



AGENDA

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

WATER ISSUES COMMITTEE MEETING WITH BOARD OF DIRECTORS * ORANGE COUNTY WATER DISTRICT **Wednesday, February 12, 2025 12:00 p.m., Boardroom**

*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 **February 19** 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
19 Cannery, Buena Park
1502 North Broadway, Santa Ana
8 Thomas, Irvine

* 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 – 12)

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 JANUARY 8, 2025

RECOMMENDATION: Approve minutes as presented

2. AUTHORIZATION RESOLUTION FOR WATERSMART TITLE XVI WATER INFRASTRUCTURE IMPROVEMENTS FOR THE NATION ACT WATER RECLAMATION AND REUSE PROJECTS FOR FISCAL YEARS 2023 AND 2024 GRANT APPLICATION

RECOMMENDATION: Agendize for February 19 Board Meeting: Approve and adopt an Authorization Resolution for the District's Grant Application of the Orange County Water District PFAS Removal Program for the WaterSMART: Title XVI Water Infrastructure Improvements for the Nation Act Water Reclamation and Reuse Projects for Fiscal Years 2023 and 2024

3. AWARD CONTRACT GBM-2024-3 CONSTRUCTION OF SHALLOW AQUIFER PIEZOMETERS AND TALBERT GAP MONITORING WELL CLUSTER

RECOMMENDATION: Agendize for February 19 Board meeting:

- 1) Receive and file Affidavit of Publication of Notice Inviting Bids for Contract GBM-2024-3; and
- 2) Accept bid and award contract GBM-2024-3 to J&H Drilling Co, Inc. dba MR Drilling for an amount not to exceed \$199,025

4. SERVICE AGREEMENT WITH BESST, INC. FOR A DEPTH-SPECIFIC FLOW AND WATER QUALITY SURVEY AT BUENA PARK'S LINDEN WELL

RECOMMENDATION: Agendize for February 19 Board meeting: Authorize issuance of a service agreement to BESST, Inc. in an amount not to exceed \$40,700 to provide depth-specific data collection services at Buena Park's Linden well

5. AUTHORIZE GENERAL MANAGER APPROVAL OF AGREEMENT WITH USACE FOR SURFACE WATER LEVEL MONITORING AT PRADO DAM

RECOMMENDATION: Agendize for February 19 Board meeting: Authorize General Manager to execute 5-year license agreement with the USACE for surface water level monitoring at two sites, subject to approval as to form by the District's General Counsel

6. CONTRACT SB-2025-1 BOND BASIN SLOPE REPAIR CATEGORICAL EXEMPTION AND NOTICE INVITING BIDS

RECOMMENDATION: Agendize for February 19 Board meeting:

- 1) Authorize filing of a Categorical Exemption for the Bond Basin Slope Repair project in compliance with the California Environmental Quality Act (CEQA) guidelines; and

- 2) Authorize publication of Notice Inviting Bids for Contract No. SB-2025-1, Bond Basin Slope Repair Project

7. CITY OF ORANGE WELLS 25 AND 27 PFAS TREATMENT PLANT PROJECT: ENGINEER'S REPORT AND CATEGORICAL EXEMPTION

RECOMMENDATION: Agendize for February 19 Board meeting:

- 1) Approve the Engineer's Report for the City of Orange Wells 25 and 27 PFAS Treatment Plant Project and determine the project feasible, necessary and beneficial to the lands of the District; and
- 2) Authorize filing of a Categorical Exemption for the City of Orange Wells 25 and 27 PFAS Treatment Plant Project in compliance with the California Environmental Quality Act (CEQA) guidelines

8. K-2025-1: KRAEMER BASIN CHECK VALVE REPLACEMENTS: AWARD CONSTRUCTION CONTRACT TO INNOVATIVE CONSTRUCTION SOLUTIONS

RECOMMENDATION: Agendize for February 19 Board meeting:

- 1) Receive and file Affidavit of Publication of Notice Inviting Bids for Contract No. K-2025-1;
- 2) Increase Kraemer Basin Check Valve Replacement project budget by \$165,000, for a total project budget of \$365,000; and
- 3) Accept bid and award contract K-2025-1 to Innovative Construction Solutions for an amount not to exceed \$347,500

9. SANTIAGO BASIN FLOATING PUMP STATION POWER WIRE AND CONDUIT REPAIRS – AMENDMENT NO. 1 TO AGREEMENT WITH T.E. ROBERTS

RECOMMENDATION: Agendize for February 19 Board meeting: Authorize Amendment No. 1 to Agreement No. 1610 with T.E. Roberts for an amount not to exceed \$64,757 for the Santiago Basin Floating Pump Station Power Wire and Conduit Repairs

10. FINAL RESILIENCE PLAN: ADAPTIVE STRATEGIES FOR SECURING ABUNDANT AND RELIABLE WATER SUPPLIES

RECOMMENDATION: Agendize for February 19 Board meeting:

- 1) Receive and file the OCWD Resilience Plan; and
- 2) Authorize filing of Notice of Exemption in compliance with California Environmental Quality Act

11. EXECUTION OF LICENSE AGREEMENT FOR EXISTING MONITORING WELL SITE IDM-4 ON ORANGE COUNTY FLOOD CONTROL DISTRICT PROPERTY

RECOMMENDATION: Agendize for February 19 Board meeting: Authorize the General Manager to finalize and execute a 10-year term License Agreement with the Orange County Flood Control District, including payment of an administrative fee not to exceed \$5,000, for continued access to existing

monitoring well site IDM-4

12. ANAHEIM LAKE VALVE VAULT – AMENDMENT NO. 1 TO AGREEMENT 1681 WITH MKN

RECOMMENDATION: Agendize for February 19 Board meeting: Authorize Amendment No.1 to Agreement No. 1681 with MKN for an amount not to exceed \$33,200 for design services for the Anaheim Lake Valve Vault Project

END OF CONSENT CALENDAR

MATTERS FOR CONSIDERATION

13. AMENDMENT NO. 7 TO AGREEMENT NO. 1175 WITH INTERA, INC. FOR ADDITIONAL GROUNDWATER MODELING SERVICES REGARDING SUNSET GAP SEAWATER INTRUSION

RECOMMENDATION: Agendize for February 19 Board meeting: Authorize issuance of Amendment No. 7 to Agreement No. 1175 with Intera, Inc., in the amount of \$57,550 for additional groundwater modeling of the Sunset Gap area

14. PRADO DAM SHORT-TERM COMPLIANCE SEDIMENT MANAGEMENT PLANNING AND DESIGN AGREEMENT AMENDMENT

RECOMMENDATION: Agendize for February 19 Board meeting: Authorize Amendment No. 1 to Agreement No. 1607 with Scheevel Engineering, for and amount not to exceed \$225,000, to assist with final design of the District's Prado Basin short-term compliance sediment removal obligation project

CHAIR DIRECTION AS TO ITEMS IF ANY TO BE AGENDIZED AS MATTERS FOR CONSIDERATION AT THE FEBRUARY 19 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

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 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. 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
January 8, 2025, @ 12:00 p.m.

Director Weigand called the Water Issues Committee meeting to order at 12:00 p.m. in the District Boardroom. Public access was also provided via Zoom webinar. The Secretary called the roll and reported a quorum as follows:

Committee Members

Vacant
Dina Nguyen (arrived 12:04 p.m.)
Roger Yoh
Van Tran (absent)
Erik Weigand

Alternates

Denis Bilodeau
Steve Sheldon
Natalie Meeks (absent)
Valeria Amezcua (arrived 12:05 p.m.)
Cathy Green

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
Lisa Haney – Executive Director of Planning & Natural Resources
Roy Herndon – Chief Hydrogeologist
Bill Leever – Principal Hydrogeologist
Adam Hutchinson – Recharge Planning Manager
Megan Plumlee – Director of Research
Pat Versluis – Director of Water Quality
Randy Fick – Treasurer/CFO
Ben Smith – Director of Recharge and Wetland Operations
Alicia Harasty – Legislative Affairs Liaison
Shawn Neville – Principal Planner
Kevin O'Toole – Senior 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 Green, seconded by Director Yoh and carried [5-0], as follows:

Ayes: Yoh, Weigand, Bilodeau, Sheldon, Green

1. Minutes of Water Issues Committee Meeting

The Minutes of the Water Issues Committee meeting held December 11, 2024, were approved as presented.

2. Multiport Monitoring Well LAM-1: Additional Funds Requested by the Army for Access Agreement Renewal

Recommended for approval at January 15 Board meeting: Accept completion of the work and authorize filing a Notice of Completion for Contract GBM-2024-2, 2024 Shallow Aquifer Monitoring Wells.

3. Contract No. TAL-2024-1: Talbert Barrier Well Redevelopment Project-Notice of Completion

Recommended for approval at January 15 Board meeting: Accept completion of work for Contract TAL-2024-1 with BC2 Environmental, LLC and authorize filing Notice of Completion for Phase I.

4. Agreement with DDB Engineering for the Preparation of 2024 GWRS Annual Report

Recommended for approval at January 15 Board meeting: Authorize issuance of Agreement to DDB Engineering Inc. for an amount not to exceed \$58,000 to provide consulting services for the preparation of the calendar year 2024 GWRS Annual Report.

5. Alamitos Seawater Barrier 2025-26 Operations and Maintenance Budget

Recommended for approval at January 15 Board meeting: 1) Approve the Alamitos Barrier 2025-26 total O&M budget in the amount of \$3,265,000 and authorize the amount of the District's share not to exceed \$1,304,500 payable to the Los Angeles County Department of Public Works after receipt and review of invoices; and 2) Increase project budget by \$145,000 for a total project budget in the amount of \$1,125,000.

INFORMATIONAL ITEM

6. Draft Resilience Plan Adaptive Strategies for Securing Abundant and Reliable Water Supplies

Lisa Haney, Executive Director of Planning and Natural Resources, provided an update on the OCWD Resilience Plan: Adaptive Strategies for Securing Abundant and Reliable Water Supplies. She stated this current plan is a new effort to what has historically been done at the District and noted that the last board approved long-term facilities plan was in 2014. She advised that the new concept of a resilience plan is a more holistic approach to planning than in the past which would allow to be more flexible, quicker to implement projects and have a larger scope of planning effort. She stated that the Resilience Plan offers a planning horizon of five to 25 years, adaptable to the evolving needs and conditions of the agency. Adam Hutchinson, Recharge Planning Manager, provided a framework for the conceptual program and implementation strategy. Mr. Hutchinson noted that the Resilience Plan was organized around four key District assets: the Groundwater Basin, the Santa Ana River, GWRS and natural resources. The Committee was advised that staff plans to bring a final draft to the Board in February.

CHAIR DIRECTION AS TO ITEMS IF ANY TO BE AGENDIZED AS MATTERS FOR CONSIDERATION AT THE JANUARY 15 BOARD MEETING

ADJOURNMENT

There being no further business, the meeting was adjourned at 12:47 p.m.

Erik Weigand, Chair

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 2025

To: Water Issues Committee
Board of Directors

From: John Kennedy

Staff Contact: R. Bouley/L. Tan

Budgeted: N/A

Budgeted Amount: N/A

Cost Estimate: N/A

Funding Source: N/A

Program/Line Item No.: N/A

General Counsel Approval: Yes

Engineers Report: N/A

CEQA Compliance: N/A

**Subject: AUTHORIZATION RESOLUTION FOR WATERSMART TITLE XVI
WATER INFRASTRUCTURE IMPROVEMENTS FOR THE NATION ACT
WATER RECLAMATION AND REUSE PROJECTS FOR FISCAL YEARS
2023 AND 2024 GRANT APPLICATION**

SUMMARY

In response to the funding announcement by the United States Bureau of Reclamation, staff submitted a grant application package for the WaterSMART: Title XVI Water Infrastructure Improvements for the Nation (WIIN) Act Water Reclamation and Reuse Projects for Fiscal Years 2023 and 2024. Staff requested and was awarded the maximum grant amount of \$30 Million for the District's PFAS Removal Program. The approval and adoption of an Authorization Resolution is a requirement of this Grant.

Attachment: Authorization Resolution

RECOMMENDATION

Agendize for February 19 Board meeting: Approve and adopt an Authorization Resolution for the District's Grant Application of the Orange County Water District PFAS Removal Program for the WaterSMART: Title XVI Water Infrastructure Improvements for the Nation Act Water Reclamation and Reuse Projects for Fiscal Years 2023 and 2024.

BACKGROUND/ANALYSIS

In September 2024, staff prepared and submitted a grant proposal for the second and final announcement of a funding opportunity of the WaterSMART: Title XVI WIIN Act Water Reclamation and Reuse Projects for Fiscal Years 2023 and 2024. The maximum amount of the federal funding for this grant is \$30 Million.

On January 14, 2025, staff received a notification letter from the United States Bureau of Reclamation Denver Office on its award of \$30 Million Grant for Orange County Water District PFAS Removal Program. The District's Grant proposal was among the highest scoring and rated proposals of many received by the United States Bureau of Reclamation. Upon the receipt of an award letter, the Grant applicant (in this case, OCWD) must adopt and submit an Authorization Resolution in order to show its

commitment to accept the Federal assistance and work with United States Bureau of Reclamation on the Grant award process.

Staff is working cooperatively with the United States Bureau of Reclamation Denver Office on the next steps of the Grant award funding process including the execution of a financial assistance agreement.

PRIOR RELEVANT BOARD ACTION(S)

N/A

RESOLUTION NO.

**RESOLUTION OF THE BOARD OF DIRECTORS OF THE ORANGE COUNTY
WATER DISTRICT APPROVING AND AUTHORIZING THE GRANT APPLICATION
FOR THE WATERSMART TITLE XVI WATER INFRASTRUCTURE IMPROVEMENTS
FOR THE NATION (WIIN) ACT WATER RECLAMATION AND REUSE PROJECTS
FOR FISCAL YEARS 2023 AND 2024 INCLUDING ORANGE COUNTY WATER
DISTRICT PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) REMOVAL
PROGRAM AND THE EXECUTION OF GRANT DOCUMENTS WITH THE UNITED
STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION**

WHEREAS, The Board of Directors adopted a PFAS Policy in November 2019 in preparation for the impacts of PFAS on Orange County groundwater supplies. Among other items, the policy states that the Orange County Water District (OCWD) funds the lowest reasonable and efficient treatment system design and construction costs to remove PFAS contaminants from groundwater for affected cities and water agencies (also called the groundwater producers) in OCWD's service area. Additionally, the policy states that OCWD provides a fifty percent subsidy for operation and maintenance expenses up to \$75 per acre-foot; and

WHEREAS, The Board of Directors approved the design and the construction of PFAS Removal Projects for groundwater wells that were taken out of service for exceeding the State Water Resources Control Board's Division of Drinking Water response levels of 10 parts per trillion (ppt) for perfluorooctanoic acid (PFOA) and 40 ppt for perfluorooctane sulfonate (PFOS); and

WHEREAS, The Board of Directors continues the approval of design and construction of PFAS Removal Projects for additional groundwater wells affected by the National Primary Drinking Water Standard of 4 ppt for PFOA and PFOS established by the United States Environmental Protection Agency on April 10, 2024; and

WHEREAS, The United States Department of the Interior, Bureau of Reclamation, has announced the second-round grant funding program entitled "WaterSMART: Title XVI Water Recycling Projects Under WIIN Act Water Reclamation and Reuse Projects for Fiscal Years 2023 and 2024" ("Grant") provided by the Bipartisan Infrastructure Law to assist in identifying and investigating opportunities to reclaim and reuse wastewater and promote the availability of new sources of clean water while promoting water and energy efficiency and environmental stewardship; and

WHEREAS, this resolution certifies the Board of Directors' approval of the OCWD's submission of an application package for the Grant.

NOW, THEREFORE, the Board of Directors of Orange County Water District
DOES HEREBY RESOLVE:

Section 1: The Board of Directors hereby authorizes and directs the General Manager to sign, submit and file, for and on behalf of the Orange County Water District, a Grant application package to the United States Department of the Interior, Bureau of Reclamation, in response to the announcement of the Funding Opportunity Number R23AS00464 to support the design and the construction of PFAS projects identified in OCWD PFAS Removal Program.

Section 2: The Board of Directors hereby agrees and further authorizes the General Manager or his designee, to provide the assurances, certifications, and commitments required for the Grant, to negotiate and execute any documents related to this Grant, including a financial assistance agreement and any amendments or changes thereto, and to accept a financial assistance from the United States Department of the Interior, Bureau of Reclamation.

Section 3: If the Grant application package is approved, the Orange County Water District has the financial capability to provide the cost-sharing funds to match the requirements of the Grant.

Section 4: The Orange County Water District will work with the United States Department of the Interior, Bureau of Reclamation, to meet established deadlines for entering into a financial assistance agreement.

CERTIFICATION

I DO HEREBY CERTIFY that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the Orange County Water District held on February 5, 2025.

Christina Fuller
District Secretary

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 2025

To: Water Issues Committee
Board of Directors

From: John Kennedy

Staff Contact: R.Herndon/D.Field

Budgeted: Yes

Budgeted Amount: \$185,000

Cost Estimate: \$199,025

Funding Source: CIP

Program/ Line Item No.: C24009

General Counsel Approval: N/A

Engineers/Feasibility Report: N/A

CEQA Compliance: Yes

**Subject: AWARD CONTRACT GBM-2024-3 CONSTRUCTION OF SHALLOW
AQUIFER PIEZOMETERS AND TALBERT GAP MONITORING WELL
CLUSTER**

SUMMARY

Bids for construction of two shallow aquifer piezometers (monitoring wells) and a Talbert Gap seawater intrusion monitoring well cluster (two adjacent wells completed at different depths) were received on December 30, 2024. Staff recommends awarding the contract to the lowest responsive bidder, J&H Drilling Co, Inc. dba MR Drilling (MR Drilling).

Attachments:

Figure 1 – Shallow Aquifer Piezometer Locations

Figure 2 – Talbert Gap Monitoring Well Cluster Locations

Affidavit for Publication of Notice Inviting Bids for GBM-2024-3

RECOMMENDATION

Agendize for February 19 Board meeting:

1. Receive and file Affidavit of Publication of Notice Inviting Bids for Contract GBM-2024-3; and
2. Accept bid and award contract GBM-2024-3 to J&H Drilling Co, Inc. dba MR Drilling for an amount not to exceed \$199,025.

BACKGROUND/ANALYSIS

Shallow Aquifer Piezometers

Each year, staff collects and interprets groundwater level data throughout the basin, constructing groundwater elevation contour maps which are then used to determine the annual water level change ultimately used to calculate the change in groundwater storage and accumulated overdraft. This process is done for the three primary aquifer systems in the basin: the Shallow, Principal and Deep.

Since the Shallow aquifer in the Forebay area (generally north of the 5 Freeway) behaves as an unconfined water table aquifer, most of the storage change in the basin typically occurs due to the rise and fall of this water table in this region. Shallow sediments in the Forebay area typically have higher percentages of coarse sands and gravels than the central and coastal portions of the basin. Although over 90% of basin pumping typically comes from wells screened in the Principal aquifer, most of the pumped groundwater originates from the Shallow aquifer, which in turn is replenished by the District's recharge activities and natural infiltration of rainfall. For these reasons, the largest storage change typically occurs in the Shallow aquifer.

In the last several years with Board approval, the District has improved the accuracy of the annual basin storage calculation by constructing Shallow aquifer piezometers (a term for small-diameter monitoring wells specifically to measure groundwater levels) at seven locations along the basin margins where no wells existed (Figure 1). Data from these wells will also be useful in improving the calibration (accuracy) of the basin computer model.

Two proposed Shallow aquifer piezometers would fill data gaps in the cities of Fullerton (FM-41) and Orange (OM-12), as shown in Figure 1. The anticipated depth of these two proposed wells is approximately 150 feet (FM-41) and 220 feet (OM-12).

Talbert Gap Monitoring Well Cluster

Former seawater intrusion monitoring well OCWD-M29 (M29) was installed by the District in 1969 with an 80-ft long screened interval across the entire depth of the Talbert aquifer. From 1969-1983, chloride concentrations doubled from 6,000 to 12,000 mg/L. Sometime shortly after 1983, M29 was lost when the site was developed, and the well was most likely paved over during construction. For the reasons stated below, staff proposes to construct monitoring well cluster M29R as a replacement for former well M29.

Figure 2 shows the location of former well M29 and proposed monitoring well cluster M29R on the west side of the Talbert Gap. The proposed two-well cluster will be installed in the upper and lower depths of the Talbert aquifer which will provide vertical resolution of seawater intrusion in this area (higher salinity groundwater tends to occur at deeper depths due to its greater density). The Talbert aquifer on the west side of Talbert Gap is thought to be a preferential flow path for seawater intrusion due to relatively coarse-grained sediments relative to the rest of Talbert Gap and higher chloride concentrations (Figure 2). In addition to improving staff's ability to track salinity changes, proposed monitoring well cluster M29R will be an important calibration target for upcoming refinement of the OCWD Talbert Gap computer model.

Bids for Well Construction

The Board approved construction of two Shallow aquifer monitoring wells and Talbert Gap monitoring well cluster in November 2024. The Notice Inviting Bids for Contract GBM-2024-3 was issued on November 21, 2024. The following responsive bids were received on December 30, 2024:

MR Drilling	\$ 199,025
ABC Liovin Drilling	\$ 276,590
BC2 Environmental	\$1,245,470

The bid sheet submitted by BC2 Environmental contained an error on line item no. 4 where the unit price stated in words did not match the numerical figures. The contract documents specify how OCWD resolves these types of bid discrepancies. Specifically, “where there is a conflict in words and the numerical figures, the words shall govern. . . In the event there are unit price bid items in a bidding schedule and the ‘amount’ indicated for a unit price bid item does not equal the product of the unit price and quantity, the unit price shall govern and the amount will be corrected accordingly.” (Information For Bidders, pp. IC-2 and IC-3). Applying these rules to resolve the discrepancy in the BC2 bid, BC2’s bid changes from \$239,720 to \$1,246,470.

After correcting the BC2 bid, all three bids are deemed responsive. The lowest responsive bid from MR Drilling in the amount of \$199,025 is consistent with the Geologist’s estimate of \$185,000. Staff recommends awarding the contract to MR Drilling.

Table 1 below summarizes the approved budget and anticipated expenditures. Anticipated project expenditures incorporating the recent bid show the project is currently tracking within the approved budget.

Table 1: Construction of Shallow Aquifer Monitoring Wells and Talbert Monitoring Well Cluster Budget and Anticipated Expenditures
(assuming contract GBM-2024-3 awarded to MR Drilling)

Task	Approved Budget	Anticipated Expenditures
Shallow Aquifer Piezometer Construction (FM-41 & OM-12)	\$ 75,000	\$ 115,675
Shallow Aquifer Piezometer Construction Inspection Services ¹	0	0
Talbert Gap Seawater Intrusion Monitoring Well Cluster (OCWD-M29R)	110,000	83,350
Talbert Gap Seawater Intrusion Monitoring Well Cluster Inspection Services ¹	38,000	0
Well Survey (all wells)	10,000	10,000
SUBTOTAL:	233,000	209,025
CONTINGENCY (10%):	23,000	20,900
TOTAL:	\$ 256,000	\$ 229,925

¹Inspection services to be completed in-house by OCWD geologists.

PRIOR RELEVANT BOARD ACTIONS

11/20/2024, R24-11-138 Approve Installation of two Shallow aquifer monitoring wells and Talbert Gap monitoring well cluster, including establishing a project budget of \$256,000.

5/15/2024, R24-5-48 Award Contract No. GBM-2024-2, 2024 Shallow Aquifer Monitoring Well Construction, to BC2 Environmental, LLC.

10/18/2023, R23-10-137 Approve installation of three Shallow aquifer monitoring wells for annual water level maps and storage calculation.

3/15/23, R23-3-34 Award Contract No. GBM-2023-1, 2023 Shallow Aquifer Monitoring Wells, to BC2 Environmental, LLC.

12/21/22, R22-12-169 Approve installation of two Shallow aquifer monitoring wells for annual water level maps and storage calculation.

3/16/22, R22-3-23 Award Contract No. GBM-2022-1, 2022 Shallow Aquifer Monitoring Wells, to BC2 Environmental, LLC.

10/20/21, R21-10-154 Approve installation of two Shallow aquifer monitoring wells for annual water level maps and storage calculation.

3/21/07 M07-44 Receive and file staff report titled "Evaluation of Orange County Groundwater Basin Storage and Operational Strategy," and adopt new three-layer storage change methodology with the associated new full basin condition.

Figure 1: Locations of proposed and previously installed Shallow aquifer piezometers to improve accuracy of annual water level maps and groundwater storage calculations.

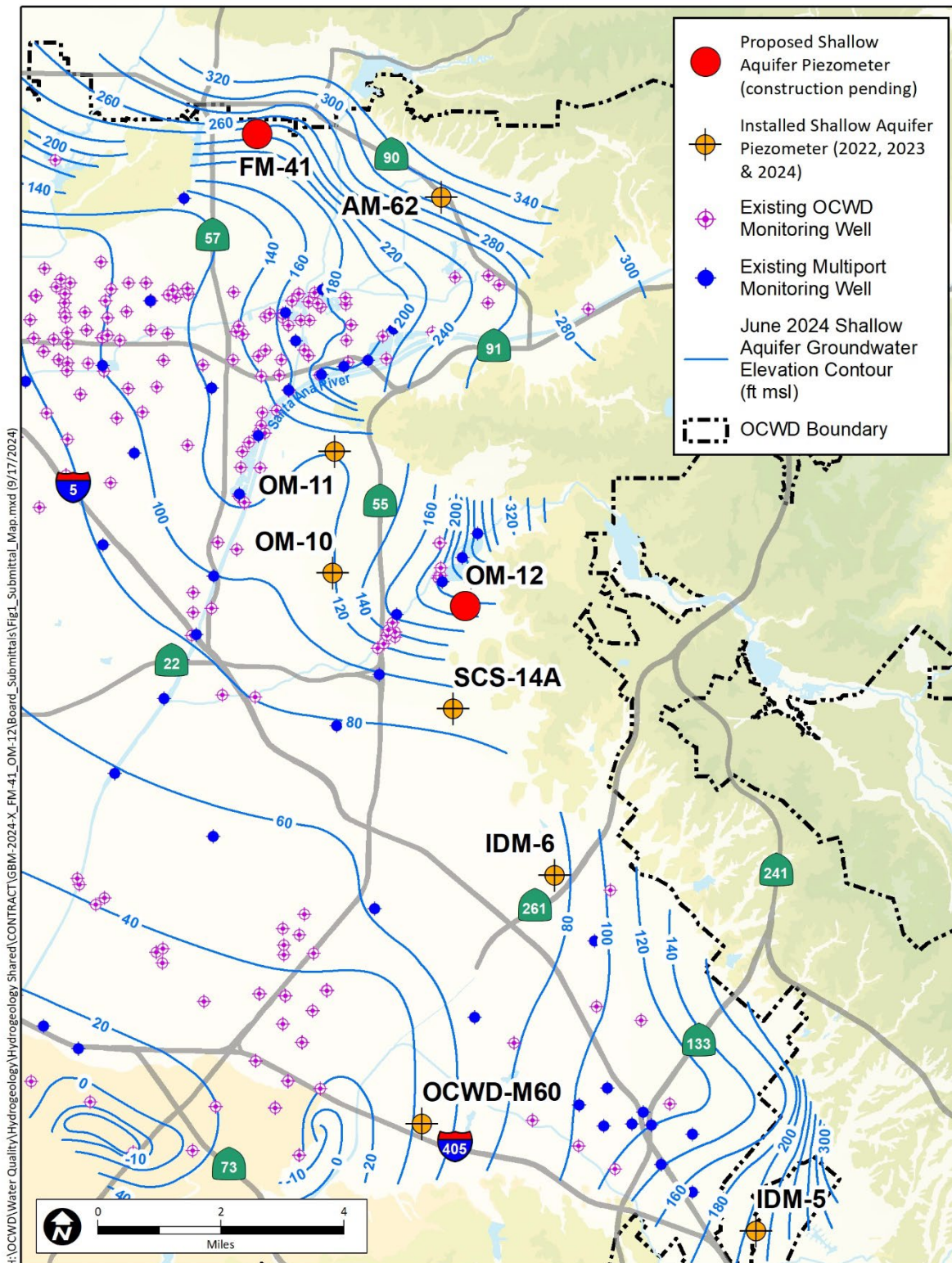
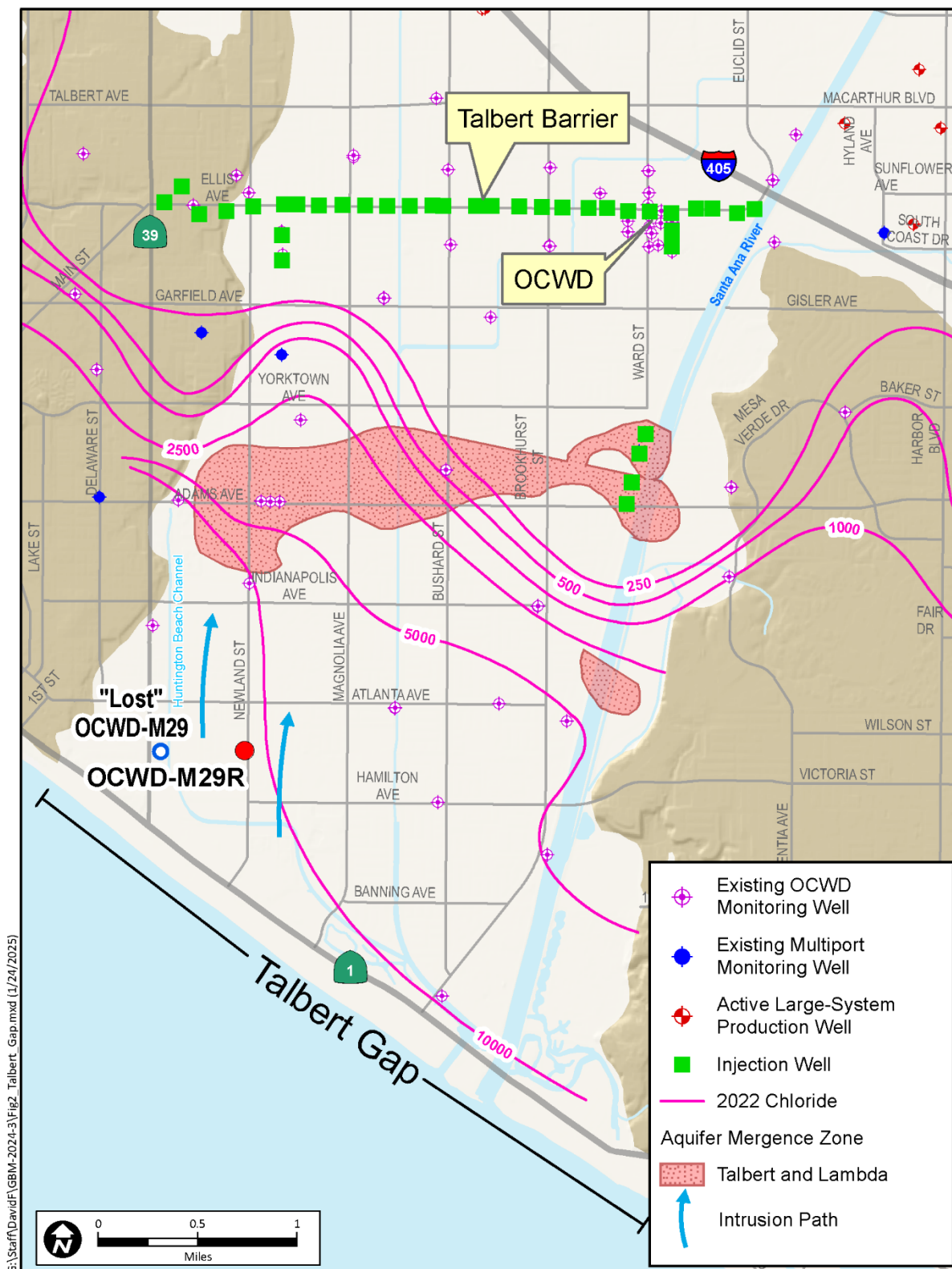


Figure 2: Locations of proposed Talbert Gap monitoring well cluster OCWD-M29R, existing OCWD-owned monitoring wells, and large system production wells.



Affidavit of Publication

THE ORANGE COUNTY
REGISTER

1920 Main Street, Suite 209
Irvine, California 92614
(714) 796-7000
legals@inlandnewspapers.com

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

<i>Account Number:</i>	5179533
<i>Ad Order Number:</i>	0011703845
<i>Customer's Reference/PO Number:</i>	
<i>Publication:</i>	The Orange County Register
<i>Publication Dates:</i>	11/21/2024
<i>Total Amount:</i>	\$738.59
<i>Payment Amount:</i>	\$0.00
<i>Amount Due:</i>	\$738.59
<i>Notice ID:</i>	juyIn5VaXSUKt6K3yJZ
<i>Invoice Text:</i>	

Affidavit of Publication

THE ORANGE COUNTY
REGISTER
The Orange County Register
1920 Main Street, Suite 209
Irvine, California 92614
(714) 796-7000

0011703845

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

PROOF OF PUBLICATION (2015.5 C.C.P.)

STATE OF CALIFORNIA County of Orange

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not party to or interested in the above-entitled matter. I am the principal clerk of the printer of The Orange County Register, a newspaper of general circulation, printed and published in the City of Irvine*, County of Orange, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of County of Orange, State of California, under the date of November 19, 1905, Case No.A-21046. The notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

11/21/2024

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Dated at Irvine, California

On this 21st day of November, 2024.



Signature

NOTICE INVITING BIDS

CONSTRUCTION OF SHALLOW AQUIFER MONITORING WELLS AND TALBERT GAP MONITORING WELL CLUSTER


CONTRACT NO. GBM-2024-3

The work to be performed and bid complete herein, shall be as shown and specified in the Technical Specifications and on the Plans (Figures) and is generally described as supplying all labor, equipment, materials and forces necessary to complete work on construction of two Shallow aquifer monitoring wells and Talbert Gap monitoring well cluster using hollow stem auger and rotary sonic drilling methods. The Shallow aquifer monitoring wells are located in the cities of Fullerton (FM-41) and Orange (OM-12). The Talbert Gap monitoring well cluster (OCWD-M29R) is located in the city of Huntington Beach.

Monitoring well number FM-41 shall be constructed using hollow stem auger drilling equipment. The nominal 10-inch diameter borehole shall be drilled to an anticipated depth of 150 feet below ground surface (bgs). The anticipated total depth of the 4-inch diameter PVC well casing is 145 feet bgs (figures).

Monitoring well number OM-12 shall be constructed using rotary sonic drilling equipment. The nominal 10-inch diameter borehole shall be drilled to an anticipated depth of 240 feet bgs. The anticipated total depth of the 4-inch diameter PVC well casing is 215 feet bgs (figures).

Monitoring well cluster OCWD-M29R shall be constructed using rotary sonic drilling equipment. The nominal 8-inch diameter boreholes shall be drilled to the anticipated depths of 110 feet bgs (OCWD-M29RA) and 200 feet bgs (OCWD-M29RB). The anticipated total depths of the 2-inch diameter PVC well casings are 105 and 185 feet bgs.

By: 
John C. Kennedy
General Manager

ORANGE COUNTY WATER DISTRICT
DATED: 11/19/2024

The Orange County Register
Published: 11/21/24

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 2025

To: Water Issues Committee
Board of Directors

From: John Kennedy

Staff Contact: D. Mark/R. Bouley

Budgeted: No

Budgeted Amount: \$0

Cost Estimate: \$40,700

Funding Source: CIP

Program/Line Item No.: C25002

General Counsel Approval: N/A

Engineers/Feasibility Report: N/A

CEQA Compliance: N/A

Subject: SERVICE AGREEMENT WITH BESST, INC. FOR A DEPTH SPECIFIC FLOW AND WATER QUALITY SURVEY AT BUENA PARK'S LINDEN WELL

SUMMARY

In consultation with the city of Buena Park (City), staff recommends retaining the services of BESST, Inc. in the amount of \$40,700 to perform down-hole flow profiling and depth-specific water sample collection of the City's Linden well (BP-LIND). The proposed work is to provide data that City and OCWD staff will use to assess the feasibility of modifying the well screened interval to reduce PFAS entry and, thus, potentially avoid the cost of constructing a treatment system.

Attachment: Cost quotation dated January 9, 2025, from BESST, Inc.

RECOMMENDATION

Agendize for February 19 Board meeting: Authorize issuance of a service agreement to BESST, Inc. in an amount not to exceed \$40,700 to provide depth-specific data collection services at Buena Park's Linden well.

BACKGROUND/ANALYSIS

The PFAS compound perfluorooctanesulfonic acid (PFOS) has been detected in Buena Park's Linden well (BP-LIND) at concentrations up to 7.2 parts per trillion (ppt), which exceeds the drinking water Maximum Contaminant Level of 4 ppt established by the U.S. Environmental Protection Agency. Concentrations of PFOS in BP-LIND have exhibited an increasing trend.


OCWD and City staff have discussed options to address PFOS at this well such as installing a treatment system or blocking off the screened depth interval where the PFOS is entering the well. To evaluate the feasibility of the latter option, with concurrence from City staff, OCWD staff requested a cost quotation from BESST, Inc. to perform depth-specific flow profiling and water sample collection, and an option to conduct a down-hole well video, at well BP-LIND. BESST is the only contractor with specialized equipment and capabilities to provide these services through the well's existing access tube without the expense of removing the pump and motor. BESST

submitted a quotation for \$38,761 (attached). Staff requests authorization to issue an agreement with BESST in an amount not to exceed \$40,700, which includes a 5% contingency for additional sample volumes and depths and other potential expenses.

Based on the results of the down-hole testing, City and OCWD will assess whether it is feasible to block off a portion of the screened interval without severely reducing the well's groundwater pumping capacity and maintaining suitable water quality, particularly given the well's proximity to up-gradient North Basin volatile organic compound contamination. Staff believes the well survey is worth pursuing given the relatively small expense and the potential of avoiding a PFAS treatment system whose capital cost would be on the order of \$6 million.

PRIOR RELEVANT BOARD ACTION(S)

None

Quotation For: Orange County Water District (OCWD) - BP Lind Well		 BESST INC. GLOBAL SUBSURFACE TECHNOLOGIES Payment Terms: Net 30 QUOTE VALID FOR 90 DAYS BESST INC 50 Tiburon, Suite 7 San Rafael, CA 94901 Office: 415.453.2501 / cell: 415.302.7354 lemmens@besst-inc.com			
Well Location:	Buena Park, California				
Number of Locations:	One				
Quotation Date:	Thursday, January 9, 2025				
Prepared by:	Miles Koehler				
Client Organization:	Orange County Water District				
Name and Title:	Dave Mark, Principal Hydrogeologist				
Street Address:	18700 Ward Street				
City and State:	Fountain Valley, CA 92708				
Phone:	714-378-3337				
Email:	dmark@ocwd.com				
Item	HYDROGEOLOGIC PROFILING SERVICES	Qty	Unit	Price	Total
TASK 1 - PLANNING					
Data Planning	Data Review including historical yield and chemistry reports, Planning meetings and Phone Calls, Injection and Sampling Plan.	1	project	\$ 900.00	\$ 900.00
	Subtotal #1				\$ 900.00
TASK 2 - SITE AND WELL ACCESS SURVEYS					
Mob / Demob	Mob/Demob For Access Survey - waived if access is successful and profiling begins	0	ea.	\$ 1,945.00	\$ -
Per Diem	Per Diem costs for one scientist - waived if access is successful and profiling begins	0	days	\$ 360.00	\$ -
Access Survey	Confirmatory access survey	1	ea.	\$ 500.00	\$ 500.00
Access Survey Report	Access Survey Technical Memo - waived if successful	0	ea.	\$ 450.00	\$ -
	Subtotal #2				\$ 500.00
TASK 3 - MINIATURIZED VIDEO SURVEYS (OPTIONAL)					
Mob/demob	Mob/Demob for Video Survey	1	ea.	\$ 350.00	\$ 350.00
Per Diem	Per Diem costs for one scientist	0	days	\$ 360.00	\$ -
Static Video Survey	Well is turned off	1	ea.	\$ 1,800.00	\$ 1,800.00
Video Survey Reports	Report data and interpretation of results	1	ea.	\$ 485.00	\$ 485.00
Copies of Video Survey	Flash drive	1	ea.	\$ 16.00	\$ 16.00
	Subtotal #3 (OPTIONAL)				\$ 2,651.00
TASK 4 - DYNAMIC FLOW PROFILING					
Mob / Demob	Dynamic Rig Mob/Demob and personnel	1	ea.	\$ 3,155.00	\$ 3,155.00
Per Diem	Per Diem costs for two scientists	2	days	\$ 720.00	\$ 1,440.00
Crew Mob/Demob	Used only if the video, flow and chemistry sampling requires more than 5 days. Crew demobs for weekend and returns to site the following Monday.	0	ea.	\$ 2,000.00	\$ -
System Setup	System Setup	1	ea.	\$ 1,150.00	\$ 1,150.00
Dynamic Flow	Dynamic Flow Survey (up to 20 injection depths). Optional injection points may be recommended based on the initial flow data and the length of the well screen.	1	ea.	\$ 8,100.00	\$ 8,100.00
	Subtotal #4				\$ 13,845.00
TASK 5 - DYNAMIC DEPTH DEPENDENT SAMPLING					
Groundwater Sampling	Dynamic Groundwater Sampling Survey (up to 10 1-liter samples, 8 depth dependent with HydroBooster Pump and 2 wellhead). Optional groundwater sampling depths may be recommended based on the initial flow data and the length of the well screen. Does not include laboratory costs.	1	ea.	\$ 8,200.00	\$ 8,200.00
Dedicated PFAS Tubing	Dedicated PFAS Tubing	1220	ft	\$ 2.50	\$ 3,050.00
	Subtotal #5				\$ 11,250.00
TASK 6 - HYDROGEOLOGIC REPORT					
Engineering Report	ENGINEERING REPORT: Detailed Dynamic Flow and Mass Balance Report (Mass Balance Up To 8 Constituents): Includes Analysis, Conclusions and Recommendations for Well Modification to Remove Contaminants of Concern.	1	ea.	\$ 8,850.00	\$ 8,850.00
	Subtotal #6				\$ 8,850.00
TASK 7 - OPTIONAL SERVICES					
Extra Injections	Extra Injection Depths	0	ea.	\$ 125.00	\$ -
Extra Samples	Extra Groundwater Sample Depths - 9 screen sections requires minimum 9 depth dependent samples	1	ea.	\$ 235.00	\$ 235.00
Extra Volume	Extra Groundwater Sample Liters at Each Point	0	ea.	\$ 65.00	\$ -
Extra Analytes	Extra Mass Balance Fee Per Analyte	0	ea.	\$ 450.00	\$ -
Standby	Standby Rate	0	hr.	\$ 275.00	\$ -
Oil Lube Fee	Oil Lube Fee (Decon or Dispose of Tubing)	0	ft	\$ 2.75	\$ -
Toilet Rental	Rent and have portable toilet delivered to site	1	well	\$ 435.00	\$ 435.00
Generator Rental	Required if AC power not available on site	0	day	\$ 125.00	\$ -
Multi Water Parameter Meter	pH, Temp, conductivity, dissolved oxygen, redox potential and turbidity	0	ea.	\$ 750.00	\$ -
Water Level Meter	Measure Water Levels	1	ea.	\$ 95.00	\$ 95.00
Labels	Complete Sample Bottle Labels - assume OCWD to perform	0	ea.	\$ 285.00	\$ -
COC	Complete Chain of Custody - assume OCWD to perform	0	ea.	\$ 115.00	\$ -
Package	Package Samples - assume OCWD to perform	0	ea.	\$ 115.00	\$ -
	Subtotal #7				\$ 765.00
TOTAL: Including Options					\$ 38,761.00

Client Name _____
 Client Signature _____

Client PO Number _____
 Date _____

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 2025

To: Water Issues Committee
Board of Directors

From: John Kennedy

Staff Contact: A. Hutchinson/L. Haney

Budgeted: Yes

Budgeted Amount: \$18,993

Cost Estimate: \$18,993

Funding Source: General Fund

Program/ Line Item No.: 1040.53001

General Counsel Approval: Yes

Engineers/Feasibility Report: N/A

CEQA Compliance: N/A

**Subject: AUTHORIZE GENERAL MANAGER APPROVAL OF AGREEMENT WITH
USACE FOR SURFACE WATER LEVEL MONITORING AT PRADO DAM**

SUMMARY

Staff have been collaborating with the U.S. Army Corps of Engineers (USACE) on obtaining additional surface water level data behind Prado Dam that can assist in operating the water conservation pool and provide information on potential flooding of the Corona Airport. The USACE has agreed to issue a 5-year license agreement to allow the installation of two OCWD water level loggers on USACE property, including at the Corona Airport. The USACE requests that OCWD pay the administrative costs to process the agreement.

Attachment: USACE letter describing administration fee to OCWD process a 5-year license agreement, November 19, 2024.

RECOMMENDATION

Agendize for February 19 Board meeting: Authorize General Manager to execute 5-year license agreement with the USACE for surface water level monitoring at two sites, subject to approval as to form by the District's General Counsel.

BACKGROUND/ANALYSIS

The District and the USACE have a long-standing collaboration in managing a water conservation pool behind Prado Dam. Currently the USACE allows the water level behind Prado Dam to rise to elevation 505 feet mean sea level (ft msl). In the near future, through a minor deviation to the Water Control Plan, the USACE will allow the water level to rise to elevation 508 ft msl for five years. Eventually, through implementation of Forecast Informed Reservoir Operations (FIRO) at Prado Dam, the maximum water level may reach elevation 512 ft msl. While this provides great water supply benefits, there is an increased risk of flooding the Corona Municipal Airport. The lowest elevation of airport facilities is 514 ft msl.

In February 2024, there were reports of flooding at Corona Airport. The water conservation pool during this time was 512 ft msl. It is suspected that local runoff from adjacent Temescal Creek and runoff from the airport property may be the cause of this reported flooding. To obtain more information about the level of the water conservation

pool and potential flooding at Corona Airport, additional surface water level monitoring is proposed. One location is proposed between Prado Dam and Corona Airport and the second location is at the lowermost elevation of the airport as shown in Figure 1. The USACE has reviewed the two proposed locations and has determined that there are no regulatory, operational or environmental issues associated with these locations. They have agreed to provide OCWD a 5-year license agreement; however, there is a one-time cost to process the agreement. The estimated cost to process the agreement is \$18,993 per the attached letter from the USACE dated November 19, 2024.

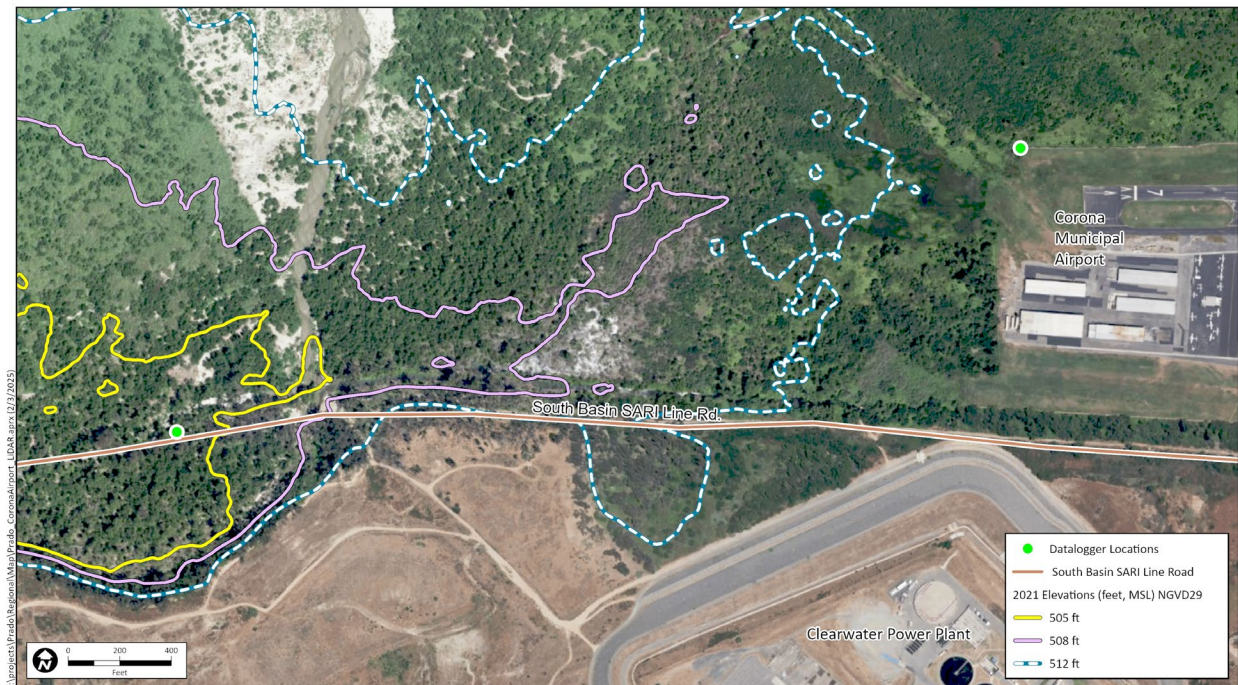


Figure 1: Proposed Datalogger Locations behind Prado Dam

PRIOR RELEVANT BOARD ACTIONS

9/1/21, R 21-9-128 – Awarding Contract No. PB-2021-1, Prado Basin Phase 2 Shallow Monitoring Well Installations, to BC2 Environmental, Authorize Filing of Notice of Exemption, Authorizing General Manager to Execute Well Site Easement Agreement with the Army Corps of Engineers, and Authorizing Increase in Project Budget.

5/19/21, M21-51 – Establishing a Project Budget for Phase 2 Prado Basin Monitoring Wells and Authorizing Publication of Notice Inviting Bids.

1/20/2021, R21-1-3 - Ratify issuance of Change Order No. 1 and accept completion of work and authorize filing a Notice of Completion for Contract PB-2020-2, Construction of Prado Basin Monitoring Wells.

8/19/2020, R20-8-103 - Receive and file Affidavit of Publication of Notice Inviting Bids for Contract No. PB-2020-2 and, accept bid and award Contract PB-2020-2 to ABC Liovin Drilling for an amount not to exceed \$76,770.

5/13/2020, R20-5-57 – Authorize publication of Notice Inviting Bids for Prado Basin Monitoring Wells, Establishing Project Budget, and Authorizing Notice of Exemption.



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, LOS ANGELES DISTRICT
915 WILSHIRE BOULEVARD, SUITE 1109
LOS ANGELES, CALIFORNIA 90017-3409

November 19, 2024

Office of the Chief
Real Estate Division

SUBJECT: Orange County Dataloggers Installation Project

Mr. Adam Hutchinson
Recharge Planning Manager
Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708

Dear Mr. Hutchinson:

We are writing in reference to your request for the U.S. Army Corps of Engineers, Los Angeles District (USACE), review and coordination of the Dataloggers Installation Project within the Prado Dam Flood Risk Management Basin. In order for USACE to further review your request and prepare to execute this transaction, we require you to pay for the upfront administrative costs to the Government. We are requesting payment based on our authority found in Title 10, United States Code Section 2695. The party who actually benefits from the transaction shall pay for the administrative costs associated with the real property transaction.

The costs for your requested transaction are currently estimated to be \$18,993.00. These costs include payment for work products like engineering, environmental, cultural, and historical assessments, contract preparation, determinations of value, and preparation of land surveys, maps, and legal descriptions. The work products and cost estimate breakdown is as follows:

Environmental Services: \$8,000.00
Real Estate Services: \$10,000.00
Administrative Services: \$ 993.00

Total Request: \$18,993.00

Please send a check or money order payable to the following address:

USACE Finance Center
5722 Integrity Drive
Millington, TN 38054

Make your check payable to "USACE Los Angeles, FAO" in the amount requested and include the following information:

Advance Account: 1504
ROV Number: 2436
EROC: L1

Please also include the point of contact name, address, and telephone number.

To Pay by Electronic Funds Transfer (EFT)

Receiving ABA Number: 051036706
Account Number: 220025
Account/Receiver Name: USACE Finance Center
Amount: \$18,993.00
ROV Number: 2436
EROC: L1
Transfer Type: EFT
Receiving Bank: Cash Link-ACH Receiver
Advance Account: 1504

Upon receipt or your payment, we will initiate work on this action. In the event the transaction cannot be executed for any reason; any excess funds will be refunded to you. Please note that if the actual administrative costs for executing this transaction is greater than the above estimate, you will be so notified in writing and required to pay the additional amount prior to our continuing the processing of the action. A copy of the real estate instrument will be furnished to you for signature, upon preparation of the final document. Thank you for your cooperation in this matter. If you have any questions, please do not hesitate to write, or telephone Ms. Katie Parks, Outdoor Recreation Planner, at (213) 541-0981 or via email at Katie.B.Parks@usace.army.mil.

Sincerely,



Cheryl L. Connett
Real Estate Contracting Officer
Chief, Real Estate Division

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 2025

To: Water Issues Committee
Board of Directors

From: John Kennedy

Staff Contact: C. Olsen

Budgeted: Yes

Budgeted Amount: \$2,500,000

Cost Estimate: \$2,500,000

Funding Source: R&R Fund

Program/Line Item No.: R22028

General Counsel Approval: N/A

Engineers/Feasibility Report: NA

CEQA Compliance: Cat. Ex.

**Subject: CONTRACT SB-2025-1 BOND BASIN SLOPE REPAIR CATEGORICAL
EXEMPTION AND NOTICE INVITING BIDS**

SUMMARY

The final plans and specifications for the Bond Basin Slope Repair Project are complete. Staff recommends filing a Categorical Exemption for the project and issuing a Notice Inviting Bids for the construction contract.

RECOMMENDATION

Agendize for February 19 Board meeting:

1. Authorize filing of a Categorical Exemption for the Bond Basin Slope Repair project in compliance with the California Environmental Quality Act (CEQA) guidelines; and
2. Authorize publication of Notice Inviting Bids for Contract No. SB-2025-1, Bond Basin Slope Repair Project.

DISCUSSION

Bond Basin is part of the Santiago Basins recharge system as shown in Figure 1. The southeasterly corner of the basin contains a City of Orange storm drain. Over the past few years, the supporting slope and storm drain failed causing significant erosion to the area. Emergency repair work to construct a soil nail wall with rip rap placement was designed by ENGEO and performed by Access Limited Construction to stabilize the corner and prevent any additional significant damage to the corner of the basin – the work was completed in January 2023 (See Figure 2).

Due to the complicated history of ownership and maintenance of the storm drain, the City and District have agreed to share in the cost to repair the slope and storm drain. The Board approved entering into an agreement with the City on October 4, 2022 to equally share in the temporary and permanent repair cost and this agreement has been fully executed.

A Professional Services Agreement was issued to ENGEO in October 2023 to begin final design which included pipeline alignment alternatives, soil material testing and slope repair options. Staff met with the City and all parties agreed on the pipeline alignment and final design has been completed. Staff recommends authorizing the filing of a Categorical Exemption and authorizing Publication of the Notice Inviting Bids for Contract No. SB-2025-1, Bond Basin Slope Repair Project. It is anticipated that this work will take place this summer and fall.

Figure 1 – Project Location



Figure 2 – Soil Nail Wall at corner of Bond Basin



PREVIOUS BOARD ACTIONS

3/20/24, R24-3-17: Authorize issuance of an Amendment to Agreement No. 1555 with ENGEO for final design services of Bond Basin slope repair and storm drain realignment for an amount not to exceed \$42,500.

10/18/23, R23-10-140: Authorize issuance of a Professional Services Agreement to ENGEO for design services for the permanent Bond Basin slope repair and storm drain extension for an amount not to exceed \$46,800.

11/16/22, R22-11-153: Ratify the emergency slope repair contract for Bond Basin in an amount of \$992,000 to Access Limited Construction and ratify an amendment issued to ENGEO Incorporated for testing, construction inspection and reporting for \$76,400.

10/5/22, R22-10-141: Authorized the General Manager to negotiate and execute a 50/50 cost share agreement with the city of Orange.

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 2025

To: Water Issues Committee
Board of Directors

From: John Kennedy

Staff Contact: R. Bouley/F. Almario

Budgeted: Yes

Proposed Budget: \$0

Cost Estimate: \$0

Funding Source: CIP

Program/Line Item No.: C24005

General Counsel Approval: Yes

Engineers Report: Completed

CEQA Compliance: Cat. Ex.

**Subject: CITY OF ORANGE WELLS 25 AND 27 PFAS TREATMENT PLANT
PROJECT: ENGINEER'S REPORT AND CATEGORICAL EXEMPTION**

SUMMARY

The design for the city of Orange Wells 25 and 27 PFAS Treatment Plant project is currently in progress. Staff recommends approving the Engineer's Report for the project and filing a Categorical Exemption in compliance with the California Environmental Quality Act guidelines.

Attachment: Engineer's Report for the City of Orange Wells 25 and 27 PFAS Treatment Plant Project

RECOMMENDATION

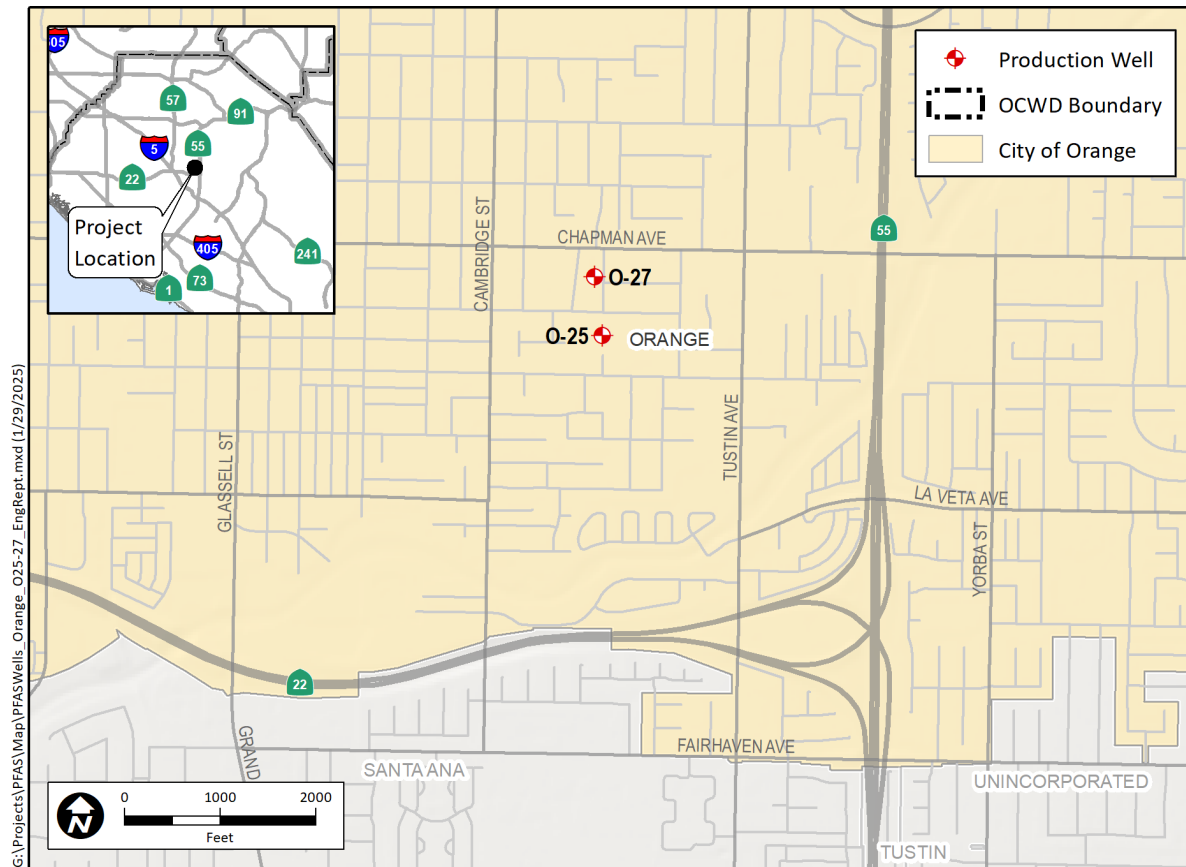
Agendize for February 19 Board Meeting:

1. Approve the Engineer's Report for the City of Orange Wells 25 and 27 PFAS Treatment Plant Project and determine the project feasible, necessary and beneficial to the lands of the District; and
2. Authorize filing of a Categorical Exemption for the City of Orange Wells 25 and 27 PFAS Treatment Plant Project in compliance with the California Environmental Quality Act (CEQA) guidelines

BACKGROUND/ANALYSIS

To restore the use of groundwater supplies impacted by PFAS contaminants with minimal delay, the engineering firm, Kennedy Jenks, began design of the City of Orange Wells 25 and 27 PFAS Treatment Plant Project in December of 2024. Due to property constraints at the Well 27 site, a centralized Ion Exchange (IX) treatment plant at the Well 25 site has been selected as the treatment method. The number of vessels and required support systems needed for IX allows for less area to be occupied by the treatment plant than would be required for Granular Activated Carbon (GAC), Nanofiltration (NF), or Reverse Osmosis (RO). Without additional land acquisition, IX quickly became the treatment choice for these sites. Kennedy Jenks is currently in design of the centralized PFAS treatment plant for Wells 25 and 27, and plans will be available for review by OCWD and the City of Orange in March 2025. Figure 1 shows the location of the City of Orange wells:

Figure 1: City of Orange PFAS Well Treatment Sites



The City of Orange Wells 25 and 27 PFAS Treatment Plant Project will include installing IX vessel systems and all pre-filtration, site piping, well modifications, electrical upgrades, and other appurtenances. Staff has determined that the Wells 25 and 27 PFAS Treatment Systems Project is consistent with a California Environmental Quality Act (CEQA) Categorical Exemption for New Construction or Conversion of Small Structures (Class 3) because it consists of the construction and operation of a limited number of new, small facilities or structures. The expected project schedule is shown in Table 1.

Table 1: City of Orange PFAS Treatment Plant Schedule Summary

Description	Date
City of Orange Wells 25 & 27 PFAS Treatment Plant	
Design	Dec 2024 – Aug 2025
DDW Permitting	Aug 2025 – Aug 2027
Construction Contract	Nov 2025 – Aug 2027

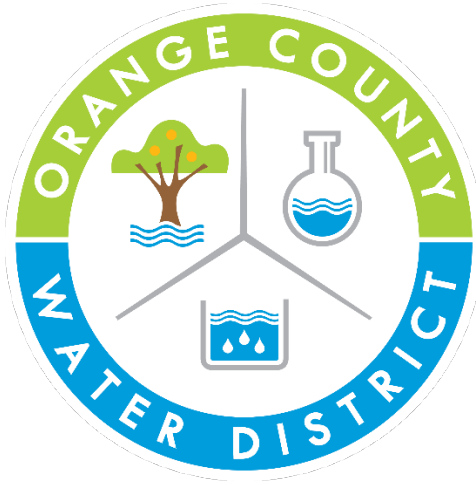
Staff submitted a financial assistance application for a \$5 Million EC PF Grant through the State Water Resources Control Board (SWRCB) Division of Financial Assistance in

December 2024. This application represents the second application for the City of Orange. This project was included in the Drinking Water State Revolving Fund EC Supplemental IUP for State fiscal year 2024-25 approved by the SWRCB. Therefore, the City of Orange Wells 25 and 27 PFAS Treatment Plant Project is eligible to receive a \$5 Million EC PF Grant for PFAS projects. Staff is currently working with the SWRCB on the review and the approval of the District's Grant application for this project.

Staff recommends approving the Engineer's Report and authorizing the filing of a Categorical Exemption in compliance with CEQA guidelines for the City of Orange Wells 25 and 27 PFAS Treatment Plant Project.

PRIOR RELEVANT BOARD ACTION(S)

None



ENGINEER'S REPORT

FOR

CITY OF ORANGE
WELLS 25 & 27
PFAS TREATMENT PLANT PROJECT



Prepared By:

Fernando Almario, P.E.
January 23, 2025

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1.0 EXECUTIVE SUMMARY

The purpose of this Engineer's Report is for Orange County Water District (OCWD; the District) and the City of Orange (City; Orange) to evaluate the need, benefits, and cost of constructing a Per- and Polyfluoroalkyl Substances (PFAS) treatment systems for City Wells 25 and 27.

In April of 2024, the United States Environmental Protection Agency (EPA) issued final National Primary Drinking Water Regulation for six PFAS. EPA established enforceable maximum contaminant level (MCL) and non-enforceable maximum contaminant level goal (MCLG) for the following PFAS.

Compound	Final MCLG	Final MCL (enforceable levels)
PFOA - perfluorooctanoic acid	Zero	4.0 parts per trillion (ppt)
PFOS - perfluorooctane sulfonate	Zero	4.0 ppt
PFHxS - perfluorohexanesulfonic acid	10 ppt	10 ppt
PFNA - perfluorononanoic acid	10 ppt	10 ppt
HFPO-DA - hexafluoropropylene oxide dimer acid (Commonly known as GenX Chemicals)	10 ppt	10 ppt
Mixtures containing two or more PFHxS, PFNA, HFPO-DA, and PFBS) ¹	1 Hazard Index ²	1 Hazard Index ²

¹ - perfluorobutane sulfonic acid (PFBS)

$$^2\text{ Harad Index (unitless)} = \frac{PFBS\ ppt}{2,000\ ppt} + \frac{PFHxs\ ppt}{10\ ppt} + \frac{PFNA\ ppt}{10\ ppt} + \frac{HFPO-DA\ ppt}{10\ ppt}$$

In February 2020, the State Water Resources Control Board's Division of Drinking Water (DDW) issued revised drinking water response levels of 10 parts per trillion (ppt) for PFOA and 40 ppt for PFOS. In March 2021, DDW issued a drinking water response level of 5 parts per billion (5,000 ppt) for PFBS and in October 2022 DDW issued a response level of 20 ppt for PFHxS. DDW recommends that sources exceeding these limits be taken out of service, treated, or blended. When groundwater sources are taken out of service, their production is commonly replaced with more expensive imported water from the Metropolitan Water District of Southern California (MWD).

In 2019, the District hired Carollo to conduct a PFAS Planning Study to evaluate options for the treatment of groundwater wells that are potentially impacted by PFAS and to develop preferred alternatives. The five alternatives evaluated in the Planning Study

were shutting down the potentially impacted well and replacing the source with imported water, blending well water with imported water, blending well water with other groundwater, packing part of the well to avoid zones with PFAS, and engineered treatment. Although Orange Wells 25 & 27 were not part of the original Planning Study efforts, it was determined that engineered treatment, specifically ion exchange, would be the preferred given the similar nature of all the wells that were part of the study. The District also hired Jacobs in 2019 to perform pilot testing and life-cycle cost analysis of various treatment technologies. Preliminary results from the Jacobs study indicate that ion-exchange is an efficient technology to remove PFAS.

This project will consist of installing ion exchange vessel systems in lead-lag configuration (8 vessels) at a centralized treatment plant at Well 25, including the necessary piping, prefilters and related appurtenances.

Benefits of constructing a PFAS Treatment System at the wells sites include:

- Allow the City of Orange to continue to utilize its well and infrastructure investment.
- Allow the City of Orange to maintain a diversified water supply portfolio with a substantial local supply component.
- Save the OCWD service territory approximately \$8,235,830 per year in water supply costs.
- Save OCWD approximately \$3,692,526 per year by paying for the treatment plant instead of losing RA revenue.
- Save the City of Orange approximately \$4,538,007 per year by utilizing groundwater instead of imported water.

In November 2019, the District adopted a PFAS policy to design and construct the lowest reasonable cost but efficient treatment system to remove PFOA and PFOS compounds for Groundwater Producers, such as Orange. Additionally, the policy states that OCWD will provide a 50 percent subsidy for future operation and maintenance expenses up to \$89.60 per acre-foot.

The current estimated capital cost of this project is \$14,125,000. The current estimated Operation and Maintenance cost is \$116 per acre-foot per year, to be split between OCWD and Orange. These costs will be adjusted as the engineering details are finalized and construction is completed.

2.0 BACKGROUND

In 2009, the United States Environmental Protection Agency (EPA) established a provisional health advisory of 400 ppt for PFOA and 200 ppt for PFOS to assess the potential risk for short-term exposure through drinking water. The EPA later released a non-regulatory health advisory level of 70 ppt for PFOA and PFOS (combined) in 2016.

In March 2019, the DDW issued mandatory PFAS testing orders to 12 public water systems (Groundwater Producers) in the District's service area. Dozens of wells in the District's service area had water quality testing results exceeding the DDW Notification Levels. Affected Producers were required to provide governing body notifications for exceedances of the Notification Level. Later in 2019, DDW lowered the Notification Limits to 5.1 ppt for PFOA and to 6.5 ppt for PFOS. In February 2020 DDW lowered the Response Levels to 10 ppt for PFOA and 40 ppt for PFOS. In March 2021, DDW issued a drinking water response level of 5 parts per billion (5,000 ppt) for PFBS and in October 2022 DDW issued a response level of 20 ppt for PFHxS.

In April of 2024, the EPA issued final National Primary Drinking Water Regulation for six PFAS. EPA established enforceable MCLs and non-enforceable MCLGs for the following PFAS.

Compound	Final MCLG	Final MCL (enforceable levels)
PFOA - perfluorooctanoic acid	Zero	4.0 parts per trillion (ppt)
PFOS - perfluorooctane sulfonate	Zero	4.0 ppt
PFHxS - perfluorohexanesulfonic acid	10 ppt	10 ppt
PFNA - perfluorononanoic acid	10 ppt	10 ppt
HFPO-DA - hexafluoropropylene oxide dimer acid (Commonly known as GenX Chemicals)	10 ppt	10 ppt
Mixtures containing two or more PFHxS, PFNA, HFPO-DA, and PFBS) ¹	1 Hazard Index ²	1 Hazard Index ²

¹ - perfluorobutane sulfonic acid (PFBS)

$$^2 \text{ Harad Index (unitless)} = \frac{PFBS \text{ ppt}}{2,000 \text{ ppt}} + \frac{PFHxs \text{ ppt}}{10 \text{ ppt}} + \frac{PFNA \text{ ppt}}{10 \text{ ppt}} + \frac{HFPO-DA \text{ ppt}}{10 \text{ ppt}}$$

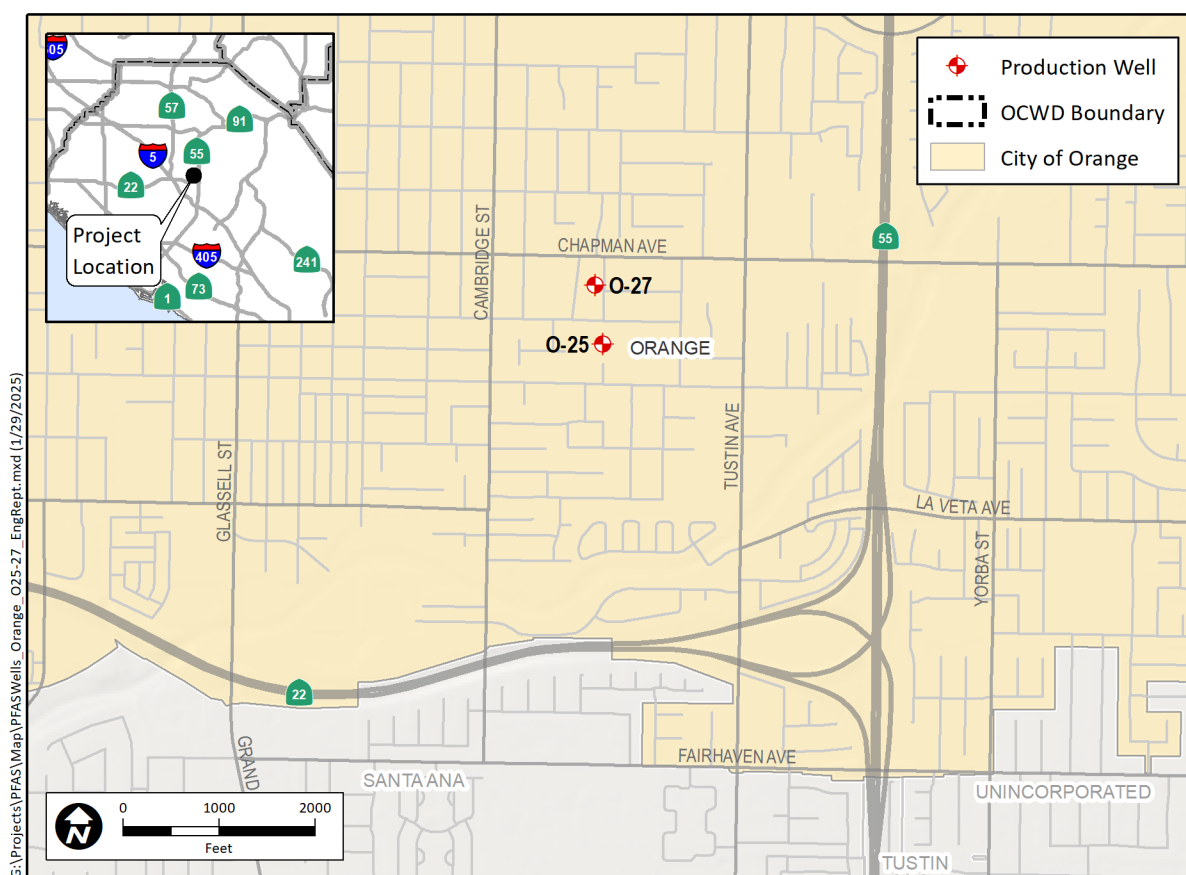
In preparation for the impacts of PFAS to groundwater supplies, the District adopted a PFAS policy in November 2019. Among other items, the policy states that OCWD will fund the lowest reasonable and efficient treatment system design and construction costs to remove PFAS compounds for Groundwater Producers. Additionally, the policy states that OCWD will provide a 50 percent subsidy for operation and maintenance

expenses up to \$75 per acre-foot. The rate is adjusted annually each July 1 (beginning July 1, 2021) and the maximum subsidy for operation and maintenance has been updated to \$89.60 per acre-foot for fiscal year 2023/2024.

When groundwater sources are taken out of service, their production is commonly replaced with more expensive imported water from the Metropolitan Water District of Southern California (MWD).

The City of Orange Wells are currently under consideration for PFAS treatment systems shown in Figures 1. All sites are owned by the City of Orange and currently house the well head and discharge piping, communication equipment, electrical equipment, and disinfection facilities.

Figure 1: City of Orange Wells 25 & 27 Vicinity Map



IX is the preferred and most efficient treatment for the well sites due to site area limitations. The number of vessels and support systems required for IX allows for less area to be occupied by the treatment plant than would be required for Granular Activated Carbon (GAC), and IX would be more cost-effective than Nanofiltration (NF)

or Reverse Osmosis (RO). RO is a treatment technology that ensures high reliability for PFAS removal but would generate a liquid waste stream containing PFAS and would be more expensive than the other technologies. Additionally, a RO plant would likely require additional City of Orange staff with the appropriate water treatment certifications to operate. Although RO would be the most effective option for long-term removal of PFAS, the costs associated with RO make IX the most feasible treatment choice for the wells at this time.

The Jacobs-OCWD joint pilot study of various treatment medias began testing of IX in December 2019. The study has shown that IX successfully removes PFAS.

3.0 PROJECT PURPOSE AND DESCRIPTION

3.1 Project Purpose

The purpose of this project is to design, permit, construct, and operate PFAS removal systems for the well sites in accordance with the District PFAS policy. The proposed IX treatment system is to remove PFOA and PFOS to less than 2 ppt (the current non-detect limit). Use of this PFAS removal treatment system will ensure the groundwater supplied by the well sites can be served in compliance with PFAS regulations.

3.2 Project Components

The centralized PFAS treatment plant located at the Well 25 site will be sized to treat the maximum well discharge flow rates from Wells 25 and 27. Trains (or systems) of two IX vessels will be used in lead-lag configuration. The centralized plant will have four IX systems and the treatment capacity will be design for the well pumping capacity. See Table 1 for the treatment capacity and vessel dimensions and quantity for the centralized treatment plant..

Table 1: Well Treatment Capacity Summary

Well Site	IX Vessels	Pumping Capacity (gpm)	Treatment Capacity (gpm)
Centralized Treatment Pant at Well 25	Four (4) Trains; Eight (8) Vessels; 12 feet diameter x 13 feet height	5,625	6,400

The IX vessels are expected to be provided by Evoqua Water Technologies or Aqueous Vets. The influent and effluent supply pipelines can be operated in a way to switch which vessel is the lead and lag position by controlling valves. The lead-lag arrangement is beneficial because once the PFAS constituents reach a predetermined threshold in the lead vessel's effluent, then the lead vessel can be switched to the lag position once the spent resin in it is replaced with fresh resin. The new lead vessel houses pre-loaded IX resin from when the vessel was formerly in the lag position. Replacement of the IX media is performed before the lead vessel returns to service in the lag position. Sample ports are located at several positions in the vessel so that resin performance can be monitored.

Prior to the water entering the IX vessels, it first passes through a pre-filtration system. Since IX media should not be backwashed, its lifespan would be greatly reduced if solids loading were to occur. It is proposed to use 5-micron bag-filters prior to the IX vessels to catch solids that may be discharged by the well.

The existing disinfection systems used at the wells must be reconfigured to facilitate the operation and replacement activities.

Electrical and telemetry systems will be integrated into the treatment plant to convey information into the existing SCADA system. Flow rates, pressure differential, and flood alarms are included in the list of proposed instrumentation.

3.3 Permits and Regulatory Issues

The City's drinking water system operates under a DDW permit that would need to be amended for the proposed PFAS treatment systems. Submittals for the amendment shall be submitted to DDW for review, including the 90% completed design. The permit amendment is not officially granted until after the system is constructed and satisfactorily inspected by DDW.

Several permits will be required from the City of Orange:

- A right of entry permit will be required to grant the District and its consultants and contractors control of the site during construction.

In accordance with the California Environmental Quality Act (CEQA) guidelines, it is proposed to file a Categorical Exemption for the project. The project is consistent with the Categorical Exemption for New Construction or Conversion of Small Structures (Class 3) because it consists of the construction and operation of a limited number of new, small facilities or structures.

4.0 FINANCIAL ANALYSIS

4.1 Construction Cost Estimates

The estimated construction cost for the IX project is \$10,125,000, as detailed in Table 2.

Table 2: IX Construction Cost Estimate

Description	Quantity	Units	Unit Cost (\$/unit)	Cost (\$)
Mobilization	1	LS	\$600,000	\$600,000
General Conditions	1	LS	\$500,000	\$500,000
Pre-Filtration System	1	LS	\$675,000	\$675,000
Vessel Systems with IX Resin (3400 cubic feet)	1	EA	\$1,100,000	\$1,100,000
IX Systems (appurtenances, install)	1	LS	\$1,950,000	\$1,950,000
Yard Piping	1	LS	\$1,000,000	\$1,000,000
Site Work	1	LS	\$975,000	\$975,000
Electrical and Communication	1	LS	\$875,000	\$875,000
Pump and Motor Upgrades	1	LS	\$900,000	\$900,000
Pipeline (Conveyance/Distribution)	1	LS	\$1,550,000	\$1,550,000
Total =				\$10,125,000

The estimated construction cost for the Reverse Osmosis system is \$16,110,000, as detailed in Table 3.

Table 3: RO Construction Cost Estimate

Description	Quantity	Units	Unit Cost (\$/unit)	Cost (\$)
Mobilization (7%)	1	LS	\$890,000	\$890,000
General Conditions (5%)	1	LS	\$890,000	\$890,000
Pre-Filtration System	1	LS	\$500,000	\$500,000
RO Treatment Systems & Pumps	1	LS	\$4,100,000	\$4,100,000
RO Membranes	1	LS	\$980,000	\$980,000
Chemical Storage	1	LS	\$850,000	\$850,000
Sewer Connection & Fees	1	LS	\$1,200,000	\$1,200,000
Yard Piping & Mechanical	1	LS	\$2,500,000	\$2,500,000
Building	1	LS	\$900,000	\$900,000
Site Work	1	LS	\$1,300,000	\$1,300,000
Electrical and Communication	1	LS	\$2,000,000	\$2,000,000
Pump and Motor Upgrades	1	LS	\$900,000	\$900,000
Pipeline (Conveyance/Distribution)	1	LS	\$1,550,000	\$1,550,000
Total =				\$16,110,000

4.2 Capital Cost Estimate

The estimated total capital cost for the IX project is \$14,125,000, as shown in Table 4. The estimated total capital cost for a RO treatment plant is \$23,130,000 as shown in the same table. The table includes the cost of constructing the site improvements for the PFAS treatment system, engineering services for design and construction phases, construction management and the cost associated with meeting regulatory requirements.

Table 4: Capital Cost Estimate

Item	IX Cost	RO Cost
Engineering, Permitting, Construction Management and Inspection & CEQA	\$ 2,000,00	\$ 8,800,000
Construction	\$ 10,125,000	\$ 16,110,000
Contingency	\$ 2,000,000	\$ 3,220,000
Total =	\$ 14,125,000	\$ 23,130,000

4.3 Annual Operation and Maintenance Cost Estimate

The estimated annual Operation and Maintenance (O&M) cost for the IX project is \$825,000 per year, as detailed in Table 5. It conservatively assumes that visual inspection will be performed daily, and analytical testing will be performed by an outside entity instead of OCWD.

The five-year average of annual production from the Orange Wells is approximately 7,158 acre-feet. Using this value results in a unit O&M cost of \$116 per acre-foot. Per the District's PFAS policy, the O&M costs will be split between OCWD and the City of Orange with OCWD's portion being no larger than \$89.60 per acre-foot. The estimated \$116 per acre-foot O&M unit cost would cause OCWD to incur \$58 per acre-foot and the City of Orange to incur \$58 per acre-foot.

Table 5: IX Annual O&M Cost Estimate

Description	Quantity	Units	Unit Cost (\$/unit)	Cost (\$)
Power	12	Month	\$15,000	\$180,000
Labor	1	Year	\$10,000	\$10,000
Maintenance	1	Year	\$25,000	\$25,000
Analytical Testing	12	Month	\$5,000	\$60,000
Media Replacement	1	Year	\$550,000	\$550,000
Total =				\$ 825,000

Table 6 shows an itemized breakdown of O&M cost for a RO treatment plant. Using an annual volume of 7,158 acre-feet, the RO O&M unit cost is estimated to be \$211 per acre-foot.

Table 6: RO Annual O&M Cost Estimate

Description	Quantity	Units	Unit Cost (\$/unit)	Cost (\$)
Fern Plant Well 1				
Power	12	Month	\$40,000	\$480,000
Chemicals	12	Month	\$6,000	\$72,000
Labor	1	Year	\$150,000	\$150,000
Maintenance	1	Year	\$250,000	\$250,000
Analytical Testing	12	Month	\$5,000	\$60,000
Membrane Replacement	1	Year	\$500,000	\$500,000
Total =				\$ 1,512,000

4.4 Ion-Exchange Cost Comparisons

Three methods to evaluate the economic effectiveness of the IX project are presented below. All three methods indicate that there is a financial benefit to move forward with this project.

- 1) OCWD Service Territory Perspective - The total project cost of providing water to the OCWD service territory via treated groundwater versus purchasing MWD imported water.
- 2) OCWD Perspective - The OCWD lost revenue due to no City of Orange groundwater production versus the OCWD cost to construct and operate the treatment plant.
- 3) City of Orange Perspective – The cost of providing treated groundwater versus purchasing MWD imported water.

Method 1: OCWD Service Territory Perspective

The unit cost for the City of Orange to acquire treated imported water through MWD will be \$1,460 per acre-foot (\$1,395 Full Service Treated + \$65 readiness to serve) on January 1, 2025. An annual volume of 7,158 acre-feet would cost \$10,450,300.

If the capital cost is amortized over 30 years at a 4% interest rate, the annual payment for the PFAS treatment plant would be \$816,850, or \$114 per acre-foot for 7,158 acre-feet. The well power cost to pump groundwater averages \$80 per acre-foot. The PFAS treatment system's O&M expense is estimated to be \$116 per acre-foot. As shown in Table 7, the total unit cost of the treated groundwater would be \$310 per acre-foot, or \$2,214,470 per year for 7,158 acre-feet. Note that the Replenishment Assessment (RA)

is not considered in this calculation because it would be both paid and received by agencies within the OCWD Service Territory.

Implementation of the PFAS treatment system at the City of Orange Wells is estimated to save the OCWD service territory \$8,235,830 per year in water supply costs.

Table 7: OCWD Service Territory Perspective

Groundwater			MWD Import		
Description	Annual Cost	Unit Cost	Description	Annual Cost	Unit Cost
Project Capital	\$ 816,850	\$114	Full Service Treated	\$ 9,985,047	\$ 1,395
Project O&M	\$ 825,000	\$116	Readiness to Serve	\$ 465,253	\$ 65
Well Power	\$ 572,620	\$80			
Total	\$2,214,470	\$310	Total	\$ 10,450,300	\$ 1,460

Method 2: OCWD Perspective

Taking the City of Orange Wells out of service would reduce the RA payments made by Orange to OCWD. This assumes that other wells are not available to pump the volume. At an annual volume of 7,158 acre-feet and the current RA of \$688 per acre-foot, OCWD would lose revenue of \$4,924,525.

The District's expenses to construct the PFAS treatment plants at the Orange Wells includes the capital expense and \$58 of the O&M. As previously discussed, the amortized unit capital expense is \$116 per acre-foot and OCWD's portion of the estimated O&M expense is \$58 per acre-foot. The resulting unit cost of constructing and operating PFAS plants at the wells would be \$172 per acre foot, or \$1,231,999 per year using 7,158 acre-feet per year.

Table 8: OCWD Perspective

Project Cost			Lost Revenue		
Description	Annual Cost	Unit Cost	Description	Annual Cost	Unit Cost
Project Capital	\$ 816,850	\$ 114	Replenishment Assessment	\$ 4,924,525	\$ 688
Project O&M	\$ 415,149	\$ 58			
Total	\$ 1,231,999	\$ 172	Total	\$ 4,924,525	\$ 688

Implementation of PFAS treatment systems at City of Orange Wells is estimated to save OCWD \$3,692,526 per year by utilizing the treatment plant instead of losing RA revenue.

Method 3: City of Orange Perspective

Given the need for the City of Orange to acquire water supplies to meet the demands of its customers, it is faced with a situation to utilize the PFAS treatment system or to purchase MWD imported water. As previously discussed, the cost to the City of Orange to purchase 7,158 acre-feet of MWD water would be \$10,450,300 per year, or \$1,460 per acre-foot.

The costs for the City of Orange to produce groundwater from the Orange Wells and operate the PFAS treatment plant include payment of the RA (\$688 per acre-foot), their portion of the O&M expenses and well power costs (\$138 per acre-foot). The total unit cost would be \$826 per acre-foot, or \$5,912,293 per year for 7,158 acre-feet.

Table 9: City of Orange Perspective

Groundwater			MWD Import		
Description	Annual Cost	Unit Cost	Description	Annual Cost	Unit Cost
Replenishment Assessment	\$ 4,924,525	\$ 688	Full Service Treated	\$ 9,985,047	\$ 1,395
Project O&M and Well Power	\$ 987,768	\$123	Readiness to Serve	\$ 465,253	\$ 65
Total	\$ 5,912,293	\$ 826	Total	\$ 10,450,300	\$ 1,460

Implementation of PFAS treatment systems at the Orange Wells is estimated to save the City over \$4,538,007 per year by utilizing groundwater instead of MWD imported water.

4.5 Reverse Osmosis versus Ion Exchange Unit Cost

RO would provide a more robust, comprehensive, and reliable treatment for long-term removal of PFAS. However, the capital and operating cost of the treatment system are more expensive. If the estimated RO capital cost of \$23,130,000 is amortized over 30 years at a 4% interest rate, the annual payment for the RO PFAS treatment plant would be \$1,337,610, or \$187 per acre-foot for 7,158 acre-feet. The RO PFAS treatment system's O&M expense is estimated to be \$211 per acre-foot for 7,158 acre-feet. As shown in Table 10, the total unit cost of the RO treated groundwater would be \$398 per acre-foot, or \$2,849,610 per year for 7,158 acre-feet. The IX project costs are also summarized in the same table.

Table 10: Reverse Osmosis versus Ion Exchange Unit Cost

IX			RO		
Description	Annual Cost	Unit Cost	Description	Annual Cost	Unit Cost
Project Capital	\$ 816,850	\$ 114	Project Capital	\$ 1,337,610	\$ 187
Project O&M	\$ 825,000	\$ 116	Project O&M	\$ 1,512,000	\$ 211
Total	\$ 1,641,850	\$ 230	Total	\$ 2,849,610	\$ 398

5.0 CONCLUSIONS AND RECOMMENDATIONS

Constructing the proposed IX PFAS Treatment Plant at the City of Orange Wells 25 & 27 will:

- Allow the City of Orange to continue to utilize its well and infrastructure investment.
- Allow the City of Orange to maintain a diversified water supply portfolio with a substantial local supply component.
- Save the OCWD service territory approximately \$8,235,830 per year in water supply costs.
- Save OCWD approximately \$3,692,526 per year by paying for the treatment plant instead of losing RA revenue.
- Save the City of Orange approximately \$4,538,007 per year by utilizing groundwater instead of imported water.

Given the financial benefits to the OCWD service territory, OCWD, and the City of Orange to utilize a less expensive treated groundwater supply instead of MWD water, it is recommended that OCWD proceed with PFAS Treatment System Project for the City of Orange Wells 25 and 27. Additionally, the City of Orange would be able to continue using their well investment and maintain their local water component of their supply portfolio.

6.0 PROPOSED IMPLEMENTATION SCHEDULE (TENTATIVE)

<u>Date</u>	<u>Activity</u>
October 2025	Board authorizes Notice Inviting Bids
November 2025	Advertise for construction bids
February 2026	Board awards construction contract
October 2027	Completion of construction

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 2025

To: Water Issues Committee
Board of Directors

From: John Kennedy

Staff Contact: M. Patel/B. Smith

Budgeted: Yes

Budgeted Amount: \$200,000

Cost Estimate: \$365,000

Funding Source: R&R

Program/Line Item No.: R24020

General Counsel Approval: N/A

Engineers Report: N/A

CEQA Compliance: Cat. Ex.

Subject: K-2025-1: KRAEMER BASIN CHECK VALVE REPLACEMENTS: AWARD CONSTRUCTION CONTRACT TO INNOVATIVE CONSTRUCTION SOLUTIONS

SUMMARY

Thirteen bids to construct the replacement of three check valves in the Kraemer Basin pump station were received on January 28, 2025. Staff recommends increasing the project budget and awarding the contract to the lowest responsive bidder, Innovative Construction Solutions.

Attachment: Affidavit for Publication of Notice Inviting Bids for Contract No. K-2025-1

RECOMMENDATION

Agendize for February 19 Board Meeting:

1. Receive and file Affidavit of Publication of Notice Inviting Bids for Contract No. K-2025-1;
2. Increase Kraemer Basin Check Valve Replacement project budget by \$165,000, for a total project budget of \$365,000; and
3. Accept bid and award contract K-2025-1 to Innovative Construction Solutions for an amount not to exceed \$347,500.

BACKGROUND/ANALYSIS

The Kraemer Basin pump station and associated piping were constructed in 1990. The 34-year-old pump station is used to dewater the basin for cleaning and to maximize storage for stormwater capture. The pumping system includes three pumps with a 30-inch check valve on each one's discharge piping. Figure 1 shows a picture of the pump station and check valves. The check valves ensure that water only travels away from the pumps, thereby preventing water from entering the basin in a way that would cause the pumps to spin backwards. The original ball check valves have failed, and staff have programmed downstream butterfly valves to behave like check valves. This interim solution introduces risk to the system because it requires valves to operate in a fashion for which they were not originally designed. It also relies on computer-initiated controls

when a physical failsafe device is the industry standard. Thirdly, it is placing undue wear and tear on the motor actuators of the butterfly valves.

Figure 1: Kraemer Basin Pump Station



Staff assembled a bid package of plans and specifications to replace the ball check valves with rubber flapper swing check valves, including the necessary piping adjustments to accommodate the new valve dimensions. The check valves are submerged in Kraemer Basin for at least half of the year, so the construction window to replace them will be relatively short. This window normally occurs in summer months when recharge basins can be drained for cleaning under lower Santa Ana River flow conditions.

The Notice Inviting Bids was advertised on December 12, 2024, as documented in the attached affidavit. Addendum No. 1 was issued January 20, 2025, to formalize answers to questions from potential bidders. Thirteen bids were received on January 28, 2025, as summarized in Table 1.

Table 1: K-2025-1 Bid Summary

Bidder	Bid Amount
Innovative Construction Solutions	\$347,500
Pacific Hydrotech Corporation	\$370,700
Big Ben Engineering	\$411,797
RE Chaffee	\$418,000
T.E Roberts	\$419,562
Vicon Enterprises	\$422,500
Myers & Sons Construction	\$426,700

W.A Rasic	\$437,880
R C Foster	\$464,000
Doty Bros	\$558,456
GCI Construction Inc	\$568,800
MMC Inc	\$595,000
G&A Nelos Construction	\$615,871

Staff reviewed the bid of Innovative Construction Solutions (ICS), checked its references, and confirmed that its contractor's license is current, active, and in good standing with the State of California. Staff recommends award of the construction contract to ICS as the lowest responsive bidder for \$347,500.

Staff recommends a \$165,000 increase to the project budget to cover the anticipated construction and contingency expenses. The budget book estimate for the project utilized a check valve cost estimate based on diameter size and as demonstrated by the bids, was an underestimate. The proposed project budget is summarized in Table 2.

Table 2: K-2025-1 Project Budget

Description	Budget
Design, Construction Management, Permitting	
In-House	\$ 0
Construction	
Contract K-2025-1	\$ 347,500
Project Contingency	\$ 17,500
Total Project Budget	\$ 365,000

The expected project schedule is shown in Table 3.

Table 3: K-2025-1 Anticipated Project Schedule

Description	Date
Complete Design	November 2024
Award Construction Contract	February 2025
Construction Complete	October 2025

PRIOR RELEVANT BOARD ACTION(S)

11/20/24, R24-11-133: Publication of Notice Inviting Bids is authorized for Contract No. K-2025-1: Kraemer Basin Check Valve Replacements project. Filing of a Categorical

Exemption for the Kraemer Basin Check Valve Replacements project in compliance with the California Environmental Quality Act (CEQA) guidelines.

THE ORANGE COUNTY
REGISTER

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legals@inlandnewspapers.com

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

<i>Account Number:</i>	5179533
<i>Ad Order Number:</i>	0011707213
<i>Customer's Reference/PO Number:</i>	
<i>Publication:</i>	The Orange County Register
<i>Publication Dates:</i>	12/12/2024
<i>Total Amount:</i>	\$917.92
<i>Payment Amount:</i>	\$0.00
<i>Amount Due:</i>	\$917.92
<i>Notice ID:</i>	KzbyYTBhb0hcQSqlbEHZ
<i>Invoice Text:</i>	

0011707213

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

**PROOF OF PUBLICATION
(2015.5 C.C.P.)**

**STATE OF CALIFORNIA
County of Orange**

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not party to or interested in the above-entitled matter. I am the principal clerk of the printer of The Orange County Register, a newspaper of general circulation, printed and published in the City of Irvine*, County of Orange, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of County of Orange, State of California, under the date of November 19, 1905, Case No.A-21046. The notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

12/12/2024

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Dated at Irvine, California

On this 12th day of December, 2024.



Signature

NOTICE INVITING BIDS
KRAEMER BASIN CHECK VALVE REPLACEMENTS, CONTRACT NO. K-2025-1

PLEASE TAKE NOTICE that sealed bids will be received at the office of the Contracts Administrator of the Orange County Water District ("District"), 18700 Ward Street, Fountain Valley, CA 92708 (mailing address: P.O. Box 8300, Fountain Valley, CA 92728, until 2:00 p.m. local time on Tuesday, January 28, 2025 at which time the bids will be publicly opened and read aloud for performing all work and furnishing all labor, materials and equipment for:

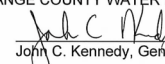
The work to be performed and bid complete herein, shall be as shown and specified in the Technical Specifications and on the Plans and is generally described as supplying all labor, equipment, materials and forces necessary to complete work for replacement of three 30-inch check valves in the City of Anaheim, including replacement of adjacent steel pipe spools and installation of isolation kits.

NON-MANDATORY PRE-BID CONFERENCE: A non-mandatory pre-bid conference will be held virtually via Zoom on Tuesday, January 7, 2025, at 9:00 a.m. **Link to meeting:** <https://ocwd.zoom.us/j/84758492145>
Meeting ID Number: 847 5849 2145. All potential bidders, contractors and other interested parties are encouraged to attend this conference conducted by the District. Any potential bidder that does not attend the pre-bid conference will be charged with knowledge of all information that was available at the pre-bid conference.

The District Project Manager will also discuss the role and participation of potential bidders in the District's Contractor Safety Program. Also, as a part of this program, the OCWD Pre-Award Safety Review form (Appendix A of the Contractor Safety Procedures) will be discussed in greater detail.

Dated: 12/10/24

ORANGE COUNTY WATER DISTRICT

By: 
John C. Kennedy, General Manager

The Orange County Register
Published: 12/12/24

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 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: \$64,757

Funding Source: R&R

Program/Line Item No.: R22014

General Counsel Approval: N/A

Engineers/Feasibility Report: N/A

CEQA Compliance: N/A

**Subject: SANTIAGO BASIN FLOATING PUMP STATION POWER WIRE AND
CONDUIT REPAIRS – AMENDMENT NO. 1 TO AGREEMENT WITH
T.E. ROBERTS**

SUMMARY

The Board authorized an agreement with T.E. Roberts to construct the Santiago Basin Floating Pump Station Power Wires and Conduit Repairs. Staff recommends authorizing Amendment No. 1 to Agreement No. 1610 with T.E. Roberts for additional work to replace damaged floats and to install new stainless-steel tethers to buoy and connect the 12-inch conduit to the 36-inch discharge pipeline.

RECOMMENDATION

Agendize for February 19 Board Meeting: Authorize Amendment No. 1 to Agreement No. 1610 with T.E. Roberts for an amount not to exceed \$64,757 for the Santiago Basin Floating Pump Station Power Wire and Conduit Repairs.

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 is a floating pump station in Santiago Basin that is currently inoperable due to wire damage. Staff needs this pump station operational to help lower the water level to complete repairs of the failing slope in the southeast corner of Bond Basin prior to the next rainy season.

In June 2024, the Board authorized an agreement with T.E. Roberts to perform Phase 1 repairs to the pump station that includes repairs to the eight (8) existing power wires and (2) 12-inch HDPE conduits connected to the two existing pumps at the floating pump station. T.E. Roberts removed approximately 600 feet of damaged power wires from the conduits and the remaining wires were tested. Three power wires failed electrical testing, and replacement would require over 4,000 feet of new wire. Due to the quantity and cost of replacement power wire combined with the need to lower the water level to facilitate basin repairs during Summer 2025, Staff decided to utilize four (4) existing good wires to repower one of two pumps and include installation of new power

wires with the Phase 2 project that will also replace the existing 20-year-old pump drives and install 18-inch pump station discharge bypass.

Figure 1 – Santiago Basin



During the power wire repair work staff observed sections of the 12-inch HDPE conduit were submerged under water due to float failure. The floats are intended to keep the HDPE conduit above water and have been in service for over 12 years. The conduit is tethered to the 36-inch discharge pipeline with steel cables to maintain the desired horizontal alignment at the water surface as shown in Figure 2, below. Several floats were removed and found to be waterlogged and cracked. These floats cannot be repaired and need to be replaced. The District requested a change order to replace failed floats and install new stainless steel chain tethers to re-establish the desired alignment. Staff recommends authorizing Amendment No. 1 to Agreement No. 1610 with T.E. Roberts for an amount not to exceed \$64,756.20 for additional work to replace the existing floats as part of the Santiago Floating Pump Station Power Wire and Conduits Repairs Project.

Figure 2 – Pump Station Discharge Pipe and Conduits with Floats



The budget for the Santiago Basin Floating Pump Station Power Wire and Conduit Repairs is summarized in Table 1.

Table 1: Santiago Basin Floating Pump Station Power Wire and Conduit Repairs Budget Summary

Description	Budget
Agreement 1610 – (T. E. Roberts)	\$ 452,456.00
Amendment 1	\$ 64,756.20
Total Budget	\$ 517,212.20

PRIOR RELEVANT BOARD ACTIONS

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

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

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 2025

To: Water Issues Committee
Board of Directors

From: John Kennedy

Staff Contact: L. Haney/A. Hutchinson

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: FINAL RESILIENCE PLAN: ADAPTIVE STRATEGIES FOR SECURING
ABUNDANT AND RELIABLE WATER SUPPLIES**

SUMMARY

Staff has completed preparation of a new adaptive management plan titled the "OCWD Resilience Plan: Adaptive Strategies for Securing Abundant and Reliable Water Supplies." This plan encompasses a planning horizon of 5 to 25 years, enabling the District to prepare for and respond to changing conditions with short-term and long-term strategies. The Plan includes 16 priority projects that will be the focus of staff activities over the next five years.

Attachment: Final OCWD Resilience Plan: Adaptive Strategies for Securing Abundant and Reliable Water Supplies (posted separately)

RECOMMENDATION

Agendize for February 19 Board meeting:

- 1) Receive and file the OCWD Resilience Plan; and,
- 2) Authorize filing of Notice of Exemption in compliance with California Environmental Quality Act.

BACKGROUND/ANALYSIS

The development of a Resilience Plan marks a significant shift from a facilities-based planning document to a project-based planning tool. This new approach identifies not only facilities but also feasibility plans, studies, programs, and new water sources, providing a more comprehensive and flexible framework for future planning. The Resilience Plan offers a planning horizon of 5 to 25 years, adaptable to the evolving needs and conditions of the agency. This timeframe aligns with demand forecasts required in Urban Water Management Plans (UWMP) that the Groundwater Producers must submit to the State every five years. The planning horizon also helps pinpoint future grant funding opportunities while facilitating early identification of CEQA/NEPA requirements.

Staff began the process of developing the Resilience Plan in early 2024. A proposed list of priority projects and project descriptions were provided to the Groundwater Producers and the Board for feedback in Summer 2024. Comments and suggestions were incorporated into the draft report which was presented to the Water Issues Committee on January 8, 2025.

District staff have identified 16 priority projects from an initial list of 53, which will be the focus of efforts over the next five years. These projects span basin management, water supply, recharge facilities, and operational improvements, and are aimed at enhancing resilience and securing reliable water supplies. The priority projects are presented in Table 1.

Inclusion of a potential project in the Resilience Plan does not constitute an “approval” of that potential project or commit the District to moving forward with that project. Prior to approval of a project, the project is evaluated through a separate Engineer’s Report and environmental evaluation.

Recommendations

Staff recommend that the Board receive and file the OCWD Resilience Plan and authorize staff to file a Notice of Exemption in accordance with the California Environmental Quality Act (CEQA). An exemption from CEQA (Class 6 – Information Collection) is appropriate for planning studies that do not have any potential to impact the environment.

Table 1: Priority Project List

Proj No.	Category	Asset	Project Name
1	Basin Management	Groundwater Basin	PFAS Treatment Project
2	Basin Management	Groundwater Basin	Sunset Gap Barrier Project
3	Basin Management	Groundwater Basin	Groundwater Basin Operating Range Expansion Study
4	Basin Management	Groundwater Basin	South Basin Groundwater Protection Project (SBGPP)
5	Basin Management	Groundwater Basin	Talbert Barrier Injection Well Replacement and Optimization
6	Water Supply	GWRS	GWRS Supply Augmentation (Includes 3 projects below)
6a			<i>Diversions from SARI to OCSD Plant #1</i>
6b			<i>Urban Runoff Diversion to OCSD</i>
6c			<i>Demonstration Scale Test of Flow Reversal RO to Enhance GWRS Recovery via Retrofit of One RO Unit</i>
7	Water Supply	Groundwater Basin	Brackish Water Desalination Study
8	Water Supply		Increasing Storm Water Capture
8a		Santa Ana River	<i>Incorporate FIRO into Prado Water Control Manual</i>
8b		Natural Resources	<i>Prado Dam Habitat Assessment Tool Development</i>
8c		Santa Ana River	<i>Local Storm Water Capture to Recharge System</i>
9	Water Supply	Natural Resources	Prado Basin Sediment Management Regional Strategic Plan
10	Recharge Facilities	GWRS	GWRS Recharge Optimization (Includes 7 projects below)
10a			<i>Injection Wells at ARTIC and Ball Road Basin</i>
10b			<i>GWRS Burris Basin Turnout</i>
10c			<i>Recharge of GWRS Water Using Horizontal Collector Well</i>
10d			<i>Permitting Locations for Additional GWRS Recharge</i>
10e			<i>Supplying Sunset Gap with GWRS water</i>
10f			<i>Subsurface Recharge of GWRS water</i>
10g			<i>Purchase Land for New GWRS Recharge Basins</i>
11	Recharge Facilities	Santa Ana River	Desilting Santa Ana River Flows
12	Recharge Facilities	Groundwater Basin	Anaheim Lake Recharge Basin Rehabilitation
13	Recharge Facilities	Santa Ana River	Recharge in Lower Santiago Creek
14	Op. Improvements	Santa Ana River	Warner System Optimization
15	Op. Improvements	Groundwater Basin	Recharge Conveyance Optimization
16	Op. Improvements		Zero-Emission Vehicle Charging Infrastructure

PRIOR RELEVANT BOARD ACTIONS

12/15/2021, R21-12-173 – Adopt resolution to support submission of the Basin 8-1 Alternative 2022 Update to the California Department of Water Resources to comply with the Sustainable Groundwater Management Act

12/16/16, R16-12-181 - Adopt resolution to support submission of the Basin 8-1 Alternative to the California Department of Water Resources to comply with the Sustainable Groundwater Management Act

9/14/2014, M14-140 – Receive and file LTFP 2014 Update and authorize filing of a Notice of Exemption

2/8/2012, Informational – Long-Term Facilities Plan Update: New Project Concepts

7/15/2009, M09-73 - Receive and file LTFP and authorize filing of a Notice of Exemption for LTFP

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 2025

To: Water Issues Committee
Board of Directors

From: John Kennedy

Staff Contact: B. Neel/R. Herndon

Budgeted: No

Budgeted Amount: \$0

Cost Estimate: \$5,000

Funding Source: General Fund

Program/ Line Item No.: 1075.51112.9900

General Counsel Approval: Yes

Engineers/Feasibility Report: N/A

CEQA Compliance: N/A

**Subject: EXECUTION OF LICENSE AGREEMENT FOR EXISTING MONITORING
WELL SITE IDM-4 ON ORANGE COUNTY FLOOD CONTROL DISTRICT
PROPERTY**

SUMMARY

Staff recommends authorizing the General Manager to execute a renewed license agreement for access to existing monitoring well IDM-4, located on Orange County Flood Control District property.

Attachment: Draft License Agreement for existing monitoring well site IDM-4.

RECOMMENDATION

Agendize for February 19 Board meeting: Authorize the General Manager to finalize and execute a 10-year term License Agreement with the Orange County Flood Control District, including payment of an administrative fee not to exceed \$5,000, for continued access to existing monitoring well site IDM-4.

BACKGROUND/ANALYSIS

Monitoring well IDM-4 is a nested, three-casing well constructed to a depth of 684 feet as part of the Irvine Desalter Project (IDP) groundwater monitoring program. The purpose of the IDP groundwater monitoring program is to monitor groundwater quality and levels in the vicinity of IDP production wells, with emphasis on those wells used for potable supply. Monitoring wells in the vicinity of the potable supply wells serve as an early warning for potential groundwater quality changes from upgradient areas, including former MCAS El Toro. Additionally, IDM-4 provides data on the effects of the IDP on groundwater levels and flow conditions in the Irvine area.

Monitoring well IDM-4 is located on the perimeter access road of the Trabuco Retarding Basin, which is located on the northeast corner of Trabuco Road and Jeffery Road in Irvine (Figure 1). This location is ideal for monitoring groundwater quality upgradient of IDP potable supply wells IRWD-75 and IRWD-76. The retarding basin is owned by the Orange County Flood Control District. IDM-4 remains in good condition and continues to provide valuable water level and water quality data.

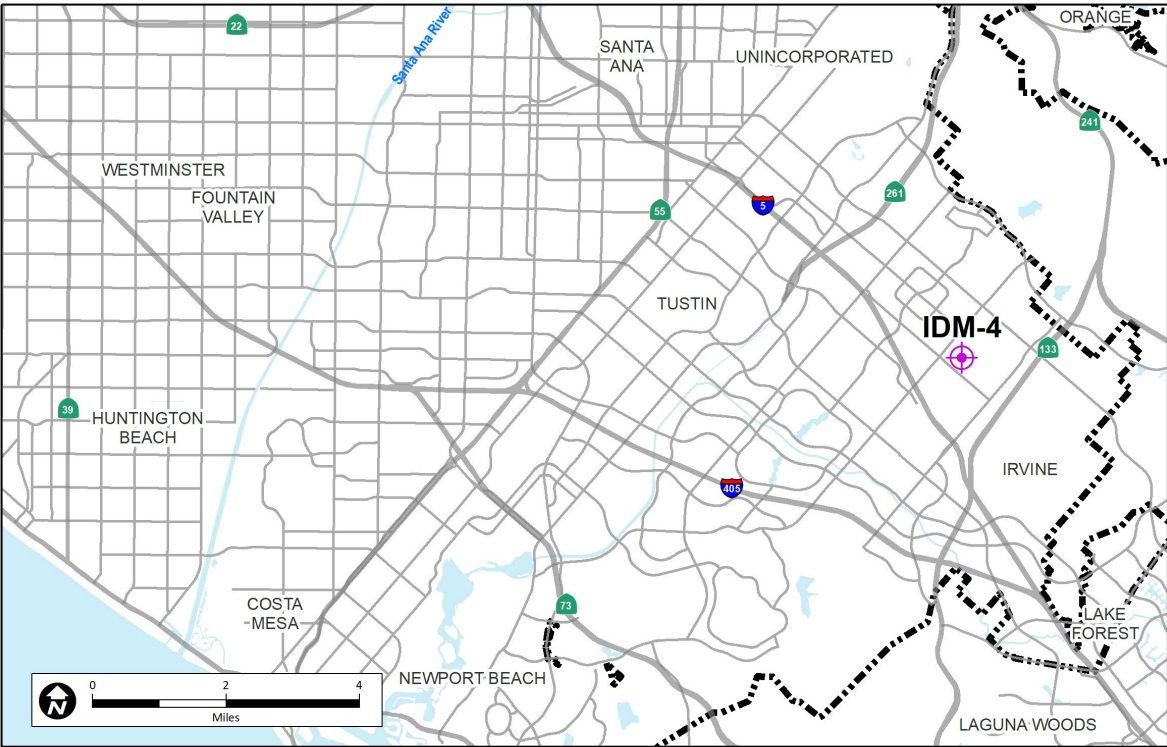
OCWD staff is in the process of negotiating a mutually acceptable license agreement (draft attached) covering 10 years. Staff recommends execution of the negotiated license agreement including payment of an administrative fee not to exceed \$5,000.

PRIOR RELEVANT BOARD ACTIONS

R04-1-00 - 1/21/2004 - Authorize construction and issuance of Notice Inviting Bids for construction of IDM-4 and conversion of IDP-2 to a monitoring well under Contract No. GBM-2004-1.

R01-6-85 - 6/6/2001 - Approve Second Amended and Restated Agreement with IRWD regarding the Irvine Desalter Project 07/19/2017 R17-7-98 Accept completion of Contract GBM-2017-1, East Newport Mesa Groundwater Investigation Monitoring Well Installations.

Figure 1. Monitoring Well IDM-4 Well Location Map



LICENSE AGREEMENT (Trabuco Retarding Basin)

THIS LICENSE AGREEMENT (“**License**”) is made _____, 20____, (“**Effective Date**”) by and between ORANGE COUNTY FLOOD CONTROL DISTRICT, a body corporate and politic, hereinafter referred to as “**DISTRICT**,” and ORANGE COUNTY WATER DISTRICT, a political subdivision of the State of California organized under Chapter 924 of the Statutes of 1933, as amended, hereinafter referred to as “**LICENSEE**,” without regard to number and gender. DISTRICT and LICENSEE may sometimes hereinafter individually be referred to as “**Party**,” or jointly as “**Parties**.”

1. DEFINITIONS (LA2.1 S)

The following words in this License have the significance attached to them in this section, unless otherwise apparent from context:

“**Basin**” means DISTRICT’s flood control facility commonly referred to as the Trabuco Retarding Basin (Facility No. F25B01).

“**County**” means the County of Orange, a political subdivision of the State of California.

“**CPP**” means the County Permit Process either online (<https://myoceservices.ocgov.com>) or through Orange County Public Works Property Permit department located at 601 N. Ross Street, Santa Ana, CA 92701.

“**Director**” means Orange County’s Director, OC Public Works, or designee.

2. TERM (AMLC-3.2 N)

This License shall be for ten (10) years (“**Term**”), commencing on the Effective Date of this License unless sooner terminated as provided herein.

3. TERMINATION (SRLic-3.9 N)

This License shall be revocable by either DISTRICT or LICENSEE as follows: If revoked by DISTRICT, Director will endeavor to give a minimum one hundred eighty (180) days’ prior written notice to LICENSEE of revocation. If revoked by LICENSEE, LICENSEE shall provide at least thirty (30) days’ prior written notice to Director and shall fully comply with Section 13 (Disposition of Facilities) before such a revocation is effectuated.

4. LICENSE AREA (SRLic-1.1 S)

DISTRICT grants to LICENSEE the non-exclusive right to use, in accordance with the terms herein, that certain real property within DISTRICT right-of-way in the City of Irvine at the northeast corner of the Trabuco Retarding Basin located at the cross streets of Jeffrey Road and Trabuco Road (on APN 104-420-53), as depicted on **Exhibit A** attached hereto and by this reference made a part hereof (“**License Area**”)

5. USE (LB1.1 N)

LICENSEE's use of the License Area shall be subordinate and conducted in such a manner that will allow for unobstructed flood control operations and maintenance of the Basin. LICENSEE's use shall be limited to LICENSEE's operation, maintenance, and repair of groundwater basin management and monitoring wells, in connection with the Licensee's water monitoring project (collectively and individually referred to as “**LICENSEE Facilities**”). LICENSEE Facilities are permitted under this License solely at those installation sites depicted on **Exhibit A**, compiled from CPP issued permit no. FE24-0271 which includes a prior permit and installation pursuant to permit no. 2004-00047. LICENSEE shall be allowed reasonable access to LICENSEE Facilities for the purpose of exercising its License rights. The relevant permit from CPP is attached as **Exhibit B**.

LICENSEE agrees to ensure that any and all conditions in the above-mentioned permits are met and followed at all times.

LICENSEE agrees not to use the License Area for any purpose, nor to engage in or permit any other activity within or from the License Area, other than those uses set forth herein

LICENSEE shall restrict vehicular speeds on and over DISTRICT access roads to a maximum speed of **ten (10) miles per hour**. LICENSEE shall not impede, cause to be impeded, or allow to be impeded, the License Area or DISTRICT's access including but not limited to the parking of vehicles or the depositing of any personal property, unless explicitly granted permission by giving at least twenty-four (24) hours advance notice to County's OC Public Works/OC Operation and Maintenance department at 714-955-0200. Any vehicles and/or equipment parked or placed on the License Area in violation of the terms hereof, may be towed or removed at LICENSEE's expense, at the sole discretion of the Director, and without prior notice to LICENSEE. LICENSEE acknowledges that vehicular access over the License Area is prohibited during heavy rainstorm conditions, when inundated or surface soils are wet enough to result in damage to the License Area. When surface soils are wet enough to result in damage to the License Area with vehicular access, LICENSEE's access will be limited to pedestrian access only. In cases when the License Area surface soil becomes wet enough to result in damage with vehicular access, authorized vehicular access shall not resume until the License Area is sufficiently dry to permit vehicular access without damage to the License Area.

LICENSEE acknowledges extracted well water discharges due to the exercise of its rights herein

shall require prior authorization through CPP and coordination with County's OC Public Works/OC Operation and Maintenance department at 714-955-0200. LICENSEE shall be fully responsible for discharges due to LICENSEE Facilities or operations which shall include paying all DISTRICT's or County associated costs, including but not limited to, pumping or treatment related charges or expenses otherwise incurred to extract such discharge from DISTRICT's downstream facility. LICENSEE shall pay DISTRICT and County costs associated with LICENSEE Facilities and operations discharges within sixty (60) calendar days following receipt of a statement of said cost from Director. LICENSEE acknowledges its responsibilities with regard to such discharges include its obligations addressed in Sections 17 (Hold Harmless) and 18 (Hazardous Material). LICENSEE's discharge responsibilities and obligation to pay DISTRICT and County costs associated with any such discharge shall survive termination of this License.

LICENSEE shall take due care to prevent unauthorized parties from accessing the DISTRICT property, including but not limited to, immediately locking any gated entry upon entering or exiting the License Area. To the extent within the reasonable control of LICENSEE, LICENSEE further agrees not to conduct or permit to be conducted any public or private nuisance, or permit to be committed any waste in, on or from the License Area. DISTRICT acknowledges that the DISTRICT property and License Area including the security measures thereon are subject to DISTRICT control and responsibility.

LICENSEE shall, at its own cost and expense, promptly and at all times observe, comply with and carry out all present and future orders, regulations, directions, rules, laws, ordinances, permits and requirements of all governmental authorities, including but not limited to the Los Angeles, Santa Ana, and San Diego Regional Water Quality Control Board (LARWQCB) and California Regional Water Quality Control Board and other environmental regulatory authorities, with jurisdiction in, on, over and about the License Area, which arise from LICENSEE's use of or performance of any activities permitted to be conducted in, on, over, or across the License Area. In addition, LICENSEE agrees its compliance with all governmental laws and regulations in connection with LICENSEE's use of the License Area shall be subject to all terms, conditions set forth in this License. LICENSEE acknowledges that DISTRICT has no duty whatsoever with respect to any regulatory water quality obligation that LICENSEE Facilities may satisfy, and any noticing, clearances, or approvals that may be required by any regulatory authority, including but not limited to the LARWQCB and California Regional Water Quality Control Board with respect to the provisional nature of this License, or any removal or modification or relocation of LICENSEE Facilities shall be LICENSEE's sole responsibility.

LICENSEE hereby acknowledges that the License Area lies on, over or about a portion of DISTRICT's Basin and LICENSEE further acknowledges that the primary purpose of the License Area is for flood control purposes. LICENSEE agrees to conduct all activities within the License Area in such a manner that will allow for unobstructed flood control operations and maintenance of the Basin by DISTRICT. LICENSEE Facilities and the exercise of this License shall not in any way preclude or restrict future expansion or improvement of the Basin by DISTRICT. LICENSEE acknowledges the License Area is within the Basin's inundation area and may be subject to all hazards associated with flood conditions. LICENSEE agrees to assume all risks, financial or otherwise, associated therewith, including risks associated with operating

and maintaining LICENSEE facilities pursuant to this License.

6. AS-IS/WHERE-IS CONDITION AND RESERVATIONS TO DISTRICT (SRLic-3.4 N)

The License Area is accepted “as is” and “where is” by LICENSEE subject to any and all existing easements, encumbrances and physical characteristics. LICENSEE acknowledges that except as specifically herein provided, neither DISTRICT nor any of its employees, agents, or representatives has made any representations, warranties or agreements to or with LICENSEE on behalf of DISTRICT as to any matters concerning the License Area, access to the License Area, the present use thereof, or the suitability of LICENSEE’s intended use of the License Area. Without limiting DISTRICT’s rights with respect to the License Area, DISTRICT reserves for itself and its successors and assigns those rights necessary to assure proper maintenance and operation of the Basin flood control facilities and to permit any steps to be taken which the Director deems necessary or desirable to maintain, repair, improve, modify or reconstruct said facilities or such operations. The rights reserved to DISTRICT in this section, or any other section of this License shall be exercised by the Director at the Director’s sole discretion. Neither DISTRICT nor any agent, employee, contractor, operator or any other person or entity acting for or on behalf of DISTRICT shall incur any liability, including, but not limited to, loss of business, damage, destruction or relocation costs of LICENSEE Facilities or impaired utility of the License Area for any action undertaken in the maintenance, repair, operation, improvement, modification or reconstruction of said flood control facilities. LICENSEE agrees that should any action undertaken in the maintenance, repair, operation, improvement, modification or reconstruction of said Basin flood control facilities require the relocation of LICENSEE Facilities either on a temporary or permanent basis, LICENSEE shall incur all costs and expenses associated therewith. Except in an emergency situation, Director shall provide LICENSEE at least seven (7) days’ advance notice of planned activities which may restrict LICENSEE’s use of the License Area.

DISTRICT reserves all aerial rights over License Area, the use of which shall not unreasonably interfere with LICENSEE’S use of the License Area. DISTRICT further reserves for itself and its successors and assigns, the right to install, lay, construct, maintain, repair, and operate such sanitary sewers; drains, storm water sewers, pipelines, manholes, and connections; water, oil, and gas pipelines; telephone and telegraph power lines; and appliances and appurtenances necessary or convenient in connection therewith, in, over, upon, through, across, under, and along the License Area or any part thereof, and to enter the License Area for any and all such purposes.

7. PROJECT FEE – Intentionally Omitted.

8. USE FEE (LC2.1N)

The Parties agree that LICENSEE’s administration of LICENSEE facilities for groundwater basin management, as described in this License, in conjunction with LICENSEE’s agreement hereto to provide the DISTRICT with copies of yearly reports LICENSEE obtains regarding the condition of the tested water from LICENSEE facilities, meets the social needs of the population and directly benefits the Parties’ mission and goals. The Parties further agree that administration of LICENSEE facilities and providing the yearly reports to DISTRICT serves a valuable public purpose and is

consistent and compatible with the missions of the Parties. The Parties also agree that the value of the services being provided by LICENSEE pursuant to this License, and providing said yearly reports to DISTRICT, are comparable to the value of the License Area being provided by the DISTRICT. Accordingly, to the extent LICENSEE continues to abide by the terms and conditions of this License and provides DISTRICT with the yearly reports as requested, there shall be no fee for this License. However, if LICENSEE does not or cannot provide such reports to the DISTRICT at any time during the term of this License, LICENSEE shall pay a lump sum fee of five thousand dollars (\$5,000) ("Use Fee") for the entire term of this License. To the extent this License is terminated prior to the expiration of the Term of this License, DISTRICT shall prorate and refund that portion of the Use Fee, as appropriate.

9. PAYMENT PROCEDURE (LC3.1 S)

When required by Section 8, the Use Fee shall be paid within 15 business days of notification by the DISTRICT that the Use Fee is due, ("Due Date") and shall be delivered to the Orange County Treasurer- c/o CEO Real Estate, 400 West Civic Center Drive, 5th Floor, Santa Ana CA, 92701. The designated place of payment may be changed at any time by the Director upon (10) ten days' written notice to LICENSEE. Use Fees and other payments may be made by check payable to Orange County Flood Control District with a notation that payment is for the "F25B01 OCWD License." LICENSEE assumes all risk of loss if payments are made by mail.

Please add the following to the Memo Line of the check: **Trabuco Rd License Agreement between OCFCD and OCWD.**

All sums due under this License shall be paid in lawful money of the United States of America, without offset or deduction or prior notice or demand. No payment by LICENSEE or receipt by DISTRICT of a lesser amount than the payment due shall be deemed to be other than on account of the payment due, nor shall any endorsement or statement on any check or any letter accompanying any check or payment be deemed an accord and satisfaction, and DISTRICT shall accept such check or payment without prejudice to DISTRICT's right to recover the balance of said payment or pursue any other remedy in this License.

10. CHARGE FOR LATE PAYMENT (LC4.1 S)

LICENSEE hereby acknowledges that late payment of sums due hereunder will cause DISTRICT to incur costs not contemplated by this License, the exact amount of which will be extremely difficult to ascertain. Such costs include but are not limited to costs such as administrative processing of delinquent notices, increased accounting costs, etc.

Accordingly, if any payment pursuant to this License is not received by DISTRICT by the Due Date, a late charge of one and one half percent (1.5%) of the payment due and unpaid plus \$100 shall be added to the payment, and the total sum shall become immediately due and payable to DISTRICT. An additional charge of one and one half percent (1.5%) of said payment, excluding late charges, shall be added for each additional month that said payment remains unpaid.

LICENSEE and DISTRICT hereby agree that such late charges represent a fair and reasonable estimate of the costs that DISTRICT will incur by reason of LICENSEE's late payment.

11. CONSTRUCTION

LICENSEE shall have any construction, including the installation of additional systems, facilities or equipment, approved in writing by the Director, through CPP with payment of normal processing fees therefor, prior to commencement of any construction work in, on, over, under, across or about the License Area; and upon completion of any such work, LICENSEE shall immediately notify Director in writing of such completion.

Director's approval of LICENSEE's construction plans shall not be deemed an approval from the standpoint of structural safety, suitability for purpose or conformance with building or other codes or other governmental requirements. DISTRICT is not responsible for permitting of any construction, design, assumptions or accuracy of LICENSEE's construction plans. Director will rely on the professional expertise of the Engineer of Record when approving LICENSEE's construction.

Should it be necessary for LICENSEE to conduct any construction requiring the disturbance of the surface of the License Area or requiring the use of any specialized vehicles or equipment, including but not limited to cranes, within, over, under or about the License Area subsequent to the completion of the initial installation of LICENSEE Facilities, LICENSEE agrees to notify Director in writing sixty (60) days in advance of such planned activities, obtain Director's written approval of all plans, and obtain a permit through CPP with payment of normal processing fees therefor, prior to commencement of any such activities. Said approval shall not be withheld unreasonably, nor shall said approval be necessary in any emergency situation or in conducting routine maintenance activities which do not involve use of DISTRICT property outside of the License Area. However, LICENSEE shall notify Director within five (5) days following commencement of any emergency repair work, and if so, requested by Director, LICENSEE shall secure a permit through CPP for the purpose of documenting the emergency work.

12. MAINTENANCE/OPERATIONS (LD2.1 N)

LICENSEE shall, to the satisfaction of DISTRICT, and at no cost to DISTRICT, keep and maintain the License Area and all LICENSEE Facilities of any kind in good and safe condition and in substantial repair, and shall at all times conduct all operations thereon in a safe and responsible manner. It shall be LICENSEE's responsibility to take all steps necessary or appropriate to maintain such standard of condition, repair and operation.

Director shall have the right to enter upon and inspect the License Area at any time.

LICENSEE shall designate in writing to Director, representative who shall be responsible for the day-to-day operation and level of maintenance and general order of the License Area and any LICENSEE Facilities.

DISTRICT shall have no obligation to maintain or make any repairs or replacements to any area in, on over under or about the License Area to accommodate LICENSEE'S use or LICENSEE Facilities.

If LICENSEE fails to maintain or make repairs or replacements as required herein, Director may notify LICENSEE in writing of said failure. Should LICENSEE fail to correct the situation within a reasonable time thereafter as established by Director, Director may have the necessary correction made and the cost thereof, including but not limited to the cost of labor, materials, and equipment, shall be paid by LICENSEE within ten (10) days following receipt of a statement of said cost from Director. Director may, at Director's option, choose other remedies available herein, or by law.

LICENSEE shall also promptly, at its sole cost and expense, repair or replace any facilities, equipment or improvements on DISTRICT's property located under, over, within or adjacent to the License Area that are damaged or destroyed by LICENSEE in the exercise of LICENSEE's rights hereunder. Such repair or restoration shall be to approximately the same workmanship and condition as existed prior to such damage or destruction. If LICENSEE shall fail to perform any such repair or restoration within thirty (30) days following written notice from Director to LICENSEE, or as such repair or restoration period may be extended in writing by Director, DISTRICT may have the necessary repair or restoration made and the cost hereof, including but not limited to the cost of labor, materials, and equipment, shall be paid by LICENSEE within ten (10) days following receipt of a statement of said cost from Director. Director may, at Director's option, choose other remedies available herein, or by law.

LICENSEE agrees to maintain LICENSEE'S facilities and equipment within the License Area at all times in good condition and repair. If the LICENSEE fails to maintain their facilities and equipment, the DISTRICT may send the LICENSEE a notice to cure that will require the LICENSEE thirty (30) days to correct any issues written in the notice to cure. Nothing in this section shall affect either Party's ability to terminate this License as set forth herein.

13. DISPOSITION OF FACILITIES UPON TERMINATION OF LICENSE (N)

A. Unless Director has provided LICENSEE with written notice that DISTRICT wishes to retain any or all LICENSEE Facilities, LICENSEE shall at LICENSEE's sole cost and expense, no later than 60 days after the expiration or sooner termination of this License, after obtaining CPP prior authorization do the following:

1. Abandon all water wells on the License Area in place, in accordance with state water well standards (e.g. CA Department of Water Resources Bulletins 74-81 and Bulletins 74-90); and,
2. Remove all other LICENSEE Facilities, both surface and underground, located on or within the License Area to Director's satisfaction which shall include, but not be limited to, compaction of filled excavations to ninety percent (90%) compaction as determined by California Test Method No. 216 and delivering the License Area in a

condition which allows for unrestricted use of the property. Notwithstanding the above, Director may allow certain LICENSEE Facilities to remain provided LICENSEE continues to be fully responsible therefor and pays DISTRICT upfront an amount equal to the estimated cost for its removal.

B. In the event LICENSEE fails to perform its obligations under this section, in addition to any other rights or remedies available to DISTRICT, Director, at Director's option after fifteen (15) days written notice to LICENSEE, may cause the removal of any of LICENSEE Facilities from the License Area, and the cost thereof, including but not limited to the cost of labor, materials, and equipment, shall be paid by LICENSEE within ten (10) days of receipt of an statement of said costs from Director.

14. RELOCATION OF LICENSEE FACILITIES

LICENSEE agrees that in the event Director determines that LICENSEE Facilities will interfere with the operation, maintenance, replacement, or improvement of DISTRICT's Basin flood control facilities or property LICENSEE shall, within ninety (90) days of receipt of written notice from Director, and at LICENSEE's sole cost and expense arrange for the removal of LICENSEE Facilities from the License Area and any reinstallation of LICENSEE Facilities within the License Area. Under no circumstance shall DISTRICT be obligated to provide a relocation site for LICENSEE Facilities and/or equipment during such period of interference.

15. UTILITIES (LD1.2 N)

LICENSEE shall be responsible for installation of all utilities and shall pay, prior to the delinquency date, all charges for utilities supplied to the License Area.

16. INSURANCE (LD3.1 S)

A. General Requirements

LICENSEE agrees to purchase all required commercial or maintain a program of insurance at LICENSEE's expense and to deposit with the DISTRICT certificates of insurance, including all endorsements required herein, necessary to satisfy the DISTRICT that the insurance provisions of this License have been complied with and to keep such insurance coverage current and the certificates and endorsements therefore on deposit with the DISTRICT during the entire term of this License.

LICENSEE agrees that LICENSEE shall not operate on the License Area at any time the required insurance is not in full force and effect as evidenced by a certificate of insurance and necessary endorsements or, in the interim, an official binder being in the possession of Director. In no cases shall assurances by LICENSEE, its employees, agents, including any insurance agent, be construed as adequate evidence of insurance. Director will only accept valid certificates of insurance and endorsements, or in the interim, an insurance binder as adequate evidence of insurance. LICENSEE also agrees that upon cancellation, termination, or expiration of LICENSEE's insurance, DISTRICT may take whatever steps are necessary to interrupt any

operation from or on the License Area until such time as the Director has received adequate evidence that LICENSEE reinstated insurance in compliance with the terms herein.

If LICENSEE fails to provide Director with a valid certificate of insurance and endorsements, or binder at any time during the term of the License, DISTRICT and LICENSEE agree that this shall constitute a material breach of the License. Whether or not a notice of default has or has not been sent to LICENSEE, said material breach shall permit DISTRICT to take whatever steps necessary to interrupt any operation from or on the License Area, and to prevent any persons, including, but not limited to, members of the general public, and LICENSEE's employees and agents, from entering the License Area until such time as Director is provided with adequate evidence of insurance required herein. LICENSEE further agrees to hold DISTRICT harmless for any damages resulting from such interruption of business and possession, including, but not limited to, damages resulting from any loss of income or business resulting from the DISTRICT's action.

LICENSEE may occupy the License Area only upon providing to DISTRICT the required insurance stated herein and maintain such insurance for the entire term of this License. DISTRICT reserves the right to terminate this License at any time LICENSEE's insurance is canceled or terminated and not reinstated within ten (10) days of said cancellation or termination. LICENSEE shall provide to DISTRICT immediate notice of said insurance cancellation or termination.

All contractors of LICENSEE performing work on behalf of LICENSEE pursuant to this License shall obtain insurance subject to the same terms and conditions as set forth herein for LICENSEE. LICENSEE shall not allow contractors or subcontractors to work if contractors have less than the level of coverage required by the DISTRICT from the LICENSEE under this License. It is the obligation of the LICENSEE to provide written notice of the insurance requirements to every contractor and to receive proof of insurance prior to allowing any contractor to begin work within the License Area. Such proof of insurance must be maintained by LICENSEE through the entirety of this License and be available for inspection by a DISTRICT representative at any reasonable time.

All self-insured retentions ("SIR(s)") shall be clearly stated on the Certificate of Insurance. Any SIR in an amount in excess of FIFTY THOUSAND DOLLARS (\$50,000.00) shall specifically be approved by the County of Orange Risk Manager, or designee, upon review of LICENSEE's current audited financial report. If LICENSEE's SIR is approved, LICENSEE, will indemnify the DISTRICT for any and all claims resulting or arising from LICENSEE's in accordance with the indemnity provision stated in section 17.

Qualified Insurer

The policy or policies of commercial insurance must be issued by an insurer with a minimum rating of A- (Secure A.M. Best's Rating) and VIII (Financial Size Category as determined by the most current edition of the **Best's Key Rating Guide/Property-Casualty/United States or ambest.com**).

If the commercial insurance carrier does not have an A.M. Best Rating of A-/VIII, the CEO/Office of Risk Management retains the right to approve or reject a carrier after a review of the company's performance and financial ratings.

The policy or policies of insurance maintained by the LICENSEE shall provide the minimum limits and coverage as set forth below:

<u>Coverage</u>	<u>Minimum Limits</u>
Commercial General Liability	\$5,000,000 per occurrence \$5,000,000 aggregate
Automobile Liability including coverage for owned, non-owned and hired vehicles.	\$1,000,000 limit per occurrence
Workers' Compensation	Statutory
Employers' Liability Insurance	\$1,000,000 per occurrence
Pollution Liability	\$1,000,000 per claims-made or occurrence

Insurance limits may be satisfied with Excess/Umbrella policies. Excess/Umbrella policies must provide Follow Form coverage.

Required Coverage Forms

The Commercial General Liability coverage shall be written on Insurance Services Office (ISO) form CG 00 01, or a substitute form providing liability coverage at least as broad.

The Business Auto Liability coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or a substitute form providing liability coverage as broad.

Required Endorsements

The Commercial General Liability policy shall contain the following endorsements, which shall accompany the Certificate of Insurance:

- a) An Additional Insured endorsement using ISO form CG 20 26 04 13 or a form at least as broad naming the ***County of Orange and Orange County Flood Control District, and their respective elected and appointed officials, officers, employees, agents*** as Additional Insureds. Blanket coverage may also be provided which will state- ***As Required by Written Agreement.***
- b) A primary non-contributing endorsement using ISO form CG 20 01 04 13, or a form at least as broad, evidencing that the LICENSEE's insurance is primary

and any insurance or self-insurance maintained by the DISTRICT and/or the County of Orange shall be excess and non-contributing.

The Pollution Liability policy shall contain the following endorsements, which shall accompany the Certificate of Insurance:

- a) An Additional Insured endorsement naming the County of Orange and Orange County Flood Control District, and their respective elected and appointed officials, officers, employees and agents as Additional Insureds.
- b) A primary and non-contributing endorsement evidencing that LICENSEE's insurance is primary and any insurance or self-insurance maintained by DISTRICT and/or the County of Orange shall be excess and non-contributing.

The Workers' Compensation policy shall contain a waiver of subrogation endorsement waiving all rights of subrogation against the ***County of Orange and Orange County Flood Control District, and their respective elected and appointed officials, officers, employees, agents.*** Blanket coverage may also be provided which will state- ***As Required by Written Agreement.***

All insurance policies required by this License shall waive all rights of subrogation against the County of Orange and Orange County Flood Control District, and their respective elected and appointed officials, officers, employees and agents when acting within the scope of their appointment or employment.

The Commercial General Liability policy shall contain a severability of interests clause, also known as a "separation of insureds" clause (standard in the ISO CG 001 policy).

If LICENSEE's Pollution Liability policy is a claims-made policy, LICENSEE shall agree to the following:

- 1) The retroactive date must be shown and must be before the date of the Contract or the beginning of the Contract services.
- 2) Insurance must be maintained, and evidence of insurance must be provided for at least three (3) years after expiration or earlier termination of Contract services.
- 3) If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the effective date of the Contract services, Contractor must purchase an extended reporting period for a minimum of three (3) years after expiration or earlier termination of the Contract.

Insurance certificates should be emailed to insurance@ceore.ocgov.com and printed copies shall be forwarded to the DISTRICT address provided in the Clause 22 (Notices) below or to an address provided by Director. LICENSEE has ten (10) business days to provide adequate evidence of insurance or this License may be cancelled.

DISTRICT expressly retains the right to require LICENSEE to increase or decrease insurance of any of the above insurance types throughout the term of this License. Any increase or decrease in

insurance will be as deemed by County of Orange Risk Manager as appropriate to adequately protect DISTRICT.

DISTRICT shall notify LICENSEE in writing of changes in the insurance requirements. If LICENSEE does not deposit copies of acceptable certificates of insurance and endorsements with DISTRICT incorporating such changes within thirty (30) days of receipt of such notice, this License may be in breach without further notice to LICENSEE, and DISTRICT shall be entitled to all legal remedies.

The procuring of such required policy or policies of insurance shall not be construed to limit LICENSEE's liability hereunder nor to fulfill the indemnification provisions and requirements of this License, nor in any way to reduce the policy coverage and limits available from the insurer.

17. HOLD HARMLESS

LICENSEE acknowledges the License Area is in, on, and over DISTRICT's Basin and may be subject to all hazards associated with flood conditions. LICENSEE agrees to assume all risks, financial or otherwise, associated therewith; including, but not limited to, any interruption in or restricted use of the License Area, whether temporary or permanent due to DISTRICT's use of, or operations conducted in, on, or about the License Area.

LICENSEE hereby releases and waives all claims and recourse against DISTRICT and County including the right of contribution for loss of or damage to property, or injury to or death of any person arising from, growing out of or in any way connected with or related to this License, including any damage to or interruption of use of any of LICENSEE's equipment or facilities placed in, on, or about the License Area, caused by erosion, flood, or flood overflow conditions of the Basin, or caused by the operation, maintenance, repair, reconstruction, replacement, enlargement or improvement of the Basin, or caused by DISTRICT's flood control operations, except claims arising from the concurrent active or sole negligence of DISTRICT and/or County, their officers, agents, employees and contractors.

LICENSEE hereby agrees to indemnify, defend (with counsel approved in writing by DISTRICT), and hold harmless, DISTRICT and County, their elected and appointed officials, officers, agents, employees and contractors against any and all claims, losses, demands, damages, cost, expenses or liability for injury to any persons or property, to the extent arising out of the LICENSEE's maintenance, use of or operations or activities conducted in, on, or over the License Area, and/or the exercise of the rights under this License by LICENSEE, its agents, officers, employees, invitees or licensees, except for liability arising out of the concurrent active or sole negligence of DISTRICT, and/or County, their elected and appointed officials, officers, agents, employees or contractors including the cost of defense of any lawsuit arising therefrom. If DISTRICT and/or County is/are named as co-defendant(s) in a lawsuit, LICENSEE, with attorney(s) approved in writing by Director, shall notify Director of such fact and shall represent DISTRICT/County in such legal action unless DISTRICT/County undertake(s) to represent itself/themselves as co-defendant(s) in such legal action, at DISTRICT/County's sole cost and expense. If judgment is entered against DISTRICT/County and LICENSEE by a court of

competent jurisdiction because of the concurrent active negligence of DISTRICT/County and LICENSEE, DISTRICT and LICENSEE agree that liability will be apportioned as determined by the court. Neither Party shall request a jury apportionment.

18. HAZARDOUS MATERIALS (SRLic-2.6 S)

A. Definition of Hazardous Materials

For purposes of this License, the term “**Hazardous Material(s)**” shall mean any hazardous or toxic substance, material, product, byproduct, or waste which is or shall become regulated by any governmental entity, including, without limitation, County, the State of California, or the United States government.

B. Use of Hazardous Materials

LICENSEE or LICENSEE’s employees, representatives, member agencies, agents, contractors, operators, invitees, and any person authorized by LICENSEE to conduct activities on the License Area (individually and collectively “**LICENSEE Parties**”) shall not cause or permit any Hazardous Materials to be brought upon, stored, kept, used, generated, released into the environment or disposed of on, under, from or about the License Area (which for purposes of this clause shall include the subsurface soil and ground water). Notwithstanding the foregoing, LICENSEE may cause or permit small quantities of Hazardous Materials on the License Area to be used in the ordinary, customary, and lawful cleaning of and operations on the License Area, provided said use and activities are conducted as provided by law.

C. LICENSEE Obligations

If the presence of any Hazardous Materials on, under or about the License Area caused or permitted by LICENSEE or LICENSEE Parties results in (i) injury to any person, (ii) injury to or contamination of the License Area (or a portion thereof), or (iii) injury to or contamination of any real or personal property wherever situated, LICENSEE, at its sole cost and expense, shall promptly take all actions necessary or appropriate to return the License Area and/or other property to the condition existing prior to the introduction of such Hazardous Materials in, on, or about the License Area and to remedy or repair any such injury or contamination. Without limiting any other rights or remedies of DISTRICT under this License, LICENSEE shall pay the cost of any cleanup or remedial work performed on, under, or about the License Area as required by this License or by applicable laws in connection with the removal, disposal, neutralization or other treatment of such Hazardous Materials caused or permitted by LICENSEE or LICENSEE Parties. Notwithstanding the foregoing, LICENSEE shall not take any remedial action in response to the presence, discharge or release, of any Hazardous Materials on, under or about the License Area caused or permitted by LICENSEE or LICENSEE Parties, or enter into any settlement License, consent decree or other compromise with any governmental or quasi-governmental entity without first obtaining the prior written consent of Director. All work performed or caused to be performed by LICENSEE as provided for above shall be done in good and workmanlike manner and in compliance with plans, specifications, permits, and other requirements for such work approved by Director.

D. Indemnification for Hazardous Materials

To the fullest extent permitted by law, LICENSEE hereby agrees to indemnify, hold harmless, protect and defend [with attorney(s) reasonably approved in writing by Director] DISTRICT and County, their elected officials, officers, employees, agents, and independent contractors and the License Area, from and against any and all liabilities, losses, damages (including, but not limited to, damages for the loss or restriction of use of rentable or usable space or any amenity of the License Area or damages arising from any adverse impact on marketing and diminution in the value of the License Area), judgments, fines, demands, claims, recoveries, deficiencies, costs and expenses (including, but not limited to, reasonable attorney fees, disbursements and court costs and all other professional or consultant expenses), whether foreseeable or unforeseeable, to the extent arising directly or indirectly out of the presence, exposure, encounter, disturbance, extraction, use, generation, storage, treatment, on or off-site disposal or transportation of Hazardous Materials on, into, from, under or about the License Area by any act or omission of LICENSEE or LICENSEE Parties. The foregoing indemnity shall also specifically include the cost of any required or necessary repair, restoration, clean-up or detoxification of the License Area and/or other real property and the preparation of any closure or other required plans.

19. BEST MANAGEMENT PRACTICES (SRLic-2.7 S)

LICENSEE and all of its agents, employees and contractors shall conduct operations under this License so as to assure that pollutants do not enter municipal storm drain systems which systems are comprised of, but are not limited to curbs and gutters that are part of the street systems (“Stormwater Drainage System”), and to ensure that pollutants do not directly impact “Receiving Waters” (as used herein, Receiving Waters include, but are not limited to, rivers, creeks, streams, estuaries, lakes, harbors, bays and oceans).

The Santa Ana and San Diego Regional Water Quality Control Boards have issued National Pollutant Discharge Elimination System permits (“Stormwater Permits”) to the County of Orange, and to the Orange County Flood Control District and cities within Orange County, as co-permittees (hereinafter collectively referred to as “DISTRICT Parties”) which regulate the discharge of urban runoff from areas within the County of Orange, including the License Areas and under this License. The DISTRICT Parties have enacted water quality ordinances that prohibit conditions and activities that may result in polluted runoff being discharged into the Stormwater Drainage System.

To assure compliance with the Stormwater Permits and water quality ordinances, the DISTRICT Parties have developed a Drainage Area Management Plan (“DAMP”) which includes a Local Implementation Plan (“LIP”) for each jurisdiction that contains Best Management Practices (“BMPs”) that parties using properties within Orange County must adhere to. As used herein, a BMP is defined as a technique, measure, or structural control that is used for a given set of conditions to manage the quantity and improve the quality of storm water runoff in a cost effective manner. These BMPs are found within the DISTRICT’s LIP in the form of Model Maintenance Procedures and BMP Fact Sheets (the Model Maintenance Procedures and BMP Fact Sheets contained in the DAMP/LIP shall be referred to hereinafter collectively as “BMP Fact Sheets”) and contain pollution prevention and source control techniques to eliminate non-storm water discharges and minimize the impact of pollutants on stormwater runoff.

LICENSEE shall obtain and review and assure that all contractors working on License Area review the applicable Model Maintenance Procedures contained in the DAMP/LIP and BMP Fact Sheets. Activities performed on the License Area under this License shall conform to the requirements of the Stormwater Permits, the DAMP/LIP, BMP Fact Sheets and the Model Maintenance Procedures, as they exist at the time this License commences and as each may be modified throughout the term of this License. The BMP's applicable to uses authorized under this License must be performed as described within all applicable Model Maintenance Procedures and/or BMP Fact Sheets. LICENSEE shall fully understand the Model Maintenance Procedures and any related BMP Fact Sheets applicable to operations conducted on the License Area prior to conducting them.

LICENSEE and/or its contractors may propose alternative BMPs that meet or exceed the pollution prevention performance of the BMP Fact Sheets. Any such alternative BMPs shall be submitted to the Director for review and approval prior to implementation.

The Director or authorized representative may enter the License Area and/or review LICENSEE's records at any time to assure that activities conducted on the License Area comply with the requirements of this Clause (BEST MANAGEMENT PRACTICES). LICENSEE may be required to implement a self-evaluation program to demonstrate compliance with the requirements of this Clause (BEST MANAGEMENT PRACTICES).

20. AMENDMENTS (SRLic-4.1 S)

This License is the sole and only agreement between the Parties regarding the subject matter hereof; other agreements, either oral or written, are void. Any changes to this License shall be in writing and shall be properly executed by both Parties.

21. LIMITATION OF THE LICENSE (LA5.1 S)

This License and the rights and privileges granted LICENSEE in and to the License Area are subject to all covenants, conditions, restrictions, and exceptions of record or apparent from a physical inspection of the License Area. Nothing contained in this License or in any document related hereto shall be construed to (a) imply the conveyance to LICENSEE of rights in the License Area which exceed those owned by DISTRICT; or (b) imply the conveyance of an easement or any permanent or exclusive rights in the License Area.

22. NOTICES (LE1.1 S)

All notices, documents, correspondence and communications concerning this License shall be addressed as set forth in this Section, or as the Parties may hereafter designate by written notice and shall be sent through the United States mail with postage prepaid. Any such mailing shall be deemed served or delivered forty-eight (48) hours after mailing. Either Party may change the address for notices by giving the other Party at least ten (10) calendar days' prior written notice of the new address.

Notwithstanding the above, either Party may also provide notices, documents, correspondence,

F25B01
Well IDM-4
Trabuco Road

or such other communications to the other by personal delivery or by Federal Express or similar courier service and so given shall be deemed to have been given upon receipt.

TO: DISTRICT

Orange County Flood Control District
CEO/Real Estate Services
RE: F25B01 OCWD Trabuco Rd License
P. O. Box 4048
Santa Ana, CA 92702-4048

TO: LICENSEE

Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708-8300
Office: (714)378-3205
Attn: Property Management

23. RECORDING PROHIBITED (SRLic-5.8 S)

This License may not be recorded.

24. AUTHORITY (PMES20.1S)

The Parties to this License represent and warrant that this License has been duly authorized and executed and constitutes the legally binding obligation of their respective organization or entity, enforceable in accordance with its terms.

25. GENERAL CONDITIONS (LE1.1 S)

This License includes the General Conditions attached hereto in Exhibit C and by this reference made a part hereof. In the event of any conflict between the provisions of this License and the provisions in the General Conditions, the provisions of the License shall control.

26. ATTACHMENTS TO LICENSE (SRLic-5.6 S)

This License includes the following, which is attached hereto and made a part hereof:

Exhibit A – Depiction of License Area
Exhibit B – Relevant Permit
Exhibit C – General Conditions – License

27. COUNTERPARTS

This License may be executed in one or more electronic or original counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have executed this License the day and year first above written.

DISTRICT

By: _____
Thomas A. Miller
Chief Real Estate Officer
Per Minute Order dated
February 25, 2014 and
delegation dated May 19,
2023

Approved as to Form
Office of the County Counsel
Orange County, California

By: _____
Deputy

Date: _____

LICENSEE

ORANGE COUNTY WATER DISTRICT,
a political subdivision of the State of California
organized under Chapter 924 of the Statutes of
1933, as amended.

By: _____
Denis Bilodeau, President

By: _____
John Kennedy, General Manager

Approved as to Form
RUTAN & TUCKER, LLP.

By: _____
General Counsel
Orange County Water District

Date: _____

Exhibit A Location Map



Exhibit B
Relevant Permit

2004-00047

OXFORDV 9:49:44AM

COUNTY PROPERTY PERMIT
ENCROACHMENT PERMIT RIDER # 2

Page 1 of 2
3/14/2005

INSPECTION PHONE
714-567-7804

County of Orange
Resources & Development Management Department
County Property Permits

Permit No: **2004-00047**

Effective Date: **4/2/2005**

12:00:00AM

Expiration Date: **10/1/2005**

12:00:00AM

Inspection office shall be notified at least
TWO (2) WORK DAYS PRIOR to
commencing permitted use. FAILURE
TO OBTAIN INSPECTION SHALL
VOID THIS PERMIT
PERMITTEE

Main Office: 300 North Flower Street, Room 122
Santa Ana, California 92703-5001
or P.O. Box 4048, Santa Ana, California 92702-4048
(714) 834-3432 or (714) 834-5738
Fax: (714) 835-7425

FACILITY

Orange County Water District
10500 Ellis Avenue
Fountain Valley, CA 92708

714-378-3214

Contact Person Adam Hutchinson
Telephone No. 714-378-3214

Insured ORANGE COUNTY WATER DISTRICT/ACWA **Policy** Self-Insured **Expires** 10/1/2010
[County/State/Flood]

Type	Facility Name	Number
	TRABUCO RETARDING BASIN	F25B01

PERMITTED USE: The following changes are here by made to the original Permit:

To extend the expiration date to construct and maintain (1) monitoring well within a portion of Orange County Flood Control District's Trabuco Retarding Basin (F25B01) right-of-way, per original plans and provisions and to the satisfaction of County inspection personnel.

PERMITTED USE NOT EFFECTIVE UNTIL APPROVED BY THE ASSIGNED INSPECTOR.

CEQA Code 1

LOCATION OF WORK:

Trabuco Retarding Basin (F25B01) near northeast corner of basin.

Dimension/Type: (1) Monitoring Well Thomas Brothers: 861;A2 Area: Irvine

CONSIDERATION:

Types	PWO#	Permit Fees	Surety	Penalty	Total	Total Fees :	\$65.00
FT	EF68010	\$65.00 (2074)	\$0.00 (2091)	\$0.00	\$65.00		
Payment	Trust	Check	Receipt	Date	Amount	Total Payment:	\$65.00
Check		00006029	R0504331	3/14/2005	\$65.00		

Surety Paid By:

TUF Invoice Paid By:

PERMITTEE'S ACCEPTANCE:

SIGNATURE ON FILE

COUNTY APPROVAL:

3/14/2005

George Rakas

George Rakas

PERMIT AND APPROVED PLANS SHALL BE MAINTAINED ON JOB SITE. PERMITTEE SHALL COMPLY WITH REGULATIONS PRINTED ON REVERSE SIDE OF PERMIT AND ATTACHMENTS. ALL UNDERGROUND WORK REQUIRE PRIOR "UNDERGROUND SERVICE ALERT" COMPLIANCE. THIS PERMIT IS NON-TRANSFERABLE.
Note: Surety will not be refunded until Final Inspection is performed and submitted to County Property Permits

•F080-PermitForm (R1/05)

Exhibit C

GENERAL CONDITIONS - LICENSE (LG17 S)

1. SIGNS (LG2 S)

LICENSEE agrees not to construct, maintain, or allow any sign upon License Area except as approved by Director. Unapproved signs, banners, flags, etc., may be removed by Director at LICENSEE's expense.

2. PERMITS AND LICENSES (SRLic-4.9 N)

LICENSEE shall be required to obtain and maintain throughout the Term of this License any and all permits and/or licenses which may be required in connection with the operation of the License Area as set out herein. No permit, approval, or consent given hereunder by DISTRICT, in its governmental capacity, shall affect or limit LICENSEE's obligations hereunder, nor shall any approvals or consents given by DISTRICT, as a Party to this License, be deemed approval as to compliance or conformance with applicable governmental codes, laws, rules, or regulations.

LICENSEE shall be required at LICENSEE's sole cost and expense to obtain and maintain at all times during the term of this License, any and all permits, certificates, approvals and/or licenses which may be required by any federal, state, county, city or other governmental agency, department or bureaucracy having jurisdiction over LICENSEE, or LICENSEE's business or operations in connection with the License Area as set out herein. No permit, approval or consent given hereunder by DISTRICT, in its governmental capacity, shall affect or limit LICENSEE's obligations hereunder nor shall any such approvals or consents given by DISTRICT, be deemed approval as to compliance or conformance with applicable, governmental codes, laws, ordinances, rules, or regulations.

3. LICENSE ORGANIZATION (LG4 S)

The various headings and numbers herein, the grouping of provisions of this License into separate clauses and paragraphs, and the organization hereof, are for the purpose of convenience only and shall not be considered otherwise.

4. AMENDMENTS (SRLic-4.1 S)

This License is the sole and only agreement between the Parties regarding the subject matter hereof; other agreements, either oral or written, are void. Any changes to this License shall be in writing and shall be properly executed by both Parties.

5. UNLAWFUL USE (SRLic-3.3 S)

LICENSEE agrees no improvements shall be erected, placed upon, operated, nor maintained on the License Area, nor any business conducted or carried on therein or therefrom, in violation of the terms of this License, or of any regulation, order of law, statute, bylaw, or ordinance of a governmental agency having jurisdiction.

Further, all uses of the License Area by LICENSEE shall be conducted in accordance with all applicable law, ordinance, or regulation, including but not limited to any “Environmental Laws.” “Environmental Laws” means any federal, state or local statute, ordinance, rule, regulation, order, consent decree, judgment or common-law doctrine, and provisions and conditions of permits, licenses and other operating authorizations relating to (A) pollution or protection of the environment, including natural resources, (B) exposure of persons, including employees, to Hazardous Materials or other products, raw materials, chemicals or other substances, (C) protection of the public health or welfare from the effects of by-products, wastes, emissions, discharges or releases of chemical substances from industrial or commercial activities, or (D) regulation of the manufacture, use or introduction into commerce of chemical substances, including, without limitation, their manufacture, formulation, labeling, distribution, transportation, handling, storage and disposal.

6. LABOR CODE COMPLIANCE (SRLic-3.7 S)

LICENSEE acknowledges and agrees that all improvements or modifications during the term of this License performed by LICENSEE shall be governed by, and performed in accordance with, the provisions of Article 2 of Chapter 1, Part 7, Division 2 of the Labor Code of the State of California (Sections 1770, et seq.), as applicable. These provisions may be applicable to improvements or modifications costing more than \$1,000, unless an exception applies, including but not limited to the exception to the definition of public works under § 1720.2.

Pursuant to the provisions of Section 1773 of the Labor Code of the State of California, LICENSEE shall comply with the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality applicable to this License for each craft, classification, or type of workman needed to execute the aforesaid improvements or modifications. The rates are available at the following website:

<http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm> from the Director of the State Department of Industrial Relations. LICENSEE shall post a copy of such wage rates at the job site and shall pay the adopted prevailing wage rates at all times for all improvements or modifications to be completed within the License Area. LICENSEE shall comply with the provisions of Sections 1775 and 1813 of the Labor Code.

As required by applicable law, LICENSEE shall maintain certified payroll records for all workers that will be assigned to the improvements or modifications. Said payroll records shall contain, but not be limited to, the complete name, address, telephone number, social security number, job classification, and prevailing wage rate for each worker. Upon request LICENSEE shall provide the DISTRICT updated certified payroll records for all workers that shall include, but not be limited to, the weekly hours worked, prevailing hourly wage rates, and total wages paid.

If LICENSEE neglects, fails, or refuses to provide said payroll records to the DISTRICT, upon request, such occurrence shall constitute an event of default of this License and DISTRICT may, notwithstanding any other termination provisions contained herein terminate this License upon written notice to LICENSEE.

7. RIGHT TO WORK AND MINIMUM WAGE LAWS (SRLic-3.8 S)

In accordance with the United States Immigration Reform and Control Act of 1986, LICENSEE shall require its employees that directly or indirectly service the License Area or terms and conditions of this License, in any manner whatsoever, to verify their identity and eligibility for employment in the United States. LICENSEE shall also require and verify that its contractors or any other persons servicing the License Area or terms and conditions of this License, in any manner whatsoever, verify the identity of their employees and their eligibility for employment in the United States.

Pursuant to the United States of America Fair Labor Standard Act of 1938, as amended, and State of California Labor Code, Section 1178.5, LICENSEE shall pay no less than the greater of the Federal or California Minimum Wage to all its employees that directly or indirectly service the License Area, in any manner whatsoever. LICENSEE shall require and verify that all its contractors or other persons servicing the License Area on behalf of the LICENSEE also pay their employees no less than the greater of the Federal or California Minimum Wage.

LICENSEE shall comply and verify that its contractors comply with all other Federal and State of California laws for minimum wage, overtime pay, record keeping, and child labor standards pursuant to the servicing of the License Area or terms and conditions of this License.

Notwithstanding the minimum wage requirements provided for in this Clause, LICENSEE, where applicable, shall comply with the prevailing wage and related requirements pursuant to the provisions of Section 1773 of the Labor Code of the State of California.

8. INSPECTION (SRLic-4.7 S)

DISTRICT or its authorized representative shall have the right at all reasonable times to inspect the operation to determine if the provisions of this License are being complied with.

9. TAXES AND ASSESSMENTS (SRLic-3.6 S)

Although not anticipated, should this License create a possessory interest which is subject to the payment of taxes levied on such interest, it is understood and agreed that all taxes and assessments (including but not limited to said possessory interest tax) which become due and payable in connection with this License or upon LICENSEE Facilities or other property used in connection with this License, shall be the full responsibility of LICENSEE, and LICENSEE shall cause said taxes and assessments to be paid promptly.

10. PARTIAL INVALIDITY (SRLic-4.2 S)

If any term, covenant, condition, or provision of this License is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions hereof shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby.

11. WAIVER OF RIGHTS (SRLic-4.3 S)

The failure of DISTRICT to insist upon strict performance of any of the terms, covenants, or conditions of this License shall not be deemed a waiver of any right or remedy that DISTRICT may have, and shall not be deemed a waiver of the right to require strict performance of all the terms, covenants, and conditions of the License thereafter, nor a waiver of any remedy for the subsequent breach or default of any term, covenant, or condition of the License. Any waiver, in order to be effective, must be signed by the Party whose right or remedy is being waived.

12. ATTORNEY FEES (SRLic-4.5 S)

In the event of a dispute between DISTRICT and LICENSEE concerning claims arising out of this License, or in any action or proceeding brought to enforce or interpret any provision of this License or where any provision hereof is validly asserted as a defense, each Party shall bear its own attorney fees.

13. AS-IS/WHERE-IS CONDITION (LG13 N)

The License Area is accepted “as is” and “where is” by LICENSEE subject to any and all existing easements, encumbrances and physical characteristics. LICENSEE acknowledges that except as specifically herein provided, neither DISTRICT nor any of its employees, agents, or representatives has made any representations, warranties or agreements to or with LICENSEE on behalf of DISTRICT as to any matters concerning the License Area, access to the License Area, the present use thereof, or the suitability of LICENSEE’s intended use of the License Area.

- A. Without limiting DISTRICT’s rights with respect to the License Area, DISTRICT reserves the right to install, lay, construct, maintain, repair, and operate such drains, storm water sewers, pipelines, manholes, and connections; and appliances and appurtenances necessary or convenient in connection therewith, in, over, upon, through, across, under, and along the License Area or any part thereof, and to enter the License Area for any and all such purposes.
- B. DISTRICT also reserves the right to grant franchises, easements, rights of way, and permits in, over, upon, through, across, under, and along any and all portions of the License Area. No right reserved by DISTRICT in this Section 13.B. shall be so exercised as to interfere unreasonably with LICENSEE’s use hereunder.

DISTRICT agrees that rights granted to third parties by reason of this Section 13.B. shall contain provisions that the surface of the land shall be restored as nearly as practicable to its original condition upon the completion of any construction. DISTRICT further agrees that should the exercise of these rights temporarily interfere with the use of any or all of the License Area by LICENSEE, any use fee (if a use fee is required pursuant to this License) shall be reduced in proportion to the interference with LICENSEE’s use of the License Area.

14. CONDITION OF LICENSE AREA UPON TERMINATION (LG14 S)

Except as otherwise agreed to herein, upon termination of this License, LICENSEE shall redeliver possession of said License Area to DISTRICT in substantially the same condition that existed immediately prior to LICENSEE's entry thereon, reasonable wear and tear, flood, earthquakes, war, and any act of war, excepted.

15. DISPOSITION OF ABANDONED PERSONAL PROPERTY (LG15 N)

If LICENSEE abandons the License Area or is dispossessed thereof by process of law or otherwise, title to any personal property belonging to LICENSEE and left on the License Area fifteen (15) days after such event shall, at Director's option, be deemed to have been transferred to DISTRICT. DISTRICT shall have the right to remove and to dispose of such property, at LICENSEE's cost, without liability therefor to LICENSEE or to any person claiming under LICENSEE, and shall have no need to account therefor, and LICENSEE agrees to pay such costs, including but not limited to the cost of labor, materials, and equipment, within ten (10) days following a receipt of an statement of such costs from Director.

16. TIME (SRLic-4.6 S)

Time is of the essence of this License. Failure to comply with any time requirements of this License shall constitute a material breach of this License.

17. NO ASSIGNMENT, SUBAGREEMENTS (SRLic-3.5 S)

LICENSEE understands that this License is not an interest in real property nor is it an assignable right. Any attempt to assign or otherwise transfer this License by LICENSEE, voluntarily or by operation of law, shall automatically terminate this License. Sublicenses or subleases are not authorized under this License and any attempt by LICENSEE to create any such sublicense or sublease shall be null and void and shall automatically terminate the License.

18. PUBLIC RECORDS (SRLic-5.3 S)

Any and all written information submitted to and/or obtained by DISTRICT from LICENSEE or any other person or entity having to do with or related to this License and/or the License Area, either pursuant to this License or otherwise, at the option of DISTRICT, may be treated as a public record open to inspection by the public pursuant to the California Records Act (Government Code Section 7920.000 et..) as now in force or hereafter amended, or any Act in substitution thereof, or otherwise made available to the public and LICENSEE hereby waives, for itself, its agents, employees, sub-licensees, and any person claiming by, through or under LICENSEE, any right or claim that any such information is not a public record or that the same is a trade secret or confidential information and hereby agrees to indemnify and hold DISTRICT harmless from any and all claims, demands, liabilities, and/or obligations arising out of or resulting from a claim by LICENSEE or any third party that such information is a trade secret, or confidential, or not subject to inspection by the public, including without limitation reasonable attorneys' fees and costs.

19. RELATIONSHIP OF PARTIES (SRLic-5.4 S)

The relationship of the parties hereto is that of licensor and licensee, and it is expressly understood and agreed that DISTRICT does not in any way or for any purpose become a partner of or a joint venture with LICENSEE in the conduct of LICENSEE's business or otherwise, and the provisions of this License and the agreements relating to rent payable hereunder are included solely for the purpose of providing a method by which rental payments are to be measured and ascertained.

20. GOVERNING LAW AND VENUE (SRLic-4.4 S)

This agreement has been negotiated and executed in the State of California and shall be governed by and construed under the laws of the State of California. In the event of any legal action to enforce or interpret this agreement, the sole and exclusive venue shall be a court of competent jurisdiction located in Orange County, California, and the Parties hereto agree to and do hereby submit to the jurisdiction of such court, notwithstanding Code of Civil Procedure section 394.

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 2025

To: Water Issues Committee
Board of Directors

From: John Kennedy

Staff Contact: R. Bouley/L. Esguerra

Budgeted: Yes

Budgeted Amount: \$2,500,000

Cost Estimate: \$33,200

Funding Source: R&R

Program/Line Item No. R24032

General Counsel Approval: N/A

Engineers/Feasibility Report: N/A

CEQA Compliance: N/A

**Subject: ANAHEIM LAKE VALVE VAULT – AMENDMENT NO. 1 TO
AGREEMENT 1681 WITH MKN**

SUMMARY

The District entered an agreement with MKN to review and update the 100% design and complete bid documents for the Anaheim Lake Valve Vault project. Staff recommends authorizing Amendment No. 1 for additional work to revise the structural design of the vault due to increased depth of the existing valves being replaced.

RECOMMENDATION

Agendize for February 19 Board Meeting: Authorize Amendment No.1 to Agreement No. 1681 with MKN for an amount not to exceed \$33,200 for design services for the Anaheim Lake Valve Vault Project.

BACKGROUND/ANALYSIS

The Anaheim Lake pipeline distributes water to various locations including Anaheim Lake, Miller Basin, Kraemer Basin, Atwood Channel, and the Carbon Creek Diversion Channel. Several connections to the Anaheim Pipeline are directly buried within a small area just north of the spillway between OC-28 and Anaheim Lake and are inaccessible without deep excavation. These connections were constructed from the late 1980s to the early 1990s. The existing valves within the project limits are at the end of their expected lifespan and are in need of replacement. The project location can be seen in Figure 1.



Figure 1: Existing Anaheim Lake Buried Valve Location

Design was authorized by the Board in 2018 and completed in 2021. The Anaheim Valve Vault Project constructs of a new vault structure to house two 48-inch butterfly valves from the Warner Pipeline to the Anaheim pipeline and one 72-inch valve from OC-28 to the Anaheim Pipeline, replacement of two 48-inch valves to release water from Anaheim pipeline into the Atwood Channel, and modifications to OC-28. The project was placed on hold to prioritize District resources and staff in the design and construction of PFAS treatment projects.

In November 2024 the Board authorized an agreement with MKN to review and update the plans to current structural and electrical code and provide bid phase services. During MKN's review of the plans and the results of the underground utility investigation a discrepancy in pipeline and valve elevation was found. The depth of the new vault will need to be lowered by 3 feet to accommodate the change in elevation and additional budget is required for new structural calculations and re-design of the vault. Staff recommends authorizing Amendment No. 1 to Agreement No. 16810 with MKN for an amount not to exceed \$33,200 for additional design services to re-design the valve vault for the Anaheim Lake Valve Vault Project.

PRIOR RELEVANT BOARD ACTIONS

11/20/2024 R24-11-141: Authorizing issuance of agreement to MKN for design services for the Anaheim Lake Valve Vault Project.

3/20/2019 R19-3-38: Approving amendment to Gannett Fleming for Anaheim Lake Valve Vault Project.

10/17/2018 R18-10-145: Authorizing termination of agreement to KEH & Associates for design services for Anaheim Lake Valve Vault Project and awarding agreement to Gannett Fleming.

8/15/2018 R18-8-110: Authorize agreement to KEH & Associates for design services for Anaheim Lake Valve Vault Project.

12/20/2017 M17-170: Authorize Issuance of RFP for the Anaheim Lake Valve Vault Project.

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 2025

To: Water Issues Committee
Board of Directors

From: John Kennedy

Staff Contact: R. Herndon/B. Leever

Budgeted: Partial

Budgeted Amount: \$45,000

Cost Estimate: \$57,550

Funding Source: General Fund

Program/Line-Item No.: 1075.53010.9900

General Counsel Approval: N/A

Engineers/Feasibility Report: N/A

CEQA Compliance: N/A

**Subject: AMENDMENT NO. 7 TO AGREEMENT NO. 1175 WITH INTERA, INC. FOR
ADDITIONAL GROUNDWATER MODELING SERVICES REGARDING SUNSET
GAP SEAWATER INTRUSION**

SUMMARY

Modeling consultant Intera, Inc. updated and refined calibration of the Alamitos-Sunset Gap groundwater model with current data and conducted simulations of optimized barrier flow rates and a “no-barrier” alternative. Based on the modeling results, staff asked Intera for estimated costs to perform additional model simulations to refine flow rates and evaluate injection water supply options. These refinements will support the ongoing barrier feasibility study, which is partially funded by a \$200,000 grant from the U.S. Bureau of Reclamation. Intera provided a cost proposal for \$57,550, which staff recommend be approved via Amendment No. 7 to the agreement with Intera. Staff will provide an update on the feasibility study.

Attachment: Letter cost proposal for additional modeling work from Intera, Inc.

RECOMMENDATION

Agendize for February 19 Board meeting: Authorize issuance of Amendment No. 7 to Agreement No. 1175 with Intera, Inc., in the amount of \$57,550 for additional groundwater modeling of the Sunset Gap area.

BACKGROUND/ANALYSIS

Based on the District’s investigations confirming seawater intrusion in the Sunset Gap beneath the Naval Weapons Station Seal Beach (NWSSB), OCWD retained Intera, Inc. to expand the original Alamitos groundwater model to cover areas of concern in the Sunset Gap (Figure 1). Sunset Gap modeling activities subsequently performed by Intera were requested by staff and approved by the Board under Amendments 1-6.

Model simulations have been used to evaluate conceptual barrier configurations comprising injection and extraction wells, Deep Aquifer injection supply wells, and seasonal variability in injection and extraction flows needed to prevent seawater intrusion. Additionally, modeling has been used to evaluate basin impacts if seawater intrusion were left unabated. If left unabated, the model showed that continued inland migration of seawater would occur in the absence of a barrier, including impacting an increasing number of production wells over time.

In September 2023, the District initiated a feasibility study to evaluate an injection and

extraction well barrier using conservative injection and extraction rates. Subsequent modeling has shown that reduced injection flow rates coupled with increased extraction flow rates are effective at controlling seawater intrusion. The District has requested Intera to continue refinement of the barrier flows using model optimization routines and adjustments to model assumptions. These refinements will help provide greater certainty to the model results, which will be used in the feasibility study.

To conduct the above activities, the District requested a proposal from Intera (attached). The proposed scope of work for Intera includes:

- Manual adjustments to well numbers, flows, and locations to reduce the maximum injection flow rates needed
- Evaluation of a Principal Aquifer West Orange County well field injection water supply alternative
- Predictive uncertainty analysis to increase reliability of the modeled barrier

Based on Intera's cost proposal, staff requests authorization to issue Amendment No. 7 in the amount of \$57,550 to Intera's services agreement, bringing the total amount authorized to \$603,164.

PRIOR RELEVANT BOARD ACTIONS

12/20/23, R23-12-164– Authorize issuance of Amendment No. 6 to Agreement No. 1175 with Intera, Inc., in the amount of \$162,920 for staff-requested additional scope of work on the Alamitos-Sunset Gap model optimization and water supply scenarios.

9/20/23, R23-8-110– Authorize issuance of an Agreement to Hazen for an amount not to exceed \$412,457 for a Sunset Gap Seawater Intrusion Barrier Feasibility Study.

6/21/23, R23-6-80– Authorize issuance of Amendment No. 5 to Agreement No. 1175 with Intera, Inc., in the amount of \$38,600 for staff-requested additional scope of work on the Alamitos-Sunset Gap model “no barrier” scenarios.

6/15/22, R22-6-76– Authorize issuance of Amendment No. 4 to Agreement No. 1175 with Intera, Inc., in the amount of \$35,420 to incorporate additional data into the Alamitos-Sunset Gap model “no barrier” scenarios.

6/18/21, R20-6-95 – Authorize issuance of Amendment No. 3 to Agreement No. 1175 with Intera, Inc., in the amount of \$124,500 to extend the Alamitos-Sunset Gap model and run “no barrier” scenarios.

3/18/20, R20-3-29 – Authorize issuance of Amendment No. 2 to Agreement No. 1175 with Intera, Inc., in the amount of \$48,320 for additional work on the Alamitos-Sunset Gap model, including additional calibration and predictive simulations.

5/23/18, R18-5-53 – Authorize issuance of Amendment No. 1 to Agreement No. 1175 with Intera, Inc., in the amount of \$28,710 for additional work necessary to expand the Alamitos Gap groundwater model into the Sunset Gap area.

7/20/16, R16-7-102 – Authorize issuance of Professional Services Agreement to Intera, Inc. for an amount not to exceed \$135,032 for expanding the Alamitos Gap groundwater model into the Sunset Gap area.

9/16/09, R09-9-147 - Authorize issuance of Professional Services Agreement to Intera, Inc. for an amount not to exceed \$269,804 for the development of a groundwater computer model of the Alamitos Barrier.

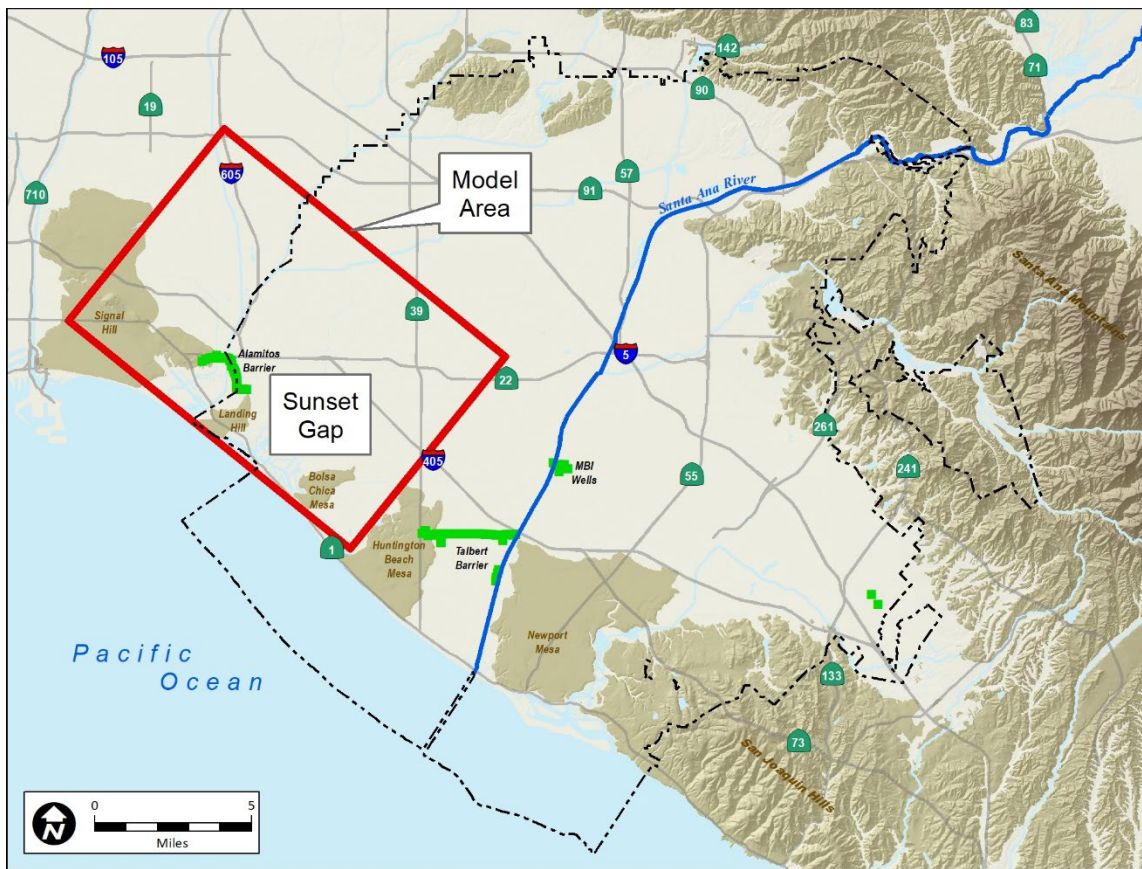


Figure 1 shows the location of the Alamos-Sunset Gap Model area outlined in red along with the existing seawater intrusion barriers in Orange County.



INTERA Incorporated
3838 W. Carson Street, #380
Torrance, CA 90503
+1 (424) 275 4055
INTERA.com



February 3, 2025

Mr. William Leever, CHG
Principal Hydrogeologist
Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708

Cc: Mr. Roy Herndon, CHG, Chief of Hydrogeology, OCWD
Mr. Tim Sovich, PE, Principal Engineer, OCWD

RE: Amendment 7 – Scope and Budget Modification for Sunset Gap Feasibility Study Modeling

Dear Mr. Leever,

INTERA is retained by Orange County Water District (OCWD) to perform groundwater flow modeling supporting the assessment of seawater intrusion in the Sunset Gap area and assess the feasibility of an injection and/or extraction barrier to prevent future seawater intrusion. The scope of work includes five tasks, of which, Tasks 1 & 2 have been completed.

Based on the results of Tasks 1 and 2, it was decided with guidance from OCWD to not pursue Task 3. Instead, a more rigorous scope of work for Tasks 1 & 4 has been developed to support the Sunset Gap Seawater Intrusion Barrier Feasibility Study. An explanation of the work performed and the proposed modifications to the scope are described below. An explanation of the budget increases is provided for each task.

Task 1: Evaluation of Injection-Extraction Barrier

The objective of Task 1 is to assess different configurations and rates of a combined injection-extraction barrier, ultimately providing a solution entailing the optimized average injection rate, average extraction rate, maximum injection rate, and locations of wells needed to protect the Orange County groundwater basin from further seawater intrusion.

Task 1 originally scoped five model simulations to test different alternatives for the barrier volumes and configuration. INTERA completed six constant-rate model simulations and two additional simulations to review and revise the baseline parameters and model boundary conditions with each simulation including review and revisions by OCWD staff. Hence, INTERA performed three additional simulations than were scoped under this Task. Table 1 lists the simulations performed under this task.

Table 1

Simulation Number	Manual Simulation Description
1	Original Scenario 3 (Scenario IE1) with 13 MGD injection & 3 MGD extraction
2	Modified Scenario 3 (Scenario IE2) with 13 MGD injection & 6 MGD extraction
3	Baseline boundary conditions with old model parameters to validate model results
4	Revised baseline (revised injection & pumping)
5	Scenario IE1 using revised baseline
6	Scenario IE2 using revised baseline
7	Scenario IE3 with 8 MGD injection & 6 MGD extraction
8	Scenario IE4 with 6.8 MGD injection & 6 MGD extraction

Task 1 originally scoped one automated round of optimization of barrier rates and locations. Two rounds of automated optimization were required due to the underlying complexity of the problem domain, leading to the need to move to a more advanced optimization platform. The original scope assumed that a linear approximation would be suitable for the optimization solver to minimize injection and extraction rates. Upon applying the algorithms, this assumption became invalid; instead, an approach that accommodated nonlinearity was required. Based on guidance from OCWD, the second round of optimization included additional extraction well locations to reduce excessive drawdowns at the extraction wells. After the automated optimization runs, and based on guidance from OCWD, INTERA went through five additional manual optimization rounds to refine and further optimize the results from the automated optimization process. The manual refinements entailed reducing the average and maximum injection and extraction volumes at strategic locations, while also making the distribution of injection/extraction more representative of operational conditions. Table 2 lists the automated and manual optimization rounds performed. Overall, one additional automated round of optimization and five additional manual refinement optimization rounds were performed than originally scoped.

Table 2

Optimization Round Number	Optimization Round Description
1 (Automated)	PEST++ OPT using basic linear optimization solver
2 (Automated)	PEST++ IES using advanced nonlinear optimization solver
3 (Manual)	Improvement of Automated Optimization Result by Redistributing Injection (I)
4 (Manual)	Improvement of Automated Optimization Result by Redistributing Injection (II)
5 (Manual)	Improvement of Automated Optimization Result by Redistributing Injection (III)
6 (Manual)	Redistribution of extraction from one well across ten wells
7 (Manual)	Redistribution and consolidation of extraction across five wells

Additional work refining the injection rates and locations is needed to complete Task 1. Three manually adjusted simulations will be performed to reduce the maximum monthly injection, to the extent possible, without compromising intrusion protection. To accomplish this, month-to-month variation of injection (and possibly extraction) volumes will likely be dampened while still maintaining some winter/summer seasonality to be more representative of real-world operations.

Due to additional effort on Task 1, budget from Task 3 was used to supplement the cost needed to complete the task. Consequently, no work was performed for Task 3.

Budget Impact

The original budget for Task 1 was \$45,240. To date, \$104,909 has been spent to complete Task 1, \$59,669 more than the original budget.

Based on an original estimated cost of \$5,010 per manual simulation, the additional cost of nine additional scenarios (three done prior to optimization, five done after calibration, and three proposed herein for additional injection refinement) for Task 1 is \$45,090. The cost of the additional round of optimization was \$8,140. This total additional effort is estimated to cost \$53,230.

The budget for Task 3 (\$37,780) was spent to cover the overage of Task 1, therefore the total requested budget amendment for Task 1 is \$15,450.

Task 2: Evaluation of Deep Aquifer Water Source

The objective of Task 2 was to evaluate the feasibility of supplying the potential injection barrier wells with water pumped from the Deep aquifer. The original scope entailed three model simulations to make this evaluation.

INTERA performed four model simulations as a part of this scope item which was able to provide an evaluation of the hydrogeological feasibility of the deep aquifer water supply option. Three of these simulations tested different rates of extraction and one of the simulations tested a different configuration of the potential deep wells used for production.

OCWD requested Intera model the feasibility of pumping groundwater from the western portion of the Orange County groundwater basin, north of the barrier. This area is referred to as the West Orange County Well Field. Additional work is required to evaluate the concept of the West Orange County Well Field producing from the Principal aquifer as a source of water for the potential injection barrier. Model simulations will be performed to evaluate the impact of this concept on the efficacy of the injection barrier. Two model simulations are estimated for this additional effort.

Budget Impact

The original budget for Task 2 was \$8,700. To date, \$4,150 has been spent to complete the evaluation of a Deep aquifer source for Task 2.

To complete the additional work required to evaluate the West Orange County Well Field concept, two model simulations are proposed. Based on a previously estimated cost of \$5,010 per additional scenario simulated, the additional cost of two additional simulations performed for Task 2 is \$10,020. Minus the remaining Task 2 budget of \$4,550, the total requested budget amendment for Task 2 is \$5,470.

Task 3: Evaluation of Extraction-Only Barrier Alternatives

The objective of Task 3e was to evaluate the concept of an extraction-only seawater intrusion barrier and included an estimated ten model simulations.

Due to the Task 1 overrun, budget from Task 3 was used to supplement the cost needed to complete Task 1. Consequently, INTERA performed no simulations for Task 3. Additionally, it was found that an extraction-only barrier is likely infeasible due to excessive low water levels. Low water levels limited the combined injection-extraction barrier system so removing injection and only extracting is expected to draw water levels too low around the hypothetical well locations.

Budget Impact

INTERA completed no simulations for Task 3, so no additional funds are requested for this task. Instead, the budget of this task was used to cover the cost of additional simulations under Task 1.

Task 4: Predictive Uncertainty Analysis

The objective of Task 4 is to analyze the uncertainty in the predictive model results due to uncertainty in the groundwater model. This task includes a calibration-constrained historical model-based uncertainty analysis followed by predictive simulations using the results from the uncertainty analysis.

Currently, INTERA has spent the effort needed to set-up the uncertainty analysis framework and is ready to continue the effort to analyze the model uncertainty. The predictive uncertainty analysis will require additional effort to complete, as compared to the original estimate, due to a hybrid approach being adopted under OCWD recommendation including manual sensitivity analysis simulations in addition to the automated approach described above. INTERA has assumed five sensitivity runs for this hybrid approach that were not previously included in the original scope of work.

In addition to the predictive uncertainty analysis INTERA will complete, two predictive scenarios have been proposed and agreed upon by INTERA and OCWD to test the impact of (1) lower Alamitos Barrier injection rates and (2) increased inland pumping rates. INTERA assumes two additional scenarios on top of the remaining effort for the predictive uncertainty analysis.

Budget Impact

The original budget for Task 4 was \$39,960. To date, \$23,119 has been spent on Task 4.

The cost of the additional effort needed to complete the predictive uncertainty analysis, including sensitivity analysis simulations, is \$31,350. In addition, the total cost of the two additional simulations is estimated to be \$5,280.

The total Task 4 budget amendment request is \$36,630.

Summary

The total amendment request for the modified scope described above is \$57,550. Table 3 outlines the budget amendments below.

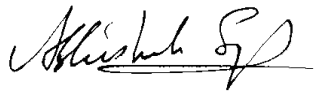
Table 3

Task	Budget Amendment Request
1. Evaluate Injection-Extraction Barrier	\$15,450
2. Evaluate Deep Aquifer Water Source	\$5,470
3. Evaluate Extraction-Only Barrier Alternatives	\$0
4. Predictive Uncertainty Analysis	\$36,630
5. Technical Memorandum	\$0
Total	\$ 57,550

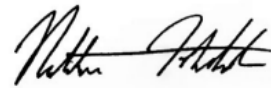
INTERA appreciates OCWD's efforts to develop a reliable solution to control seawater intrusion in the Sunset Gap. The development of this groundwater model has and will continue to support a better understanding of the regional hydrogeology and possible solutions to ongoing intrusion. We hope that OCWD will support our proposed path forward for updating and finalizing the Sunset Gap Feasibility Study modeling.

Sincerely,

INTERA Incorporated



Abhishek Singh, PhD, PE
Principal Engineer, Project Manager
President – Water Supply & Water Resources LOB
INTERA Incorporated



Nathan Hatch
Hydrologist, Lead Modeler
INTERA Incorporated

AGENDA ITEM SUBMITTAL

Meeting Date: February 12, 2025

To: Water Issues Committee
Board of Directors

From: John Kennedy

Staff Contact: R. Bouley/A. Waite

Budgeted: Yes

Proposed Budget: \$395,400

Cost Estimate: \$225,000

Funding Source: N/A

Program/Line Item No.: N/A

General Counsel Approval: N/A

Engineers Report: N/A

CEQA Compliance: N/A

**Subject: PRADO DAM SHORT-TERM COMPLIANCE SEDIMENT MANAGEMENT
PLANNING AND DESIGN AGREEMENT AMENDMENT**

SUMMARY

Plans and specifications for the District's Prado Basin short-term compliance sediment removal obligation project is nearing 60% complete. Additional tasks were performed during the short-term planning to support advancement of long-term sediment management plan development, and additional effort is required to complete design. Staff recommends approving Amendment No. 1 to Agreement No. 1607 with Scheevel Engineering for continued professional engineering consulting services to provide additional permitting support, complete design and provide bid phase services.

RECOMMENDATION

Agendize for February 19 Board meeting: Authorize Amendment No. 1 to Agreement No. 1607 with Scheevel Engineering, for an amount not to exceed \$225,000, to assist with final design of the District's Prado Basin short-term compliance sediment removal obligation project.

BACKGROUND/ANALYSIS

In 2020, the United States Fish and Wildlife Service established a permit requirement of OCWD to remove 125,000 cubic yards (CY) twice in a 50-year period for a total of 250,000 CY in exchange for maintaining a 505' elevation year-round water conservation pool. This short-term, regulator-required sediment removal project is part of the District's long-term sediment compliance plan to maintain and increase water conservation volumes behind Prado Dam.

In July 2024, the Board authorized an agreement with Scheevel Engineering to develop an approach and plan to implement the District's current sediment removal compliance requirements. These services included evaluating the current sediment transport characteristics in Prado Basin and locally in the Santa Ana River upstream of Prado Basin. Scheevel would then use the information gathered, along with historical data and information, to develop a short-term compliance plan, including drawings and specifications for a sediment removal project and a monitoring program for sediment removal.

The short-term sediment removal compliance project involves excavating 250,000 CY of sediment from the previous Sediment Management Demonstration Project sand trap site. The 250,000 CY volume of sediment is a large amount to remove from Prado Basin, and construction activities are limited by seasonal weather and biological/natural resources. Sediment removal is anticipated to be completed between the months of August and October, over each year of a 5-year period. Finding an end user that could receive this much sediment within OCWD's removal time frame is difficult, so a temporary storage site is necessary. The removal project will include sediment excavation, preparing improvements to existing access roads, and transporting excavated material along existing access roads to the stockpile site. The estimated project schedule is shown in Table 1.

Table 1: Prado Basin Short-Term Sediment Removal Compliance Project Schedule Summary

Description	Date
Design and Permitting	July 2024 – July 2025
Construction	September 2025 – June 2031

Scheevel's originally approved agreement included analysis of short and long-term compliance requirements and sediment transfer in the SAR above Prado Dam. Scheevel was able to begin design drawings and specifications for the short-term compliance removal plan within the original budget, and these plans are approximately 60% complete. As a result of additional tasks performed to support long-term plan development, planning and design for the sediment storage site has fallen behind, and additional funding is necessary to complete the short-term compliance project plans, specifications, and bid documents. Staff received a proposal not to exceed \$225,000 from Scheevel Engineering to complete the following tasks:

- Assist with focused coordination and permitting support, as applicable, for temporary sediment stockpile locations (including but not limited to United States Army Corps of Engineers and Orange County Flood Control District properties).
- Advance plans and specifications to 90% design and subsequent construction-ready documents.
- Develop and prepare a sediment stockpile Stormwater Pollution Prevention Plan/Best Management Practices Plan to assist in acquiring, permitting and operating the temporary sediment stockpile area.
- Pending stockpile location and only as approved by District staff, perform preliminary and final design services to develop road/street improvement plans and specifications for Hellman Avenue to facilitate over-the-road truck export of sediment from Prado Basin.

Staff recommends authorizing Amendment No. 1 to Agreement No. 1607 with Scheevel Engineering for an amount not to exceed \$225,000 for continued professional engineering consulting services to provide additional permitting support, complete design and provide bid phase services.

PRIOR RELEVANT BOARD ACTIONS

7/3/24, R24-7-77: Approve Agreement with Scheevel Engineering to assist in the sediment management plan development and long-term planning needs for sediment removal within the Prado Basin.

3/15/23, R23-32: Approve Master Sediment Removal Agreement that can be executed by the General Manager with individual contractors for sediment removal at no cost to the District, subject to review as to form and content by the District's General Counsel.

3/17/21, R21-3-41: Accepting Completion of Contract No. PB-2020-1, Prado Basin SMDP excavation and dredging (CJW Construction, Inc) and authorizing Issuance of Agreement to Endemic Environmental Services, Inc.