COMPENSATION**

PART V, BUDGET, item E. is added to the original agreement to read:

“E. OCWD shall compensate CONTRACTOR \$100,000. for the revised services. Total compensation to CONTRACTOR under the original Agreement in the amount of \$3,728,898 and this Amendment No. 1 in the amount of \$100,000 shall not exceed \$3,828,898.”

**SECTION 5. OTHER**

Except as provided herein, each and every term, condition and provision of the original Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed the date first above written.

ORANGE COUNTY WATER DISTRICT

Signed by:  
By: John C Kennedy  
B7A56DB0ADB9420...  
John C. Kennedy, General Manager

DocuSigned by:  
By: Cathy Green  
74525BB109EB4A9...  
Cathy Green, Board President

Date: 8/23/2024

SANTA ANA WATERSHED ASSOCIATION

DocuSigned by:  
By: Brian Brady  
BF6A8672D9FF49A...

Title: Executive Director

By: \_\_\_\_\_

Title: \_\_\_\_\_

APPROVED AS TO FORM:

RUTAN & TUCKER, LLP

DocuSigned by:  
By: [Signature]  
5C52400A76BE4DA...  
Jeremy N Jungreis, General Counsel

Contractor Information:

Address for Notices and Payments:  
1835 Chicago Avenue, Suite C  
Riverside, CA 92507

Attention: James Law  
Telephone: 909-771-6903  
Email: jlaw@sawatershed.org

# EXHIBIT F

## SCOPE OF SERVICES

### Arundo Donax Removal and Control in the Prado Basin

The Orange County Water District (OCWD or District) is dedicated to the removal of *Arundo donax* as a water supply strategy and to fulfill the requirements of its biological opinions related to water conservation efforts behind Prado Dam. The biological opinions require the District to remove Arundo throughout the Prado Basin to the maximum extent possible. OCWD will retain the Santa Ana Watershed Association (SAWA) to remove Arundo throughout the Prado Basin to meet these regulatory requirements and to continue to protect Orange County's water supply.

The scope of services for *Arundo donax* removal and control includes the following:

1. Ongoing follow-up treatment of Arundo on District property in the Prado Basin in areas determined by OCWD during bi-weekly coordination meetings, at billable rates, not to exceed \$100,000.

OCWD is entering into an agreement with the Santa Ana Watershed Association (SAWA) to execute this scope of services in accordance with OCWD requirements. The work is expected to commence in Fall 2024 and continue through June 2025.

#### Contact Information:

OCWD ARUNDO REMOVAL PROGRAM MANAGER, Sheryl Parsons, Director of Natural Resources, [SParsons@OCWD.com](mailto:SParsons@OCWD.com)  
Telephone: 714/378-3213

OCWD ARUNDO REMOVAL FIELD MANAGER, David McMichael, Principal Environmental Specialist, [DMcMichael@OCWD.com](mailto:DMcMichael@OCWD.com)  
Telephone: 714/378-8211

SAWA ARUNDO REMOVAL PROJECT MANAGER, James Law, [jlaw@sawatershed.org](mailto:jlaw@sawatershed.org)  
Telephone: 909/771-6903

**Project Schedule:**

Commencement of Work:	Fall 2024
Mandatory Coordination Meetings:	Biweekly at OCWD Prado Office 14980 River Road Corona, CA 92880
Written Update Reports: Work	Every 3 months
Completion Date:	June 30, 2025

## Scope of Services

### Santa Ana River and Prado Basin Arundo Control

OCWD owns and manages resources on 2,150 acres in the Prado Basin (Basin) including a 50-pond wetland system on approximately 450 acres. This Scope is for the re-treatment of regrowth of invasives species including, but not limited to: giant reed (*Arundo donax*), salt cedar (*Tamarisk ssp.*), castorbean (*Ricinus communis*), Palm trees, and other weeds capable of preventing native vegetation from re-establishing on OCWD property.

**I. Purpose:** The purpose of this invasive plant removal project is to conduct removal and spraying of giant cane (*Arundo donax*) and associated weeds on the Santa Ana River on District lands in the Prado Basin, Riverside County, CA.

**II. Project Area:** The project area encompasses District lands in the Prado Basin, Riverside County, CA.

**III. Project Management:**

Santa Ana Watershed Association: James Law, Project Manager

Orange County Water District, Field Operations Coordinators: Sheryl Parsons, Natural Resources Director; David McMichael, Principal Environmental Specialist

**IV. General Requirements:**

- A. Prepare and implement a removal and spraying plan for each work area. Work areas will be determined during coordination meetings but will generally work upstream to downstream. The plan shall include removal techniques and the amount and type of herbicide, mixing ratios, adjuvants used and the dates of application. The type of equipment used needs to be approved by OCWD project manager prior to use. Excessive drift shall be avoided at all times. Cut-stump treatments will be utilized when treating adjacent to the creek to limit impacts to aquatic wildlife.
- B. Contractor will maintain monitoring logs throughout the contract period and thereafter as needed or required.
- C. Seasonal work constraints – Work will only occur when conditions allow. No herbicide applications will occur if there is projected rain or if winds exceed 10 mph. During migratory nesting seasons a qualified biologist(s) will monitor all work. OCWD will provide the biological monitor for work completed under this agreement.
- D. Coordination with other activities will be on-going between SAWA and OCWD to ensure there are no conflicts.

## V. Specific Requirements:

A. **Progress Reports:** The Contractor shall provide quarterly reports to OCWD showing the progress of removal and areas sprayed; an estimate on the amount removed and sprayed, and billing will occur monthly. A final removal and spray report will be required at the end of treatment. Accompanying all reports shall be maps of removal and treatment areas showing treated acreages documented with GPS readings to verify locations and acreages.

### B. Non-native Vegetation Removal:

Several techniques and types of tools and equipment can be used to remove non-native species, including but not limited to: removal by hand using loppers, chainsaws, brush cutters, tractor-mounted mulching mowers, arm-mounted tractor/cutter and other approved power equipment. Care must be taken to minimize impacts to native habitat that could result from the transport of personnel and equipment conducting removal activities. Where removal is done by hand, stockpile areas can be established in order to chip the stalks after supervised removal from sensitive habitat. In most areas, material chipped is scattered onsite to decompose and function as mulch. Contractor shall use the most effective technique for each work site and will do so in full compliance with permits and regulations.

The methods used for treating *Arundo* stands are different, depending on the makeup of the stands. Pure stands of invasive plants that are easily accessible on flat terrain can be taken out with mechanical equipment like tractor-mounted mulching mowers. Impacts to any associated native plants will be avoided by using hand labor to take out the cane adjacent to native material. Stands of invasive plants often intermix or abut willows (*Salix ssp.*), cottonwoods (*Populus fremontii*), mule fat (*Baccharis salicifolia*) and other native riparian vegetation. Spraying of native vegetation is not allowed. All native plants and animals are protected from damage by equipment, personnel, and all other non-native vegetation control activities. Native shrubs and trees can be trimmed if necessary to provide access and to protect them from incidental spraying with herbicide but only under close supervision by a qualified biologist. Hand-removal is the only method allowed in mixed stands or when sensitive species occupy adjacent habitat.

After biomass reduction, new growth will be sprayed with an EPA-approved herbicide application. Over several years of re-treatments the huge root masses eventually dry out and are rendered unable to support new plant growth. Spraying of the sprouts will be done when they reach 2-4 feet, or taller, to get enough leaf surface for good chemical uptake and root-kill.

C. **Spraying of Non-native Vegetation:** The spraying of giant reed (*Arundo*

*donax*) will occur when the canes have re-grown to a height of 2-4 feet. In areas where regrowth has occurred, recutting may be required. Contractor may work with OCWD to address excessive regrowth.

Spraying can be done by the following methods: Tank sprayers, backpack sprayers or other low noise spray equipment. All spraying will be done by ground applications and should occur when conditions are most favorable for uptake of the herbicide. This will depend upon the areas needing treatment and local weather conditions. Spraying will occur in the following areas:

1. **Pure stands:** Pure stands of invasive plants are considered groups of plants that do not have any other native vegetation growing among them. Some stands of invasive plants may have native vegetation surrounding them.
  2. **Mixed stands:** Mixed stands are invasive plants that occur in or among willow (*Salix* spp.), cottonwoods (*Populus fremontii*), and mulefat (*Baccharis salicifolia*).
  3. **Treatment of other plants:** Treatment, drift or damage to native vegetation shall be avoided at all times. Treatment of other problematic invasive weeds that attempt to establish in the treatment areas is encouraged.
- D. Hazardous conditions and changing weather should be expected. Hazards such as mud, quicksand, snakes, poison oak, dust, ash, and flooding are possible. The Contractor should ensure that personnel and equipment avoid these areas or conditions whenever possible.
- E. The District will be responsible for managing the system of access roads to ensure that the treatment sites are accessible. Contractor should notify the District when a treatment site has become inaccessible due to downed trees and excessive vegetative growth.
- F. The Contractor shall ensure that only the target plants are treated. The Contractor shall have sufficient knowledge to ensure that plants and animals that are threatened or endangered are not harmed. Bird species may or may not nest nearby. If a species is found by the monitoring biologist or the Contractor, all work shall stop immediately. The right to resume work will be determined by the area biologist or other authority. The Contractor shall be a licensed pesticide applicator or pesticide advisor and certified in aquatics. Contractor shall have past experience in invasive plant removal and control and is able to recognize the target plants at any stage of growth.
- G. On the last day of treatment, or when all plants have been killed to the satisfaction of OCWD, then OCWD shall schedule a final inspection of the area with the Contractor. All areas that have been treated shall be inspected. If portions of the treatment area need another treatment

beyond that of the contract, the Contractor shall treat the area within two weeks. Treatment beyond the last day of coverage may be needed and will be considered as an additional new contract, if funding is available.

- H. Right-of-Entry permits shall be obtained by the Contractor for all work areas. Access to project areas on OCWD lands will be coordinated through OCWD.
- I. Natural re-vegetation will be promoted after adequate herbicide treatment. The site will be monitored as deemed appropriate by OCWD.

**Certificate Of Completion**

Envelope Id: 7C2E93727DB14E3A80CF6315FD272081	Status: Completed
Subject: DocuSign: Agreement 1369 - SAWA Amendment 1..pdf	
Source Envelope:	
Document Pages: 8	Signatures: 4
Certificate Pages: 2	Initials: 0
AutoNav: Enabled	Envelope Originator:
Envelope Stamping: Enabled	Ashlie Valencia
Time Zone: (UTC-08:00) Pacific Time (US & Canada)	PO Box 8300
	nil
	Fountain Valley, CA 92728
	avalencia@ocwd.com
	IP Address: 67.52.122.245

**Record Tracking**

Status: Original	Holder: Ashlie Valencia	Location: DocuSign
8/19/2024 9:11:07 AM	avalencia@ocwd.com	

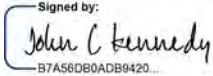
**Signer Events**

Signer Events	Signature	Timestamp
Jeremy N. Jungreis JJungreis@rutan.com General Counsel OCWD Security Level: Email, Account Authentication (None)	 <p>DocuSigned by: 5C52400A76BE4DA...</p> <p>Signature Adoption: Drawn on Device Using IP Address: 174.195.134.192 Signed using mobile</p>	<p>Sent: 8/19/2024 9:13:48 AM Resent: 8/20/2024 7:15:35 AM Viewed: 8/20/2024 7:44:09 AM Signed: 8/23/2024 8:34:30 AM</p>

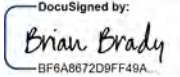
**Electronic Record and Signature Disclosure:**  
Not Offered via DocuSign

Cathy Green ctpgreen@gmail.com OCWD Board President Security Level: Email, Account Authentication (None)	 <p>DocuSigned by: 745255B109EB4A9...</p> <p>Signature Adoption: Pre-selected Style Using IP Address: 47.151.9.222</p>	<p>Sent: 8/23/2024 8:34:31 AM Viewed: 8/23/2024 9:16:47 AM Signed: 8/23/2024 9:17:00 AM</p>
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**Electronic Record and Signature Disclosure:**  
Not Offered via DocuSign

John C Kennedy JKennedy@ocwd.com General Manager Security Level: Email, Account Authentication (None)	 <p>Signed by: B7A56DB0ADB9420...</p> <p>Signature Adoption: Pre-selected Style Using IP Address: 67.52.122.245</p>	<p>Sent: 8/23/2024 9:17:02 AM Viewed: 8/23/2024 9:19:57 AM Signed: 8/23/2024 9:20:11 AM</p>
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**Electronic Record and Signature Disclosure:**  
Not Offered via DocuSign

Brian Brady bbrady@sawatershed.org Executive Director Santa Ana Watershed Association Security Level: Email, Account Authentication (None)	 <p>DocuSigned by: BF6A8672D9FF49A...</p> <p>Signature Adoption: Pre-selected Style Using IP Address: 199.5.189.20</p>	<p>Sent: 8/23/2024 9:20:13 AM Resent: 8/26/2024 7:01:36 AM Viewed: 8/26/2024 8:10:58 AM Signed: 8/26/2024 8:12:07 AM</p>
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**In Person Signer Events**

**Signature**

**Timestamp**

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<b>Notary Events</b>	<b>Signature</b>	<b>Timestamp</b>
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Envelope Updated	Security Checked	8/26/2024 7:01:35 AM
Envelope Updated	Security Checked	8/26/2024 7:01:35 AM
Envelope Updated	Security Checked	8/26/2024 7:01:35 AM
Certified Delivered	Security Checked	8/26/2024 8:10:58 AM
Signing Complete	Security Checked	8/26/2024 8:12:07 AM
Completed	Security Checked	8/26/2024 8:12:07 AM
<b>Payment Events</b>	<b>Status</b>	<b>Timestamps</b>



## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 9, 2025

**To:** Water Issues Committee  
Board of Directors

**From:** John Kennedy

**Staff Contact:** R. Bouley/L. Esguerra

**Budgeted:** Yes

**Budgeted Amount:** \$3,500,000

**Cost Estimate:** \$150,000

**Funding Source:** R&R

**Program/Line Item No.:** R22014

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: AMENDMENT NO. 5 TO AGREEMENT WITH TETRA TECH FOR SANTIAGO PUMP STATION MODIFICATIONS PROJECT DESIGN AND CONSTRUCTION SUPPORT SERVICES AND NOTICE INVITING BIDS**

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### SUMMARY

The District previously hired Tetra Tech in 2018 to provide design and construction support services for the Santiago Pump Station Modification project. Amendment No. 3 to the agreement was issued in 2022 to complete an underwater assessment of the power cables to the pump station. Amendment No. 4 was issued in 2023 to incorporate repairs for the conduits and wires in the project bid documents. Staff recommend authorizing Amendment No. 5 for additional design services for the Santiago Pump Station Modifications Project and issuing Notice Inviting Bids for the construction contract.

### RECOMMENDATION

Agendize for July 16 Board Meeting:

- 1) Authorize Amendment No. 5 to Agreement No. 1336 with Tetra Tech for an amount not to exceed \$150,000 for additional design services for the Santiago Pump Station Modifications Project Design and Construction Support Services.
- 2) Authorize publication of Notice Inviting Bids for Contract No. SB-2025-2, Santiago Pump Station Modifications.

### BACKGROUND/ANALYSIS

Orange County Water District (OCWD) owns Blue Diamond and Bond Basins, collectively known as Santiago Basin, which are located near the intersection of Villa Park Road and N. Hewes Street in the City of Orange. OCWD pumps Santa Ana River water from Burris Basin to the Santiago Basins for groundwater recharge. There are two pump stations in Santiago Basin that allow the District to pump water from the Basin to Santiago Creek or back to Burris Basin to increase groundwater recharge capacity of the system. The original submerged pump station is no longer functioning and cannot be repaired. There is also a floating pump station in Santiago Basin that is currently inoperable due to wire damage. The configuration of Santiago Basin and pump stations is shown in Figure 1 on the next page.

In October 2018, the Board authorized an agreement with Tetra Tech to prepare engineered construction drawings and bid documents to modify the floating pump station to work at lower water elevations since the submerged pump station no longer functions. This project was placed on hold for a few years while the separate Santiago Saddle Project was completed. Staff continued design for the modification project and found the power cables to the floating pump station are damaged. This damage has made the floating pump station inoperable. Tetra Tech performed an additional assessment of the 1,400-foot-long power conduits and multiple cable bundles that connect the pump station control building to the floating pump station. This analysis detailed the damage to the power wires and floating conduits and allowed Tetra Tech to design a repair.

**Figure 1 – Santiago Basin**



In January 2023 emergency work was completed on the southeast corner of Bond Basin to temporarily repair erosion of the slope caused by a failed storm drain. Design of the permanent repair was completed in January 2025. To complete repair of the failed slope during Summer the water level must be lowered within the basin. Staff determined the project will be construction in two phases. Phase 1 to perform repairs to the eight (8) existing power wires connected to the two existing pumps to lower the basin water level. Phase 2 to replace the 20 year old pump starters and to construct an 18" pump station bypass pipeline.

In June 2024, the Board authorized an agreement with T.E. Roberts to perform Phase 1. Six-hundred feet of wire were inspected and repaired. However, three of eight wires failed electrical testing and replacement would require over 4,000 feet of new wire. Due to the quantity of replacement power wire and the need to lower the water level to facilitate basin repairs during Summer 2025, Staff determined to utilize the four (4) existing good wires to repower one of two pumps. The re-powered pump has been in operation since April 2025 and is delivering over 45-acre feet per day of additional recharge to Lower Santiago Creek, Burris Basin, River View, and Fletcher Basin, an added benefit of repairing the pump. Due to the unknown condition of the remaining wire, all eight wires will be replaced and incorporated into the Phase 2 project.

The existing PLC/SCADA hardware and software at numerous facilities within the Forebay are out of date and are vulnerable to cyber threats. Plans to upgrade the PLC/SCADA hardware and software at these facilities are budgeted. The PLC/SCADA at Santiago Pump Station is one of the facilities identified and Staff determined replacement of the existing PLC/HMI shall be completed concurrently with the electrical improvement proposed in Phase 2.

Staff requested Tetra Tech to provide a proposal for additional engineering services to design and incorporate the wire and PLC/SCADA into the Bid Documents for the Santiago Pump Station Modifications Project. Tetra Tech provided a proposal to complete these additional engineering services. Staff recommends authorizing Amendment No. 5 to Agreement No. 1336 with Tetra Tech for an amount not to exceed \$150,000 for the additional design services for the Santiago Pump Station Modifications Project Design and Construction Support Services.

The final plans and specifications for the Santiago Pump Station Modifications project is nearing completion and staff recommends authorizing publication of the Notice of Inviting Bids for Contract No. SB-2025-1, Santiago Pump Station Modifications.

**Table 1: Santiago Pump Station Modifications Schedule Summary**

Description	Dates
Design	October = 2018 – May 2025
Construction Contract	November 2025 – June 2027

**PRIOR RELEVANT BOARD ACTIONS**

2/19/2025, R25-2-18: Amendment to Agreement with T.E. Roberts for the Santiago Floating Pump Station Power Wire and Conduit Repairs

6/19/2024, R24-6-68: Authorize Agreement with T.E. Roberts for the Santiago Floating Pump Station Power Wire and Conduit Repairs

5/03/2023, R23-5-58: Authorize Amendment to Agreement with Tetra Tech for Santiago Pump Station Modifications Project Design and Construction Support Services

5/18/2022, R22-5-56: Authorize Amendment to Agreement with Tetra Tech for Santiago Pump Station Modifications Project Design and Construction Support Services

10/16/2019, R19-10-146: Authorize Amendment to Agreement with Tetra Tech for Santiago Pump Station Modifications Project Design and Construction Support Services

10/17/2018, R18-10-144: Authorize Agreement to Tetra Tech for Santiago Pump Station Modifications Project Design and Construction Support Services

08/15/2018, M18-97: Establish A Project Budget and Authorize Issuance of RFP for Santiago Pump Station Modifications Design Services



June 26, 2025

Transmitted via E-mail: [lesguerra@ocwd.com](mailto:lesguerra@ocwd.com)

Mr. Laurence Esguerra, PE, Senior Engineer  
Orange County Water District  
18700 Ward Street  
Fountain Valley, CA 92708

**Reference: Santiago Pump Station Modifications Project (Agreement No. 1336)  
Request for Amendment No. 5**

Dear Mr. Esguerra:

Tetra Tech has been working on the Santiago Pump Station Modifications project since November 2018 with an original not-to-exceed budget of \$178,000. The budget was increased: \$13,600 by Amendment No. 1; \$20,000 by Amendment No. 2; and \$98,400 by Amendment No. 4. The current approved budget is \$310,000.

Tetra Tech previously completed the Phase 1 Plans & Specifications. The contractor has completed the Phase 1 construction, with one of the pumps being placed into service. District has provided Tetra Tech with redlines for the Phase 2 plans along with additional modifications/ detailed revisions. The following correspondence is requesting an increase in our approved budget to prepare the Phase 2 plans and specifications as well as for previously completed additional work that was not part of our previously approved scope of services.

**Current Scope of Work**

As of the date of this correspondence, Tetra Tech’s current scope of work includes the: original authorized budget; additional budget per Amendment No. 1 (small diameter bypass in lieu of VFD); March 24, 2020 reallocation of \$20,000 from Construction Phase to Final Design (new SMC drives and restraint of power/control cables); additional budget per Amendment No. 2 (underwater inspection); and Amendment No. 4 (HDPE and power cable repair/modifications):

<i>Task No.</i>	<i>Task Description</i>	<i>Original Budget</i>	<i>Amend. No. 1</i>	<i>Reallocation (3/24/20)</i>	<i>Amend. No. 2</i>	<i>Amend. No. 4</i>	<i>Revised Task Budgets</i>
1	Design Phase	\$113,700	\$ 13,600	\$ 20,000	\$ 20,000	\$ 62,100	<b>\$229,400</b>
2	Bid Phase	\$ 7,600	-	-		-	<b>\$ 7,600</b>
3	Construction Phase	\$ 56,700	-	<\$ 20,000>		\$ 36,300	<b>\$ 73,000</b>
<b>Total Budget Amount</b>		<b>\$178,000</b>	<b>\$ 13,600</b>	<b>\$ 0</b>	<b>\$ 20,000</b>	<b>\$ 98,400</b>	<b>\$310,000</b>

### **Summary of Additional Work**

#### ***Item No. 1: Cable Attachment to Pump Dock***

As Tetra Tech was working toward submitting our first 100% submittal, the District asked Tetra Tech to evaluate placing the excess cable slack and wires on conductor floating docks to keep the power wires out of the muddy lake bottom during low or no water level conditions in the basin. Tetra Tech spent significant effort to develop options for the floating cable dock concept but ultimately it was determined not to be feasible. If the basin were lowered (pumped down) to low or no water level, the proposed rigid or semi-rigid cable dock would not be able to support itself or flex without breaking. This was due to the pump barge having several tall support columns below the structure that keep it elevated above the basin bottom. As a result, the proposed cable dock would be half resting on the bottom of the basin and half hanging from the pump dock by cable or chain tethers. As a result, the power conductors transition to the pump barge was changed back to a swag design similar to the original design but with additional chain restraints to minimize the movement and distance between the floating pump dock and the 12” HDPE floating conduits that contain the power conductors.

Tetra Tech considers this additional work as it was not included in our existing scope of services.

#### ***Item No. 2: Revisions after 100% Submittal (Phase 1 Drawings)***

Tetra Tech submitted our first 100% submittal to the District in March 2024. The District requested several modifications to the design which included: cable restraint harness in lieu of concrete encasement of conductors; adding a cable vault to add extra space for conductor slack; and adding cable restraint and harness system with structural design to anchor into the existing pull box vault. In addition, the District requesting the project be split into Phase 1 and Phase 2 work to allow the District to return the pumps to service sooner. Tetra Tech made these changes and submitted a revised 100% submittal to the District in May 2024.

Tetra Tech considers this additional work as was never anticipated in the existing scope of services.

#### ***Item No. 3: Construction Engineering Support – Phase 1***

Tetra Tech provided the following construction engineering support during the Phase 1 construction performed by TE Roberts:

- Answer questions and e-mails;
- Review 12 shop drawing submittals; and
- Respond to 10 RFIs.

Tetra Tech considers this additional work (existing scope of services only includes one phase of construction support services).

#### ***Item No. 4: Phase 2 Plans and Specifications***

After the Phase 1 construction was completed, the District provided a red-line set of the plans and specifications showing the proposed changes to made for the Phase 2 plans and specifications. The following is a brief summary of the major comments:

- Add the replacement of power conductors (8) including three conductors for barge power from electrical room to barge pump disconnects.
- Replace two (2) pump soft starters;
- Replace electrical main switchboard;
- Replace all valve controllers;
- Replace PLC/ HMI;
- Add diver inspection for barge including re-torque bolts on barge supports; and
- Add a new sheet showing control valve areas around electrical room and valve vaults.

To include the new electrical equipment, Tetra Tech's electrical staff will need about two days of field work to confirm the new design of the electrical building.

The following is a summary of the changes required on the drawings:

- Drawings G-001 (Title Sheet); minor changes to date and approval names.
- Drawing G-002 (General Notes): revise Sheet Index.
- Drawing C-101 (Overall Site Plan): add new callout for blow-up of valves and valve vault.
- Drawing C-102 (Bypass Piping Plan and Profile): remove splice vault; add spring assist double leaf hatch to wire pull box; and extend pavement rehab area.
- Drawing C-103 (Floating PS Modification Plan): add detail to barge facility and pipe drain; add position indicator switch to existing surge valve; add note for barge underwater diver inspection of existing barge including inspecting and re-torquing all bolts; and update barge to show Phase 1 air valve piping improvements.
- Drawing C-104 (Existing Electrical Building Site Modification Plan): update per Phase 1 work completed; delete proposed pull box; update cable restraint detail; add new vault spring assist cover; and add core-drill of new sump.
- Drawing C-105 (12" and 32" HDPE Plan): remove original floats and relocate new floats (twenty foot spacing); update float and conduit chain restraint work quantities; and replace all conductors to barge.
- Drawing C-106 (Conduit Wire Platform): replace existing stainless steel wire and cable mesh pulling grip on barge with new; and update detail 5 with stainless steel piping.
- Add Drawing C-107 (Mechanical Control Valves and Piping): blow up of control valve area.
- Drawing C-503 (Float Details): remove and dispose original floats and protect in place fifty new floats.
- Drawing D-101 (Bypass Piping Mechanical Plan and Section): add ball valves and hose connection to elbow tap; add epoxy coating note; and add position indicator to manual valve to SCADA/PLC.
- Drawing D-102 (Existing Valve Vault Plan and Section): add existing 36" valve information; add note that MOV is modulating service; and repaint exposed pipe in below grade vault.

- Drawing S-101 (Removable Steel Enclosure Plan and Section): show proposed half concrete encasement of existing pipe at tie-in; and add note that contractor to provide pre-fabricated removable enclosure.
- Drawing E-101 (Overall Site Plan): delete Construction Note 1 about phasing and callouts for new electrical work.
- Drawing E-102 (Electrical Site Plan): update cable replacements; delete Construction Notes 5 and 6; and delete proposed new pullbox.
- Drawing E-103 (Electrical Building Demolition Plan): update demolition plan to account for the new electrical replacements (new main switchboard, soft starters, PLC and valve controllers).
- Drawing E-104 (Electrical Building Plan): update building plan to account for the new electrical replacements (new main switchboard, soft starters, PLC and valve controllers); and note for all new cables from electric room motor starters to pump disconnects on pump barge.
- Drawing E-105 (Bypass and Existing Vault Electrical Plan): change existing 36" valve to modulating type.
- Drawing E-106 (Floating Pump Station Electrical Plan): add position indicator to existing surge valve on barge.
- Drawing E-501 (Electrical Details): update duct bank detail; and update Construction Note 1.
- Drawing E-602 (Single Line Diagram): update to account for the new electrical replacements (new main switchboard, soft starters, PLC and valve controllers).
- Drawing E-603 (Electrical Equipment Elevation Plan): update to account for the new electrical replacements (new main switchboard, soft starters, PLC and valve controllers).
- Drawing E-604 (Conduit Schedule): update to account for the new electrical replacements (new main switchboard, soft starters, PLC and valve controllers); and add eight (8) new pump conductors.
- Drawing E-605 (Pump Control Schematic): update to account for the new soft starters.
- Drawing EI-101 (P&ID): update to account for the new electrical replacements (new main switchboard, soft starters, PLC and valve controllers); and add limit switch to surge valve.

Add the following electrical sheets:

- Electrical Room Power Plan and I&C Plan
- New MOV Control Panel Elevation and Wiring Details
- New PLC Panel Elevation and Details
- New PLC Network and Details

The Technical Specifications will be revised to address the following changes:

- Add replacement of Pump Motor Drives.
- Specifications for new electrical improvements (new main switchboard, soft starters, PLC and valve controllers).
- Delete "cable repairs to existing motor power cables (replacing all pump power conductors).
- Add requirement to perform underwater inspection of barge and provide report (include re-torque bolts).

- Remove existing wire rope tethers and protect new chain tethers.
- Repair southerly floating 12” conduit break.
- Remove Phase 1 and Phase 2 items of work. Remove Alternative Bid Item Work.
- Update Measurement and Payment section.
- Delete Project Sign Specification.
- Revise Section 15185 for valve electric motor actuators (Auma actuators only).
- Add PLC modifications and include OCWD integrators.
- Add Spec Section 17804 (Instrumentation Testing & Commissioning).
- Add Existing Barge Record Drawings to Appendix for clarity of bolt re-torquing work).

**Item No. 5: Additional Construction Phase Services**

Tetra Tech scope of work for Construction Phase Services were defined by Tasks 3.1 to 3.6 included in the request for proposals, and modified per our original proposal from November 2018, and as increased by Task No. 2 of Amendment No. 4.

The following table summarizes the assumed level of effort and budget for construction phase services included in our proposal and our additional level of effort to include construction support for the new electrical and miscellaneous civil improvements requested by the District.

<b>Task 3.0 Construction Phase</b>	<b>Existing Level of Effort</b>		<b>Additional Requested</b>		<b>Recommended Budget</b>	
	Quantity	Budget	Quantity	Budget	Quantity	Budget
3.1 Project Meetings	6	\$ 2,260	2	\$ 930	8	\$ 3,190
3.2 Shop Drawings	28/21	\$ 32,520	8/6	\$ 9,830		\$ 42,350
3.3 RFI Response	20	\$ 12,080	5	\$ 3,340	25	\$ 15,420
3.4 Plan Revisions	2 sheets	\$ 3,900	-	-	2 sheets	\$ 3,900
3.5 Site Survey and Field Verification	1	\$14,240	-	-	1	\$ 14,240
3.6 Record Drawings	1	\$8,000	-	\$ 1,900	1	\$ 9,900
<b>Totals</b>	--	<b>\$ 73,000</b>	--	<b>\$ 16,000</b>	--	<b>\$ 89,000</b>

The current approved budget for Construction Phase Services is \$73,000 (by Addendum No. 4). Therefore, we are requesting the approved budget for construction support services be increased **\$16,000** for a total of **\$89,000**.

**Requested Additional Budget**

Tetra Tech is requesting the following not-to-exceed additional budget authorization to compensate us for this additional work. We have attached our hourly manpower spreadsheet per task.

A breakdown of the requested budget authorization for each task is provided below:

Mr. Laurence Esguerra, PE, Senior Engineer  
 June 26, 2025  
 Page 6

<i>Item No.</i>	<i>Task Description</i>	<i>Total Budget</i>
1	Cable Attachment to Pump Dock	\$ 8,000
2	Revisions after 100% Submittal (Phase 1 Drawings)	\$ 24,000
3	Construction Engineering Support (Phase 1)	\$ 15,700
4	Phase 2 Plans and Specifications	\$ 86,300
5	Additional Construction Phase Services	\$ 16,000
<b>Total Budget Amount</b>		<b>\$ 150,000</b>

The following is a summary of the original authorized budget, additional budgets per Amendment Nos. 1 thru 4 and our Request for Amendment No. 5 per this correspondence:

<i>Task No.</i>	<i>Task Description</i>	<i>Original Budget</i>	<i>Current Budget (Amend. Nos. 1 thru 4)</i>	<i>Requested Add'nl Budget</i>	<i>Revised Task Budgets</i>
1	Design Phase	\$113,700	\$229,400	\$ 94,300	<b>\$ 323,700</b>
1a	Phase 1 Design and Construction Phase	--	--	\$ 39,700	<b>\$ 39,700</b>
2	Bid Phase	\$ 7,600	\$ 7,600	-	<b>\$ 7,600</b>
3	Construction Phase	\$ 56,700	\$ 73,000	\$ 16,000	<b>\$ 89,000</b>
Requested Budget Amount		-	-	\$150,000	-
<b>Total Budget Amount</b>		<b>\$178,000</b>	<b>\$310,000</b>	<b>\$150,000</b>	<b>\$ 460,000</b>

By authorizing the above requested Amendment No. 5, Tetra Tech's Approved Budget amount will be increased from \$310,000 to **\$460,000**.

If you have any questions or require additional information, please do not hesitate to give me a call.

Sincerely,



Tom Epperson, P.E.  
 Project Manager  
 TLE/te

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## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 9, 2025

**To:** Water Issues Committee  
Board of Directors

**From:** John Kennedy

**Staff Contact:** F. Cason/R. Herndon

**Budgeted:** Yes

**Budgeted Amount:** \$18,000

**Cost Estimate:** \$13,923

**Funding Source:** General Fund

**Program/Line Item No.:** 1075.51112.9900

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: RATIFICATION OF ACCESS AGREEMENTS FOR EXISTING MONITORING WELL SITES FOR FIRST HALF OF 2025**

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### SUMMARY

Staff is submitting a summary of well access agreements executed under General Manager authority from January through June 2025 for Board ratification.

### RECOMMENDATION

Agendize for July 16 Board meeting: Ratify execution of well access agreements issued to OCWD for the period of January 1 through June 30, 2025 for a total cost of \$13,923.

### BACKGROUND/ANALYSIS

Many OCWD-owned wells are located on properties owned and managed by other entities, including public agencies and private landowners. To perform groundwater monitoring and well maintenance at these well sites, OCWD acquires and maintains formal access agreements with the respective property owners. These agreements include short-term encroachment permits (typically six months to one year), longer-term license agreements, (generally five years or more), or permanent or semi-permanent property easements. Also included is a renewal of a permit with the Orange County Flood Control District authorizing discharges of OCWD injection well development water to County flood control channels.

In the first half of 2025, 22 agreements were newly executed or renewed, providing access to 213 well sites at a total cost of \$13,923. A summary of the agreements recommended for ratification is presented in Table 1.

**Table 1. Summary of well access agreements issued to OCWD during the first half of 2025**

	<b>Agreement</b>	<b>Issued By</b>	<b>Well(s)</b>	<b>Term</b>	<b>Cost</b>
1.	Encroachment Permit RCP2025-22647	City of Anaheim	AMD-6	1 year	\$ 609
2.	Encroachment Permit 25-007E	City of Fountain Valley	33 monitoring wells	1 year	\$ 5,446
3.	Encroachment Permit ENG-2025-0155	City of Fullerton	29 monitoring wells	1 year	\$ 0
4.	Encroachment Permit ENG-2025-0156	City of Fullerton	33 monitoring wells	1 year	\$ 0
5.	Encroachment Permit PWE2025-0136	City of Huntington Beach	61 monitoring wells	1 year	\$ 439
6.	Encroachment Permit 00947446-EP	City of Irvine	MCAS-6	6 months	\$ 432
7.	Encroachment Permit 00947449-EP	City of Irvine	MCAS-9	6 months	\$ 432
8.	Encroachment Permit 00955095-EP	City of Irvine	IDP-2R	6 months	\$ 432
9.	Encroachment Permit 00958578-EP	City of Irvine	SAM-11, SAM-13	6 months	\$ 668
10.	Encroachment Permit PW24-0127	City of Placentia	FM-25	1 year	\$ 345
11.	Encroachment Permit S0106141	City of Santa Ana	SAM-7	6 months	\$ 396
12.	Encroachment Permit S0106142	City of Santa Ana	SAM-1	6 months	\$ 396
13.	Encroachment Permit S0106143	City of Santa Ana	SAM-2	6 months	\$ 396
14.	Encroachment Permit S0106144	City of Santa Ana	SAM-4	6 months	\$ 396
15.	Encroachment Permit S0106145	City of Santa Ana	SAM-5	6 months	\$ 396
16.	Encroachment Permit S0106146	City of Santa Ana	SAM-6	6 months	\$ 396
17.	Encroachment Permit ENCR-25-0093	City of Seal Beach	LAC-34D	6 months	\$ 1,940 <sup>2</sup>
18.	Easement 93140v1	Irvine Company	TIC-67	1 year <sup>1</sup>	\$ 0
19.	Encroachment Discharge Permit FE25-0117	Orange County Flood Control District	37 injection wells	6 months	\$ 804 <sup>2</sup>
20.	Santiago Creek Monitoring Wells License Agreement	Orange County Flood Control District	SCS-3, SCS-4, SCS-8	10 years	\$ 0
21.	Trabuco Retarding Basin Monitoring Wells License Agreement	Orange County Flood Control District	IDM-4	10 years	\$ 0
22.	Special Use Permit SUP 81683-FY25-007	U.S. Fish & Wildlife Service	OCWD-BS24	10 years	\$ 0

**Total Cost: \$ 13,923**

<sup>1</sup> Automatically renews each year at no cost, continuing indefinitely.

<sup>2</sup> Partially funded by Los Angeles County Public Works under the Alamitos Barrier Project cost sharing agreement.

## **PRIOR RELEVANT BOARD ACTIONS**

4/16/2025 R25-4-60 Authorizing agreement with the Orange County Flood Control District for continued access to existing monitoring wells SCS-3, SCS-4, and SCS-8

2/19/2025 R 25-2-20 Authorizing the General Manager to finalize and execute a license agreement with the Orange County Flood Control District for continued access to existing monitoring well site IDM-4

3/05/2014 R 14-3-29 Adopting property license agreement policy



## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 9, 2025

**To:** Water Issues Committee  
Board of Directors

**From:** John Kennedy

**Staff Contact:** P. Parmar

**Budgeted:** Yes

**Budgeted Amount:** \$150,000 (FY25-26)

**Cost Estimate:** \$151,736 (FY25-26)

**Funding Source:** General Fund

**Program/ Line Item No.** 1038.57004

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: PURCHASE ORDERS TO AB SCIEX LLC FOR MULTI-YEAR SERVICE SUPPORT AGREEMENTS TO COVER LAB LIQUID CHROMATOGRAPH / MASS SPECTROMETERS**

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### SUMMARY

The District's Philip L. Anthony Water Quality Laboratory operates a total of three liquid chromatograph/tandem mass spectrometer (LC-MS/MS) systems manufactured by SCIEX, to perform a wide range of required organic water quality testing. To support high sample throughput, efficient use of District staff time, and to effectively maintain an extended warranty, the laboratory has historically utilized annual service support agreements for preventive maintenance and repairs from both vendors. Based on the consistent exceptional service SCIEX have provided for both 15+ years, staff recommends approval of an updated multi-year service support agreements with both vendors.

Attachment: SCIEX service support agreement quote dated January 8, 2025

### RECOMMENDATION

Agendize for July 16 Board meeting: Authorize issuance of Purchase Order to SCIEX in the amount of \$151,736 for support service agreements for FY25-26, up to \$155,529 for FY26-27, and up to \$159,417 for FY27-28.

### BACKGROUND/ANALYSIS

The District's Philip L. Anthony Water Quality Laboratory utilizes multiple service contracts to maintain and repair its various analytical systems. These service contracts are necessary to provide reliable, high quality analytical support for Groundwater Producers, GWRS, and other required monitoring programs. These service contracts also serve as extended warranties to ensure that the laboratory's analytical systems are kept in consistent, reliable operation to fully support the District's water quality monitoring programs.

The District's Philip L. Anthony Water Quality Laboratory operates a total of three liquid chromatograph/tandem mass spectrometer (LC-MS/MS) systems manufactured by SCIEX. These instruments analyze water samples for a wide range of organic compounds, including per- and polyfluoroalkyl substances (PFAS), pharmaceuticals and personal care products (PPCPs). Given the intricate nature of these sensitive analytical systems, District lab staff have found it most efficient to use the specialized expertise of factory-trained service

representatives for maintenance and repairs. Based on staff experience, the instrument vendor is the most capable entity to provide a consistent level of reliable service required to keep up with the regular sample testing load. SCIEX provides service representatives and technicians who are factory-trained on each analytical system operated by the laboratory and have access to critical spare parts. For many years, SCIEX support has been consistently outstanding, rapidly responding to service calls and promptly returning instruments to working order. In rare cases when a covered instrument could not be fixed, it was replaced with an equivalent or better new analytical system at no additional cost to the District.

The District benefits from this multi-year agreement in comparison to individual annual renewals of service, locking in a longer-term 2.5% annual fixed price increase for SCIEX service and avoid incurring rising costs for the next three years.

Below is a table summarizing the estimated individual repair and PM call costs between April 2022 and April 2025 for the lab’s SCIEX instrumentation if no service contract had been in place. Lab staff estimate savings of nearly \$151,142.40 over this period for services rendered by purchasing annual service agreements from SCIEX for two LC-MS/MS instruments as compared to opting to operate without contract and incurring parts and labor fees on a per-call basis. The recommended three-year agreement will include three LC-MS/MS instruments.

<b>SCIEX Service Support Costs since 2022</b>	<b>Amount</b>
Total Time, Material, Travel (TMT)	\$298,311.00
Total Fixed Price Preventative Maintenance (FPPM)	\$271,424.00
Sum of TMT + FPPM value received	<u>\$569,735.00</u>
Service contract District costs	<u>\$418,592.60</u>
<b>Service Contract Savings</b>	<b>\$151,142.40</b>

Having manufacturer service support agreements also assures priority service, which reduces instrument downtime. Instrument service contracts have helped expand lab capacity to manage PFAS treatment system samples, monitoring for the Unregulated Contaminant Monitoring Rule (UCMR) program running through December 2025, and other emerging trace contaminants in support of GWRS. Service contracts provide a variety of key benefits to the District’s laboratory:

- Technical support and optimization of techniques and applications
- Greater staff flexibility and labor reduction to improve productivity
- Optimal system performance to vendor standards for high quality data
- Extending the working lifetime of expensive analytical systems
- Program Efficiency - immediate access to critical spare parts and software updates.
- Quicker response time by local service engineers

To assure that the Lab can support the District’s monitoring requirements and objectives, staff recommends approval of the updated SCIEX multi-year service support agreement.

## **PRIOR RELEVANT BOARD ACTIONS**

May 18, 2022, R22-5-62: Authorize Purchase Orders to AB SCIEX LLC and Agilent Technologies for Multi-Year Service Support Agreements to Cover Lab Gas and Liquid Chromatograph / Mass Spectrometers

June 06, 2019, R19-6-85: Authorize Purchase Order to Agilent Technologies for Renewal of Service Support Agreement to cover Gas Chromatographs (GC) and Gas Chromatographs/Mass Spectrometers (GC/MS) in the Laboratory.

June 20, 2018, R18-6-66: Authorize issuance of Purchase Order to Agilent Technologies in the annual amount of \$109,561 for a one-year full support service agreement commencing, July 1, 2018 to cover Gas Chromatographs and Gas Chromatographs/Mass Spectrometers used within the laboratory.

March 15, 2017, R17-3-32: Authorize issuance of Purchase Order to Agilent Technologies in the annual amount of \$84,110 for a one-year full support service agreement commencing March 21, 2017 to cover gas Chromatographs and Gas Chromatographs/Mass Spectrometers used within the laboratory.

March 16, 2016, R16-3-08: Authorize issuance of Purchase Order to Agilent Technologies in the annual amount of \$104,835 for a one-year full support service agreement commencing March 21, 2016 to cover gas Chromatographs and Gas Chromatographs/Mass Spectrometers used within the laboratory.

February 18, 2015, R15-02-00: Authorize issuance of Purchase Order to Agilent Technologies in the annual amount of \$100,483 for a one-year full support service agreement commencing March 21, 2015 to cover gas Chromatographs and Gas Chromatographs/Mass Spectrometers used within the laboratory.

March 21, 2012, R12-3-25: Authorize issuance of Purchase Order to Agilent Technologies in the annual amount of \$95,208 for a 3 year full support service agreement commencing March 21, 2012 to cover gas Chromatographs and Gas Chromatographs/Mass Spectrometers used within the laboratory.

March 16, 2011, R11-3-37: Authorize issuance of Purchase Order to Agilent Technologies in the amount of \$86,197 for a one-year full support service agreement commencing March 21, 2011 to cover gas Chromatographs and Gas Chromatographs/Mass Spectrometers used in the laboratory.

March 17, 2010, R10-3-43: Authorize issuance of Purchase Order to Varian Inc. in the amount of \$86,170 for a one-year full support service agreement commencing March 21, 2010 to cover specified Varian analytical systems used in the laboratory.

February 18, 2009, R09-2-23: Authorize issuance of Purchase Order to Varian Inc. in the amount of \$75,599 (plus applicable sales tax) for a one-year full support service agreement commencing March 21, 2009 to cover specified Varian systems used within the main lab facility.

February 20, 2008, R08-2-32: Authorize issuance of Purchase Order to Varian Inc. in the amount of \$65,654 (plus applicable sales tax) for a one-year full support service agreement commencing March 21, 2008 to cover specified Varian systems used within the main lab facility.

# Service Contract Quote

AB SCIEX LLC  
 1201 Radio Rd  
 REDWOOD CITY, CA 94065-1217  
 Phone: +1 (877) 740-2129  
 Fax: +1 (800) 343-1346  
 Email: ServiceSales@sciex.com

**Quote No:** S39046601-R08-JAN-2025  
**Quote Print Date:** 08-JAN-2025  
**Period:** 01-AUG-2025 To 31-JUL-2028  
**Quote Valid To:** 22-AUG-2025

**To**

Lilly Sanchez  
 Orange County Water District  
 18700 Ward St  
 FOUNTAIN VALLEY, CA 92708-6921  
 Phone: (714) 378-3344  
 Email: lsanchez@ocwd.com

**PLEASE READ CAREFULLY.**

This quote, and our TERMS AND CONDITIONS THAT APPLY TO THESE SERVICES, ("TERMS") set forth the terms pursuant to which we would sell the service(s) listed in this quote. By issuing a PO or otherwise accepting services, you expressly confirm that you intend to be bound by and agree to the terms of this quote and the terms to the exclusion of all other terms not expressly agreed to in writing by an authorized AB Sciex representative, and that the purchase and sale transaction between you and AB Sciex is subject to and will be governed by this quote and the terms. A copy of the terms, which are incorporated by reference into this quote and any resulting contract, can be found at <http://sciex.com/legal-terms-and-conditions> by clicking on the relevant geography for services. To obtain a hard copy of the terms, or if you have any questions, please call our customer service department.

Line No	Coverage Type	Model Type	Serial No	Qty	Start Date	End Date	Price In USD
1.1	Assurance 2PM	QTRAP6500+ Mass Spectrometer	DY252051903	1	01-AUG-2025	31-JUL-2026	40,879.38
1.2	Assurance 2PM	QTRAP5500 Mass Spectrometer	AU210851303	1	01-AUG-2025	31-JUL-2026	38,605.50
1.3	Assurance 2PM	QTRAP6500+ Mass Spectrometer	DY261182112	1	01-AUG-2025	31-JUL-2026	40,879.38
2.1	1PM Assurance Plan for LC Devices	AG 1260 Binary Pump	DEACB05565	1	01-AUG-2025	31-JUL-2026	5,951.52
2.2	1PM Assurance Plan for LC Devices	AG 1260 Binary Pump	DEABM01322	1	01-AUG-2025	31-JUL-2026	5,951.52
2.3	1PM Assurance Plan for LC Devices	AGI1260INF2BNRY	DEAEP01307	1	01-AUG-2025	31-JUL-2026	6,105.08
2.4	1PM Assurance Plan for LC Devices	CTC PAL3 RSI 534	591646	1	01-AUG-2025	31-JUL-2026	3,843.36
3.1	Software Plus Plan for Qtrap and High Resolution instruments	QTRAP6500+ Mass Spectrometer	DY252051903	1	01-AUG-2025	31-JUL-2026	3,173.18
3.2	Software Plus Plan for Qtrap and High Resolution instruments	QTRAP5500 Mass Spectrometer	AU210851303	1	01-AUG-2025	31-JUL-2026	3,173.18
3.3	Software Plus Plan for Qtrap and High Resolution instruments	QTRAP6500+ Mass Spectrometer	DY261182112	1	01-AUG-2025	31-JUL-2026	3,173.18
4.1	Assurance 2PM	QTRAP6500+ Mass Spectrometer	DY252051903	1	01-AUG-2026	31-JUL-2027	41,901.36
4.2	Assurance 2PM	QTRAP5500 Mass Spectrometer	AU210851303	1	01-AUG-2026	31-JUL-2027	39,570.64

**Quote No:** S39046601-R08-JAN-2025  
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**Quote Valid To:** 22-AUG-2025

Line No	Coverage Type	Model Type	Serial No	Qty	Start Date	End Date	Price In USD
4.3	Assurance 2PM	QTRAP6500+ Mass Spectrometer	DY261182112	1	01-AUG-2026	31-JUL-2027	41,901.36
5.1	1PM Assurance Plan for LC Devices	AG 1260 Binary Pump	DEACB05565	1	01-AUG-2026	31-JUL-2027	6,100.31
5.2	1PM Assurance Plan for LC Devices	AG 1260 Binary Pump	DEABM01322	1	01-AUG-2026	31-JUL-2027	6,100.31
5.3	1PM Assurance Plan for LC Devices	AGI1260INF2BNRY	DEAEP01307	1	01-AUG-2026	31-JUL-2027	6,257.71
5.4	1PM Assurance Plan for LC Devices	CTC PAL3 RSI 534	591646	1	01-AUG-2026	31-JUL-2027	3,939.44
6.1	Software Plus Plan for Qtrap and High Resolution instruments	QTRAP6500+ Mass Spectrometer	DY252051903	1	01-AUG-2026	31-JUL-2027	3,252.51
6.2	Software Plus Plan for Qtrap and High Resolution instruments	QTRAP5500 Mass Spectrometer	AU210851303	1	01-AUG-2026	31-JUL-2027	3,252.51
6.3	Software Plus Plan for Qtrap and High Resolution instruments	QTRAP6500+ Mass Spectrometer	DY261182112	1	01-AUG-2026	31-JUL-2027	3,252.51
7.1	Assurance 2PM	QTRAP6500+ Mass Spectrometer	DY252051903	1	01-AUG-2027	31-JUL-2028	42,948.90
7.2	Assurance 2PM	QTRAP5500 Mass Spectrometer	AU210851303	1	01-AUG-2027	31-JUL-2028	40,559.90
7.3	Assurance 2PM	QTRAP6500+ Mass Spectrometer	DY261182112	1	01-AUG-2027	31-JUL-2028	42,948.90
8.1	1PM Assurance Plan for LC Devices	AG 1260 Binary Pump	DEACB05565	1	01-AUG-2027	31-JUL-2028	6,252.82
8.2	1PM Assurance Plan for LC Devices	AG 1260 Binary Pump	DEABM01322	1	01-AUG-2027	31-JUL-2028	6,252.82
8.3	1PM Assurance Plan for LC Devices	AGI1260INF2BNRY	DEAEP01307	1	01-AUG-2027	31-JUL-2028	6,414.15
8.4	1PM Assurance Plan for LC Devices	CTC PAL3 RSI 534	591646	1	01-AUG-2027	31-JUL-2028	4,037.93
9.1	Software Plus Plan for Qtrap and High Resolution instruments	QTRAP6500+ Mass Spectrometer	DY252051903	1	01-AUG-2027	31-JUL-2028	3,333.82
9.2	Software Plus Plan for Qtrap and High Resolution instruments	QTRAP5500 Mass Spectrometer	AU210851303	1	01-AUG-2027	31-JUL-2028	3,333.82
9.3	Software Plus Plan for Qtrap and High Resolution instruments	QTRAP6500+ Mass Spectrometer	DY261182112	1	01-AUG-2027	31-JUL-2028	3,333.82

**Quote No:** S39046601-R08-JAN-2025  
**Quote Print Date:** 08-JAN-2025  
**Period:** 01-AUG-2025 To 31-JUL-2028  
**Quote Valid To:** 22-AUG-2025

Line No	Coverage Type	Model Type	Serial No	Qty	Start Date	End Date	Price In USD
<b>Total</b>							<b>466,680.82</b>

**Payment Terms:** Net 30 days

**Sales Representative:** Justin Adamich

**Clerical errors on the face of this form are subject to correction.**  
**NOTE: Customer is responsible for applicable taxes, including sales, use and/or excise tax.**

**Quote No:** S39046601-R08-JAN-2025  
**Quote Print Date:** 08-JAN-2025  
**Period:** 01-AUG-2025 To 31-JUL-2028  
**Quote Valid To:** 22-AUG-2025

**CONTRACT NOTES:**

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The current coverage is due to expire on 31-JUL-2025

Quoted price will apply if:  
1) SCIEX receives a copy of the purchase order on or before the Quote valid to date.  
2) The purchase order total matches the total quoted amount.  
3) Multiple Year Agreement:

Year 1: \$ 151,735.28  
Year 2: \$ 155,528.66  
Year 3: \$ 159,416.88  
3 Year Total: \$466,680.82

To expedite your order, the purchase order may be e-mailed to ServiceSales@sciex.com.

\*\*\*\*\*  
Please contact your Service Sales Account Manager for more information.  
Justin Adamich  
Tel: 905-955-9441  
Direct E-mail: justin.adamich@sciex.com  
\*\*\*\*\*

**PLAN DESCRIPTION:**

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**Assurance 2PM**

Guaranteed\* 2 business day onsite response time for remedial repairs.  
Parts, labor and travel for remedial repair.  
2 Assurance PM visits per contract year.  
On-site workflow support and troubleshooting  
Workflow telephone and online support during normal business hours  
SCIEXNow™ Visual Assist Support  
Premium content access to SCIEXNow™ Learning Hub and Knowledge base online  
25% discount on Fixed Priced services.  
Access to StatusScope™ on compatible models. \*\*  
  
Plan benefits only apply to covered instrument.  
\*Guarantee only applies to Zones 1 and 2.  
\*\* See website for list of compatible instruments.

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**1PM Assurance Plan for LC Devices**

Guaranteed\* 2 business day onsite response time for remedial repairs.  
Parts, labor and travel for remedial repair.  
1 Assurance PM visit per contract year.  
Hardware Telephone Support during normal business hours  
SCIEXNow™ Visual Assist Support  
Access to StatusScope™ on compatible models. \*\*  
  
Plan benefits only apply to covered instrument.  
\*Guarantee only applies to Zones 1 and 2.  
\*\* See website for list of compatible instruments.

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**Quote No:** S39046601-R08-JAN-2025  
**Quote Print Date:** 08-JAN-2025  
**Period:** 01-AUG-2025 To 31-JUL-2028  
**Quote Valid To:** 22-AUG-2025

**Software Plus Plan for Qtrap and High Resolution instruments**

Prioritized software phone and online support  
Premium content access to SCIEXNow Learning hub and Knowledge base online  
Troubleshooting for software malfunctions and corrective action on the latest versions of software  
Delivery of full upgrades to latest software versions for all entitled SCIEX software  
Delivery of updates to latest software versions for all covered SCIEX software  
30% discount on additional software licenses  
25% discount for Validation and Compliance services.

Plan benefits apply to Software Starter Pack only on the covered instrument  
Plan benefits only apply to covered instrument.  
See website for list of covered software

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**Quote No:** S39046601-R08-JAN-2025  
**Quote Print Date:** 08-JAN-2025  
**Period:** 01-AUG-2025 To 31-JUL-2028  
**Quote Valid To:** 22-AUG-2025

Customer Signature .....

AB Sciex Signature .....



## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 9, 2025

**To:** Water Issues Committee  
Board of Directors

**From:** John Kennedy

**Staff Contact:** M. Patel/J. Bonsangue

**Budgeted:** Yes

**Budgeted Amount:** \$250,000

**Cost Estimate:** \$250,000

**Funding Source:** General Fund

**Program/ Line Item No.** 1050.57036.9908

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: REQUEST FOR PROPOSALS FOR INJECTION WELL REDEVELOPMENT SERVICES**

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### SUMMARY

Talbert Barrier and Mid-Basin Injection Wells clog over time requiring routine backflushes utilizing in-house equipment and staff. Declining performance has been observed indicating the need for traditional well redevelopment work beyond in-house capabilities. In order to address injection well fouling issues that limit GWRS production, a multi-year service contract for well redevelopment services is being sought.

Attachment: Figure 1 Location map

### RECOMMENDATION

Agendize for July 16 Board meeting: Authorize issuance of a Request for Proposals for services to redevelop Talbert Barrier and Mid-Basin Injection Wells.

### BACKGROUND/ANALYSIS

All injection wells require backwashing to maintain and maximize individual well injection rates. Although GWRS effluent is of high purity, suspended solids from the stabilization process and the distribution pipeline material accumulate and form a clogging layer at the well bore interface with the aquifer formation. Occasionally clogging particles will travel deeper into the aquifer requiring a more extensive cleaning of the well called well redevelopment.

Between 2015 and 2020 the District commissioned 5 new injection wells in Santa Ana (Mid-Basin Injection Wells) to recharge a groundwater depression in the central portion of the basin.

Mid-Basin and Talbert Barrier injection wells are backwashed routinely using in-house equipment and staff; however, declining performance at several wells has been observed indicating the need for traditional well redevelopment work that reaches deeper into the aquifer than in-house backwashes. OCWD does not have the staff or equipment required to perform this well redevelopment work. The improvement of injection well performance via redevelopment will allow for increased GWRS production. Current GWRS production is limited for portions of the year when injection well flows are decreased due to clogging.

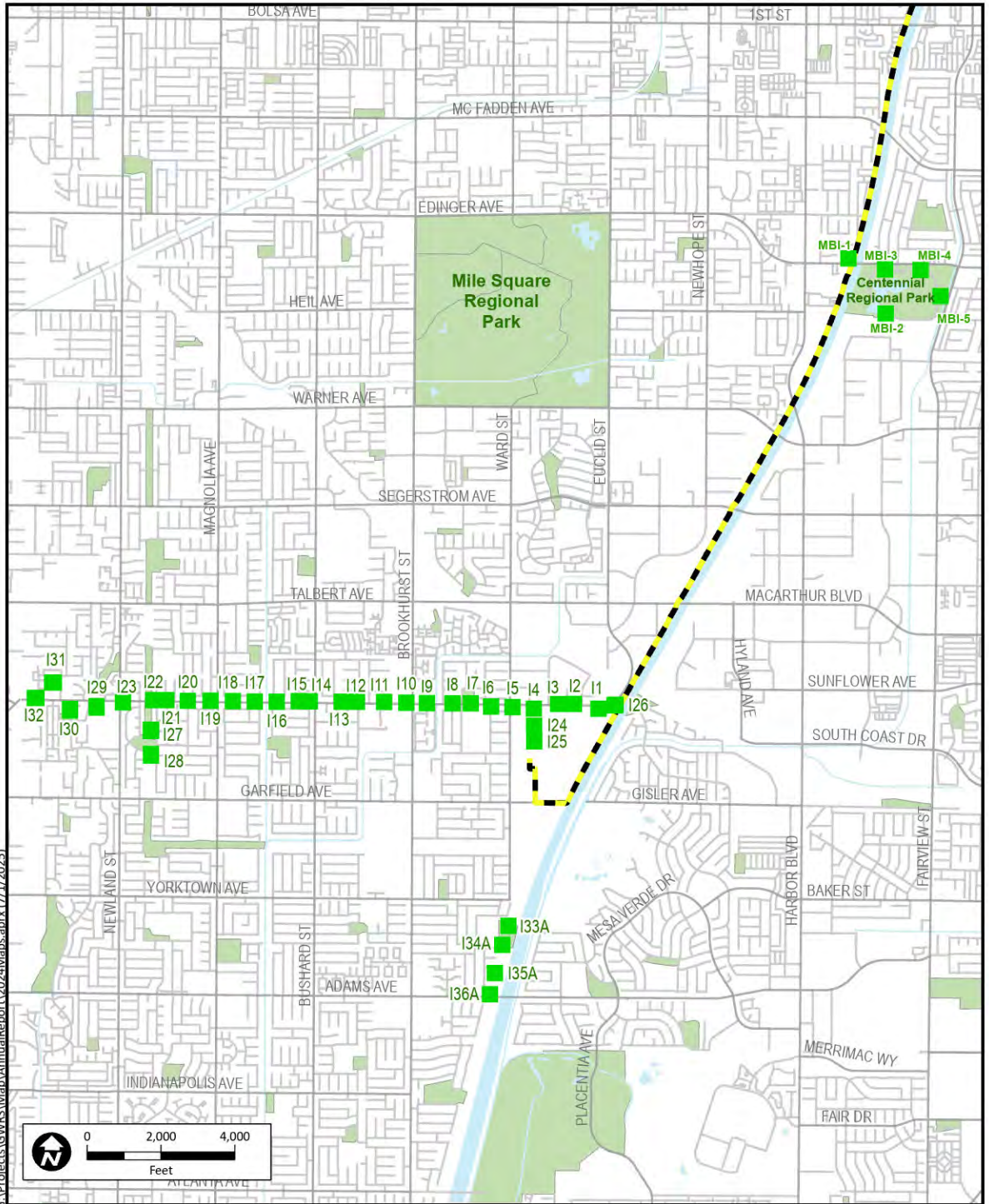
### Proposed Redevelopment

Staff recommend hiring an experienced well contractor to perform the work. The work will entail removal of existing equipment from inside the well, swabbing the well screen while simultaneously pumping, purging the well at high rates for long durations while surging and reassembling the down-well equipment for recommissioning. Approximately half of the Talbert Barrier injection well sites will require a traffic lane closure to access and perform well redevelopment activities.

To proceed, staff request authorization to request proposals from at least three experienced contractors to perform well redevelopment activities on an as-needed basis under a 5-year service agreement. Staff will return to the Board with results of the request for proposals. Staff estimates an annual amount of \$250,000 to effectively redevelop Talbert Barrier and Mid-Bain injection wells over a 5-year period. This amount is currently budgeted in the fiscal year 2025-2026 budget in the Water Production Department General Fund budget. Staff intend to budget for injection well redevelopment work each year for five years to cover the cost of a multi-year service contract.

### **PRIOR RELEVANT BOARD ACTION(S)**

N/A



G:\Projects\GWBS\Map\AnnualReport\2024\Maps.aprx (7/1/2025)

- Injection Well
- Groundwater Replenishment System Pipeline

Site Location Map

Figure 1



## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 9, 2025

**To:** Water Issues Committee  
Board of Directors

**From:** John Kennedy

**Staff Contact:** L. Haney/A. Hutchinson/  
D. Field

**Budgeted:** Yes

**Budgeted Amount:** \$75,000

**Cost Estimate:** \$62,000

**Funding Source:** General Fund

**Program/Line Item No.:** 1044.53001

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: AGREEMENT TO YELLOW JACKET DRILLING, INC. FOR SOIL  
BORINGS AT ANAHEIM LAKE (IFQ-24-002)**

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### SUMMARY

Anaheim Lake is OCWD's oldest recharge basin which was put on-line in 1961. Although a high-performing facility, data suggests that a fine-grained sedimentary layer below the basin bottom is causing groundwater mounding. Staff recommends issuing a Service Agreement to Yellow Jacket Drilling, Inc. (Yellow Jacket) to drill seven soil borings to confirm the depth, thickness and characteristics of this layer, which will assist in evaluating the potential to increase the recharge capacity of the basin if a portion of this layer were removed. This work is part of OCWD's Resilience Plan Priority Project No. 12, Anaheim Lake Recharge Basin Rehabilitation Project.

Attachment: Presentation

### RECOMMENDATION

Agendize for July 16 Board meeting: Authorize issuance of a Service Agreement with Yellow Jacket Drilling, Inc. to drill soil borings at Anaheim Lake using the sonic drilling method for an amount not to exceed \$62,000.

### BACKGROUND/ANALYSIS

Anaheim Lake, OCWD's first recharge basin, began operation in 1961 and now spans 72 acres. Initially recharging only imported water, it began receiving Santa Ana River water in 1975 with the completion of the Warner Transmission Pipeline. Like other basins receiving river water, Anaheim Lake experiences clogging from suspended sediments. While the flat basin bottom can be effectively cleaned with heavy equipment, cleaning the sidewalls is less effective, leading to a buildup of partially clogged material and reduced recharge efficiency over time. The basin contains peninsulas and an island from past expansions; removing these features could add 300–600 acre-feet of storage and improve maintenance efficiency by creating a more uniform basin floor.

To enhance recharge capacity, staff is evaluating the potential removal of a fine-grained sediment layer located about 40 feet below the basin bottom, which impedes vertical percolation and forces lateral flow through the sidewalls. A geophysical survey using

the towed Time-Domain Electromagnetic method (TowTEM) was conducted in August 2024 confirmed the presence of this layer.

In May 2025 the Board approved staff requesting quotes to drill seven sonic borings to 100 feet for core sampling and sediment analysis. This work will help determine if native sand can be repurposed for regrading and whether removing the fine-grained layer could create a high-permeability window to improve overall recharge performance. The proposed locations of the soil borings are shown on Figure 1.

Staff received the following quotes:

Yellow Jacket Drilling, Inc.	\$62,000
ABC Liovin Drilling. Inc.	\$68,950
BC2 Environmental, LLC.	\$85,900
Gregg Drilling, LLC.	\$96,175
J&H Drilling Co., DBA M R Drilling	\$120,600

The lowest cost quotation from Yellow Jacket in the amount of \$62,000 is consistent with the Geologist's cost estimate of \$75,000. Yellow Jacket has performed sonic drilling for the District in the past with good results. Therefore, staff recommends that the District enter into a Service Agreement with Yellow Jacket to drill soil borings at Anaheim lake using the sonic drilling method for an amount not to exceed \$62,000.

This effort is part of OCWD's Resilience Plan Priority Project No. 12, Anaheim Lake Recharge Basin Rehabilitation Project. The Anaheim Lake Recharge Basin Rehabilitation Project has three components:

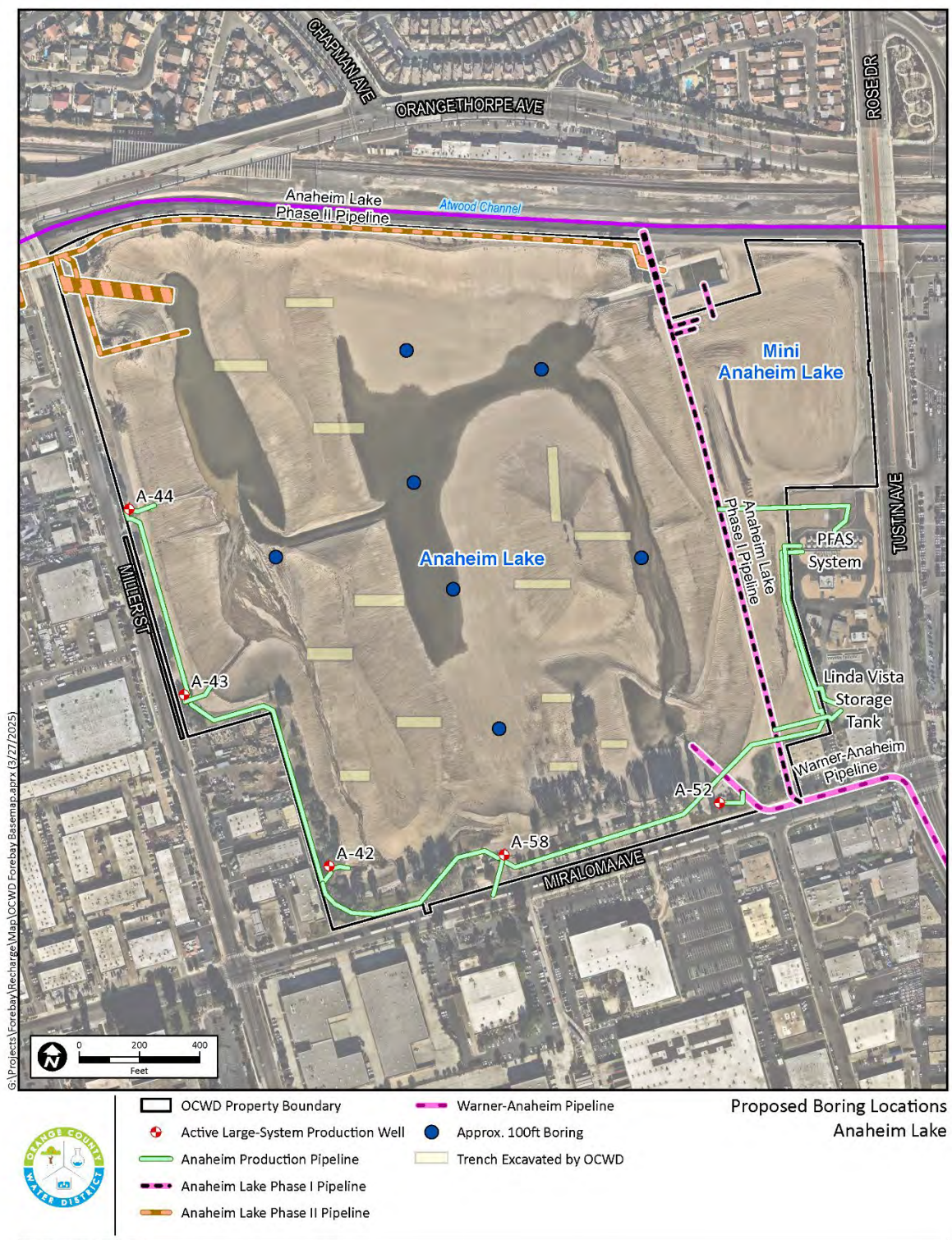
1. Remove clogged sidewall material and regrade sidewalls;
2. Remove peninsulas and island to increase basin storage and create large, uniform bottom area; and,
3. Remove or disrupt a portion of the fine-grained layer underlying the basin.

As discussed in the Resilience Plan, the pros of this project include increased recharge capacity, increased basin storage, and reduced cleaning times. The challenges include the cost of removing or disrupting the fine-grained layer and disposing of poor-quality sediment removed from the basin.

## **PRIOR RELEVANT BOARD ACTIONS**

5/21/2025, M25-50 - Authorize issuance of Invitation for Quotes for services to drill soil borings at Anaheim Lake.

2/19/25, R25-2-19 – Receive and File OCWD Resilience Plan and Authorize Filing of a Notice of Exemption



**Figure 1: Locations of Proposed Soil Borings in Anaheim Lake.**

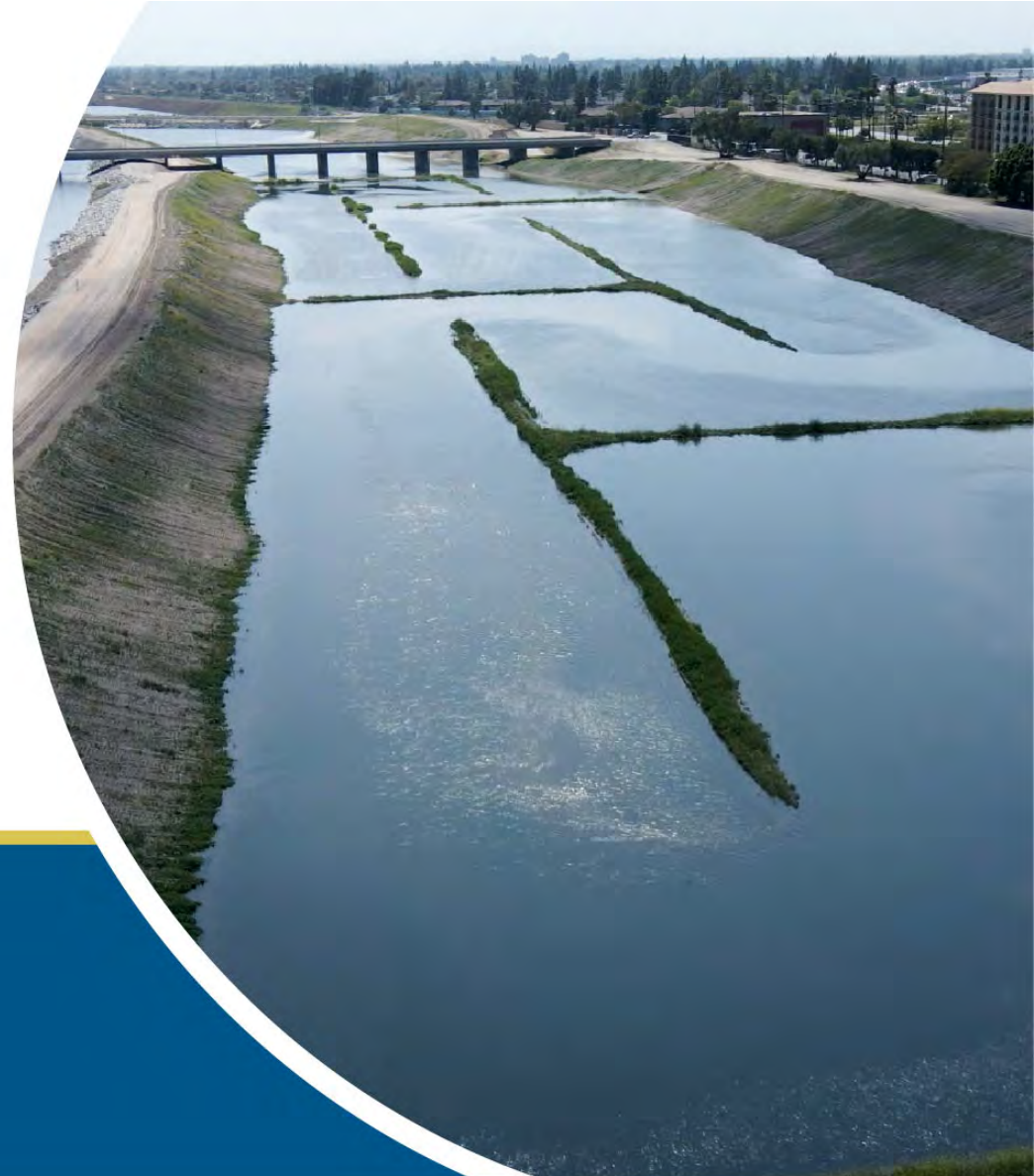


# Anaheim Lake Rehabilitation Project: Agreement for Soil Borings

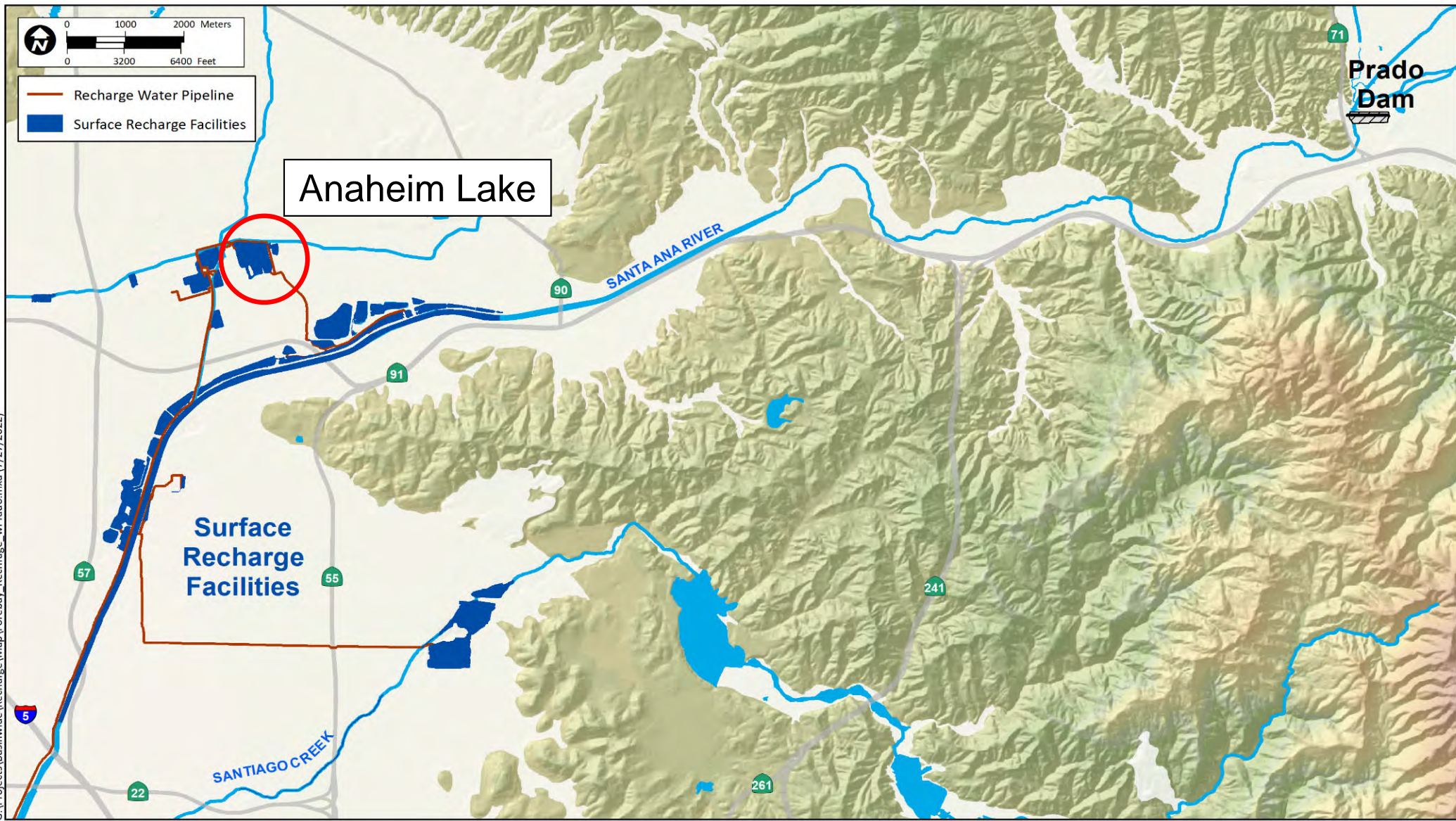
Resilience Plan Priority Project No. 12

Water Issues Committee

July 9, 2025



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Anaheim Lake

Prado Dam

SANTA ANA RIVER

Surface Recharge Facilities

SANTIAGO CREEK

# Anaheim Lake is OCWD's first recharge basin.

- Placed into service in 1961
- Imported water from 1961-1975
- Santa Ana River recharge started in 1975 (50 yrs)

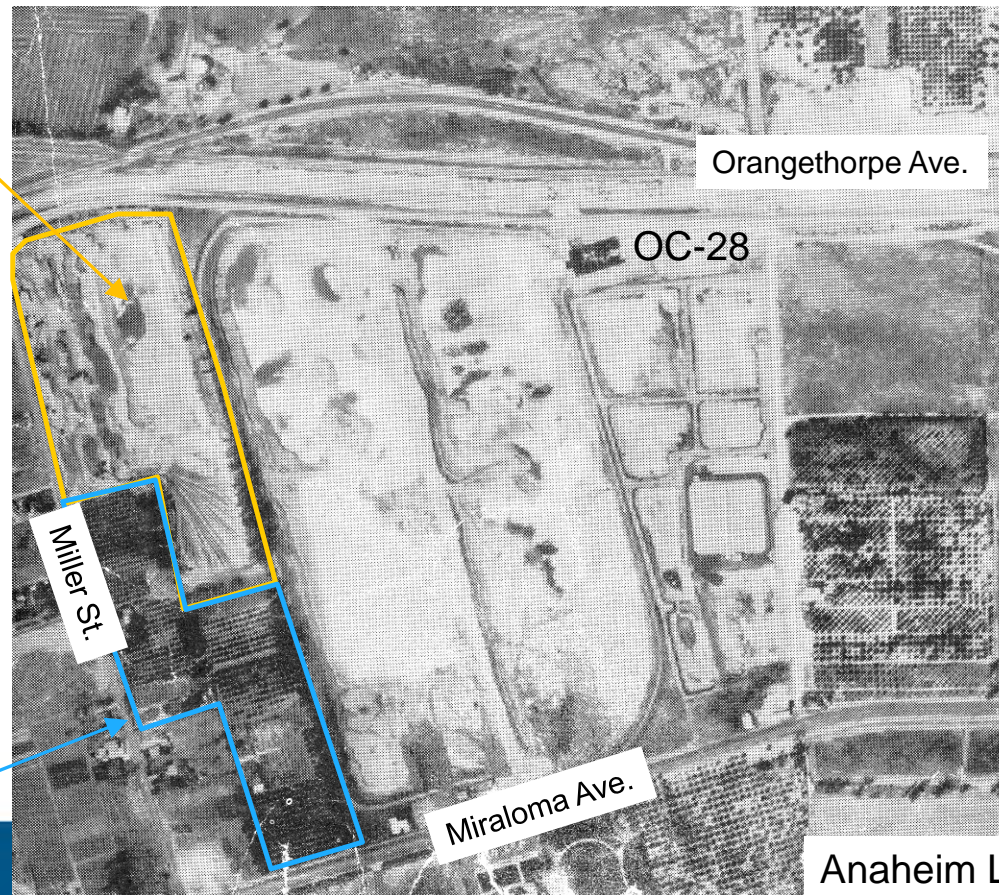


# Anaheim Lake grew over time from 1958 to 1974 to its current footprint of 72 wetted acres.

Basin expanded over time:  
1958, 64 acres, \$263,000  
1968, 24 acres, \$105,000  
1970-4, 23 acres, \$510,000

This 24-acre parcel  
purchased in 1968.

23 acres purchased from  
1970-74



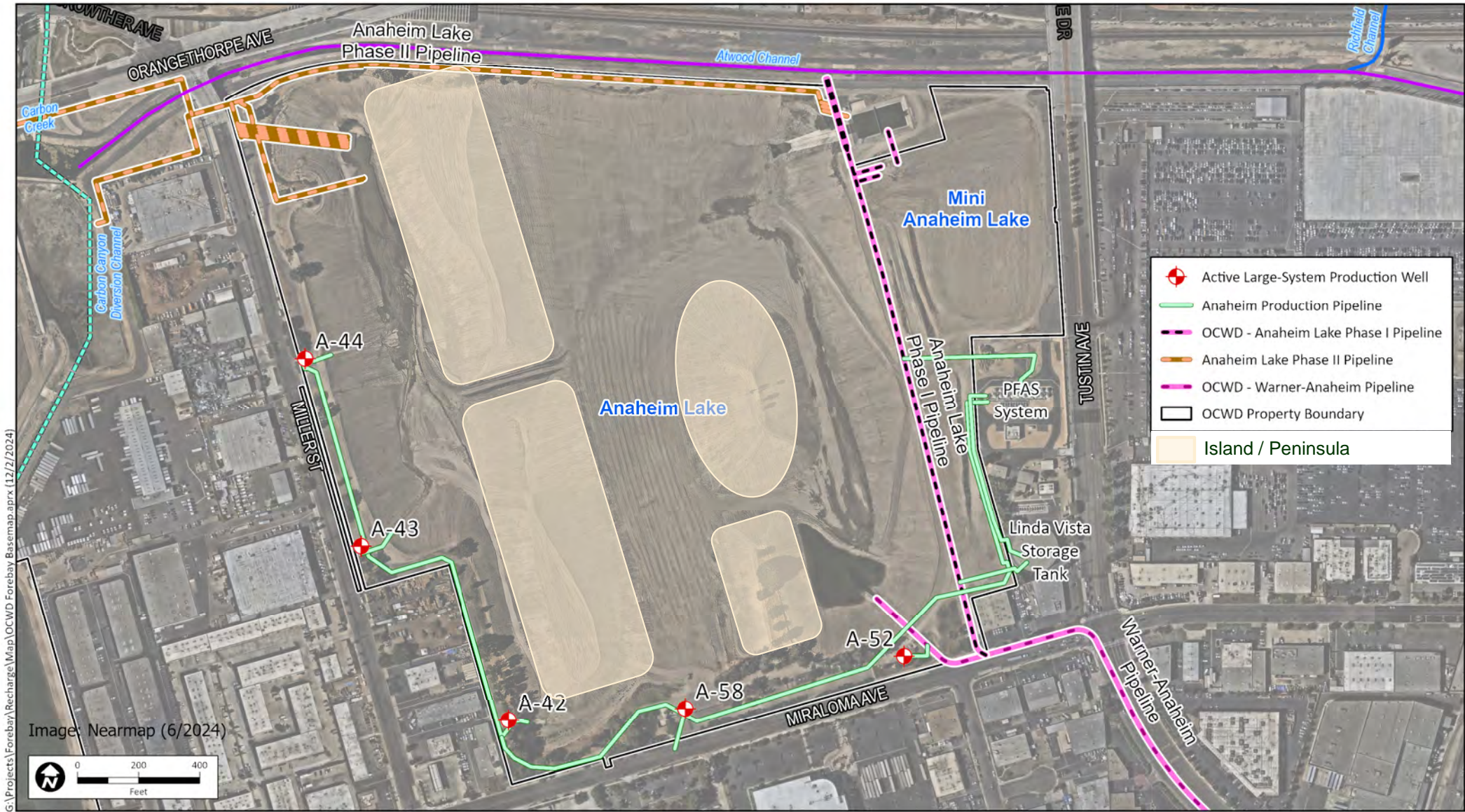
Anaheim Lake, 1964

# Need for Rehabilitation

1. Accumulated clogging material in basin sidewalls
  - 50 yrs of Santa Ana River recharge
2. Large internal islands and peninsulas take up space and make cleaning more difficult and time consuming
3. Extensive fine-grained layer below the basin contributes to mounding

**Over time the banks of the basin have accumulated suspended sediments from Santa Ana River water.**












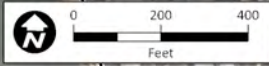
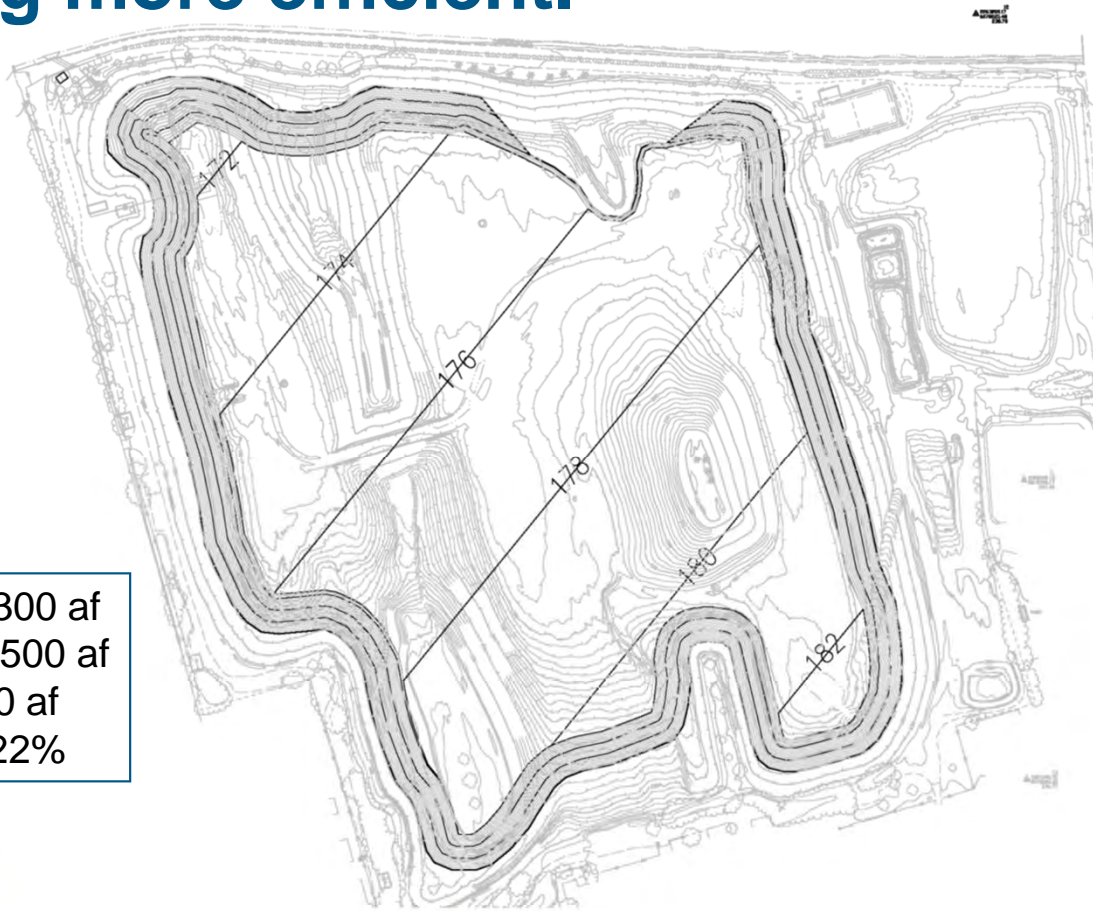
-  Active Large-System Production Well
-  Anaheim Production Pipeline
-  OCWD - Anaheim Lake Phase I Pipeline
-  Anaheim Lake Phase II Pipeline
-  OCWD - Warner-Anaheim Pipeline
-  OCWD Property Boundary
-  Island / Peninsula

Image: Nearmap (6/2024)



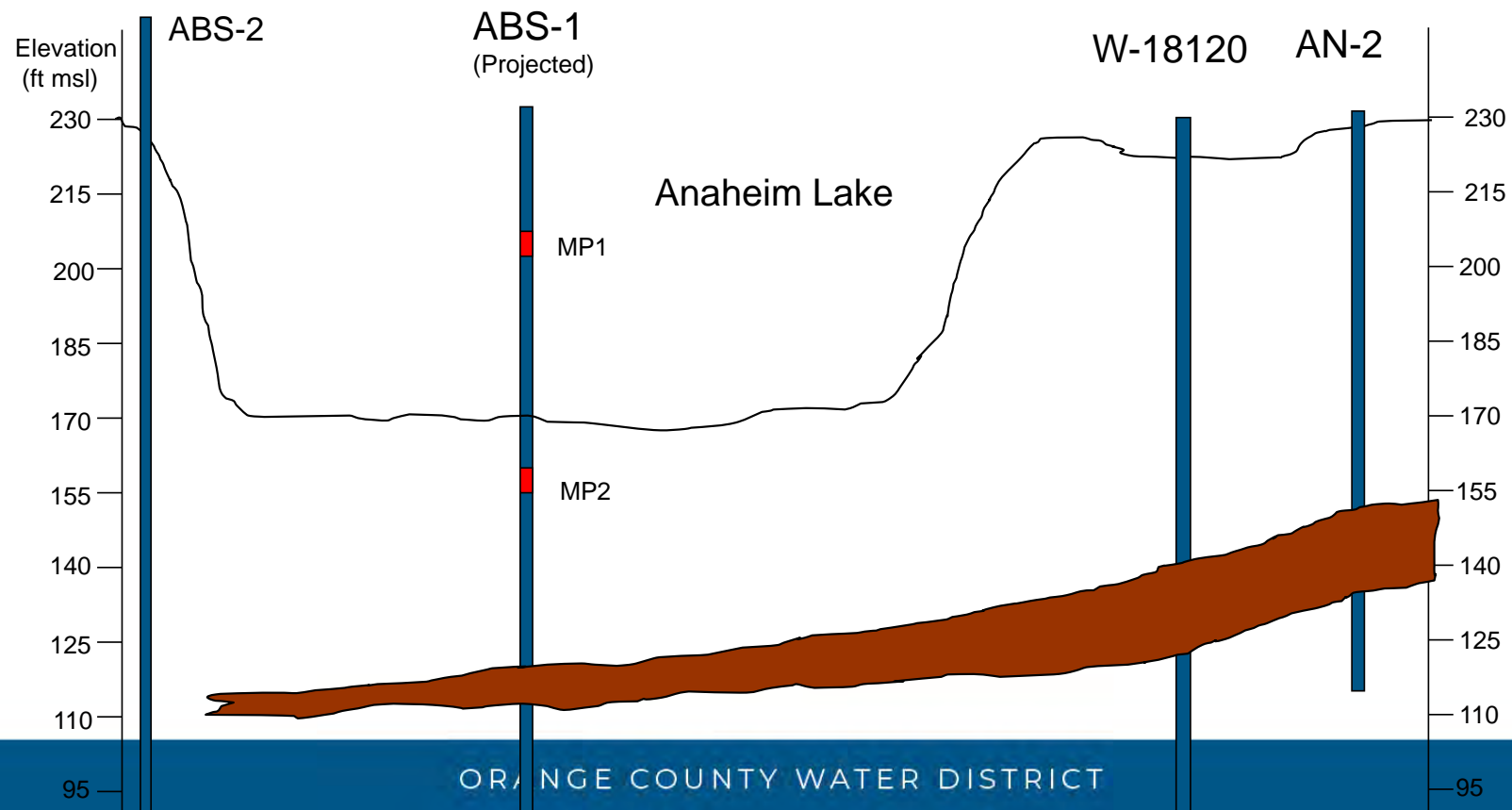
G:\Projects\Forebay\Recharge\Map\OCWD Forebay\_Basemap.aprx (12/2/2024)

**Removing the island and peninsulas would increase basin storage by over 500-acre feet and make cleaning more efficient.**



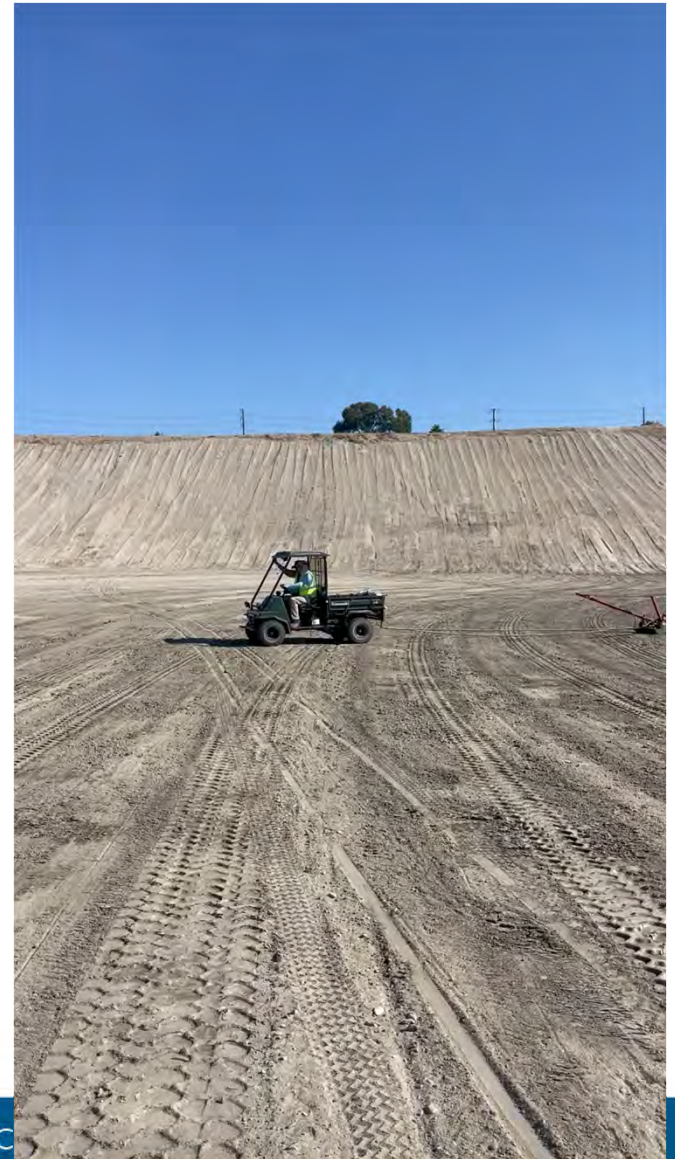
Current Storage: 2,300 af  
Increased Storage: 500 af  
New Storage: 2,800 af  
Percent Increase: 22%

# Anaheim Lake recharge is less efficient than Kraemer Basin due to mounding caused by a fine-grained layer below the basin.



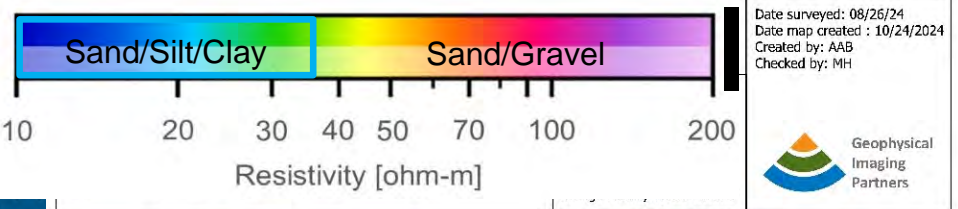
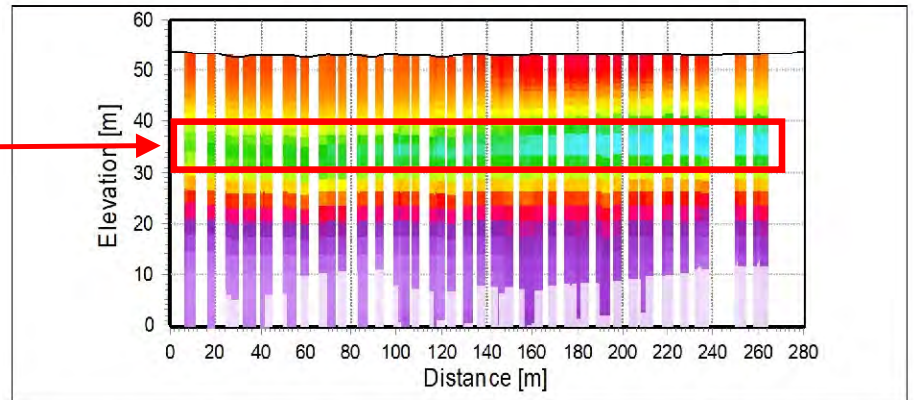
# An electromagnetic survey was conducted to characterize the fine-grained layer beneath the basin.

- Survey provides data on sediment characteristics
- Depth of investigation greater than 160 feet
- Was able to survey Anaheim Lake and Kraemer Basin in one day



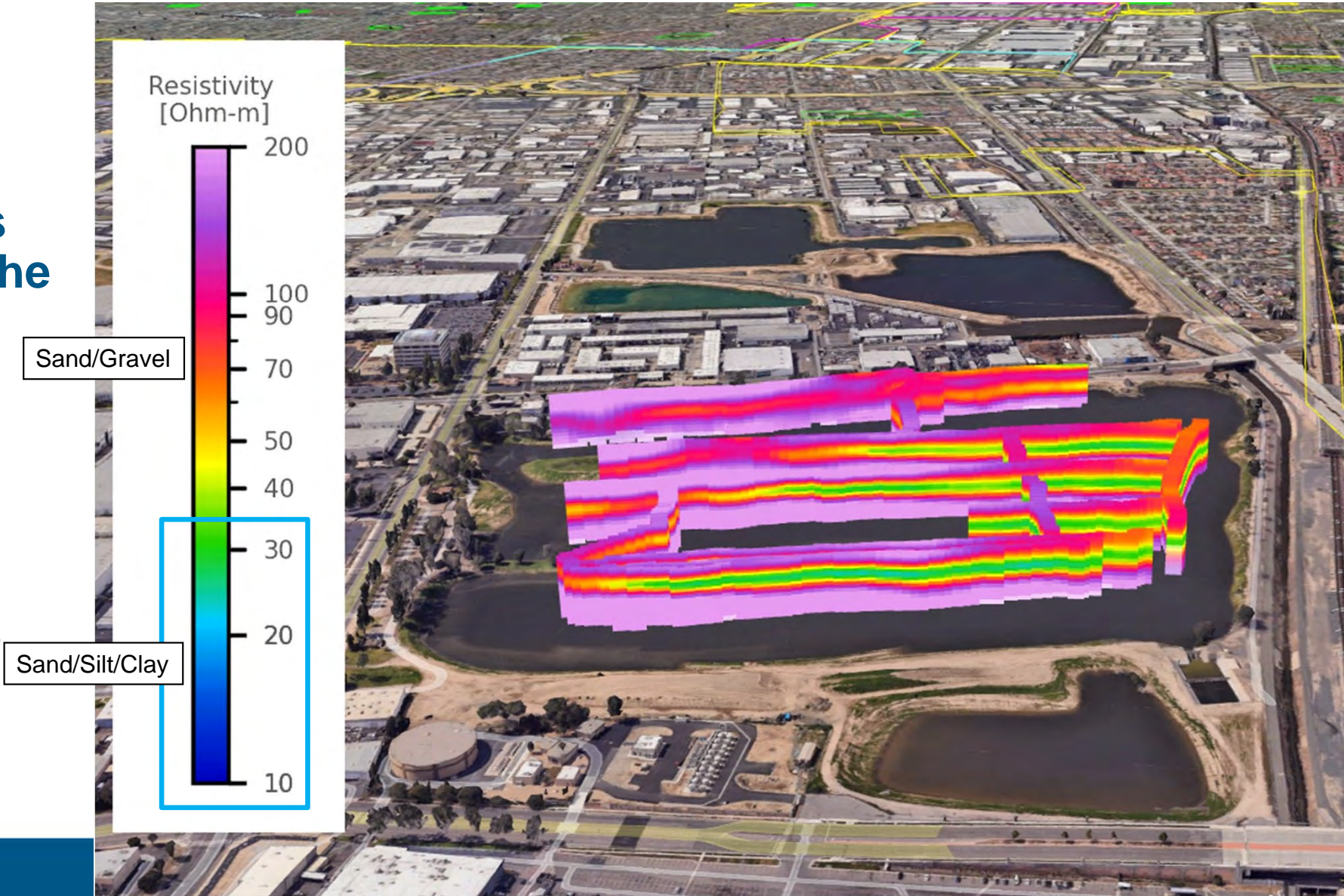


Survey showed presence of fine-grained layer.



# The fine-grained layer underlies most of the basin.

Can we remove or disrupt a portion of this layer and increase Anaheim Lake's recharge capacity?

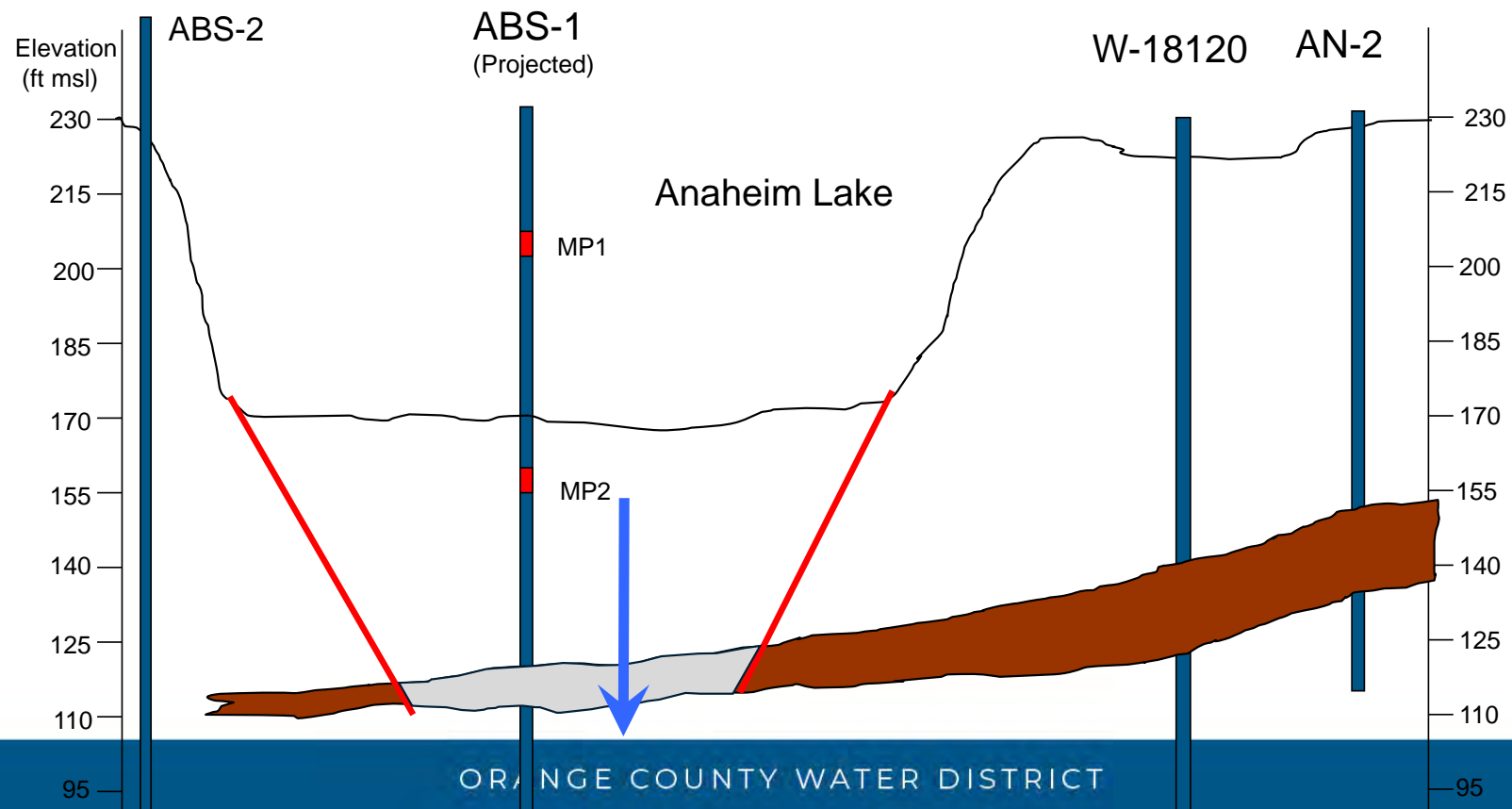


# Seven borings will be used to confirm the depth and nature of the fine-grained sediments.

- Define top and bottom of this layer
- Further define areal extent
- Collect samples and conduct sieve analyses
- Staff will also be characterizing sediments in the island and peninsulas by trenching and collecting samples using OCWD resources.



**Staff will be evaluating possible options to either remove or disrupt a portion of the fine-grained layer to increase basin recharge capacity.**



# Recommendation

Agendize for July 16 Board meeting: Authorize issuance of a Service Agreement with Yellow Jacket Drilling, Inc. to drill soil borings at Anaheim lake using the sonic drilling method for an amount not to exceed \$62,000.



## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 9, 2025

**To:** Water Issues Committee  
Board of Directors

**From:** John Kennedy

**Staff Contact:** M. Patel/M.  
Plumlee/H. Gu

**Budgeted:** Yes

**Budgeted Amount:** \$60,000

**Cost Estimate:** \$60,000

**Funding Source:** General Fund

**Program/ Line Item No.:** 1050.53001

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject: AUTHORIZE AGREEMENT WITH HAZEN AND SAWYER FOR  
DEVELOPMENT OF POWER BI DASHBOARD FOR GWRS REVERSE  
OSMOSIS FACILITY TRAINS A, B, AND C**

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### SUMMARY

Staff recommends approval of a professional services agreement with Hazen and Sawyer to develop a custom Microsoft Power BI dashboard for a portion of the Groundwater Replenishment System (GWRS) Reverse Osmosis (RO) Facility (Trains A, B, and C). District staff will trial the secure, cloud-based data platform expected to enable remote data access and offer a dynamic graphical visualization of key performance indicators (KPIs) to enhance tracking of process performance and operational decision-making. This work will build on an ongoing research study funded by the U.S. Bureau of Reclamation (USBR) and led by Hazen to optimize RO operations via pilot testing and dashboarding at OCWD.

Attachment: Cover Letter and Scope of Services submitted by Hazen and Sawyer

### RECOMMENDATION

Agendize for July 16 Board meeting: Authorize issuance of an agreement with Hazen and Sawyer in the amount of \$60,000 for development of a Power BI dashboard to support monitoring and analysis of membrane system performance in RO Trains A, B, and C.

### BACKGROUND/ANALYSIS

There is increasing interest across the water and wastewater utility sector in the development of real-time or near real-time digital dashboards to streamline operations and support data-based decision making. In the proposed project, Hazen and Sawyer will furnish OCWD with a custom-built, non-proprietary Microsoft Power BI dashboard for a portion of the Groundwater Replenishment System (GWRS) Reverse Osmosis (RO) Facility (Trains A, B, and C). The effort will build on recent (2022) data infrastructure enhancements at the District, including the implementation of a secure data export pipeline to the District's demilitarized zone (DMZ) that enabled a similar trial of a different RO dashboard (Pani Zed™). These upgrades have enabled centralized

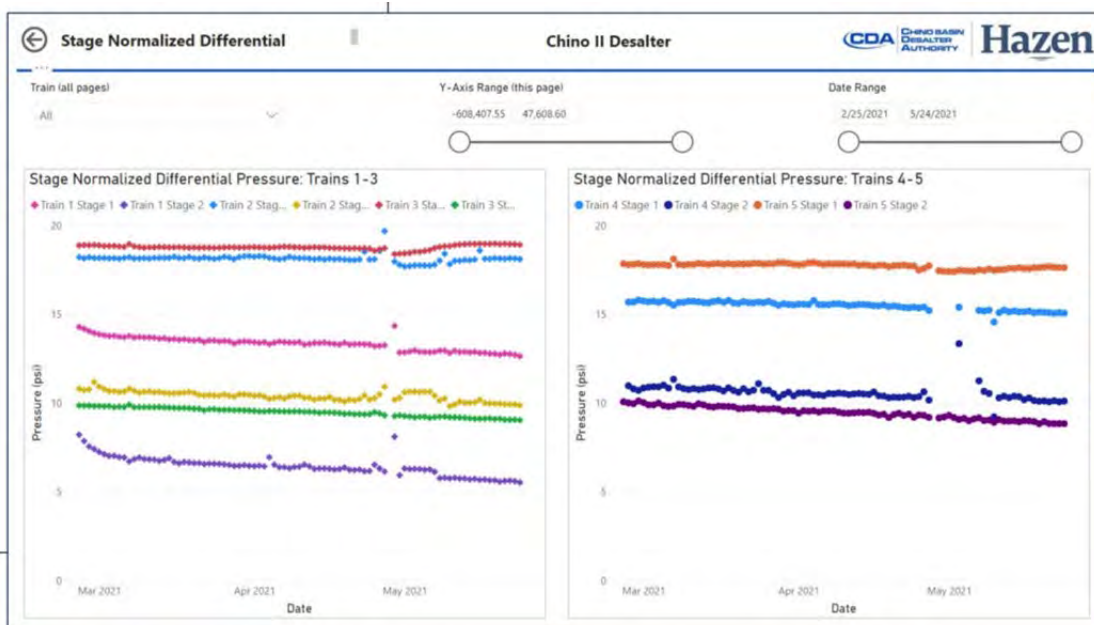
access to near real-time operational data for a portion of the RO facility and thus laid the foundation for advanced analytics and dashboard integration.

The District's R&D Department staff recently participated in a U.S. Bureau of Reclamation (USBR)-funded research project led by Hazen and Sawyer and sited at the OCWD GWRS facility, which involved a 5-month RO pilot study utilizing an RO pilot located at the District's Engineering Research Center. The pilot data was used to train a machine learning (ML) tool to help predict membrane fouling and interpret membrane performance. As part of the broader scope of that research, the next phase of work focuses on building a dashboard tool that applies similar analytical capabilities to the full-scale RO system.

While some of Hazen's costs are offset by the USBR grant, the District will provide supplementary funding (\$60,000) via the proposed OCWD-Hazen contract for Hazen to build the proposed dashboard customized to OCWD's RO facility. Given the overall operations and maintenance costs for GWRS (approximately \$60M for FY25-26) which includes the RO facility, staff are interested in trialing novel digital tools such as the proposed dashboard due to the potential for reducing energy, chemical, and labor which may translate into cost savings.

Hazen and Sawyer successfully implemented a similar Power BI dashboard for the Chino Desalter Authority's RO operations. That project automated manual data collection and analysis processes, which previously provided insights only on a monthly basis. The new dashboard enabled near real-time performance trend tracking, improved operator decision-making, and was reported to reduce labor costs by over \$30,000 per year. The tool focused on enhancing system optimization and allowed operations staff to concentrate on evaluation rather than data entry. The success of this implementation demonstrated a return on investment (ROI) within two years. It is a relevant precedent for the proposed OCWD dashboard effort. A sample screenshot from the Chino Desalter dashboard is included below for reference.

**Figure 1: A sample screenshot of the Chino Desalter Power BI dashboard comparing stage-specific normalized differential pressure among RO trains.**



The Power BI dashboard will provide an intuitive, cloud-connected interface for visualizing key performance indicators (KPIs) across RO Trains A, B, and C (i.e., 9 of 27 RO units or one third of the plant). Designed for remote access and real-time monitoring, the dashboard is expected to help staff track system performance, identify trends, and respond proactively to operational changes. Deployment of the dashboard will enable District Operations and R&D staff to trial the Hazen-designed product, enabling a potential future decision on whether to expand the dashboard to include all RO units/trains and implement routine use of the dashboard by staff.

Hazen will work with the District's Process Control Systems (PCS) programming staff to establish secure data pipelines from the District's demilitarized zone (DMZ), integrate Supervisory Control and Data Acquisition (SCADA) system data into a centralized SQL (Structured Query Language) data warehouse hosted in Hazen's Microsoft Azure environment, and configure long-term cloud storage. Supporting data such as clean-in-place (CIP) logs, P&IDs, and membrane performance records will be incorporated to enhance context and accuracy.

Key metrics that are related to the performance of the RO treatment process—including salt passage, differential pressure, and specific flux—will be normalized using ASTM D4516 standards. Hazen will develop Python-based algorithms to automate these calculations and validate results with spreadsheet-based methods to ensure transparency and accuracy.

The dashboard will feature up to 10 customized pages in Power BI, including performance summaries, KPI trend visualizations, exceedance alerts, and quality control checks. These will include user-friendly tools such as filters, tooltips, and navigation features. Hazen will also provide up to four hours of virtual training and eight hours of post-deployment support. Hazen will coordinate with District staff to ensure timely execution, with a target completion timeline of 18 months or less.

A six-month no-cost cloud hosting period is included in the project cost following project delivery. Ongoing service and hosting fees after this time—estimated at approximately \$3,000 annually—will be billed separately. This effort was budgeted in the FY2024-25 Water Production Department general fund budget.

#### **PRIOR RELEVANT BOARD ACTION(S)**

N/A

March 26, 2025

Orange County Water District  
Attention: Dr. Megan Plumlee  
Research Director  
18700 Ward St, Fountain Valley, CA 92708

**RE: Power BI Dashboards for Trains A, B and C of OCWD RO Facility**

Dear Dr. Plumlee,

The following Exhibits outline the collaborative development of a Power BI dashboard for the USBR research project, undertaken by the Orange County Water District (OCWD) and Hazen and Sawyer. Hazen and Sawyer (referred to herein as 'Contractor') will furnish OCWD with a custom-built, non-proprietary decision support tool developed using Microsoft Power BI. This tool will provide dynamic graphical visualization of key performance indicators (KPIs) and metrics specific to the performance of membrane systems across Trains A, B, and C. The data for these systems, updated as of March 2025, is currently being transferred to the Demilitarized Zone (DMZ) established at OCWD and will be provided to the Contractor for the Power BI dashboard. This initiative aims to equip OCWD with intuitive, customized dashboard pages that simplify complex data interpretation, facilitating informed decision-making and enhanced operational oversight.

This dashboard will provide OCWD staff key information regarding:

- Key performance indicators (KPIs)—salt passage, differential pressure, specific flux, and deviations from KPI targets.
- Progression toward cleaning or service setpoints.
- Membrane process performance trends for actual and normalized data.
- Inventory of all data available on the dashboard.

Development of the dashboards will align with the USBR project to ensure proper understanding and interpretation of the dashboard data. Please see attached the Scope of Service, and Budget

We appreciate the opportunity to submit our proposal to Orange County Water District. Please contact me at (720) 262-4458, or by email at [bstanford@hazenandsawyer.com](mailto:bstanford@hazenandsawyer.com) if you have any questions or comments about our proposal.

Regards,

Benjamin Stanford  
Associate Vice President

Copy: Richard Franks  
Cindy Miller  
Grantley Pyke

## Scope of Services

This scope of services outlines the key tasks required to develop a Power BI (PBI) dashboard for the Orange County Water District (OCWD) developed by Hazen and Sawyer (Contractor) to support real-time monitoring and performance optimization of membrane treatment trains (Trains A, B, and C). The proposed work is designed to enhance OCWD's operational visibility by creating an automated, user-friendly data analytics platform that integrates SCADA system data, performs key normalization calculations, and delivers actionable insights through a centralized dashboard.

The scope is divided into four main tasks, each focused on a specific area necessary to ensure the successful implementation and adoption of the tool::

- **Task 1 – Data Foundation:** Establish automated data handling mechanisms to support daily operational use of the tool
- **Task 2 – Normalization Calculations:** Perform train-level normalization calculations.
- **Task 3 – Dashboard Development and Deployment:** Create and deploy the dashboard, including training and support for OCWD staff.
- **Task 4 – Project Management:** Oversee the project to ensure timely and on-budget delivery.

### **Task 1 – Data Foundation**

The objective of Task 1 is to ensure critical analytical and operational data from the OCWD membrane systems (Trains A, B, and C) are securely stored in a central SQL data warehouse. This task involves collaboration with OCWD's IT and technical staff to establish secure data export processes, build the data warehouse, and create the necessary data pipelines. These steps lay the foundation for subsequent tasks, including normalization calculations and dashboard development.

#### *Task 1.1: Data Architecture Planning, Design, and Document Review*

This task involves the initial planning, design, and document review necessary to establish a robust data foundation and data management strategy. Key activities include:

- Collaborate with OCWD technical staff to draft a high-level data architecture diagram, outlining core elements such as user roles, data sources, data granularity, refresh frequency, data retention, and security protocols.
- Conduct up to two virtual coordination meetings with OCWD IT staff and data owners to align on data handling procedures, data export processes, and the overall data management approach.
- Request and review SCADA historian metadata to identify valuable tags or parameters needed for performance optimization.

- Request and review relevant documents from OCWD staff, including system drawings (e.g., Process and Instrumentation Diagrams [P&IDs]), membrane replacement records, clean-in-place (CIP) records, and technical memoranda related to membrane performance reporting and data management.
- Incorporate information from the reviewed documents into the data management strategy and dashboard design.

### *Task 1.2: Data Connectivity and Pipeline Development*

This task focuses on establishing secure data connectivity and developing data pipelines to acquire and manage the required data efficiently. Key activities include:

- Establish secure data connections between the OCWD DMZ and the Contractor's Azure or Fabric environment.
- Develop and deploy scripts to query the SCADA historian, retrieving the selected tags at the appropriate aggregation level (e.g., hourly).
- Configure and deploy data pipelines to facilitate recurring data acquisition from SCADA systems, ensuring ongoing data availability and integrity. It is anticipated that the existing data export pipeline from the DMZ to AWS will be incorporated into the new architecture.

### *Task 1.3: Data Warehouse Development and Integration*

This task involves building the SQL data warehouse to securely store, manage, and integrate data for further analysis and dashboard development. Key activities include:

- Provision a secure workspace within Hazen's Microsoft Azure or Fabric tenant dedicated to OCWD data and applications, integrating existing data handling and reporting processes.
- Design and build a semantic model and SQL data warehouse to integrate raw, calculated, and cleaned data.
- Coordinate with OCWD to export at least one year of recent data from the SCADA Historian at an hourly timestep. The dataset should include necessary tags to monitor membrane performance, calculate normalized performance (at both train and stage levels), and determine the system status (e.g., in production, offline, or under maintenance). Data should be provided in the following format:
  - File format: CSV
  - SCADA Data File: One row per hour, one datetime column, and one column per SCADA tag.
  - SCADA Metadata File: One row per SCADA tag with columns: Tag, Tag Description, Parameter, Units, Location, Train.

## **Task 2 – Normalization Calculations**

Under this task the Contractor will perform membrane normalization calculations as needed. Currently, some membrane operation Key Performance Indicators (KPIs) are normalized prior to being transmitted to the DMZ. Hazen will review the existing normalization processes, and any necessary adjustments or refinements will be applied under this task.

### *Task 2.1: Normalization Calculations*

The Contractor will use ASTM D4516 (Standard Practice for Standardizing Reverse Osmosis Performance Data) as the basis for normalization calculations. Inputs for normalization include, but are not limited to, conductivities, flows, pressures, and temperature SCADA data provided in Task 1. The Contractor will perform train-level calculations for each of the membrane trains, where sufficient data is available. The calculations will be performed in Python and the results will be written to a flat file (CSV).

#### *Deliverables:*

- Normalization calculations: to validate normalization values, the Contractor will provide OCWD with a spreadsheet representative sample of calculations. This sample will compare Python-based and spreadsheet-based calculations.

## **Task 3 – Dashboard Development and Deployment**

Under this task the Contractor will develop and deploy a dashboard for interactive graphical visualization of key performance indicators (KPIs) and metrics specific to the performance of membrane systems across Trains A, B, and C.

### *Task 3.1: Data Model*

The Contractor will update the design and configuration of the existing Power BI data model as needed to accommodate both raw and normalized SCADA data. The data model defines how different datasets relate to one another.

### *Task 3.2: Key Performance Indicator (KPI) Development*

The Contractor will develop DAX measures and Python scripts that provide reliable access to the data in the data model. This includes defining and coding key performance indicators (KPIs) to characterize process performance and support operational decisions. It is anticipated that the KPIs will focus on salt passage, differential pressure, and specific flux.

### *Task 3.3 Dashboard Pages*

Under this task the Contractor will create the user interface, or pages (up to 10 pages), of the dashboard. Dashboard pages will include visualizations, filters, measures, dynamic text elements, informational tooltips, and inter-page navigation features as necessary to deliver a powerful and intuitive user experience. The Contractor will ensure that pages are clear and meet the analytical, reporting, and situational awareness needs of end users. Pages are expected to satisfy such user needs as: data inventory and quality control, high-level performance summary, basic timeseries plotting and simple aggregation, and situational awareness of current operational conditions exceedance reporting, and staff training.

### *Task 3.4 Dashboard Deployment, Training, Documentation, and Support*

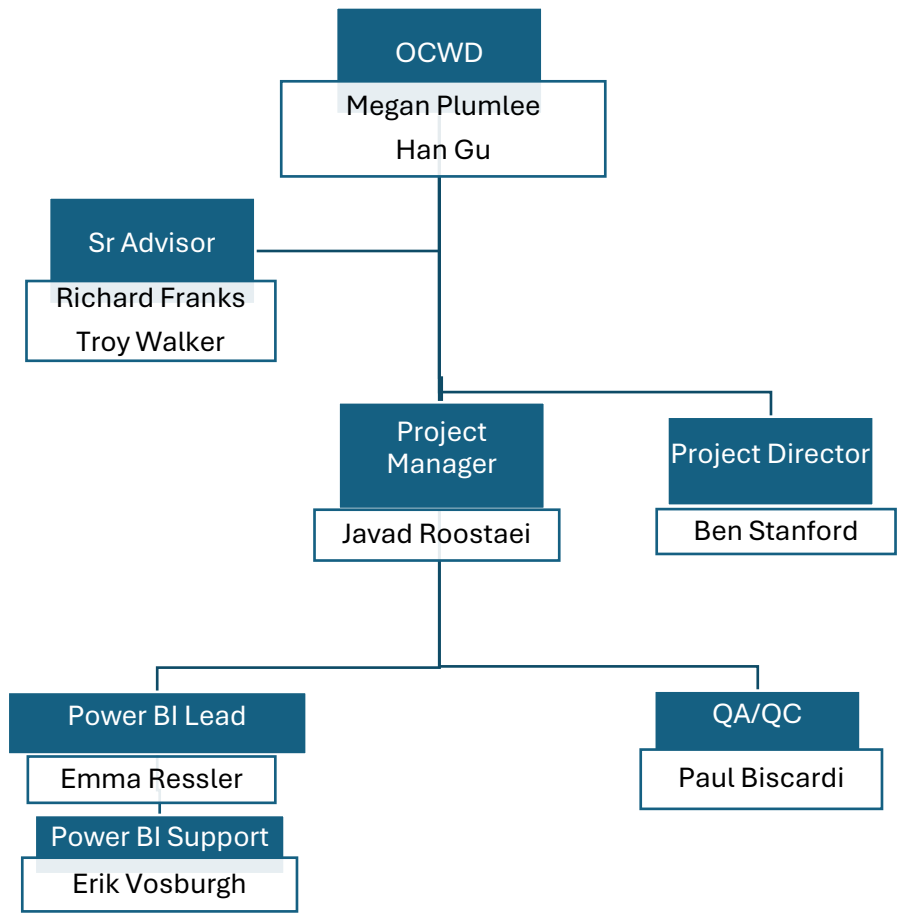
The Contractor will publish the dashboard to the Contractor's Power BI tenant and share the dashboard with OCWD staff. The Contractor will provide up to 4 hours of virtual dashboard training and up to 8 hours of hosting support. Support includes managing data file paths, troubleshooting, error resolution, and as-needed user support.

#### *Deliverables:*

- Dashboard: Power BI web published access file.
- A technical presentation will be delivered in one session, consisting of up to 40 slides. The presentation will cover an overview of the data workflow, provide details on normalization calculations, and guide users through the dashboard's navigation and key features.
- Training: up to 4 hours of virtual training for dashboard users.
- Support: up to 8 hours of dashboard support.
- **Assumption:** Hazen will host the Azure/AWS services, data pipeline, and Power BI dashboard following the delivery of the project. Hazen will cover the cost of these services for an initial period of six (6) months. Thereafter, Hazen will invoice OCWD for the ongoing monthly service costs on a semi-annual basis. This cost is in addition to this contract, and it is approximately \$3,000 per year.

### **Task 4 – Project Management**

The Contractor's team presented in the organizational chart below was selected based on two important criteria: familiarity with OCWD membrane systems and extensive experience in data analysis and data visualization using Power BI. Team members have the required membrane, software, and management expertise and are prepared to begin the project immediately. This team will be involved at various levels throughout the project life cycle including initial and monthly meetings and for internal coordination.



**Schedule**

The project is estimated to require up to 18 months for completion, measured from the date of receipt of the Notice to Proceed. However, if Hazen delivers the results ahead of schedule and addresses the initial round of review comments promptly, the project may be completed in a shorter timeframe.



# Development of a Custom Online Dashboard for GWRS RO Plant

Water Issues Committee Meeting

July 9, 2025



# Project Objective

- Water / wastewater utilities are implementing real-time dashboards to:
  - streamline operations
  - support data-based decision making
- Project objective: Develop and trial a custom-built **dashboard** for a portion of the GWRS RO facility
  - Trains A, B, and C = 9 RO units



Image Source: Puretec Industrial Water, Water Linx (Remote System Monitoring for RO)

# What is a Dashboard?

- Visual representation of data to provide summary views, trends, and at-a-glance information
- Accessible by web browser
- Linked to regularly updating data sources
- User clicks into elements to get more details

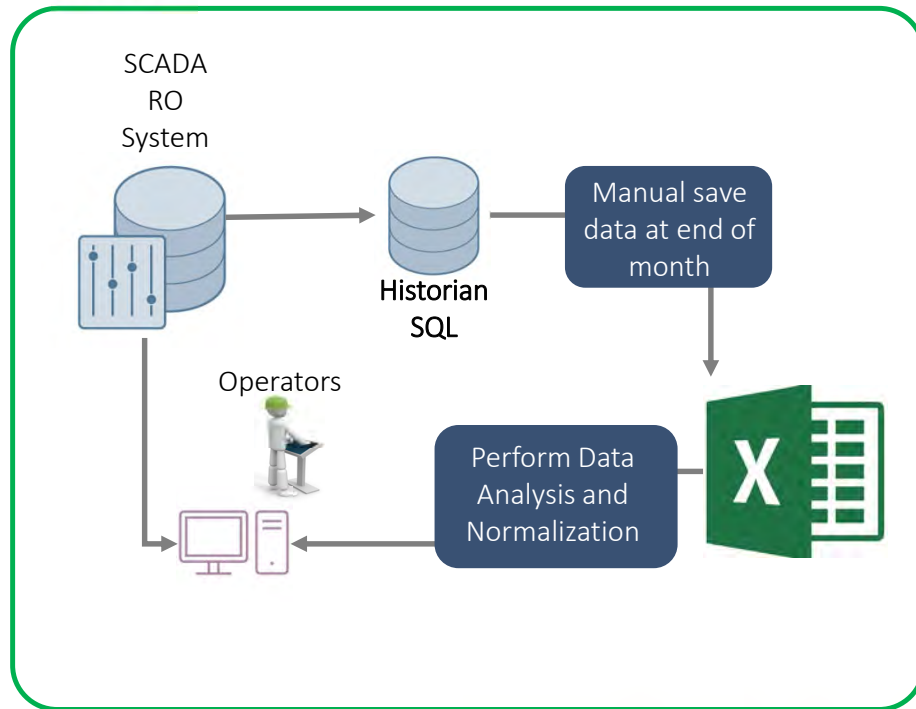




Image Source: Puretec Industrial Water, Water Linx (Remote System Monitoring for RO)

# How do our staff access plant data now?



## Operations



- SCADA views can be accessed only at specific, licensed District workstations.
- To share with other staff, data must be exported to Excel , manually plotted and shared by email 

# How do our staff access plant data now?

Processing data manually in Excel:

Date and Time	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA	RO SYSTEM DATA
	RARE RO Cartridge Filter Diff. Pressure	RARE MF Feed Combined Chlorine Residual	RARE MF Filtrate Turbidity	RARE Potable Water Backup Flow	RARE RO Feedwater Flow	RARE RO Feedwater Turbidity	RARE RO Feedwater Conductivity	RARE RO Feedwater Temperature	RARE RO Feedwater pH	RARE RO Feedwater ORP	RARE RO Train 1 Feed Pressure	RARE RO Train 2 Feed Pressure	RARE RO Train 3 Feed Pressure	RARE RO Train 1 First Stage Diff. Pressure	RARE RO Train 1 First Stage Diff. Pressure	RARE RO Train 1 First Stage Diff. Pressure	RARE RO Train 1 First Stage Diff. Pressure	RARE RO Train 1 First Stage Diff. Pressure
	psi	ppm	NTU	gpm	gpm	NTU	umhos/cm	deg F	pH	mV	psig	psig	psig	psi	psi	psi	psi	psi
01-Jul-19 00:00:00	3.169033	0.908786	0.046926	2578.552	3221.6	0.088248	284.5002	62.83948	7.011884	562.7777	157.9179	1.202423	182.7414	35.49851	0.6			
01-Jul-19 01:00:00	3.1591	0.977156	0.047427	2555.545	3223.611	0.088143	257.0147	62.59135	7.000726	563.2376	157.4947	1.23294	181.5526	35.51292	0.6			
01-Jul-19 02:00:00	3.149168	1.04748	0.047928	2549.607	3220.717	0.088038	243.8175	62.53189	6.989568	564.0101	157.0715	1.263457	179.6766	35.41915	0.6			
01-Jul-19 03:00:00	3.139235	1.097032	0.048217										1973	178.7406	35.35242	0.6		
01-Jul-19 04:00:00	3.131179	1.115778	0.047914										2449	177.9541	35.40371	0.6		
01-Jul-19 05:00:00	3.128344	1.163816	0.047576										3007	178.0808	35.36149	0.6		
													3864	178.8084	35.33895	0.6		
													4224	179.9766	35.29497	0.6		
													4276	181.1442	35.30544	0.6		
													3328	168.661	27.78055	0.7		
													3381	175.155	0.375143	0.7		
													4433	172.3875	0.344243	0.8		
													4485	172.4698	0.313344	0.8		
													3537	172.5605	0.282445	0.7		
													3832	175.7309	0.251546	0.6		
													955	178.6167	0.220647	0.6		
01-Jul-19 10:00:00	1.000041	0.277169	0.045883	2597.472	3225.191	0.091592	338.5789	65.78102	7.14671	533.2178	2.082185	138.6806	179.8067	0.189748	29			
01-Jul-19 11:00:00	0.9786												658	180.3056	0.159112	29		
01-Jul-19 12:00:00	0.9573												651	180.7463	0.147759	29		
01-Jul-19 13:00:00	0.935953	0.008904	0.045946										362	181.2281	0.148331	29		
01-Jul-19 14:00:00	2.992224	0.008953	0.046096										1971	180.4841	0.148903	29		
01-Jul-19 15:00:00	3.221592	0.009002	0.04907										140.597	181.7614	0.149475	28		
01-Jul-19 16:00:00	3.202544	0.009051	0.051706	2597.472	3225.191	0.091592	338.5789	65.78102	7.14671	533.2178	2.082185	138.6806	179.8067	0.189748	29			
01-Jul-19 17:00:00	3.183497	0.0091	0.049111										658	180.3056	0.159112	29		
01-Jul-19 18:00:00	3.164449	0.009149	0.046516										651	180.7463	0.147759	29		
01-Jul-19 19:00:00	3.145402	0.013428	0.043792										362	181.2281	0.148331	29		
01-Jul-19 20:00:00	3.126354	0.034264	0.043566										1971	180.4841	0.148903	29		
01-Jul-19 21:00:00	3.107307	0.058534	0.043763	2639.002	3207.659	0.091067	314.3244	64.02772	7.093791	529.6415	1.637271	140.597	181.7614	0.149475	28			
01-Jul-19 22:00:00	3.096859	0.166383	0.043959	2711.387	3220.451	0.09102	316.2794	63.76891	7.092742	528.9262	1.641085	140.6886	182.7095	0.150048	28			
01-Jul-19 23:00:00	3.097948	0.321447	0.044155	2702.201	3213.403	0.090972	318.2344	63.51011	7.091692	528.7733	1.644899	140.7802	182.5059	0.15062	28			
02-Jul-19 00:00:00	3.099098	0.465968	0.044352	2704.072	3211.639	0.090924	320.1895	63.2513	7.090643	529.3841	1.648713	140.8718	183.395	0.151192	28			
02-Jul-19 01:00:00	3.100248	0.566874	0.044548	2707.516	3207.444	0.090876	322.1417	63.15192	7.089594	529.9992	1.654193	140.9633	182.5454	0.152107	28			
02-Jul-19 02:00:00	3.101398	0.696443	0.044744	2649.362	3210.236	0.090829	323.9853	63.31358	7.088545	530.6144	1.849371	141.0549	182.5774	0.178148	28			
02-Jul-19 03:00:00	3.102548	0.77808	0.044898	2659.878	3222.425	0.090854	325.7734	63.47901	7.088414	531.2295	2.173861	141.1465	183.2651	0.219728	28			
02-Jul-19 04:00:00	3.103697	0.769303	0.044955	2661.324	3224.995	0.09095	327.5616	63.64443	7.095399	531.8446	2.498352	141.0769	182.1718	0.261308	28			

$\Delta \pi = 0.006 \times C_{FB}$  Eq (2)

where:  $C_{FB}$  = Average Conductivity of feed / brine ( $\mu\text{mho} / \text{cm}$ )  
(assumes permeate osmotic pressure = 0 psi)

$\left( \frac{1 \text{ psi}}{100 \text{ mg/L}} \right) \times \left( \frac{0.6 \text{ mg/L}}{1 \mu\text{S}} \right) = 0.006 \text{ psi} / \mu\text{S}$

Raw Data

Data Normalization

OCWD Delta V workstation



- SCADA views can be accessed only at specific, licensed District workstations.
- To share with other staff, data must be exported to Excel , manually plotted and shared by email

# Project Team & Scope

**Hazen**



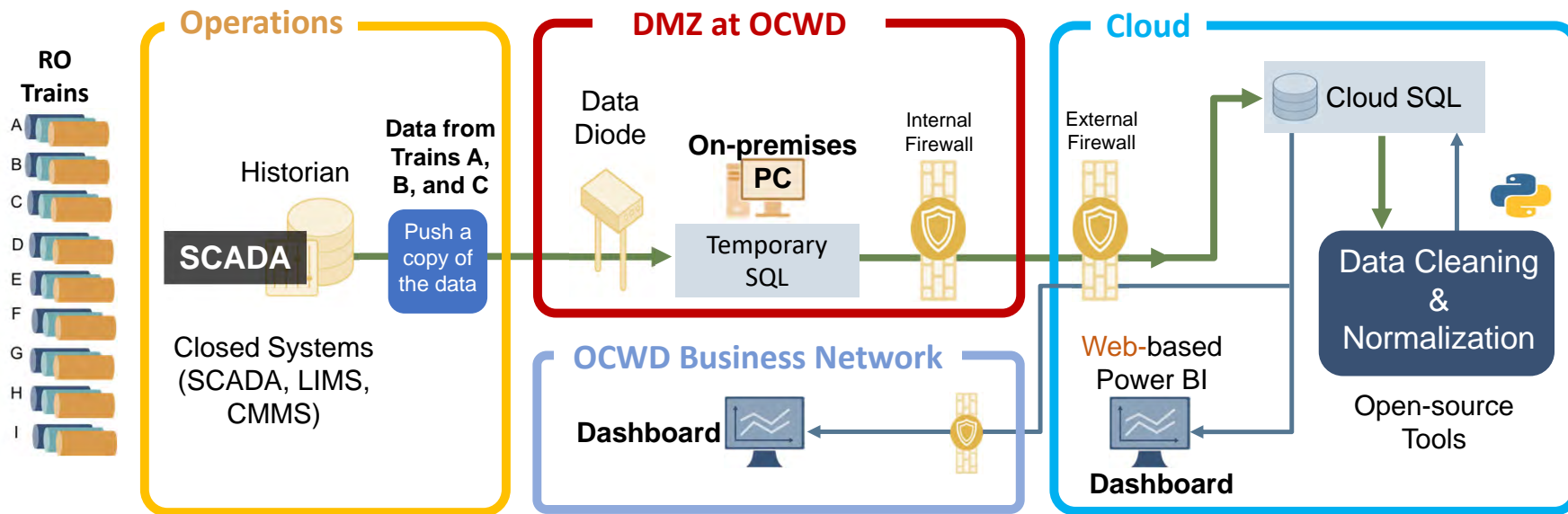
*Co-Funding from:*



—BUREAU OF—  
RECLAMATION

- USBR-funded research project. First phase:
  - 5-month RO pilot study at District to train machine learning (ML) tool
- Second phase – build full-scale RO system dashboard to apply similar analytical capabilities
  - Hazen previously implemented RO dashboard for Chino Desalter Authority
- Cost offset by Hazen’s USBR grant
  - District providing supplementary funding (\$60,000) to Hazen to build custom dashboard

# The Dashboard Concept



**Note:** Sensors are sending data with frequency of 1 min

Raw Data Flow →  
 Processed Data Flow →

# Designed for Remote Access and Real-Time Monitoring

## ■ Hazen's scope

- Establish secure data pipelines
- Integrate SCADA system data into centralized SQL data warehouse
- Host data in Hazen's Microsoft Azure environment
- Configure long-term cloud storage
- Create Power BI-based dashboard accessible for select District staff

### Key Performance Indicators (KPIs) for RO System

- Salt passage
- Differential pressure
- Specific flux

### Dashboard Features and Benefits

- Performance summaries
- KPI trend visualizations
- Exceedance alerts
- QC checks
- Remote Access

# Recommendation

- Agendize for July 16 Board meeting: Authorize issuance of an agreement with Hazen and Sawyer in the amount of \$60,000 for development of a Power BI dashboard to support monitoring and analysis of membrane system performance in RO Trains A, B, and C.

# Questions?

@OCWaterDistrict



A row of seven white social media icons: Facebook (f), Instagram (camera), LinkedIn (in), Email (at symbol), TikTok (d), X (X), and YouTube (play button).



## AGENDA ITEM SUBMITTAL

**Meeting Date:** July 9, 2025

**To:** Water Issues Committee  
Board of Directors

**From:** John Kennedy

**Staff Contact:** C. Olsen

**Budgeted:** N/A

**Budgeted Amount:** N/A

**Cost Estimate:** N/A

**Funding Source:** N/A

**Program/Line Item No.:** N/A

**General Counsel Approval:** N/A

**Engineers/Feasibility Report:** N/A

**CEQA Compliance:** N/A

**Subject:** EMERGENCY WATER SUPPLIES TO SOUTH ORANGE COUNTY UPDATE

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### SUMMARY

On May 28, 2025, staff from OCWD, Municipal Water District of Orange County (MWDOC), City of Santa Ana (City) and Moulton Niguel Water District (MNWD) met to further discuss City system capacity, infrastructure improvements and the EOCF#2 interconnection related to providing emergency water supplies to south orange county. Minutes from the meeting are attached and a future EOCF#2 owners and interested stakeholders meeting has been scheduled for July 30, 2025 as described below.

Attachment: May 28, 2025 Meeting minutes

### RECOMMENDATION

Informational

### DISCUSSION

In 2022, the Board approved an Agreement with the City and MNWD which provided for preliminary engineering analysis and design of the Santa Ana – East Station option to determine the exact facilities needed, initiating CEQA analysis, and investigating the institutional arrangements needed to connect into the EOCF#2 and to deliver water into the pipeline. More specifically, the program calls for the following;

- MNWD funds all work specified in the agreement.
- Water from the City's water system would only be pumped into the EOCF#2 when MWD was unable to deliver water to MNWD.
- New facilities are designed to City and OCWD standards.
- At no time would the delivery of water to MNWD cause or exacerbate a shortage of water to the City's customers.
- MNWD reimburses the City for all expenses incurred by the City as a result of this program.
- The agreement does not allow MNWD to store water in the OCWD groundwater basin.
- The City utilizes the new water system improvements during normal operations.
- The program complies with the OCWD Act.
- MNWD prepares the two requests for proposals necessary to hire an engineering and CEQA consultant and administer the contracts.

- The three parties collaboratively carry out the scope of work for this agreement.

This agreement was set to terminate on May 24, 2025 and the Board approved extending the agreement three years through June 30, 2028 at the April 16, 2025 Board Meeting. During this three year period, MNWD will solicit for and develop CEQA documents and final design of the proposed infrastructure based on the preliminary design analysis. MNWD will also coordinate with the parties having EOCF#2 ownership and will pursue the necessary authorizations for the project. The proposed amendment also calls for MNWD to reimburse the City and OCWD for their expenses associated with the performance of the scope of work of this agreement and the proposed amendment.

Going forward, staff will provide updates to the Board regarding any meetings held or items for discussion. On May 28, 2025, staff from OCWD, MWDOC, City and MNWD met to further discuss City system capacity, infrastructure improvements and EOCF#2 interconnection (meeting minutes attached). MNWD will develop a draft framework of an operating plan for the proposed interconnection for all involved parties (including the Metropolitan Water District) to review. A meeting with EOCF#2 owners and interested stakeholders has been scheduled for July 30, 2025 to present the draft framework plan and discuss how to proceed with obtaining approval for an emergency interconnection.

#### **PRIOR RELEVANT BOARD ACTIONS**

4/16/25, R25-4-62: Authorize execution of Amendment to Agreement with the city of Santa Ana and the Moulton Niguel Water District.

3/16/22, R22-3-30: Authorize execution of agreement with the city of Santa Ana and the Moulton Niguel Water District.

7/21/21, R21-7-109: Approved the policy principles to provide emergency water supplies to SOC.

2/10/21, Informational Item: Provided Tetra Tech report to the Water Issues Committee.

3/20/19, R19-3-31: Hired Tetra Tech to perform two technical studies for the District.

3/20-19, R19-3-32: Hired Westwater to perform two technical studies for the District.

1/16/19, R1-1-10: Authorize execution of Agreement with the Moulton Niguel Water District and issuance of two requests for proposals for review of existing water storage programs and evaluation of groundwater conveyance options.

10/3/18: OCWD MNWD ad-hoc committee created.

8/15/18, M18-104: Directed staff to update the 2007 *Report on Orange County Groundwater Basin Storage and Operational Strategy* to reflect the recommended basin operating changes and to limit any potential future storage agreements to within the 36,000 acre-foot Santa Ana River Conservation and Conjunctive Use Program until the Metropolitan Water District Conjunctive Use Storage Program expires in 2028.

8/2/17, R17-8-107: Broadened the District's Water Resources Policy to allow the consideration of water storage and exchange programs with SOC water agencies.

## MEETING MINUTES

Project: OCWD Basin Emergency Interconnection at Santa Ana East Station  
Date: May 28, 2025  
Time: 2:00 – 3:00 PM  
Location: Orange County Water District (18700 Ward St., Fountain Valley, CA 92708)  
Attendees: **City of Santa Ana (CSA)** – Cesar Barrera, Armando Fernandez, Heidi Chou  
**Orange County Water District (OCWD)** – John Kennedy, Chris Olsen  
**Municipal Water District of Orange County (MWDOC)** – Charles Busslinger, Sarina Sriboonlue  
**Moulton Niguel Water District (MNWD)** – Joone Kim-Lopez, Matt Collings, Rodney Woods, Todd Dmytryshyn, Cleve Lee, Mike Markus (Pure Water Consulting Engineers)  
*Attendees are collectively referred to as “the Parties”.*

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### DISCUSSION ITEMS:

1. Ongoing discussions between MNWD and CSA regarding CSA system capacity: MNWD and CSA are continuing to review infrastructure improvements to the CSA system.
2. Approach for next steps of discussions with East Orange County Feeder No. 2 (EOCF#2) participant agencies:
  - 2.1. Discussed suitable approach for capturing pertinent details regarding how the proposed emergency interconnection would operate based on applicable existing agreements, codes, and policy requirements.
  - 2.2. MWDOC previously shared Metropolitan (MET) Administrative Code 4519, Emergency Deliveries of Member Agency Water Supplies in Metropolitan’s System. The Parties agreed to present an approach to the EOCF#2 participants pursuant to MET’s Admin Code 4519.
  - 2.3. MNWD and CSA will prepare a draft framework of an operating plan for the proposed emergency interconnection for review. The framework will lay out the circumstances under which the emergency interconnection may be used, as well as the operational procedures that would govern its use and the corresponding introduction of the water into EOCF#2, pursuant to MET’s Admin Code 4519. MWDOC will facilitate related discussions with MET.
  - 2.4. The Parties will convene an open in-person meeting of the EOCF#2 owners and interested stakeholders on July 30<sup>th</sup> at 10am to provide background and present the framework of an operating plan for the emergency interconnection. The Parties will coordinate to notice the meeting and send invitations.
3. Next Steps
  - 3.1. Agencies will update their governing bodies.