

**AGENDA  
IRVINE RANCH WATER DISTRICT  
BOARD OF DIRECTORS  
REGULAR MEETING**

December 16, 2024

**CALL TO ORDER** 5:00 p.m.

**PLEDGE OF ALLEGIANCE**

**ROLL CALL** Directors Ferons, LaMar, Swan, Withers, and President Reinhart

**PUBLIC COMMENT NOTICE**

This meeting will be held in-person at the District's headquarters located at 15600 Sand Canyon Avenue, Irvine, California. The meeting will also be broadcasted via Webex for those wanting to observe the meeting virtually.

To observe this meeting virtually, please join online using the link and information below:

Via Web: <https://irwd.webex.com/irwd/j.php?MTID=m2d6904cec2794252d4022ea51a42bd5f>

Meeting Number (Access Code): 2483 833 2865

Meeting Password: fmXZqqGe548

PLEASE NOTE: Webex observers of the meeting will be placed into the Webex lobby when the Board enters closed session. Participants who remain in the "lobby" will automatically be returned to the open session of the Board once the closed session has concluded. Observers joining the meeting while the Board is in closed session will receive a notice that the meeting has been locked. They will be able to observe the meeting once the closed session has concluded.

Public comments are limited to three minutes per speaker on each subject. If you wish to address the Board of Directors on any item, you may attend the meeting in person and submit a "speaker slip" to the Secretary. Forms are provided outside of IRWD's Board Room. If attending via Webex, please submit your request to speak, or your comment, via the "chat" feature and your remarks will be read into the record at the meeting. You may also submit a public comment in advance of the meeting by emailing [comments@irwd.com](mailto:comments@irwd.com) before 12:00 p.m. on Monday, December 16, 2024.

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**COMMUNICATIONS TO THE BOARD**

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1. Written:
2. Oral:
3. ITEMS RECEIVED TOO LATE TO BE AGENDIZED

Recommendation: Determine the need to discuss and /or take immediate action on item(s).

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**PRESNTATION**

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4. PROCLAMATION

A proclamation will be presented to Mr. Jeff Schreck for his 28 years of service to the District.

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**CONSENT CALENDAR, Items 5 through 17**

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5. BOARD MEETING MINUTES

Recommendation: That the minutes of the November 25, 2024 Regular Board meeting be approved as presented.

6. 2024 GENERAL DISTRICT ELECTION RESULTS

Recommendation: That the Board adopt a resolution by title declaring results of the November 5, 2024 General Election.

Reso. No. 2024-16

7. CHANGES TO GENERAL MANAGER'S COMPENSATION

Recommendation: That the Board approve the 2024 amendment to the General Manager Employment Agreement, effective October 1, 2024.

8. 2024 LEGISLATIVE AND REGULATORY UPDATE

Recommendation: Receive and file.

9. VARIANCE TO IRWD GENERAL COUNSEL CONTRACT FOR FISCAL YEAR 2024-25

Recommendation: That the Board authorize the General Manager to execute a variance to Professional Services Agreement with Hanson Bridgett LLP for general counsel legal services extending the term of the agreement through June 30, 2025, and increasing the not-to-exceed value by \$675,000.

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**CONSENT CALENDAR, Items 5 through 17, continued**

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10. NOVEMBER 2024 TREASURY REPORT

Recommendation: That the Board receive and file the Treasurer's Investment Summary Report, the Summary of Fixed and Variable Rate Debt, and the Disclosure Report of Reimbursements to Board members and staff, approve the November 2024 Summary of Payroll ACH payments in the total amount of \$4,097,496, and approve the November 2024 accounts payable disbursement summary of warrants 446021 through 446551, Workers' Compensation distributions, ACH payments, virtual card payments, wire transfers, payroll withholding distributions, and voided checks in the total amount of \$19,921,861.

11. CONFERENCE ROOM TECHNOLOGY REFRESH BUDGET INCREASE

Recommendation: That the Board authorize a budget increase for Project No. 12591 in the amount of \$195,000 to modernize the Audio-Visual technologies in the Operations Multi-Purpose Room, Aquarium, Maintenance, and Enterprise Asset Management conference rooms

12. WATER SUPPLY ASSESSMENT AND WATER SUPPLY VERIFICATION FOR THE DISCOVERY PARK PROJECT

Recommendation: That the Board approve the Water Supply Assessment and contingent upon approval of the Water Supply Assessment, approve the Water Supply Verification for the Discovery Park Project.

13. PLANNING AREA 51 HERITAGE FIELDS DISTRICT 5 AND 6 NORTH CAPITAL FACILITIES

Recommendation: That the Board approve Contract Change Order No. 2 in the deductive amount of \$557,335.46 with Heritage Fields, LLC for the Planning Area 51 Great Park Harrier and Chinon Capital Facilities, Projects 12228, 12229, 12230, 12231, and 12232, and authorize the General Manager to accept Heritage Fields' construction contract with L&S Construction, Inc. in the amount of \$1,428,039 for the Planning Area 51 Great Park Treble Capital Domestic Water, Sanitary Sewer, and Recycled Water Improvements, Projects 12404, 12405, and 12406.

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**CONSENT CALENDAR, Items 5 through 17, continued**

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14. SAN JOAQUIN RESERVOIR ASPHALT CONCRETE LINER INTERIM REPAIRS FINAL ACCEPTANCE

Recommendation: That the Board accept construction of the San Joaquin Reservoir Asphalt Concrete Liner Interim Repairs, authorize the General manager to file a Notice of Completion, and authorize the payment of the retention 35 days after the date of recording the Notice of Completion for Project 11851.

15. HOWILER WATER TREATMENT PLANT INTERTIE BUDGET ADDITION AND CONSULTANT SELECTION

Recommendation: That the Board authorize the addition of the Howiler Water Treatment Plant Intertie, Project 13149, in the amount of \$4,515,000 to the Fiscal Year 2024-25 Capital Budget, and authorize the General Manager to execute a Professional Services Agreement with West Yost in the amount of \$686,141 for the engineering design services.

16. REPLACEMENT OF ASSISTANT TREASURER

Recommendation: That the Board appoint Gabrielle Wang as one of the Irvine Ranch Water District Assistant Treasurers, replacing Jennifer Davis, effective December 16, 2024.

17. PASS-THRU INDEMNIFICATION AGREEMENT REGARDING WATER BANK DELIVERIES

Recommendation: That the Board authorize the General Manager to execute the Letter Agreement for "Met Deliveries to Kern County Water Agency" with Rosedale Rio-Bravo Water Storage District and similar future pass-thru indemnification agreements required by Rosedale to facilitate water deliveries to and from the Irvine Ranch Water District water bank, subject to special legal counsel review.

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**ACTION CALENDAR**

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18. SANTIAGO CANYON PUMP STATION IMPROVEMENTS CONTRACT CHANGE ORDER

Recommendation: That the Board approve Contract Change Order No. 7 in the credit amount of \$901,458.98 for the deletion of the remaining Manning pump station scope from the Santiago Canyon Pump Station Improvements, Project 01398.

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**ACTION CALENDAR, continued**

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19. SANTIAGO CREEK DAM IMPROVEMENTS PROJECT UPDATE, CONSULTANT, VARIANCE, AND BUDGET INCREASE

Recommendation: That the Board authorize the General Manager to execute Variance No. 8 in the amount of \$5,293,817 with AECOM for additional engineering design services; and authorize the General Manager to execute Variance No. 1 in the amount of \$394,940 with HDR for additional risk analysis services, and authorize a budget increase in the amount of \$130,000,000, from \$340,000,000 to \$470,000,000 for the Santiago Creek Dam Improvements, Project 01813.

20. ANNUAL BOARD OF DIRECTORS' FEES

Recommendation: That the Board either accept or decline the five (5%) percent compensation increase for calendar year 2025.

21. ELECTION OF OFFICERS FOR 2025

Recommendation: That an election be conducted of the President and Vice President of the Board of Directors of the Irvine Ranch Water District for 2025.

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**OTHER BUSINESS**

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Pursuant to Government Code Section 54954.2, members of the Board of Directors or staff may ask questions for clarification, make brief announcements, and make brief reports on his/her own activities. The Board or a Board member may provide a reference to staff or other resources for information, request staff to report back at a subsequent meeting concerning any matter, or direct staff to place a matter of business on a future agenda. Such matters may be brought up under the General Manager's Report or Directors' Comments. Pursuant to AB 1234 and Government Code Section 53232.3(d), a written draft report of the meetings that any Board member attended on behalf of IRWD since the last Board Meeting will be available at the table near the Board Room entrance, and will be amended verbally, if necessary, during Directors' Comments.

22. General Manager's Report


23. Receive oral update(s) from District liaison(s) regarding communities within IRWD's service area and interests.

24. Directors' Comments and Meeting Reports

25. Adjournment

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Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the above-named Board in connection with a matter subject to discussion or consideration at an open meeting of the Board are available for public inspection in the District's office, 15600 Sand Canyon Avenue, Irvine, California ("District Office"). If such writings are distributed to members of the Board less than 72 hours prior to the meeting, they will be available from the District Secretary of the District Office at the same time as they are distributed to Board Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available electronically via the Webex meeting noted. Upon request, the District will provide for written agenda materials in appropriate alternative formats, and reasonable disability-related modification or accommodation to enable individuals with disabilities to participate in and provide comments at public meetings. Please submit a request, including your name, phone number and/or email address, and a description of the modification, accommodation, or alternative format requested at least two days before the meeting. Requests should be emailed to [comments@irwd.com](mailto:comments@irwd.com). Requests made by mail must be received at least two days before the meeting. Requests will be granted whenever possible and resolved in favor of accessibility.

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December 16, 2024  
Prepared and  
submitted by: K. Swan  
Approved by: Paul A. Cook 

CONSENT CALENDAR

BOARD MEETING MINUTES

SUMMARY:

Provided are the minutes of the November 25, 2024 Regular Board meeting for approval.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE MINUTES OF THE NOVEMBER 25, 2024 REGULAR BOARD MEETING BE APPROVED AS PRESENTED.

LIST OF EXHIBITS:

Exhibit "A" – Board Meeting Minutes of November 25, 2024

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Exhibit "A"

MINUTES OF REGULAR MEETING – NOVEMBER 25, 2024

The regular meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order by President Reinhart at 5:00 p.m. on November 25, 2024 at the District offices, 15600 Sand Canyon Avenue, Irvine.

Directors Present: McLaughlin, Withers, Swan, LaMar, and President Reinhart.

Directors Absent: None.

Oral and Written Communications: None.

Items too late to be agendized: None.

Also Present: General Manager Cook, Executive Director of Technical Services Burton, Executive Director of Operations Chambers, Executive Director of Finance Adly, Executive Director of Water Policy Weghorst, Director of Human Resources Mitcham, Director of Recycling Operations Zepeda, Director of Maintenance Operations Manning, Director of Water Resources Sanchez, Director of Information Technology Kaneshiro, Consultant Newell, General Counsel Collins, Secretary Swan, members of the staff, and public.

PRESENTATIONS – PROCLAMATION

A Proclamation was presented to Director McLaughlin for her four years of service to the District.

CONSENT CALENDAR

On MOTION by LaMar, seconded by Withers and unanimously carried, CONSENT CALENDAR ITEMS 5 THROUGH 8 WERE APPROVED AS FOLLOWS:

5. BOARD MEETING MINUTES

Recommendation: That the minutes of the November 11, 2024 Regular Board meeting be approved as presented.

6. OCTOBER 2024 TREASURY REPORT

Recommendation: That the Board receive and file the Treasurer's Investment Summary Report, the Summary of Fixed and Variable Rate Debt, and the Disclosure Report of Reimbursements to Board members and staff, approve the October 2024 Summary of Payroll ACH payments in the total amount of \$2,530,853, and approve the October 2024 accounts payable disbursement summary of warrants 445364 through 445364, Workers' Compensation distributions, ACH payments, virtual card payments, wire transfers, payroll withholding distributions, and voided checks in the total amount of \$64,832,947.

7. FISCAL YEAR 2023-24 ANNUAL COMPREHENSIVE FINANCIAL REPORT AND AUDIT

Recommendation: That the Board approve the FY 2023-24 Annual Comprehensive Financial Report and accept the annual audit as presented.

CONSENT CALENDAR (CONTINUED)

8. DISPOSAL OF SURPLUS REAL PROPERTY ALONG HARDING CANYON CREEK

Recommendation: That the Board adopt a resolution by title declaring that real property designated APN 105-232-60 is exempt surplus land that is not necessary for the District's use, authorizing District staff to negotiate for and dispose of the property, and finding that the declaration and disposal of the property is exempt from the California Environmental Quality Act.

RESOLUTION NO. 2024 – 15

RESOLUTION OF THE BOARD OF DIRECTORS OF  
IRVINE RANCH WATER DISTRICT  
DECLARING THAT REAL PROPERTY DESIGNATED APN 105-232-60 IS EXEMPT  
SURPLUS LAND THAT IS NOT NECESSARY FOR THE DISTRICT'S USE,  
AUTHORIZING DISTRICT STAFF TO NEGOTIATE FOR AND DISPOSAL OF THE  
PROPERTY, AND FINDING THAT THE DECLARATION AND DISPOSAL OF THE  
PROPERTY IS EXEMPT FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

ACTION CALENDAR

9. AGREEMENT FOR RIGHTS TO IRVINE LAKE PROPERTY AND WATER IN  
EXCHANGE FOR WATER SERVICE RELIABILITY

General Manager Cook and Executive Director of Water Policy Weghorst presented to the Board the exchange for rights in property and water for water service reliability between Serrano Water District and IRWD. The initial objectives of both agencies were reviewed along with the schedule and service terms. A detailed summary of the phased water supply services to Serrano Water District was outlined as pre-interconnected operations and post-interconnected operations. In addition, the two agreements that implement the terms were also discussed.

Following discussion, on MOTION by Withers, seconded by LaMar, and unanimously carried, THE BOARD AUTHORIZED THE GENERAL MANAGER TO EXECUTE THE PURCHASE AND SALE AGREEMENT (IRVINE LAKE AND RELATED SERRANO WATER DISTRICT ASSETS) AND THE WATER SERVICE RELIABILITY AGREEMENT WITH SERRANO WATER DISTRICT, EACH IN A FORM SUBSTANTIALLY SIMILAR AS PRESENTED, INCORPORATING PRICE AND TERMS OF PAYMENT SCHEDULES CONSIDERED AND FOUND ACCEPTABLE BY THE BOARD, WITH SUCH CHANGES AS THE GENERAL MANAGER AND GENERAL COUNSEL MAY APPROVE, FIND THAT ALL MATTERS WITH REGARD TO THE CONDITION OF THE PHYSICAL CONDITION AND SUITABILITY OF THE PROPERTY AND RIGHTS FOR THE USES CONTEMPLATED ARE ACCEPTABLE; AUTHORIZED THE GENERAL MANAGER, DISTRICT SECRETARY, AND EACH OTHER NECESSARY OFFICER OF THE DISTRICT TO EXECUTE AND DELIVER ANY AND ALL DOCUMENTS, CERTIFICATES, INSTRUCTIONS, AND INSTRUMENTS NECESSARY OR PROPER FOR CARRYING OUT AND CLOSING THE PROPERTY AND RIGHTS TRANSFER ACTIONS CONTEMPLATED THEREIN; FIND THAT ACTIONS CONTEMPLATED IN THE AGREEMENTS ARE EXEMPT FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT; AND AUTHORIZE STAFF TO FILE NOTICES OF EXEMPTION FOR THE TRANSFER OF ALL RELATED PROPERTY, RIGHTS, AND FACILITIES AS WELL AS TO PROVIDE WATER SERVICE RELIABILITY TO SERRANO WATER DISTRICT.

OTHER BUSINESS

10. General Manager's Report

General Manager Cook reported a follow-up from the Weekly Report regarding the PFAS Treatment Grant for Well OPA-1 has now been signed by all parties.

11. Receive oral update(s) from District liaison(s) regarding communities within IRWD's service area and interests.

Mr. Newell reported that he consulted with District staff regarding the property along Harding Canyon Creek; and that the report from OCFA was released regarding the Airport Fire. The burn scar from the Airport Fire will be an area to watch if there is heavy rainfall this winter.

12. Directors' Comments and Meeting Reports

Director McLaughlin reported on her attendance at the San Joaquin Wildlife Sanctuary Special Board of Directors' meeting.

Director Withers reported on his participation in the NWRI Board of Directors' meeting.

Director Swan reported on his participation in the Southern California Water Dialogue Steering Committee's Annual Organizing Meeting; the MWDOC Administration and Finance Committee meeting; the PPIC Event: "Is California Ready for Climate Change?" in Sacramento; the IRWD Community Tour; the San Joaquin Wildlife Sanctuary Special Board of Directors' meeting; the WACO Planning Committee meeting; the Meeting with IRWD staff regarding American River Concepts; and the MWDOC Board meeting.

Director LaMar reported on attendance at the CCEEB 2025 Fall Planning for the Climate Change Project and the CCEEB 2025 Fall Planning for the Water, Chemistry, and Waste Project in Carmel. He also reported on his participation in the ACWA Board of Directors' meeting.

President Reinhart reported on his participation in the MWDOC Administration and Finance Committee meeting; the OCWD Water Issues Committee meeting; the OCWD Administrative/Finance Issues Committee meeting; and the MWDOC Board meeting.

13. CLOSED SESSION

President Reinhart convened the meeting into Closed Session at 6:09 p.m. with General Counsel Collins announcing the following items will be held with the exception of item A, which was no longer needed:

A. CONFERENCE WITH REAL PROPERTY NEGOTIATORS – Pursuant to Government Code Section 54956.8:

*Property:* Storage Rights and other Real Property at Santiago Reservoir (Irvine Lake), adjacent to 4621 Santiago Canyon Road, Silverado Canyon, CA 92676.

*Agency negotiator:* Paul Cook, IRWD General Manager

*Negotiating parties:* Serrano Water District General Manager

*Under negotiation:* Price and Terms of Payment

OTHER BUSINESS (CONTINUED)

B. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION – Pursuant to Government Code Section 54956.9 (a). *Irvine Ranch Water District v. Tran Land Company, Orange County Superior Court Case No. 30-2023-01308628-CU-EI-CXC*

C. PUBLIC EMPLOYEE PERFORMANCE EVALUATION and CONFERENCE WITH LABOR NEGOTIATOR pursuant to Government Code Sections 54957(b) and 54957.6, respectively:

*Agency Designated Representative:* President Reinhart

*Position Title / Unrepresented Employee:* General Manager

14. OPEN SESSION

Following the Closed Session, the meeting was reconvened in Open Session with Directors Withers, Swan, Reinhart, McLaughlin, and LaMar present. General Counsel Collins announced that item A was not held, and there was no action to report on items B or C.

15. ADJOURNMENT

There being no further business, President Reinhart adjourned the meeting at 7:54 p.m.

APPROVED and SIGNED this 16<sup>th</sup> day of December 2024.

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President, IRVINE RANCH WATER DISTRICT


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District Secretary,  
IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

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Claire Hervey Collins, General Counsel  
Hanson Bridgett LLP

December 16, 2024  
Prepared and  
submitted by: K. Swan  
Approved by: Paul A. Cook 

CONSENT CALENDAR

2024 GENERAL DISTRICT ELECTION RESULTS

SUMMARY:

Based on the results of the November 5, 2024 General District Election, Mr. Daniel R. Ferons was elected to a four-year term on the IRWD Board of Directors ending on December 1, 2028, per the Certificate of Registrar of Voters provided as Exhibit “A”. Director John Withers ran unopposed and was appointed to the Board for a four-year term ending on December 1, 2028, per the Certificate of Appointment in Lieu of Election provided as Exhibit “B”. The election results have been certified and a resolution declaring these results, provided as Exhibit “C”, is submitted for the Board’s adoption. The appointments made by the Board of Supervisors of District Officers In Lieu of Election is provided as Exhibit “D”.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE BOARD ADOPT THE FOLLOWING RESOLUTION BY TITLE:

RESOLUTION NO. 2024-16

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE  
RANCH WATER DISTRICT DECLARING RESULTS OF  
THE NOVEMBER 5, 2024 GENERAL DISTRICT ELECTION

LIST OF EXHIBITS:

- Exhibit “A” – Certified Election Results
- Exhibit “B” – Certificate of Appointment in Lieu of Election
- Exhibit “C” – Resolution
- Exhibit “D” – Board of Supervisors Appointments

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CERTIFIED STATEMENT OF THE VOTES CAST

at the

PRESIDENTIAL GENERAL ELECTION

NOVEMBER 5, 2024

in the

County of Orange, State of California

FILED \_\_\_\_\_, 2024

SHIRLEY N. WEBER, SECRETARY OF STATE

BY \_\_\_\_\_ DEPUTY

State of California)

) ss

County of Orange)

I, Bob Page, Registrar of Voters of Orange County, do hereby certify that, in pursuance of the provisions of Elections Code section 15300, et seq., I did canvass the results of the votes cast in the Presidential General Election held in Orange County on November 5, 2024, for measures and contests that were submitted to the vote of the voters, and that the Statement of Votes Cast, to which this certificate is attached is full, true, and correct.

WITNESS my hand and Official Seal

THIS 3<sup>rd</sup> DAY OF December, 2024

Bob Page, REGISTRAR OF VOTERS







# *Certificate of Election*

State of California, County of Orange

This is to certify that ***Daniel R. Feron*** was elected to the office of ***Director, Irvine Ranch Water District, Division 4***, at the election held ***November 5, 2024***. The official returns of said election and statement of votes cast are on file in the office of the Board of Supervisors, County of Orange.

Witness my hand and official seal this

***3rd day of December, 2024***



**Bob Page  
Registrar of Voters**



IRVINE RANCH WATER DISTRICT Director, Division 4

Vote Center Totals

District	Registration	Ballots Cast	Turnout (%)	DANIEL R. FERONS	STEVEN ALLISON	RON SEMON
Orange County	52,204	7,799	14.9	3,204	2,351	631
Orange County	52,204	7,799	14.9	3,204	2,351	631
40th Congressional District	9,882	1,419	14.4	637	396	107
46th Congressional District	840	232	27.6	87	66	20
47th Congressional District	41,482	6,148	14.8	2,480	1,889	504
34th Senate District	840	232	27.6	87	66	20
37th Senate District	51,364	7,567	14.7	3,117	2,285	611
68th Assembly District	840	232	27.6	87	66	20
73rd Assembly District	51,364	7,567	14.7	3,117	2,285	611
2nd Supervisorial District	2,088	426	20.4	189	110	35
3rd Supervisorial District	50,116	7,373	14.7	3,015	2,241	596
5th Supervisorial District	0	0	0.0	0	0	0
Costa Mesa	0	0	0.0	0	0	0
Costa Mesa Council District 2	0	0	0.0	0	0	0
Irvine	41,482	6,148	14.8	2,480	1,889	504
Irvine Council District 3	15,506	2,277	14.7	962	656	197
Irvine Council District 5	22,270	3,050	13.7	1,241	963	238
Irvine Council District 6	3,706	821	22.2	277	270	69
Santa Ana	840	232	27.6	87	66	20
Santa Ana Ward Division 4	840	232	27.6	87	66	20
Tustin	9,882	1,419	14.4	637	396	107
Tustin Council District 2	0	0	0.0	0	0	0
Tustin Council District 3	1,251	195	15.6	102	45	16
Tustin Council District 4	8,631	1,224	14.2	535	351	91
State Board of Equalization (4th District)	52,204	7,799	14.9	3,204	2,351	631
4th District Court of Appeal	52,204	7,799	14.9	3,204	2,351	631
Unincorporated Area	0	0	0.0	0	0	0
County Board of Education Trustee Area 1	7,605	1,272	16.7	530	386	92
County Board of Education Trustee Area 2	9,801	1,669	17.0	621	532	127
County Board of Education Trustee Area 3	34,798	4,858	14.0	2,053	1,433	412
South Orange County Community College District	51,175	7,516	14.7	3,099	2,271	607
South Orange County Community College District Trustee Area 1	42,339	6,166	14.6	2,497	1,877	509
South Orange County Community College District Trustee Area 2	8,836	1,350	15.3	602	394	98
Rancho Santiago Community College District	1,029	283	27.5	105	80	24
Rancho Santiago Community College District Trustee Area 1	1,029	283	27.5	105	80	24
Santa Ana Unified School District	1,029	283	27.5	105	80	24
Santa Ana Unified School District Trustee Area 5	1,029	283	27.5	105	80	24
Irvine Unified School District	42,339	6,166	14.6	2,497	1,877	509
Irvine Unified School District Trustee Area 1	7,568	1,041	13.8	435	331	94
Irvine Unified School District Trustee Area 2	23,140	3,430	14.8	1,317	1,079	277
Irvine Unified School District Trustee Area 5	11,631	1,695	14.6	745	467	138
Tustin Unified School District	8,836	1,350	15.3	602	394	98
Tustin Unified School District Trustee Area 1	0	0	0.0	0	0	0
Tustin Unified School District Trustee Area 5	8,836	1,350	15.3	602	394	98

IRVINE RANCH WATER DISTRICT Director, Division 4

Vote Center Totals

District	Registration	Ballots Cast	Turnout (%)	DANIEL R. FERONS	STEVEN ALLISON	RON SEMON
Municipal Water District of Orange County	51,364	7,567	14.7	3,117	2,285	611
Municipal Water District of Orange County Division 4	0	0	0.0	0	0	0
Municipal Water District of Orange County Division 6	51,364	7,567	14.7	3,117	2,285	611
Orange County Water District	51,364	7,567	14.7	3,117	2,285	611
Orange County Water District Division 2	1,251	196	15.7	102	45	16
Orange County Water District Division 5	35,892	4,979	13.9	2,125	1,475	395
Orange County Water District Division 7	14,221	2,392	16.8	890	765	200
East Orange County Water District	2,107	308	14.6	153	74	28
East Orange County Water District Division 3	2,107	307	14.6	153	74	28
East Orange County Water District Division 4	0	1	0.0	0	0	0
East Orange County Water District Division 5	0	0	0.0	0	0	0
Irvine Ranch Water District	52,204	7,799	14.9	3,204	2,351	631
Irvine Ranch Water District Division 4	52,204	7,799	14.9	3,204	2,351	631
Historical 2010 - 45th Congressional District	51,364	7,567	14.7	3,117	2,285	611
Historical 2010 - 46th Congressional District	840	232	27.6	87	66	20
Historical 2010 - 48th Congressional District	0	0	0.0	0	0	0
Historical 2010 - 34th Senate District	840	232	27.6	87	66	20
Historical 2010 - 37th Senate District	51,364	7,567	14.7	3,117	2,285	611
Historical 2010 - 68th Assembly District	15,064	2,114	14.0	949	574	172
Historical 2010 - 69th Assembly District	840	232	27.6	87	66	20
Historical 2010 - 74th Assembly District	36,300	5,453	15.0	2,168	1,711	439
Historical 2010 - State Board of Equalization (4th District)	52,204	7,799	14.9	3,204	2,351	631
Historical 2010 - 1st Supervisorial District	840	232	27.6	87	66	20
Historical 2010 - 2nd Supervisorial District	0	0	0.0	0	0	0
Historical 2010 - 3rd Supervisorial District	51,364	7,567	14.7	3,117	2,285	611
Historical 2010 - County Board of Education Trustee Area 1	10,722	1,651	15.4	724	462	127
Historical 2010 - County Board of Education Trustee Area 2	0	0	0.0	0	0	0
Historical 2010 - County Board of Education Trustee Area 3	41,482	6,148	14.8	2,480	1,889	504
Proposition 2	52,204	7,799	14.9	3,204	2,351	631
Proposition 3	52,204	7,799	14.9	3,204	2,351	631
Proposition 4	52,204	7,799	14.9	3,204	2,351	631
Proposition 5	52,204	7,799	14.9	3,204	2,351	631
Proposition 6	52,204	7,799	14.9	3,204	2,351	631
Proposition 32	52,204	7,799	14.9	3,204	2,351	631
Proposition 33	52,204	7,799	14.9	3,204	2,351	631
Proposition 34	52,204	7,799	14.9	3,204	2,351	631
Proposition 35	52,204	7,799	14.9	3,204	2,351	631
Proposition 36	52,204	7,799	14.9	3,204	2,351	631
United States Senator Partial/Unexpired Term	52,204	7,799	14.9	3,204	2,351	631

IRVINE RANCH WATER DISTRICT Director, Division 4

Vote Center Totals						
District	Registration	Ballots Cast	Turnout (%)	DANIEL R. FERONS	STEVEN ALLISON	RON SEMON
United States Senator	52,204	7,799	14.9	3,204	2,351	631
President	52,204	7,799	14.9	3,204	2,351	631
<b>Vote Center Totals</b>	52,204	7,799	14.9	3,204	2,351	631

IRVINE RANCH WATER DISTRICT Director, Division 4

Vote by Mail  
Totals

District	Registration	Ballots Cast	Turnout (%)	DANIEL R. FERONS	STEVEN ALLISON	RON SEMON
Orange County	52,204	32,442	62.1	13113	12500	1457
Orange County	52,204	32,442	62.1	13113	12500	1457
40th Congressional District	9,882	6,265	63.4	2622	2354	290
46th Congressional District	840	380	45.2	125	183	15
47th Congressional District	41,482	25,797	62.2	10366	9963	1152
34th Senate District	840	380	45.2	125	183	15
37th Senate District	51,364	32,062	62.4	12988	12317	1442
68th Assembly District	840	380	45.2	125	183	15
73rd Assembly District	51,364	32,062	62.4	12988	12317	1442
2nd Supervisorial District	2,088	1,136	54.4	436	494	53
3rd Supervisorial District	50,116	31,306	62.5	12677	12006	1404
5th Supervisorial District	0	0	0.0	0	0	0
Costa Mesa	0	0	0.0	0	0	0
Costa Mesa Council District 2	0	0	0.0	0	0	0
Irvine	41,482	25,797	62.2	10366	9963	1152
Irvine Council District 3	15,506	9,669	62.4	3998	3608	403
Irvine Council District 5	22,270	14,258	64.0	5740	5571	665
Irvine Council District 6	3,706	1,870	50.5	628	784	84
Santa Ana	840	380	45.2	125	183	15
Santa Ana Ward Division 4	840	380	45.2	125	183	15
Tustin	9,882	6,265	63.4	2622	2354	290
Tustin Council District 2	0	0	0.0	0	0	0
Tustin Council District 3	1,251	757	60.5	312	311	38
Tustin Council District 4	8,631	5,508	63.8	2310	2043	252
State Board of Equalization (4th District)	52,204	32,442	62.1	13113	12500	1457
4th District Court of Appeal	52,204	32,442	62.1	13113	12500	1457
Unincorporated Area	0	0	0.0	0	0	0
County Board of Education Trustee Area 1	7,605	4,595	60.4	1879	1764	196
County Board of Education Trustee Area 2	9,801	5,490	56.0	1989	2243	271
County Board of Education Trustee Area 3	34,798	22,357	64.2	9245	8493	990
South Orange County Community College District	51,175	31,956	62.4	12940	12286	1436
South Orange County Community College District Trustee Area 1	42,339	26,438	62.4	10631	10190	1174
South Orange County Community College District Trustee Area 2	8,836	5,518	62.4	2309	2096	262
Rancho Santiago Community College District	1,029	486	47.2	173	214	21
Rancho Santiago Community College District Trustee Area 1	1,029	486	47.2	173	214	21
Santa Ana Unified School District	1,029	486	47.2	173	214	21
Santa Ana Unified School District Trustee Area 5	1,029	486	47.2	173	214	21
Irvine Unified School District	42,339	26,438	62.4	10631	10190	1174
Irvine Unified School District Trustee Area 1	7,568	5,026	66.4	2134	1904	223
Irvine Unified School District Trustee Area 2	23,140	14,061	60.8	5362	5629	654
Irvine Unified School District Trustee Area 5	11,631	7,351	63.2	3135	2657	297
Tustin Unified School District	8,836	5,518	62.4	2309	2096	262
Tustin Unified School District Trustee Area 1	0	0	0.0	0	0	0
Tustin Unified School District Trustee Area 5	8,836	5,518	62.4	2309	2096	262

IRVINE RANCH WATER DISTRICT Director, Division 4

Vote by Mail  
Totals

District	Registration	Ballots Cast	Turnout (%)	DANIEL R. FERONS	STEVEN ALLISON	RON SEMON
Municipal Water District of Orange County	51,364	32,062	62.4	12988	12317	1442
Municipal Water District of Orange County Division 4	0	0	0.0	0	0	0
Municipal Water District of Orange County Division 6	51,364	32,062	62.4	12988	12317	1442
Orange County Water District	51,364	32,062	62.4	12988	12317	1442
Orange County Water District Division 2	1,251	757	60.5	312	311	38
Orange County Water District Division 5	35,892	23,239	64.7	9716	8737	1017
Orange County Water District Division 7	14,221	8,066	56.7	2960	3269	387
East Orange County Water District	2,107	1,376	65.3	613	499	68
East Orange County Water District Division 3	2,107	1,376	65.3	613	499	68
East Orange County Water District Division 4	0	0	0.0	0	0	0
East Orange County Water District Division 5	0	0	0.0	0	0	0
Irvine Ranch Water District	52,204	32,442	62.1	13113	12500	1457
Irvine Ranch Water District Division 4	52,204	32,442	62.1	13113	12500	1457
Historical 2010 - 45th Congressional District	51,364	32,062	62.4	12988	12317	1442
Historical 2010 - 46th Congressional District	840	380	45.2	125	183	15
Historical 2010 - 48th Congressional District	0	0	0.0	0	0	0
Historical 2010 - 34th Senate District	840	380	45.2	125	183	15
Historical 2010 - 37th Senate District	51,364	32,062	62.4	12988	12317	1442
Historical 2010 - 68th Assembly District	15,064	9,561	63.5	4019	3516	428
Historical 2010 - 69th Assembly District	840	380	45.2	125	183	15
Historical 2010 - 74th Assembly District	36,300	22,501	62.0	8969	8801	1014
Historical 2010 - State Board of Equalization (4th District)	52,204	32,442	62.1	13113	12500	1457
Historical 2010 - 1st Supervisorial District	840	380	45.2	125	183	15
Historical 2010 - 2nd Supervisorial District	0	0	0.0	0	0	0
Historical 2010 - 3rd Supervisorial District	51,364	32,062	62.4	12988	12317	1442
Historical 2010 - County Board of Education Trustee Area 1	10,722	6,645	62.0	2747	2537	305
Historical 2010 - County Board of Education Trustee Area 2	0	0	0.0	0	0	0
Historical 2010 - County Board of Education Trustee Area 3	41,482	25,797	62.2	10366	9963	1152
Proposition 2	52,204	32,442	62.1	13113	12500	1457
Proposition 3	52,204	32,442	62.1	13113	12500	1457
Proposition 4	52,204	32,442	62.1	13113	12500	1457
Proposition 5	52,204	32,442	62.1	13113	12500	1457
Proposition 6	52,204	32,442	62.1	13113	12500	1457
Proposition 32	52,204	32,442	62.1	13113	12500	1457
Proposition 33	52,204	32,442	62.1	13113	12500	1457
Proposition 34	52,204	32,442	62.1	13113	12500	1457
Proposition 35	52,204	32,442	62.1	13113	12500	1457
Proposition 36	52,204	32,442	62.1	13113	12500	1457
United States Senator Partial/Unexpired Term	52,204	32,442	62.1	13113	12500	1457

IRVINE RANCH WATER DISTRICT Director, Division 4

Vote by Mail  
Totals

District	Registration	Ballots Cast	Turnout (%)	DANIEL R. FERONS	STEVEN ALLISON	RON SEMON
United States Senator	52,204	32,442	62.1	13113	12500	1457
President	52,204	32,442	62.1	13113	12500	1457
<b>Vote by Mail Totals</b>	52,204	32,442	62.1	13,113	12,500	1,457

IRVINE RANCH WATER DISTRICT Director, Division 4

Grand Totals

District	Registration	Ballots Cast	Turnout (%)	DANIEL R. FERONS	STEVEN ALLISON	RON SEMON
Orange County	52,204	40,241	77.1	16317	14851	2088
Orange County	52,204	40,241	77.1	16317	14851	2088
40th Congressional District	9,882	7,684	77.8	3259	2750	397
46th Congressional District	840	612	72.9	212	249	35
47th Congressional District	41,482	31,945	77.0	12846	11852	1656
34th Senate District	840	612	72.9	212	249	35
37th Senate District	51,364	39,629	77.2	16105	14602	2053
68th Assembly District	840	612	72.9	212	249	35
73rd Assembly District	51,364	39,629	77.2	16105	14602	2053
2nd Supervisorial District	2,088	1,562	74.8	625	604	88
3rd Supervisorial District	50,116	38,679	77.2	15692	14247	2000
5th Supervisorial District	0	0	0.0	0	0	0
Costa Mesa	0	0	0.0	0	0	0
Costa Mesa Council District 2	0	0	0.0	0	0	0
Irvine	41,482	31,945	77.0	12846	11852	1656
Irvine Council District 3	15,506	11,946	77.0	4960	4264	600
Irvine Council District 5	22,270	17,308	77.7	6981	6534	903
Irvine Council District 6	3,706	2,691	72.6	905	1054	153
Santa Ana	840	612	72.9	212	249	35
Santa Ana Ward Division 4	840	612	72.9	212	249	35
Tustin	9,882	7,684	77.8	3259	2750	397
Tustin Council District 2	0	0	0.0	0	0	0
Tustin Council District 3	1,251	952	76.1	414	356	54
Tustin Council District 4	8,631	6,732	78.0	2845	2394	343
State Board of Equalization (4th District)	52,204	40,241	77.1	16317	14851	2088
4th District Court of Appeal	52,204	40,241	77.1	16317	14851	2088
Unincorporated Area	0	0	0.0	0	0	0
County Board of Education Trustee Area 1	7,605	5,867	77.1	2409	2150	288
County Board of Education Trustee Area 2	9,801	7,159	73.0	2610	2775	398
County Board of Education Trustee Area 3	34,798	27,215	78.2	11298	9926	1402
South Orange County Community College District	51,175	39,472	77.1	16039	14557	2043
South Orange County Community College District Trustee Area 1	42,339	32,604	77.0	13128	12067	1683
South Orange County Community College District Trustee Area 2	8,836	6,868	77.7	2911	2490	360
Rancho Santiago Community College District	1,029	769	74.7	278	294	45
Rancho Santiago Community College District Trustee Area 1	1,029	769	74.7	278	294	45
Santa Ana Unified School District	1,029	769	74.7	278	294	45
Santa Ana Unified School District Trustee Area 5	1,029	769	74.7	278	294	45
Irvine Unified School District	42,339	32,604	77.0	13128	12067	1683
Irvine Unified School District Trustee Area 1	7,568	6,067	80.2	2569	2235	317
Irvine Unified School District Trustee Area 2	23,140	17,491	75.6	6679	6708	931
Irvine Unified School District Trustee Area 5	11,631	9,046	77.8	3880	3124	435
Tustin Unified School District	8,836	6,868	77.7	2911	2490	360
Tustin Unified School District Trustee Area 1	0	0	0.0	0	0	0
Tustin Unified School District Trustee Area 5	8,836	6,868	77.7	2911	2490	360



IRVINE RANCH WATER DISTRICT Director, Division 4

Grand Totals

District	Registration	Ballots Cast	Turnout (%)	DANIEL R. FERONS	STEVEN ALLISON	RON SEMON
Municipal Water District of Orange County	51,364	39,629	77.2	16105	14602	2053
Municipal Water District of Orange County Division 4	0	0	0.0	0	0	0
Municipal Water District of Orange County Division 6	51,364	39,629	77.2	16105	14602	2053
Orange County Water District	51,364	39,629	77.2	16105	14602	2053
Orange County Water District Division 2	1,251	953	76.2	414	356	54
Orange County Water District Division 5	35,892	28,218	78.6	11841	10212	1412
Orange County Water District Division 7	14,221	10,458	73.5	3850	4034	587
East Orange County Water District	2,107	1,684	79.9	766	573	96
East Orange County Water District Division 3	2,107	1,683	79.9	766	573	96
East Orange County Water District Division 4	0	1	0.0	0	0	0
East Orange County Water District Division 5	0	0	0.0	0	0	0
Irvine Ranch Water District	52,204	40,241	77.1	16317	14851	2088
Irvine Ranch Water District Division 4	52,204	40,241	77.1	16317	14851	2088
Historical 2010 - 45th Congressional District	51,364	39,629	77.2	16105	14602	2053
Historical 2010 - 46th Congressional District	840	612	72.9	212	249	35
Historical 2010 - 48th Congressional District	0	0	0.0	0	0	0
Historical 2010 - 34th Senate District	840	612	72.9	212	249	35
Historical 2010 - 37th Senate District	51,364	39,629	77.2	16105	14602	2053
Historical 2010 - 68th Assembly District	15,064	11,675	77.5	4968	4090	600
Historical 2010 - 69th Assembly District	840	612	72.9	212	249	35
Historical 2010 - 74th Assembly District	36,300	27,954	77.0	11137	10512	1453
Historical 2010 - State Board of Equalization (4th District)	52,204	40,241	77.1	16317	14851	2088
Historical 2010 - 1st Supervisorial District	840	612	72.9	212	249	35
Historical 2010 - 2nd Supervisorial District	0	0	0.0	0	0	0
Historical 2010 - 3rd Supervisorial District	51,364	39,629	77.2	16105	14602	2053
Historical 2010 - County Board of Education Trustee Area 1	10,722	8,296	77.4	3471	2999	432
Historical 2010 - County Board of Education Trustee Area 2	0	0	0.0	0	0	0
Historical 2010 - County Board of Education Trustee Area 3	41,482	31,945	77.0	12846	11852	1656
Proposition 2	52,204	40,241	77.1	16317	14851	2088
Proposition 3	52,204	40,241	77.1	16317	14851	2088
Proposition 4	52,204	40,241	77.1	16317	14851	2088
Proposition 5	52,204	40,241	77.1	16317	14851	2088
Proposition 6	52,204	40,241	77.1	16317	14851	2088
Proposition 32	52,204	40,241	77.1	16317	14851	2088
Proposition 33	52,204	40,241	77.1	16317	14851	2088
Proposition 34	52,204	40,241	77.1	16317	14851	2088
Proposition 35	52,204	40,241	77.1	16317	14851	2088
Proposition 36	52,204	40,241	77.1	16317	14851	2088
United States Senator Partial/Unexpired Term	52,204	40,241	77.1	16317	14851	2088

IRVINE RANCH WATER DISTRICT Director, Division 4

Grand Totals	Registration	Ballots Cast	Turnout (%)	DANIEL R. FERONS	STEVEN ALLISON	RON SEMON
District						
United States Senator	52,204	40,241	77.1	16,317	14,851	2,088
President	52,204	40,241	77.1	16,317	14,851	2,088
<b>Vote Center Totals</b>	52,204	7,799	14.9	3,204	2,351	631
<b>Vote by Mail Totals</b>	52,204	32,442	62.1	13,113	12,500	1,457
<b>Grand Totals</b>	52,204	40,241	77.1	16,317	14,851	2,088

Exhibit "B"

**BOB PAGE**  
Registrar of Voters

Mailing Address:  
P.O. Box 11298  
Santa Ana, California 92711



**REGISTRAR OF VOTERS**  
1300 South Grand Avenue, Bldg. C  
Santa Ana, California 92705  
(714) 567-7600  
FAX (714) 567-7556  
ocvote.gov

November 12, 2024

Dear John B. Withers:

Enclosed please find your Certificate of Appointment in Lieu of Election for the November 5, 2024 Presidential General Election.

If you have any questions, please contact me at 714-567-7568.

Sincerely,

A handwritten signature in blue ink, which appears to read "Marcia Gilber".

Enclosure

**CERTIFICATE OF APPOINTMENT  
IN LIEU OF ELECTION**

STATE OF CALIFORNIA)  
  )ss.  
COUNTY OF ORANGE )

I, Bob Page, Registrar of Voters of Orange County, do hereby certify that John B. Withers, whose address is 16 Redonda, Irvine, CA 92620 is hereby appointed to the office of Director of the IRVINE RANCH WATER DISTRICT, DIVISION 1 in lieu of election and shall be seated at the organizational meeting of the board. This term of office ends December 1, 2028.

WITNESS my hand and Official Seal this 12th day of November, 2024.



A handwritten signature in black ink, appearing to read "Bob Page", is written in a cursive style.

BOB PAGE  
Registrar of Voters  
Orange County

Exhibit "C"

RESOLUTION NO. 2024-16

RESOLUTION OF THE BOARD OF DIRECTORS OF  
IRVINE RANCH WATER DISTRICT DECLARING THE RESULTS OF  
THE NOVEMBER 5, 2024 GENERAL DISTRICT ELECTION

On November 5, 2024, the Irvine Ranch Water District held its 2024 General District Election in accordance with the procedures set forth in Section 35175 et seq. of the Water Code for the purpose of electing persons to the offices of Director for each of Division 1 and Division 4 of the Irvine Ranch Water District.

The Registrar of Voters has delivered to the Secretary of this District a *Certificate of Registrar of Voters to Result of the Canvass of the Presidential General Election Returns* and a *Certificate of Election* certifying that Daniel R. Ferons was elected to the office of Director for Division 4 of the Irvine Ranch Water District based upon the canvass of all votes cast at the General District Election held November 5, 2024.

The Registrar of Voters has also delivered to the Secretary a *Certificate of Appointment in Lieu of Election* appointing John B. Withers to the office of Director for Division 1 of the Irvine Ranch Water District.

The Board of Directors of Irvine Ranch Water District therefore resolves as follows:

Section 1. That the Certificates by the Registrar of Voters certifying that Daniel R. Ferons has been elected Director, Division 4 and that John B. Withers has been appointed Director, Division 1, be received and filed.

Section 2. That the terms of office of each of these Directors will extend until the November 2028 General District Election and the qualification of their successors.

ADOPTED, SIGNED and APPROVED this 16th day of December, 2024.

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President, IRVINE RANCH WATER DISTRICT  
and of the Board of Directors thereof

---

Secretary, IRVINE RANCH WATER DISTRICT  
and of the Board of Directors thereof

APPROVED AS TO FORM:

---

Claire Hervey Collins, General Counsel  
Hanson Bridgett LLP

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**REGISTRAR OF VOTERS CERTIFICATE OF  
NOMINEES TO BE APPOINTED IN LIEU OF ELECTION  
NOVEMBER 5, 2024 GENERAL ELECTION**

*STATE OF CALIFORNIA*

*COUNTY OF ORANGE*

I, Bob Page, Registrar of Voters of the County of Orange, do hereby certify the following candidates for certain elective special district offices are qualified and eligible to be appointed in lieu of election by the County of Orange Board of Supervisors.

My certification is based upon the following facts:

During the candidate nomination period for the November 5, 2024 General Election, each of these candidates filed a Declaration of Candidacy with the Registrar of Voters; and

I examined, or caused to be examined, each candidate's Declaration of Candidacy, determining each of these candidates qualified to be placed on the ballot for the November 5, 2024 General Election; and

Only one candidate qualified for each special district office elected by division; and

The number of candidates who qualified for each special district office elected at large was equal to or less than the number of seats up for election for that office; and

A petition signed by 10 percent of the voters or 50 voters, whichever is the smaller number, in the district or division if elected by division, requesting that the general district election be held for any of these certain special district offices was not filed with the Registrar of Voters by August 14, 2024, which is 83 days prior to Election Day.

<b>DISTRICT</b>	<b>EFFECTIVE DATE</b>	<b>SUPERVISORIAL DISTRICT</b>
CAPISTRANO BAY COMMUNITY SERVICES DISTRICT Jay Champlain**	12/06/24	5 <sup>th</sup> District
EMERALD BAY SERVICE DISTRICT, SHORT TERM Gary Pickett**	12/06/24	5 <sup>th</sup> District
EMERALD BAY SERVICE DISTRICT, FULL TERM John L. Marconi* Philip Decarion	12/06/24	5 <sup>th</sup> District
SURFSIDE COLONY COMMUNITY SERVICES DISTRICT Rudy Lalonde*	12/06/24	1 <sup>st</sup> District

<b>DISTRICT</b>	<b>EFFECTIVE DATE</b>	<b>SUPERVISORIAL DISTRICT</b>
THREE ARCH BAY COMMUNITY SERVICES DISTRICT Judy Yorke* Gary Rubel* Robert D. Buck	12/06/24	5 <sup>th</sup> District
SERRANO WATER DISTRICT, DIVISION 3 Greg Mills*	12/06/24	3 <sup>rd</sup> District
SERRANO WATER DISTRICT, DIVISION 5 Jerry L. Haight*	12/06/24	3 <sup>rd</sup> District
COSTA MESA SANITARY DISTRICT, DIVISION 4 Art Perry*	12/06/24	5 <sup>th</sup> District
SURFSIDE COLONY STORM WATER PROTECTION DISTRICT, FULL TERM Victor John Kriss* Dave Chamberlain* Ryan Hill**	12/06/24	1 <sup>st</sup> District
EL TORO WATER DISTRICT Katherine "Kay" Havens* Mark Monin* Fred Adjarian**	12/06/24	3 <sup>rd</sup> & 5 <sup>th</sup> District
IRVINE RANCH WATER DISTRICT, DIVISION 1 John B Withers*	12/06/24	2 <sup>nd</sup> & 3 <sup>rd</sup> District
SANTA MARGARITA WATER DISTRICT, DIVISION 1 Frank Ury	12/06/24	3 <sup>rd</sup> District
SANTA MARGARITA WATER DISTRICT, DIVISION 5 Margaret Novak	12/06/24	3 <sup>rd</sup> & 5 <sup>th</sup> District
EAST ORANGE COUNTY WATER DISTRICT, DIVISION 5 Douglass S. "Doug" Davert	12/06/24	2 <sup>nd</sup> & 3 <sup>rd</sup> District
ROSSMOOR/LOS ALAMITOS AREA SEWER DISTRICT Van M. Jew* Dean Grose* William C. Poe*	12/06/24	1 <sup>st</sup> District
MESA WATER DISTRICT, DIVISION 1 Fred Bockmiller*	12/06/24	5 <sup>th</sup> District
MESA WATER DISTRICT, DIVISION 2 James R. Fisler*	12/06/24	5 <sup>th</sup> District
MESA WATER DISTRICT, DIVISION 3 Marice DePasquale*	12/06/24	5 <sup>th</sup> District
ORANGE COUNTY WATER DISTRICT, DIVISION 4 Van Tran**	12/06/24	1 <sup>st</sup> & 2 <sup>nd</sup> & 4 <sup>th</sup> District



<b>DISTRICT</b>	<b>EFFECTIVE DATE</b>	<b>SUPERVISORIAL DISTRICT</b>
SOUTH COAST WATER DISTRICT, DIVISION 2 Rick Erkeneff	12/06/24	5 <sup>th</sup> District
SOUTH COAST WATER DISTRICT, DIVISION 4 Douglas Erdman	12/06/24	5 <sup>th</sup> District
SOUTH COAST WATER DISTRICT, DIVISION 5 Scott Goldman	12/06/24	5 <sup>th</sup> District
YORBA LINDA WATER DISTRICT Trudi Kew Desroches* Gene Hernandez**	12/06/24	3 <sup>rd</sup> & 4 <sup>th</sup> District
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY, DIVISION 3 Robert R. "Bob" McVicker	12/06/24	1 <sup>st</sup> , 2 <sup>nd</sup> , 4 <sup>th</sup> & 5 <sup>th</sup> District
MUNICIPAL WATER DISTRICT OF ORANGE COUNTY, DIVISION 7 Megan Yoo Schneider*	12/06/24	3 <sup>rd</sup> & 5 <sup>th</sup> District
BUENA PARK LIBRARY DISTRICT, DIVISION 1 Carole Jensen	12/06/24	4 <sup>th</sup> District
BUENA PARK LIBRARY DISTRICT, DIVISION 4 Christian Quintero	12/06/24	4 <sup>th</sup> District
BUENA PARK LIBRARY DISTRICT, DIVISION 5 Cheyenne Traut	12/06/24	4 <sup>th</sup> District
PLACENTIA LIBRARY DISTRICT, DIVISION 3 Sherri Dahl	12/06/24	4 <sup>th</sup> District
PLACENTIA LIBRARY DISTRICT, DIVISION 4 Stephanie L. Beverage	12/06/24	4 <sup>th</sup> District
SANTIAGO GEOLOGIC HAZARD ABATEMENT DISTRICT, FULL TERM James Guziak* Frank Farano**	12/06/24	3 <sup>rd</sup> District

\*Incumbent  
\*\*Appointed Incumbent

WITNESS my hand and Official Seal this 24<sup>th</sup> day of September 2024.



*Bob Page*

BOB PAGE  
Registrar of Voters  
County of Orange

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CONSENT CALENDAR

CHANGES TO GENERAL MANAGER'S COMPENSATION

SUMMARY:

The annual performance review of the General Manager was conducted on November 25, 2024. This item presents the proposed changes to the annual compensation of the General Manager.

BACKGROUND:

The General Manager's annual performance evaluation was conducted in Closed Session during the November 25, 2024, IRWD Board meeting. After the discussion, President Reinhart, as the designated representative of the Board of Directors, discussed potential changes in compensation with the General Manager. Based on this discussion, the recommended changes are to:

- 1) Increase the base salary of the General Manager from \$386,636 to \$401,328 per year (a 3.8% increase), effective October 1, 2024; and
- 2) Provide a one-time performance award for the General Manager in the amount of \$38,000 as a taxable lump sum cash payment.

An amendment to the General Manager's Employment Agreement, which reflects these changes, is provide as Exhibit "A".

FISCAL IMPACTS:

Funds for compensation of the General Manager are included in IRWD's annual Operating Budget.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE BOARD APPROVE THE 2024 AMENDMENT TO THE GENERAL MANAGER EMPLOYMENT AGREEMENT, EFFECTIVE OCTOBER 1, 2024.

LIST OF EXHIBITS:

None.

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**2024 AMENDMENT TO GENERAL MANAGER EMPLOYMENT AGREEMENT**

This 2024 Amendment to General Manager Employment Agreement ("**2024 Amendment**") is effective as of October 1, 2024 and is between the **IRVINE RANCH WATER DISTRICT**, a California Water District ("**District**") and **PAUL A. COOK**, an individual ("**Mr. Cook**").

The Parties entered into an Employment Agreement on October 17, 2011, which establishes the terms under which Mr. Cook serves as General Manager to the District. The Employment Agreement provides that Mr. Cook's compensation will be subject to adjustment for each annual period beginning October 1, and that the District may award Mr. Cook a performance bonus.

The Employment Agreement also provides for an auto allowance for Mr. Cook.

The District intends by this 2024 Amendment to adjust Mr. Cook's compensation and his auto allowance to be effective as of October 1, 2024.

The Parties therefore amend the Employment Agreement as follows:

1. Salary Adjustment. The Employment Agreement at Section 6.A. is hereby amended to provide that Mr. Cook's gross annual salary for his services as General Manager beginning October 1, 2024 will be: \$401,328.
2. Performance Bonus. Pursuant to the Employment Agreement at Section 6.B., in recognition of Mr. Cook's performance over the prior year, the District awards him a performance bonus in the amount of \$38,000, payable in a lump sum.
3. Auto Allowance Adjustment. The Employment Agreement at Section 6.C. is hereby amended to reflect that the District shall reimburse Mr. Cook for use of his personal vehicle on District business at a rate of \$11,000 per year as a car allowance, which is unchanged from last year.
4. No Other Changes. The General Manager will remain eligible for the District's Deferred Compensation Match program, subject to the IRS Annual Compensation Limit. Except as described in this 2024 Amendment, there are no other changes to the Employment Agreement.


The Parties are signing this 2024 Amendment following the District's approval at a public meeting held December 16, 2024.

IRVINE RANCH WATER DISTRICT

By: \_\_\_\_\_  
Doug Reinhart, President

\_\_\_\_\_  
Paul A. Cook, General Manager

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December 16, 2024  
Prepared and  
submitted by: C. Compton  
Approved by: Paul A. Cook 

## CONSENT CALENDAR

### 2024 LEGISLATIVE AND REGULATORY UPDATE

#### SUMMARY:

This report provides an update on the 2025-2026 legislative session, regulatory issues, and IRWD priorities. As legislation and regulations develop, staff will provide updates and recommendations to the Water Resources Policy and Communications Committee and the Board, as appropriate. Staff recommends the Board receive and file the update.

#### BACKGROUND:

On December 2, 2024, the 2025-2026 Regular Legislative Session began with the new members of the Legislature being sworn into office and each house adopting the procedural rules for the session. The Legislature then recessed and will reconvene on January 6, 2025. Shortly after it reconvenes, the Governor will submit his proposed budget to both the Assembly and Senate, and members will need to submit their bill requests to the Office of Legislative Counsel. The deadlines for those are January 10 and January 24, respectively.

#### 2025-2026 State Legislative Update:

In addition to discussing the 2025-2026 legislative session with the Committee and the Board, staff will also provide an oral update on any new developments related to the following:

- Low-income water rate assistance proposals;
- Possible 2025 IRWD sponsored legislation;
- 2025 association sponsored legislative proposals; and
- Other legislative matters of interest to IRWD.

#### Other 2024 State and Regional Regulatory Updates:

The following is a list of state and regional regulations and agency reports staff are monitoring, tracking, or planning to engage in over the next three to 12 months. As the next drafts of the regulations or reports are released for public review and comment, staff will engage, as appropriate. Staff will also provide an oral update on any new developments related to these regulations and other regulations of interest to the District.

The pending regulations and reports actively being tracked include:

- California Natural Resources Agency (CNRA) [30 x 30 California Implementation](#);
- CNRA's [Water Resilience Portfolio Implementation and Resiliency 2.0 Implementation](#);

- DWR Surface water and groundwater interconnection guidance;
- DWR SB 1157 Indoor Water Use Studies;
- State Board's implementation of the [Lead and Copper Rule](#);
- State Board's [Safe and Affordable Funding for Equity and Resilience \(SAFER\) Drinking Water Program](#);
- State Board's [Development of Maximum Contaminant Levels for PFAS](#);
- South Coast AQMD's [Cumulative Impacts from Air Toxics for CEQA Projects](#);
- South Coast AQMD's Tier 4 Emergency Generator Testing Policy;
- South Coast AQMD's [Proposed Rule 317.1 - Clean Air Act Nonattainment Fees for 8-Hour Ozone Standards](#);
- South Coast AQMD's [PAR 1146.2 Control of NOx from Large Water Heaters, Small Boilers and Process Heaters](#); and
- South Coast AQMD's [Proposed Rule 1110.4, Emissions from Emergency Generators](#).

Staff will also provide an update on other regulatory matters of interest to the District.

#### 2024 Federal Legislative and Regulatory Update:

##### *Kern Fan Groundwater Storage Project Outreach:*

IRWD's federal advocacy priority in 2025 focuses on seeking federal funding for the South Valley Conveyance and Storage Project and advocating for a reauthorization of the Small Storage Grant Program. Staff will provide an update on those efforts and the District's next steps.

##### *Other Federal Regulatory Updates:*

The following is a list of federal regulations and agency reports staff are monitoring, tracking, or planning to engage in over the next three to 12 months. As the next drafts of the regulations or report are released for public review and comment, staff will engage, as appropriate. Staff will also provide an oral update on any new developments related to these regulations and other regulations of interest to the District. The pending regulations and reports actively being tracked include:

- U.S. Environmental Protection Agency's (U.S. EPA's) [Lead and Copper Rule Improvements](#); and
- Bureau of Reclamation's [Post-2026 Colorado River Reservoir Operational Guidelines and Strategies for Lake Powell and Lake Mead](#).



FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

This item was reviewed by the Water Resources Policy and Communications Committee on December 11, 2024.


RECOMMENDATION:

Receive and file.

LIST OF EXHIBITS:

None.

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December 16, 2024  
Prepared and  
submitted by: C. Compton  
Approved by: Paul A. Cook 

## CONSENT CALENDAR

### VARIANCE TO IRWD GENERAL COUNSEL CONTRACT FOR FISCAL YEAR 2024-2025

#### SUMMARY:

IRWD's General Counsel provides legal services related to municipal law, transactional and non-complex issues, rate-setting, and other routine general counsel matters. Since 2020, IRWD has contracted with Hanson Bridgett for general counsel services; its current contract expires on December 31, 2024. Staff recommends that the Board authorize the General Manager to execute a variance to Professional Services Agreement with Hanson Bridgett for general counsel legal services with a term of January 1, 2024, to December 31, 2024, extending the agreement for six months through June 30, 2025, and adding \$675,000 to the contract in order to match the agreement for general counsel legal services with IRWD's fiscal year.

#### BACKGROUND:

IRWD has a team approach for legal services, dividing legal responsibilities among several law firms. The approach utilizes a General Counsel who provides legal services related to municipal law, transactional and non-complex issues, rate-setting, and other routine legal matters. The General Counsel also coordinates with IRWD's other legal counsel. IRWD's non-General Counsel legal firms provide services related to complex issues, complex litigation, and legal matters related to water resources and policy issues. Staff provides legal services management and legal service continuity, along with other duties.

In March 2018, the Board selected Lewis Brisbois & Smith LLP to provide general counsel services to the District, and named Claire Hervey Collins, who was with the firm at that time, to serve in the role of General Counsel for IRWD. On January 1, 2020, Ms. Collins transitioned her employment to the firm of Hanson Bridgett. Upon receiving notice that Ms. Collins was transitioning to Hanson Bridgett, the Board on December 11, 2019, appointed Hanson Bridgett to provide general counsel services to IRWD. It also renamed Ms. Collins to serve in the role of General Counsel for IRWD effective January 1, 2020.

Claire Hervey Collins continues to serve in the role of General Counsel for IRWD. As General Counsel, Ms. Collins, and on occasion other members of the Hanson Bridgett firm provides general counsel legal services for IRWD focused on municipal law, transactional and non-complex issues and other issues. While Ms. Collins provides the majority of the legal services required by IRWD, Mr. Paul Beck assists Ms. Collins, serving as an Assistant General Counsel for IRWD to assist with the legal workload and to ensure continuity of service should Ms. Collins become unavailable.

Proposed Contract with Hanson Bridgett LLP:

The number of billable hours estimated for this 12-month period includes the estimated amount of time required to represent, advise, and counsel IRWD regarding matters related to municipal law, transactional and non-complex issues and rate-setting, and the estimated amount of time required to coordinate with the District's other legal counsel. The total not-to-exceed value of the current contract is \$1,235,000 and the agreement is for the period of January 1 through December 31, 2024.

Staff recommends that the Board authorize the General Manager to execute a variance to Professional Services Agreement with Hanson Bridgett extending the term by six months to June 30, 2025, and increasing the not-to-exceed amount of the contract by \$675,000. This will extend the contract through the end of Fiscal Year 2024-2025 allowing for contracting for legal services to match the fiscal year and budget periods.

FISCAL IMPACTS:

The \$675,000 for services associated with this contract will be charged to the Fiscal Year 2024-2025 Operating Budget. Legal services related to capital projects will be billed to the IRWD Capital Budget.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

This item was not reviewed by a committee.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A VARIANCE TO PROFESSIONAL SERVICES AGREEMENT WITH HANSON BRIDGETT LLP FOR GENERAL COUNSEL LEGAL SERVICES EXTENDING THE TERM OF THE AGREEMENT THROUGH JUNE 30, 2025, AND INCREASING THE NOT-TO-EXCEED VALUE BY \$675,000.

LIST OF EXHIBITS:

Exhibit "A" – Hanson Bridgett LLP Summary of the Scope of Work and Current Hourly Rates

## **EXHIBIT “A”**

### HANSON BRIDGETT LLP SUMMARY OF THE SCOPE OF WORK AND PROPOSED HOURLY RATES

#### Summary of Scope of Work:

Hanson Bridgett LLP will provide general counsel legal services and representation to IRWD and its subsidiaries, and other affiliates. The firm will perform the work, duties, and responsibilities consistent with the position of general counsel for IRWD and its subsidiaries and other affiliates understanding that the firm’s roles as general counsel will be to:

1. Provide expert legal advice to IRWD and its subsidiaries and other affiliates;
2. Independently represent IRWD and its subsidiaries and other affiliates in a variety of matters and forums; and
3. Develop and implement proactive legal strategies to position IRWD and its subsidiaries and other affiliates to best meet its legal, regulatory, and policy objectives.

The scope of the general counsel services provided by Hanson Bridgett to IRWD will consist of a broad range of legal services including regulatory and public policy tracking, interpretation, advice, counsel, legal representation and other services with respect to a variety of legal areas such as:

#### A. TYPICAL AREAS OF MUNICIPAL LAW, INCLUDING:

1. Agenda and Agenda Item Review;
2. Basic CEQA and Other Environmental Document Review;
3. Brown Act and Open Meeting Compliance;
4. Claims Processing;
5. Collections;
6. Cortese-Knox-Hertzberg Local Government Reorganization Act;
7. Election Procedures and Challenges;
8. Fair Political Practices Commission Regulations and Political Reform Act;
9. Joint Powers Authorities;
10. Non-complex Litigation;
11. Ordinance, Rule and Regulation Creation and Adoption;
12. Public Contracting and Prevailing Wage;
13. Public Records Act;
14. Public Works Bidding;
15. Real Property;
16. Records Retention and Destruction;
17. Review of Contracts and Other Legal Documents; and
18. Tort Claims.

HANSON BRIDGETT LLP SUMMARY OF THE SCOPE OF WORK AND PROPOSED HOURLY RATES  
(continued)

B. LAWS AND REGULATIONS GOVERNING CALIFORNIA WATER DISTRICTS, INCLUDING:

1. California Government Code;
2. California Health and Safety Code;
3. California Water Code;
4. California Water District Code;
5. Clean Water Act;
6. Porter-Cologne Water Quality Control Act;
7. Sustainable Groundwater Management Act;
8. Safe Drinking Water Act;
9. Urban Water Management Planning Act; and
10. Other Water and Wastewater Laws and Regulations.


C. LAWS AND REGULATIONS RELATED TO WATER AND SEWER SERVICE RATE SETTING, INCLUDING:

1. Case law related to water and sewer service rates;
2. Proposition 26;
3. Proposition 218; and
4. Other statutes affecting water and sewer rates and charges.

D. COORDINATION AND MANAGEMENT OF SPECIAL COUNSEL

Current Hourly Rates through December 31, 2024:

Partners:	\$485.00 per hour
Counsel/Sr. Counsel:	\$445.00 per hour
Associates/Other Attorneys:	\$418.00 per hour
Practice Support Analysts:	\$275.00 per hour
Paralegals & Law Clerks:	\$275.00 per hour

December 16, 2024  
Prepared by: J. Davis  
Submitted by: N. Adly  
Approved by: Paul A. Cook 

CONSENT CALENDAR

NOVEMBER 2024 TREASURY REPORT

SUMMARY:

The following is submitted for the Board’s information and approval:

- A. The November 2024 Investment Summary Report. This Investment Summary Report conforms with the 2024 Investment Policy as outlined in Exhibit “A”;
- B. The Summary of Fixed and Variable Rate Debt as of November 30, 2024, as outlined in Exhibit “B”;
- C. The Monthly Interest Rate Swap Summary as of November 30, 2024, as outlined in Exhibit “C”;
- D. The November 30, 2024, Disbursement Summary of warrants 446021 through 446551, Workers’ Compensation distributions, ACH payments, virtual card payments, wire transfers, payroll withholding distributions, and voided checks in the total amount of \$19,921,861 as outlined in Exhibit “D”;
- E. The Summary of Payroll ACH payments in the total amount of \$4,097,496 as outlined in Exhibit “E”; and
- F. The Disclosure Report of Reimbursements to Board members and staff for November 2024, detailing payments or reimbursements for individual charges of \$100 or more per transaction as outlined in Exhibit “F”.

FISCAL IMPACTS:

As of November 30, 2024, the book value of the investment portfolio was \$371,517,848, with a 4.41% rate of return and a market value of \$372,091,603. Based on IRWD’s September 30, 2024, quarterly real estate annualized investment rate of return of 15.08%, the weighted average return for the fixed income and real estate investments was 6.82%.

As of November 30, 2024, the outstanding principal amount of fixed and variable rate debt was \$575,395,000. The monthly weighted average all-in variable rate was 2.46%. Including IRWD’s weighted average fixed rate bond issues of 3.73% and the negative cash accruals from fixed payer interest rate swaps, which hedge a portion of the District’s variable rate debt, the total average debt rate was 3.36%.

Payroll ACH payments totaled \$4,097,496. Wire transfers, other ACH payments, and checks issued for debt service, accounts payable, payroll, water purchases, and voided checks for November totaled \$19,921,861.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act Code of Regulations, Title 14, Chapter 3, Section 15378.

COMMITTEE STATUS:

All items in this report were not submitted to a Committee; the investment and debt reports are submitted to the Finance and Personnel Committee monthly.

RECOMMENDATION:

THAT THE BOARD RECEIVE AND FILE THE TREASURER'S INVESTMENT SUMMARY REPORT, THE SUMMARY OF FIXED AND VARIABLE RATE DEBT, AND THE DISCLOSURE REPORT OF REIMBURSEMENTS TO BOARD MEMBERS AND STAFF, APPROVE THE NOVEMBER 2024 SUMMARY OF PAYROLL ACH PAYMENTS IN THE TOTAL AMOUNT OF \$4,097,496, AND APPROVE THE NOVEMBER 2024 ACCOUNTS PAYABLE DISBURSEMENT SUMMARY OF WARRANTS 446021 THROUGH 446551, WORKERS' COMPENSATION DISTRIBUTIONS, ACH PAYMENTS, VIRTUAL CARD PAYMENTS, WIRE TRANSFERS, PAYROLL WITHHOLDING DISTRIBUTIONS, AND VOIDED CHECKS IN THE TOTAL AMOUNT OF \$19,921,861.

LIST OF EXHIBITS:

Exhibit "A" – Investment Summary Report

Exhibit "B" – Summary of Fixed and Variable Debt

Exhibit "C" – Monthly Interest Rate Swap Summary

Exhibit "D" – Monthly Summary of District Disbursements

Exhibit "E" – Monthly Payroll ACH Summary

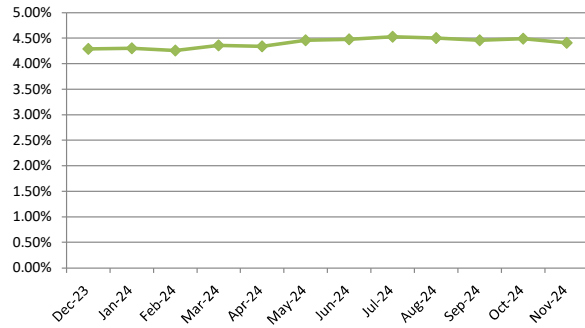
Exhibit "F" – Disclosure of Reimbursements to Board Members and Staff



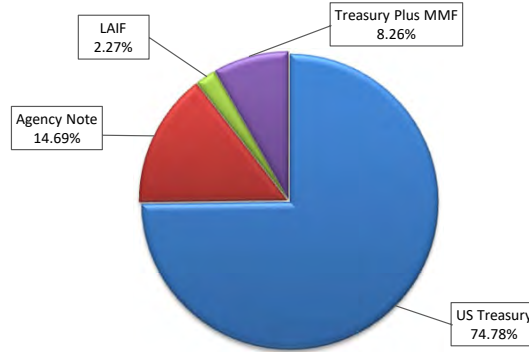
# Exhibit "A"

## Irvine Ranch Water District Investment Portfolio Summary November 2024

**Monthly Fixed Income Yield**



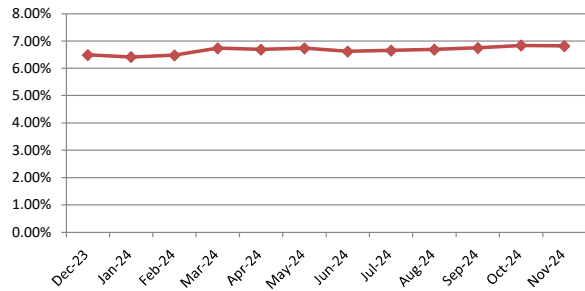
**Portfolio Distribution**



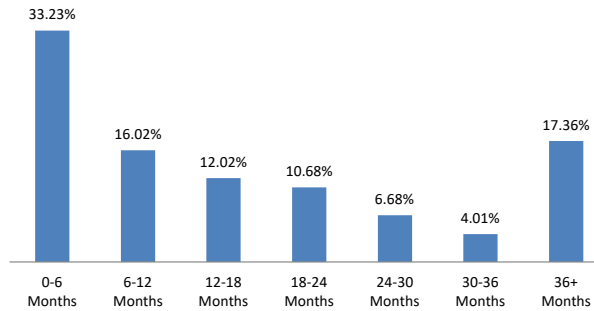
**Investment Summary**

Type	PAR	Book Value	Market Value
US Treasury	280,000,000	277,460,957	278,069,700
Agency Note	55,000,000	54,623,657	54,571,150
Treasury Plus MMF	30,933,234	30,933,234	30,933,234
LAIF	8,500,000	8,500,000	8,517,519
<b>Grand Total</b>	<b>374,433,234</b>	<b>371,517,848</b>	<b>372,091,603</b>

**Weighted Average Return Including Real Estate Portfolio**



**Maturity Distribution**



**Top Issuers**

Issuer	PAR	% Portfolio
US Treasury	280,000,000	74.78%
Wells Fargo / Allspring	30,933,234	8.26%
Fed Farm Credit Bank	30,000,000	8.01%
Fed Home Loan Mortgage Corp	15,000,000	4.01%
Fed Home Loan Bank	10,000,000	2.67%
State of California Tsy.	8,500,000	2.27%
<b>Grand Total</b>	<b>374,433,234</b>	<b>100.00%</b>

IRVINE RANCH WATER DISTRICT  
INVESTMENT SUMMARY REPORT

11/30/24

SETTLMT	Call Schedule	Initial Call	Maturity Date	Rating	INVESTMENT TYPE	INSTITUTION / ISSUER	PAR Amount	COUPON DISCOUNT	YIELD	ORIGINAL COST	CARRY VALUE	MARKET VALUE <sup>(1)</sup> 11/30/2024	UNREALIZED <sup>(2)</sup> GAIN/(LOSS)
11/27/24			12/01/24		LAIF	State of California Tsy.	\$8,500,000.00		4.450%	\$8,500,000.00	\$8,500,000.00	8,517,519.21	17,519.21
11/30/24			12/01/24		Treasury Plus MMF	Wells Fargo / Allspring	30,933,234.21		4.503%	30,933,234.21	30,933,234.21	30,933,234.21	0.00
10/31/22	NA	NA	12/31/24	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	2.250%	4.471%	4,773,046.88	4,991,403.29	4,990,500.00	(903.29)
10/31/22	NA	NA	12/31/24	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	2.250%	4.483%	4,771,875.00	4,991,358.90	4,990,500.00	(858.90)
10/31/22	NA	NA	01/15/25	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	1.125%	4.476%	4,651,562.50	4,980,570.40	4,979,250.00	(1,320.40)
10/31/22	NA	NA	01/31/25	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	2.500%	4.483%	4,789,843.75	4,988,281.25	4,982,800.00	(5,481.25)
11/30/23	NA	NA	01/31/25	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	2.500%	5.097%	9,708,593.75	9,958,467.80	9,965,600.00	7,132.20
02/07/23	NA	NA	02/14/25	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.750%	4.500%	4,737,350.00	4,973,307.93	4,972,100.00	(1,207.93)
12/30/22	NA	NA	02/28/25	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	2.750%	4.317%	4,839,453.13	4,981,935.94	4,978,850.00	(3,085.94)
02/07/23	NA	NA	03/14/25	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	4.250%	4.518%	4,973,050.00	4,996,376.17	4,995,750.00	(626.17)
12/30/22	NA	NA	03/15/25	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	1.750%	4.329%	4,731,250.00	4,965,322.58	4,961,650.00	(3,672.58)
04/12/23	NA	NA	03/31/25	Aaa/AA+/AA+	Treasury - Note	US Treasury	20,000,000	3.875%	4.073%	19,925,781.25	19,987,613.00	19,960,800.00	(26,813.00)
12/22/22	NA	NA	04/01/25	Aaa/AA+/AAA	FHLB - Note	Fed Home Loan Bank	5,000,000	4.200%	4.160%	5,004,550.00	5,000,662.52	4,993,700.00	(6,962.52)
04/18/24	NA	NA	04/15/25	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	2.625%	5.163%	9,757,617.18	9,909,608.62	9,929,600.00	19,991.38
12/08/22	Quarterly	02/12/2023	05/12/25	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	3.050%	4.427%	4,843,000.00	4,971,293.45	4,968,300.00	(2,993.45)
01/11/23	NA	NA	05/15/25	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	2.750%	4.148%	4,845,312.50	4,970,148.03	4,962,600.00	(7,548.03)
12/13/22	NA	NA	06/13/25	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	4.250%	4.340%	4,989,400.00	4,997,747.65	4,995,750.00	(1,997.65)
12/13/22	NA	NA	06/13/25	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	4.250%	4.352%	4,988,000.00	4,997,450.16	4,995,750.00	(1,700.16)
08/01/23	NA	NA	07/15/25	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	3.000%	4.917%	9,646,875.00	9,888,226.54	9,917,700.00	29,473.46
04/24/23	NA	NA	07/24/25	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	10,000,000	4.250%	4.253%	10,000,000.00	10,000,000.00	9,989,900.00	(10,100.00)
11/15/24	NA	NA	08/31/25	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	5.000%	4.452%	5,020,703.13	5,019,556.94	5,019,250.00	(306.94)
04/21/23	NA	NA	09/23/25	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	10,000,000	0.375%	4.127%	9,143,400.00	9,713,822.12	9,681,800.00	(32,022.12)
12/01/22	NA	NA	10/15/25	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	4.250%	4.298%	4,993,359.38	4,997,986.92	4,993,950.00	(4,036.92)
12/01/23	NA	NA	11/15/25	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	2.250%	4.719%	9,543,750.00	9,777,298.95	9,802,000.00	24,701.05
12/01/22	Continuous after	9/12/2023	12/12/25	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	4.125%	4.694%	4,920,500.00	4,972,997.29	4,978,100.00	5,102.71
04/18/24	NA	NA	01/15/26	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	3.875%	5.033%	9,808,593.75	9,876,802.88	9,952,300.00	75,497.12
02/21/24	NA	NA	02/15/26	Aaa/AA+/AA+	Treasury - Note	US Treasury	15,000,000	4.000%	4.553%	14,844,140.63	14,905,194.51	14,945,550.00	40,355.49
04/30/24	NA	NA	03/31/26	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	4.500%	5.017%	4,953,125.00	4,967,522.32	5,012,900.00	45,377.68
07/06/23	NA	NA	06/15/26	Aaa/AA+/AA+	Treasury - Note	US Treasury	15,000,000	4.125%	4.566%	14,819,531.25	14,905,820.49	14,970,750.00	64,929.51
06/03/24	NA	NA	07/15/26	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	4.500%	4.843%	4,965,625.00	4,973,684.42	5,019,750.00	46,065.58
09/27/23	NA	NA	09/15/26	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	4.625%	4.846%	9,939,453.13	9,963,526.65	10,068,000.00	104,473.35
11/03/23	NA	NA	10/15/26	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	4.625%	4.784%	9,956,640.63	9,972,502.83	10,073,800.00	101,297.17
12/28/23	NA	NA	12/15/26	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	4.375%	4.020%	10,098,046.88	10,067,356.31	10,035,200.00	(32,156.31)
01/31/24	NA	NA	01/15/27	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	4.000%	4.171%	9,952,734.38	9,966,082.54	9,964,500.00	(1,582.54)
11/18/24	NA	NA	03/15/27	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	4.250%	4.289%	4,995,507.81	4,995,576.76	5,009,550.00	13,973.24
11/08/24	NA	NA	07/15/27	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	4.375%	4.156%	5,027,343.75	5,026,701.35	5,030,100.00	3,398.65
03/11/24	NA	NA	09/30/27	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	4.125%	4.195%	9,976,953.13	9,981,658.38	10,001,200.00	19,541.62
05/24/24	NA	NA	01/31/28	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	3.500%	4.621%	9,623,437.50	9,676,832.78	9,816,000.00	139,167.22
07/18/24	NA	NA	04/30/28	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	1.250%	4.152%	4,496,484.38	4,546,034.40	4,544,900.00	(1,134.40)
06/27/24	NA	NA	07/31/28	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	4.125%	4.394%	9,900,000.00	9,910,501.67	10,000,400.00	89,898.33
08/16/24	NA	NA	08/15/28	Aaa/AA+/AA+	Treasury - Note	US Treasury	5,000,000	2.875%	3.854%	4,820,312.50	4,833,481.38	4,787,500.00	(45,981.38)
08/09/24	NA	NA	09/30/28	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	1.250%	3.863%	9,008,593.75	9,083,293.23	8,991,000.00	(92,293.23)

IRVINE RANCH WATER DISTRICT  
INVESTMENT SUMMARY REPORT

11/30/24

SETTLMT	Call Schedule	Initial Call	Maturity Date	Rating	INVESTMENT TYPE	INSTITUTION / ISSUER	PAR Amount	COUPON DISCOUNT	YIELD	ORIGINAL COST	CARRY VALUE	MARKET VALUE <sup>(1)</sup> 11/30/2024	UNREALIZED <sup>(2)</sup> GAIN/(LOSS)
11/28/23	NA	NA	10/31/28	Aaa/AA+/AA+	Treasury - Note	US Treasury	10,000,000	4.875%	4.464%	10,179,687.50	10,142,831.09	10,269,500.00	126,668.91
12/15/23	NA	NA	11/30/28	Aaa/AA+/AA+	Treasury - Note	US Treasury	15,000,000	4.375%	3.897%	15,319,921.88	15,257,773.70	15,141,750.00	(116,023.70)
SUB-TOTAL							<u>\$374,433,234</u>			<u>\$367,717,640.51</u>	<u>\$371,517,848.37</u>	<u>\$372,091,603.42</u>	<u>\$573,755.06</u>
<u>TOTAL INVESTMENTS</u>							<u>\$374,433,234</u>			<u>\$367,717,640.51</u>	<u>\$371,517,848.37</u>	<u>\$372,091,603.42</u>	<u>\$573,755.06</u>

Petty Cash										600.00			
Ck Balance					Bank of America		ECR	1.57%		2,103,246.60			
Ck Balance					Wells Fargo		ECR	2.00%		0.00 <sup>(5)</sup>			
										<u>\$369,821,487.11</u>			

<sup>(1)</sup> LAIF market value is as of the most recent quarter-end as reported by LAIF.  
Security market values are determined using Bank of New York ("Trading Prices"), Bloomberg and/or broker dealer pricing.

<sup>(2)</sup> Gain (loss) calculated against carry value using the trading value provided by Bank of New York/or Brokers'

<sup>(3)</sup> Real estate rate of return is based on most recent quarter end return.

<sup>(4)</sup> Original Cost updated to reflect capital tenant improvements added for Fiscal Year 2023. of capital tenant improvements during FY 2023.

<sup>(5)</sup> Cash balance in this account are funds that are pending purchase into the current money market fund.

\*S - Step up

This Investment Summary Report is in conformity with the 2024 Investment Policy and provides sufficient liquidity to meet the next six months estimated expenditures.

Outstanding Variable Rate Debt	\$202,300,000
Net Outstanding Variable Rate Debt (Less \$60 million fixed-payer swaps)	\$142,300,000
Investment Balance:	\$369,821,487
Investment to Variable Rate Debt Ratio:	260%
Portfolio - Average Number of Days To Maturity	502

	Investment Portfolio	Real Estate <sup>(3)(4)</sup> Portfolio	Weighted Avg. Return
November	4.41%	15.08%	6.82%
October	4.49%	15.08%	6.84%
Change	-0.08%	0.00%	-0.02%

IRVINE RANCH WATER DISTRICT  
SUMMARY OF MATURITIES

11/30/24

DATE	TOTAL	%	LAIF	Agency Notes	Agency Discount Notes	Municipal Bonds	US Treasury	Investment Sweep
11/24	39,433,234	10.53%	\$8,500,000					30,933,234
12/24	10,000,000	2.67%					10,000,000	
1/25	20,000,000	5.34%					20,000,000	
2/25	10,000,000	2.67%		5,000,000			5,000,000	
3/25	30,000,000	8.01%		5,000,000			25,000,000	
4/25	15,000,000	4.01%		5,000,000			10,000,000	
5/25	10,000,000	2.67%		5,000,000			5,000,000	
6/25	10,000,000	2.67%		10,000,000				
7/25	20,000,000	5.34%		10,000,000			10,000,000	
8/25	5,000,000	1.34%					5,000,000	
9/25	10,000,000	2.67%		10,000,000				
10/25	5,000,000	1.34%					5,000,000	
SUB-TOTAL	\$184,433,234	49.26%	\$8,500,000	\$50,000,000			\$95,000,000	\$30,933,234

13 MONTHS - 3+ YEARS								
11/01/2025 - 01/31/2026	\$25,000,000	6.68%		5,000,000			20,000,000	
02/01/2026 - 04/30/2026	\$20,000,000	5.34%					20,000,000	
05/01/2026 - 07/31/2026	\$20,000,000	5.34%					20,000,000	
08/01/2026 - 10/31/2026	\$20,000,000	5.34%					20,000,000	
11/01/2026 - 01/31/2027	\$20,000,000	5.34%					20,000,000	
02/01/2027 - 04/30/2027	\$5,000,000	1.34%					5,000,000	
05/01/2027 - 07/31/2027	\$5,000,000	1.34%					5,000,000	
08/01/2027 - 10/31/2027	\$10,000,000	2.67%					10,000,000	
11/01/2027 - 01/31/2028	\$10,000,000	2.67%					10,000,000	
02/01/2028 - 04/30/2028	\$5,000,000	1.34%					5,000,000	
05/01/2028 - 07/31/2028	\$10,000,000	2.67%					10,000,000	
8/01/2028 +	\$40,000,000	10.68%					40,000,000	
SUB-TOTAL	\$190,000,000	50.74%		\$5,000,000			\$185,000,000	
TOTALS	\$374,433,234	100.00%	\$8,500,000	\$55,000,000			\$280,000,000	\$30,933,234

% OF PORTFOLIO

2.27%

14.69%

74.78%

8.26%

Irvine Ranch Water District  
 Summary of Real Estate - Income Producing Investments  
 9/30/2024

	ACQUISITION DATE	PROPERTY TYPE	OWNERSHIP INTEREST	ORIGINAL COST	MARKET VALUE 9/30/2024	ANNUALIZED RATE OF RETURN QUARTER ENDED 9/30/2024
Sycamore Canyon	Dec-92	Apartments	Fee Simple	\$ 45,457,369	\$ 220,000,000	24.28%
Wood Canyon Villas	Jun-91	Apartments	Limited Partner	\$ 6,000,000	\$ 38,420,894	8.60%
ITC (230 Commerce)	Jul-03	Office Building	Fee Simple	\$ 5,568,747	\$ 10,000,000	9.85%
Waterworks Business Pk.	Nov-08	Research & Dev.	Fee Simple	\$ 8,983,395	\$ 13,500,000	6.93%
Sand Canyon Professional Center - Medical Office	Jul-12	Medical Office	Fee Simple	\$ 8,715,929	\$ 12,000,000	9.33%
Sand Canyon Professional Center - General Office <sup>(1)</sup>	Sep-20	Office Building	Fee Simple	\$ 31,404,103	\$ 32,000,000	7.86%
<b>Total - Income Properties</b>				<b>\$ 106,129,543</b>	<b>\$ 325,920,894</b>	<b>15.08%</b>

(1) Original Cost updated to reflect capital tenant improvements added for Fiscal Year 2023.

**IRVINE RANCH WATER DISTRICT INVESTMENT SUMMARY REPORT**  
**INVESTMENT ACTIVITY<sup>(1)</sup>**  
**Nov-24**

**MATURITIES/SALES/CALLS**

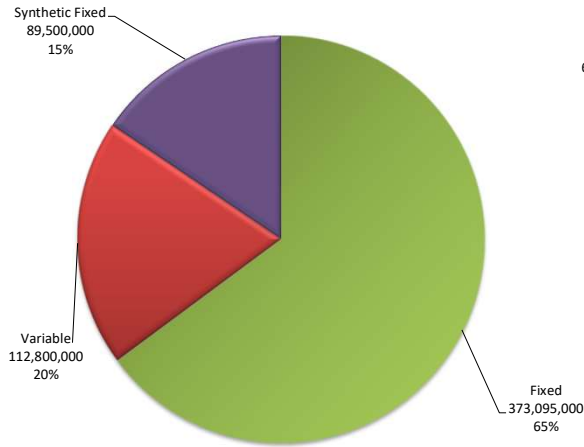
**PURCHASES**

DATE	SECURITY TYPE	PAR	YIELD	Settlement Date	Maturity Date	SECURITY TYPE	PAR	YIELD TO MATURITY
11/15/2024	Treasury - Note	\$5,000,000	4.49%	11/8/2024	7/15/2027	Treasury - Note	\$5,000,000	4.16%
11/18/2024	FFCB - Note	\$5,000,000	4.26%	11/15/2024	8/31/2025	Treasury - Note	\$5,000,000	4.45%
				11/18/2024	3/15/2027	Treasury - Note	\$5,000,000	4.29%

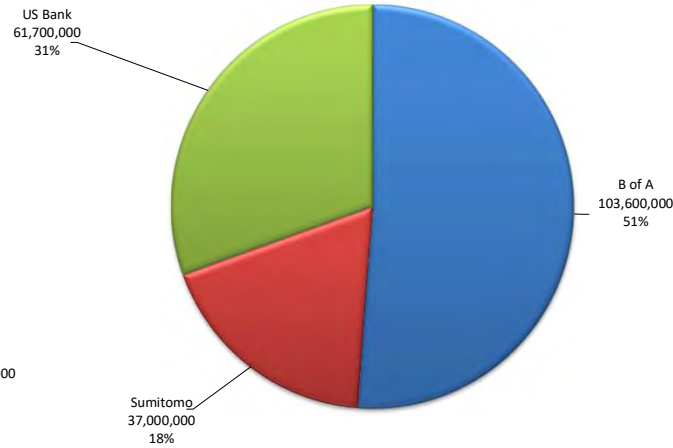
(1) Italicized entries indicate securities that are scheduled but not yet matured, sold, called, or purchased. There may be additional investment purchases if there are pending maturities for the month.

Exhibit "B"  
**Irvine Ranch Water District**  
**Summary of Fixed and Variable Rate Debt**  
**November 2024**

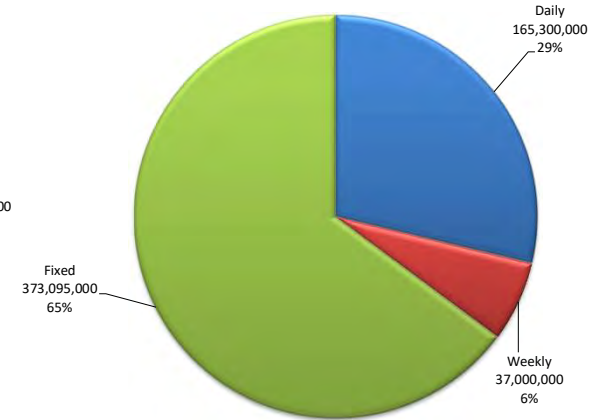
**Current Debt Mix By Type**



**Letters of Credit / Support**



**Current Debt Rate Reset**



**Outstanding Par by Series**

Series	Issue Date	Maturity Date	Remaining Principal	Percent	Letter of Credit/Support	Rmkt Agent	Mode	Reset
Series 1993	05/19/93	04/01/33	\$19,200,000	3.34%	US Bank	BAML	Variable	Daily
Series 2008-A Refunding	04/24/08	07/01/35	\$37,000,000	6.43%	Sumitomo	BAML	Variable	Weekly
Series 2011-A-1 Refunding	04/15/11	10/01/37	\$36,660,000	6.37%	B of A	Goldman	Variable	Daily
Series 2011-A-2 Refunding	04/15/11	10/01/37	\$24,440,000	4.25%	B of A	Goldman	Variable	Daily
Series 2009 - A	06/04/09	10/01/41	\$42,500,000	7.39%	US Bank	US Bank	Variable	Daily
Series 2009 - B	06/04/09	10/01/41	\$42,500,000	7.39%	B of A	Goldman	Variable	Daily
2016 COPS	09/01/16	03/01/46	\$101,490,000	17.64%	N/A	N/A	Fixed	Fixed
2010 Build America Taxable Bond	12/16/10	05/01/40	\$175,000,000	30.41%	N/A	N/A	Fixed	Fixed
Series 2016	10/12/16	02/01/46	\$96,605,000	16.79%	N/A	N/A	Fixed	Fixed
<b>Total</b>			<b>\$575,395,000</b>	<b>100.00%</b>				

**IRVINE RANCH WATER DISTRICT**  
**SUMMARY OF FIXED & VARIABLE RATE DEBT**

November-24

Daily
Weekly

GENERAL BOND INFORMATION							LETTER OF CREDIT INFORMATION							TRUSTEE INFORMATION										
VARIABLE RATE ISSUES	Issue Date	Maturity Date	Principal Payment Date	Payment Date	Original Par Amount	Remaining Principal	Letter of Credit	Reimbursement Agreement Date	L/C Exp. Date	MOODY'S	S&P	FITCH	LOC Stated Amount	LOC Fee	Annual LOC Cost	Rmkt Agent	Reset	Rmkt Fees	Annual Cost	Trustee				
SERIES 1993	05/19/93	04/01/33	Apr 1	5th Bus. Day	\$38,300,000	\$19,200,000	US BANK	05/07/15	05/01/25	Aa3/VMIG1	AA-/A-1+	N/R	\$19,458,805	0.3000%	\$58,376	BAML	DAILY	0.10%	\$19,200	BANK OF NY				
SERIES 2008-A Refunding	04/24/08	07/01/35	Jul 1	5th Bus. Day	\$60,215,000	\$37,000,000	SUMITOMO	04/01/11	05/28/25	A1/P-1	A/A-1	A/F1	\$37,547,397	0.3150%	\$118,274	BAML	WED	0.07%	\$25,900	BANK OF NY				
SERIES 2011-A-1 Refunding	04/15/11	10/01/37	Oct 1	1st Bus. Day	\$60,545,000	\$36,660,000	B of A	02/01/24	02/08/27	Aa1/VMIG1	A+/A-1	AAA/F1+	\$37,069,788	0.3200%	\$118,623	Goldman	DAILY	0.07%	\$25,662	BANK OF NY				
SERIES 2011-A-2 Refunding	04/15/11	10/01/37	Oct 1	1st Bus. Day	\$40,370,000	\$24,440,000	B of A	02/01/24	02/08/27	Aa1/VMIG1	A+/A-1	AAA/F1+	\$24,713,192	0.3200%	\$79,082	Goldman	DAILY	0.07%	\$17,108	BANK OF NY				
SERIES 2009 - A	06/04/09	10/01/41	Oct 1	1st Bus. Day	\$75,000,000	\$42,500,000	US BANK	04/01/11	05/01/25	Aa2/VMIG1	AA-/A-1+	AA/F1+	\$42,975,068	0.3000%	\$128,925	US Bank	DAILY	0.07%	\$29,750	US BANK				
SERIES 2009 - B	06/04/09	10/01/41	Oct 1	1st Bus. Day	\$75,000,000	\$42,500,000	B of A	04/01/11	04/21/25	Aa2/VMIG1	A/A-1	A1/F1+	\$42,975,068	0.2800%	\$120,330	Goldman	DAILY	0.07%	\$29,750	US BANK				
<b>\$349,430,000</b>						<b>\$202,300,000</b>		<b>SUB-TOTAL VARIABLE RATE DEBT</b>							<b>\$204,739,321</b>			<b>0.3046%</b>		<b>\$623,612</b>		<b>0.07%</b>		<b>\$147,370</b>
																(Wt. Avg)		(Wt. Avg)						

FIXED RATE ISSUES																				
2010 GO Build America Taxable Bonds	12/16/10	05/01/40	May (2025)	May/Nov	\$175,000,000	\$175,000,000	N/A	N/A	N/A	Aa1	AAA	NR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	US BANK
2016 COPS	09/01/16	03/01/46	Mar 1	Mar/Sept	\$116,745,000	\$101,490,000	N/A	N/A	N/A	NR	AAA	AAA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	US BANK
SERIES 2016	10/12/16	02/01/46	Feb 1	Feb/Aug	\$103,400,000	\$96,605,000	N/A	N/A	N/A	NR	AAA	AAA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	BANK OF NY
<b>\$395,145,000</b>						<b>\$373,095,000</b>		<b>SUB-TOTAL FIXED RATE DEBT</b>												
<b>\$744,575,000</b>						<b>\$575,395,000</b>		<b>TOTAL - FIXED &amp; VARIABLE RATE DEBT</b>												

Remarketing Agents			GO VS COP'S		
Goldman	103,600,000	51%	GO:	473,905,000	82%
BAML	56,200,000	28%	COPS:	101,490,000	18%
US Bank	42,500,000	21%	Total	<u>575,395,000</u>	
	<u>202,300,000</u>				

LOC Banks			Breakdown Between Variable & Fixed Rate Mode		
SUMITOMO	37,000,000	18%	Daily Issues	165,300,000	29%
BANK OF AMERICA	103,600,000	51%	Weekly Issues	37,000,000	6%
US BANK	61,700,000	30%	Sub-Total	<u>202,300,000</u>	
	<u>202,300,000</u>		Fixed Rate Issues	\$373,095,000	65%
			Sub-Total - Fixed	<u>373,095,000</u>	
			TOTAL DEBT		
			FIXED & VAR.	<u>575,395,000</u>	100%



SUMMARY OF DEBT RATES

Nov-24

Rmkt Agent Mode	GOLDMAN DAILY	GOLDMAN DAILY	GOLDMAN DAILY	MERRILL LYNCH DAILY	MERRILL LYNCH WEEKLY	US BANK DAILY
Bond Issue	2009 - B	2011 A-1	2011 A-2	1993	2008-A	2009-A
Par Amount	42,500,000	36,660,000	24,440,000	19,200,000	37,000,000	42,500,000
LOC Bank Reset	BOFA	BOFA	BOFA	US BANK	Sumitomo Wednesday	US BANK
11/1/2024	2.30%	2.30%	2.30%	2.10%	2.30%	2.60%
11/2/2024	2.30%	2.30%	2.30%	2.10%	2.30%	2.60%
11/3/2024	2.30%	2.30%	2.30%	2.10%	2.30%	2.60%
11/4/2024	1.70%	1.70%	1.70%	1.65%	2.30%	1.70%
11/5/2024	1.65%	1.65%	1.65%	1.15%	2.30%	1.30%
11/6/2024	0.45%	0.45%	0.45%	0.75%	2.30%	1.10%
11/7/2024	0.45%	0.45%	0.45%	0.95%	1.74%	0.85%
11/8/2024	2.00%	2.00%	2.00%	1.70%	1.74%	1.50%
11/9/2024	2.00%	2.00%	2.00%	1.70%	1.74%	1.50%
11/10/2024	2.00%	2.00%	2.00%	1.70%	1.74%	1.50%
11/11/2024	2.00%	2.00%	2.00%	1.70%	1.74%	1.50%
11/12/2024	2.55%	2.55%	2.55%	2.45%	1.74%	2.25%
11/13/2024	3.10%	3.10%	3.10%	2.95%	1.74%	2.70%
11/14/2024	3.35%	3.35%	3.35%	3.35%	2.66%	3.45%
11/15/2024	2.80%	2.80%	2.80%	2.80%	2.66%	3.40%
11/16/2024	2.80%	2.80%	2.80%	2.80%	2.66%	3.40%
11/17/2024	2.80%	2.80%	2.80%	2.80%	2.66%	3.40%
11/18/2024	2.55%	2.55%	2.55%	2.30%	2.66%	2.60%
11/19/2024	2.00%	2.00%	2.00%	1.80%	2.66%	2.25%
11/20/2024	1.45%	1.45%	1.45%	1.65%	2.66%	1.80%
11/21/2024	1.70%	1.70%	1.70%	1.80%	2.24%	1.85%
11/22/2024	1.70%	1.70%	1.70%	1.90%	2.24%	2.15%
11/23/2024	1.70%	1.70%	1.70%	1.90%	2.24%	2.15%
11/24/2024	1.70%	1.70%	1.70%	1.90%	2.24%	2.15%
11/25/2024	1.70%	1.70%	1.70%	1.75%	2.24%	1.90%
11/26/2024	1.70%	1.70%	1.70%	1.65%	2.24%	1.65%
11/27/2024	1.80%	1.80%	1.80%	2.25%	2.24%	1.70%
11/28/2024	1.80%	1.80%	1.80%	2.25%	1.94%	1.70%
11/29/2024	2.50%	2.50%	2.50%	2.60%	1.94%	1.80%
11/30/2024	2.50%	2.50%	2.50%	2.60%	1.94%	1.80%
Avg Interest Rates	2.05%	2.05%	2.05%	2.04%	2.20%	2.10%
Rmkt Fee	0.07%	0.07%	0.07%	0.10%	0.07%	0.07%
LOC Fee	0.28%	0.32%	0.32%	0.30%	0.32%	0.30%
<b>All-In Rate</b>	<b>2.40%</b>	<b>2.44%</b>	<b>2.44%</b>	<b>2.44%</b>	<b>2.59%</b>	<b>2.47%</b>
Par Amount	103,600,000			56,200,000		42,500,000

Interest Rate Mode	Percent of Total Variable Rate Debt	Par Outstanding	Weighted All-In Average Rate	Base Rate Average
Daily	81.71%	165,300,000	2.43%	2.06%
Weekly	18.29%	37,000,000	2.59%	2.20%
	100.00%	<b>\$202,300,000</b>	2.46%	2.08%
<b>Fixed</b>				
COPS 2016	27.20%	101,490,000	2.90%	
BABS 2010	46.90%	175,000,000	4.44%	(1)
SERIES 2016	25.89%	96,605,000	3.32%	
	100.00%	<b>\$373,095,000</b>	3.73%	
All-In Debt Rate Including \$60 Million Notional Amount of Swaps				<b>3.36%</b>

(1) Rate adjusted up from 4.35% as a result of sequestration reducing BAB's subsidy by 5.7%

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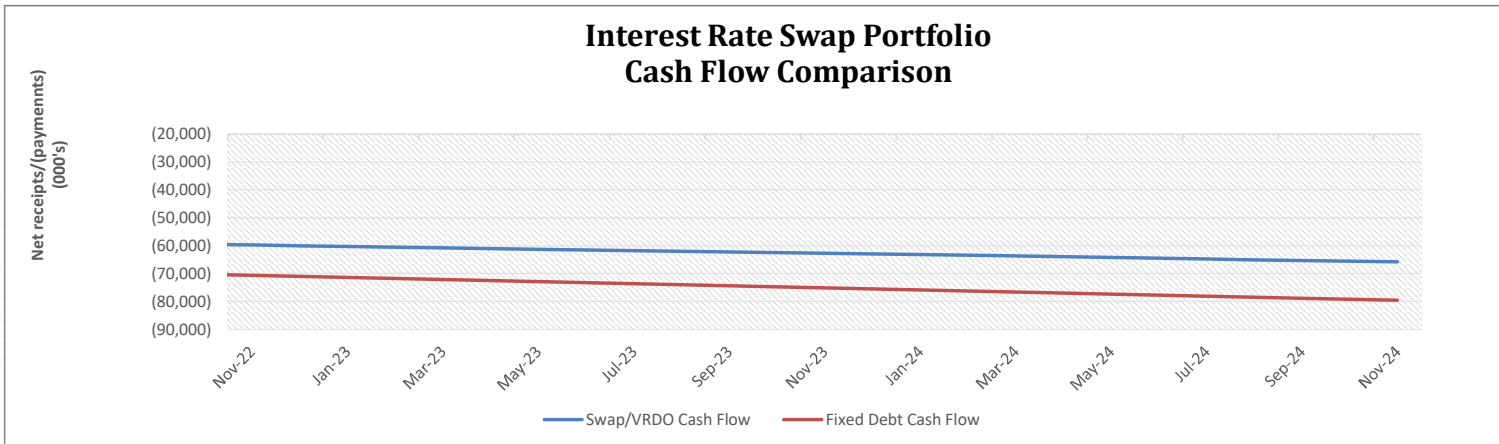
Exhibit "C"  
**Irvine Ranch Water District**  
**Interest Rate Swap Summary**  
**November 2024**

	Prior Mo.	Current Mo.	12-Mo Avg
SFR1M (Lbr Rpl) Avg %	4.90%	4.72%	5.12%

Current Fiscal Year Active Swaps								Cash Flow				(Since 3/07)	Mark to Market	
Effective Date	Maturity Date	Years to Maturity	Counter Party	Notional Amt	Type	Base Index	Fixed Rate	Prior Month	Current Month	Fiscal YTD	Cumulative Net Accrual	Current Mark to Market	Notional Difference	
<b>Fixed Payer Swaps - By Effective Date</b>														
3/10/2007	3/10/2029	4.3	ML	30,000,000	FXP	LIBOR	5.687%	(16,883)	(17,436)	(52,247)	(22,041,499)	27,335,294	(2,664,706)	
3/10/2007	3/10/2029	4.3	CG	30,000,000	FXP	LIBOR	5.687%	(16,883)	(17,436)	(52,247)	(22,041,292)	27,328,364	(2,671,636)	
<b>Totals/Weighted Avgs</b>				<b>\$ 60,000,000</b>			<b>5.687%</b>	<b>\$ (33,766)</b>	<b>\$ (34,872)</b>	<b>\$ (104,494)</b>	<b>\$ (44,082,792)</b>	<b>\$ 54,663,658</b>	<b>\$ (5,336,342)</b>	
<b>Total Current Year Active Swaps</b>				<b>\$ 60,000,000</b>				<b>\$ (33,766)</b>	<b>\$ (34,872)</b>	<b>\$ (104,494)</b>	<b>\$ (44,082,792)</b>	<b>\$ 54,663,658</b>	<b>\$ (5,336,342)</b>	

Current Fiscal Year Terminated Swaps								Cash Flow				Mark to Market	
Effective Date	Maturity Date		Counter Party	Notional Amt	Type	Base Index	Fixed Rate	Prior Month	Current Month	Fiscal YTD	Cumulative Net Accrual	Current Mark to Market	Notional Difference
<b>Total Current Year Terminated Swaps</b>								<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

Current Fiscal Year - Total Swaps								Cash Flow				Mark to Market		
								Prior Month	Current Month	Fiscal YTD	Cumulative Net Accrual	Current Mark to Market	Notional Difference	
<b>Total Current Year Active &amp; Terminated Swaps</b>								<b>\$ 60,000,000</b>	<b>\$ (33,766)</b>	<b>\$ (34,872)</b>	<b>\$ (104,494)</b>	<b>\$ (44,082,792)</b>	<b>\$ 54,663,658</b>	<b>\$ (5,336,342)</b>



Cash Flow Comparison	
Synthetic Fixed vs. Fixed Rate Debt	
Cash Flow to Date	
Synthetic Fixed =	\$65,731,027
Fixed Rate =	\$79,554,502
<b>Assumptions:</b>	
- Fixed rate debt issued at 4.93% in Mar-07 (estimated TE rate - Bloomberg)	
- 'Synthetic' includes swap cash flow + interest + fees to date	

Note: This page is intentionally left blank.

## Exhibit "D"

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
446021	5-Nov-24	CITY OF LAKE FOREST	4,415.59
446022	7-Nov-24	8X8 INC	14,966.41
446023	7-Nov-24	ABC ICE, INC	708.75
446024	7-Nov-24	AGILENT TECHNOLOGIES, INC.	267.22
446025	7-Nov-24	AIR TECHNOLOGY LABORATORIES	717.00
446026	7-Nov-24	AIRGAS, INC.	336.90
446027	7-Nov-24	ALLSTAR PAVING COMPANY INC	824.92
446028	7-Nov-24	ANIXTER INC	44,949.53
446029	7-Nov-24	ANTHONY N. LARSEN	810.00
446030	7-Nov-24	AT&T CORP	59.12
446031	7-Nov-24	AT&T CORP	65.32
446032	7-Nov-24	AT&T CORP	5,775.72
446033	7-Nov-24	AUTOZONE PARTS, INC.	647.07
446034	7-Nov-24	BADGER METER INC.	133,558.28
446035	7-Nov-24	BEST DRILLING AND PUMP, INC.	64,125.00
446036	7-Nov-24	BIOTAGE LLC	155.05
446038	7-Nov-24	BORCHARD SURVEYING & MAPPING, INC.	3,350.00
446039	7-Nov-24	BPS SUPPLY GROUP	2,840.24
446040	7-Nov-24	BROOKFIELD HOMES SO. CALIF LLC	187.12
446041	7-Nov-24	C WELLS PIPELINE MATERIALS, INC	3,561.14
446042	7-Nov-24	CALIFORNIA DEPARTMENT OF TAX AND FEE ADMINISTRATION	847.00
446043	7-Nov-24	CANON SOLUTIONS AMERICA, INC	1,854.80
446044	7-Nov-24	CANON SOLUTIONS AMERICA, INC	23.29
446045	7-Nov-24	CART MART INC.	514.64
446046	7-Nov-24	CEMEX, INC.	803.82
446047	7-Nov-24	CHAPMAN COAST ROOF CO., INC	13,633.15
446048	7-Nov-24	CHEM SERVICE INC.	128.40
446049	7-Nov-24	CHEM TECH INTERNATIONAL INC	2,002.00
446050	7-Nov-24	CHRISTINA DIXON	157.50
446051	7-Nov-24	CITY OF SANTA ANA	605.97
446052	7-Nov-24	CORE & MAIN LP	3,695.82
446053	7-Nov-24	CORELOGIC INC	1,361.40
446054	7-Nov-24	COUNTY OF ORANGE	606.00
446055	7-Nov-24	COX COMMUNICATIONS, INC.	3,534.51
446056	7-Nov-24	DANESHVAR, RAHI REZA	218.74
446057	7-Nov-24	DAVID BALLASCH	380.00
446058	7-Nov-24	DELL MARKETING LP	11,600.23
446059	7-Nov-24	DG INVESTMENT INTERMEDIATE HOLDINGS 2, INC.	23,576.65
446060	7-Nov-24	DMS FACILITY SERVICES, LLC	1,856.00
446061	7-Nov-24	DUNKELMAN, ANDREA	561.09
446062	7-Nov-24	EMERSON PROCESS MANAGEMENT LLLP	4,435.50
446063	7-Nov-24	ENDEMIC ENVIRONMENTAL SERVICES, INC.	12,843.00
446064	7-Nov-24	ENVIRONMENTAL EXPRESS, INC.	2,566.34
446065	7-Nov-24	FASTBLUE COMMUNICATIONS INC.	1,988.72

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
446066	7-Nov-24	FEDEX	278.07
446067	7-Nov-24	FIERRO, SERGIO D	4,662.00
446068	7-Nov-24	FISHER SCIENTIFIC COMPANY, LLC	2,727.64
446069	7-Nov-24	FRONTIER CALIFORNIA INC.	713.50
446070	7-Nov-24	GEIGER BROS	2,122.83
446071	7-Nov-24	GEORGE HILLS COMPANY, INC.	517.10
446072	7-Nov-24	GRAYBAR ELECTRIC COMPANY	3,806.60
446073	7-Nov-24	GRIFFITH COMPANY	1,808.82
446074	7-Nov-24	GRISWOLD INDUSTRIES	27,435.38
446075	7-Nov-24	HACH COMPANY	2,425.66
446076	7-Nov-24	HARMON, SYLVIA	179.59
446077	7-Nov-24	HAZEN AND SAWYER	1,677.50
446078	7-Nov-24	HDR ENGINEERING INC	17,113.75
446079	7-Nov-24	HI-LINE INC	116.02
446080	7-Nov-24	HO, DEAN	1,340.89
446081	7-Nov-24	INNOVATIVE CONSTRUCTION SOLUTIONS	947,523.82
446083	7-Nov-24	IRVINE COMMUNITY DEVELOPMENT COMPANY LLC	150,935.02
446084	7-Nov-24	IRVINE UNIFIED SCHOOL DISTRICT	6,204.75
446085	7-Nov-24	JUST ENERGY SOLUTIONS INC.	89.12
446086	7-Nov-24	KIM, CHERYL	8.82
446087	7-Nov-24	KOUJAH, LULIA	4.81
446088	7-Nov-24	LA HABRA FENCE COMPANY LLC	15,069.00
446089	7-Nov-24	LEE & RO, INC.	8,747.00
446090	7-Nov-24	LEVIN, GREG	109.42
446091	7-Nov-24	LIANG, YIFAN	108.37
446092	7-Nov-24	LINDE GAS & EQUIPMENT INC.	546.95
446093	7-Nov-24	LOZANO SMITH, LLP	6,847.50
446094	7-Nov-24	MATSUDA, STUART	70.19
446095	7-Nov-24	MC FADDEN-DALE INDUSTRIAL HARDWARE, LLC	280.90
446096	7-Nov-24	MC MASTER-CARR SUPPLY COMPANY	2,321.08
446097	7-Nov-24	MIKE ETCHANDY FARMS, INC.	6,894.91
446098	7-Nov-24	MILES CHEMICAL COMPANY, INC.	13,156.95
446099	7-Nov-24	REECE SUPPLY LLC	560.11
446100	7-Nov-24	MUTUAL PROPANE	34.38
446101	7-Nov-24	MYERS & SONS HI-WAY SAFETY, INC.	3,911.29
446102	7-Nov-24	NANOPRECISE SCI CORP	36,026.69
446103	7-Nov-24	NATIONAL READY MIXED CONCRETE SALES, LLC	1,963.21
446104	7-Nov-24	ONESOURCE DISTRIBUTORS, LLC	1,847.12
446105	7-Nov-24	ORACLE AMERICA, INC.	271,700.63
446106	7-Nov-24	PACIFIC HYDROTECH CORPORATION	593,006.56
446107	7-Nov-24	PACIFIC HYDROTECH CORPORATION	11,153.86
446108	7-Nov-24	PACIFIC HYDROTECH CORPORATION	20,057.01
446109	7-Nov-24	PALP INC. DBA EXCEL PAVING COMPANY	206,906.44
446110	7-Nov-24	PAVEWEST, INC.	231,680.78

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
446111	7-Nov-24	PE INSTRUMENTS	720.00
446112	7-Nov-24	PLUMBERS DEPOT INC	4,327.35
446113	7-Nov-24	POLLARDWATER.COM	342.30
446114	7-Nov-24	PRONTO GYM SERVICES, INC.	180.00
446115	7-Nov-24	PSOMAS	33,574.89
446116	7-Nov-24	PULTE GROUP	4,008.92
446117	7-Nov-24	R C FOSTER CORPORATION	1,033,137.95
446118	7-Nov-24	RENTOKIL NORTH AMERICA, INC	4,863.25
446119	7-Nov-24	ROBERT HALF INC.	4,480.00
446120	7-Nov-24	SA GEOTECHNICAL INC.	3,024.80
446121	7-Nov-24	SAFETY-KLEEN SYSTEMS, INC	461.00
446122	7-Nov-24	SAN PAULO APTS	9.75
446123	7-Nov-24	SANTA MARGARITA FORD	890.88
446124	7-Nov-24	SCA OF CA, LLC	3,727.50
446125	7-Nov-24	SCHINDLER ELEVATOR CORPORATION	347.26
446126	7-Nov-24	SCHUNDLER, DARWATI	55.04
446127	7-Nov-24	SHAMROCK SUPPLY COMPANY, INC.	220.07
446128	7-Nov-24	SHIMMICK CONSTRUCTION INC.	119,885.25
446129	7-Nov-24	SITEONE LANDSCAPE SUPPLY, LLC	51.66
446130	7-Nov-24	SMITH AND LOVELESS, INC	1,129.91
446131	7-Nov-24	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	1,414.00
446132	7-Nov-24	SOUTH COAST WATER CO.	100.00
446133	7-Nov-24	SOUTHERN CALIFORNIA EDISON COMPANY	910,666.41
446134	7-Nov-24	SPARKLETTS	415.05
446135	7-Nov-24	SS MECHANICAL CONSTRUCTION CORP	65,009.73
446136	7-Nov-24	STANFORD COURT APARTMENTS	50.54
446138	7-Nov-24	STEVENSON, EDWARD	925.86
446139	7-Nov-24	SURF CITY OPTOMETRY	450.00
446140	7-Nov-24	TAYLOR MORRISON OF CALIFORNIA, LLC	124.13
446141	7-Nov-24	TIC-OFFICE PROPERTIES	117.59
446142	7-Nov-24	TIC-SPECTRUM OFFICE	2,745.70
446143	7-Nov-24	TIERRA VERDE INDUSTRIES	17.24
446144	7-Nov-24	TOMKINS, CHRISTOPHER	5.00
446145	7-Nov-24	TUTTLE-CLICK FORD LINCOLN	136,807.75
446146	7-Nov-24	ULINE INC	539.09
446147	7-Nov-24	UNITED PARCEL SERVICE INC	32.90
446148	7-Nov-24	UNITED RENTALS (NORTH AMERICA), INC.	1,833.67
446149	7-Nov-24	UNITED SITE SERVICES OF CALIFORNIA INC	1,142.25
446150	7-Nov-24	UNIVAR SOLUTIONS USA , LLC	7,941.60
446151	7-Nov-24	UNIVAR SOLUTIONS USA , LLC	7,916.40
446152	7-Nov-24	VINCE TURSINI	2,593.00
446153	7-Nov-24	VISTA PAINT CORPORATION	113.64
446154	7-Nov-24	VULCAN INDUSTRIES INC	14,301.74
446155	7-Nov-24	VULCAN MATERIALS COMPANY	2,070.28

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
446156	7-Nov-24	VWR FUNDING, INC.	4,759.82
446157	7-Nov-24	W. W. GRAINGER, INC.	9,685.92
446158	7-Nov-24	WASTE MANAGEMENT COLLECTIONS AND RECYCLING, INC.	14,302.56
446159	7-Nov-24	WAXIE'S ENTERPRISES, LLC	1,517.91
446160	7-Nov-24	WINDWOOD KNOLL APTS	431.20
446161	7-Nov-24	WOODBIDGE GLASS INC	22.78
446162	7-Nov-24	XYLEM WATER SOLUTIONS USA, INC.	1,761.35
446163	7-Nov-24	YEH, NEI CHIH	1,984.70
446164	7-Nov-24	YU, SONGNA	18.63
446165	7-Nov-24	YUNMI MARTIN	7,750.00
446166	7-Nov-24	ALBERTSON'S LLC	37,453.75
446167	7-Nov-24	CALIFORNIA DEPT OF PUBLIC HEALTH	619.00
446168	7-Nov-24	CONTINENTAL AMERICAN INSURANCE COMPANY	2,321.86
446169	7-Nov-24	FRANCHISE TAX BOARD	466.34
446170	7-Nov-24	INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL 47	8,651.77
446171	7-Nov-24	JAMES PRODUCTIONS, INC.	4,660.00
446172	7-Nov-24	Norman, Tammy	64.19
446173	7-Nov-24	PERS LONG TERM CARE	363.31
446174	7-Nov-24	SOUTHERN CALIFORNIA GAS COMPANY	2,894.74
446175	7-Nov-24	STATE OF ARKANSAS	1,013.26
446176	7-Nov-24	Velasco, Louis De Jesus	18.29
446177	14-Nov-24	2800 KELLER, LLC	39.05
446178	14-Nov-24	3V GEOMATICS INC.	3,000.00
446179	14-Nov-24	A&Y ASPHALT CONTRACTORS, INC.	61,050.00
446180	14-Nov-24	ADS CORP.	2,781.00
446181	14-Nov-24	AGILENT TECHNOLOGIES, INC.	1,456.78
446182	14-Nov-24	AIRGAS, INC.	5,228.19
446183	14-Nov-24	AMETEK BROOKFIELD	2,945.76
446184	14-Nov-24	ARAKELIAN ENTERPRISES, INC.	9,790.53
446185	14-Nov-24	ARCADIS U.S., INC.	7,606.75
446186	14-Nov-24	ASIAN BUSINESS ASSOCIATION, ORANGE COUNTY	2,500.00
446187	14-Nov-24	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA	2,131.13
446188	14-Nov-24	AT&T CORP	2,051.20
446189	14-Nov-24	AUTOZONE PARTS, INC.	1,481.27
446190	14-Nov-24	BANK OF AMERICA	10,053.57
446191	14-Nov-24	BEADOR CONSTRUCTION CO INC	1,400.76
446192	14-Nov-24	BEHTASH AZAR	676.01
446193	14-Nov-24	BETHEL KOREAN CHURCH	49.04
446194	14-Nov-24	BORCHARD SURVEYING & MAPPING, INC.	1,080.00
446195	14-Nov-24	BOWEN, APRIL	836.08
446196	14-Nov-24	BROOKFIELD RESIDENTIAL	28.34
446197	14-Nov-24	C WELLS PIPELINE MATERIALS, INC	1,131.37
446198	14-Nov-24	CALIFORNIA ASSOCIATION OF SANITATION AGENCIES	22,810.00
446199	14-Nov-24	CALIFORNIA PACIFIC HOMES	126.20



IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
446200	14-Nov-24	CANON FINANCIAL SERVICES, INC.	9,790.47
446201	14-Nov-24	CHARD SNYDER & ASSOCIATES, INC.	1,212.65
446202	14-Nov-24	CHARLES P CROWLEY COMPANY INC	1,830.47
446203	14-Nov-24	CHEM TECH INTERNATIONAL INC	7,587.58
446204	14-Nov-24	CHEN, YING	1,900.00
446205	14-Nov-24	CLEAN ENERGY	8,039.38
446206	14-Nov-24	COMMERCIAL DOOR OF ORANGE COUNTY, INC.	8,129.36
446207	14-Nov-24	CR & R INCORPORATED	569.02
446208	14-Nov-24	CUMMINS INC.	1,246.97
446209	14-Nov-24	CURATIVE I.T. LLC	982.47
446210	14-Nov-24	DAVID BALLASCH	5,551.20
446211	14-Nov-24	DCSE, INC.	25,909.85
446212	14-Nov-24	DELL MARKETING LP	5,483.46
446213	14-Nov-24	DISCOVERY SCIENCE CENTER OF ORANGE COUNTY	2,022.08
446214	14-Nov-24	DUNCAN DISTRIBUTION CO. LLC	4,068.52
446215	14-Nov-24	EAGLE GRAPHICS INC.	17,476.73
446216	14-Nov-24	EDWARDS LIFESCIENCES	64.03
446217	14-Nov-24	EL TORO WATER DISTRICT	74,190.00
446218	14-Nov-24	ELIJAH STANDING WARRIOR	1,650.00
446219	14-Nov-24	ENEL X ADVISORY SERVICES NORTH AMERICA, INC.	3,000.00
446220	14-Nov-24	ENTERPRISE HOLDINGS, INC.	44,024.20
446221	14-Nov-24	ENVIRONMENTAL SCIENCE ASSOCIATES	706.58
446222	14-Nov-24	THE GUERRA COMPANIES	60,087.92
446223	14-Nov-24	FARRELL & ASSOCIATES	110.43
446224	14-Nov-24	FEDEX	203.86
446225	14-Nov-24	FISHER SCIENTIFIC COMPANY, LLC	580.44
446226	14-Nov-24	FYDAQ COMPANY, INC.	2,600.00
446227	14-Nov-24	GEA MECHANICAL EQUIPMENT US, INC.	791.73
446228	14-Nov-24	GETINGE USA SALES, LLC	436.39
446229	14-Nov-24	GOLDEN BELL PRODUCTS	40,749.00
446230	14-Nov-24	GOLDEN STAR TECHNOLOGY, INC.	3,252.21
446231	14-Nov-24	GRACE BJORNSTAD	134.69
446232	14-Nov-24	GRAYBAR ELECTRIC COMPANY	13,516.28
446233	14-Nov-24	GRISWOLD INDUSTRIES	34,584.63
446234	14-Nov-24	GSRP ST SOLAR I LLC	11,045.97
446235	14-Nov-24	HACH COMPANY	3,198.73
446236	14-Nov-24	HDR ENGINEERING INC	24,167.50
446237	14-Nov-24	HENKELS & MCCOY WEST LLC	1,068.65
446238	14-Nov-24	HI-LINE INC	1,551.60
446239	14-Nov-24	HOYA OPTICAL LABS OF AMERICA, INC.	211.00
446240	14-Nov-24	INTEGRITY MUNICIPAL SYSTEMS LLC	2,808.00
446241	14-Nov-24	IRON MOUNTAIN INFORMATION MANAGEMENT INC	1,184.77
446242	14-Nov-24	JOHN ROBINSON CONSULTING, INC.	7,030.00
446243	14-Nov-24	KIM, HELEN	479.38

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
446244	14-Nov-24	KIMBALL MIDWEST	4,814.99
446245	14-Nov-24	LA HABRA FENCE COMPANY LLC	1,989.00
446246	14-Nov-24	LEE & RO, INC.	11,540.20
446247	14-Nov-24	MALATSKEY, ANDREW	776.46
446248	14-Nov-24	MAMONTOVA, NIIARA	27.53
446249	14-Nov-24	MAP COMMUNICATIONS, INC.	1,344.82
446250	14-Nov-24	METTLER-TOLEDO INC	4,032.99
446251	14-Nov-24	MICHAEL K. NUNLEY & ASSOCIATES, INC.	42,653.75
446252	14-Nov-24	MILES CHEMICAL COMPANY, INC.	13,627.73
446253	14-Nov-24	MOKABBERI, ALI	60.05
446254	14-Nov-24	REECE SUPPLY LLC	593.75
446255	14-Nov-24	MR CRANE INC	1,667.50
446256	14-Nov-24	MSA SAFETY INCORPORATED	1,284.88
446257	14-Nov-24	NAIR, REMA	370.47
446258	14-Nov-24	NEVEN PROPERTIES LLC	243.70
446259	14-Nov-24	NEW PIG CORPORATION	804.19
446260	14-Nov-24	NEWHOPE IMAGE INC.	4.32
446261	14-Nov-24	NEWMAN, HAROLD	58.69
446262	14-Nov-24	NINYO & MOORE	5,739.75
446263	14-Nov-24	OMEGA INDUSTRIAL SUPPLY, INC.	2,365.86
446264	14-Nov-24	ONESOURCE DISTRIBUTORS, LLC	12,510.30
446265	14-Nov-24	ORANGE COUNTY FIRE AUTHORITY	83.00
446266	14-Nov-24	ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT	2,377.21
446267	14-Nov-24	OSGOOD, ROLAND F	29.85
446268	14-Nov-24	PACIFIC EH&S SERVICES, INC.	6,688.83
446269	14-Nov-24	PACIFIC HYDROTECH CORPORATION	23,853.84
446270	14-Nov-24	PACIFIC HYDROTECH CORPORATION	1,255.47
446271	14-Nov-24	PARTNERS IN CONTROL, INC.	3,062.80
446272	14-Nov-24	PENN ARCHIVE SERVICES	111.76
446273	14-Nov-24	POLLARDWATER.COM	4,198.26
446274	14-Nov-24	PRUDENTIAL OVERALL SUPPLY	21,899.06
446275	14-Nov-24	PSOMAS	15,135.00
446276	14-Nov-24	PULLTARPS MANUFACTURING	227.11
446277	14-Nov-24	PULTE GROUP	3,574.95
446278	14-Nov-24	R&B AUTOMATION, INC.	18,396.78
446279	14-Nov-24	R.F. MACDONALD CO., LLC	21,416.67
446280	14-Nov-24	R.J. NOBLE COMPANY	489.45
446281	14-Nov-24	RENTOKIL NORTH AMERICA, INC	18,547.40
446282	14-Nov-24	REXEL USA, INC.	3,172.16
446283	14-Nov-24	ROBERT HALF INC.	13,795.00
446284	14-Nov-24	ROTHBERG, AARON	67.78
446285	14-Nov-24	SAMSARA INC.	2,931.71
446286	14-Nov-24	SANTA MARGARITA FORD	74.43
446287	14-Nov-24	SITEONE LANDSCAPE SUPPLY, LLC	173.63

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
446288	14-Nov-24	SITMATIC	935.01
446289	14-Nov-24	SOUTH COAST BOBCAT	9,158.75
446290	14-Nov-24	SOUTH COAST WATER CO.	100.00
446291	14-Nov-24	SOUTHERN CALIFORNIA EDISON COMPANY	20,779.89
446292	14-Nov-24	SOUTHERN CALIFORNIA GAS COMPANY	9,639.06
446293	14-Nov-24	SOUTHERN CALIFORNIA SECURITY CENTERS, INC.	2,087.90
446294	14-Nov-24	SOUTHERN COUNTIES LUBRICANTS LLC	2,724.96
446295	14-Nov-24	STETSON ENGINEERS INC.	435.00
446296	14-Nov-24	STUDSON, INC.	404.07
446297	14-Nov-24	SYLVESTER, SPENCER	19.73
446298	14-Nov-24	TANKVISIONS, INC	30.00
446299	14-Nov-24	THE MAHER CORPORATION	2,289.00
446300	14-Nov-24	TOLL BROS. INC.	216.25
446301	14-Nov-24	TRIANGLE PUMP & EQUIPMENT, INC.	5,339.20
446302	14-Nov-24	UNITED PARCEL SERVICE INC	310.88
446303	14-Nov-24	UNIVAR SOLUTIONS USA , LLC	10,586.20
446304	14-Nov-24	USA WASTE OF CALIFORNIA, INC.	708.66
446305	14-Nov-24	V&A CONSULTING ENGINEERS	2,860.50
446306	14-Nov-24	VACO LLC	1,831.50
446307	14-Nov-24	VALIN CORPORATION	6,877.26
446308	14-Nov-24	VERIZON WIRELESS SERVICES LLC	5,533.18
446309	14-Nov-24	VISTA PAINT CORPORATION	1,021.29
446310	14-Nov-24	W. W. GRAINGER, INC.	7,358.30
446311	14-Nov-24	WALTERS WHOLESALE ELECTRIC	2,499.38
446312	14-Nov-24	WARMINGTON HOMES	39.61
446313	14-Nov-24	WASTE MANAGEMENT COLLECTIONS AND RECYCLING, INC.	407.56
446314	14-Nov-24	WATERS TECHNOLOGIES CORPORATION	1,077.64
446315	14-Nov-24	WAXIE'S ENTERPRISES, LLC	309.18
446316	14-Nov-24	WESTAIR GASES & EQUIPMENT, INC.	46.48
446317	14-Nov-24	WESTAIR GASES & EQUIPMENT, INC.	24.46
446318	14-Nov-24	WESTERN SAFETY PRODUCTS INC	1,993.38
446319	14-Nov-24	YOSHIGAE, MIKA	277.00
446320	14-Nov-24	ZEBRON CONTRACTING INC	71,340.00
446321	14-Nov-24	Schreck, Jeffrey A (Jeffrey)	9.16
446322	14-Nov-24	VINCE TURSINI	3,793.00
446323	21-Nov-24	A&A WIPING CLOTH CO	2,068.80
446324	21-Nov-24	AGILENT TECHNOLOGIES, INC.	1,574.87
446325	21-Nov-24	AIRGAS, INC.	981.25
446326	21-Nov-24	AMETEK BROOKFIELD	425.00
446327	21-Nov-24	APCO GRAPHICS INC	295.24
446328	21-Nov-24	AT&T CORP	165.87
446329	21-Nov-24	AT&T CORP	173.73
446330	21-Nov-24	AT&T CORP	12,404.65
446331	21-Nov-24	AUTOZONE PARTS, INC.	720.98

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
446332	21-Nov-24	B & H PHOTO VIDEO	4,044.09
446333	21-Nov-24	BORCHARD SURVEYING & MAPPING, INC.	4,030.00
446334	21-Nov-24	BPS SUPPLY GROUP	295.43
446335	21-Nov-24	BRENNER-FIEDLER & ASSOCIATES, INC.	3,938.26
446336	21-Nov-24	BROOKFIELD RESIDENTIAL	111.38
446337	21-Nov-24	BROWN AND CALDWELL	1,260.00
446338	21-Nov-24	BURNHAM BENEFITS INSURANCE SERVICES, LLC	5,833.33
446339	21-Nov-24	BUTIER ENGINEERING INC	18,120.00
446340	21-Nov-24	C WELLS PIPELINE MATERIALS, INC	3,888.49
446341	21-Nov-24	C&C CONSTRUCTION SERVICES INC	1,293.05
446342	21-Nov-24	CALIFORNIA SPECIAL DISTRICTS ASSOCIATION	9,785.00
446343	21-Nov-24	CALIFORNIA STATE UNIVERSITY, FULLERTON	5,250.00
446344	21-Nov-24	CALPINE CORPORATION	70,892.67
446345	21-Nov-24	CALTROL, INC.	569.81
446346	21-Nov-24	CHARLES KING COMPANY	39,530.00
446347	21-Nov-24	CHARLES P CROWLEY COMPANY INC	1,257.25
446348	21-Nov-24	CHEN, ILING	43.19
446349	21-Nov-24	CHO DESIGN ASSOCIATES, INC	1,800.00
446350	21-Nov-24	CHOI, TAEYOUNG	237.07
446351	21-Nov-24	COMMONWEALTH LAND TITLE COMPANY	10,400.00
446352	21-Nov-24	COUNTY OF ORANGE	2,259.85
446353	21-Nov-24	CULVER CAR WASH	158.95
446354	21-Nov-24	DAVIS FARR LLP	27,000.00
446355	21-Nov-24	DE VAUL PAINT COMPANY	1,132.47
446356	21-Nov-24	DELL MARKETING LP	1,868.08
446357	21-Nov-24	DESCO MANUFACTURING COMPANY, INC	2,472.86
446358	21-Nov-24	DWYER INSTRUMENTS INC	7,689.36
446359	21-Nov-24	DZYNE TECHNOLOGIES LLC	1,581.48
446360	21-Nov-24	EAGLE AERIAL PHOTOGRAPHY INC	18,318.09
446361	21-Nov-24	ECO SERVICES LLC	6,963.64
446362	21-Nov-24	ENDEMIC ENVIRONMENTAL SERVICES, INC.	1,100.00
446363	21-Nov-24	ENVIRONMENTAL RESOURCE ASSOCIATES, INC.	148.20
446364	21-Nov-24	ENVIRONMENTAL SCIENCE ASSOCIATES	25,778.54
446365	21-Nov-24	FEDEX	332.42
446366	21-Nov-24	FISHER SCIENTIFIC COMPANY, LLC	1,996.23
446367	21-Nov-24	FOOTHILL/EASTERN TRANSPORTATION	9,300.00
446368	21-Nov-24	FRONTIER CALIFORNIA INC.	467.55
446369	21-Nov-24	GARDENSOFT CORP	12,000.00
446370	21-Nov-24	GEI CONSULTANTS INC	9,375.00
446371	21-Nov-24	GEOCOMP, INC.	17,573.75
446372	21-Nov-24	GEORGE HILLS COMPANY, INC.	742.70
446373	21-Nov-24	GRISWOLD INDUSTRIES	10,766.43
446374	21-Nov-24	HACH COMPANY	395.96
446375	21-Nov-24	HAFT JAVAHERIAN, MOHAMMAD	300.26

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
446376	21-Nov-24	HAZEN AND SAWYER	2,810.00
446377	21-Nov-24	HDR ENGINEERING INC	44,003.70
446378	21-Nov-24	HI-LINE INC	368.31
446379	21-Nov-24	HORWICH, HELEN	76.78
446380	21-Nov-24	HOWDEN USA COMPANY	31,291.93
446381	21-Nov-24	INFOSEND, INC.	66,238.48
446382	21-Nov-24	IRVINE PROPERTY MANAGEMENT	26.88
446383	21-Nov-24	JAMES BRADFORD HALDEMAN	9,950.00
446384	21-Nov-24	JT THORPE & SON, INC	19,945.37
446385	21-Nov-24	KAN VENTURES, INC	7,750.00
446386	21-Nov-24	LINDE GAS & EQUIPMENT INC.	15,060.58
446387	21-Nov-24	LSA ASSOCIATES INC	1,765.00
446388	21-Nov-24	MC MASTER-CARR SUPPLY COMPANY	375.08
446389	21-Nov-24	MISSION COMMUNICATIONS, LLC	1,252.00
446390	21-Nov-24	REECE SUPPLY LLC	1,050.00
446391	21-Nov-24	NALLABELLI, SRAVAN KUMAR	608.00
446392	21-Nov-24	NATIONAL BUSINESS FURNITURE, LLC	645.58
446393	21-Nov-24	NATIONAL OILWELL VARCO, L.P.	130.70
446394	21-Nov-24	NINYO & MOORE	15,367.25
446395	21-Nov-24	NORIMA CONSULTING US	12,025.00
446396	21-Nov-24	NORTHWOOD PARK APTS	780.42
446397	21-Nov-24	OKAMOTO, ASHLYN	461.65
446398	21-Nov-24	ONESOURCE DISTRIBUTORS, LLC	17,589.39
446399	21-Nov-24	ORANGE COUNTY FIRE AUTHORITY	1,211.00
446400	21-Nov-24	ORANGE COUNTY WINWATER WORKS	2,869.65
446401	21-Nov-24	OZBAG, PUZANT	713.61
446402	21-Nov-24	PACIFIC EH&S SERVICES, INC.	10,551.58
446403	21-Nov-24	PAVEWEST, INC.	34,182.43
446404	21-Nov-24	PAYMENTUS CORPORATION	76,565.53
446405	21-Nov-24	PEAK SCIENTIFIC, INC	6,470.56
446406	21-Nov-24	PFM FINANCIAL ADVISORS, LLC	828.75
446407	21-Nov-24	PINNACLE TOWERS LLC	911.53
446408	21-Nov-24	PRIME SYSTEMS INDUSTRIAL AUTOMATION, INC.	6,540.00
446409	21-Nov-24	PSOMAS	25,085.25
446410	21-Nov-24	PTI SAND & GRAVEL INC	1,779.20
446411	21-Nov-24	PUMP CHECK INC.	1,995.00
446412	21-Nov-24	QUINN COMPANY	494.67
446413	21-Nov-24	REAL WATER CONSULTANTS INC.	17,750.00
446414	21-Nov-24	RENTOKIL NORTH AMERICA, INC	6,192.49
446415	21-Nov-24	ROBERT HALF INC.	5,780.50
446416	21-Nov-24	RS HUGHES COMPANY, INC.	314.97
446417	21-Nov-24	SAMAHA, SAMMY	6.15
446418	21-Nov-24	SANDLINE DISCOVERY, LLC	2,589.95
446419	21-Nov-24	SERRANO WATER DISTRICT	3,516.42

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
446420	21-Nov-24	SERVERSUPPLY.COM INC	522.05
446421	21-Nov-24	SHAMROCK SUPPLY COMPANY, INC.	459.02
446422	21-Nov-24	SHOETERIA	443.03
446423	21-Nov-24	SI MANAGEMENT, INC	3,390.00
446424	21-Nov-24	SOUTH COAST WATER DISTRICT	1,279.00
446425	21-Nov-24	SOUTHERN CALIFORNIA EDISON COMPANY	839.90
446426	21-Nov-24	SOUTHERN CALIFORNIA EDISON COMPANY	531,509.03
446427	21-Nov-24	SOUTHERN CALIFORNIA GAS COMPANY	73,104.65
446428	21-Nov-24	SOUTHERN COUNTIES LUBRICANTS LLC	1,615.67
446429	21-Nov-24	SPARKLETTS	33.27
446430	21-Nov-24	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	484,525.83
446431	21-Nov-24	SYNAGRO-WWT, INC.	10,889.10
446432	21-Nov-24	THE BRETHERN DBA FIRE SAFETY FIRST	1,567.85
446433	21-Nov-24	THE FORGE MEDIA GROUP LLC	10,000.00
446434	21-Nov-24	THE GUERRA COMPANIES	4,807.76
446435	21-Nov-24	THIRKETTLE CORPORATION	261.33
446436	21-Nov-24	TIC-OFFICE PROPERTIES	307.05
446437	21-Nov-24	TIC-SPECTRUM OFFICE	280.00
446438	21-Nov-24	TOLL BROS. INC.	4,322.81
446439	21-Nov-24	TOM'S TRUCK CENTER NORTH COUNTY, LLC	3,926.06
446440	21-Nov-24	TRI POINTE HOMES, INC.	64.36
446441	21-Nov-24	TRIPAC MARKETING INC	686.16
446442	21-Nov-24	TUV SUD AMERICA, INC.	2,247.50
446443	21-Nov-24	UNITED PARCEL SERVICE INC	114.18
446444	21-Nov-24	UNITED SITE SERVICES OF CALIFORNIA INC	361.33
446445	21-Nov-24	VELASCO, EMELY	139.50
446446	21-Nov-24	VERIZON WIRELESS SERVICES LLC	113.44
446447	21-Nov-24	VISTA PAINT CORPORATION	400.83
446448	21-Nov-24	W. W. GRAINGER, INC.	19,682.41
446449	21-Nov-24	WALTERS WHOLESALE ELECTRIC	1,540.11
446450	21-Nov-24	WASTE MANAGEMENT COLLECTIONS AND RECYCLING, INC.	2,523.55
446451	21-Nov-24	WATERFORD PUBLISHING GROUP, LLC	4,252.64
446452	21-Nov-24	WATERLINE TECHNOLOGIES INC	4,080.00
446453	21-Nov-24	WAXIE'S ENTERPRISES, LLC	1,441.57
446454	21-Nov-24	WOODBURY SQUARE APARTMENTS	519.97
446455	21-Nov-24	YOON, BYUNG	31.81
446456	21-Nov-24	FRANCHISE TAX BOARD	342.00
446457	21-Nov-24	INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL 47	8,634.54
446458	21-Nov-24	PERS LONG TERM CARE	363.31
446459	21-Nov-24	STATE OF ARKANSAS	1,013.26
446460	27-Nov-24	ABC ICE, INC	337.83
446461	27-Nov-24	AGILENT TECHNOLOGIES, INC.	340.11
446462	27-Nov-24	AIRGAS, INC.	16,885.04
446463	27-Nov-24	AMAYA SOLUTIONS INC.	8,192.77

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
446464	27-Nov-24	AT&T CORP	6,657.00
446465	27-Nov-24	AT&T CORP	197.56
446466	27-Nov-24	AUTOZONE PARTS, INC.	518.18
446467	27-Nov-24	AVIAT U.S., INC	6,131.06
446468	27-Nov-24	BANK OF NEW YORK MELLON TRUST COMPANY NA	1,900.00
446469	27-Nov-24	BRINKMANN INSTRUMENTS, INC.	7,715.00
446470	27-Nov-24	BURLINGTON SAFETY LABORATORY OF CALIFORNIA INC	560.66
446471	27-Nov-24	CALIFORNIA BANK & TRUST	40,895.84
446472	27-Nov-24	CHEM TECH INTERNATIONAL INC	6,117.54
446473	27-Nov-24	CITY OF NEWPORT BEACH	2,269.26
446474	27-Nov-24	CITY OF TUSTIN	331.10
446475	27-Nov-24	COMMERCIAL DOOR OF ORANGE COUNTY, INC.	1,144.05
446476	27-Nov-24	COUNTY OF ORANGE	885.93
446477	27-Nov-24	COX COMMUNICATIONS, INC.	3,202.01
446478	27-Nov-24	DAIOHS USA INCORPORATED	3,101.64
446479	27-Nov-24	DAVID BALLASCH	2,072.26
446480	27-Nov-24	DELL MARKETING LP	13,107.75
446481	27-Nov-24	DILYTICS INC	5,860.00
446482	27-Nov-24	DIRECTV INC	152.99
446483	27-Nov-24	EL TORO WATER DISTRICT	44,471.00
446484	27-Nov-24	ELITE EQUIPMENT, INC.	2,796.43
446485	27-Nov-24	ENDEMIC ENVIRONMENTAL SERVICES, INC.	2,688.00
446486	27-Nov-24	FARRELL & ASSOCIATES	675.28
446487	27-Nov-24	FEDEX	188.44
446488	27-Nov-24	FISHER SCIENTIFIC COMPANY, LLC	304.39
446489	27-Nov-24	FRONTIER CALIFORNIA INC.	364.36
446490	27-Nov-24	FUSCOE ENGINEERING, INC.	4,940.00
446491	27-Nov-24	GEA MECHANICAL EQUIPMENT US, INC.	465.98
446492	27-Nov-24	GEI CONSULTANTS INC	434.42
446493	27-Nov-24	GOFORTH & MARTI	1,239.11
446494	27-Nov-24	GRAYBAR ELECTRIC COMPANY	614.64
446495	27-Nov-24	GRISWOLD INDUSTRIES	37,330.06
446496	27-Nov-24	GUIDA SURVEYING INC.	3,323.55
446497	27-Nov-24	HACH COMPANY	3,016.15
446498	27-Nov-24	HARRINGTON INDUSTRIAL PLASTICS LLC	6,575.68
446499	27-Nov-24	HOME DEPOT USA INC	480.30
446500	27-Nov-24	JB BOSTICK COMPANY INC	1,900.00
446501	27-Nov-24	JOHN TROJANOWSKI	18,084.70
446502	27-Nov-24	LINDE GAS & EQUIPMENT INC.	13,904.86
446503	27-Nov-24	LUBRICATION ENGINEERS	3,434.92
446504	27-Nov-24	MC MASTER-CARR SUPPLY COMPANY	56.88
446505	27-Nov-24	MICHAEL K. NUNLEY & ASSOCIATES, INC.	3,456.00
446506	27-Nov-24	NATIONAL PLANT SERVICES, INC.	6,511.50
446507	27-Nov-24	NATIONAL READY MIXED CONCRETE SALES, LLC	3,054.29

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
446508	27-Nov-24	NINYO & MOORE	2,401.50
446509	27-Nov-24	NORTHWOOD PLACE APTS	4,635.95
446510	27-Nov-24	ONESOURCE DISTRIBUTORS, LLC	3,423.14
446511	27-Nov-24	ORGANIC STANDARD SOLUTIONS INTERNATIONAL, LLC	207.82
446512	27-Nov-24	OSTS, INC	983.00
446513	27-Nov-24	PAYNE & FEARS LLP	337.50
446514	27-Nov-24	PLUMBERS DEPOT INC	1,465.26
446515	27-Nov-24	PMC ENGINEERING LLC.	4,669.36
446516	27-Nov-24	QUADIENT FINANCE USA, INC.	1,000.00
446517	27-Nov-24	REECE SUPPLY LLC	75.24
446518	27-Nov-24	SANTA MARGARITA FORD	1,855.83
446519	27-Nov-24	SECURITAS SECURITY SERVICES USA, INC.	79,692.82
446520	27-Nov-24	SOUTH COAST WATER DISTRICT	264.76
446521	27-Nov-24	SOUTHERN CALIFORNIA EDISON COMPANY	326,609.42
446522	27-Nov-24	SOUTHERN COUNTIES LUBRICANTS LLC	5,693.13
446523	27-Nov-24	TAIT ENVIRONMENTAL SERVICES, INC.	960.00
446524	27-Nov-24	THE IRVINE COMPANY LLC	1,785.60
446525	27-Nov-24	TOXGUARD FLUID TECHNOLOGIES, INC	5,016.59
446526	27-Nov-24	TRI COUNTY PUMP COMPANY	21,566.76
446527	27-Nov-24	TRIPAC MARKETING INC	1,877.42
446528	27-Nov-24	UNITED PARCEL SERVICE INC	57.74
446529	27-Nov-24	UNITED SITE SERVICES OF CALIFORNIA INC	1,142.25
446530	27-Nov-24	UNIVAR SOLUTIONS USA , LLC	10,388.80
446531	27-Nov-24	US BANK NAT'L ASSOC N.DAKOTA	4,600.00
446532	27-Nov-24	US BANK NAT'L ASSOCIATION NORTH DAKOTA	76,617.80
446533	27-Nov-24	V&A CONSULTING ENGINEERS	25,761.58
446534	27-Nov-24	VISTA PAINT CORPORATION	156.25
446535	27-Nov-24	VULCAN MATERIALS COMPANY	2,128.95
446536	27-Nov-24	W DESIGN ASSOCIATES, INC.	2,900.00
446537	27-Nov-24	W. W. GRAINGER, INC.	18,052.05
446538	27-Nov-24	WALTERS WHOLESALE ELECTRIC	4,371.86
446539	27-Nov-24	WARD, WILLIAM P JR.	3,465.70
446540	27-Nov-24	WESTAIR GASES & EQUIPMENT, INC.	1,374.35
446541	27-Nov-24	WOODBURY SQUARE APARTMENTS	1,013.74
446542	27-Nov-24	AMERICAN FAMILY LIFE ASSURANCE COMPANY OF COLUMBUS	4,380.51
446543	27-Nov-24	ANTHEM BLUE CROSS	337.32
446544	27-Nov-24	CALIFORNIA DEPARTMENT OF TAX AND FEE ADMINISTRATION	1,631.40
446545	27-Nov-24	CHRISTOPHER SCOTT PENDERGRASS	28,127.36
446546	27-Nov-24	ET PRODUCTIONS	20,681.86
446547	27-Nov-24	Groves, Benjamin Robert	72.49
446548	27-Nov-24	HARTFORD LIFE AND ACCIDENT INSURANCE COMPANY	28.11
446549	27-Nov-24	PALO VERDE IRRIGATION DISTRICT	28,222.78
446551	27-Nov-24	SANTIAGO AQUEDUCT COMMISSION	39,914.87
<b>SUB-TOTAL IRWD WELLS FARGO CHECK AND IRWD WELLS FARGO CHECK NO PRINT DISBURSEMENTS</b>			<b>9,495,461.31</b>



IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
1004799	7-Nov-24	Cervantes, Angel	26.80
1004800	7-Nov-24	Cunningham, Laura S	64.06
1004801	7-Nov-24	Daniel, Matthew (Matthew)	319.00
1004802	7-Nov-24	Estrada, Robert C	67.27
1004803	7-Nov-24	Gates, Laura	16.88
1004804	7-Nov-24	Jordan, Dawn M (Dawn)	47.44
1004805	7-Nov-24	Ng, Herbert	93.00
1004806	7-Nov-24	Nguyen, Jeanny	15.14
1004807	7-Nov-24	Pulles, Margaret M (Margaret)	13.92
1004808	7-Nov-24	Ramirez, Eric	92.72
1004809	7-Nov-24	Rios, Elias L	67.00
1004810	7-Nov-24	Salazar, Kyle	108.03
1004811	7-Nov-24	Shapiro, Matthew	194.24
1004812	7-Nov-24	Tolerico, Steven M (Steve)	56.00
1004813	7-Nov-24	Trigg, Tyler	102.37
1004814	7-Nov-24	Vu, Johnny T (Johnny)	19.43
1004815	7-Nov-24	Wang, Gabrielle	233.92
1004816	7-Nov-24	Zamora, Victor A	116.68
1004853	14-Nov-24	Almazan, Robert (Chris)	54.27
1004854	14-Nov-24	Breiter, Michelle	635.43
1004855	14-Nov-24	Chaney, Michael A (Michael)	49.55
1004856	14-Nov-24	Contreras, Max Albert	17.29
1004857	14-Nov-24	De Castro, Earl	32.03
1004858	14-Nov-24	Estrada, Robert C	67.27
1004859	14-Nov-24	Hansen, Casey	26.80
1004860	14-Nov-24	Haug, Jack Philip Ryan	21.71
1004861	14-Nov-24	Jakubas-Pufal, Dorota	15.81
1004862	14-Nov-24	Johnson, Dane	305.22
1004863	14-Nov-24	Ludwig, Jason	64.32
1004864	14-Nov-24	Monday, Jason	82.95
1004865	14-Nov-24	Norman, Tammy	180.18
1004866	14-Nov-24	Orozco, Linda	17.46
1004867	14-Nov-24	Rodriguez, Jimmy	26.00
1004868	14-Nov-24	Saldana, Michael	55.61
1004869	14-Nov-24	Smith, Brianna	19.43
1004870	14-Nov-24	Stupy, Cole Austin	16.08
1004871	14-Nov-24	Teyechea, Cresta (Chrissy)	8.98
1004872	14-Nov-24	Van Deusen, Scott A (Scott)	14.06
1004873	14-Nov-24	Velasco, Louis De Jesus	18.29
1004874	14-Nov-24	Villella, Aaren	56.82
1004875	14-Nov-24	Vu, Johnny T (Johnny)	58.29
1004876	14-Nov-24	Zamora, Victor A	412.74
1004909	21-Nov-24	Aguilar, Alan C	29.22

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
1004910	21-Nov-24	Bosley, Kelleen M	14.74
1004911	21-Nov-24	Bronstein, Louis (Lou)	61.50
1004912	21-Nov-24	Compton, Christine A	180.01
1004913	21-Nov-24	Cronin, Gregory	112.98
1004914	21-Nov-24	Estrada, Robert C	67.27
1004915	21-Nov-24	Gates, Laura	99.45
1004916	21-Nov-24	Haug, Jack Philip Ryan	21.71
1004917	21-Nov-24	Hernandez, Thomas J	32.01
1004918	21-Nov-24	Jakubas-Pufal, Dorota	25.46
1004919	21-Nov-24	Magana, Husai	1,219.80
1004920	21-Nov-24	Maldonado, Damien Michael	94.08
1004921	21-Nov-24	Mares, Michael	580.00
1004922	21-Nov-24	Munoz Osorio, Eden	2,064.00
1004923	21-Nov-24	Perez, David M (David)	345.00
1004924	21-Nov-24	Richardson, Kyle	81.50
1004925	21-Nov-24	Salazar, Kyle	69.94
1004926	21-Nov-24	Shapiro, Matthew	58.29
1004927	21-Nov-24	Teyechea, Cresta (Chrissy)	8.98
1004928	21-Nov-24	Villella, Aaren	56.82
1004929	21-Nov-24	Vu, Johnny T (Johnny)	38.86
1004930	21-Nov-24	Wang, Gabrielle	14.74
1004931	21-Nov-24	Zamora, Victor A	159.90
1004967	27-Nov-24	Almazan, Robert (Chris)	54.27
1004968	27-Nov-24	Cano, Marco T (Marco)	106.00
1004969	27-Nov-24	Cariker, Cody J (Cody)	14.07
1004970	27-Nov-24	Cervantes, Angel	53.60
1004971	27-Nov-24	Contreras, Joaquin	85.62
1004972	27-Nov-24	Corral, Edward Jr (Ed)	925.00
1004973	27-Nov-24	Drenner, Raymond	117.92
1004974	27-Nov-24	Garibay, Erika Isela	54.40
1004975	27-Nov-24	Greer, Matthew	17.02
1004976	27-Nov-24	Hansen, Casey	26.80
1004977	27-Nov-24	Lopez, Miguel	22.52
1004978	27-Nov-24	Ludwig, Jason	64.32
1004979	27-Nov-24	Madding, Joshua	190.54
1004980	27-Nov-24	Nguyen, Jeanny	15.14
1004981	27-Nov-24	Orozco, Gustavo A (Gus)	106.00
1004982	27-Nov-24	Saldana, Michael	111.22
1004983	27-Nov-24	Santos, Jonathan	20.10
1004984	27-Nov-24	Schreck, Jeffrey A (Jeffrey)	21.04
1004985	27-Nov-24	Sidlin, Wayne	153.56
1004986	27-Nov-24	Squyres, Diane M (Diane)	29.58
1004987	27-Nov-24	Stupy, Cole Austin	16.08
1004988	27-Nov-24	Valdes, Jeffrey Glenn	51.86

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
1004989	27-Nov-24	Van Deusen, Scott A (Scott)	125.98
<b>SUB-TOTAL IRWD WELLS FARGO ACH FOR EXPENSE REPORTS</b>			<b>11,729.39</b>
1004817	7-Nov-24	ALEXANDER'S CONTRACT SERVICES, INC.	135,758.12
1004818	7-Nov-24	ALSTON & BIRD LLP	7,920.00
1004819	7-Nov-24	AMAZON CAPITAL SERVICES, INC.	2,929.47
1004820	7-Nov-24	BIGWIG MONSTER, LLC	5,200.00
1004821	7-Nov-24	CALIFORNIA BARRICADE RENTALS, INC.	13,778.50
1004822	7-Nov-24	CDW GOVERNMENT LLC	820.03
1004823	7-Nov-24	CIMARRON ENERGY, INC	17,901.51
1004824	7-Nov-24	CINDY KREBS CONSULTING, INC.	13,000.00
1004825	7-Nov-24	COTTONS POINT DESIGN, INC.	263.99
1004826	7-Nov-24	COUNTY OF ORANGE SANITATION DISTRICT	26,532.63
1004827	7-Nov-24	DRAKE TRAFFIC CONTROL SERVICES INC	6,955.00
1004828	7-Nov-24	DUDEK	1,362.50
1004829	7-Nov-24	EHS INTERNATIONAL, INC	1,320.00
1004830	7-Nov-24	ENVIRONMENTAL ENGINEERING AND CONTRACTING, INC.	32,011.25
1004831	7-Nov-24	GANAHL LUMBER CO.	2,777.80
1004832	7-Nov-24	HAAKER EQUIPMENT COMPANY	1,584.75
1004833	7-Nov-24	HILL BROTHERS CHEMICAL COMPANY	102,002.65
1004834	7-Nov-24	INDUSTRIAL NETWORKING SOLUTIONS	235.60
1004835	7-Nov-24	KRONICK MOSKOVITZ TIEDEMANN & GIRARD	714.00
1004836	7-Nov-24	LANDCARE HOLDINGS, INC.	204,737.46
1004837	7-Nov-24	MERRIMAC PETROLEUM, INC.	28,456.52
1004838	7-Nov-24	MRO ELECTRIC & SUPPLY CO.	3,226.04
1004839	7-Nov-24	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY	2,730,746.30
1004840	7-Nov-24	NATURALWELL, LLC	1,110.00
1004841	7-Nov-24	O.C. SUPERIOR CUSTOM CLEANING	960.00
1004842	7-Nov-24	OLIN CORPORATION	79,253.01
1004843	7-Nov-24	OLSON REMCHO LLP	662.50
1004844	7-Nov-24	ORANGE COUNTY AUTO PARTS CO	1,294.52
1004845	7-Nov-24	ORIGIN CONSULTING LLC	6,942.50
1004846	7-Nov-24	RAM AIR ENGINEERING INC	4,361.46
1004847	7-Nov-24	RINCON TRUCK CENTER INC.	702.66
1004848	7-Nov-24	RLG ENTERPRISES, INC	36.24
1004849	7-Nov-24	TETRA TECH, INC	25,382.50
1004850	7-Nov-24	TOTAL RESOURCE MANAGEMENT, INC	3,942.50
1004851	7-Nov-24	VSS SALES INC	8,962.16
1004852	7-Nov-24	WESTAMERICA COMMUNICATIONS, INC.	660.00
1004877	14-Nov-24	AECOM TECHNICAL SERVICES, INC.	9,917.50
1004878	14-Nov-24	AMAZON CAPITAL SERVICES, INC.	2,928.88
1004879	14-Nov-24	APPLIED ENGINEERING CONCEPTS	11,060.00
1004880	14-Nov-24	AQUA BEN CORPORATION	3,719.17
1004881	14-Nov-24	CALIFORNIA BARRICADE RENTALS, INC.	16,484.50

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
1004882	14-Nov-24	COLONIAL LIFE & ACCIDENT INSURANCE CO.	370.32
1004883	14-Nov-24	COTTONS POINT DESIGN, INC.	8,240.18
1004884	14-Nov-24	DIGITAL SCEPTER CORPORATION	64,966.67
1004885	14-Nov-24	DRAKE TRAFFIC CONTROL SERVICES INC	14,740.00
1004886	14-Nov-24	EHS INTERNATIONAL, INC	3,630.00
1004887	14-Nov-24	HAAKER EQUIPMENT COMPANY	3,771.35
1004888	14-Nov-24	HANSON BRIDGETT LLP	2,522.00
1004889	14-Nov-24	HILL BROTHERS CHEMICAL COMPANY	14,076.83
1004890	14-Nov-24	INDUSTRIAL NETWORKING SOLUTIONS	633.94
1004891	14-Nov-24	JCI JONES CHEMICALS INC	5,017.82
1004892	14-Nov-24	JIG CONSULTANTS	17,937.50
1004893	14-Nov-24	LANDCARE HOLDINGS, INC.	55,269.46
1004894	14-Nov-24	LWP CLAIMS SOLUTIONS INC	2,333.00
1004895	14-Nov-24	MARK KADESH	10,821.00
1004896	14-Nov-24	MICROSOFT CORPORATION	490.11
1004897	14-Nov-24	MRO ELECTRIC & SUPPLY CO.	2,165.56
1004898	14-Nov-24	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY	304,166.17
1004899	14-Nov-24	OLIN CORPORATION	101,205.47
1004900	14-Nov-24	ORANGE COUNTY AUTO PARTS CO	1,291.80
1004901	14-Nov-24	PYRO-COMM SYSTEMS INC	955.00
1004902	14-Nov-24	RAM AIR ENGINEERING INC	2,862.05
1004903	14-Nov-24	REACH EMPLOYEE ASSISTANCE INC	1,097.60
1004904	14-Nov-24	RLG ENTERPRISES, INC	393.60
1004905	14-Nov-24	SOUTHLAND WATER TECHNOLOGIES LLC	3,186.75
1004906	14-Nov-24	TETRA TECH, INC	47,075.00
1004907	14-Nov-24	UTILITYAPI, INC.	2,000.00
1004908	14-Nov-24	WEST COAST SAFETY SUPPLY INC	523.12
1004932	21-Nov-24	ACE INDUSTRIES INC	4,694.33
1004933	21-Nov-24	AMAZON CAPITAL SERVICES, INC.	4,160.06
1004934	21-Nov-24	AVISTA TECHNOLOGIES, INC	23,194.95
1004935	21-Nov-24	BIGWIG MONSTER, LLC	14,450.00
1004936	21-Nov-24	BORTEK INDUSTRIES, INC.	595.20
1004937	21-Nov-24	CALIFORNIA BARRICADE RENTALS, INC.	35,133.50
1004938	21-Nov-24	CAROLLO ENGINEERS, INC	17,350.00
1004939	21-Nov-24	CDW GOVERNMENT LLC	34,798.25
1004940	21-Nov-24	CIMARRON ENERGY, INC	18,017.14
1004941	21-Nov-24	CITY OF IRVINE	14,875.20
1004942	21-Nov-24	CONSERV CONSTRUCTION INC.	4,447.50
1004943	21-Nov-24	COOMBS SERVICE GROUP	31,550.00
1004944	21-Nov-24	COTTONS POINT DESIGN, INC.	2,858.95
1004945	21-Nov-24	COUNTY OF ORANGE SANITATION DISTRICT	199,542.95
1004946	21-Nov-24	DATA CLEAN CORPORATION	690.00
1004947	21-Nov-24	DUDEK	1,320.00
1004948	21-Nov-24	GANAHL LUMBER CO.	2,467.66

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
1004949	21-Nov-24	HAAKER EQUIPMENT COMPANY	1,011.14
1004950	21-Nov-24	HANSON BRIDGETT LLP	75,157.05
1004951	21-Nov-24	HILL BROTHERS CHEMICAL COMPANY	9,890.87
1004952	21-Nov-24	JCI JONES CHEMICALS INC	7,962.05
1004953	21-Nov-24	LANDCARE HOLDINGS, INC.	99,925.88
1004954	21-Nov-24	LWP CLAIMS SOLUTIONS INC	13,855.89
1004955	21-Nov-24	MARK THOMAS & COMPANY, INC.	4,257.38
1004956	21-Nov-24	MERRIMAC PETROLEUM, INC.	27,943.95
1004957	21-Nov-24	MICROSOFT CORPORATION	504.38
1004958	21-Nov-24	OLIN CORPORATION	123,283.83
1004959	21-Nov-24	ORANGE COUNTY AUTO PARTS CO	291.52
1004960	21-Nov-24	PACIFIC PARTS & CONTROLS INC	3,808.75
1004961	21-Nov-24	PAPER DEPOT DOCUMENT DESTRUCTION LLC	165.00
1004962	21-Nov-24	RED WING SHOE STORE	25.00
1004963	21-Nov-24	RINCON TRUCK CENTER INC.	60.86
1004964	21-Nov-24	TETRA TECH, INC	73,607.50
1004965	21-Nov-24	WATERSMART SOFTWARE INC	16,894.88
1004966	21-Nov-24	WOODARD & CURRAN INC	7,360.00
1004990	27-Nov-24	AMAZON CAPITAL SERVICES, INC.	389.97
1004991	27-Nov-24	ARAG NORTH AMERICA, INC.	546.50
1004992	27-Nov-24	BRENNTAG PACIFIC INC	7,166.13
1004993	27-Nov-24	CALIFORNIA BARRICADE RENTALS, INC.	12,864.50
1004994	27-Nov-24	CANNON CORPORATION	36,688.50
1004995	27-Nov-24	CENTROID SYSTEMS, INC.	10,049.50
1004996	27-Nov-24	COUNTY OF ORANGE SANITATION DISTRICT	1,599,065.40
1004997	27-Nov-24	DELTA DENTAL OF CALIFORNIA	43,913.21
1004998	27-Nov-24	DRAKE TRAFFIC CONTROL SERVICES INC	6,027.50
1004999	27-Nov-24	EHS INTERNATIONAL, INC	1,980.00
1005000	27-Nov-24	FIDELITY SECURITY LIFE INSURANCE COMPANY	7,887.21
1005001	27-Nov-24	GANAHL LUMBER CO.	1,909.22
1005002	27-Nov-24	HAAKER EQUIPMENT COMPANY	939.13
1005003	27-Nov-24	HILL BROTHERS CHEMICAL COMPANY	10,029.24
1005004	27-Nov-24	JOHN MICHAEL COVAS	174.70
1005005	27-Nov-24	LAGUNA BEACH COUNTY WATER DISTRICT	7,697.92
1005006	27-Nov-24	LANDCARE HOLDINGS, INC.	5,996.93
1005007	27-Nov-24	LIEBERT CASSIDY WHITMORE	771.00
1005008	27-Nov-24	MICHAEL BAKER INTERNATIONAL, INC.	2,934.00
1005009	27-Nov-24	OLIN CORPORATION	78,045.56
1005010	27-Nov-24	ORANGE COUNTY AUTO PARTS CO	689.23
1005011	27-Nov-24	PACIFIC PARTS & CONTROLS INC	1,264.91
1005012	27-Nov-24	RAM AIR ENGINEERING INC	17,246.64
1005013	27-Nov-24	RED WING SHOE STORE	729.01
1005014	27-Nov-24	RELIANCE STANDARD LIFE INSURANCE COMPANY	38,009.22
1005015	27-Nov-24	RINCON TRUCK CENTER INC.	64.48

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

CHECK OR ELECTRONIC #	PAYMENT DATE	SUPPLIER	PAYMENT AMOUNT
1005016	27-Nov-24	RLG ENTERPRISES, INC	477.14
1005017	27-Nov-24	TETRA TECH, INC	10,773.00
1005018	27-Nov-24	TOTAL RESOURCE MANAGEMENT, INC	2,280.00
1005019	27-Nov-24	WEST COAST SAFETY SUPPLY INC	3,692.82
<b>SUB-TOTAL IRWD WELLS FARGO ACH DISBURSEMENTS</b>			<b>6,976,810.71</b>
2000861	7-Nov-24	CAPTIVE AUDIENCE MARKETING INC.	79.00
2000862	7-Nov-24	CULLIGAN OF SANTA ANA	23,490.00
2000863	7-Nov-24	FERGUSON US HOLDINGS, INC.	3,985.50
2000864	7-Nov-24	IDEXX DISTRIBUTION, INC	442.85
2000865	7-Nov-24	INNOVATIVE MACHINE TOOL REPAIR LLC	2,060.47
2000866	7-Nov-24	PARKHOUSE TIRE, INC.	1,599.30
2000867	7-Nov-24	POLYDYNE INC	9,516.48
2000868	7-Nov-24	S&S SEEDS INC	20,499.28
2000869	7-Nov-24	THERMO ELECTRON NORTH AMERICA LLC	3,467.40
2000870	7-Nov-24	THOMPSON & PHIPPS INC	448.24
2000871	7-Nov-24	UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA	6,612.73
2000872	14-Nov-24	ACCUSOURCE, INC.	1,510.30
2000873	14-Nov-24	FERGUSON US HOLDINGS, INC.	6,103.00
2000874	14-Nov-24	MULTIQUIP INC	804.40
2000875	14-Nov-24	RESOLUTE COMPANY	5,800.00
2000876	14-Nov-24	RESTEK CORPORATION	281.65
2000877	14-Nov-24	S & J SUPPLY CO INC	6,032.62
2000878	14-Nov-24	THERMO ELECTRON NORTH AMERICA LLC	1,553.76
2000879	14-Nov-24	THOMPSON & PHIPPS INC	6,485.83
2000880	21-Nov-24	FERGUSON US HOLDINGS, INC.	41,569.98
2000881	21-Nov-24	INNOVATIVE MACHINE TOOL REPAIR LLC	1,893.88
2000882	21-Nov-24	MULTIQUIP INC	900.00
2000883	21-Nov-24	THERMO ELECTRON NORTH AMERICA LLC	1,125.13
2000884	27-Nov-24	ABSOLUTE STANDARDS, INC.	135.00
2000885	27-Nov-24	FERGUSON US HOLDINGS, INC.	11,247.72
<b>SUB-TOTAL IRWD WELLS FARGO PC</b>			<b>157,644.52</b>
100233	14-Nov-24	BANK OF AMERICA	219,937.77
100234	14-Nov-24	CALIFORNIA DEPARTMENT OF TAX AND FEE ADMINISTRATION	9,876.00
100235	14-Nov-24	U.S. BANK NATIONAL ASSOCIATION	87,844.99
100236	20-Nov-24	STATE WATER RESOURCES CONTROL BOARD	607.00
100237	27-Nov-24	SUMITOMO MITSUI BANKING CORPORATION	76,497.01
100238	27-Nov-24	U.S. BANK NATIONAL ASSOCIATION	38,284.58
100239	27-Nov-24	WELLS FARGO BANK, N.A.	7,370.02
<b>SUB-TOTAL IRWD WELLS FARGO WIRE DISBURSEMENTS</b>			<b>440,417.37</b>
16082	13-Nov-24	INSPIRA FINANCIAL HEALTH, INC	175.95
16083	26-Nov-24	FRANCHISE TAX BOARD	98,592.58

IRVINE RANCH WATER DISTRICT  
AP DISBURSEMENTS AND VOIDS FOR NOVEMBER 2024

<b>CHECK OR ELECTRONIC #</b>	<b>PAYMENT DATE</b>	<b>SUPPLIER</b>	<b>PAYMENT AMOUNT</b>
16084	26-Nov-24	CALPERS	316,243.39
16085	26-Nov-24	INTERNAL REVENUE SERVICE	295,494.82
16086	26-Nov-24	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	3,539.83
16087	26-Nov-24	EMPLOYMENT DEVELOPMENT DEPARTMENT	21,838.88
16088	26-Nov-24	CALPERS	764,380.63
16089	26-Nov-24	CHARD SNYDER & ASSOCIATES, INC.	42,832.64
16090	26-Nov-24	EMPOWER RETIREMENT, LLC	193,429.13
16091	26-Nov-24	INSPIRA FINANCIAL HEALTH, INC	178.65
16092	27-Nov-24	FRANCHISE TAX BOARD	113,520.44
16093	27-Nov-24	CALPERS	316,076.15
16094	27-Nov-24	INTERNAL REVENUE SERVICE	344,351.50
16095	27-Nov-24	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	3,539.83
16096	27-Nov-24	EMPLOYMENT DEVELOPMENT DEPARTMENT	24,896.18
16097	27-Nov-24	CHARD SNYDER & ASSOCIATES, INC.	12,707.84
16098	27-Nov-24	EMPOWER RETIREMENT, LLC	223,340.86
<b>SUB-TOTAL IRWD BOFA WIRE DISBURSEMENTS</b>			<b>2,775,139.30</b>
<b>SUB-TOTAL BOFA AND WELLS FARGO CHECK AND ELECTRONIC DISBURSEMENTS</b>			<b>19,857,202.60</b>
446037	7-Nov-24	BOOYA, LLC	2,220.87
446082	7-Nov-24	INSPIRA FINANCIAL HEALTH, INC	175.95
446137	7-Nov-24	STATE WATER RESOURCES CONTROL BOARD	607.00
446550	27-Nov-24	SANTIAGO AQUEDUCT COMMISSION	61,654.11
<b>SUB-TOTAL BOFA AND WELLS FARGO CHECK AND ELECTRONIC ISSUED AND VOIDED IN NOVEMBER 2024</b>			<b>64,657.93</b>
<b>TOTAL</b>			<b>19,921,860.53</b>

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Exhibit "E"

**MONTHLY SUMMARY OF PAYROLL ACH PAYMENTS**

**November  
2024**

	AMOUNT	VENDOR	PURPOSE
11/1/2024	1,291,792.58	BANK OF AMERICA	ACH Payments for Payroll
11/15/2024	1,508,900.88	BANK OF AMERICA	ACH Payments for Payroll
11/29/2024	1,296,802.94	BANK OF AMERICA	ACH Payments for Payroll
	<u><b>\$4,097,496.40</b></u>		

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Exhibit "F"


**IRWD Gov Code 53065.5 Disclosure Report**

Payment or Reimbursements for Individual charges of \$100 or more per transaction for services or product received.

01-NOV-24 to 30-NOV-24

NAME	CHECK NO.	CHECK DATE	AMOUNT	ITEM DESCRIPTION	EXPENSE JUSTIFICATION
Breiter, Michelle	1004854	14-Nov-24	248.16	Lodging	AWWEE 2024 Conference, San Diego, CA - October 23, 2024
Breiter, Michelle	1004854	14-Nov-24	248.16	Lodging	AWWEE 2024 Conference, San Diego, CA - October 24, 2024
Cano, Marco	1004968	27-Nov-24	106.00	Certification	CWEA Collection System Maintenance Grade I
Compton, Christine	1004912	21-Nov-24	180.01	Airfare	CSDA Legislative Committee, Sacramento, CA - October 24, 2024. Paid difference for airfare
Corral, Edward	1004972	27-Nov-24	925.00	Registration Fees	AWWA Education and Training for Cross Connection Specialist
Daniel, Matthew	1004801	7-Nov-24	221.00	Membership	CWEA renewal
Johnson, Dane	1004862	14-Nov-24	105.22	Other(Misc)	H2O Show & Tell display pump cabinet
Magana, Husai	1004919	21-Nov-24	925.00	Registration Fees	AWWA Education and Training for Cross Connection Specialist
Mares, Michael	1004921	21-Nov-24	350.00	Certification	CEU Course Backflow Awareness Training
Mares, Michael	1004921	21-Nov-24	125.00	Certification	Cross Connection Specialist
Mares, Michael	1004921	21-Nov-24	105.00	Certification	SWRCB Water Distribution Operator
Munoz Osorio, Eden	1004922	21-Nov-24	1,800.00	Certification	AWWA Cross Connection Specialist course at USC, Los Angeles
Orozco, Gustavo	1004981	27-Nov-24	106.00	Certification	CWEA Collection System Maintenance Grade I
Perez, David	1004923	21-Nov-24	239.00	Membership	CWEA membership
Perez, David	1004923	21-Nov-24	106.00	Certification	CWEA Collection System Maintenance Grade I
Van Deusen, Scott	1004989	27-Nov-24	111.00	Certification	CWEA Collection System Maintenance Grade II
Wang, Gabrielle	1004815	7-Nov-24	118.68	Other(Misc)	Welcome lunch for Arnold Cuyuch.
Wang, Gabrielle	1004815	7-Nov-24	115.24	Other(Misc)	Appreciation lunch for Monica Sangster and welcome back from maternity for Renee Genis
Zamora, Victor	1004876	14-Nov-24	135.94	Other(Misc)	Shadetree Nursery expenses
			<b>Total Amount:</b>	<b>\$ 6,270.41</b>	

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December 16, 2024  
Prepared by: L. Kaneshiro  
Submitted by: N. Adly  
Approved by: Paul A. Cook 

## CONSENT CALENDAR

### CONFERENCE ROOM TECHNOLOGY REFRESH BUDGET INCREASE

#### SUMMARY:

Conference room technology upgrades will enhance efficiency, communication and emergency response capabilities for the District. The requested budget increase is to modernize the audio-visual (AV) technologies in the Operations Center Multi-Purpose Room (MPR), and the Aquarium, Maintenance, and Enterprise Asset Management (EAM) conference rooms. Staff recommends that the Board authorize a budget increase for Project No. 12591 in the amount of \$195,000.

#### BACKGROUND:

The requested budget increase is to modernize the AV technologies in four conference rooms at the Michelson Operations Center. These four conference rooms – Operations MPR, Aquarium, Maintenance, and EAM – currently have outdated AV equipment that no longer meets the District’s needs and are due for replacement. The new AV technologies will be similar to those in other recently modernized conference rooms to provide employees with a familiar, inter-operable and stable system. Staff from the Information Technology, Maintenance Operations, and Safety and Security Departments collaborated to develop the requirements and design for each room. The four conference rooms will be modernized as follows:

- *Operations MPR:* This upgrade includes purchasing and installing a Crestron AV control system, five large displays, two cameras, four microphones, twelve speakers, two touch panels, audio processor, media integrators, wireless presentation system, network switch, peripheral equipment and cabling. This technology upgrade will enable the Operations MPR with capabilities so that this room can also be used as the District’s Emergency Operations Center. The estimated cost is \$142,000.
- *Aquarium Conference Room:* This upgrade includes purchasing and installing a Microsoft Teams Room control system, one large display, camera, microphone, audio processor, touch panel, peripheral equipment and cabling. The estimated cost is \$18,000.
- *EAM Conference Room:* This upgrade includes purchasing and installing a Microsoft Teams room control system, two large displays, camera, microphone, audio processor, touch panel, peripheral equipment and cabling. The estimated cost is \$21,000.
- *Maintenance Conference Room:* This upgrade includes purchasing and installing a computer control system, two large displays, camera, microphone, audio processor, network switch, peripheral equipment and cabling. The estimated cost is \$14,000.

FISCAL IMPACTS:

To upgrade the technologies in the four conference rooms, the FY 2024-25 General Plant budget, Project No. 12591, would increase by \$195,000, as follows:

Project No.	Current Budget	Addition <Reduction>	Total Budget
12591	\$150,000	\$195,000	\$345,000

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act Code of Regulations, Title 14, Chapter 3, Section 15378.

COMMITTEE STATUS:


This item was reviewed by the Finance and Personnel Committee on December 11, 2024.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE A BUDGET INCREASE FOR PROJECT NO. 12591 IN THE AMOUNT OF \$195,000 TO MODERNIZE THE AUDIO-VISUAL TECHNOLOGIES IN THE OPERATIONS MULTI-PURPOSE ROOM, AQUARIUM, MAINTENANCE, AND ENTERPRISE ASSET MANAGEMENT CONFERENCE ROOMS.

LIST OF EXHIBITS:

None.

December 16, 2024  
Prepared by: M. Lindsay / E. Akiyoshi  
Submitted by: F. Sanchez / P. Weghorst  
Approved by: Paul A. Cook 

## CONSENT CALENDAR

### WATER SUPPLY ASSESSMENT AND WATER SUPPLY VERIFICATION FOR THE DISCOVERY PARK PROJECT

#### SUMMARY:

In October 2024, staff received a request from the City of Irvine to prepare a Water Supply Assessment (WSA) and Water Supply Verification (WSV) for the Discovery Park Project, which is located in IRWD's Planning Area 31. Staff prepared the WSA and WSV for the proposed project and recommends Board approval of both documents.

#### BACKGROUND:

The proposed Discovery Park Project in the City of Irvine is designed for the construction of 1,858 new residential dwelling units on 30 acres of vacant land currently zoned for commercial office space. The project site is located in Planning Area 31, along the northeast corner of the intersection of Laguna Canyon Road and Discovery, adjacent to Interstate 5. The project is included in the existing City of Irvine General Plan. A location map of the Discovery Park Project is provided as Exhibit "A".

In October, the City of Irvine requested that IRWD prepare both a WSA and WSV for the Discovery Park Project consistent with SB 610 and SB 221 that were passed and signed by the Governor of California in 2001. Both laws went into effect in January 2002. Staff has prepared both documents as described below.

#### Water Supply Assessment:

The WSA for the proposed Discovery Park Project was prepared based on information from the most recent IRWD Water Resources Master Plan. The WSA concludes that the total water supplies available to IRWD during normal, single-dry, and multiple-dry years within a 20-year projection will meet the projected water demand of the project. Estimates for a normal year in 2044, show an increase in IRWD potable water demands of 257 acre-feet per year (AFY) from 84,228 AF at baseline demand to 84,485 AF with the project. In addition, non-potable demand increases by 3 AFY in 2044 from 29,308 AF at baseline to 29,311 AF with the project. This demand is in addition to the existing and planned future uses including, but not limited to, agricultural and manufacturing. The completed WSA is provided as Exhibit "B".

#### Water Supply Verification:

A WSV has been completed for the proposed project and is provided as Exhibit "C". The data in the WSV is based upon the prepared WSA which contains IRWD's determination that a sufficient water supply is available. SB 221 requires several additional elements be included in the WSV that are not covered or required in the WSA. These elements are primarily covered in

Sections 1(b)(ii), 1(b)(iii), and 1(b)(iv) of the “Detailed Verification” section in the attached WSV. This information and the IRWD approved WSA reflect IRWD’s confirmation that the project water demands, together with demands from any other developments that have previously received WSVs or will-serve, or other projects that have come to IRWD’s attention either through developers or through the respective land use agency approval process are within the demands identified by that WSA. In accordance with this procedure, the attached WSV is based on the WSA and on information contained in the WSV.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

This item was reviewed at the December 11, 2024, Water Resources Policy and Communications Committee meeting.

RECOMMENDATION:

THAT THE BOARD APPROVE THE WATER SUPPLY ASSESSMENT AND CONTINGENT UPON APPROVAL OF THE WATER SUPPLY ASSESSMENT, APPROVE THE WATER SUPPLY VERIFICATION FOR THE DISCOVERY PARK PROJECT.

LIST OF EXHIBITS:

- Exhibit “A” – Discovery Park Project Location Map
- Exhibit “B” – Water Supply Assessment for the Discovery Park Project
- Exhibit “C” – Water Supply Verification for the Discovery Park Project



Exhibit "A"



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**IRVINE RANCH WATER DISTRICT  
ASSESSMENT OF WATER SUPPLY**  
Water Code §10910 et seq.

To: (Lead Agency)

City of Irvine  
One Civic Center Plaza  
Irvine, CA 92623-9575

(Applicant)  
The Irvine Company  
550 Newport Center Drive  
Newport Beach, CA 92660

**Project Information**

Project Title: PA 31 Discovery Park

- Residential: No. of dwelling units: 1,858 dwelling units (See Exhibit B)
- Shopping center or business: No. of employees N/A Sq. ft. of floor space N/A
- Commercial office: No. of employees Sq. ft. of floor space
- Hotel or motel: No. of rooms
- Industrial, manufacturing or processing: No. of employees No. of acres Sq. ft. of floor space
- Mixed use (check and complete all above that apply)
- Other:

**Assessment of Availability of Water Supply**

On \_\_\_\_\_, the Board of Directors of the Irvine Ranch Water District (IRWD) approved the within assessment and made the following determination regarding the above-described Project:

- The projected water demand for the Project  was  was not included in IRWD's most recently adopted urban water management plan.
- A sufficient water supply is available for the Project.  
The total water supplies available to IRWD during normal, single-dry and multiple-dry years within a 20-year projection will meet the projected water demand of the Project in addition to the demand of existing and other planned future uses, including, but not limited to, agricultural and manufacturing uses.
- A sufficient water supply is not available for the Project. [Plan for acquiring and developing sufficient supply attached. Water Code § 10911(a)]

The foregoing determination is based on the following Water Supply Assessment Information and supporting information in the records of IRWD.

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Signature \_\_\_\_\_ Date \_\_\_\_\_ Title \_\_\_\_\_

## **Water Supply Assessment Information**

### Purpose of Assessment

Irvine Ranch Water District (“IRWD”) has been identified by the City as a public water system that will supply water service (both potable and nonpotable) to the project identified on the cover page of this assessment (the “Project”). As the public water system, IRWD is required by Section 10910 *et seq.* of the Water Code to provide the City with an assessment of water supply availability (“assessment”) for defined types of projects. The Project has been found by the City to be a project requiring an assessment. The City is required to include this assessment in the environmental document for the Project, and based on the record, make a determination whether projected water supplies are sufficient for the Project and existing and planned uses.

Water Code Section 10910 *et seq.* (the “Assessment Law”) contains the requirements for the information to be set forth in the assessment.

### Prior Water Supply Assessments

IRWD does not allocate particular supplies to any project but identifies total supplies for its service area. Because of IRWD’s aggregation of demands and supplies, each assessment completed by IRWD is expected to be generally similar to the most recent assessment, with changes as needed to take into account changes, if any, in demands and supplies, and any updated and corrected information obtained by IRWD. Previously assessed projects’ water demands will be included in the baseline. A newly assessed project’s water demand will have been included in previous water supply assessments for other projects (as part of IRWD’s “full build-out” demand) to the extent of any land use planning or other water demand information for the project that was available to IRWD.

The Project’s water demand was included (as part of IRWD’s “full build-out” demand) in previous water supply assessments performed by IRWD, based on land use planning information available to IRWD. In this water supply assessment, the Project demand will be revised in accordance with updated information provided by the applicant and included in the “with project” demand.

### Supporting Documentation

IRWD prepares two planning documents to guide water supply decision-making. IRWD’s principal planning document is IRWD’s “Water Resources Master Plan” (“WRMP”). The WRMP is a comprehensive document compiling data and analyses that IRWD considers necessary for its planning needs. IRWD also prepares an Urban Water Management Plan (“UWMP”), a document required by statute. The UWMP is based on the WRMP, but contains defined elements as listed in the statute (Water Code Section 10631 *et seq.*), and, as a result, is more limited than the WRMP in the treatment of supply and demand issues. Therefore, IRWD primarily relies on its most recent WRMP. The UWMP is required to be updated in years ending with “five” and “zero,” and IRWD’s most recent update of that document (2020 UWMP) was adopted in June 2021.

In addition to the WRMP and the 2020 UWMP mentioned above, other supporting documentation referenced herein is found in Section 6 of this assessment.

Due to the number of contracts, statutes and other documents comprising IRWD's written proof of entitlement to its water supplies, in lieu of attachment of such items, they are identified by title and summarized in Section 2(b) of this assessment (written contracts/proof of entitlement). Copies of the summarized items can be obtained from IRWD.

### Assessment Methodology

**Water use factors; dry-year increases.** IRWD employs water use factors to enable it to assign water demands to the various land use types and aggregate the demands. The water use factors are based on average water use and incorporate the effect of IRWD's tiered-rate conservation pricing and its other water use efficiency programs. The factors are derived from historical usage (billing data) and a detailed review of water use factors within the IRWD service areas conducted as a part of the WRMP. System losses at a rate of approximately 5% are built into the water use factors. Water demands also reflect normal hydrologic conditions (precipitation). Lower levels of precipitation and higher temperatures will temporarily result in higher water demands, due primarily to the need for additional water for irrigation. To reflect this, base (normal) WRMP water demands have been increased by 7% in the assessment during both "single-dry" and "multiple-dry" years. This increase in estimated demands is considered conservative and is consistent with the Municipal Water District of Orange County's ("MWDOC") 2020 UWMP which assumes increased demands in single-dry and multiple dry years of 6% based on MWDOC's Orange County Reliability Study (MWDOC 2020 UWMP, pg. 7-2). The Metropolitan Water District of Southern California ("MWD") also considers these weather variables in their climate adjustment factors when forecasting demands, as documented in MWD's 2020 UWMP which shows an average increase of 8% for single dry year demands (MWD 2020 UWMP Tables 2-4, 2-5, 2-6) and also documented in their 2020 Integrated Resources Plan - Regional Needs Assessment (2022).

**Planning horizon.** In accordance with Water Code Section 10910, this assessment reviews demands and supplies covering a 20-year planning horizon. For consistency with IRWD's WRMP, the assessment reviews demands and supplies through the year 2044, which is considered to include build-out or "ultimate development".

**Assessment of demands.** Water demands are reviewed in this assessment for three development projections (to 2044):

- Existing and committed demand (without the Project) ("baseline"). This provides a baseline condition as of the date of this assessment, consisting of demand from existing development, plus demand from development that has both approved zoning and (if required by the Assessment Law) an adopted water supply assessment.
- Existing and committed demand, plus the Project ("with-project"). This projection adds the Project water demands to the baseline demands.
- Full WRMP build-out ("full build-out"). In addition to the Project, this projection adds potential demands for all presently undeveloped areas of IRWD based on current general plan information, modified by more specific information available to IRWD, as more fully described in Chapter 2 of the WRMP.

**Assessment of supplies.** For comparison with demands, water supplies are classified as *currently available* or *under development*:

- *Currently available* supplies include those that are presently operational, and those that will be operational within the next several years. Supplies expected to be operational in the next several years are those having completed or substantially completed the environmental and regulatory review process, as well as having necessary contracts (if any) in place to move forward. These supplies are in various stages of planning, design, or construction.
- In general, supplies *under development* may necessitate the preparation and completion of environmental documents, regulatory approvals, and/or contracts prior to full construction and implementation.

IRWD is also evaluating the development of additional supplies that are not included in either *currently available* or *under-development* supplies for purposes of this assessment. As outlined in the WRMP, prudent water supply and financial planning dictates that development of supplies be phased in over time consistent with the growth in demand.

Water supplies available to IRWD include several sources: groundwater pumped from the Orange County groundwater basin (including the Irvine Subbasin); captured local (native) surface water; recycled sewage; and supplemental imported water supplied by MWD through the MWDOC. The supply-demand comparisons in this assessment are broken down among the various sources and are further separated into potable and nonpotable water sources.

**Comparison of demand and supply.** The three demand projections noted above (baseline, with-project and full build-out) are compared with supplies in the following ways:

- On a total *annual* quantity basis (stated in acre-feet per year (“AFY”)).
- On a *peak-flow* (maximum day) basis (stated in cubic feet per second (“cfs”)).
- Under three climate conditions: base (normal) conditions and single-dry and multiple-dry year conditions. (Note: These conditions are compared for *annual* demands and not for *peak-flow* demands. *Peak-flow* is a measure of a water delivery system’s ability to meet the highest day’s demand of the fluctuating demands that will be experienced in a year’s time. Peak demands occur during the hot, dry season and as a result are not appreciably changed by dry-year conditions; dry-year conditions do affect *annual* demand by increasing the quantity of water needed to supplement normal wet-season precipitation.)

### Summary of Results of Demand-Supply Comparisons

Listed below are Figures provided in this assessment, comparing projected potable and nonpotable water supplies and demands under the three development projections:

- Figure 1: Normal Year Supply and Demand – Potable Water
- Figure 2: Single Dry-Year Supply and Demand – Potable Water
- Figure 3: Multiple Dry-Year Supply and Demand – Potable Water
- Figure 4: Maximum-Day Supply and Demand – Potable Water
- Figure 5: Normal Year Supply and Demand – Nonpotable Water
- Figure 6: Single Dry-Year Supply and Demand – Nonpotable Water
- Figure 7: Multiple Dry-Year Supply and Demand – Nonpotable Water
- Figure 8: Maximum-Day Supply and Demand – Nonpotable Water

It can be observed in the Figures that IRWD's *supplies* remain essentially constant between normal, single-dry, and multiple-dry years. This result is due to the fact that groundwater and MWD imported water account for the majority of all of IRWD's potable supply, and recycled water, groundwater and imported water comprise all of IRWD's nonpotable supply. Groundwater production typically remains constant or may increase in cycles of dry years, even if overdraft of the basin temporarily increases, as groundwater producers reduce their demand on imported supplies to secure reliability. (See Section 4 herein.) As to imported water, MWD's 2020 Urban Water Management Plan (MWD 2020 UWMP) concludes that MWD has supply capabilities sufficient to meet expected demands from 2025 through 2045 under a single dry year condition and a period of drought lasting five consecutive water years, as well as in a normal water year hydrologic condition. (See also Section 2(b) (1) "IMPORTED SUPPLY - ADDITIONAL INFORMATION," below.) Recycled water production also remains constant and is considered "drought-proof" as a result of the fact that sewage flows remain virtually unaffected by dry years. Only a small portion of IRWD's supply, native water captured in Irvine Lake, is reduced in single-dry and multiple-dry years. The foregoing factors also serve to explain why there is no difference in IRWD's supplies between single-dry and multiple-dry years.

A review of the Figures indicates the following:

- *Currently available* supplies of potable water are adequate to meet annual demands for the *baseline*, *with-project* and *full build-out* scenarios projected under the normal year, and the single- and multiple-dry year conditions through the year 2044. (Figures 1, 2 and 3.) IRWD plans to proceed with the implementation of future potable supplies (*under development*), as shown in the Figures, to improve local reliability during dry-year conditions.
- Adequate *currently available* potable water supply capacity is available to meet *peak-flow* (maximum day) demands for all demand projections through the year 2044. (Figure 4.)
- With respect to nonpotable water, *currently available* supplies are adequate to meet projected annual demands for both the *baseline* and *with-project* demand projections under both dry-year conditions through the year 2044. (Figures 5, 6, 7 and 8.) IRWD has implemented all planned nonpotable supplies, as shown in the Figures, to improve local reliability during dry-year conditions.

The foregoing Figures provide an overview of IRWD potable and nonpotable water supply capabilities. More detailed information on the anticipated development and use of supplies, which incorporates source costs and reliability issues, is provided in the WRMP.

***Margins of safety.*** The Figures and other information described in this assessment show that IRWD's assessment of supply availability contains several margins of safety or buffers:

- "Reserve" water supplies (excess of supplies over demands) will be available to serve as a buffer against inaccuracies in demand projections, future changes in land use, or alterations in supply availability.
- Conservative estimates of annual potable and nonpotable *imported* supplies have been made based on connected delivery capacity (by application of peaking factors as

described below in Section 2, footnote 1); additional supplies are expected to be available from these sources, based on legal entitlements, historical uses and information provided by MWD. In addition to MWD's existing regional supply assessments, this assessment has considered MWD information concerning operational limits on Delta pumping. See "**Actions on Delta Pumping,**" below.

- Information provided by MWD, as the imported water supplier, concerning the adequacy of its regional supplies, summarized herein, demonstrates MWD's inclusion of reserves in its regional supply assessments. In addition to MWD's existing regional supply assessments, this assessment has considered MWD's information concerning operational limits on Delta pumping. See "**Actions on Delta Pumping,**" below.

- Although groundwater supply amounts shown in this assessment assume production levels within applicable basin production percentages described herein, production of groundwater can exceed applicable basin production percentages on a short-term basis, which can provide additional reliability during dry years or emergencies. See "**IRWD's Evaluation of Effect of Reduced MWD Supplies to IRWD,**" below.

**Actions on Delta Pumping.** The Sacramento/San Joaquin Delta ("Delta") is a vulnerable component in both the State and Federal systems to convey water from northern portions of California to areas south of the Delta. Issues associated with the Delta have generally been known for years; however, the continuing decline in the number of endangered Delta smelt resulted in the filing of litigation challenging permits for the operation of the Delta pumping facilities. On August 31, 2007, a Federal court ordered interim protective measures for the endangered Delta smelt, including operational limits on Delta pumping, which have an effect on State Water Project ("SWP") operations and supplies. On June 4, 2009, a federal biological opinion imposed rules that further restrict water diversions from the Delta to protect endangered salmon and other endangered fish species. Several proceedings concerning Delta operations were initiated to evaluate options to address Delta smelt impacts and other environmental concerns. In addition to the regulatory and judicial proceedings to address immediate environmental concerns, the Delta Vision process and Bay-Delta Conservation Plan ("BDCP") process were established to identify long-term solutions for the Delta. In addition, State and federal agencies and water user entities are currently engaged in the development of the Delta Conveyance Project (previously California WaterFix), which is aimed at making physical and operational improvements in the Delta necessary to improve south of the Delta SWP water supplies and water quality and protect ecosystem health in the Delta (MWD 2020 UWMP). Prior to the 2007 court decision, MWD's Board approved a Delta Action Plan in May 2007, that described short, mid and long-term conditions and the actions to mitigate potential supply shortages and to develop and implement long-term solutions. To address uncertainties in expected SWP supplies, in October 2007, MWD prepared its 2007 Integrated Resources Plan ("IRP") Implementation Report, in which MWD estimated that it could see as much as up to a 22% reduction on average of its SWP supplies based on the court order. As part of its ongoing long term planning, in its 2010 IRP Update, MWD identified changes to the long-term plan and established direction to address the range of potential changes in water supply planning. The 2010 IRP also discusses dealing with uncertainties related to impacts of climate change (see additional discussion of this below), as well as actions to protect endangered fisheries. The 2010 IRP Update emphasizes an evolving approach and suite of actions to address the water supply challenges that are posed by uncertain weather patterns, regulatory and environmental restrictions, water quality impacts and changes in the state and the region. The 2010 IRP Update includes MWD's Adaptive Resource Management Strategy three components: Core Resources Strategy, Supply Buffer Implementation and Foundational Actions, which together



provides the basis for the 2010 IRP Update. The 2010 IRP Update expands the concept of developing a planning buffer from the 2004 IRP Update by implementing a supply buffer equal to 10 percent of the total retail demand.

In January 2016, MWD adopted its 2015 IRP Update. In the 2015 IRP Update, MWD continued its Adaptive Resource Management Strategy and integrated future supply actions to improve the viability of potential contingency resources as needed, and to position the region to effectively implement these resources in a timely manner. The 2015 IRP finds that additional actions are needed in investments in conservation, local supplies, the Delta Conveyance Project (previously California WaterFix), and stabilizing Colorado River supplies. Among the supply actions, MWD will continue to work collaboratively with state and federal agencies on the California WaterFix, maximize its storage and transfer approach, and continue to develop and protect local supplies and conservation.

MWD is currently developing its 2020 IRP Update and has completed and adopted a 2020 IRP Regional Needs Assessment which is considered Phase 1 of the 2020 IRP. A One Water Implementation phase will be Phase 2 of the 2020 IRP. The One Water Implementation will take the results and findings of Phase 1 to identify integrated regional solutions. It will include an updated Adaptive Management Strategy, policies, programs and projects to address the findings and mitigate any potential shortages.

***IRWD's Evaluation of Effect of Reduced MWD Supplies to IRWD:*** In the MWD 2020 UWMP, MWD states it has supply capability that would be sufficient to meet expected demands from 2025 to 2045 under single dry year and multiple dry year conditions.<sup>1</sup>

Based on the prior MWD 2007 IRP Implementation Report and also reported in the MWD 2015 IRP, MWD estimated that it could receive reduction of SWP supplies of up to 22% on average until a long-term solution was implemented. For purposes of ensuring a conservative analysis, IRWD made an evaluation of the effect of the 22% estimated reduction of MWD's SWP supplies on its overall imported supplies. IRWD estimates that 22% reduction of SWP supplies conservatively translates to approximately 16% reduction in all of MWD's imported supplies over the years 2025 through 2045. For this purpose, it is assumed that MWD's total supplies consist only of imported SWP and Colorado deliveries. Based on this estimate, this assessment uses a 16% reduction in MWD supplies available to IRWD for the years 2025 through 2045, using IRWD's connected capacity without any water supply allocation imposed by MWD. This reduction in MWD supplies is reflected in Figures 1, 2, 3, 5, 6, and 7. (See also the footnote 1).

Per the MWD 2020 UWMP, MWD performs water shortage planning in its Water Surplus and Drought Management ("WSDM") Plan (1988) which guides MWD's planning and operations during both shortage and surplus conditions. Furthermore, MWD developed the Water Supply Allocation Plan ("WSAP") (dated February 2009, updated December 2014) which provides standardized methodology for allocation of MWD's supplies during times of shortage. The WSDM Plan distinguishes between shortages, severe shortages, and extreme shortages.

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<sup>1</sup> The MWD 2020 UWMP utilized DWR's 2019 SWP Delivery Capability Report to estimate future SWP supplies for 2025 through 2045. These estimates incorporate the effect of regulatory requirements in accordance with biological opinions and also reflect potential impacts of climate change on SWP operations. Tables A.3-7 of the MWD 2020 UWMP reflect 58% or 1.1 MAF in MWD's expected average year SWP entitlement supplies. This amount is a higher expected average than MWD's 2015 estimate of 984,000 AF. For purposes of a conservative analysis, IRWD has used the 22% reduction in its supplies from MWD as the basis of IRWD's analysis.

These terms have specific meanings relating to MWD’s ability to deliver water and the actions it takes. In June 2008, MWD’s Board adopted a Water Supply Condition Framework to communicate the urgency of the region’s water supply situation and the need for further water conservation to reduce regional demands, MWD uses the WSDM Plan and Framework to determine if a WSAP is recommended.

As an alternative means of analyzing the effect of reduced MWD supplies on IRWD, listed below are Figures provided comparing projected potable water supplies and demands in all of the five year increments, under a temporary MWD allocation scenario:

- Figure 1a: Normal Year Supply and Demand (MWD Allocated) – Potable Water
- Figure 2a: Single Dry-Year Supply and Demand (MWD Allocated) – Potable Water
- Figure 3a: Multiple Dry-Year Supply and Demand (MWD Allocated) – Potable Water

Figures 1a, 2a, and 3a show IRWD’s estimated supplies (average and single and multiple dry years) under a short-term MWD water supply allocation scenario whereby MWD declares a shortage stage under its WSAP, and a cutback is applied to IRWD’s actual usage rather than its connected capacity. IRWD’s evaluation of reduced MWD supplies to IRWD as shown in Figures 1a, 2a and 3a conservatively analyzes the effect of up to a MWD level 5 Regional Shortage Level. In addition, these Figures do not reflect a reduction in demands, thus representing a more conservative view of IRWD’s supply capability. (see “**Recent Actions Related to Drought Conditions**” below)

On April 14, 2015, MWD approved the implementation of its WSAP at a level 3 Regional Shortage Level and an effective 15% reduction in regional deliveries effective July 1, 2015, through June 30, 2016. As a result of IRWD’s diversified water supplies, IRWD is reliant on MWD for only 20% of its total supplies. IRWD’s evaluation of reduced MWD supplies to IRWD as shown in Figures 1a, 2a and 3a includes MWD’s 2015 actions to implement a level 3 Regional Shortage Level and 15% reduction.

Under shortage scenarios, IRWD may need to supplement supplies with production of groundwater, which can exceed the applicable basin production percentage on a short-term basis, providing additional reliability during dry years or emergencies.<sup>2</sup>

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<sup>2</sup> In these scenarios, it is anticipated that other water suppliers who produce water from the Orange County Basin will also experience cutbacks of imported supplies and will increase groundwater production and that Orange County Water District (“OCWD”) imported replenishment water may also be cutback. The OCWD’s “2021-2022 Engineer’s Report on the Groundwater Conditions, Water Supply and Basin Utilization” references a report (OCWD Report on Evaluation of Orange County Groundwater Basin Storage and Operational Strategy, 2007) which recommends a basin management strategy that provides general guidelines for annual basin refill or storage decrease based on the level of accumulated overdraft. It states: “Although it is considered to be generally acceptable to allow the basin to decline to 500,000 AF overdraft for brief periods due to severe drought conditions and lack of supplemental water...an accumulated overdraft of 100,000 AF best represents an optimal basin management target. This optimal target level provides sufficient storage space to accommodate anticipated recharge from a single wet year while also providing water in storage for at least 2 or 3 consecutive years of drought.” MWD replenishment water is a supplemental source of recharge water and OCWD estimates other main supply sources for recharge are available.

In addition, IRWD has developed water banking projects in Kern County, California which may be called upon for delivery of supplemental banked water to IRWD under a MWD WSAP.<sup>3</sup> IRWD may also convert non-potable water uses to recycled water as a way to conserve potable water. In addition, if needed, resultant net shortage levels can be addressed by demand reduction programs as described in IRWD's updated Water Shortage Contingency Plan adopted in 2021. IRWD's Water Shortage Contingency Plan provides procedures for responding to various levels of supply shortages through a combination of supply augmentation and demand management measures. As stated in IRWD's Water Shortage Contingency Plan, use of local supplies, storage and other supply augmentation measures can mitigate shortages, and are used as necessary and appropriate during declared shortage levels.

It can be noted that IRWD's above approach is conservative, in that IRWD evaluates the effect of the 16% reduction through 2044 and shows the effect of current allocation scenarios in all of the five-year increments. However, MWD reports that it has made significant progress in other water resource categories such as transfers, groundwater storage and developing other local resources, and supplies will be available from these resources over the long-term.

**Climate Change.** The California Department of Water Resources ("DWR") released a report "Progress on Incorporating Climate Change into Management of California's Water Resources" (July 2006), considering the impacts of climate change on the State's water supply. In 2012, DWR adopted phase 1 of its Climate Action Plan, its department-wide plan for reducing greenhouse gas emissions (GHG). In September 2018, the DWR released phase 2 of its Climate Action Plan, which is DWR's guide to addressing climate change in the programs, projects, and activities over which it has authority. Per this guidance, California's climate policy focuses on reducing GHG emissions, preparing for climate change impacts, and supporting climate-related research to inform policy responses and decision-making processes.

In MWD's 2015 IRP Update, MWD recognizes there is additional risk and uncertainty associated with climate change that may affect future supply and demands. In the 2015 IRP Update, MWD states that it plans to hedge against supply and demand uncertainties by implementing a long-term plan that recognizes the risk and provides resource development to offset the risk. Per the MWD 2020 UWMP, for longer term risks, like climate change, MWD established a Robust Decision Making ("RDM") approach that can show how vulnerable the region's reliability is to the longer-term risks such as climate change and can also establish "signposts" that can be monitored to see when crucial changes may be happening. MWD states in its 2020 UWMP that the RDM analysis was valuable in identifying vulnerabilities to its 2015 IRP approach to long-term reliability and in understanding how climate change would best be incorporated into the 2020 IRP.

Per the MWD 2020 UWMP, MWD continues to incorporate current climate change science into its planning efforts and MWD has made great efforts to implement GHG mitigation programs and policies for its facilities and operations. In 2022, MWD released a Climate Action Plan which complements MWD's IRP planning process and set reduction targets and outlined strategies to reduce emission levels by 2045. In MWD's 2020 IRP Regional Needs Assessment, MWD finds that SWP supplies are highly susceptible to varying hydrologic conditions, climate change, and regulatory restrictions. In this report, MWD assesses climate

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<sup>3</sup> IRWD has developed water banking projects ("Water Bank") in Kern County, California and has entered into a 30-year water banking partnership with Rosedale-Rio Bravo Water Storage District to operate IRWD's Strand Ranch and Stockdale West portions of the Water Bank. The Water Bank can improve IRWD's water supply reliability by capturing lower cost water available during wet hydrologic periods for use during dry periods. The Water Bank can enhance IRWD's ability to respond to drought conditions and potential water supply interruptions.

vulnerabilities and the need for future projects such as indirect potable reuse, stormwater capture, and expanded storage capacity to mitigate and adapt to these vulnerabilities and ensure future resilience. Specific climate change impacts on regional and local water supplies and relevant information for the Orange County hydrologic basin and Santa Ana Watershed have not been sufficiently developed at this time to permit IRWD to assess and quantify the effect of any such impact on its conclusions in the Assessment.

**Catastrophic Supply Interruption Planning.** MWD has developed Emergency Storage Requirements (MWD 2020 UWMP) to safeguard the region from catastrophic loss of water supply. MWD has made substantial investments in emergency storage and has based its planning on a 100% reduction in its supplies for a period of six months. The emergency plan outlines that under such a catastrophe, non-firm service deliveries would be suspended, and firm supplies would be restricted by a mandatory cutback of 25 percent from normal year demand deliveries. In addition, MWD discusses DWR's investments in improvements on the SWP and the long term Delta plan in the MWD 2020 UWMP (pages 3-19 to 3-23). IRWD has also addressed supply interruption planning in its WRMP and 2020 UWMP.

**Recent Actions Related to Drought Conditions.** In response to historically dry conditions throughout the state of California, on April 1, 2015, Governor Brown issued an Executive Order directing the State Water Resources Control Board (SWRCB) to impose restrictions to achieve an aggregate statewide 25 percent reduction in potable water use through February 2016. The Governor's Order also included mandatory actions aimed at reducing water demands, with a particular focus on outdoor water use. On May 5, 2015, the SWRCB adopted regulations which required that IRWD achieve a 16% reduction in potable water use from its 2013 potable water use levels. On November 13, 2015, Governor Brown issued an Executive Order directing the SWRCB to extend the 2015 Emergency Regulation through October 31, 2016, if drought conditions continued. On February 2, 2016, the SWRCB adopted an extended and modified Emergency Regulation. As a result of the modification, IRWD's mandated reduction was changed from 16% to 9% effective March 1, 2016. On April 14, 2015, MWD approved actions to implement its WSAP at a level 3 Regional Shortage Level and a 15% reduction in regional deliveries effective July 1, 2015, through June 30, 2016. During this period, IRWD continued to implement actions to reduce potable water demands during the drought; however, this did not affect IRWD's long-term supply capability to meet the demands. On April 7, 2017, Governor Brown rescinded the Executive Order.

In California's most recent drought (2021-2023), in July 2021, Governor Newsom called for voluntary 15 percent reduction in potable water use from all urban suppliers. Consistent with the Governor's Executive Order, IRWD implemented Level 2 of its Water Shortage Contingency Plan, although IRWD had no projected shortages in supplies. In March 2023, Governor Newsom rescinded the Executive Order.

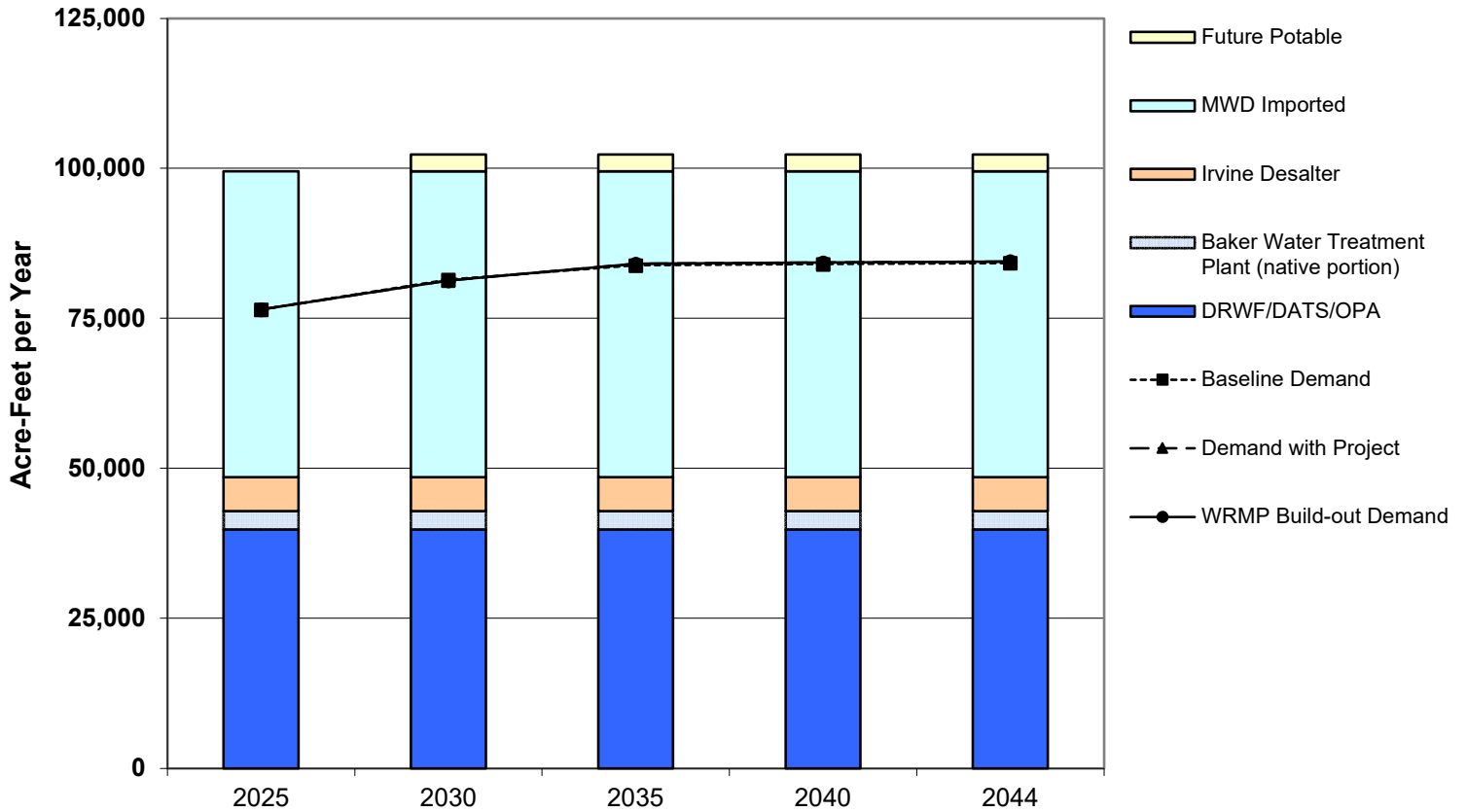
As discussed under "*IRWD's Evaluation of Effect of Reduced MWD Supplies to IRWD*" (see above), IRWD has effectively analyzed an imported water supply reduction up to a level 5 Regional Shortage Stage in Figures 1a, 2a, 3a. These Figures, however, do not reflect a reduction in demands, thus representing a more conservative view of IRWD's supply capability. In particular, the reduction in demand mandated by Senate Bill 7 in 2010, requiring urban retail water suppliers to establish water use targets to achieve a 20% reduction in daily per capita water use by 2020, has not been factored into the demands in this analysis. Similarly, notwithstanding the Governors' 2015 and 2021 orders, IRWD's conservative supply-sufficiency analysis in Figures 1a, 2a and 3a does not include the ordered reduction in potable demands.

## Detailed Assessment

### 1. **Supply and demand comparison**

Comparisons of IRWD’s average annual and peak (maximum day) demands and supplies, under *baseline* (existing and committed demand, without the Project), *with-project* (baseline plus Project), and *full build-out* development projections, are shown in the following Figures 1-4 (potable water), Figures 5-8 (nonpotable water) and Figures 1a, 2a, and 3a (short term MWD allocation potable water). See also the “Actions on Delta Pumping” above.

**Figure 1  
IRWD Normal-Year Supply & Demand - Potable Water**



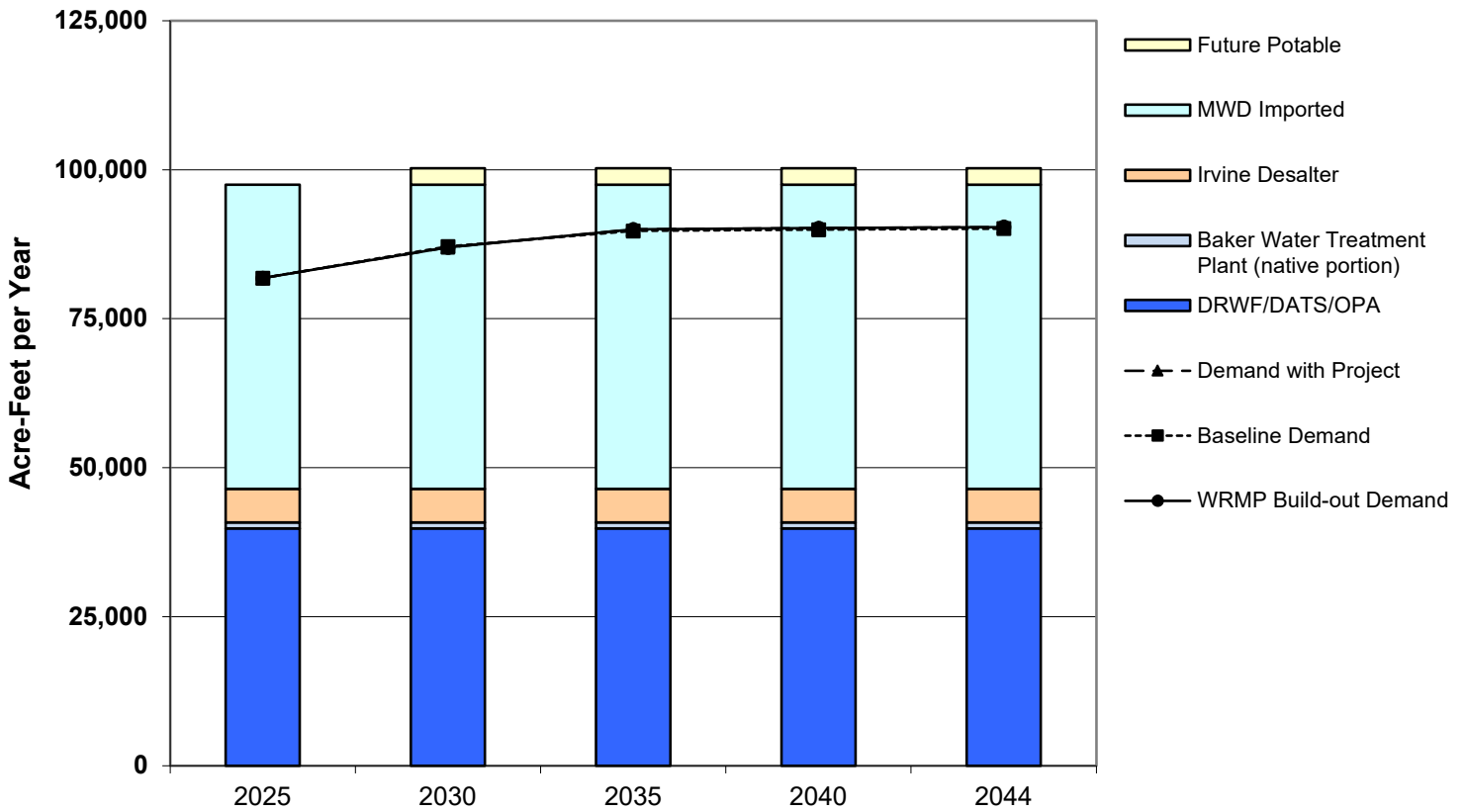
(in acre-feet per year)	2025	2030	2035	2040	2044
<b>Current Potable Supplies</b>					
MWD Imported (EOCF#2, AMP, OCF, Baker)	51,027	51,027	51,027	51,027	51,027
DRWF/DATS/OPA	39,818	39,818	39,818	39,818	39,818
Irvine Desalter	5,618	5,618	5,618	5,618	5,618
Wells 21 & 22	2,400	2,400	2,400	2,400	2,400
Baker Water Treatment Plant (native portion)	3,048	3,048	3,048	3,048	3,048
<b>Supplies Under Development</b>					
Future Potable	-	2,800	2,800	2,800	2,800
<b>Maximum Supply Capability</b>	<b>101,911</b>	<b>104,711</b>	<b>104,711</b>	<b>104,711</b>	<b>104,711</b>
<b>Baseline Demand</b>	<b>76,468</b>	<b>81,430</b>	<b>83,850</b>	<b>84,060</b>	<b>84,228</b>
<b>Demand with Project</b>	<b>76,462</b>	<b>81,275</b>	<b>84,106</b>	<b>84,316</b>	<b>84,485</b>
<b>WRMP Build-out Demand</b>	<b>76,462</b>	<b>81,275</b>	<b>84,106</b>	<b>84,316</b>	<b>84,485</b>
<b>Reserve Supply with Project</b>	<b>25,449</b>	<b>23,436</b>	<b>20,605</b>	<b>20,395</b>	<b>20,226</b>

Notes: By agreement, IRWD is required to count the production from the Irvine Sub-basin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

Since 2017, Baker Water Treatment Plant is supplied untreated imported water and native water from Irvine Lake.

**Figure 2  
IRWD Single Dry-Year Supply & Demand - Potable Water**

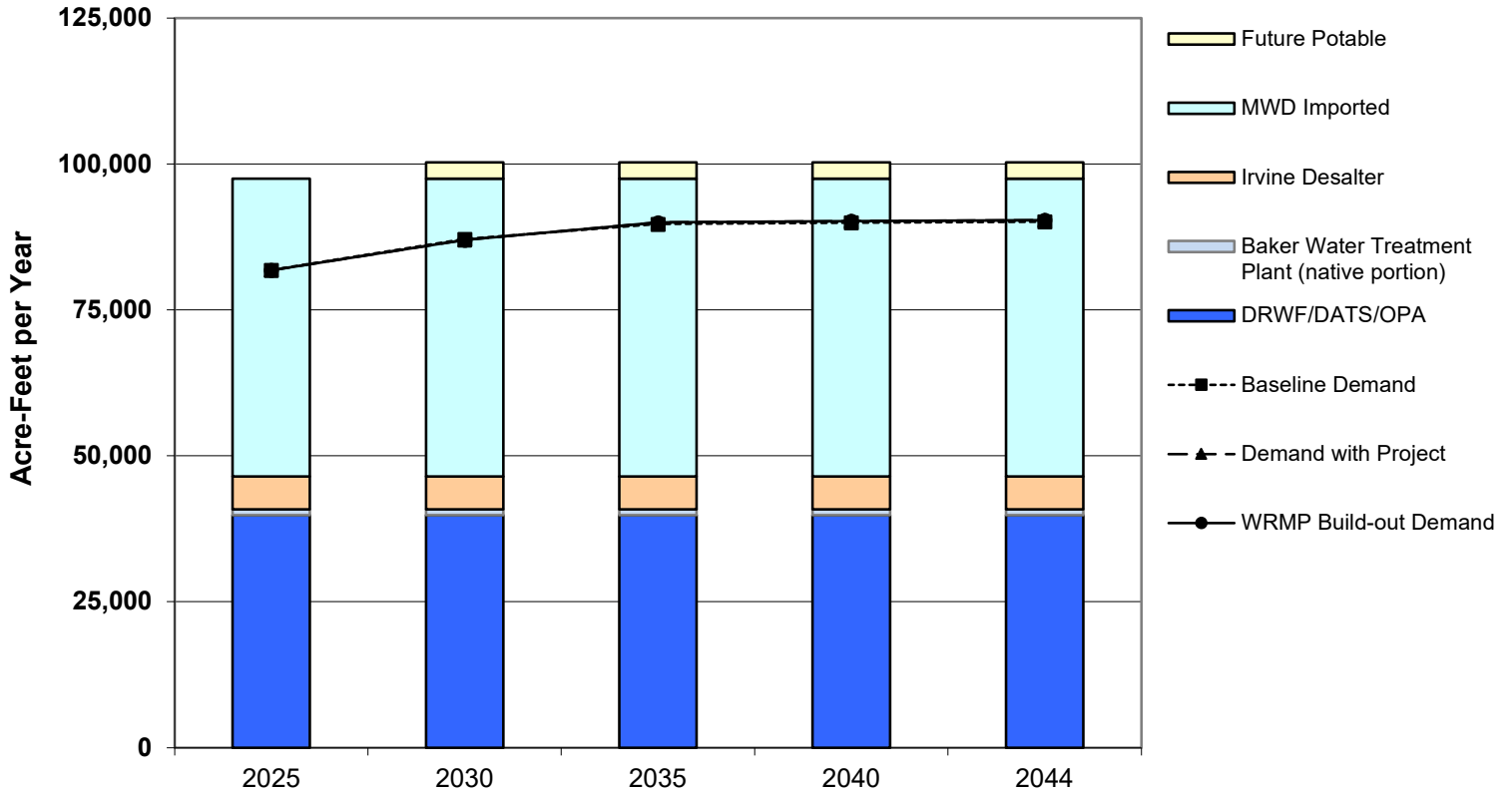


(in acre-feet per year)	2025	2030	2035	2040	2044
<b>Current Potable Supplies</b>					
DRWF/DATS/OPA	39,818	39,818	39,818	39,818	39,818
Irvine Desalter	5,618	5,618	5,618	5,618	5,618
Wells 21 & 22	2,400	2,400	2,400	2,400	2,400
Baker Water Treatment Plant (native portion)	1,000	1,000	1,000	1,000	1,000
<b>Supplies Under Development</b>					
Future Potable	-	2,800	2,800	2,800	2,800
Maximum Supply Capability	99,863	102,663	102,663	102,663	102,663
Baseline Demand	81,821	87,130	89,719	89,944	90,124
Demand with Project	81,815	86,964	89,993	90,218	90,399
WRMP Build-out Demand	81,815	86,964	89,993	90,218	90,399
Reserve Supply with Project	18,048	15,699	12,669	12,444	12,264

Notes: Supplies identical to Normal-Year based on Metropolitan's Urban Water Management Plan and usage of groundwater under drought conditions (OCWD Master Plan). Demands increased 7% from Normal-Year. By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

MWD Imported Supplies are shown at 16% reduction off of average connected capacity.  
 Since 2017, Baker Water Treatment Plant is supplied untreated imported water and native water from Irvine Lake.

**Figure 3  
IRWD Multiple Dry-Year Supply & Demand - Potable Water**



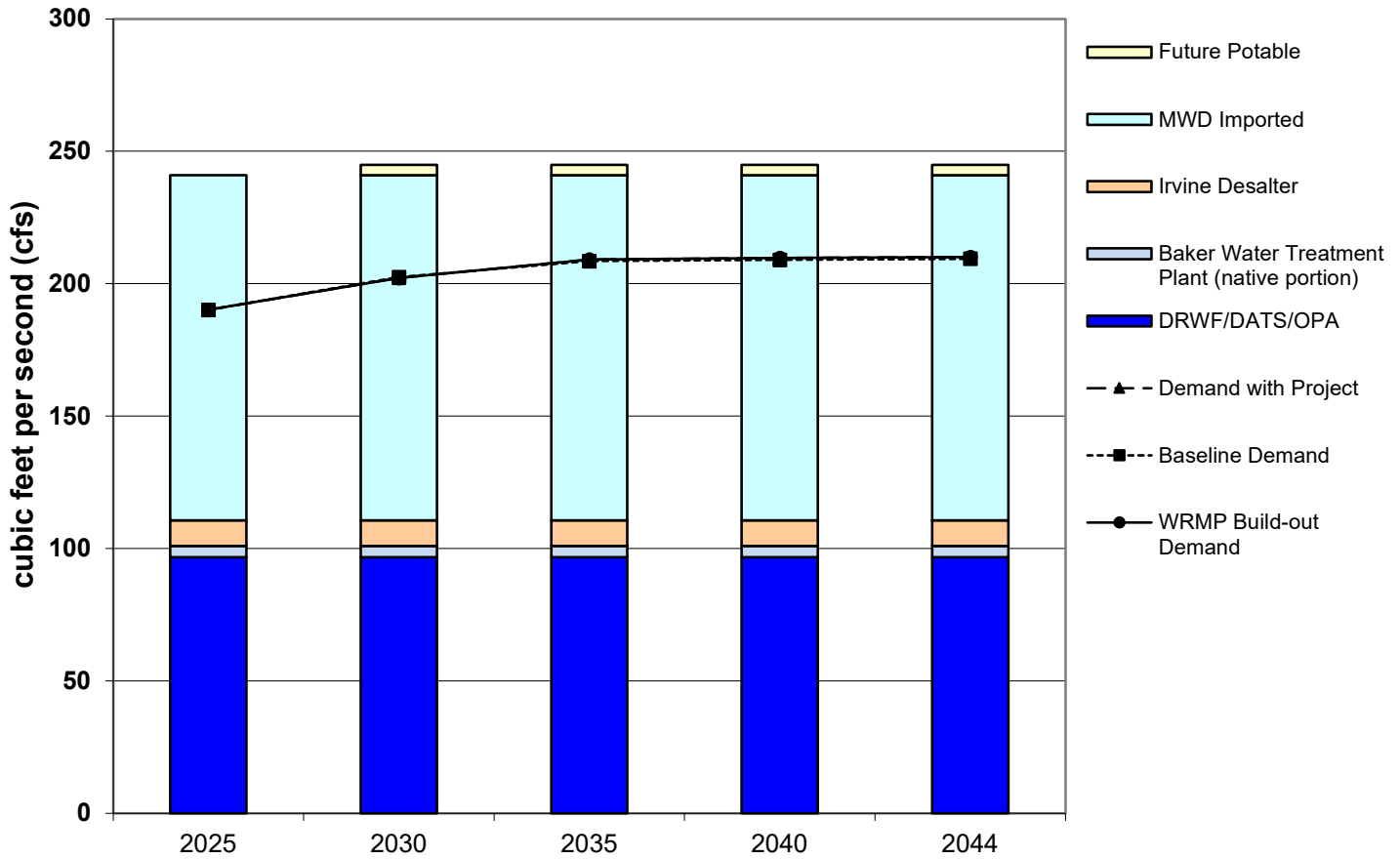
(in acre-feet per year)	2025	2030	2035	2040	2044
<b>Current Potable Supplies</b>					
DRWF/DATS/OPA	39,818	39,818	39,818	39,818	39,818
Irvine Desalter	5,618	5,618	5,618	5,618	5,618
Wells 21 & 22	2,400	2,400	2,400	2,400	2,400
Baker Water Treatment Plant (native portion)	1,000	1,000	1,000	1,000	1,000
<b>Supplies Under Development</b>					
Future Potable	-	2,800	2,800	2,800	2,800
<b>Maximum Supply Capability</b>	<b>99,863</b>	<b>102,663</b>	<b>102,663</b>	<b>102,663</b>	<b>102,663</b>
<b>Baseline Demand</b>	<b>81,821</b>	<b>87,130</b>	<b>89,719</b>	<b>89,944</b>	<b>90,124</b>
<b>Demand with Project</b>	<b>81,815</b>	<b>86,964</b>	<b>89,993</b>	<b>90,218</b>	<b>90,399</b>
<b>WRMP Build-out Demand</b>	<b>81,815</b>	<b>86,964</b>	<b>89,993</b>	<b>90,218</b>	<b>90,399</b>
<b>Reserve Supply with Project</b>	<b>18,048</b>	<b>15,699</b>	<b>12,669</b>	<b>12,444</b>	<b>12,264</b>

Notes: Supplies identical to Normal-Year based on Metropolitan's Urban Water Management Plan and usage of groundwater under drought conditions (OCWD Master Plan). Demands increased 7% from Normal-Year. By agreement, IRWD is required to count the production from the Irvine Subbasin in calculating available supplies for TIC developments (see Potable Supply-Groundwater).

MWD Imported Supplies are shown at 16% reduction off of average connected capacity.  
 Since 2017, Baker Water Treatment Plant is supplied untreated imported water and native water from Irvine Lake.

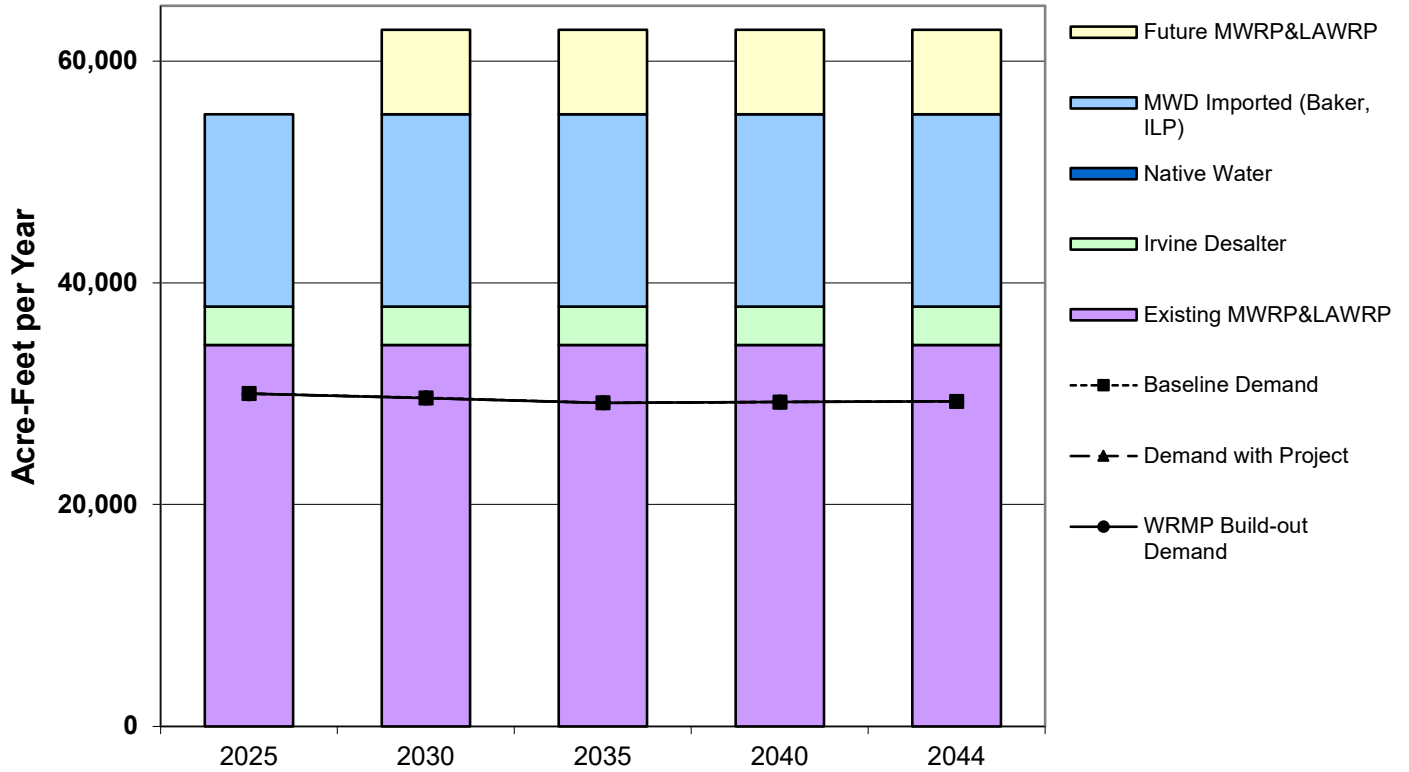


**Figure 4  
IRWD Maximum-Day Supply & Demand - Potable Water**



(in cfs)	2025	2030	2035	2040	2044
<u>Current Potable Supplies</u>					
MWD Imported (EOCF#2, AMP, OCF, Baker)	130.4	130.4	130.4	130.4	130.4
DRWF/DATS/OPA	96.7	96.7	96.7	96.7	96.7
Irvine Desalter	9.7	9.7	9.7	9.7	9.7
Wells 21 & 22	8.6	8.6	8.6	8.6	8.6
Baker Water Treatment Plant (native portion)	4.2	4.2	4.2	4.2	4.2
<u>Supplies Under Development</u>					
Future Potable	-	3.9	3.9	3.9	3.9
Maximum Supply Capability	249.6	253.4	253.4	253.4	253.4
Baseline Demand	190.1	202.5	208.5	209.0	209.4
Demand with Project	190.1	202.1	209.1	209.6	210.0
WRMP Build-out Demand	190.1	202.1	209.1	209.6	210.0
Reserve Supply with Project	59.5	51.4	44.3	43.8	43.4

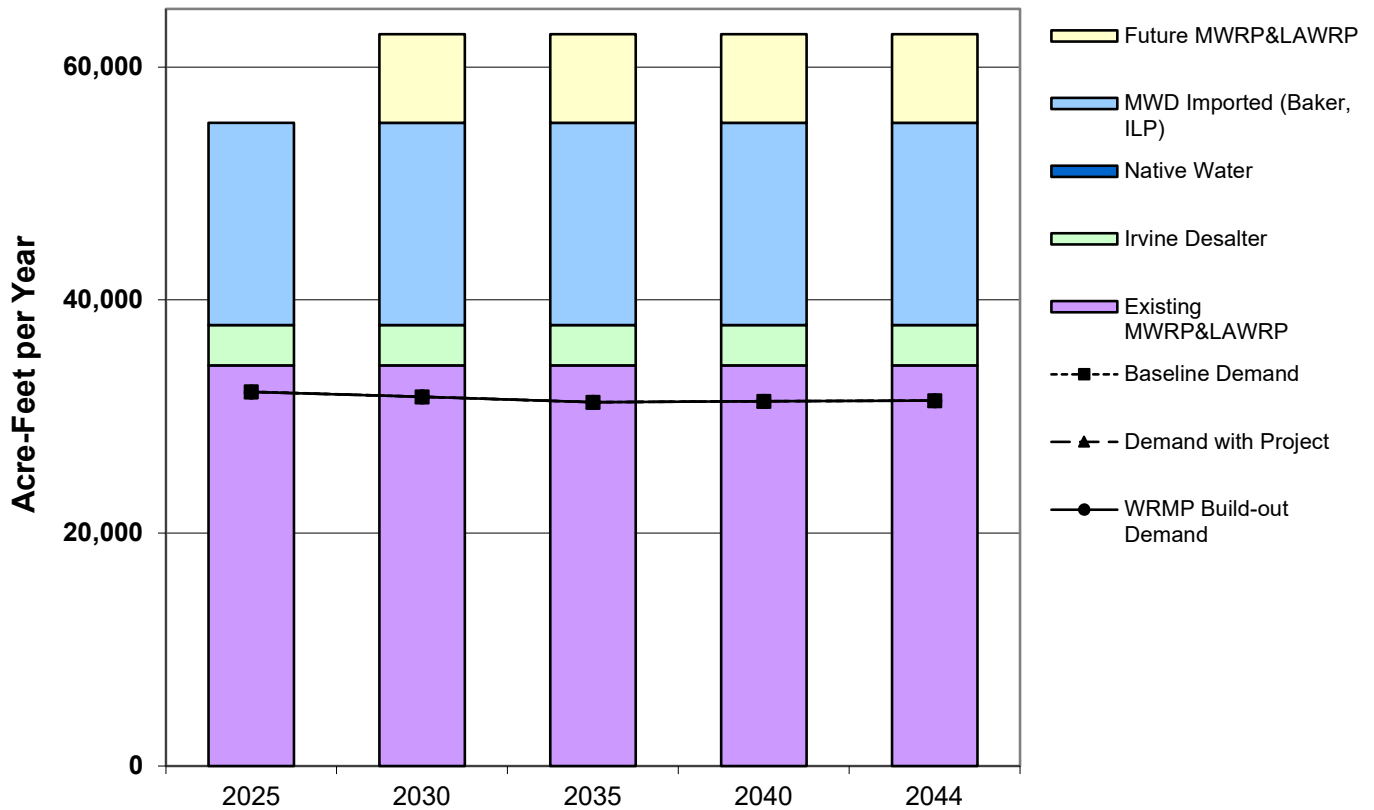
**Figure 5  
IRWD Normal-Year Supply & Demand - Nonpotable Water**



(in acre-feet per year)	2025	2030	2035	2040	2044
Existing MWRP&LAWRP	34,389	34,389	34,389	34,389	34,389
Future MWRP&LAWRP	-	7,623	7,623	7,623	7,623
MWD Imported (Baker, ILP)	17,347	17,347	17,347	17,347	17,347
Irvine Desalter	3,461	3,461	3,461	3,461	3,461
Native Water	-	-	-	-	-
Maximum Supply Capability	55,197	62,820	62,820	62,820	62,820
Baseline Demand	30,024	29,623	29,177	29,250	29,308
Demand with Project	30,008	29,610	29,179	29,252	29,311
WRMP Build-out Demand	30,008	29,610	29,179	29,252	29,311
Reserve Supply with Project	25,189	33,211	33,641	33,568	33,509

Note: Downward trend reflects reduction in agricultural use over time.  
 After 2016, native water is treated to potable through the Baker Water Treatment Plant. MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

**Figure 6**  
**IRWD Single Dry-Year Supply & Demand - Nonpotable Water**

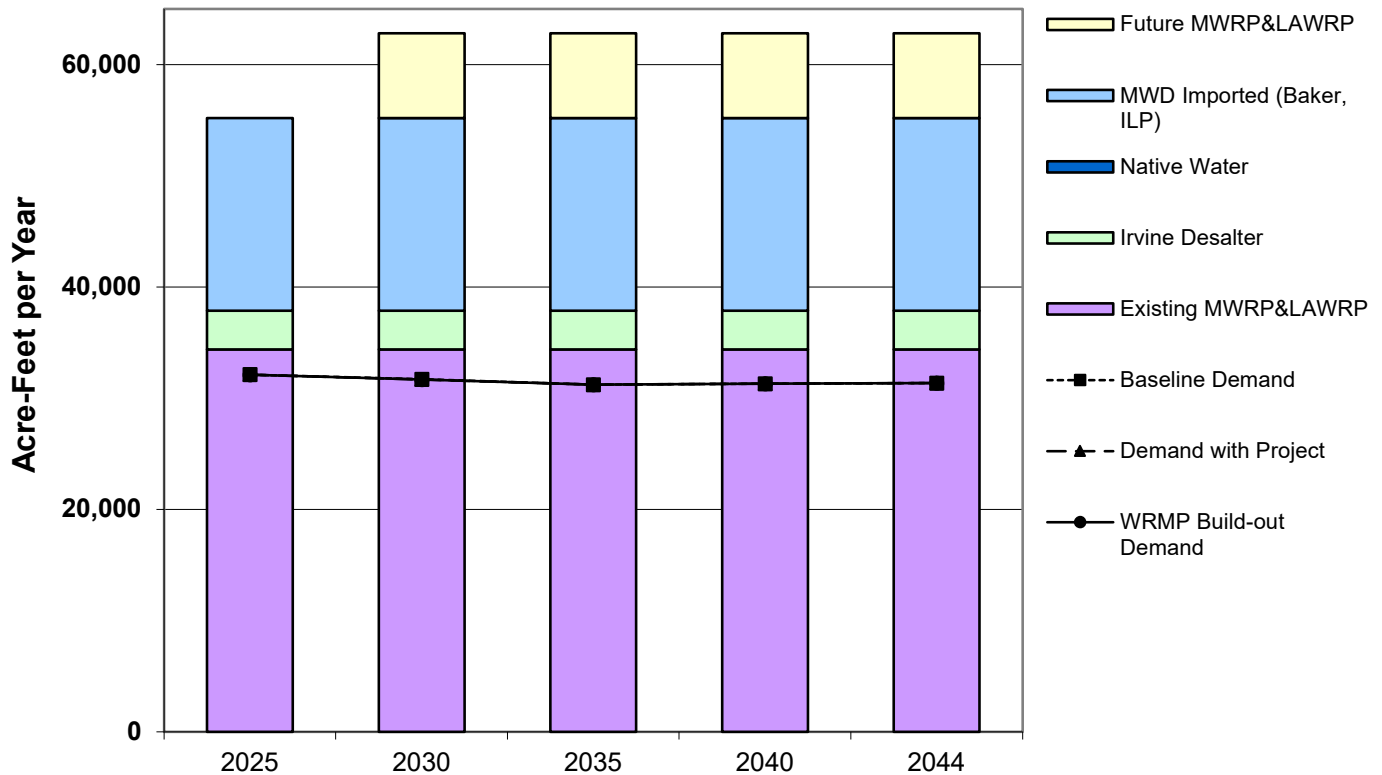


(in acre-feet per year)	2025	2030	2035	2040	2044
<b>Current Nonpotable Supplies</b>					
Existing MWRP&LAWRP	34,389	34,389	34,389	34,389	34,389
Future MWRP&LAWRP	-	7,623	7,623	7,623	7,623
MWD Imported (Baker, ILP)	17,347	17,347	17,347	17,347	17,347
Irvine Desalter	3,461	3,461	3,461	3,461	3,461
Native Water	-	-	-	-	-
<b>Maximum Supply Capability</b>	<b>55,197</b>	<b>62,820</b>	<b>62,820</b>	<b>62,820</b>	<b>62,820</b>
Baseline Demand	32,125	31,696	31,219	31,297	31,360
Demand with Project	32,108	31,682	31,222	31,300	31,363
WRMP Build-out Demand	32,108	31,682	31,222	31,300	31,363
<b>Reserve Supply with Project</b>	<b>23,089</b>	<b>31,138</b>	<b>31,598</b>	<b>31,520</b>	<b>31,457</b>

Note: Downward trend reflects reduction in agricultural use over time.

After 2016, native water is treated to potable through the Baker Water Treatment Plant. MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

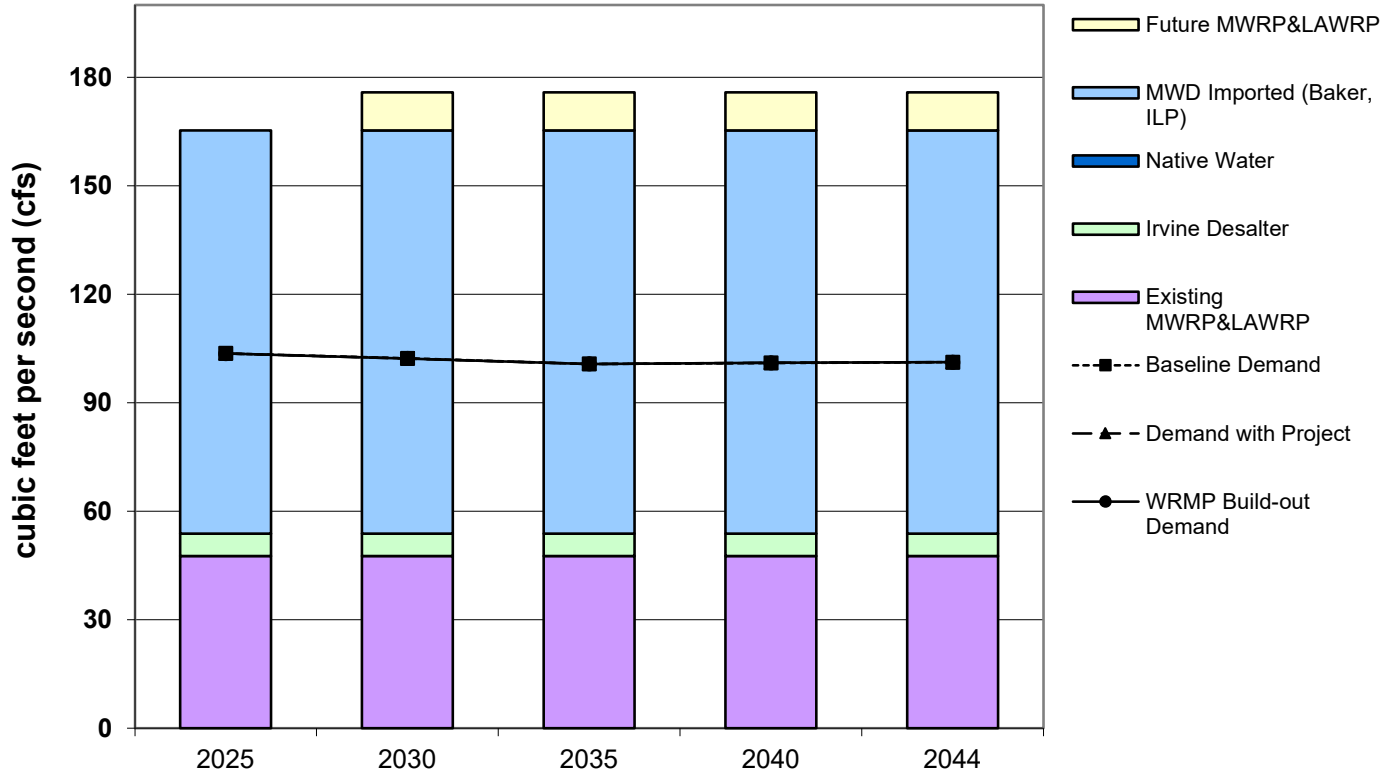
**Figure 7  
IRWD Multiple Dry-Year Supply & Demand - Nonpotable Water**



(in acre-feet per year)	2025	2030	2035	2040	2044
Existing MWRP&LAWRP	34,389	34,389	34,389	34,389	34,389
Future MWRP&LAWRP	-	7,623	7,623	7,623	7,623
MWD Imported (Baker, ILP)	17,347	17,347	17,347	17,347	17,347
Irvine Desalter	3,461	3,461	3,461	3,461	3,461
Native Water	-	-	-	-	-
Maximum Supply Capability	55,197	62,820	62,820	62,820	62,820
Baseline Demand	32,125	31,696	31,219	31,297	31,360
Demand with Project	32,108	31,682	31,222	31,300	31,363
WRMP Build-out Demand	32,108	31,682	31,222	31,300	31,363
Reserve Supply with Project	23,089	31,138	31,598	31,520	31,457

Note: Downward trend reflects reduction in agricultural use over time.  
MWD Imported Supplies are shown at 16% reduction off of average connected capacity.

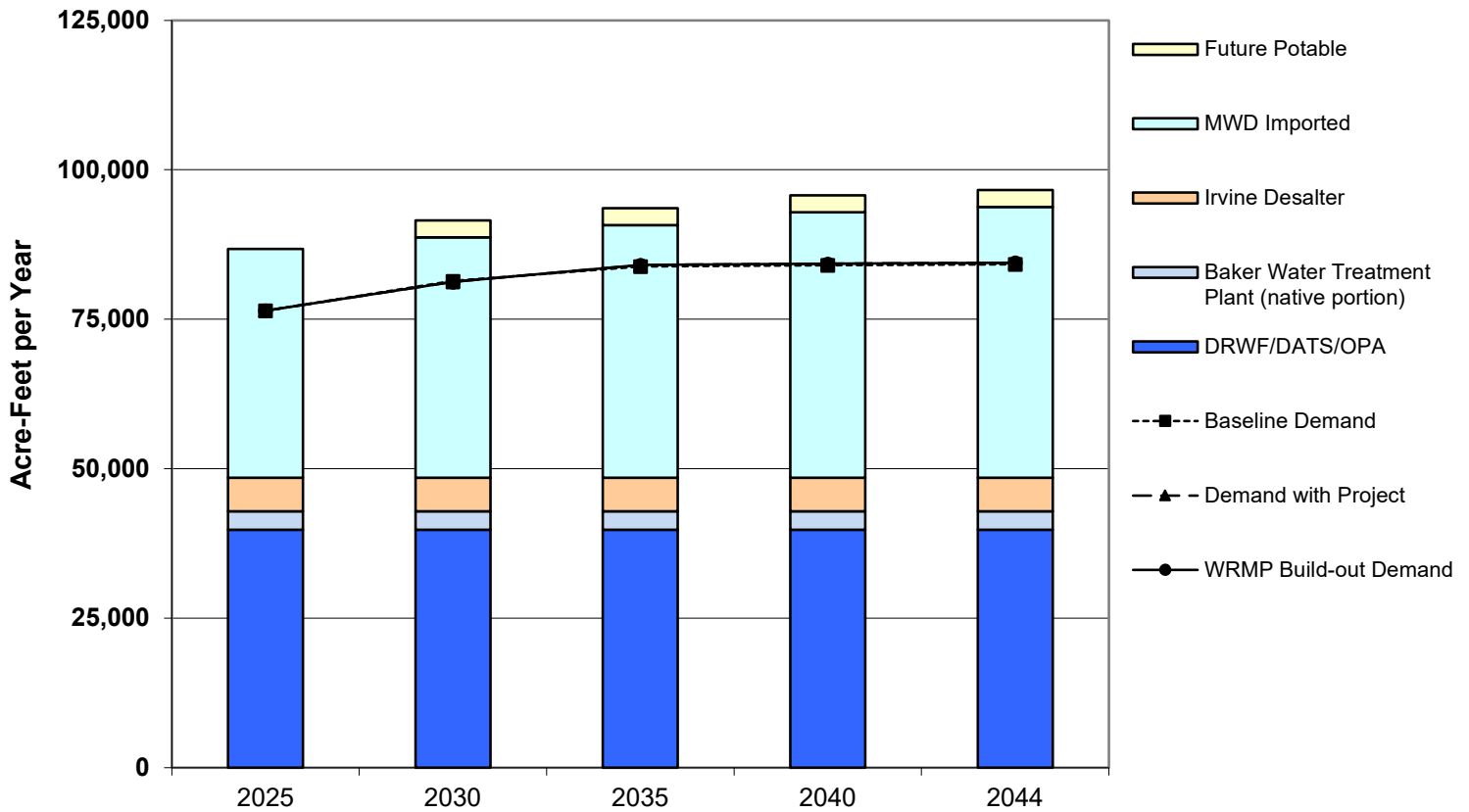
**Figure 8  
IRWD Maximum-Dry Supply & Demand - Nonpotable Water**



(in cfs)	2025	2030	2035	2040	2044
Existing MWRP&LAWRP	47.6	47.6	47.6	47.6	47.6
Future MWRP&LAWRP	-	10.5	10.5	10.5	10.5
MWD Imported (Baker, ILP)	111.5	111.5	111.5	111.5	111.5
Irvine Desalter	6.2	6.2	6.2	6.2	6.2
Native Water	-	-	-	-	-
Maximum Supply Capability	165.3	175.8	175.8	175.8	175.8
Baseline Demand	103.7	102.3	100.7	101.0	101.2
Demand with Project	103.6	102.2	100.8	101.0	101.2
WRMP Build-out Demand	103.6	102.2	100.8	101.0	101.2
Reserve Supply with Project	61.7	73.6	75.1	74.8	74.6

Note: Downward trend reflects reduction in agricultural use over time.  
After 2016, native water is treated to potable through the Baker Water Treatment Plant.

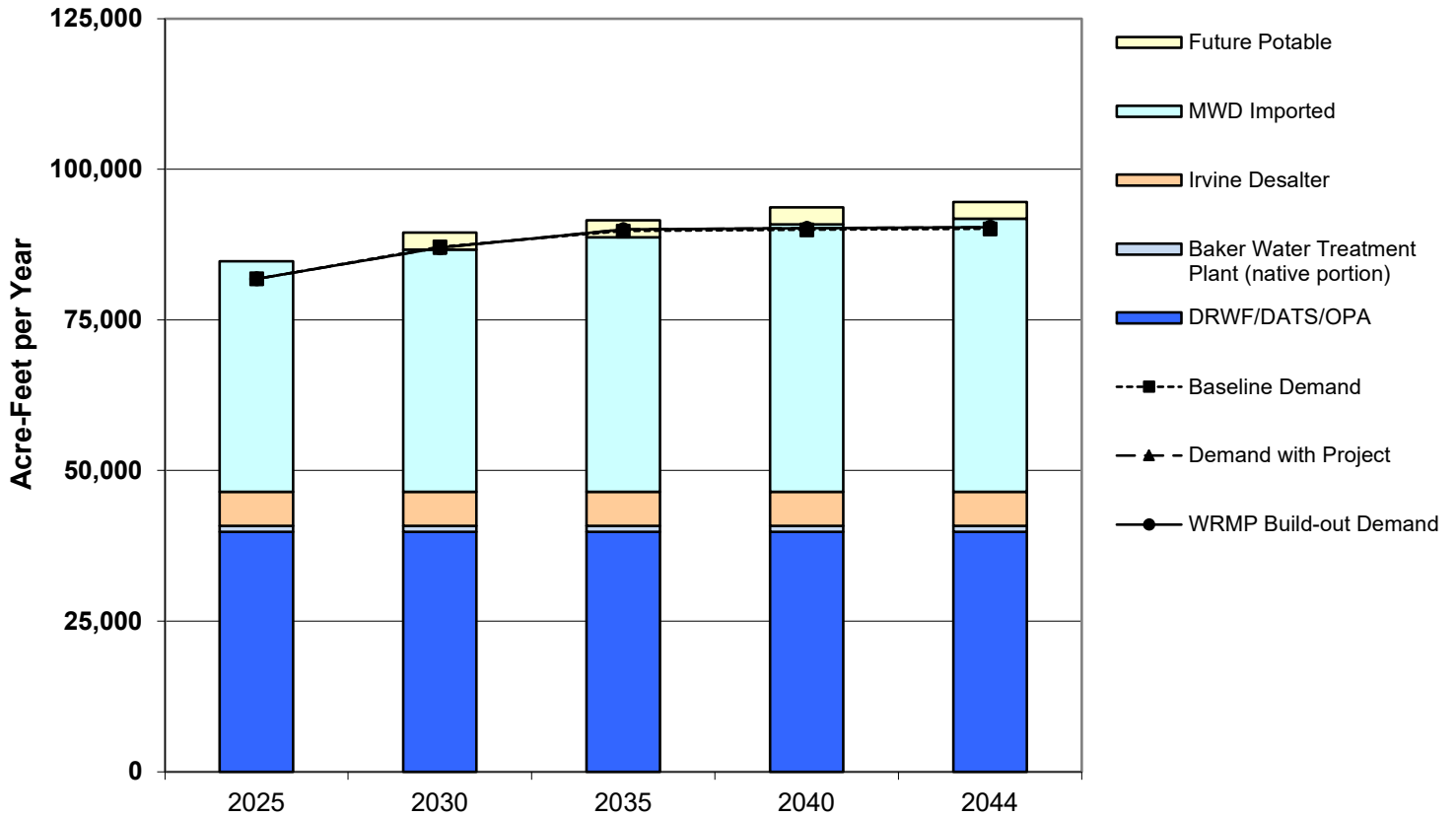
**Figure 1a  
IRWD Normal-Year Supply & Demand - Potable Water  
Under Temporary MWD Allocation\***



(in acre-feet per year)	2025	2030	2035	2040	2044
<b>Current Potable Supplies</b>					
DRWF/DATS/OPA	39,818	39,818	39,818	39,818	39,818
Irvine Desalter	5,618	5,618	5,618	5,618	5,618
Wells 21 & 22	2,400	2,400	2,400	2,400	2,400
Baker Water Treatment Plant (native portion)	3,048	3,048	3,048	3,048	3,048
<b>Supplies Under Development</b>					
Future Potable	-	2,800	2,800	2,800	2,800
<b>Maximum Supply Capability</b>	<b>89,154</b>	<b>93,906</b>	<b>95,958</b>	<b>98,114</b>	<b>99,007</b>
Baseline Demand	76,468	81,430	83,850	84,060	84,228
Demand with Project	76,462	81,275	84,106	84,316	84,485
WRMP Build-out Demand	76,462	81,275	84,106	84,316	84,485
<b>Reserve Supply with Project</b>	<b>12,692</b>	<b>12,632</b>	<b>11,852</b>	<b>13,798</b>	<b>14,522</b>

\*For illustration purposes, IRWD has shown MWD Imported Supplies as estimated under a MWD short-term allocation up to a level 5 in all of the 5-year increments. This does not reflect a reduction in demands, thus representing a conservative view of supply capability. Under a MWD Allocation, IRWD could supplement supplies with groundwater production which can exceed applicable basin percentages on a short-term basis or transfer water from IRWD's water bank. IRWD may also reduce demands by implementing shortage contingency measures as described in the 2020 UWMP. Under a MWD Allocation, the Baker WTP would be limited to available MWD and native water.

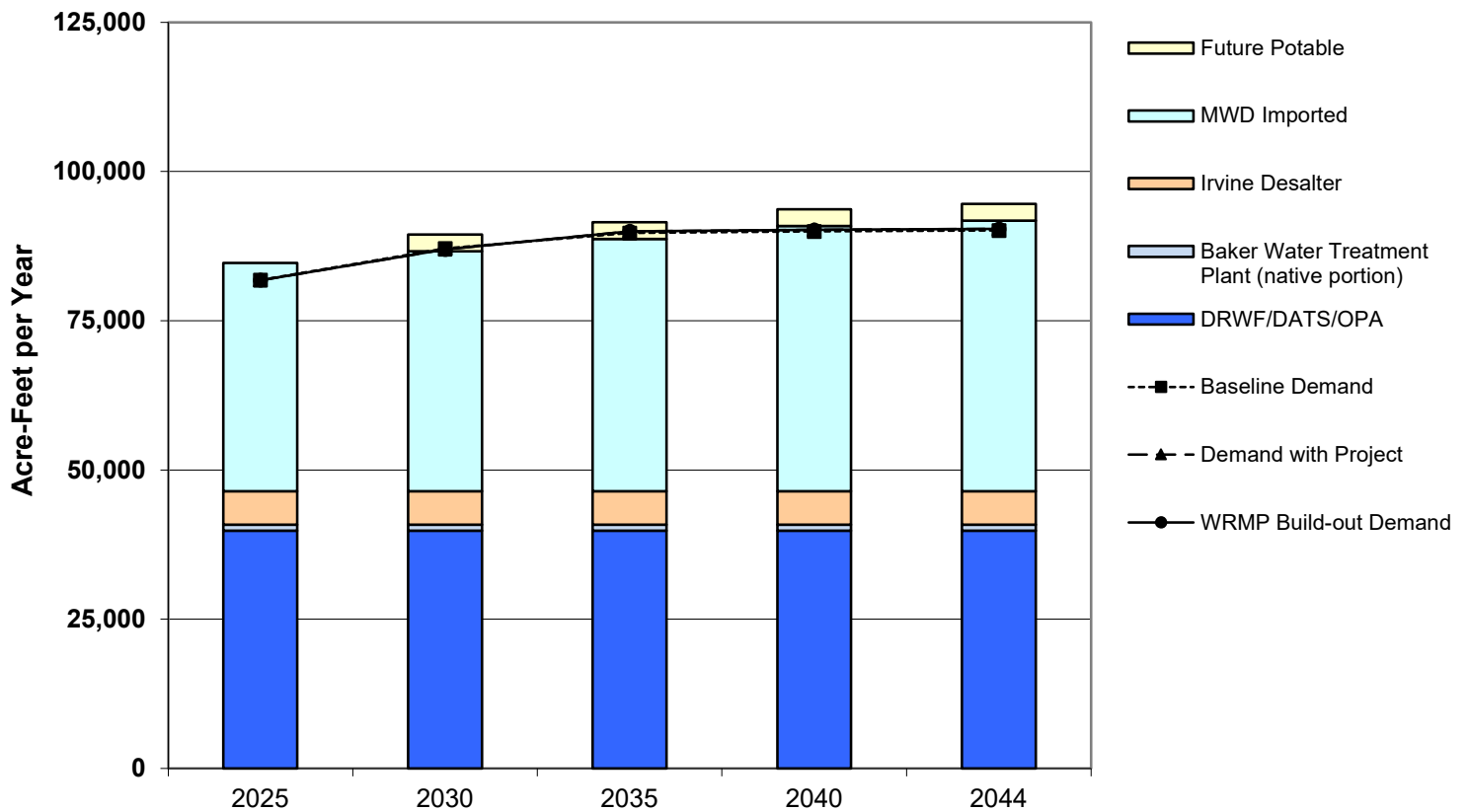
**Figure 2a**  
**IRWD Single Dry-Year Supply & Demand - Potable Water**  
**Under Temporary MWD Allocation\***



(in acre-feet per year)	2025	2030	2035	2040	2044
MWD Imported (EOCF#2, AMP, OCF, Baker)	38,270	40,222	42,274	44,430	45,323
DRWF/DATS/OPA	39,818	39,818	39,818	39,818	39,818
Irvine Desalter	5,618	5,618	5,618	5,618	5,618
Wells 21 & 22	2,400	2,400	2,400	2,400	2,400
Baker Water Treatment Plant (native portion)	1,000	1,000	1,000	1,000	1,000
<u>Supplies Under Development</u>					
Future Potable	-	2,800	2,800	2,800	2,800
Maximum Supply Capability	87,106	91,858	93,910	96,066	96,959
Baseline Demand	81,821	87,130	89,719	89,944	90,124
Demand with Project	81,815	86,964	89,993	90,218	90,399
WRMP Build-out Demand	81,815	86,964	89,993	90,218	90,400
Reserve Supply with Project	5,291	4,894	3,917	5,848	6,560

\*For illustration purposes, IRWD has shown MWD Imported Supplies as estimated under a MWD short-term allocation up to a level 5 in all of the 5-year increments. This does not reflect a reduction in demands, thus representing a conservative view of supply capability. Under a MWD Allocation, IRWD could supplement supplies with groundwater production which can exceed applicable basin percentages on a short-term basis or transfer water from IRWD's water bank. IRWD may also reduce demands by implementing shortage contingency measures as described in the 2020 UWMP. Under a MWD Allocation, the Baker WTP would be limited to available MWD and native water.

**Figure 3a  
IRWD Multiple Dry-Year Supply & Demand - Potable Water  
Under Temporary MWD Allocation\***



(in acre-feet per year)	2025	2030	2035	2040	2044
MWD Imported (EOCF#2, AMP, OCF, Baker)	38,270	40,222	42,274	44,430	45,323
DRWF/DATS/OPA	39,818	39,818	39,818	39,818	39,818
Irvine Desalter	5,618	5,618	5,618	5,618	5,618
Wells 21 & 22	2,400	2,400	2,400	2,400	2,400
Baker Water Treatment Plant (native portion)	1,000	1,000	1,000	1,000	1,000
<u>Supplies Under Development</u>					
Future Potable	-	2,800	2,800	2,800	2,800
Maximum Supply Capability	87,106	91,858	93,910	96,066	96,959
Baseline Demand	81,821	87,130	89,719	89,944	90,124
Demand with Project	81,815	86,964	89,993	90,218	90,399
WRMP Build-out Demand	81,815	86,964	89,993	90,218	90,399
Reserve Supply with Project	5,291	4,894	3,917	5,848	6,560

\*For illustration purposes, IRWD has shown MWD Imported Supplies as estimated under a MWD short-term allocation up to a level 5 in all of the 5-year increments. This does not reflect a reduction in demands, thus representing a conservative view of supply capability. Under a MWD Allocation, IRWD could supplement supplies with groundwater production which can exceed applicable basin percentages on a short-term basis or transfer water from IRWD's water bank. IRWD may also reduce demands by implementing shortage contingency measures as described in the 2020 UWMP. Under a MWD Allocation, the Baker WTP would be limited to available MWD and native water.



Existing sources of identified water supply for the proposed project: IRWD does not allocate particular supplies to any project, but identifies total supplies for its service area, as updated in the following table:

	Max Day (cfs)	Avg. Annual (AFY)	Annual by Category (AFY)
<b>Current Supplies</b>			
<b>Potable - Imported 10</b>			
East Orange County Feeder No. 2	41.4	18,746	1
Allen-McColloch Pipeline*	64.7	29,296	1
Orange County Feeder	18.0	8,150	1
	124.1	56,192	
<b>Potable - Treated Surface</b>			
Baker Treatment Plant (Imported) 10	6.3	4,554	6
Baker Treatment Plant (Native)	4.2	3,048	6
<b>Potable - Groundwater</b>			
Dyer Road Wellfield	80.0	28,000	2
OPA Well	4.4	3,200	11
Deep Aquifer Treatment System-DATS	12.3	8,618	2
Wells 21 & 22	8.6	2,400	2
Irvine Desalter	9.7	5,618	3
Total Potable Current Supplies	249.6		113,273
<b>Nonpotable - Recycled Water</b>			
MWRP (25.2 mgd)	39.1	28,228	4
LAWRP (5.5 mgd)	8.5	6,161	4
Future MWRP & LAWRP	10.6	7,623	5
			42,012
<b>Nonpotable - Imported 10</b>			
Baker Aqueduct	40.2	11,651	6
Irvine Lake Pipeline	65.0	9,000	7
	105.2	20,651	
<b>Nonpotable - Groundwater</b>			
Irvine Desalter-Nonpotable	6.2	3,461	8
<b>Nonpotable Native</b>			
Irvine Lake (see Baker Treatment Plant above)	4.2	3,048	6,9
Total Nonpotable Current Supplies (Excludes Native)	169.6		66,124
Total Combined Current Supplies	419.2		179,397
<b>Supplies Under Development</b>			
<b>Potable Supplies</b>			
Future Groundwater Production Facilities	3.9	2,800	
Total Under Development	3.9	2,800	2,800
<b>Total Supplies</b>			
Potable Supplies	253.4		116,073
Nonpotable Supplies	169.6		66,124
Total Supplies (Current and Under Development)	423.0		182,197

1 Based on converting maximum day capacity to average by dividing the capacity by a peaking factor of 1.6. Max Day is equivalent to Treatment Plant Production

2 Contract amount - See Assessment Potable Supply-Groundwater(iii). Due to groundwater limitations, value changed from 6,329 AF to 2,400 AF

3 Contract amount - See Assessment Potable Supply-Groundwater (iv) and (v). Maximum day well capacity is compatible with contract amount.

4 MWRP 28.0 mgd treatment capacity (28,228 AFY RW production) with 90% plant efficiency (25.2 mgd) and LAWRP permitted 5.5 mgd tertiary treatment capacity (6,161 AFY)

5 Future estimated MWRP & LAWRP recycled water production. Includes biosolids and expansion to 33 mgd

6 Since 2017, Baker Water Treatment Plant (WTP) treats imported and native water. Baker Aqueduct capacity has been allocated to Baker WTP participants and IRWD owns 46.50 cfs in Baker Aqueduct, of which, 10.5 cfs is for for potable treatment. IRWD has 36 cfs remaining capacity for non-potable uses. The nonpotable average use is based on converting maximum day capacity to average by dividing the capacity by a peaking factor of 2.5 (see Assessment Footnote 8, page 27). In 2023, IRWD executed an Agreement that sells 3 cfs to South County agencies, leaving 7.5 cfs for daily use for IRWD. However, should an emergency arise, IRWD retains the right to use the 3 cfs sold. The amount shown in the table remains 10.5 cfs

7 Based on IRWD's proportion of Irvine Lake imported water storage; Actual ILP capacity would allow the use of additional imported water from MWD through the Santiago Lateral.

8 Contract amount - See Assessment Nonpotable Supply-Groundwater (i) and (ii). Maximum day well capacity (cfs) is compatible with contract amount.

9 Based on 70+ years historical average of Santiago Creek Inflow into Irvine Lake. Since 2020, native water is treated through Baker WTP.

10 Supplies in this table are total and are not adjusted to account for any reductions in imported water.

11 Per Agreement with the City of Orange, average annual capacity increased to 3,200 acre-feet

\*64.7 cfs is current assigned capacity; based on increased peak flow, IRWD can purchase 10 cfs more (see page 25 (b)(1)(iii))

## 2. Information concerning supplies

### (a)(1) Existing sources of identified water supply for the proposed Project.

IRWD does not allocate particular supplies to any project, but identifies total supplies for its service area, as shown in the following table:

### (b) Required information concerning currently available and under-development water supply entitlements, water rights and water service contracts:

(1) Written contracts or other proof of entitlement.<sup>4 5</sup>

#### •POTABLE SUPPLY - IMPORTED<sup>6</sup>

##### ***Potable imported water service connections (currently available).***

(i) Potable imported water is delivered to IRWD at various service connections to the imported water delivery system of The Metropolitan Water District of Southern California (“MWD”): service connections CM-01A and OC-7 (Orange County Feeder); CM-10, CM-12, OC-38, OC-39, OC-57, OC-58, OC-63 (East Orange County Feeder No. 2); and OC-68, OC-71, OC-72, OC-73/73A, OC-74, OC-75, OC-83, OC-84, OC-87 (Allen-McColloch Pipeline). IRWD’s entitlements regarding service from the MWD delivery system facilities are described in the following paragraphs and summarized in the above Table ((2)(a)(1)). IRWD receives imported water service through Municipal Water District of Orange County (“MWDOC”), a member agency of MWD.

##### ***Allen-McColloch Pipeline (“AMP”) (currently available).***

(ii) Agreement For Sale and Purchase of Allen-McColloch Pipeline, dated as of July 1, 1994 (Metropolitan Water District Agreement No. 4623) (“AMP Sale Agreement”). Under the AMP Sale Agreement, MWD purchased the Allen-McColloch Pipeline (formerly known as the “Diemer Intertie”) from MWDOC, the MWDOC Water Facilities Corporation and certain agencies, including IRWD and Los Alisos Water District (“LAWD”),<sup>7</sup> identified as “Participants” therein. Section

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<sup>4</sup> In some instances, the contractual and other legal entitlements referred to in the following descriptions are stated in terms of flow capacities, in cubic feet per second (cfs). In such instances, the cfs flows are converted to volumes of AFY for purposes of analyzing supply sufficiency in this assessment, by dividing the capacity by a peaking factor of 1.8 (potable) or 2.5 (nonpotable), consistent with maximum day peaking factors used in the WRMP. The resulting reduction in assumed available annual AFY volumes through the application of these factors recognizes that connected capacity is provided to meet peak demands and that seasonal variation in demand and limitations in local storage prevent these capacities from being utilized at peak capacity on a year-round basis. However, the application of these factors produces a conservatively low estimate of annual AFY volumes from these connections; additional volumes of water are expected to be available from these sources.

<sup>5</sup> In the following discussion, contractual and other legal entitlements are characterized as either potable or nonpotable, according to the characterization of the source of supply. Some of the nonpotable supplies surplus to nonpotable demand could potentially be rendered potable by the addition of treatment facilities; however, except where otherwise noted, IRWD has no current plans to do so.

<sup>6</sup> See Imported Supply - Additional Information, below, concerning the availability of the MWD supply.

<sup>7</sup> IRWD has succeeded to LAWD’s interests in the AMP and other LAWD water supply facilities and rights

5.02 of the AMP Sale Agreement obligates MWD to meet IRWD's and the other Participants' requests for deliveries and specified minimum hydraulic grade lines at each connection serving a Participant, subject to availability of water. MWD agrees to operate the AMP as any other MWD pipeline. MWD has the right to operate the AMP on a "utility basis," meaning that MWD need not observe capacity allocations of the Participants but may use available capacity to meet demand at any service connection.

The AMP Sale Agreement obligates MWD to monitor and project AMP demands and to construct specified pump facilities or make other provision for augmenting MWD's capacity along the AMP, at MWD's expense, should that be necessary to meet demands of all of the Participants (Section 5.08).

*(iii)* Agreement For Allocation of Proceeds of Sale of Allen-McColloch Pipeline, dated as of July 1, 1994 ("AMP Allocation Agreement"). This agreement, entered into concurrently with the AMP Sale Agreement, provided each Participant, including IRWD, with a capacity allocation in the AMP, for the purpose of allocating the sale proceeds among the Participants in accordance with their prior contractual capacities adjusted to conform to their respective future demands. IRWD's capacity under the AMP Allocation Agreement (including its capacity as legal successor agency to LAWD) is 64.69 cfs at IRWD's first four AMP connections, 49.69 cfs at IRWD's next five downstream AMP connections and 35.01 and 10.00 cfs, respectively at IRWD's remaining two downstream connections. The AMP Allocation Agreement further provides that if a Participant's peak flow exceeds its capacity, the Participant shall "purchase" additional capacity from the other Participants who are using less than their capacity, until such time as MWD augments the capacity of the AMP. The foregoing notwithstanding, as mentioned in the preceding paragraph, the allocated capacities do not alter MWD's obligation under the AMP Sale Agreement to meet all Participants' demands along the AMP, and to augment the capacity of the AMP if necessary. Accordingly, under these agreements, IRWD can legally increase its use of the AMP beyond the above-stated capacities but would be required to reimburse other Participants from a portion of the proceeds IRWD received from the sale of the AMP.

*(iv)* Improvement Subleases (or "FAP" Subleases) [MWDOC and LAWD; MWDOC and IRWD], dated August 1, 1989; 1996 Amended and Restated Allen-McColloch Pipeline Subleases [MWDOC and LAWD; MWDOC and IRWD], dated March 1, 1996. IRWD subleases its AMP capacity, including the capacity it acquired as successor to LAWD. To facilitate bond financing for the construction of the AMP, it was provided that the MWDOC Water Facilities Corporation, and subsequently MWDOC, would have ownership of the pipeline, and the Participants would be sublessees. As is the case with the AMP Sale Agreement, the subleases similarly provide that water is subject to availability.

***East Orange County Feeder No. 2 ("EOCF#2") (currently available).***

*(v)* Agreement For Joint Exercise of Powers For Construction, Operation and Maintenance of East Orange County Feeder No. 2, dated July 11, 1961, as

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mentioned in this assessment, by virtue of the consolidation of IRWD and LAWD on December 31, 2000.

amended on July 25, 1962, and April 26, 1965; Agreement Re Capacity Rights In Proposed Water Line, dated September 11, 1961 (“IRWD MWDOC Assignment Agreement”); Agreement Regarding Capacity Rights In the East Orange County Feeder No. 2, dated August 28, 2000 (“IRWD Coastal Assignment Agreement”). East Orange County Feeder No. 2 (“EOCF#2”), a feeder linking Orange County with MWD’s feeder system, was constructed pursuant to a joint powers agreement among MWDOC (then called Orange County Municipal Water District), MWD, Coastal Municipal Water District (“Coastal”), Anaheim and Santa Ana. A portion of IRWD’s territory is within MWDOC and the remainder is within the former Coastal (which was consolidated with MWDOC in 2001). Under the IRWD MWDOC Assignment Agreement, MWDOC assigned 41 cfs of capacity to IRWD in the reaches of EOCF#2 upstream of the point known as Coastal Junction (reaches 1 through 3), and 27 cfs in reach 4, downstream of Coastal Junction. Similarly, under the IRWD Coastal Assignment Agreement, prior to Coastal’s consolidation with MWDOC, Coastal assigned to IRWD 0.4 cfs of capacity in reaches 1 through 3 and 0.6 cfs in reach 4 of EOCF#2. Delivery of water through EOCF#2 is subject to the rules and regulations of MWD and MWDOC and is further subject to application and agreement of IRWD respecting turnouts.

***Orange County Feeder (currently available)***

**(vi)** Agreement, dated March 13, 1956. This 1956 Agreement between MWDOC’s predecessor district and the Santa Ana Heights Water Company (“SAHWC”) provides for delivery of MWD imported supply to the former SAHWC service area. SAHWC’s interests were acquired on behalf of IRWD through a stock purchase and IRWD annexation of the SAHWC service area in 1997. The supply is delivered through a connection to MWD’s Orange County Feeder designated as OC-7.

**(vii)** Agreement For Transfer of Interest In Pacific Coast Highway Water Transmission and Storage Facilities From The Irvine Company To the Irvine Ranch Water District, dated April 23, 1984; Joint Powers Agreement For the Construction, Operation and Maintenance of Sections 1a, 1b and 2 of the Coast Supply Line, dated June 9, 1989; Agreement, dated January 13, 1955 (“1955 Agreement”). The jointly constructed facility known as the Coast Supply Line (“CSL”), extending southward from a connection with MWD’s Orange County Feeder at Fernleaf Street in Newport Beach, was originally constructed pursuant to a 1952 agreement among Laguna Beach County Water District (“LBCWD”), The Irvine Company (TIC) and South Coast County Water District. Portions were later reconstructed. Under the above-referenced transfer agreement in 1984, IRWD succeeded to TIC’s interests in the CSL. The CSL is presently operated under the above-referenced 1989 joint powers agreement, which reflects IRWD’s ownership of 10 cfs of capacity. The 1989 agreement obligates LBCWD, as the managing agent and trustee for the CSL, to purchase water and deliver it into the CSL for IRWD. LBCWD purchases such supply, delivered by MWD to the Fernleaf connection, pursuant to the 1955 Agreement with Coastal (now MWDOC).

***Baker Water Treatment Plant (currently available)***

IRWD recently constructed the Baker Water Treatment Plant (Baker WTP) in

partnership with El Toro Water District, Moulton-Niguel Water District, Santa Margarita Water District and Trabuco Canyon Water District. The Baker WTP is supplied with untreated imported water from MWD and native Irvine Lake water supply. IRWD owns 10.5 cfs of treatment capacity rights in the Baker WTP.<sup>8</sup>

•POTABLE SUPPLY - GROUNDWATER

(i) Orange County Water District Act (“OCWD”), Water Code App., Ch. 40 (“Act”). IRWD is an operator of groundwater-producing facilities in the Orange County Groundwater Basin (the “Basin”). Although the rights of the producers within the Basin vis a vis one another have not been adjudicated, they nevertheless exist and have not been abrogated by the Act (§40-77). The rights consist of municipal appropriators’ rights and may include overlying and riparian rights. The Basin is managed by OCWD under the Act, which functions as a statutorily-imposed physical solution. The Act empowers OCWD to impose replenishment assessments and basin equity assessments on production and to require registration of water-producing facilities and the filing of certain reports; however, OCWD is expressly prohibited from limiting extraction unless a producer agrees to such limitation (§ 40-2(6) (c)) and from impairing vested rights to the use of water (§ 40-77). Thus, producers may install and operate production facilities under the Act; OCWD approval is not required. OCWD is required to annually investigate the condition of the Basin, assess overdraft and accumulated overdraft, and determine the amount of water necessary for replenishment (§40-26). OCWD has studied the Basin replenishment needs and potential projects to address growth in demand through 2035 in its Final Draft Long-Term Facilities Plan (January 2006), last updated November 19, 2014. The Long-Term Facilities Plan is updated approximately every five years.

(ii) *Irvine Ranch Water District v. Orange County Water District*, Orange County Superior Court Case No. 795827. A portion of IRWD is outside the jurisdictional boundary of OCWD. IRWD is eligible to annex the Santa Ana River Watershed portion of this territory to OCWD, under OCWD’s current annexation policy (OCWD Resolution No. 86-2-15, adopted on February 19, 1986, and reaffirmed on June 2, 1999). This September 29, 1998, Superior Court ruling indicates that IRWD is entitled to deliver groundwater from the Basin to the IRWD service area irrespective of whether such area is also within OCWD.

***Dyer Road Wellfield (“DRWF”) / Deep Aquifer Treatment System (“DATS”)***  
***(currently available)***

(iii) Agreement For Water Production and Transmission Facilities, dated March 18, 1981, as amended May 2, 1984, September 19, 1990, and November 3, 1999 (the “DRWF Agreement”). The DRWF Agreement, among IRWD, OCWD and Santa Ana, concerns the development of IRWD’s Dyer Road Wellfield (DRWF), within the Basin. The DRWF consists of 16 wells pumping from the non-colored water zone of the Basin and 2 wells (with colored-water treatment

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<sup>8</sup> The Baker WTP is supplied nonpotable imported water through the existing Baker Pipeline. IRWD’s existing Baker Pipeline capacity (see Section 2(b)(1) NONPOTABLE SUPPLY – IMPORTED) has been apportioned to the Baker WTP participants based on Baker WTP capacity ownership, and IRWD retains 10.5 cfs of pipeline capacity through the Baker WTP for potable supply and retains 36 cfs in Reach 1U of the Baker Pipeline capacity for nonpotable supply. In 2023, IRWD executed an agreement that sells 3 cfs to South County agencies, leaving 7.5 cfs for daily use for IRWD. However, should an emergency arise, IRWD retains the right to the use of the 3 cfs sold.

facilities) pumping from the deep, colored-water zone of the Basin (the colored-water portion of the DRWF is sometimes referred to as the Deep Aquifer Treatment System or DATS.) Under the DRWF Agreement, an “equivalent” basin production percentage (“BPP”) has been established for the DRWF, currently 28,000 AFY of non-colored water and 8,000 AFY of colored water, provided any amount of the latter 8,000 AFY not produced results in a matching reduction of the 28,000 AFY BPP. Although typically IRWD production from the DRWF does not materially exceed the equivalent BPP, the equivalent BPP is not an extraction limitation; it results in imposition of monetary assessments on the excess production. The DRWF Agreement also establishes monthly pumping amounts for the DRWF. With the addition of the Concentrated Treatment System (“CATS”), IRWD has increased the yield of DATS.

***Irvine Subbasin / Irvine Desalter (currently available)***

**(iv)** First Amended and Restated Agreement, dated March 11, 2002, as amended June 15, 2006, restating May 5, 1988 agreement (“Irvine Subbasin Agreement”). TIC has historically pumped agricultural water from the Irvine Subbasin. (As in the rest of the Basin of which this subbasin is a part, the groundwater rights have not been adjudicated and OCWD provides governance and management under the Act.) The 1988 agreement between IRWD and TIC provided for the joint use and management of the Irvine Subbasin. The 1988 agreement further provided that the 13,000 AFY annual yield of the Irvine Subbasin (“Subbasin”) would be allocated 1,000 AFY to IRWD and 12,000 AFY to TIC. Under the restated Irvine Subbasin Agreement, the foregoing allocations were superseded as a result of TIC’s commencement of the building its Northern Sphere Area project, with the effect that the Subbasin production capability, wells and other facilities, and associated rights have been transferred from TIC to IRWD, and IRWD has assumed the production from the Subbasin. In consideration of the transfer, IRWD is required to count the supplies attributable to the transferred Subbasin production in calculating available supplies for the Northern Sphere Area project and other TIC development and has agreed that they will not be counted toward non-TIC development.

A portion of the existing Subbasin water production facilities produce water which is of potable quality. IRWD could treat some of the water produced from the Subbasin for potable use, by means of the Desalter and other projects. Although, as noted above, the Subbasin has not been adjudicated and is managed by OCWD, TIC reserved water rights from conveyances of its lands as development over the Subbasin has occurred, and under the Irvine Subbasin Agreement TIC has transferred its rights to IRWD.

**(v)** Second Amended and Restated Agreement Between Orange County Water District and Irvine Ranch Water District Regarding the Irvine Desalter Project, dated June 11, 2001, and other agreements referenced therein. This agreement provides for the extraction and treatment of subpotable groundwater from the Irvine Subbasin, a portion of the Basin. As is the case with the remainder of the Basin, IRWD’s entitlement to extract this water is not adjudicated, but the use of the entitlement is governed by the OCWD Act. (See also, discussion of Irvine Subbasin in the preceding paragraph.) A portion of the product water has been delivered into the IRWD potable system, and the remainder has been delivered into the IRWD nonpotable system.

### ***Orange Park Acres (currently available)***

On June 1, 2008, through annexation and merger, IRWD acquired the water system of the former Orange Park Acres Mutual Water company, including its well (“OPA Well”). The well is operated within the Basin.

### ***Wells 21 and 22 (currently available)***

In early 2013, IRWD completed construction of treatment facilities, pipelines, and wellhead facilities for Wells 21 and 22. Water supplied through this project became available in 2013. The wells are operated within the Basin.

### ***Irvine Wells (under development)***

(vi) IRWD is pursuing the installation of production facilities in the west Irvine, Tustin Legacy and Tustin Ranch portions of the Basin. These groundwater supplies are considered to be under development; however, four wells have been drilled and have previously produced groundwater, three wells have been drilled but have not been used as production wells to date, and a site for an additional well and treatment facility has been acquired by IRWD. These production facilities can be constructed and operated under the Act; no statutory or contractual approval is required to do so. Appropriate environmental review has or will be conducted for each facility. See discussion of the Act under Potable Supply - Groundwater, paragraph (i), above.

## **•NONPOTABLE SUPPLY - RECYCLED**

### ***Water Recycling Plants (currently available)***

Water Code Section 1210. IRWD supplies its own recycled water from sewage collected by IRWD and delivered to IRWD’s Michelson Water Recycling Plant (“MWRP”) and Los Alisos Water Recycling Plant (“LAWRP”). Under the recently completed MWRP Phase II Capacity Expansion Project, IRWD increased its tertiary treatment capacity on the existing MWRP site to produce sufficient recycled water to meet the projected demand through the year 2044. MWRP currently has a permitted tertiary capacity of 28 million gallons per day (“MGD”) and LAWRP currently has a permitted tertiary capacity of 5.5 MGD. Water Code Section 1210 provides that the owner of a sewage treatment plant operated for the purposes of treating wastes from a sanitary sewer system holds the exclusive right to the treated effluent as against anyone who has supplied the water discharged into the sewer system. IRWD’s permits for the operation of MWRP and LAWRP allow only irrigation and other customer uses of recycled water, and do not permit stream discharge of recycled water under normal conditions; thus, no issue of downstream appropriation arises, and IRWD is entitled to deliver all of the effluent to meet contractual and customer demands. Additional reclamation capacity will augment local nonpotable supplies and improve reliability.

## **•NONPOTABLE SUPPLY - IMPORTED**<sup>9</sup>

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<sup>9</sup> See Imported Supply - Additional Information, below, for information concerning the availability of the MWD

### ***Baker Pipeline (currently available)***

Santiago Aqueduct Commission (“SAC”) Joint Powers Agreement, dated September 11, 1961, as amended December 20, 1974, January 13, 1978, November 1, 1978, September 1, 1981, October 22, 1986, and July 8, 1999 (the “SAC Agreement”); Agreement Between Irvine Ranch Water District and Carma-Whiting Joint Venture Relative to Proposed Annexation of Certain Property to Irvine Ranch Water District, dated May 26, 1981 (the “Whiting Annexation Agreement”); service connections OC-13/13A, OC-33/33A. The imported untreated water pipeline initially known as the Santiago Aqueduct and now known as the Baker Pipeline was constructed under the SAC Agreement, a joint powers agreement. The Baker Pipeline is connected to MWD’s Santiago Lateral. IRWD’s capacity in the Baker Pipeline includes the capacity it subleases as successor to LAWD, as well as capacity rights IRWD acquired through the Whiting Annexation Agreement. (To finance the construction of AMP parallel untreated reaches which were incorporated into the Baker Pipeline, replacing original SAC untreated reaches that were made a part of the AMP potable system, it was provided that the MWDOC Water Facilities Corporation, and subsequently MWDOC, would have ownership, and the participants would be sublessees.) IRWD’s original capacities in the Baker Pipeline include 52.70 cfs in the first reach, 12.50 cfs in each of the second, third and fourth reaches and 7.51 cfs in the fifth reach of the Baker Pipeline. These existing Baker Pipeline capacities have been apportioned to the Baker WTP participants based on Baker WTP capacity ownership. IRWD retains 10.5 cfs of the pipeline capacity for potable supply through the Baker WTP and retains 36 cfs in Reach 1U of the Baker Pipeline capacity for nonpotable supply (See also footnote 8, page 27). In 2023, IRWD executed an Agreement that sells 3 cfs to South County agencies, leaving 7.5 cfs for daily use for IRWD. However, should an emergency arise, IRWD retains the right to use the 3 cfs sold. Water is subject to availability from MWD.

### **•NONPOTABLE SUPPLY - NATIVE**

#### ***Irvine Lake (currently available)***

(i) Permit For Diversion and Use of Water (“Permit No. 19306”) issued pursuant to Application No. 27503; License For Diversion and Use of Water (“License 2347”) resulting from Application No. 4302 and Permit No. 3238; License For Diversion and Use of Water (“License 2348”) resulting from Application No. 9005 and Permit No. 5202. The foregoing permit and licenses, jointly held by IRWD (as successor to The Irvine Company (“TIC”) and Carpenter Irrigation District (“CID”)) and Serrano Water District (“SWD”), secure appropriative rights to the flows of Santiago Creek. Under Licenses 2347 and 2348, IRWD and SWD have the right to diversion by storage at Santiago Dam (Irvine Lake) and a submerged dam, of a total of 25,000 AFY. Under Permit No. 19306, IRWD and SWD have the right to diversion by storage of an additional 3,000 AFY by flashboards at Santiago Dam (Irvine Lake). (Rights under Permit No. 19306 may be junior to an OCWD permit to divert up to 35,000 AFY of Santiago Creek flows to spreading

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supply.



pits downstream of Santiago Dam.) The combined total of native water that may be diverted to storage under these licenses and permit is 28,000 AFY. A 1996 amendment to License Nos. 2347, 2348 and 2349 [replaced by Permit No. 19306 in 1984] limits the withdrawal of water from the Lake to 15,483 AFY under the licenses. This limitation specifically references the licenses and doesn't reference water stored pursuant to other legal entitlements. The use and allocation of the native water is governed by the agreements described in the next paragraph.

*(ii)* Agreement, dated February 6, 1928 ("1928 Agreement"); Agreement, dated May 15, 1956, as amended November 12, 1973 ("1956 Agreement"); Agreement, dated as of December 21, 1970 ("1970 Agreement"); Agreement Between Irvine Ranch Water District and The Irvine Company Relative to Irvine Lake and the Acquisition of Water Rights In and To Santiago Creek, As Well As Additional Storage Capacity in Irvine Lake, dated as of May 31, 1974 ("1974 Agreement"). The 1928 Agreement was entered into among SWD, CID and TIC, providing for the use and allocation of native water in Irvine Lake. Through the 1970 Agreement and the 1974 Agreement, IRWD acquired the interests of CID and TIC, leaving IRWD and SWD as the two co-owners. TIC retains certain reserved rights. The 1928 Agreement divides the stored native water by a formula which allocates to IRWD one-half of the first 1,000 AF, plus increments that generally yield three-fourths of the amount over 1,000 AF.<sup>10</sup> The agreements also provide for evaporation and spill losses and carryover water remaining in the Lake at the annual allocation dates. Given the dependence of native water on rainfall, for purposes of this assessment only a small portion of IRWD's share of the 28,000 AFY of native water rights (3,048 AFY in normal years and 1,000 AFY in single and multiple-dry years) is shown in currently available supplies, based on averaging of historical data. However, IRWD's ability to supplement Irvine Lake storage with its imported untreated water supplies, described herein, offsets the uncertainty associated with the native water supply.

#### •NONPOTABLE SUPPLY - GROUNDWATER

##### ***Irvine Subbasin / Irvine Desalter (currently available)***

*(i)* IRWD's entitlement to produce nonpotable water from the Irvine Subbasin is included within the Irvine Subbasin Agreement. See discussion of the Irvine Subbasin Agreement under Potable Supply - Groundwater; paragraph (iv), above.

*(ii)* See discussion of the Irvine Desalter project under Potable Supply - Groundwater, paragraph (v), above. The Irvine Desalter project will produce nonpotable as well as potable water.

#### •IMPORTED SUPPLY - ADDITIONAL INFORMATION

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<sup>10</sup> The 1956 Agreement provides for facilities to deliver MWD imported water into Irvine Lake, and grants storage capacity for the imported water. By succession, IRWD owns 9,000 AFY of this 12,000 AFY imported water storage capacity. This storage capacity does not affect availability of the imported supply, which can be either stored or delivered for direct use by customers.

As described above, the imported supply from MWD is contractually subject to availability. To assist local water providers in assessing the adequacy of local water supplies that are reliant in whole or in part on MWD's imported supply, MWD has provided information concerning the availability of the supplies to its entire service area. In the MWD 2020 UWMP, MWD has extended its planning timeframe out through 2045 to ensure that the MWD 2020 UWMP may be used as a source document for meeting requirements for sufficient supplies. In addition, the MWD 2020 UWMP includes "Justifications for Supply Projections" (Appendix A-3) that details the planning, legal, financial, and regulatory basis for including each source of supply in the plan. The MWD 2020 UWMP summarizes MWD's planning initiatives over the past 15 years, which includes the Integrated Resources Plan (IRP), the IRP 2015 Update, the WSDM Plan, Strategic Plan and Rate Structure. The reliability analysis in MWD's 2015 IRP Update shows that MWD can maintain reliable supplies under the conditions that have existed in past dry periods throughout the period through 2040. The MWD 2020 UWMP includes tables that show the region can provide reliable supplies under both the single driest year (1977) and multiple dry years (1990-92) through 2045. MWD has also identified buffer supplies, including additional State Water Project groundwater storage and transfers that could serve to supply the additional water needed.

It is anticipated that MWD will revise its regional supply availability analysis periodically, if needed, to supplement the MWD 2020 UWMP in years when the MWD UWMP is not being updated.

IRWD is permitted by the statute (Wat. Code, § 10610 *et seq.*) to rely upon the water supply information provided by the wholesaler concerning a wholesale water supply source, for use in preparing its UWMPs. In turn, the statute provides for the use of UWMP information to support water supply assessments and verifications. In accordance with these provisions, IRWD is entitled to rely upon the conclusions of the MWD UWMP. As referenced above under Summary of Results of Demand-Supply Comparisons - **Actions on Delta Pumping**, MWD has provided additional information on its imported water supply.

MWD's reserve supplies, together with the fact that IRWD relies on MWD supplies as supplemental supplies that need not be used to the extent IRWD operates currently available and under-development local supplies, build a margin of safety into IRWD's supply availability.

(2) Adopted capital outlay program to finance delivery of the water supplies.

All necessary delivery facilities currently exist for the use of the *currently available* and *under-development* supplies assessed herein, with the exception of future groundwater wells, and IRWD sub-regional and developer-dedicated conveyance facilities necessary to complete the local distribution systems for the Project. IRWD's turnout at each MWD connection and IRWD's regional delivery facilities are sufficiently sized to deliver all of the supply to the sub-regional and local distribution systems.

With respect to future groundwater well projects (PR Nos. 11828 and 11829), IRWD adopted its fiscal year 2023-24 capital budget on April 24, 2023 (Resolution No. 2023-6) and the mid-cycle capital budget for fiscal year 2024-25

was adopted on May 28, 2024. Budgeting portions of the funds are for such projects. (A copy is available from IRWD on request.) For these facilities, as well as unbuilt IRWD sub-regional conveyance facilities, the sources of funding are previously authorized general obligation bonds, revenue-supported certificates of participation and/or capital funds held by IRWD Improvement Districts. IRWD has maintained a successful program for the issuance of general obligation bonds and certificates of participation on favorable borrowing terms, and IRWD has received AAA public bond ratings. IRWD has approximately \$585.5 million (water) and \$711.1 million (recycled water and sewer) of unissued, voter-approved general obligation bond authorization. Certificates of participation do not require voter approval. Proceeds of bonds and available capital funds are expected to be sufficient to fund all IRWD facilities for delivery of the supplies under development. Tract-level conveyance facilities are required to be donated to IRWD by the Applicant or its successor(s) at time of development.

See also the MWD 2020 UWMP, Appendix A.3 Justifications for Supply Projections with respect to capital outlay programs related to MWD's supplies.

(3) Federal, state and local permits for construction of delivery infrastructure.

Most IRWD delivery facilities are constructed in public right-of-way or future right-of-way. State statute confers on IRWD the right to construct works along, under or across any stream of water, watercourse, street, avenue, highway, railway, canal, ditch, or flume (Water Code Section 35603). Although this right cannot be denied, local agencies may require encroachment permits when work is to be performed within a street. If easements are necessary for delivery infrastructure, IRWD requires the developer to provide them. The crossing of watercourses or areas with protected species requires federal and/or state permits as applicable.

See also the MWD 2020 UWMP, Appendix A.3 Justifications for Supply Projections with respect to permits related to MWD's supplies.

(4) Regulatory approvals for conveyance or delivery of the supplies.

See response to preceding item (3). Additionally, in general, supplies under development may necessitate the preparation and completion of environmental documents and/or regulatory approvals prior to full construction and implementation. IRWD obtains such approvals when required, and copies of documents pertaining to approvals can be obtained from IRWD.

See also the MWD 2020 UWMP, Appendix A.3 Justifications for Supply Projections with respect to regulatory approvals related to MWD's supplies.

**3. Other users and contractholders (identified supply not previously used).**

For each of the water supply sources identified by IRWD, if no water has been received from that source(s), IRWD is required to identify other public water systems or water service contractholders that receive a water supply from, or have existing water supply entitlements, water rights and water service contracts to, that source(s):

Water has been received from all listed sources. A small quantity of Subbasin water is used by Woodbridge Village Association for the purpose of supplying its

North and South Lakes. There are no other public water systems or water service contractholders that receive a water supply from, or have existing water supply entitlements, water rights and water service contracts to, the Irvine Subbasin.

**4. Information concerning groundwater included in the supply identified for the Project:**

(a) Relevant information in the Urban Water Management Plan (UWMP):

See Irvine Ranch Water District 2020 UWMP, section 6.2.

(b) Description of the groundwater basin(s) from which the Project will be supplied:

The Orange County Groundwater Basin (“Basin”) is described in the Orange County Water District Groundwater Management Plan (“GMP”) 2015 Update, dated June 17, 2015<sup>11</sup>. The rights of the producers within the Basin vis a vis one another have not been adjudicated. The Basin is managed by the Orange County Water District (“OCWD”) for the benefit of municipal, agricultural, and private groundwater producers. OCWD is responsible for the protection of water rights to the Santa Ana River in Orange County as well as the management and replenishment of the Basin. Current production from the Basin is approximately 260,000 AFY.

The DWR has not identified the Basin as “critically overdrafted,” and has not identified the Basin as overdrafted in its most current bulletin that characterizes the condition of the Basin, Bulletin 118. The efforts being undertaken by OCWD to avoid long-term overdraft in the Basin are described in the OCWD GMP 2015 Update and OCWD Master Plan Report (“MPR”), including in particular, Chapters 4, 5, 6, 14 and 15 of the MPR. OCWD has also prepared a Long Term Facilities Plan (“LTFP”) which was received by the OCWD Board in July 2009 and was last updated in November 2014. The LTFP Chapter 3 describes the efforts being undertaken by OCWD to eliminate long-term overdraft in the Basin. See also following section on “**Sustainable Groundwater Management Act**”.

Although the water supply assessment statute (Water Code Section 10910(f)) refers to elimination of “long-term overdraft,” overdraft includes conditions which may be managed for optimum basin storage, rather than eliminated. OCWD’s Act defines annual groundwater overdraft to be the quantity by which production exceeds the natural replenishment of the Basin. Accumulated overdraft is defined in the OCWD Act to be the quantity of water needed in the groundwater basin forebay to prevent landward movement of seawater into the fresh groundwater body. However, seawater intrusion control facilities have been constructed by OCWD since the Act was written and have been effective in preventing landward movement of seawater. These facilities allow greater utilization of the storage capacity of the Basin.

OCWD has invested over \$250 million in seawater intrusion control (injection barriers), recharge facilities, laboratories, and Basin monitoring to effectively

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<sup>11</sup> OCWD has also prepared a Long-Term Facilities Plan which was received and filed by its Board in July 2009, and last updated in November 2014.

manage the Basin. Consequently, although the Basin is defined to be in an “overdraft” condition, it is actually managed to allow utilization of up to 500,000 acre-feet of storage capacity of the basin during dry periods, acting as an underground reservoir and buffer against drought. OCWD has an optimal basin management target of 100,000 acre-feet of accumulated overdraft provides sufficient storage space to accommodate increased supplies from one wet year while also provide enough water in storage to offset decreased supplies during a two- to three year drought. If the Basin is too full, artesian conditions can occur along the coastal area, causing rising water and water logging, an adverse condition. Since the formation of OCWD in 1933, OCWD has made substantial investment in facilities, Basin management and water rights protection, resulting in the elimination and prevention of adverse long-term “mining” overdraft conditions. OCWD continues to develop new replenishment supplies, recharge capacity and basin protection measures to meet projected production from the basin during normal rainfall and drought periods. (OCWD GMP, OCWD MPR and LTFP)

OCWD’s efforts include ongoing replenishment programs and planned capital improvements. It should be noted under OCWD’s management of overdraft to maximize the Basin’s use for annual production and recharge operations, overdraft varies over time as the Basin is managed to keep it in balance over the long term. The Basin is not operated on an annual safe-yield basis. (OCWD GMP, OCWD MPR, section 3.2 and LTFP, section 6). See also the following section on “**Sustainable Groundwater Management Act**”.

(c) Description and analysis of the amount and location of groundwater pumped by IRWD from the Basin for the past five years:

The following table shows the amounts pumped, by groundwater source since the year 2002:

(In AFY)

Year (ending 6/30)	DRWF/DATS/ OPA/21-22	Irvine Subbasin (IRWD)	Irvine Subbasin (TIC)	LAWD <sup>12</sup>
2024	38,546	2,681	0	0
2023	36,558	4,692	0	0
2022	35,344	5,159	0	0
2021	38,722	3,644	0	0
2020	33,975	4,005	0	0
2019	38,603	3,961	0	0
2018	38,196	4,619	0	0
2017	39,787	4,077	0	169

<sup>12</sup> The water produced from IRWD’s Los Alisos wells is not included in this assessment. IRWD is presently evaluating the future use of these wells.

2016	37,216	4,672	0	307
2015	40,656	9,840	0	336
2014	42,424	10,995	0	376
2013	38,617	8,629	0	282
2012	37,059	7,059	0	0
2011	34,275	7,055	0	0
2010	37,151	8,695	0	3
2009	38,140	7,614	0	0
2008	36,741	4,539	0	16
2007	37,864	5,407	0	6
2006	37,046	2,825	0	268
2005	36,316	2,285	628	357
2004	30,265	1,938	3,079	101
2003	24,040	2,132	4,234	598
2002	25,855	2,533	5,075	744

(d) Description and analysis of the amount and location of groundwater projected to be pumped by IRWD from the Basin:

IRWD has a developed groundwater supply of 35,200 AFY from its Dyer Road Wellfield (including the Deep Aquifer Treatment System), in the main portion of the Basin.

Although TIC's historical production from the Subbasin declined as its use of the Subbasin for agricultural water diminished, OCWD's and other historical production records for the Subbasin show that production has been as high as 13,000 AFY. Plans are also underway to expand IRWD's main Orange County Groundwater Basin supply (characterized as *under-development* supplies herein). (See Section 2 (a) (1) herein). IRWD anticipates the development of potential additional production facilities within both the main Basin and the Irvine Subbasin. However, such additional facilities have not been included or relied upon in this assessment. Additional groundwater development will provide an additional margin of safety as well as reduce future water supply costs to IRWD.

The following table summarizes future IRWD groundwater production from currently available and under-development supplies.

(In AFY)

Year (ending 6/30)	DRWF <sup>13</sup>	Future GW <sup>14</sup>	IDP (Potable)	IDP (Nonpotable)
2025	42,218	2,800	5,618	3,461
2030	42,218	2,800	5,618	3,461
2035	42,218	2,800	5,618	3,461
2040	42,218	2,800	5,618	3,461

(e) If not included in the 2020 UWMP, analysis of the sufficiency of groundwater projected to be pumped by IRWD from the Basin to meet the projected water demand of the Project:

See responses to 4(b) and 4(d).

The OCWD MPR and LTFP examined future Basin conditions and capabilities, water supply and demand, and identified projects to meet increased replenishment needs of the basin. With the implementation of OCWD’s preferred projects, the Basin yield in the year 2025 would be up to 500,000 AF. The amount that can be produced will be a function of which projects will be implemented by OCWD and how much increased recharge capacity is created by those projects, total demands by all producers, and the resulting Basin Production Percentage (“BPP”) that OCWD sets based on these factors.<sup>15</sup> Sufficient replenishment supplies are projected by the OCWD MPR to be available to OCWD to meet the increasing demand on the Basin. These supplies include capture of increasing Santa Ana River flows, purchases of replenishment water from MWD, and development of new local supplies. In 2008, OCWD began operating its replenishment supply project, the Groundwater Replenishment System project (“GWRS”). The GWRS currently produces approximately 100,000 AFY of new replenishment supply from recycled water (OCWD GMP).

Production of groundwater can exceed applicable basin production percentages on a short-term basis, providing additional reliability during dry years or emergencies. Additional groundwater production is anticipated by OCWD in the Basin in dry years, as producers reduce their use of imported supplies, and the Basin is “mined” in anticipation of the eventual availability of replenishment water.

<sup>13</sup> See Potable Supply - Groundwater, paragraph (iii), above. DRWF non-colored production above 28,000 AFY and colored water production above 8,000 AFY are subject to contractually-imposed assessments. In addition, seasonal production amounts apply. This also includes 3,200 AFY for the OPA well and 2,800 AFY for Wells 21 & 22.

<sup>14</sup> Under-development.

<sup>15</sup> OCWD has adopted a basin production percentage of 85% for 2024-25. In prior years OCWD has maintained a basin production percentage that is lower than the current percentage, and IRWD anticipates that such reductions may occur from time to time as a temporary measure employed by OCWD to encourage lower pumping levels as OCWD implements other measures to reduce the current accumulated overdraft in the Basin. Any such reductions are not expected to affect any of IRWD’s currently available groundwater supplies listed in this assessment, which are subject to a contractually-set equivalent basin production percentage as described or are exempt from the basin production percentage.

(OCWD MPR, section 14.6.)

See also, Figures 1-8 hereto. IRWD assesses sufficiency of supplies on an aggregated basis, as neither groundwater nor other supply sources are allocated to particular projects or customers. Under the Irvine Subbasin Agreement, IRWD is contractually obligated to attribute the Subbasin supply only to TIC development projects for assessment purposes; however, the agreement does not allocate or assign rights in the Subbasin supply to any project.

**Sustainable Groundwater Management Act.** Pursuant to the Sustainable Groundwater Management Act (“SGMA”), the DWR has designated the Orange County groundwater basin, Basin 8-1, as a medium priority basin for purposes of groundwater management. The SGMA specifically calls for OCWD, which regulates the Orange County groundwater basin, to serve as the groundwater sustainability agency or “GSA”. The SGMA allows Special Act Districts created by statute, such as OCWD, to prepare and submit an alternative to a Groundwater Sustainability Plan (“GSP”) that is “functionally equivalent” to a GSP. Basin 8-1 includes the OCWD service area and several fringe areas outside of OCWD that are within the Basin 8-1 boundary. Per the requirements of SGMA, an Alternative Plan must encompass the entire groundwater basin as defined by DWR. On January 1, 2017, OCWD and the overlying agencies within Basin 8-1, including IRWD, jointly prepared and submitted an alternative plan in compliance with SGMA (Basin 8-1 Alternative). The Basin 8-1 Alternative was updated in January 2024.

**5.  This Water Supply Assessment is being completed for a project included in a prior water supply assessment. Check all of the following that apply:**

- Changes in the Project have substantially increased water demand.
- Changes in circumstances or conditions have substantially affected IRWD’s ability to provide a sufficient water supply for the Project.
- Significant new information has become available which was not known and could not have been known at the date of the prior Water Supply Assessment.

**6. References**

*Water Resources Master Plan*, Irvine Ranch Water District, Updated 2017

*Water Shortage Contingency Plan*, Irvine Ranch Water District, June 2021

*2020 Urban Water Management Plan*, Irvine Ranch Water District, June 2021

*Proposed Framework for Metropolitan Water District’s Delta Action Plan*, Metropolitan Water District of Southern California, May 8, 2007

*2007 IRP Implementation Report*, Metropolitan Water District of Southern California, October 7, 2007



*2010 Integrated Resources Plan Update*, Metropolitan Water District of Southern California, October 2010

*2015 Integrated Resources Plan Update*, Metropolitan Water District of Southern California, January 2016

*2020 Integrated Water Resources Plan Regional Needs Assessment*, Metropolitan Water District of Southern California, April 2022

*2020 Urban Water Management Plan*, Metropolitan Water District of Southern California, June 2021

*2020 Urban Water Management Plan*, Municipal Water District of Orange County, May 2021

*Climate Action Plan*, Metropolitan Water District of Southern California, May 2022

*Climate Action Plan Phase 2: Climate Change Analysis Guidance*, California Department of Water Resources, September 2018

*Master Plan Report*, Orange County Water District, April 1999

*Groundwater Management Plan 2015 Update*, Orange County Water District, June 2015

*Final Draft Long-Term Facilities Plan*, Orange County Water District, January 2006

*Long-Term Facilities Plan 2014 Update*, Orange County Water District, November 2014

*2022-2023 Engineer's Report on Groundwater Conditions, Water Supply and Basin Utilization in the Orange County Water District*, Orange County Water District, February 2024

*Basin 8-1 Alternative*, Orange County Water District, January 2017

*Basin 8-1 Alternative 2022 Update*, Orange County Water District, January 2022

**Exhibit A**

Depiction of Project Area

Exhibit "A"



## **Exhibit B**

### Uses Included in Project

Exhibit "B"

9/12/2024

Irvine Ranch Water District  
15600 Sand Canyon Avenue  
P.O. Box 57000  
Irvine, CA 92619-7000

Re: Request for Water Supply Availability Assessment (Water Code §10910 *et seq.*) for  
Discovery Park Project in the City of Irvine

The City of Irvine hereby requests an assessment of water supply availability for the  
below-described project. The City has determined that the project is a "project" as  
defined in Water Code §10912, and has determined that an environmental impact report is  
required for the project.

**Proposed Project Information**

Project Title: PA 31 Parcel Map 407-26 Parcel 1-6, APNs 466-231- (25-30)

Location of project: The project is 30 acres and currently used as vacant land zoned for commercial  
office space. The project site is located along NEC Laguna Canyon Rd/Discovery

- (For projects requiring a new assessment under Water Code §10910 (h).) Previous Water Supply Assessment including this project was prepared on: \_\_\_\_\_ This application requests a new Water Supply Assessment, due to the following (check all that apply):
- Changes in the project have substantially increased water demand
- Changes in circumstances or conditions have substantially affected IRWD's ability to provide a sufficient water supply for the project
- Significant new information has become available which was not known and could not have been known at the date of the prior Water Supply Assessment  
(Enclose maps and exhibits of the project)

**Type of Development**

- Residential: No. of dwelling units: 1,858 dwelling units
- Shopping center or business: No. of employees N/A Sq. ft. \_\_\_\_\_
- Commercial office: No. of employees N/A Sq. ft. of floor \_\_\_\_\_
- Hotel or motel: No. of rooms N/A
- Industrial, manufacturing, processing or industrial park: No. of employees N/A  
No. of acres N/A Sq. ft. of floor N/A
- Mixed use (check and complete all above that apply)
- Other: N/A

Total acreage of project 30 acres

**Acreage devoted to landscape:**

Greenbelt N/A golf course N/A parks \_\_\_\_\_  
Agriculture N/A other landscaped areas N/A

Number of schools N/A Number of public facilities N/A

Other factors or uses that would affect the quantity of water needed, such as peak flow requirements or potential uses to be added to the project to reduce or mitigate environmental impacts:

None

What is the current land use of the area subject to a land use change under the project?

Current use is commercial office vacant land.

Is the project included in the existing General Plan? Yes If no, describe the existing General Plan Designation \_\_\_\_\_

The City acknowledges that IRWD's assessment will be based on the information hereby provided to IRWD concerning the project. If it is necessary for corrected or additional information to be submitted to enable IRWD to complete the assessment, the request will be considered incomplete until IRWD's receipt of the corrected or additional information. If the project, circumstances or conditions change or new information becomes available after the issuance of a Water Supply Assessment, the Water Supply Assessment may no longer be valid. The City will request a new Water Supply Assessment if it determines that one is required.

The City acknowledges that the Water Supply Assessment shall not constitute a "will-serve" or in any way entitle the project applicant to service or to any right, priority or allocation in any supply, capacity or facility, and that the issuance of the Water Supply Assessment shall not affect IRWD's obligation to provide service to its existing customers or any potential future customers including the project applicant. In order to receive service, the project applicant shall be required to file a completed Application(s) for Service and Agreement with the Irvine Ranch Water District on IRWD's forms, together with all fees and charges, plans and specifications, bonds and conveyance of necessary easements, and meet all other requirement as specified therein.

CITY OF IRVINE

By: Erica S. Hong

Erica S. Hong  
Senior Planner, Community Development

REQUEST RECEIVED:

Date: October 14, 2021

By: Marina Lindsay  
Irvine Ranch Water District  
Marina Lindsay  
Water Resources Planner

REQUEST COMPLETE:

Date: November 13, 2021

By: Marina Lindsay  
Irvine Ranch Water District

**IRVINE RANCH WATER DISTRICT  
VERIFICATION OF SUFFICIENT WATER SUPPLY  
Government Code §66473.7**

To: *(Lead Agency)*  
City of Irvine  
One Civic Center Plaza  
Irvine, CA 92623-9575

*(Applicant)*  
The Irvine Company  
550 Newport Center Drive  
Newport Beach, CA 92660

**Project Information**

Project Title: PA 31 Discovery Park (see Exhibit A)

Tentative Tract No. 19260     Verification requested prior to tentative map application

Number of residential units in Project: 1,858

Uses in Project including non-residential (type, no. of employees, sq. ft. of floor space, acreage):  
(see Exhibit B)

Acreage to be devoted to landscape (excluding individual residence yards): (see Exhibit B)

The projected water demand for the Project was included in IRWD's most recently adopted urban water management plan.

A Water Supply Assessment that included the Project was adopted by IRWD on \_\_\_\_\_, PA31 Discovery Park. A copy of the Assessment is attached hereto and incorporated herein by this reference (see Exhibit C).

**Verification of Availability of Sufficient Water Supply**

On \_\_\_\_\_, the Board of Directors of the Irvine Ranch Water District (IRWD) approved the within Verification and made the following determination regarding the above-described Project:

A sufficient water supply is available for the Project.  
The total water supplies available to IRWD during normal, single-dry and multiple-dry years within a 20-year projection will meet the projected water demand of the Project in addition to the demand of existing and other planned future uses, including, but not limited to, agricultural and manufacturing uses.

A sufficient water supply is not available for the Project.

The foregoing determination is based on the following Water Supply Verification Information and supporting information in the records of IRWD.

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*Signature* *Date* *Title*

## **WATER SUPPLY VERIFICATION INFORMATION**

### Purpose of Verification

Irvine Ranch Water District (“IRWD”) is the public water system that will supply water service (both potable and nonpotable) to the project identified on the cover page of this verification (the “Project”). As a public water system, IRWD is required by Section 66473.7 of the Government Code (the “Verification Law”) to provide the City with a verification of the availability of a sufficient water supply for non-exempt subdivisions of more than 500 residential units in conjunction with (or prior to) the City’s approval of a tentative map. The City has found the Project to include a subdivision that is subject to verification and not exempt under the Verification Law.

The Verification Law provides that a verification shall be supported by substantial evidence, which may include, but is not limited to, any of the following (i) IRWD’s most recently adopted urban water management plan; (ii) a water supply assessment previously adopted for the project under Water Code 10910, *et seq.*; or (iii) other analytical information substantially similar to the assessment of service reliability required by Water Code Section 10635 to be included in the urban water management plan. The Verification Law also specifies the elements to be contained in a verification with respect to (i) supplies relied upon that are not currently available; (ii) reasonably foreseeable impacts of the subdivision on the availability of water resources for agricultural and industrial uses within IRWD’s service area that are not currently receiving water; and (iii) rights to extract additional groundwater needed to supply the subdivision.

A verification does not entitle the Project to service or to any right, priority or allocation in any supply, capacity or facility, or affect IRWD’s obligation to provide service to its existing customers or any potential future customers. In order to receive service, the Project applicant is required to file a completed Application(s) for Service and Agreement with the Irvine Ranch Water District on IRWD’s forms, together with all fees and charges, plans and specifications, bonds and conveyance of necessary easements, and meet all other requirements as specified therein.

### Methodology of Verification for Project With Prior Water Supply Assessment

As referenced on the cover page of this verification (the “Verification”), the Project was included within an assessment of water supply approved by IRWD (the “Assessment”). The Assessment contained IRWD’s determination that a sufficient water supply is available for the Project. As described in the Assessment, IRWD does not allocate particular supplies to any project, but identifies total supplies for its service area. However, upon approval of an assessment containing a determination of a sufficient supply, IRWD attributes the demands identified by that assessment to IRWD’s existing and committed demand. Thereafter, each verification approved by IRWD for a subdivision covered by that assessment is based on the assessment and reflects IRWD’s confirmation that the water demands of the subdivision, together with any other subdivisions or developments that have previously received verifications, will-serves, or other approval by IRWD under the same assessment, are, in the aggregate, within the demand identified by that assessment. In accordance with that procedure, this Verification is based on the Assessment. The Assessment’s determination of sufficiency extends through 2044. In addition, this Verification includes the elements required by the Verification Law that are not included within the required contents of the Assessment.



## Supporting Documentation

As noted above, the principal supporting documentation for this Verification is the Assessment. Other documentation supports the Assessment and this Verification: IRWD prepares two planning documents to guide water supply decision-making. IRWD's principal planning document is IRWD's "Water Resources Master Plan" ("WRMP"). The WRMP is a comprehensive document compiling data and analyses that IRWD considers necessary for its planning needs. IRWD also prepares an Urban Water Management Plan ("UWMP"), a document required by statute. The UWMP is based on the WRMP, but contains defined elements as listed in the statute (Water Code Section 10631, *et seq.*), and as a result, is more limited than the WRMP in the treatment of supply and demand issues. The UWMP is required to be updated in years ending with "five" and "zero," and IRWD's most recent 2020 UWMP was adopted in June 2021 and the next update for 2025 is anticipated in July 2026. The water demand for the Project will be included in IRWD's 2025 UWMP update.

In addition to the Assessment, the most recent WRMP and the 2020 UWMP mentioned above, other supporting documentation referenced herein is found in Section 5 of this Verification. This includes the most recent Metropolitan Water District of Southern California's (MWD) Urban Water Management Plan (MWD 2020 UWMP) detailing an evaluation by MWD, the wholesaler of IRWD's imported water supplies, of the reliability of MWD's supplies, adopted in May 2021.

The Verification Law requires written proof of entitlement for "not currently available" (referred to herein as "under development") supplies. The Assessment includes such information for both currently available and under development supplies. Due to the number of contracts, statutes and other documents comprising IRWD's written proof of entitlement to its water supplies, in lieu of attachment of such items, they are identified by title and summarized in Section 2 of the Assessment. Copies of the summarized items can be obtained from IRWD.

## Sufficiency Calculation Methodology

The methodology for IRWD's comparison of its demands and supplies is set forth in the Assessment, in the section entitled "Assessment Methodology" and subsections thereof entitled "water use factors; dry-year increases;" "planning horizon;" "assessment of demands;" "assessment of supplies;" and "comparison of demand and supply."

## Detailed Verification

### 1. Determination of sufficiency of water supply

#### (a) Supply and demand comparison

See the Assessment, Section 1, incorporated herein by reference.

#### (b) Factors considered in determining the sufficiency of the water supply:

##### (i) The availability of water supplies over a historical record of at least 20 years.

Quantities received in prior years from existing sources identified in (a)(1):

Source	1990	1995	2000	2005	2010	2015	2020
Potable – imported	44,401	28,397	36,777	19,306	15,227	13,674	15,904
Potable – groundwater	10,215	20,020	20,919	37,160	42,089	54,616	42,374
Nonpotable - recycled	11,589	10,518	14,630	15,296	20,847	21,770	26,412
Nonpotable - imported	24,899	2,333	16,343	5,304	5,562	7,869	1,528
Nonpotable – groundwater	816	1,834	2,890	2,285	3,761	3,462	4,795
Nonpotable – native	2,778	5,980	4,949	7,251	837	6,205	1,682
Total	94,698	69,082	96,508	86,602	88,323	107,596	92,695

See also the Assessment, Section 1, incorporated herein by reference.

##### (ii) The applicability of a water shortage contingency analysis prepared pursuant to Water Code Section 10632 that includes actions to be undertaken by IRWD in response to water supply shortages.

The supply and demand comparisons incorporated from the Assessment into this Verification (see 1(a)) do not reflect the implementation of water shortage emergency measures. In February 2009, IRWD updated Section 15 of its Rules and Regulations – Water Conservation and Water Supply Shortage Program and also updated its Water Shortage Contingency Plan, which is a supporting document for Section 15. IRWD adopted an updated Water Shortage Contingency Plan on June 28, 2021 pursuant to Water Code Section 10632. As stated in IRWD’s Water Shortage Contingency Plan, use of local supplies, storage and other supply augmentation measures can mitigate shortages, and be used as necessary and appropriate during declared shortage levels. However, in order to be conservative, IRWD has not reduced its single-dry or multiple-dry year demand projections or increased its single-dry or multiple-dry year supply projections in the Assessment or Verification to account for any water savings that could be achieved by these measures.

##### (iii) Reduction by IRWD in water supply allocated to a specific water use sector, pursuant to a resolution, ordinance or contract uses.

The supply and demand comparisons incorporated from the Assessment into this Verification (see 1(a)) do not reflect any allocated reductions by IRWD. As noted under the preceding item (ii), IRWD’s water shortage contingency plan and Rules and Regulations provide

for voluntary and mandatory water conservation measures that could be invoked in declared water shortage emergencies. These include reductions to certain water uses. However, in order to be conservative, IRWD has not reduced its single-dry or multiple-dry year demand projections or increased its single-dry or multiple-dry year supply projections in the Assessment or Verification to account for water savings that could be achieved by any allocated reductions.

With respect to items (ii) and (iii) above, it is noted that MWD has in effect a management plan for dealing with periodic surplus and shortage conditions, known as Metropolitan Report No. 1150, *Water Surplus and Drought Management Plan*, and as also described in the 2020 MWD UWMP. MWD's demand projections account for the effects of long-term conservation best management practices.

**(iv) The amount of water that IRWD can reasonably rely on receiving from other water supply projects, such as conjunctive use, reclaimed water, water conservation, and water transfer, including programs identified under federal, state and local water initiatives such as CALFED and Colorado River tentative agreements, based on the inclusion of information with respect to such supplies in Section 2, below.**

Local. IRWD directly relies (for a portion of its full build-out annual demand in single and multiple dry-year projections) on the following under development supplies (see 1(a), above): the Irvine Wells (see the Assessment, Section 2(b)(1)(vi) – “POTABLE SUPPLY – GROUNDWATER”). In addition to Orange County Water District (OCWD) reports listed in the Assessment Reference List, OCWD has also prepared a Long Term Facilities Plan (“LTFP”) which provides updated information and was received by the OCWD Board in July 2009 and updated in 2014. The LTFP Chapter 3 describes the efforts being undertaken by OCWD to eliminate long-term overdraft in the Basin. OCWD has an optimal basin management target of 100,000 acre-feet of accumulated overdraft which provides sufficient storage space to accommodate increased supplies from one wet year while also provides enough water in storage to offset decreased supplies during a two- to three year drought. (Source: “Evaluation of Orange County Groundwater Basin Storage and Operational Strategy”, as referenced in *2022-2023 Engineer’s Report on Groundwater Conditions, Water Supply and Basin Utilization in the Orange County Water District*).

With the implementation of OCWD's preferred projects, the Basin yield in the year 2030 would be up to 500,000 AF. The amount that can be produced will be a function of which projects will be implemented by OCWD and how much increased recharge capacity is created by those projects, total demands by all producers, and the resulting Basin Production Percentage (“BPP”) that OCWD sets based on these factors.

IRWD's own recycled water expansion program is also shown as currently available in addition to its currently available recycled water supply from its own existing recycling program. The recycled water supplies are discussed in Section 2 below (see the Assessment, Section 1 – Figures 5, 6, 7 and 8 (supplies denominated “MWRP” and “LAWRP”) and Section 2(a), and Section 2(b)(1) - “NONPOTABLE SUPPLY – RECLAIMED”). Under the MWRP Phase II Capacity Expansion Project, IRWD increased its tertiary treatment capacity on the existing MWRP site to produce sufficient recycled water to meet the projected demand of the Project through the year 2044. Additional recycling capacity will augment local nonpotable supplies and improve reliability.

As noted in the Assessment, IRWD's demand projections reflect the effect of IRWD's water conservation pricing and other conservation practices; in particular, IRWD's water use factors used to derive its demand projections are based on average water use and incorporate the effect of IRWD's tiered-rate conservation pricing and its other long-term water conservation programs. System losses at a rate of approximately 5% are built into the water use factors. As discussed above, IRWD's supply and demand projections do not take into account water savings that could be achieved by water shortage emergency measures.

Imported. MWD, the supplier of IRWD's imported supplies, relies upon several of the listed projects and programs. MWD supports and provides financial incentives to water reclamation, groundwater recovery, water conservation, ocean desalination and other local resource development programs. MWD calculates its demand forecast by first estimating total retail demand for the region and then factoring in impacts of conservation. Next, it derives projections of local supplies using data on current and expected local supply programs and Integrated Resource Planning (IRP) Local Resource Program Target. The difference between the resulting local demands is the expected regional demand on MWD. These estimates of demands on MWD were developed for average years, a single dry year, and five years of consecutive drought. (2020 MWD UWMP). In the MWD 2020 UWMP, MWD states that it has supply and storage capabilities sufficient to meet projected demands from 2025 through 2045 under a normal year, a single dry year, and five consecutive drought year conditions. See MWD 2020 UWMP Section 2.3 Water Reliability Assessment.

In January 2016, MWD adopted its 2015 IRP Update. In the 2015 IRP Update, MWD continued its adaptive management strategy and integrated future supply actions to improve the viability of potential contingency resources as needed, and to position the region to effectively implement these resources in a timely manner. In 2020, MWD completed another update of the IRP. In MWD's 2020 IRP Regional Needs Assessment, MWD finds that SWP supplies are highly susceptible to varying hydrologic conditions, climate change, and regulatory restrictions. In this report, MWD assesses climate vulnerabilities and the need for future projects such as indirect potable reuse, stormwater capture, and expanded storage capacity to mitigate and adapt to these vulnerabilities and ensure future resilience. In 2022, MWD released a Climate Action Plan which complements MWD's IRP planning process and set reduction targets and outlined strategies to reduce emission levels by 2045.

## **2. Required information concerning *under-development* supplies**

### **(a) Written contracts or other proof of valid rights to the identified supplies**

See the Assessment, Section 2(b)(1), incorporated herein by reference. See also MWD's 2020 UWMP, Appendix A.3 Justifications for Supply Projections with respect to written contracts and other proof related to MWD's supplies.

### **(b) Adopted capital outlay program to finance delivery of the supplies**

See the Assessment, Section 2(b)(2), incorporated herein by reference. With respect to future groundwater wells (PR Nos. 11828 and 11829), IRWD adopted its fiscal year 2023-24 capital budget on April 24, 2023 (Resolution No. 2023-6) and the mid-cycle capital budget for fiscal year 2024-25 was adopted on May 28, 2024. Budgeting portions of the funds are for such projects. (A copy is available from IRWD on request.) IRWD has approximately \$585.5 million (water) and \$711.1 million (recycled water and sewer) of unissued, voter-approved bond

authorization. See also MWD's 2020 UWMP, Section 3 and Appendix A.3 Justifications for Supply Projections with respect to capital outlay programs related to MWD's supplies.

### **(c) Federal, state and local permits to construct delivery infrastructure**

See the Assessment, Section 2(b)(3), incorporated herein by reference. See also MWD's 2020 UWMP, Section 3 and Appendix A.3 Justifications for Supply Projections with respect to permits related to MWD's supplies.

### **(d) Regulatory approvals for conveyance or delivery of the supplies**

See the Assessment, Section 2(b)(4), incorporated herein by reference. See also MWD's 2020 UWMP, Appendix A.3 Justifications for Supply Projections with respect to regulatory approvals related to MWD's supplies.

## **3. Foreseeable impacts of the Project on the availability of water for agricultural and industrial uses in IRWD's service area not currently receiving water**

Based on city planning and other information known to IRWD, there are no agricultural or industrial uses in IRWD's service area that are not within either existing and committed demand or future demand, both of which are included within the supply and demand comparison and determination of sufficiency (see 1(a)).

## **4. Information concerning the right to extract additional groundwater included in the supply identified for the Project:**

Where the water supply for the Project includes groundwater, the verification is required to include an evaluation of the extent to which IRWD or the landowner has the right to extract the additional groundwater needed to supply the Project. See the Assessment, Section 2(b)(1), "POTABLE SUPPLY – GROUNDWATER" and "NONPOTABLE SUPPLY – GROUNDWATER," and Section 4, incorporated herein by reference.

## **5. References**

*Water Resources Master Plan*, Irvine Ranch Water District, Updated 2017

*Water Shortage Contingency Plan*, Irvine Ranch Water District, June 2021

*2020 Urban Water Management Plan*, Irvine Ranch Water District, June 2021

*2015 Integrated Resources Plan Update*, Metropolitan Water District of Southern California, January 2016

*2020 Integrated Water Resources Plan Regional Needs Assessment*, Metropolitan Water District of Southern California, April 2022

*2020 Urban Water Management Plan*, Metropolitan Water District of Southern California, May 2021

*Climate Action Plan*, Metropolitan Water District of Southern California, May 2022

*Groundwater Management Plan 2015 Update*, Orange County Water District, June 2015

*Final Draft Long-Term Facilities Plan*, Orange County Water District, January 2006

*Long-Term Facilities Plan 2014 Update*, Orange County Water District, November 2014

*Master Plan Report*, Orange County Water District, April 1999

*2022-2023 Engineer's Report on Groundwater Conditions, Water Supply and Basin Utilization in the Orange County Water District*, Orange County Water District, February 2024

**Exhibit A**

Depiction of Project Area

Exhibit "A"





**Exhibit B**

Uses Included in Project

10/21/24

Irvine Ranch Water District  
15600 Sand Canyon Avenue  
P.O. Box 57000  
Irvine, CA 92619-7000

Re: Request for Verification of Sufficient Water Supplies (Government Code §66473.7(b)(1))

The City of Irvine hereby requests verification of the availability of a sufficient water supply for the below-described project. Under Government Code §66473.7(b)(1), written verification of the availability of a sufficient water supply is required in conjunction with or prior to the approval of any tentative map that includes a residential subdivision of more than 500 dwelling units, subject to certain exemptions.

The City has determined that the subject project (1) includes a subdivision meeting the criteria requiring verification of availability of sufficient water supply and (2) does not fall within one of the statutory exemptions for previously developed urban sites, sites surrounded by urban use, or low-income housing sites.

**Proposed Project Information**

Project Title: PA 31 Discovery Park – Vesting Tentative Tract Map 19260

Location of project: NEC of Laguna Canyon Road and Discovery. APNs: 466-231-04; -05; -06;-07;

Planning Area(s): 31  
(Enclose a project map and exhibits)

Was the project included as part of a previously completed Water Supply Assessment (Water Code §10910)?  yes  no

If yes, date and project title of Water Supply Assessment \_\_\_\_\_  
If no, state reason:  CEQA documentation not requiring a Water Supply Assessment was completed prior to January 1, 2002  other: Project site is vacant and undeveloped

Was a Water Supply Verification previously completed for the project?  yes  no  
If yes, indicate reason for reverification:  tract map expiration  new Water Supply Assessment required due to project revisions, changed circumstances or new information

Tentative Map Application No.\* \_\_\_\_\_  Tentative Tract No.\* 19260  
 Verification is being requested prior to tentative map application (Government Code §66473.7(1) (Indicate next project approval sought: \_\_\_\_\_)

(\*A copy of the tentative map application including the proposed subdivision was sent to IRWD on: 10/22/2024, (Government Code §66455.3))

Type of development included in the project:

- Residential: No. of dwelling units: 1,858
- Shopping center or business: No. of employees NA Sq. ft. of floor space NA
- Commercial office: No. of employees NA Sq. ft. of floor space NA
- Hotel or motel: No. of rooms NA
- Industrial, manufacturing, processing or industrial park: No. of employees NA  
No. of acres NA Sq. ft. of floor space NA
- Mixed use (check and complete all above that apply)
- Other: \_\_\_\_\_

Total acreage of project: 30

Acreage devoted to landscape:

Greenbelt \_\_\_\_\_ golf course \_\_\_\_\_ parks 2.7 acres

Agriculture \_\_\_\_\_ other landscaped areas \_\_\_\_\_

Other factors or uses that would affect the quantity of water needed, such as peak flow requirements:

Is the project included in the existing General Plan? Yes If no, describe the existing General Plan Designation \_\_\_\_\_

The City acknowledges that IRWD's verification will be based on the information hereby provided to IRWD concerning the project. If it is necessary for corrected or additional information to be submitted to enable IRWD to complete the verification, the request will be considered incomplete until IRWD's receipt of the corrected or additional information. If the project changes or the tentative map approval expires after the issuance of a Water Supply Verification, the City will request a new Water Supply Verification if required. In the event of changes in the project, circumstances or conditions of the availability of new information, it will be necessary for the City to request a new Water Supply Assessment prior to completion of the new Water Supply Verification.

The City acknowledges that the Water Supply Verification shall not constitute a "will-serve" or in any way entitle the project applicant to service or to any right, priority or allocation in any supply, capacity or facility, and that the issuance of the Water Supply Verification shall not affect IRWD's obligation to provide service to its existing customers or any potential future customers including the project applicant. In order to receive service, the project applicant shall be required to file a completed Application(s) for Service and Agreement with the Irvine Ranch Water District on IRWD's forms, together with all fees and charges, plans and specifications, bonds and conveyance of necessary easements, and meet all other requirement as specified therein.

CITY OF IRVINE

By: Erica S. Hong


REQUEST RECEIVED:

Date: November 13, 2024

By:   
Irvine Ranch Water District

REQUEST COMPLETE:

Date: November 20, 2024

By:   
Irvine Ranch Water District

**Exhibit C**


Water Supply Assessment

(Pending Board Approval)

December 16, 2024

Prepared by: A. Kuan / B. Rios / E. Akiyoshi

Submitted by: K. Burton

Approved by: Paul A. Cook 

## CONSENT CALENDAR

### PLANNING AREA 51 HERITAGE FIELDS DISTRICT 5 AND 6 NORTH CAPITAL FACILITIES

#### SUMMARY:

Heritage Fields, LLC is proceeding with development of Planning Area 51 (PA 51) Great Park, which includes the construction of streets, storm drains, domestic water, sanitary sewer, and recycled water improvements. As part of the development, Heritage Fields will construct IRWD capital facilities under an existing Supplemental Reimbursement Agreement (SRA). Staff recommends that the Board:

- Approve Contract Change Order (CCO) No. 2 in the deductive amount of \$557,335.46 with Heritage Fields for the PA 51 Great Park Harrier and Chinon Capital Facilities Project, and
- Authorize the General Manager to accept Heritage Fields' construction contract with L&S Construction in the amount of \$1,428,039 for the PA 51 Great Park Treble Capital Domestic Water, Sanitary Sewer, and Recycled Water Capital Improvements.

#### BACKGROUND:

Heritage Fields continues to move forward with residential development within District 5 and the northern portion of District 6 located south of Chinon, east of the County of Orange parcel, west of the Wildlife Corridor, and north of the Barranca Parkway. The project location map is shown as Exhibit "A." As part of this development, Heritage Fields will design and construct capital domestic water, sanitary sewer, and recycled water facilities. The required IRWD capital facilities are documented in the PA 51 Sub-Area Master Plan (SAMP) dated March 2009 and all subsequent addendums and updates. The design and construction of the IRWD facilities will be performed under the terms of the Master Reimbursement Agreement approved by the Board in August 2012 and as further refined in an existing SRA approved by the Board in November 2019.

#### PA 51 Great Park Harrier and Chinon Capital Facilities Change Order:

CCO No. 2 is a deductive change order for PA 51 Great Park District 5 South and District 6 North Harrier and Chinon capital domestic water, sanitary sewer, and recycled water backbone facilities related to Projects 12228, 12229, 12230, 12231, and 12232 is provided as Exhibit "B". The deductive change order reconciles quantities and cost differences between the contracted bid set and the final approved plan set. The developer proceeded at risk at the time of the original bid prior to the approval of the final SAMP report which resulted in a significant reduction of capital sized facilities. All original bid unit pricing in remaining work was honored. CCO No. 2 consists of deducting approximately 450 feet of 16-inch to 15-inch sewer main and 220 feet of 12-inch sewer main, and 2,270 feet of 12-inch water pipeline, and 50 feet of 10-inch recycled water pipeline. Staff has reviewed the total deductive cost of \$557,335.46 and finds it to be reasonable.

PA 51 Great Park Treble Capital Domestic Water, Sanitary Sewer, and Recycled Water Improvements:

The PA 51 Great Park Treble Capital Domestic Water, Sanitary Sewer, and Recycled Water Improvements consist of installing approximately 2,165 feet of 12-inch domestic water pipeline, 1,080 feet of 18-inch sanitary sewer main, and 2,146 feet of 8-inch recycled water pipeline between Marine Way and Great Park Boulevard. Heritage Fields retained Hunsaker and Associates to prepare the plans and received bids from three contractors. Heritage Fields recommends awarding the construction contract to the low bidder, L&S Construction, for a bid amount of \$1,428,039 as shown in Exhibit “C”. In addition, Heritage Fields has received consultant proposals for civil engineering design, geotechnical testing and observation services, field coordination, survey and staking, and paleontological and archeological mitigation monitoring. Staff has reviewed the consultant proposals and the construction bids and find the amounts to be acceptable. A summary of the project costs is shown below:

Civil Engineering Design (Hunsaker)	\$ 95,400.00
Construction (L&S)	\$1,428,039.00
Geotechnical and Observation Services (Engeo)	\$ 21,800.00
Field Coordination, Survey & Staking (Hunsaker)	\$ 42,900.00
Paleo/Archeo Mitigation Monitoring (LSA)	\$ 16,400.00
Heritage Fields Administration Fee (1%)	<u>\$ 14,280.39</u>
	\$1,618,819.39

FISCAL IMPACTS:

Projects 12404, 12405, 12406, 12228, 12229, 12230, 12231, and 12232 are included in the FY 2024-25 Capital Budget, and the budgets are sufficient to fund the project and change order.

ENVIRONMENTAL COMPLIANCE:

Construction of capital domestic water, sewer, and recycled water facilities for the Great Park Development is subject to California Environmental Quality Act (CEQA). In conformance with the California Code of Regulations Title 14, Chapter 3, Article 7 an Environmental Impact Report was certified by the City of Irvine, the lead agency on April 4, 2012 (SCH# 2002101020).

COMMITTEE STATUS:

This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD APPROVE CONTRACT CHANGE ORDER NO. 2 IN THE DEDUCTIVE AMOUNT OF \$557,335.46 WITH HERITAGE FIELDS, LLC FOR THE PLANNING AREA 51 GREAT PARK HARRIER AND CHINON CAPITAL FACILITIES, PROJECTS 12228, 12229, 12230, 12231, AND 12232, AND AUTHORIZE THE GENERAL MANAGER TO ACCEPT HERITAGE FIELDS' CONSTRUCTION CONTRACT WITH L&S CONSTRUCTION, INC. IN THE AMOUNT OF \$1,428,039 FOR THE PLANNING AREA 51 GREAT PARK TREBLE CAPITAL DOMESTIC WATER, SANITARY SEWER, AND RECYCLED WATER IMPROVEMENTS, PROJECTS 12404, 12405, AND 12406.

LIST OF EXHIBITS:

Exhibit "A" – Location Map

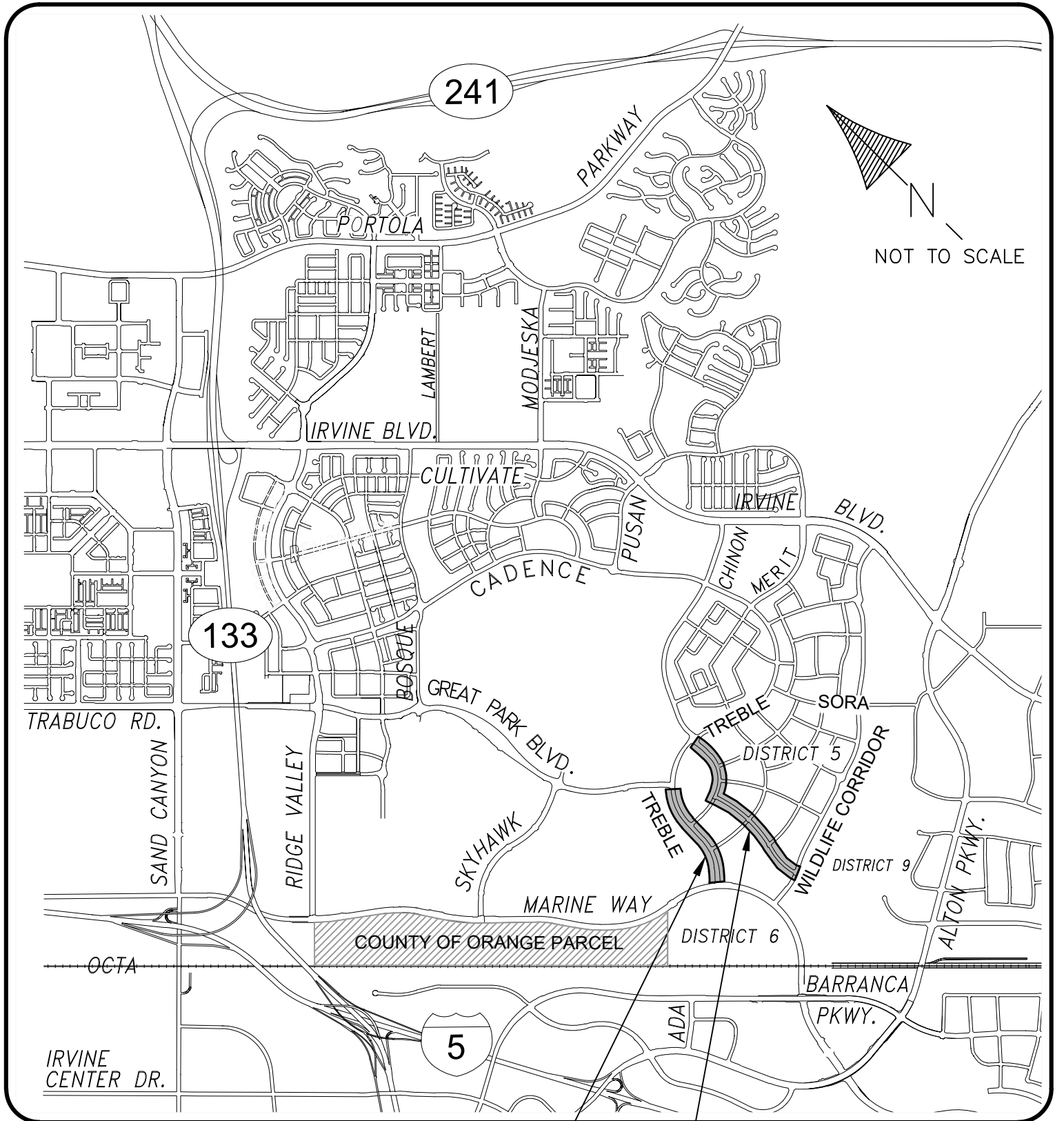
Exhibit "B" – CCO No. 2, PA 51 Great Park Harrier and Chinon Capital Improvements

Exhibit "C" – Bid Summary, PA 51 Great Park Treble Capital Improvements

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Exhibit "A"



TREBLE CAPITAL FACILITIES  
DOMESTIC WATER, SANITARY SEWER AND  
RECYCLED WATER IMPROVEMENTS  
PROJECTS 12404, 12405 & 12406  
CODE 7909

CCO NO. 2 HARRIER & CHINON  
CAPITAL IMPROVEMENTS  
PROJECTS 12228, 12229, 12230,  
12231, & 12232  
CODE 7808 & 7809

EXHIBIT "A" - LOCATION MAP

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CHANGE NO.: <u>2</u>
DATE: <u>10/28/2022</u>

**POTENTIAL CHANGE OF WORK ACKNOWLEDGEMENT & VALUE  
(FOR IRWD CAPITAL IMPROVEMENTS)**

The purpose of this form is to acknowledge a change in work for the intent of reimbursement of costs. Upon acceptance a change order will be issued.

Contract No.:	<u>H20552201 (RCO- 3513A)</u>	Owner:	<u>Heritage Fields El Toro, LLC</u>
Sewer	<input checked="" type="checkbox"/>	Contractor:	<u>FYDAQ Company Inc.</u>
Domestic Water	<input checked="" type="checkbox"/>	Design	<u>Hunsaker &amp; Associates</u>
Reclaim Water	<input checked="" type="checkbox"/>	Engineer:	<u>Kelly Lew</u>
Other	<input type="checkbox"/>	IRWD Mgr.	<u>Kelly Lew</u>

Project Description: District 5 South Capital Wet Utility Improvements

**PART A – POTENTIAL CHANGE OF WORK:**

Plan Revision Required:  YES  NO **Estimated Cost:**

Change Initiated By: \_\_\_\_\_

Plan Name: Planning Area 51, GPN District 5 (South) & 6 (North) Capital Improvements Harrier [from Chinon to Lynx]; and Planning Area 51, GPN District 5 (South) & 6 (North) Capital Improvements Chinon [Harrier to Treble]

IRWD Codes: 7808 & 7809

Work Description: Contract line item deducts from Bid Set Plans, MS-16 Code 7808, dated 1/13/22 to Approved Set Plans, dated 5/4/22

1. Submitted by:  10/28/2022  
Owner Representative / Date

2a. In IRWD’s opinion the aforementioned work **does**  **does not**

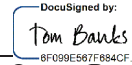
2b. IRWD comments (required if representative does not concur with the potential change): \_\_\_\_\_

2c. Reviewed by: \_\_\_\_\_  
IRWD Representative / Date

3. Received and Recorded by: \_\_\_\_\_  
Owner Representative / Date

**PART B – CHANGE OF WORK VALUE:** \$ -(557,335.46)

Detailed Backup Attached


1. Submitted by:  10/28/2022  
Owner Representative / Date

2. Recommended by: \_\_\_\_\_  
IRWD Representative / Date

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December 16, 2024  
Prepared by: N. Mwe / J. Moeder  
Submitted by: K. Burton  
Approved by: Paul A. Cook 

CONSENT CALENDAR

SAN JOAQUIN RESERVOIR ASPHALT CONCRETE LINER  
INTERIM REPAIRS FINAL ACCEPTANCE

SUMMARY:

The San Joaquin Reservoir Asphalt Concrete Liner Interim Repairs project is complete. The Contractor, PaveWest, Inc., completed the required work and all punch list items. The project has received final inspection and acceptance of construction is recommended.

BACKGROUND:

San Joaquin Reservoir stores approximately 3,000 acre-feet of recycled water and is connected to the Zone B distribution system. San Joaquin Dam, which forms San Joaquin Reservoir, was constructed in 1962 to store untreated water for the Metropolitan Water District of Southern California (MWD). In 2004, shortly after purchasing San Joaquin Reservoir from MWD, IRWD repaired the asphalt concrete liner before converting the reservoir from storing untreated water to storing recycled water. IRWD has regularly completed minor liner repairs since acquiring ownership of the reservoir. The liner extends from the top of the reservoir down to the toe of the slope located at the bottom of the reservoir and continues around the entire nearly one-mile-long reservoir perimeter.

The reservoir asphalt concrete liner, which protects the underlying earth material from eroding, had deteriorated and required repair to extend the life of the liner until a future time when the reservoir can be taken offline and IRWD can complete a comprehensive liner repair project. The repair project included repairing approximately 42,000 linear feet of cracks in the liner and approximately 4,000 square feet of pavement restoration.

PaveWest, Inc. was awarded the construction contract in July 2024. PaveWest completed construction of all the repair work on October 31, 2024. All work was completed within the original construction award amount and no contract change orders were issued during construction.

Project Title:	San Joaquin Reservoir Asphalt Concrete Liner Interim Repairs
Project No.:	11851
Design Engineer:	Labelle-Marvin, Inc.
Construction Management by:	IRWD Staff
Contractor:	PaveWest, Inc.
Original Contract Cost:	\$279,856

Final Contract Cost:	\$279,856
Original Contract Days:	90 days
Final Contract Days:	90 days
Final Change Order Approved On:	None

FISCAL IMPACTS:

The San Joaquin Reservoir Asphalt Concrete Liner Interim Repairs project is utilizing the General System Replacements and Modifications, Project 11851, which is included in the FY 2024-25 Capital Budget and is funded through 100% recycled water replacement funds. The existing budget is sufficient to fund the final payment for the project.

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15301 which provides exemption for minor alterations of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. A Notice of Exemption for the project was filed with the County of Orange on July 9, 2024.

COMMITTEE STATUS:

This item was not reviewed by a Committee.


RECOMMENDATION:

THAT THE BOARD ACCEPT CONSTRUCTION OF THE SAN JOAQUIN RESERVOIR ASPHALT CONCRETE LINER INTERIM REPAIRS, AUTHORIZE THE GENERAL MANAGER TO FILE A NOTICE OF COMPLETION, AND AUTHORIZE THE PAYMENT OF THE RETENTION 35 DAYS AFTER THE DATE OF RECORDING THE NOTICE OF COMPLETION FOR PROJECT 11851.

LIST OF EXHIBITS:

None.



December 16, 2024  
Prepared by: J. Burk / R. Mori  
Submitted by: K. Burton  
Approved by: Paul A. Cook 

## CONSENT CALENDAR

### HOWILER WATER TREATMENT PLANT INTERTIE BUDGET ADDITION AND CONSULTANT SELECTION

#### SUMMARY:

IRWD and Serrano Water District (SWD) are interconnecting their potable water distribution systems to provide a mutually beneficial way of conveying drinking water between the two systems. A new pipeline is required to facilitate delivery of the water. Staff solicited proposals from five engineering firms for the design of the proposed pipeline. Staff recommends that the Board:

- Authorize the addition of the Howiler Water Treatment Plant Intertie, Project 13419, in the amount of \$4,515,000 to the FY 2024-2025 Capital Budget, and
- Authorize the General Manager to execute a Professional Services Agreement with West Yost in the amount of \$686,141 for engineering design services for the Howiler Water Treatment Plant Intertie, Project 13149.

#### BACKGROUND:

IRWD and SWD are interconnecting their potable water distribution systems to provide a mutually beneficial way of conveying drinking water between the two systems. A new pipeline between the two systems, with an approximate length of 3,200 feet, is required to facilitate delivery of the water. The proposed pipeline, which will be owned and operated by IRWD, will be located within the Cities of Orange and Villa Park, routed along Cannon Street between the Howiler Water Treatment Plant and IRWD's existing Zone 5 transmission main located at the intersection of Cannon Street and East Valencia Drive. The proposed pipeline will cross Santiago Creek through an existing bridge located about 1,200 feet north of the intersection of Cannon Street and Santiago Canyon Road. A location map for the proposed pipeline is presented as Exhibit "A".

In addition to the pipeline, an interconnection facility between the two systems will also be required. Staff anticipates that the interconnection facility will be located in an underground vault structure near the Howiler Water Treatment Plant and that it will need to accommodate pressure reduction, flow control and metering, and bi-directional flow between the two systems.

#### Consultant Selection:

Staff issued a request for proposals for engineering design services for the proposed pipeline to five design firms including Ardurra, Dudek, Stantec, West Yost, and WSC. Staff received proposals from Ardurra, West Yost, and WSC. The other two firms declined to submit citing heavy existing workloads and schedule conflicts with their primary pipeline design staff.

While all three firms provided proposals that met the project objectives, West Yost’s approach to the project exceeded that presented by the other firms. In addition, West Yost has successfully completed several recent pipeline projects for IRWD and is well-versed with IRWD’s standard drawings, standard technical specifications, and construction plan requirements. West Yost also demonstrated the most relevant potable water transmission pipeline experience with many recent pipeline projects that closely match the scope of this project. With West Yost’s knowledge and experience, it is well-suited to complete the project in accordance with the aggressive schedule milestones. The consultant selection matrix is provided as Exhibit “B”, and West Yost’s scope of work and fee proposal as Exhibit “C”.

Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement, in the amount of \$686,141, with West Yost since its design approach, schedule, and staff hours are consistent with the project goals and objectives.

Design Schedule:

The design phase will be completed in accordance with the following schedule milestones.

Kick-Off Meeting	January 2025
Basis of Design Submittal	May 2025
Final Plans Approved	September 2025
Bid Opening and Notice of Award (Construction)	November 2025

FISCAL IMPACTS:

This project will be funded 100% by regional potable water funds. Staff requests the addition of Project 13149 to the FY 2024-25 Capital Budget as follows.

Project No.	Current Budget	Addition / <Reduction>	Total Budget
13149	\$0	\$4,515,000	\$4,515,000

ENVIRONMENTAL COMPLIANCE:

This project is subject to the California Environmental Quality Act (CEQA). In conformance with the California Code of Regulations Title 14, Chapter 3, Section 15004, the appropriate environmental document will be prepared when "meaningful information" becomes available. It is expected that preliminary analysis will lead to the preparation of a Notice of Exemption for the project.

COMMITTEE STATUS:

This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE ADDITION OF THE HOWILER WATER TREATMENT PLANT INTERTIE, PROJECT 13149, IN THE AMOUNT OF \$4,515,000 TO THE FISCAL YEAR 2024-25 CAPITAL BUDGET, AND AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH WEST YOST IN THE AMOUNT OF \$686,141 FOR ENGINEERING DESIGN SERVICES.

LIST OF EXHIBITS:

- Exhibit "A" – Location Map
- Exhibit "B" – Consultant Selection Matrix
- Exhibit "C" – Scope of Work and Fee Proposal

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Exhibit "A"



PROPOSED 24" PIPELINE  
(ALIGNMENT TBD BY  
ENGINEER)

MULTIPLE EXISTING SWD PIPELINES ARE  
LOCATED AT THE INTERSECTION.  
INTERCONNECTION FACILITIES WILL BE  
REQUIRED TO CONNECT TO EXISTING SWD  
PIPELINE(S)

POINT OF CONNECTION TO  
EXISTING HOWLER WTP  
TREATED DISCHARGE  
PIPELINE

PROPOSED  
CONNECTION

SANTIAGO CREEK  
BRIDGE CROSSING

HOWLER WATER  
TREATMENT PLANT

HOWLER PUMP  
STATION

EXISTING 20" CML&C  
IRWD ZONE 5 PIPELINE



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Exhibit "B"

CONSULTANT SELECTION MATRIX

Howiler Intertie Pipeline							
Item	Description	Weights	WSC	West Yost	Ardurra		
A	<u>TECHNICAL APPROACH</u>						
1	Project Understanding	30%	3	1	2		
2	Project Approach	30%	3	1	2		
3	Project Team	40%	2	1	3		
	<u>Weighted Score</u>		2.6	1.0	2.4		
	<b>Ranking of Consultants</b>		<b>3</b>	<b>1</b>	<b>2</b>		
B	<u>SCOPE OF WORK</u>						
TASK		Task Hours	FEE	Task Hours	FEE	Task Hours	FEE
1	Project Management	312	\$83,213	157	\$49,385	427	\$115,179
2	Basis of Design Memorandum	376	\$90,834	274	\$79,346	335	\$94,367
3	Final Design	2,205	\$569,345	1,167	\$557,410	1,546	\$744,079
3.1	Consolidate City of Orange Pipeline Plans	59	\$15,000	Included in Task 3		0	\$15,000
3.2	Additional Pipeline Design (1,000 ft)	87	\$20,782	Included in Task 3		80	\$17,580
	<b>TOTAL ENGINEERING SERVICES FEE WITHOUT OPTIONAL TASKS</b>	3,039	<b>\$779,174</b>	1,598	<b>\$686,141</b>	2,388	<b>\$986,205</b>
OPT 1	Additional Jurisdictional Meetings	16	\$4,750				
OPT 2	Special Pavement Repair	0	\$33,171				
OPT 3.1	Howiler WTP Site Survey	60	\$20,570				
OPT 3.2	Utility Locating Services	70	\$24,828				
	<b>TOTAL ENGINEERING SERVICES FEE INCLUDING OPTIONAL TASKS</b>	3,185	<b>\$862,493</b>	1,598	<b>\$686,141</b>	2,388	<b>\$986,205</b>
C	<u>OTHER</u>						
	Number of Drawings	49		24		44	
	Engineering Services Fee per Design Drawing	\$11,619		\$23,225		\$16,911	
	Sub Consultants						
	Electrical	J Calton Engineering		In-House		In-House	
	Structural	Tavangar Consulting Engrs.		VE Solutions		Kleinfelder	
	Traffic Control	Traffic Control Engineering, Inc.		Traffic Control Engineering, Inc.		In-House	
	Geotechnical	Converse Consultants		Converse Consultants		Kleinfelder	
	Survey	WestLand Group, Inc.		Borchard Surveying & Mapping, Inc.		Guida Surveying, Inc.	
	Potholing	Badger Daylighting		Underground Solutions		T2 Utility Engineers	
	Corrosion	V&A Consulting Engineers, LLC				RFYeager Engineering	
	Exceptions taken to IRWD Std. Contract	Yes		Yes		None	
	Insurance (Professional & General Liability)	Yes		Yes		Yes	

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## Scope of Work

The following scope of work is based on our extensive experience in pipeline and flow control facility design for IRWD as well as the District’s RFP.

### Task 1. Project Management

West Yost will conduct project management activities to ensure adherence to scope, schedule, and budget; promote efficient communication between West Yost, IRWD, and other stakeholders as required; and implement an effective quality assurance/quality control (QA/QC) program.

- **Prepare Monthly Status Reports:** West Yost will submit a monthly status report with the billing invoice. It will contain the percent complete for each task and the progress as compared to the established budget and schedule. The Project schedule will be updated and included with the Monthly Status Reports when modifications are required.
- **Prepare Weekly Status Reports:** We will submit a weekly status report every Monday that consists of a brief (one to two paragraphs) e-mail summarizing the activities completed the previous week, the activities planned for the upcoming week, and critical decisions that need to be made.
- **Meetings and Workshops:** West Yost will organize, attend, and conduct Project meetings and workshops; prepare and submit meeting agendas for IRWD review and concurrence at least five days prior to the meeting; and prepare draft and final minutes for all meetings and workshops and submit them to IRWD within one week of the meeting.

West Yost has included budget for the following meetings.

MEETING/WORKSHOP	DESCRIPTION
Monthly design development meetings	Nine (9) one-hour meetings
Coordination activities with jurisdictional agencies and project stakeholders	Two (2) two-hour meetings
Site visits	Two (2) two-hour meetings
Draft Basis of Design Review Workshop	One (1) two-hour workshop
Present the 60% design and discuss IRWD initial review comments	One (1) two-hour meeting
Present the 90% design and discuss IRWD initial review comments	One (1) two-hour meeting
Present the 100% design and discuss IRWD initial review comments	One (1) two-hour meeting

- **Quality Control and Quality Assurance:** West Yost will implement our Quality Assurance/Quality Control (QA/QC) Policy, which is an integral component of company-wide policies and is included in our employee manual for each person in the company to read, understand, and acknowledge.

West Yost’s QA/QC program consists of two key principles: 1) to make sure the work is done correctly the first time and 2) to clearly define and communicate goals and expectations with our clients and team members.

The goal of our QA/QC policy is to ensure that project deliverables and services meet the firm’s expected quality standards. Our QA/QC policy approach is focused on having senior staff with subject matter experience/expertise review all project deliverables prior to submission to the client. The following is a general list of company-wide QA/QC review requirements:

- Documents will not leave the office without review by another person capable of conducting a competent review of the information.
- Figures will not be released without a review to check for conformance with the figure standards.
- Spreadsheets will be reviewed, and internal formulas checked to confirm their functionality.
- Calculations will be reviewed to ensure they are correct.
- Design drawings will be checked for conformance with West Yost and IRWD standards and scope of work and for effectively presenting the design information necessary to complete the work.

- Methodologies and preliminary results will be checked for compliance with project objectives.
- Documents, such as specifications, will be prepared in compliance with the Word Processing (WP) Manual. No project deliverable defined under this bullet will go out the door without going through WP compliance review. The QC Reviewer will initial as “REVIEWED BY” on the covers of TMs and memos. Reports have a signature line for QA/QC.

### Deliverables

- Monthly Status Report in pdf delivered with each invoice.
- Weekly Status Report as an email.
- Agendas for meetings and workshops in pdf at least five days before each meeting/workshop.
- Meeting/workshop minutes in pdf delivered within one week of each meeting/workshop.

## Task 2. Basis of Design Memorandum

West Yost will prepare a Basis of Design Memorandum (BOD) for the proposed pipeline and ancillary facilities. The purpose of the BOD is to establish the recommended pipeline alignment, the Santiago Creek crossing, the interconnection facilities, and all associated design criteria and pipeline connection details.

The BOD will identify the recommended pipeline alignments along E. Taft Avenue and Cannon Street and the four points of connection to existing pipelines, preliminary cross sections, existing utility interferences, traffic impacts, constructability concerns, easement/right-of-way considerations, permitting requirements, and will include a preliminary engineers’ estimate of probable construction cost.

As the proposed pipeline will be CML & C AWWA C200 steel pipe, West Yost will perform steel pipe design calculations in accordance with *AWWA M11 – Steel Pipe – A Guide for Design and Installation*. Minimum steel plate thickness calculations will be performed for internal pressure, handling, trench load, deflection, and buckling. We will prepare pipe buoyancy calculations to be used when the contractor performs the trench backfill in the pipe zone. If all pipe joints are not welded, we will perform restraint length calculations for all proposed bends, valves, and reducers using the hydraulic test pressure.

West Yost will establish the appurtenant pipe materials and thicknesses, pipe size confirmation, and proposed locations for main line valves, blow-offs, air release valves, and cathodic protection facilities. We will prepare calculations to properly size the air release valves and blow-offs.

Assuming that the pipeline will be routed through the existing Cannon Street bridge over Santiago Creek, West Yost will prepare figures showing the proposed horizontal and vertical alignment through the bridge. We will show a preliminary pipe penetration through the abutment detail and a pipe hanging system detail. We will document if a casing pipe is not required.

The pipeline construction through the intersection of Cannon Street and Santiago Canyon Road is anticipated to be challenging. Not only will there be several existing underground utilities to route the proposed pipeline around, but the traffic control staging at this intersection is very congested even without any construction activities. To address this project challenge early in the design, West Yost proposes to prepare figures showing the proposed horizontal alignment through the intersection at a large scale. We will also show the proposed traffic staging for each phase. These figures will be reviewed with the City of Orange traffic department, IRWD, West Yost, and our traffic engineer subconsultant. With this approach, the final design should be able to proceed smoothly.

For the BOD, West Yost will prepare figures for the underground interconnection facilities mechanical layout and site plan. We will describe the flow rate ranges for each direction of flow and pressure zone. We will perform the sizing for the flow meter(s) and pressure reducing valve(s). Any required easements will be shown on the site plan figure.



**Santiago Canyon Road and Cannon Street will present existing utility crossing and traffic control challenges.**

West Yost will summarize and compile the work items described above into a Draft and Final BOD. The BOD will also summarize the following:

- Data collection, utility research, and review
- Analysis of pipeline alignment(s) and proposed connection locations
- Design criteria for all proposed work including the underground interconnection facilities
- Initial geotechnical considerations
- Identification of proposed pothole locations
- Survey requirements for final design
- Constructability, construction phasing, critical physical crossings and infrastructure impediments, and traffic control constraints
- Allowable shutdown durations and sequencing associated with any connections and tie-ins to existing facilities
- Crossing requirements for special crossings including the Cannon Street bridge crossing and other street crossings/intersections, and/or special crossings required for the recommended pipeline alignment
- Feasibility of reducing the pipeline diameter through the bridge crossing including an evaluation of the associated hydraulic impacts
- Siting evaluation for the proposed interconnection facilities and potential pipeline back to the SWD system
- Identification of required permits and associated jurisdictional agencies and easement requirements and associated landowners
- Preliminary Engineer's Opinion of Probable Construction Cost estimate
- Project schedule that includes design, bidding, and construction phases

#### **Deliverables**

- West Yost will submit one electronic copy in PDF of the Draft BOD for review.
- One electronic copy in PDF (single bookmarked file) and one electronic copy in MS Word of the Final BOD.

### **Task 3. Final Design**

West Yost will prepare one set of Contract Documents for all proposed pipelines. The final design for the Contract Documents shall be completed in accordance with IRWD design requirements.

#### **A. PROJECT MANUAL**

West Yost will prepare a Project Manual in standard IRWD format for the Contract Documents. IRWD's most-current front-end documents will be used, and West Yost will assess IRWD's documents to determine if any supplemental special provisions should be added to comply with IRWD's General Provisions and front-end requirements. The Project Manual will describe the work, the allowable shutdown durations, and sequencing associated with any connections and tie-ins to existing IRWD facilities. The Project Manual will also include the IRWD General Technical Specifications, modifications as required, and any project-specific technical specifications. As was done for our recent IRWD projects, the Project Manual template will be provided in Microsoft Word format. West Yost will complete IRWD templates and will provide a PDF file of the bidding documents in 8-1/2-inch x 11-inch format.

#### **B. CONSTRUCTION PLANS**

West Yost will prepare detailed construction drawings in the latest version of AutoCAD and using NCS V4.0 layering standards, on 24-inch x 36-inch sheets using IRWD's standard border template. The Construction Plans will use the NAVD 88 and NAD 83 survey standards. The improvement plans will include a site plan, sheet index/location map/legend, general notes, index map, plans, and profiles of the pipeline improvements, notes and details, construction sequencing and traffic control plans, and all details necessary for the construction of the improvements.

## Comprehensive List of Drawings

SHEET/DRAWING NO.	TITLE
G01	Title Sheet
G02	Location Map, Vicinity Map, Drawing Index and Construction Notes
G03	General Notes, Symbols, Agency Index & Abbreviations
C01	E. Taft Avenue Plan & Profile Sta 10+00 to 15+00
C02	Cannon Street Plan & Profile Sta 20+00 to 30+00
C03	Cannon Street Plan & Profile Sta 30+00 to 40+00
C04	Cannon Street Plan & Profile Sta 40+00 to 48+00
C05	Interconnection Facility Site Plan
C06	City of Orange Pipeline
D01	Pipeline Connection Details
D02	Bridge Details
D03	City of Orange Standard Street Details
M01	Interconnection Facility Plan and Sections
M02	Mechanical Details
E01	Electrical Symbols and Abbreviations
E02	Electrical Oneline Diagram and Panelboard Schedule
E03	Electrical Interconnection Facility Plan
E04	Electrical Details
I01	Instrumentation and Controls Legend and Abbreviations
I02	Instrumentation and Controls Symbols
I03	Process & Instrumentation and Network Diagram
I04	Control Panel Elevation and Nameplate Schedule
I05	Control Panel Wiring Diagram

### C. TRAFFIC CONTROL PLANS

Traffic Control Engineering will prepare detailed traffic control plans for all proposed pipeline sheets. The traffic control plans shall be prepared in accordance with, and approved by, the appropriate jurisdictional agencies, including the City of Orange, County of Orange, and City of Villa Park. The traffic control plans shall be included in the overall set of construction plans.

### D. UTILITY RESEARCH

West Yost will research and identify the location of existing underground utilities and/or other physical features in the immediate vicinity of the proposed pipelines, facilities, and appurtenances. We will identify information on utilities including material, size, and horizontal and vertical locations and review the City of Orange’s plans for its proposed pipeline and shall incorporate that pipeline alignment into the basemap for IRWD’s pipeline plans.

- **Review of Background Material:** West Yost will review the background material for the pipelines including the following:
  - As-built record drawings
  - Proposed City of Orange Pipeline Improvement Plans
- **Utility Review:** West Yost will perform utility research to locate utilities or other physical features including all the District utilities and any other utilities owned by other agencies (e.g., waterlines, storm drains, electrical, gas, and telephone/communication duct banks). We will also review street improvement record drawings from the City of Orange to confirm the existing street paving type (e.g. rubberized, Petromat) and any special requirements and costs for removal and disposal.

We have already accessed our Underground Service Alert (USA) Digalert on-line account to determine all public and private utilities that have documented facilities along the potable water pipeline route. We will generate a utility tracking log in Microsoft Excel of all the facilities owners, including the City of Orange, Serrano Water District, East Orange County Water District, OC Sanitation District, Crown Castle Fiber, Spectrum, Southern California Edison, Southern California Gas Company, AT&T, and others. We will prepare utility request letters to each, describing our Project and the anticipated work area. We will also provide them with the estimated construction period. In the letters, we will request record drawings for their existing facilities and information on any of their projects planned for our project area in the next few years. We will email or use regular mail, as required by the agency, to send our requests. Our proposed budget includes reimbursement for our initial payments for all record request fees.

Our utility tracking log will be updated as information is provided to us. For agencies that do not respond to our request, we will follow up with additional requests. The utilities tracking log will be provided to IRWD if requested. Agencies that do not respond to requests beyond 30 days from initial contact will be identified and communicated to IRWD. Special emphasis will be placed on improvements that have recently been installed and those that are planned for the next year. We have noted during past projects that some recent improvements have not been entered into the existing facilities GIS files or database when we made our data request. Therefore, our inquiry was returned with incorrect information in that facilities were near our proposed work. We will perform a field walk to verify that all existing facilities that can be visually confirmed are shown on our drawings.

- **Pothole Investigation:** In addition to our record drawing existing utilities investigation, West Yost will coordinate with our contractor, Underground Solutions, to pothole existing utilities that may conflict with or affect the proposed pipeline and interconnection facility design and construction, e.g., proximity of crossings with existing water, recycled water, sewer, storm drain, and dry utilities, with the proposed alignments of the pipelines, or to determine the locations and depths of existing mains at proposed points of connection. Prior to performing the field work, West Yost will propose the pipeline horizontal alignments and mark the location of the proposed potholes on the base construction drawings for District approval during the BOD submittal preview meeting. Borchard Surveying and Mapping will survey and mark the locations for the potholes. Underground Solutions will call Digalert and coordinate with the utility companies to have the utilities marked out prior to potholing. Underground Solutions will obtain an encroachment permit from the City of Orange for the potholing. Underground Solutions will prepare any traffic control plans required in conjunction with the encroachment permits for potholing. We have budgeted the execution of twenty (20) potholes. If additional potholes are needed, they will be invoiced at the proposed unit price. The potholing will be performed with full-time onsite oversight by West Yost's Project Engineer. After the potholing has been completed, the pavement will be restored in accordance with the City of Orange Standard Plan No. 125 - Street Repair Standards for Utility Cuts.

#### **Deliverable**

- Pothole Report in PDF.

## **E. AERIAL SURVEY AND TOPOGRAPHIC MAPPING**

Under West Yost's direction, Borchard Surveying will conduct appropriate aerial surveying for the proposed facilities including the following:

- **Aerial Control Survey:** Set eight aerial ground control targets based on the Orange County Survey Horizontal And Vertical Control Network for purposes of compiling an aerial topographic base map.
- **Aerial Ground Control Processing:** Post process and analyze GPS vectors from the aerial ground control survey to verify that the ground control meets or exceeds industry standards for aerial mapping.
- **Supplemental detailed topographic surveying:** Conduct supplementary field topographic mapping to pick up any additional design details not clearly shown in the below mentioned aerial topographic map. We will also locate and identify any Orange County Surveyors monuments that may be impacted by the construction so that the construction contractor will include the scope of work, and any costs required to preserve or re-establish the monuments within their bid.
- **Aerial Topographic Survey Map:** Compile an aerial topographic map of the project area with 1' contours and 1"=20' scale for use in the pipeline design. Said aerial topographic map will be a deliverable in AutoCAD format.

- **Record Easement & Right of Way Mapping:** Conduct research at the County Of Orange and City of Orange for purposes of creating a base map in AutoCAD format that shows the record street centerline and right of way information for the project area.

## F. GEOTECHNICAL INVESTIGATION

Converse Consultants will conduct a geotechnical investigation to characterize the facilities and proposed pipeline alignments. The following tasks will be conducted as part of the geotechnical investigation:

- Perform a geotechnical reconnaissance to observe site conditions and to locate exploratory borings.
- Converse will perform four exploratory borings to a depth of 15-feet along Cannon Street, one to a depth of ten-feet at the interconnection structure, two to a depth of 15-feet for the pipelines to the SWD interconnections, and two to a depth of 30-feet if trenchless construction is required at the Santiago Creek bridge or across Santiago Canyon Road. We will observe, test and classify soils in accordance with the Unified Soil Classification System, and monitor groundwater levels. We will also measure the existing asphalt concrete and aggregate base thicknesses.
- The borings will be backfilled and paved in accordance with the City of Orange’s Standard Plan No. 125 - Street Repair Standards for Utility Cuts. If the borings could be backfilled with soil/cement cuttings and compacted by pushing down with augers and then paving with quickset cement with black dye, substantial cost savings would be realized.
- Plot the location of all soil borings on a map and attach the map to the Geotechnical Report. Include complete logs of the soil profiles in the report.
- Conduct laboratory tests of selected samples to evaluate moisture content, laboratory maximum density, gradation, Atterberg limits, consolidation, shear resistance, expansion, R-value, corrosivity, and sieve analysis.

Converse will prepare a geotechnical report presenting findings, conclusions, and recommendations for the design and construction of the proposed facilities. The report will include the following:

- groundwater presence and levels,
- construction dewatering requirements,
- pipe bedding requirements,
- trench shoring requirements,
- settlement potential,
- excavability of soils,
- location of rock,
- backfill suitability, and
- minimum backfill compaction requirements.



Howiler WTP connection point will be in narrow street/alley.

The investigation and report will emphasize specific concerns regarding construction methods and the integrity of pipelines, pavements, and structures. The report will make recommendations regarding the design of facilities. Recommendations shall include (1) active, at-rest, passive and dynamic earth pressures, (2) foundation type, (3) allowable bearing pressure, (4) coefficient of friction between the foundation and soils/subgrade, (5) foundation design data, (6) settlement potential, (7) pipe bedding, (8) maximum cut slope requirements, (9) structural needs, (10) groundwater dewatering well(s) design criteria, and/or 11) other standard design criteria including needs for trench protection, if any.

### Deliverables

- Three copies of the draft Geotechnical Investigation Report (GIR).
- Three copies of the final GIR and one electronic copy in PDF.

## G. EASEMENTS

During the BOD phase of work, West Yost will identify the required permanent easements, rights of entry, and/or temporary construction easements, and coordinate with the affected parties. The proposed pipeline connection near the Howiler WTP

will require coordination with SWD. As requested by IRWD, we have provided a budget for the preparation of up to two legal descriptions.

**Deliverable**

- Draft and final versions of up to two legal descriptions and exhibits in PDF.

**H. ALLOWANCE FOR CONSOLIDATION OF CITY OF ORANGE PIPELINE PLANS (OPTIONAL TASK)**

As discussed above, the City of Orange is planning for a new potable water pipeline that will be routed along Cannon Street and through the bridge over Santiago Creek. We understand that IRWD is in the initial stages of discussion with the City of Orange regarding the coordination of the City’s pipeline and IRWD’s proposed pipeline. Should the decision be made to consolidate the City of Orange’s and IRWD’s proposed pipeline plans and specifications, West Yost will develop a single construction contract for both projects. If this is implemented, West Yost would only be responsible for modifying IRWD’s standard front-end documents to include both sets of contract documents and would not have any responsibility associated with the design of the City of Orange’s plans and specifications. As requested by IRWD, we have a budget of \$15,000 proposed for this optional task.

**I. CEQA DOCUMENTATION**

We understand that IRWD will hire a CEQA consultant separate from this contract to prepare the CEQA documentation for this project and that IRWD anticipates the preparation of an initial study/mitigated negative declaration. In support of the CEQA process, West Yost may need to review portions of the environmental document, prepare exhibits, attend meetings, and/or provide project specific information. As requested by the District, we have a budget of \$10,000 proposed for supporting IRWD and the CEQA consultant through the CEQA documentation process.

**Deliverable**

- Draft and final exhibits in pdf format to support CEQA process.

**J. PERMITS**

West Yost will identify and make applications for non-resource agency permits with appropriate agencies. We will identify and submit permit applications as early as practical to avoid project delay and work closely with the agencies to facilitate permit acquisition. West Yost will insert copies of the permits into the Appendix of the Project Manual and the plans and specifications will reflect all City requirements for pavement restoration. We will prepare the submittal packages, review and address agency comments, and procure the final permits. We understand that IRWD will reimburse us for actual permit fees without surcharge. As requested by the District, we have a budget of \$10,000 for direct reimbursement of actual non-resource agency permit fees.



The County of Orange will require an encroachment permit for the pipeline to cross Santiago Creek.

**Encroachment Permits:** Based on our preliminary research, the project will require encroachment permits from the City of Orange and the County of Orange. In addition, the city limits for the City of Villa Park are along Taft Avenue and Cannon Street. The GIS data from the Orange County Surveyors office is not precise enough to determine if the city’s boundaries are at the centerline or on the northern and western edges of the streets’ right-of-way. As we recently had a pipeline project where the City of Stanton boundary moved from the centerline of the Chapman Avenue to the northern right-of-way since the street record drawings were created, West Yost will perform more detailed records research early in the project to determine if an encroachment permit will be required from the City of Villa Park to install traffic control within their city limits.

Regardless of the requirement for an encroachment permit for the City of Villa Park, West Yost will coordinate with the City of Orange and County of Orange to secure the required encroachment permits for the construction of the proposed pipeline and interconnection facilities.

We understand that IRWD will hire a permitting consultant separate from this contract for any required jurisdictional agency permits. As requested by the District, we have a budget of \$10,000 for supporting IRWD and the permitting consultant through the jurisdictional agency permitting process.

#### **Deliverable**

- On-line permit applications to the City of Orange, County of Orange, and City of Villa Park (If required).

### **K. PROJECT SCHEDULE**

West Yost has prepared a proposed project schedule in Microsoft Project. This schedule is based on our experience in executing similar projects for the District. As discussed above in the Project Management task, West Yost will update the schedule and provide a copy to IRWD with the monthly status report.

The Project Schedule will include detailed schedules for both design and construction activities. The schedule will be expanded to include all critical factors impacting the project schedule including permitting, design, bid, and construction phases. It will reflect IRWD's Notice of Award and Notice to Proceed, contractor shop drawing submittals and Engineer review, manufacturing and delivery times for construction materials, construction activities, and construction closeout.

#### **Deliverable**

- Monthly project schedule prepared in Microsoft Project and delivered as a PDF.

### **L. OPINION OF PROBABLE CONSTRUCTION COST**

West Yost will prepare a detailed and itemized Engineer's Opinion of Probable Construction Cost for the proposed facilities for submission. The Engineer's Opinion of Probable Construction Cost will be in the form of the Schedule of Work as included in the Bid Documents section of the Project Manual. The opinion of probable construction cost will be updated and submitted with each of the 60%, 90%, 100% draft, and final design deliverables.

#### **Deliverable**

- Opinion of probable construction cost prepared in Microsoft Excel and delivered as a pdf with every final design deliverable.

### **M. FINAL DESIGN DELIVERABLES**

West Yost will preview each plan submittal with IRWD staff in a preview meeting. Improvement plans will be submitted and transmitted via email (PDF file) to IRWD for review at the 60%, 90%, 100% draft, and final design completion levels according to the following guidelines:

- **60% Deliverable:** West Yost will provide a searchable PDF file of the entire plan set. The plans will show concepts of each component of the design such as civil, mechanical, structural, electrical, and instrumentation and control. We will show preliminary plan, profile, connections, details, and location of all major appurtenances. We will provide a PDF file of the 60% Project Manual.
- **90% Deliverable:** West Yost will provide a searchable PDF file of the entire plan set. The drawings will be developed to a high level of detail. We will also provide a PDF file of the 90% Project Manual, including all sections: contract documents, general provisions, special provisions, general requirements, technical specifications, and appendix.
- **100% Deliverable:** West Yost will provide a searchable PDF file of the entire plan set, showing all details required for construction. We will provide a PDF file of the 100% Project Manual, including all sections: contract documents, general provisions, special provisions, general requirements, technical specifications, and appendix.
- **Final Design Deliverable:** West Yost will provide one USB drive containing AutoCAD files for the entire plan set. We will also provide a PDF file of the entire plan set and a PDF file of the Project Manual, both signed by our Project Manager and sealed by an appropriate Professional Engineer licensed in the State of California. We will provide all MS Word files used in the preparation of the Project Manual.





Team collaboration during a project planning session.

## N. ADDENDA PREPARATION AND PRE-BID MEETING

During the bidding period, West Yost will assist with providing information and clarification of bid documents to prospective bidders and prepare up to three addenda, including revisions to the design plans and specifications, and addressing bidder questions. Our bid support activities will include the following:

- **Plan Revisions:** Eight hours of appropriate staff time to conform necessary plan revisions to the construction drawings.
- **Specification Revisions:** Four hours of appropriate staff time for to conform necessary revisions or additions to the project specifications.
- **Bidder Questions:** Twelve hours of appropriate staff time to address and respond to bidder questions.
- **Pre-Bid Meeting:** Prepare for and conduct one 2-hour pre-bid meeting, providing agenda, exhibits, sign-in sheet, and minutes for the meeting. This may include a site visit with potential bidding contractors.

### Deliverables

- Conformed construction drawings and Project Manual.
- Responses to bidders' questions in table format.
- Pre-bid meeting agenda, exhibits, sign-in sheet, and meeting minutes.

## Team Organization

West Yost’s team of recycled water pipeline design experts for IRWD’s project are shown in our organizational chart below. Our proposed project manager, **Robert Reid**, has more than 30 years of experience in infrastructure planning and design projects. All our team members will be fully available to support the needs of this project, and key personnel assigned to the project will not be reassigned without prior IRWD written approval. **We have included brief bios for our key team members in this section and two-page resumes in Appendix A. Table 2** below outlines our team member locations and anticipated projected time contribution percentages.

### Organizational Chart



**Table 2. Team Member Locations and Project Contribution**

TEAM MEMBER	HOME OFFICE/LOCATION	% TIME AVAILABLE
Robert Reid, PE, Project Manager	Irvine, CA	20%
Corie Moolenkamp, PE, Principal-in-Charge	Lake Oswego, OR	10%
Kelly Snyder, PE, QA/QC Reviewer	Davis, CA	5%
Lindsey Olson, PE, Project Engineer	Remote - Arkansas	30%
Shafi Danishyar, EIT, Design Engineer	Irvine, CA	40%
Tiana Michaud, PE, Electrical, Instrumentation & Controls	Remote - Oregon	15%
David Kuan, PE, Traffic Control	Brea, CA	10%
Greg Borchard, PLS, Survey and Mapping	San Clemente, CA	10%
Brad Friederichs, SE, Structural Engineering	Citrus Heights, CA	10%
Hashimi Quazi, PhD, PE, GE, Geotechnical Engineering	Costa Mesa, CA	10%
Thomas Mueller, Potholing	Escondido, CA	5%

**Proposed Fee**

**West Yost Staff**

**Subconsultants**

West Yost Associates	EM/SM/GM I \$352 Corie	PE/PS/PG II \$338 Robert	SE/SS/SG I \$286 Lindsey	STS II \$321 Tiana	TS II \$224 Derek	ESG II \$215 Shafi	TS II \$224 Arturo	CAD II \$194 Olga	TS II \$224 Max	PE/PS/PG II \$338 Kelly/Zane	Labor		TCE	Conv	Borc	USI	VES	Costs		
											Hours	Fee						Sub. w/ markup 10%	Other Direct	Total Costs
PROJECT: Howler Intertie Pipeline																				
<b>Task 1 Project Management</b>																				
1.01 Project Status Reports and PM	4	20	24								48	\$ 15,032								\$ 15,032
1.02 Meetings and Workshops		40	48	12							100	\$ 31,100							\$ 200	\$ 31,300
1.03 QA/QC	2	2		1						4	9	\$ 3,053								\$ 3,053
<b>Subtotal, Task 1 (hours)</b>	<b>6</b>	<b>62</b>	<b>72</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>157</b>									
<b>Subtotal, Task 1 (\$)</b>	<b>\$ 2,112</b>	<b>\$ 20,956</b>	<b>\$ 20,592</b>	<b>\$ 4,173</b>						<b>\$ 1,352</b>		<b>\$ 49,185</b>							<b>\$ 200</b>	<b>\$ 49,385</b>
<b>Task 2 Basis of Design Memorandum</b>																				
2.01 Pipeline and Bridge Crossing Analysis		4	16			32		16		2	70	\$ 16,588					\$ 10,000	\$ 11,000		\$ 27,588
2.02 Interconnection Facility Analysis		4	12	10	12	32	4	8		2	84	\$ 20,686								\$ 20,686
2.03 Prepare BOD Memorandum		4	24	16	14	24	30			8	120	\$ 31,072								\$ 31,072
<b>Subtotal, Task 2 (hours)</b>	<b>0</b>	<b>12</b>	<b>52</b>	<b>26</b>	<b>26</b>	<b>88</b>	<b>34</b>	<b>24</b>	<b>0</b>	<b>12</b>	<b>274</b>									
<b>Subtotal, Task 2 (\$)</b>		<b>\$ 4,056</b>	<b>\$ 14,872</b>	<b>\$ 8,346</b>	<b>\$ 5,824</b>	<b>\$ 18,920</b>	<b>\$ 7,616</b>	<b>\$ 4,656</b>		<b>\$ 4,056</b>		<b>\$ 68,346</b>					<b>\$ 10,000</b>	<b>\$ 11,000</b>		<b>\$ 79,346</b>
<b>Task 3 Final Design</b>																				
3.01 Project Manual		8	32	32	16		8		24	10	130	\$ 36,260					\$ 1,000	\$ 1,100		\$ 37,360
3.02 Construction Plans		14	73	24	22	180	76	282		17	688	\$ 154,420					\$ 13,100	\$ 14,410		\$ 168,830
3.03 Traffic Control Plans		8	8			2		4			22	\$ 6,198	\$ 72,771							\$ 80,048
3.04 Utility Research		2	8	2		32	2	24			70	\$ 15,590					\$ 36,655	\$ 40,321	\$ 500	\$ 56,411
3.05 Aerial Survey and Topo Mapping			1			2		4			7	\$ 1,492			\$ 25,280				\$ 27,808	\$ 29,300
3.06 Geotechnical Investigation		2	8					2			12	\$ 3,352		\$ 74,041					\$ 81,445	\$ 84,797
3.07 Easements		1	2					4			7	\$ 1,686			\$ 5,000				\$ 5,500	\$ 7,186
3.08 Allowance for City of Orange Pipeline (Optional)		8	24	1		12			8	2	55	\$ 14,937							\$ 63	\$ 15,000
3.09 CEQA Documentation		4	16	4		2		8	2	1	37	\$ 9,980							\$ 20	\$ 10,000
3.10 Permits		4	16			8					28	\$ 7,648	\$ 3,824						\$ 4,206	\$ 31,854
3.11 Project Schedule		1	6	2							9	\$ 2,696								\$ 2,696
3.12 Opinion of Probable Construction Cost		4	16	8	4	8	4			2	46	\$ 12,684								\$ 12,684
3.13 Final Design Deliverables		4	8	2				2	8	4	28	\$ 7,178								\$ 7,178
3.14 Addenda Prep. And Pre-Bid Mtg.		6	4	2		2	2	6	4	2	28	\$ 7,428					\$ 400	\$ 440		\$ 7,868
<b>Subtotal, Task 3 (hours)</b>	<b>0</b>	<b>66</b>	<b>222</b>	<b>77</b>	<b>42</b>	<b>248</b>	<b>94</b>	<b>342</b>	<b>42</b>	<b>34</b>	<b>1167</b>									
<b>Subtotal, Task 3 (\$)</b>		<b>\$ 22,308</b>	<b>\$ 63,492</b>	<b>\$ 24,717</b>	<b>\$ 9,408</b>	<b>\$ 53,320</b>	<b>\$ 21,056</b>	<b>\$ 66,348</b>	<b>\$ 9,408</b>	<b>\$ 11,492</b>		<b>\$ 281,549</b>	<b>\$ 76,595</b>	<b>\$ 74,041</b>	<b>\$ 30,280</b>	<b>\$ 36,655</b>	<b>\$ 14,500</b>	<b>\$ 255,278</b>	<b>\$ 20,583</b>	<b>\$ 557,410</b>
<b>TOTAL (hours)</b>	<b>6</b>	<b>140</b>	<b>346</b>	<b>116</b>	<b>68</b>	<b>336</b>	<b>128</b>	<b>366</b>	<b>42</b>	<b>50</b>	<b>1,598</b>									
<b>TOTAL (\$)</b>	<b>\$ 2,112</b>	<b>\$ 47,320</b>	<b>\$ 98,956</b>	<b>\$ 37,236</b>	<b>\$ 15,232</b>	<b>\$ 72,240</b>	<b>\$ 28,672</b>	<b>\$ 71,004</b>	<b>\$ 9,408</b>	<b>\$ 16,900</b>		<b>\$ 399,080</b>	<b>\$ 76,595</b>	<b>\$ 74,041</b>	<b>\$ 30,280</b>	<b>\$ 36,655</b>	<b>\$ 24,500</b>	<b>\$ 266,278</b>	<b>\$ 20,783</b>	<b>\$ 686,141</b>

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December 16, 2024  
Prepared and  
submitted by: K. Swan  
Approved by: Paul A. Cook *PAC*

CONSENT CALENDAR

REPLACEMENT OF ASSISTANT TREASURER

SUMMARY:

From time to time, staff makes recommendations for appointments and replacements of personnel. As such, staff recommends the Board appoint Ms. Gabrielle Wang as one of two Assistant Treasurers, replacing Jennifer Davis.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

This item was not reviewed by a Committee.


RECOMMENDED MOTION:

THAT THE BOARD APPOINT GABRIELLE WANG AS ONE OF THE IRVINE RANCH WATER DISTRICT ASSISTANT TREASURERS, REPLACING JENNIFER DAVIS, EFFECTIVE DECEMBER 16, 2024.

LIST OF EXHIBITS:

None.

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December 16, 2024  
Prepared by: F. Sanchez  
Submitted by: F. Sanchez / P. Weghorst  
Approved by: Paul A. Cook 

## CONSENT CALENDAR

### PASS-THRU INDEMNIFICATION AGREEMENT REGARDING IRWD WATER BANK DELIVERIES

#### SUMMARY:

The Kern County Water Agency (KCWA), the State Water Project (SWP) Contractor that facilitates deliveries to and from the IRWD Water Bank in Kern County, requires its member agencies to execute indemnification agreements to facilitate exchanges of water in Kern County. IRWD's local partner in Kern County, the Rosedale-Rio Bravo Water Storage District, signs these agreements for the IRWD exchange programs. IRWD concurrently executes letter agreements with Rosedale that pass through KCWA's indemnification and other requirements to IRWD. Staff recommends that the Board authorize the General Manager to execute the pass-through indemnification letter agreement described below and to execute similar agreements in the future for IRWDs exchange programs.

#### BACKGROUND:

In 2009, IRWD executed the Strand Ranch Operating Agreement with Rosedale-Rio Bravo Water Storage District. In 2018, IRWD executed a similar agreement with Rosedale for a water banking, recovery, and exchange program at the Stockdale West and Stockdale East properties. These two agreements provide for Rosedale's coordination of water deliveries to and from the IRWD Water Bank in Kern County. In 2011, IRWD executed a Coordinated Operating, Water Storage, Exchange and Delivery Agreement with Metropolitan Water District and the Municipal Water District of Orange County that coordinates the operations of the IRWD Water Bank with Metropolitan facilities in a way that provides mutual supply reliability benefits to IRWD and Metropolitan. All three agreements include provisions related to indemnification.

Deliveries of SWP water into and out of IRWD's Water Bank are facilitated by KCWA. Rosedale coordinates the deliveries with KCWA as it operates the IRWD Water Bank. Metropolitan, KCWA, and the California Department of Water Resources (DWR) State Water Project Analysis Office (SWPAO) have executed agreement number SWPAO 20312, which allows Metropolitan to temporarily store SWP supplies at the IRWD Water Bank on behalf of IRWD. This SWPAO agreement is being used to deliver water to the IRWD Water Bank available through several IRWD exchange programs.

#### Required Indemnification Agreement:

KCWA requires its members to sign indemnification agreements for all approved transfer and exchange programs implemented through DWR. As such, Rosedale is required to sign an indemnification agreement with KCWA to facilitate an amendment to SWPAO 20312. Rosedale has requested to pass-thru KCWA's indemnification and other requirements to IRWD by executing the Letter Agreement provided as Exhibit "A". Prompt execution of the Letter Agreement will avoid delays in water deliveries into IRWD's Water Bank in the coming weeks.

Staff and special legal counsel have reviewed the terms of the Letter Agreement and concluded that the indemnifications and other terms are consistent with those already approved by IRWD in the Strand Ranch and Stockdale Operating Agreements as well as the Coordinated Operating Agreement. The only addition is that the Letter Agreement would require IRWD to assume Rosedale's obligation to defend and indemnify KCWA for liability arising from environmental violations, including the California Environmental Quality Act (CEQA), associated with Metropolitan's deliveries to and from the IRWD Water Bank. Environmental Impact Reports were previously prepared and certified without challenge for the IRWD Water Bank, thereby limiting IRWD's exposure to such violations.

Staff recommends that the Board authorize the General Manager to execute the Letter Agreement with Rosedale, and any similar indemnification agreements with Rosedale that may be necessary in the future to facilitate IRWD's water banking program in Kern County.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Final Environmental Impact Reports for the Strand Ranch and Stockdale Integrated Banking Project were prepared, certified, and approved in compliance with the California Environmental Quality Act (CEQA) as amended, codified at California Public Resources Code Sections 21000 et. seq., and the State CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3. Rosedale, as lead agency, filed Notices of Determination for both the Strand Ranch and Stockdale Integrated Banking Projects with the County of Kern. IRWD, as a responsible agency, filed Notices of Determination with the County of Orange and with the County of Kern.

COMMITTEE STATUS

This item was not reviewed by Committee to allow for the potential delivery of water into the IRWD Water Bank in the coming weeks.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE THE LETTER AGREEMENT FOR "MET DELIVERIES TO KERN COUNTY WATER AGENCY" WITH ROSEDALE RIO-BRAVO WATER STORAGE DISTRICT AND SIMILAR FUTURE PASS-THRU INDEMNIFICATION AGREEMENTS REQUIRED BY ROSEDALE TO FACILITATE WATER DELIVERIES TO AND FROM THE IRVINE RANCH WATER DISTRICT WATER BANK, SUBJECT TO SPECIAL LEGAL COUNSEL REVIEW.

LIST OF EXHIBITS:

Exhibit "A" – Letter Agreement – MET Deliveries to KCWA





December 11, 2024

Paul Weghorst, Executive Director, Water Policy  
15600 Sand Canyon Ave.  
Irvine, CA 92618  
Email: [Weghorst@irwd.com](mailto:Weghorst@irwd.com)

Re: Letter Agreement - MET Deliveries to KCWA

Dear Paul:

Irvine Ranch Water District (IRWD) has requested that Rosedale-Rio Bravo Water Storage District (Rosedale) coordinate with the Kern County Water Agency (KCWA) to facilitate the transfer of Metropolitan Water District of Southern California's (MET) State Water Project (SWP) Table A water to KCWA for temporary storage in the Strand Ranch Water Banking Project (Strand) and Stockdale Integrated Banking Project (Stockdale) on behalf of IRWD. To facilitate this transfer, KCWA requires that Rosedale execute the enclosed letter agreement regarding Amendment No. 1 to the Agreement for Storage of A Portion of The Metropolitan Water District of Southern California's State Water Project Water Supplies in Irvine Ranch Water District's Groundwater Banking Program, SWP #23012-A (the "Letter Agreement").

Rosedale will execute the Letter Agreement provided that IRWD agrees to the following:

1. IRWD will cooperate with Rosedale to secure any required consents, approvals, permits or orders to facilitate the delivery of MET water to KCWA for temporary storage in Strand or Stockdale.
2. Rosedale may refuse to accept delivery of MET water if accepting delivery may cause Rosedale to exceed its quantities on which the KCWA Proportionate Use-of-Facilities factors are based.
3. IRWD acknowledges that KCWA shall only deliver MET water to KCWA for temporary storage in Strand or Stockdale after KCWA has satisfied all agreements that benefit KCWA Member Units.
4. IRWD acknowledges that KCWA may withhold approval of deliveries of MET water to KCWA for temporary storage in Strand or Stockdale should KCWA determine that such delivery would impact KCWA's water management activities, finances, water supply or operations.
5. KCWA shall only accept delivery of MET water for temporary storage in Strand or Stockdale at times when those deliveries will not impact delivery of any of Rosedale's SWP Table 1 water.

December 11, 2024

Paul Weghorst

RE: Letter Agreement re MET Deliveries to KCWA

Page 2

6. Return of MET water temporarily stored in Strand or Stockdale shall meet DWR's water quality standards in effect when the water is pumped in and introduced into the California Aqueduct.
7. IWRD shall submit revised monthly and weekly schedules to Rosedale for deliveries of water pursuant to the Letter Agreement.
8. IRWD shall reimburse Rosedale, within thirty days of billing, for any costs incurred by Rosedale related to any delivery of MET water for temporary storage in Strand or Stockdale pursuant to the Letter Agreement.
9. IRWD shall defend, indemnify, and hold harmless Rosedale, its directors, officers, employees, and agents (Rosedale Parties) from any claim, action, liability, or proceeding against the Rosedale Parties relating to or arising out of the delivery of MET water to KCWA for temporary storage in Strand or Stockdale, or the return of such supplies to MET.
10. In the event of claim of liability or legal action commenced against KCWA for any environmental violations, including but not limited to the California Environmental Quality Act, that arises as a result of the delivery of MET water to KCWA for temporary storage in Strand or Stockdale, IRWD shall assume Rosedale's obligation to defend, indemnify and hold KCWA and any of its Directors, officers, or employees harmless from any and all costs and expenses (including, but not limited to, attorneys' fees and expert costs) incurred in connection with such claim or legal action.
11. In the event of claim of liability against KCWA that arises as a result of the delivery of MET water to KCWA for temporary storage in Strand or Stockdale, or the return of such supplies to MET, IRWD shall assume Rosedale's obligation to defend, indemnify and hold KCWA and any of its Directors, officers, or employees harmless from any such claim.
12. The agreement between Rosedale and IRWD made herein shall not affect the rights or obligations of Rosedale or IRWD pursuant to existing agreements.

If the above is acceptable, please sign, date, and return this letter me at [ttaylor@rrbwsd.com](mailto:ttaylor@rrbwsd.com). A fully executed copy will be returned for your files.

Sincerely,

Trent Taylor, Water Resources Manager

Enclosure

December 11, 2024  
Paul Weghorst  
RE: Letter Agreement re MET Deliveries to KCWA  
Page 3

**The foregoing constitutes the agreement between IRWD and Rosedale as a condition of Rosedale executing the Letter Agreement with KCWA and of KCWA/Rosedale delivering the water as described in the Letter Agreement.**

**Acknowledged and Accepted:**

ROSEDALE

IRWD




\_\_\_\_\_  
Trent Taylor  
Water Resources Manager

\_\_\_\_\_  
Paul Cook  
General Manager

Date: \_\_\_\_\_

Date: \_\_\_\_\_

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December 16, 2024  
Prepared by: A. Murphy / M. Cortez  
Submitted by: K. Burton  
Approved by: Paul A. Cook 

## ACTION CALENDAR

### SANTIAGO CANYON PUMP STATION IMPROVEMENTS CONTRACT CHANGE ORDER

#### SUMMARY:

The Santiago Canyon Pump Station Improvements project will construct improvements at four pump stations and one reservoir in the Santiago Canyon area. Staff recommends that the Board approve Contract Change Order (CCO) No. 7 in the credit amount of \$901,458.98 for the deletion of the remaining Manning pump station scope of work from the Santiago Canyon Pump Station Improvements project.

#### BACKGROUND:

The Santiago Canyon Pump Station Improvements project involves the replacement of four existing pump stations in Santiago Canyon including, Williams, Shaw, Read, and Manning, and the installation of communication improvements at Shaw reservoir. The improvements at each pump station include increasing pumping capacity, increasing generator fuel storage capacity, site work, piping replacement, and electrical, instrumentation, and communications upgrades to varying degrees based on the requirements for each location. The Notice of Award was issued to Shimmick Construction Company, Inc. on March 15, 2022. Shimmick has completed Williams pump station, and is currently working at Shaw and Read pump stations, and Shaw reservoir. Shimmick is expected to complete Shaw pump station and reservoir in December 2024 and continue with Read and Manning pump stations until November 2025. Shimmick has already exceeded the contract time of 598 days.

#### Contract Change Order No. 7:

The Manning pump station site consists of an existing water treatment plant and pump station that was constructed by Santiago Canyon Water District. In 2024, after this project was under construction, the District made the decision to permanently decommission the Manning Water Treatment Plant due to the age of the facility and high cost of operation versus utilizing the untreated water at the Baker Water Treatment Plant. The plans call for the construction of the new Manning pump station improvements in the same location as the existing pump station. Shimmick has completed about 25% of the bid total for the Manning site including the construction of a new retaining wall, the installation of the two new surge tanks, and the replacement of the existing generator fuel tank. Shimmick has not constructed any of the Manning pump station improvements yet, but has procured all the mechanical and electrical equipment for the improvements. Rather than construct the pump station around the decommissioned water treatment plant, staff has negotiated a change order with Shimmick to pay for the materials procured and remove the remaining scope from the project so the site can be redesigned to better utilize the space after the demolition of the Manning Water Treatment Plant. The redesign of the Manning site will be bid out as a separate project and will utilize the

equipment that has already been procured. The total cost of CCO No. 7, including payments for work completed, materials procured, and deletion of the remaining pump station improvement scope will be a credit in the amount of \$901,458.98. The change order will include a non-compensatory time extension of 12 months to increase the contract time to cover the remaining project scope. The adjusted project completion date will be November 20, 2025. CCO No. 7 is provided as Exhibit "A", and a summary of change orders is provided as Exhibit "B".

FISCAL IMPACTS:

Santiago Canyon Pump Station Improvements, Project 01398, is included in the FY 2024-25 Capital Budget. The budget is sufficient to fund the change order.

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 1530, which provides an exemption for minor alterations of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. A Notice of Exemption for the project was filed with the County of Orange on February 9, 2022.

COMMITTEE STATUS:

This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD APPROVE CONTRACT CHANGE ORDER NO. 7 IN THE CREDIT AMOUNT OF \$901,458.98 FOR THE DELETION OF THE REMAINING MANNING PUMP STATION SCOPE FROM THE SANTIAGO CANYON PUMP STATION IMPROVEMENTS, PROJECT 01398.

LIST OF EXHIBITS:

Exhibit "A" – Construction Change Order No. 7

Exhibit "B" – Construction Change Order Summary

Exhibit "A"  
**CONTRACT CHANGE ORDER**



**Irvine Ranch Water District**

15600 Sand Canyon Avenue  
P.O. Box 57000  
Irvine, CA 92619-7000  
(949) 453-5300

C.O. No. 7

Project No. 1398

**Santiago Canyon Pump Station Improvements**

Project Title \_\_\_\_\_ Date: 12/5/2024

THE FOLLOWING CHANGE TO CONTRACT, DRAWINGS AND SPECIFICATIONS IS PROPOSED.	\$ ADDITIONS	\$ DELETIONS	DAYS ±
1. Manning Site Work Previously Completed	\$ 595,360.00	\$ -	
2. Manning Equipment Purchased and unreimbursed labor-PCI 32	\$ 986,642.98		
3. Manning Startup Fees	\$ 52,538.04		
4. Deduct Original Manning Bid Schedule C		\$ 2,536,000.00	
5. Non-Compensatory Time Extension			730
The Substantial Completion Date is extended from November 21, 2023 to November 20, 2025			
<b>TOTAL</b>	\$1,634,541.02	\$ 2,536,000.00	730

DAYS ±

1. NET AMOUNT THIS CHANGE ORDER	= \$	(901,458.98)	730
2. ORIGINAL CONTRACT AMOUNT	= \$	8,317,000.00	595
3. TOTAL PREVIOUS CHANGE ORDER(S)	= \$	209,791.71	21
4. TOTAL BEFORE THIS CHANGE ORDER (2+ 3)	= \$	8,526,791.71	616
5. PROPOSED REVISED CONTRACT AMOUNT TO DATE (1+4)	= \$	7,625,332.73	1346

We hereby agree to make the above change subject to the terms of this change order for the credit amount of: \_\_\_\_\_

Nine Hundred One Thousand, Four Hundred Fifty Eight and 98/100 ----- Dollars

12/9/2024 \_\_\_\_\_ Shimmick Construction Inc.  
Date Contractor By: Tanner Nakasone

SIGNATURE	DATE	APPROVAL LEVEL REQUIRED
<u>Alex Murphy</u> IRWD Engineer or Consulting Engineer	<u>12/9/2024</u> Date	Department Director Approval Required <input type="checkbox"/>
<u>Malcolm Cortez</u> Engineering Manager	<u>12/9/24</u> Date	Executive Director Approval Required <input type="checkbox"/>
<u>Kevin L Burton</u> Executive Director of Technical Services	<u>12/10/24</u> Date	General Manager Approval Required <input type="checkbox"/>
_____	_____	Board Approval Required <input checked="checked" type="checkbox"/>
_____	_____	629498
General Manager	Date	Purchase Order No.

NOTE: The documents supporting this Change Order, including any drawings and estimates of cost, if required are attached hereto and made a part hereof. This Change Order shall not be considered as such until it has been signed by the Owner and the Contractor. Upon final approval, distribution of copies will be made as required. The parties mutually agree the pricing set forth in this Change Order are complete and fair compensation for the entirety of the work authorized under this Change Order and that no additional compensation is warranted nor shall it be allowed.

CHANGES: All workmanship and materials called for by this Change Order shall be fully in accord with the original Contract Documents insofar as the same may be applied without conflict to the conditions set forth by this Change Order. The time for completing the contract will not be extended unless expressly provided for in this Change Order.

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Exhibit "B"

**Santiago Canyon Pump Station Improvements  
PR 01398  
Construction Change Order Summary**

Date: December 9, 2024  
Contractor Shimmick Construction  
Design Engineer: Lee & Ro


			Contract Amount					Contract Days				Original Completion Date:	
			Original Contract Amount: \$8,317,000.00									10/31/2023	
Change Order No.	Description	Category	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Order Days	Cum. Change Order Days	Revised Total Contract Days	Revised Completion Date
1	Approved by Executive Director of Technical Services on 12/16/22			\$27,208.25	\$ -	\$ 27,208.25	0.33%	\$8,344,208.25	2	0	2	597	11/2/2023
	1. Temporary Switchboard substitution-PCI 003.1 2. New Manning Retaining Wall Shear Key-PCI 004.1 3. Additional Shaw Potholing-PCI 005 4. Line Stop BFV substitutions-PCI 006 5. Additional Rebar for Antenna Foundations-PCI 007.1 6. Light Fixtures-PCI 009	A D B A D A	-11,206.00 \$29,045.52 \$4,488.67 \$3,986.69 \$633.15 \$260.22						0 2 0 0 0 0				
2	Approved by Executive Director of Technical Services on 06/21/2023			\$51,926.66	\$ 27,208.25	\$ 79,134.91	0.95%	\$8,396,134.91	0	2	2	597	11/2/2023
	1. Added Multijoins at Read PRV-PCI 010 2. Manning Retaining Construction Joints-PCI 011.2 3. Spare Pump and VFD-PCI 015.1 4. ATT Enclosure Change-PCI 017 5. Retaining Wall Footing Elevation-PCI 016	D D D A D	\$5,100.45 \$26,226.02 \$8,055.99 \$3,883.14 \$8,661.06						0 0 0 0 0				
3	Approved by Executive Director of Technical Services on 10/25/2023			\$9,067.16	\$ 79,134.91	\$ 88,202.07	1.06%	\$8,405,202.07	0	2	2	597	11/2/2023
	1. Manning ACP Removal-PCI No.14 2. Manning Retaining Wall Compaction Testing Credit	B A	\$12,705.16 -\$3,638.00						0 0				
4	Approved by Executive Director of Technical Services 12/20/2023			\$2,222.04	\$ 88,202.07	\$90,424.11	1.09%	\$8,407,424.11	1	2	3	598	12/20/2023
	1. Williams ATT Conduit-PCI No.20 2. Williams PS Temp Antenna Work-PCI No. 21 (+1DAY) 3. Williams PS Temp PVC Conduits Underground Credit	A A A	\$1,668.74 \$1,922.47 -\$1,369.17						0 1 0				
5	Approved by Executive Director of Technical Services on 04/30/2024			\$20,046.88	\$ -	\$ 20,046.88	0.24%	\$8,337,046.88	0	3	3	598	11/3/2023
	1. Williams PS Tie-in- PCI No.24 2. Williams Concrete Electrical Equipment Pad-PCI 26	B A	\$18,449.27 \$1,597.61						0 0				
6	Approved by Executive Director of Technical Services on 12/05/2024			\$99,320.72	\$ -	\$99,320.72	1.19%	\$99,320.72	18	3	21	616	11/21/2023
	1. Shaw PS Existing ACP & Revised Piping Layout - PCI No.27 2. Unknown. 2-inch Steel Pipeat Shaw PS-PCI 30	B B	\$83,755.85 \$15,564.87						15 3				
7	Approved by the Board of Directors on			(\$901,458.98)	\$ -	(\$901,458.98)	-10.84%	(\$901,458.98)	730	21	751	1,346	11/20/2025
	1. Manning Site Work Previously Completed 2. Manning Equipment Purchased and unreimbursed labor-PCI 32 3. Manning Startup Fees 4. Deduct Original Manning Bid Schedule C 5. Non-Compensatory Time Extension	A A A A A	\$595,360.00 \$986,642.98 \$52,538.04 -\$2,536,000.00						0 0 0 0 730				
Category			Total Amount			% of Original Contract							
A - Owner Directed Change			(898,991.80)			-10.81%							
B - Differing/Unknown Condition			12,705.16			0.15%							
C - External Agency, Regulatory, and/or Permit Required Change			0.00			0.00%							
D - Design Oversight			48,043.52			0.58%							
Total Change Order Amount (A + B + C + D)			(838,243.12)			-10.08%							

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December 16, 2024

Prepared by: J. Moeder

Submitted by: K. Burton

Approved by: Paul A. Cook 

## ACTION CALENDAR

### SANTIAGO CREEK DAM IMPROVEMENTS PROJECT UPDATE, CONSULTANT VARIANCE, AND BUDGET INCREASE

#### SUMMARY:

Based on IRWD's Risk Informed Decision Making (RIDM) Dam Safety Program, AECOM completed alternative analysis for embankment improvements at Santiago Creek Dam and staff recommends adding the design of embankment improvements to AECOM's design scope of work. Consistent with IRWD's Dam Safety Program, staff also recommends continuing the risk analysis process on the proposed improvements at Santiago Creek Dam and conducting risk analysis on the 60% and 90% design of the embankment improvements. Staff recommends that the Board:

- Authorize the General Manager to execute a variance in the amount of \$5,293,817 with AECOM for additional engineering design services,
- Authorize the General Manager to execute a variance in the amount of \$394,940 with HDR for additional risk analysis services; and
- Authorize a budget increase in the amount of \$130,000,000, from \$340,000,000 to \$470,000,000 for the Santiago Creek Dam Improvements project.

#### BACKGROUND:

In 2017, IRWD contracted with AECOM for the design of the Outlet Tower Replacement project to improve the seismic performance of the structure by removing the existing tower and installing a new inclined outlet structure embedded in bedrock adjacent to the spillway. Also in 2017, IRWD contracted with GEI to perform a condition assessment of the Santiago Creek Dam spillway structure. GEI completed the condition assessment in 2019 and IRWD and Serrano Water District (SWD) decided to replace the nearly 90-year-old structure that is reaching the end of its useful life.

In April 2020, IRWD combined the two projects and retained AECOM (with GEI as its subconsultant) to design the combined Santiago Creek Dam Improvements project. Staff and the design team achieved many key milestones since combining the projects including, but not limited to, building and testing a physical model of the spillway and completing the 90% design of the spillway and outlet improvements.

#### Interim Operations of Irvine Lake:

In 2020, after identifying the need to replace the spillway, the Districts (IRWD and SWD) evaluated and implemented an Interim Operations Plan. The Interim Operations Plan introduced a wintertime water level restriction that minimizes the potential use of the existing spillway structure. While the existing spillway remains safe to operate, the Districts determined that a

level restriction would serve as an interim risk reduction measure until the reservoir improvements are constructed. The Division of Safety of Dams (DSOD) later reviewed the Interim Operation Plan and ultimately imposed the seasonal level restriction until the new spillway structure and outlet tower improvements are complete. The Districts have successfully operated under this plan, which has required occasional releases of water from Irvine Lake to Santiago Creek to maintain a water level at or below 762.5 feet between October 31 and March 14 and 772.5 feet between March 15 and April 1.

#### Cracking Study, Risk Analysis, and Alternatives Analysis:

In parallel to advancing the preliminary design activities for the Santiago Creek Dam Improvements project, IRWD started integrating Risk-Informed Decision Making (RIDM) as a core component of its Dam Safety Program to enhance its program and align with DSOD's future state-wide RIDM-based dam safety program. As part of RIDM, IRWD completed a Semi-Quantitative Risk Analysis (SQRA) on all five of its earth embankment dams, including Santiago Creek Dam. The risk analysis identified that the overall risk of the dam is largely driven by the potential for seismically induced cracking of the embankment. While the risk of potential cracking is small and the dam continues to meet all the DSOD requirements, IRWD approved advancing studies to further understand the possibility and also approved a geotechnical investigation focused on characterizing the strength parameters of the embankment and its foundation. Staff and AECOM coordinated the geotechnical exploration efforts with DSOD and in February 2023 DSOD authorized IRWD to proceed with drilling several borings in Santiago Creek Dam.

AECOM, the lead design firm for the Santiago Creek Dam Improvements project, completed the Cracking Study analysis, which incorporated data gathered from the geotechnical investigation. The study analyzed the performance of the dam for a wide range of seismic events, described the range of possibilities, and established the basis for conducting risk analysis. IRWD contracted with HDR to facilitate a multi-day Quantitative Risk Analysis (QRA) Workshop with a total of five independent Subject Matter Experts (SMEs). The team of SMEs included staff from Gannett Fleming, GEI, Geosyntec, and HDR. Collectively, the team of SMEs have nearly 200 years of combined experience and expertise in cracking analysis, seismology, geotechnical engineering, and DSOD requirements. Staff and the risk team completed the QRA workshop, and at the July 8, 2024, Board meeting, staff recommended and the Board approved completing an alternatives analysis for embankment improvements.

AECOM developed four embankment improvement alternatives that serve as a mitigation measure against the potential for seismically induced cracking. All the alternatives included various configurations of a filter drain system, variation in the amount of existing embankment that would require removal and variation in the amount of material added to the existing embankment. AECOM and staff identified that removing the upper portion of the existing dam crest to construction of a 35-foot wide crest with a 2.5 (horizontal) to 1 (vertical) sloped dam face that encapsulates the filter drain system is the recommended alternative as it offers the greatest degree of mitigation and stability compared to the other alternatives. Staff and AECOM reviewed the options with DSOD, and DSOD agreed with the recommendation.

AECOM Design Variance No. 8:

AECOM submitted a variance in the amount of \$5,293,817 that includes adding design of embankment improvements to the project. The additional design scope includes adding several design drawings for the embankment improvements, revising close to half the design drawings to integrate the embankment improvements into the project, adding several technical specifications, and updates to several technical studies or reports. The variance request also includes the design team’s continued involvement with the risk analysis process. The scope of work and variance are attached as Exhibit “A”.

HDR Design Variance No. 1:

HDR submitted a variance in the amount of \$394,940 that includes continuing to facilitate the risk analysis process. The additional risk analysis scope items include conducting multi-day risk workshops with the 60% and 90% designs of the Santiago Creek Dam Improvements inclusive of the embankment improvements and modifications to the spillway structure to accommodate the embankment improvements. Upon completion of the risk workshops, HDR will prepare risk analysis reports to ensure the design addresses the items of concern. The scope of work and variance are attached as Exhibit “B”.

Staff will provide a presentation during the Board meeting that elaborates on the items presented herein. The draft presentation is attached as Exhibit “C”.

FISCAL IMPACTS:

Project 01813 is included in the Fiscal Year 2024-25 Capital Budget and requires a budget increase as follows.

Project No.	Current Budget	Addition <Reduction>	Total Budget
01813	\$340,000,000	\$130,000,000	\$470,000,000

At the November 25, 2024, Board meeting, the Board of Directors approved executing an agreement with SWD where IRWD acquires full ownership of Irvine Lake and becomes responsible for 100% of the Santiago Creek Dam Improvements project. The existing cost split, which is based on previous construction cost estimates and excludes the embankment improvements, reflects funding the majority of the project with Water Replacement Funds. Staff updated the splits for the project with consideration for additional Regional Potable Water Capital Improvements including: 1) the additional storage capacity gained by acquiring SWD’s 25% capacity share of Irvine Lake; 2) the additional storage capacity gained by replacing the spillway with a higher crest elevation; and 3) the safety enhancements to the embankment. The existing and proposed splits are shown in the following table.

<b>Funding</b>	<b>Existing Split (%)</b>	<b>Proposed Split (%)</b>
Water Replacement	94.8	50.2
Regional Potable Water Capital	5.2	49.8

ENVIRONMENTAL COMPLIANCE:

The project is subject to the California Environmental Quality Act (CEQA). An Environmental Impact Report is being prepared in conformance with CEQA, California Code of Regulations Title 14, Chapter 3, Article 7, Section 15081.

COMMITTEE STATUS:

This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 8 IN THE AMOUNT OF \$5,293,817 WITH AECOM FOR ADDITIONAL ENGINEERING DESIGN SERVICES; AND AUTHRORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 1 IN THE AMOUNT OF \$394,940 WITH HDR FOR ADDITIONAL RISK ANALYSIS SERVICES; AND AUTHORIZE A BUDGET INCREASE IN THE AMOUNT OF \$130,000,000, FROM \$340,000,000 TO \$470,000,000 FOR THE SANTIAGO CREEK DAM IMPROVEMENTS, PROJECT 01813.

LIST OF EXHIBITS:

- Exhibit "A" – AECOM's Variance No. 8 Scope of Work and Fee
- Exhibit "B" – HDR's Variance No. 1 Scope of Work and Fee
- Exhibit "C" – Presentation for Santiago Creek Dam Improvements Project Update, Variance, and Budget Adjustment



AECOM  
999 Town & Country Road Orange, CA 92868  
www.aecom.com  
714.567.2400 tel  
714.689.7349 fax

November 13, 2024

Mr. Jacob Moeder, P.E.  
Engineering Manager – Dams & Storage  
Irvine Ranch Water District  
15600 Sand Canyon Avenue  
Irvine, California 92618

**Subject: Variance Request No. 8 - Santiago Creek Dam Improvement Project  
PR 01813, Addition of “Dam Embankment Improvement” Phase and “Site Construction  
Preparation” Phase**

Dear Jacob:

The purpose of this document is to provide our proposed scope of work and fee estimate for a variance for the Santiago Creek Dam Embankment Improvement Phase and the Site Construction Preparation Phase. These services will be provided for Irvine Ranch Water District (IRWD) referred to herein as the District.

This variance request follows about three years of engineering design services by the AECOM Technical Services, Inc. (AECOM) and GEI Consultants, Inc. (GEI) team (Design Team) for the existing dam embankment improvements phase and impacts to the Spillway and Outlet Works Improvements Phase. The major variance items include:

- 60% Design of Dam Embankment Improvement
- 90% Design of Dam Improvement
- 100% Design of Dam Improvement
- Final Design of Dam Improvement
- Project Management and Meetings
- Modification of Spillway Right Wall from Type 1 and Type 2 to Gravity Type 3 RCC Wall
- Site Construction Preparation Package
- Billing rate schedule adjustment from the beginning of the design contract (2020) to the middle of the final design (FY 2025-2026).

## **Background for Dam Embankment Improvement Variance Request:**

In July 2024, AECOM was tasked to further evaluate the potential risk mitigation alternatives for potential cracking of dam embankment due to seismic loading and deformations. By September 2024, the results including four different mitigation alternatives were presented to the District. Following the presentation, AECOM was requested to prepare a proposal for the final design of dam embankment improvement assuming Alternative #4 as the basis for determining the scope of work and the amount of effort needed. Here is the summary of the proposed scope of work prepared by AECOM/GEI:

## **SCOPE OF WORK**

### **Phase 3: Final Design of Dam Improvement**

#### **Task 1: 60% Design Embankment Improvement**

Under this task design team will develop engineering design services for the dam embankment improvement as described below:

**Subtask 1.1 - Update Site Specific Seismic Analysis Report:** AECOM will update current site-specific seismic hazard analysis report to include the geophysical data obtained during phase #3 geotechnical field investigation by GEI in May 2024. The updated report will include required parameters for MCE, 1000 ARP, 2500 ARP, 5000 ARP, 10000 ARP, and 25000 ARP events with five sets of time histories. This report will be submitted to IRWD as an appendix to the geotechnical design report.

**Subtask 1.2 - Submit GIR:** The current GIR will be revised to include the most recent field investigation data such as Diversion Berm, cracking study, third phase of geotechnical investigation and borrow area (to be performed in 2025). The draft report will be submitted to IRWD as a separate document. The final report will be submitted addressing IRWD/DSOD comments.

**Subtask 1.3 - Develop Engineering Properties of the Embankment for Design:** Engineering properties of the proposed embankment including gradation and design strength parameters of the embankment materials will be developed as part of this task. The information will be documented in geotechnical design report.

**Subtask 1.4 - Filter/Drain Design/Analyses:** This task will include determining gradation of filter, drain and transition zones to meet the required criteria for compatibility. The results will be documented in geotechnical design report.

**Subtask 1.5 - Seepage Analyses:** AECOM will perform two-dimensional seepage analyses of the dam using the finite element computer program SEEP/W for up to three transverse sections. These analyses are included to evaluate the expected seepage flows through the filter/drain zone. These analyses will assist to evaluate phreatic surface information for stability and deformation analysis and seepage control and monitoring measures for the embankment and its abutments. The SEEP/W determined pore-water pressure results can be directly imported to SLOPE/W and FLAC for static and dynamic analysis. The results will be provided as an appendix to the geotechnical design report.



**Subtask 1.6 - Slope Stability Analyses:** Dam embankment slope stability analyses will be developed for up to two transverse sections utilizing the two-dimensional limit equilibrium method using SLOPE/W software. The analyses will be performed for various loading conditions including construction phase, static (full and empty pool), rapid drawdown, and pseudostatic. The results of the analyses will be provided as an appendix to the geotechnical design report.

**Subtask 1.7 - Simplified Seismic Deformation Analysis:** A two-dimensional linear seismic induced deformation analysis will be performed for the maximum transverse section of the dam embankment using linear Newmark-type deformation analysis. The result of the analysis will be documented as an appendix to the geotechnical design report.

**Subtask 1.8 - Static Settlement Analysis:** The static settlement analysis of the dam embankment will be performed on this task to evaluate the adequacy of the camber and to estimate the quantity of additional fill required to accommodate expected compression during construction. The results will be documented in the geotechnical design report.

**Subtask 1.9 - Dam Embankment Drainage System:** In this task dam embankment drainage size and configuration including thickness of the filter and drain zone will be determined to safely handle the potential estimated downstream seepage flows.

**Subtask 1.10 - FLAC Analyses (Design and Risk Workshop Supports):** The purpose of the proposed two-dimensional nonlinear deformation analysis task is to evaluate the seismic deformation of the proposed dam embankment. This will be accomplished by performing 2D nonlinear deformation analyses for up to two (2) sections along the length of the dam using FLAC. The two (2) sections would include the maximum transverse section and one on the terrace deposits close to the right abutment. Input motions corresponding to up to five-time histories spectrally matched to the MCE event will be run. Output will include histories of deformation as well as contours of displacement, and strains. The analysis approach, materials characterization, and results of the analyses will be included in the geotechnical design report as an appendix.

Also to support the 60% risk workshop AECOM will perform seismic deformation analysis for the maximum transverse section using FLAC 2D for 1000 ARP, 2500 ARP, 5000 ARP, 10000 ARP, and 25000 ARP events for both lower-bound and best-estimate strength values as requested by the risk committee. These analyses will be summarized in a separate technical memorandum and submitted to IRWD for review.

**Subtask 1.11 - Dam Embankment Instrumentation Design:** AECOM will perform conceptual design of dam embankment instrumentation and proposed layout and provide the information to GEI. GEI will perform the detailed design of the instrumentation and prepare the integrated instrumentation drawing sheets for the entire project.

**Subtask 1.12 - Additional Dewatering Scope for Dam Toe Excavation:** GEI will perform additional feasibility study for the dewatering at the downstream toe of the dam due to the embankment toe excavation and collaborate with AECOM team for needs and input.

**Subtask 1.13 - Borrow Area - Material Balance and Delineation:** AECOM will calculate the quantity of the excavated materials, available on-site borrow material, and off-site imported materials and prepare a plan establishing the material balance for each type of material and a map identifying the borrow areas and associated grading. The material balance results and borrow area grading map will be illustrated in a design drawing sheet.

**Subtask 1.14 - Draft Geotechnical Design Report:** The analyses, technical approaches, design criteria, and parameters developed in tasks above to support design of the embankment dam will be documented in a Geotechnical Design Report. The report will be drafted and submitted IRWD/DSOD for review.

**Subtask 1.15 - Final Design Report (revisions to PDR):** The Preliminary Design Report (PDR) will be revised to the Final Design Report (FDR) to include the Dam Embankment Improvement design criteria and associated impacts to the Outlet Tower and Spillway Improvements Phase of the project. AECOM will update the dewatering analyses for the proposed outlet works system. The Draft FDR will be submitted to IRWD/DSOD for review. The Final FDR will be prepared to address IRWD/DSOD comments.

**Subtask 1.16 - Prepare Plans (Plan, Sections, Details) - Up to 106 Revised Sheets:** to address the proposed dam embankment improvement design, up to 106 sheets of Outlet Tower and Spillway Improvement 90% design drawing set need to be revised. The list of the revised drawing sheets is provided in Table 3.

**Subtask 1.17 - Prepare Plans (Plan, Sections, Details) - Up to 34 new sheets:** The dam embankment improvement phase of the project will add up to 34 new design drawing sheets to the plan set. The list of the new drawing sheets is provided in Table 4.

**Subtask 1.18 - Prepare Specifications - Up to 10 Revised Sections:** Based on the proposed dam embankment modification design up to 10 sections of the Outlet Tower and Spillway Improvements need to be revised. The list of the revised sections is provided in Table 5.

**Subtask 1.19 - Prepare Specifications - Up to 10 new Sections:** Based on the proposed dam embankment modification design up to 10 new specification sections need to be added. The list of the new sections is provided in Table 6.

**Subtask 1.20 - Prepare Opinion of Probable Construction Cost (OPCC) TM (Class 3):** AECOM will prepare an opinion of probable construction cost (OPCC) that meets the definition of an Association for the Advancement of Cost Engineering (AACE) Class 3 cost estimate. The information will be documented in a technical memorandum and provided as an appendix to the Geotechnical Design Report.

**Subtask 1.21 - Prepare Construction Schedule and Phasing:** Design team will prepare the construction schedule and sequencing the work. The output will be provided in Construction Phase drawing sheets included on the design drawing set.

**Subtask 1.22 - Submit 60% Design Package (IRWD/SME/DSOD):** The 60% design package including the design drawing set (plans, sections and details), revised specifications (consist of revised and new sections), Draft Geotechnical Report, and OPCC Technical Memorandum will be electronically submitted

to IRWD. Three sets of hard copy for the design drawing set and specifications will also be submitted to IRWD. The design package will be distributed to SME and DSOD by IRWD for their review/comment.

**Subtask 1.23 - IRWD Briefing Presentation for 60% Design Package:** Design team will prepare a presentation slide and set up a virtual meeting to brief IRWD on the progress of the design and 60% submittals. The management team and design leaders from AECOM/GEI will attend the meeting.

**Subtask 1.24 - Risk Workshop for 60% Design Package:** There would be a risk analysis in two workshops held by others using the 60% design information. Design team will be supporting the risk assessment committee by providing requested analyses including seepage, stability, seismic deformation of the dam embankment using FLAC 2D, and structural analyses completed for the walls by the west abutment area. Up to six (6) staff from AECOM/GEI's design and management team will attend the in-person workshops.

**Subtask 1.25 - DSOD Briefing Presentation for 60% Design Package:** Design team will prepare a presentation to brief DSOD on the progress of the design and 60% submittals. The management team and design leaders (Up to 8 staff) from AECOM/GEI will attend the meeting.

#### Miscellaneous Impacts on the Spillway Design

GEI will update the spillway stability analyses, seepage analyses, bearing capacity, and settlement calculations for potential changes to the spillway design resulting from the proposed embankment dam seismic retrofit. We understand the proposed embankment dam retrofit will increase fill heights behind certain walls and require calculation revisions as a result. GEI's dewatering feasibility study will be expanded to include the excavation at the downstream embankment toe. The spillway construction sequencing will be modified to accommodate the embankment construction.

Prior to the initial submission of the 60% design documents, AECOM and GEI will collaborate on the final Geotechnical Interpretative Report (GIR), which will be comprehensive of all geotechnical data obtained throughout the design process. The GIR can be used for IRWD and DSOD reference during the remainder of this project's design phase, through construction, and beyond. AECOM will also update the Geotechnical Data Report (GDR) to include the data from AECOM's 2023 investigation, and GEI will review the updated GDR. The GDR will be included in the Bid Documents for both the Outlet Tower and Spillway Improvements phase and Dam Embankment Improvement phase.

The 60% design package including Geotechnical Design Report, drawings, specifications, construction schedule and opinion of probable construction cost (OPCC) that meets the definition of AACE Class 3 cost estimate will be prepared and submitted for IRWD's review. As part of the 60% design package, AECOM and GEI will revise drawing sheets and specification sections of Outlet Tower and Spillway Phase that are impacted by the embankment improvement design. The list of the sheets and specification sections to be revised are provided in Tables 1 and 2. This will be submitted as a Revised 90% Submittal for the Spillway and Outlet Works Improvements.

Following the 60% submittal the design team will set up a presentation to update IRWD on the 60% design deliverables. The 60% design package will be revised/resubmitted addressing IRWD comments.

Per IRWD request, the design team will attend the risk workshop (prepared by others) and provide supporting documents/updates for the 60% design. Following the workshop the revised 60% package addressing subject matter expert comments will be submitted to IRWD to be transmitted to the California Division of Safety of Dams (DSOD).

As indicated above, concurrent with the 60% Design Package Submittal for the Embankment Improvements, the Design Team will submit a Revised 90% Design Submittal for the Spillway and Outlet Works Improvements. This package will be reviewed by IRWD and DSOD and the Design Team will incorporate the comments and revisions and will submit a 100% design package for the Spillway and Outlet Works.

The Design team will prepare a presentation briefing to DSOD on 60% design of the Dam Embankment Improvement Phase as well as potential impacts to the Outlet Tower and Spillway Phase, which will be included in the Revised 90% Submittal for the Spillway and Outlet Works. It is our understanding that the revised design package (addressing DSOD comments) needs to be backchecked by DSOD. Any comments remaining after DSOD's backcheck will be addressed so the Outlet Tower and Spillway Improvements Phase deliverables can be finalized as Bid Documents. The Outlet Tower and Spillway Improvements Phase final design will include the Dam Embankment Improvement Phase 60% design drawings following correction of DSOD comments.

**Task 2: 90% Design Dam Improvement**

AECOM will further develop the embankment improvement design to the 90% design level addressing IRWD/SME/DSOD comments. The 90% design package will include drawings, specification sections, and an opinion of probable construction cost (OPCC) that meets the definition of an Association for the Advancement of Cost Engineering (AACE) Class 2 cost estimate. The 90% design package will be submitted to IRWD to be transmitted to DSOD. Design team will present updates on 90% design package to IRWD and DSOD for any feedback comments. The Design Team will attend the in-person Risk Workshop for the 90% Design Package and provide technical support to the Risk Committee. Concurrent with the 90% submittal for the Dam Improvement, the Design Team will submit the 100% design package for the Spillway and Outlet Works Improvements.

**Task 3: 100% Design Dam Improvement**

With IRWD and DSOD comments on the 90% design package, Design team will prepare construction plans and specifications commensurate with the 100% design level (all design drawing sheets including plans, sections, and details), and any updates needed for OPCC. The overall project schedule including the Dam Embankment Improvement Phase will be updated to reflect progress on the Outlet Tower and Spillway Improvements Phase construction project. The Outlet Tower and Spillway Improvements Phase design will be at 100% or Final design when Task 2 is completed.

**Task 4: Final Design Dam Improvement**

As part of this task any outstanding backcheck comments from IRWD or DSOD will be addressed, and

Final Design package for the Dam Improvement project will be submitted for IRWD to transmit to DSOD for approval.

#### **Task 5: Project Management and Meetings**

The overall AECOM Quality Management System defined in the main contract will be adopted for this variance. The project management subtasks included in this proposal are as follows:

- Quality Control
- Budget Monitoring, Progress Reports, and Invoicing
- Monthly Progress Meetings (assuming 18 meetings)
- Third Party Coordination Meetings (assuming 18 meetings)
- Additional Meetings (assuming 30 meetings)
- GEI/AECOM Coordination Meetings

#### **Task 6: Modification of Spillway Right Wall from Type 1 and Type 2 to Gravity Type 3 RCC Wall**

The current design elements of the right spillway wall consist of (from upstream to downstream): a closure wall, Type I wall (anchored tieback wall), a transverse transition wall, Type II wall (reinforced concrete cantilever retaining wall) along the chute, with termination in the Type 3 RCC gravity walls of the stilling basin. The selection of a tieback anchored wall was based on the need to preclude excavation of the dam and the abutment. With the introduction of embankment modifications, GEI has identified that the Dam Embankment Improvement design will allow for the current right spillway wall design concept to be revised to a less complicated design that will improve constructability.

The revised design approach consists of replacing the right spillway wall elements as indicated above with Type 3 RCC gravity walls. This option had previously not been considered viable because of a design goal of not performing work within the dam embankment and would not have been appropriate without the crack stopping functionality of the chimney filter. Additionally, it is anticipated that placement of new embankment fill against the previously proposed Type II walls on the right wall may not be allowed by DSOD. Changing the design concept will also remove the Type I wall reentrant corner and the complex installation geometry of the tension anchors, which has been a source of concern for the DSOD in past reviews. We anticipate that this change will improve constructability, reduce construction risk, provide for a safer dam, and potentially reduce capital costs associated with construction.

GEI will perform the analysis and design of the proposed new Type 3 gravity RCC walls and will incorporate these elements in the overall design of the spillway. The following activities will be performed:

- GEI will analyze the revised concept right spillway wall using a similar analysis and design approach that was used for the Type 3 RCC walls that are already part of the original design. The analysis and design approach used for the existing RCC walls has been submitted and reviewed during prior

milestone design submissions and has been accepted by DSOD and the review team. Additional analysis sections will be added for the upstream sections of the right wall that are being replaced with RCC and the analysis will be coordinated with the embankment design work being done by AECOM.

- The spillway catwalk design concept, which originally required it to be attached to the back face of Wall Type II, will be replaced with a conventional reinforced concrete cap along the top of the RCC wall that will be designed to accommodate workers walking along the top of the spillway wall.
- The right spillway wall design drawings will be updated to reflect the all-Type 3-RCC design concept. A list of the affected design drawings has been provided in Tables 1 and 2 and included in the GEI labor estimate provided as part of this proposal.
- We have assumed that no additional hydraulic analyses will be required as part of this design change to an all RCC right spillway wall. This is because although the nature of the wall construction is changing, the alignment of the wall profile and hydraulic cross section will remain the same as it did under the prior design concept.
- Updating geotechnical analyses for the new wall design will include the spillway stability analyses, seepage analyses, bearing capacity, and settlement calculations. Depending on the design loads, additional consideration may be needed for bearing capacity of the wall as the rock in this area may be poor quality and the loads could be relatively high. Foundation criteria will be updated, and the excavation plan will be modified. Coordination with the embankment retrofit design details, coordination with DSOD, and design report updates will be required.
- Additionally, we anticipate that it will be necessary to perform a seismic deformation analysis of the right Type III wall where it abuts embankment fill to evaluate seismic deformations and the potential for cracking at the interface. For the nonlinear deformation analyses, we propose to use PLAXIS. PLAXIS is a commonly used finite element package for geotechnical analyses of retaining walls. We will perform this analysis using a single cross-section in two-dimensions. The model will be performed for the best estimate material parameters for three time-histories at the DSOD design earthquake. The time histories will be those developed by AECOM. Material properties for the dam and the modeling methodology will be like those proposed for the main dam stability analysis AECOM will perform. GEI will document the analyses in calculation packages as appropriate.
- GEI will perform an evaluation to explore the potential for straightening out the spillway alignment from the current sharp curve that had to be incorporated to keep the spillway away from the embankment and preclude any work within the dam embankment. With the current embankment modification work and proposed change to Type 3 RCC walls, the pros and cons of straightening of the spillway alignment will be evaluated. The pros and cons will include addressing how this would impact the design schedule, the construction schedule, potential construction cost changes, constructability, construction sequencing, risk, and the spillway performance. A plan and section will be provided to illustrate the geometry of the straightened spillway. A brief TM will be prepared documenting our evaluations and providing our recommendations.

## **Background for Site Construction Preparation Phase Variance Request:**

Following the 90% Design Workshop held on January 11, 2024, it was agreed upon by IRWD and the AECOM/GEI team that, to sequence the construction effort efficiently, certain aspects of the Outlet Tower and Spillway Phase work will need to occur prior to all other work at Santiago Creek Dam. This work pertains to the AECOM design scope only, and a summary is provided below:

## **Phase 2: Final Design of Outlet Tower and Spillway Improvements**

### **Task 13: Site Preparation for Santiago Creek Dam Improvement Project**

AECOM will prepare separate sheets and specification sections for separate elements of work that will be used to prepare the construction site for the prime contractor. AECOM and IRWD will coordinate the appropriate packaging for varying specialty work. This will contain the following documents.

#### **Construction Plans:**

- General – Cover Sheet; Sheet Index; Location Map, Vicinity Map and General Notes; Abbreviations, Symbols and Survey Control Data; Survey Control Plan; General Arrangement Plan (7 Sheets)
- Primary Construction Staging Area (1 Plan Sheet)
- Temporary Water “Highline” (5 Plan and Profile Sheets, 1 Detail Sheet)
- Helopods (1 Detail Sheet)
- Demolition: General Plan, Dam Keeper’s Residence, Outlet Tower modification for intake snorkel at EL 721.9’, Boat Dock (6 Plan Sheets, 1 Detail Sheet)
- Erosion Control (1 Plan Sheet, 1 Detail Sheet)

#### **Project Manual:**

- “Front End” including Cover Sheet; Bid Documents; Agreements, Bonds and Insurances; General Provisions; Special Provisions (6 Sections, no modification to General Provisions)
- “Front End” including General Requirements Sections (Approximately 24 Sections)
- Technical Specifications (Approximately 20 Sections)

### **Task 15: Bid Period Assistance Services**

During the bidding period for the Site Construction Preparation Documents, AECOM will provide bidding support and assistance as it pertains to the contract documents and construction drawings. For budgetary purposes, we have assumed several hours in our fee estimate to answer questions from prospective bidding contractors and assist IRWD in providing information and clarification of the bid documents. AECOM will consult with IRWD to address concerns or answer their questions in support of administering the bid process. AECOM has budgeted for two (2) addenda to the construction plans and/or Project Manual for prospective bidders, if requested by IRWD. Bid phase services will include:

- Plan Revisions: AECOM has budgeted sixty (60) hours of staff time and GEI has budgeted forty (40)

hours of staff time for plans revisions.

- Project Manual Revisions: AECOM has budgeted thirty (30) hours of staff time for revisions to the Project Manual.
- Bidder Questions: AECOM has budgeted sixty (60) hours of staff time and GEI has budgeted forty (40) hours of staff time to address and respond to bidder questions.
- Pre-Bid Meeting: Two (2) senior AECOM staff and two (2) senior GEI staff will attend one (1) two-hour pre-bid meeting, conducted by IRWD, along with a site visit with potential bidders, if required.

**LIST OF DELIVERABLES:**

The table below summarizes the list of the deliverable items with the associated subtask included in this variance.

<b>Subtask</b>	<b>Deliverable</b>
1.1	Revised Site-Specific Seismic Analysis Report
1.2	Draft GIR
1.2	Final GIR
1.10	Draft FLAC Risk Analysis TM
1.10	Final FLAC Risk Analysis TM
1.14	Draft Geotechnical Design Report
1.15	Draft FDR
1.15	Final FDR
1.22	60% Design Drawing Set, Specification, OPCC
2.5	90% Design Drawing Set, Specification, OPCC, Draft Geotechnical Design Report
3.5	100% Design Drawing Set, Specification, OPCC, Final Geotechnical Design Report
4.4	Final Design Drawing Set, Specification, and OPCC
5.2	Weekly Progress Report via email
5.3	Monthly Meeting Minutes
6.20	Spillway Straightening Concept (Value Engineering) TM
13.1	Construction Plan Set
13.2	Project Manual

**ASSUMPTIONS:**

- All meetings to be virtual via Teams or equivalent platform, unless otherwise indicated.
- There will be three (3) sets of hard copies required for each design submission to IRWD.
- No field work nor further geotechnical investigations are included in this proposal.
- Construction phase services are not included, as they will be included in a future contact.

**DESIGN SCHEDULE IMPACTS:**



The proposed project schedule for work performed under this variance is attached.

**COST ESTIMATE:**

Details of the proposed additional budgets requested for Phase 2 - Final Design of the Outlet Tower and Spillway Improvements and Phase 3 - Dam Embankment Improvement are provided in Tables 1 through 4 showing a detailed breakdown of labor hours and costs for GEI and AECOM engineering services.

We propose performing professional engineering services for the tasks described above on a time-and-materials basis for a not-to-exceed variance amount of \$5,293,817.

If you have any questions or comments, please contact me at (714) 483-1354 or via e-mail at [bryan.paine@aecom.com](mailto:bryan.paine@aecom.com).

Sincerely,



Bryan C. Paine, PE  
Project Manager, Vice President  
AECOM Technical Services, Inc.



Iqbal Ahmed, PhD, PE, GE  
Senior Project Manager  
GEI Consultants, Inc.

Attachments:

- Table 1 – Variance Fee Estimate for AECOM/GEI Team
- Table 2 – Detailed Labor Estimate Breakdown for GEI Subconsultant
- Table 3 – List of Design Drawing Sheets to Be Revised
- Table 4 – List of Design Drawing Sheets to Be Added
- Table 5 – List of Specification Sections to be Revised
- Table 6 – List of Specifications Sections to be Added
- Table 7 – Proposed Design Schedule



Task No.	Task Description	AECOM Labor Hours <sup>1</sup>							AECOM TOTAL HOURS	AECOM LABOR COSTS	GEI DIRECT COST & MATERIALS (no mark-up)	AECOM DIRECT COSTS & MATERIALS (no mark-up)	TOTAL
		Principal Engineer	Project Manager / Senior Engineer	Senior Project Engineer / Geologist / Scientist	Project Engineer / Geologist / Scientist	Senior Staff Engineer / Geologist / Scientist	Staff Engineer / Geologist / Scientist / CAD / GIS	Project Admin					
		\$336	\$290	\$220	\$186	\$151	\$128	\$116					
6.12	Stilling Basin Sheets - 2 Sheets	-	-	-	-	-	-	-	-	\$16,112	-	\$16,112	
6.13	Spillway and Dam Instrumentation Sheets - 3 Sheets	-	-	-	-	-	-	-	-	\$24,592	-	\$24,592	
6.14	Expanded Right Wall Type III Analysis	-	-	-	-	-	-	-	-	\$94,920	-	\$94,920	
6.15	Coordination with Geotechnical Team for Expanded Right Wall Type III Analysis	-	-	-	-	-	-	-	-	\$74,000	-	\$74,000	
6.16	Walkway Design Adjustments for an all RCC Approach	-	-	-	-	-	-	-	-	\$51,520	-	\$51,520	
6.17	Expanded Right Wall Type III Analysis	-	-	-	-	-	-	-	-	\$133,280	-	\$133,280	
6.18	PLAXIS Analysis of Type III Wall	-	-	-	-	-	-	-	-	\$57,120	-	\$57,120	
6.19	Coordination with Structural Team for Expanded Right Wall Type III Analysis	-	-	-	-	-	-	-	-	\$45,520	-	\$45,520	
6.20	Spillway Straightening Concept (Value Engineering) TM	-	-	-	-	-	-	-	-	\$43,056	-	\$43,056	
6.21	In-House Technical Review	-	-	-	-	-	-	-	-	\$31,448	-	\$31,448	
<b>SUBTOTAL TASK 6</b>		-	-	-	-	-	-	-	-	<b>\$875,560</b>	-	<b>\$875,560</b>	
<b>Phase 2 Final Design of Outlet Tower and Spillway Improvements</b>													
<b>Task 13 - Site Preparation for Santiago Creek Dam Improvement Project</b>													
13.1	Prepare Sheet Set	-	24	24	48	40	80	-	216	\$37,448	-	\$37,448	
13.2	Prepare Project Manual	-	22	22	22	40	120	-	226	\$36,712	-	\$36,712	
13.3	Address IRWD Comments	-	12	12	32	50	50	-	156	\$26,022	-	\$26,022	
13.4	Project Management & Deliverable Coordination	-	12	12	40	30	80	-	174	\$28,330	-	\$28,330	
<b>SUBTOTAL TASK 13</b>		-	<b>70</b>	<b>70</b>	<b>142</b>	<b>160</b>	<b>330</b>	-	<b>772</b>	<b>\$128,512</b>	-	<b>\$128,512</b>	
<b>Task 14 - Bid Period Assistance Services</b>													
14.1	Bid Period Assistance Services	12	30	18	60	-	36	-	156	\$32,460	\$24,408	\$25	\$56,893
<b>SUBTOTAL TASK 14</b>		<b>12</b>	<b>30</b>	<b>18</b>	<b>60</b>	-	<b>36</b>	-	<b>156</b>	<b>\$32,460</b>	<b>\$24,408</b>	<b>\$25</b>	<b>\$56,893</b>
<b>TOTAL</b>		<b>988</b>	<b>2,406</b>	<b>3,238</b>	<b>3,916</b>	<b>3,232</b>	<b>5,670</b>	<b>464</b>	<b>19,914</b>	<b>\$3,738,060</b>	<b>\$1,551,492</b>	<b>\$4,265</b>	<b>\$5,293,817</b>

Notes & Assumptions:

- 1.) The billing rates for AECOM and GEI are escalated from the original contract to the midpoint of design, which is 2025. With a 3% annual escalation for cost of living, this corresponds to a 16% increase in rates from the original contract.
- 2.) Direct Costs / Materials provided with no markup and include costs such as document reproduction costs.

**Table 2 - Detailed Labor Estimate for GEI Subconsultant**  
 Irvine Ranch Water District  
 Santiago Creek Dam Improvement Project - Engineering Services  
 November 13, 2024

Task No.	Task Description	GEI Labor Hours <sup>1</sup>						GEI TOTAL HOURS	GEI LABOR COSTS	GEI DIRECT COST & MATERIALS (no mark-up)	TOTAL	
		Principal Engineer	Project Manager / Senior Engineer	Senior Project Engineer / Geologist / Scientist	Project Engineer / Geologist / Scientist	Senior Staff Engineer / Geologist / Scientist	Staff Engineer / Geologist / Scientist / CAD / GIS					Project Admin
		\$336	\$290	\$220	\$186	\$151	\$128	\$116				
<b>Phase 2 -Final Design of Dam Embankment Improvements</b>												
<b>Task 1 - 60% Design Dam Embankment Improvement</b>												
1.2	Submit GIR - Borrow, Diversion Berm, Embankment Cracking Investigations, GEI Phase 3 Investigation (Draft and Final to IRWD/DSOD)	32	-	-	-	-	-	-	32	\$10,752	-	\$10,752
1.12	Additional Dewatering Scope for Dam Toe Excavation	-	160	-	-	-	-	-	160	\$46,400	-	\$46,400
1.11	Dam Embankment Instrumentation Design	-	80	-	-	-	-	-	80	\$23,200	-	\$23,200
1.21	Prepare Construction Schedule and Phasing	-	72	-	72	-	-	-	144	\$34,272	-	\$34,272
1.15	Final Design Report (Revisions to PDR) - Draft and Final	-	50	-	50	-	-	-	100	\$23,800	-	\$23,800
1.18	Prepare Specifications (Up to 10 Revised Sections)	-	62	-	62	-	-	-	124	\$29,512	-	\$29,512
1.20	Prepare Opinion of Probable Construction Cost (OPCC) TM (Class 3) (Support AECOM)	4	16	-	16	-	-	20	56	\$11,520	-	\$11,520
1.22	Submit 60% Design Package (IRWD/SME/DSOD)	8	24	-	-	-	32	-	88	\$19,024	-	\$19,024
1.23	IRWD Briefing Presentation for 60% Design Package (Support AECOM with Spillway Changes)	4	10	10	-	-	12	-	36	\$7,980	-	\$7,980
1.24	Risk Workshop for 60% Design Package	32	44	-	-	-	16	-	92	\$25,560	\$2,000	\$27,560
1.25	DSOD Briefing Presentation for 60% Design Package (Support AECOM with Spillway Changes)	2	8	8	-	-	8	-	26	\$5,776	\$1,000	\$6,776
<b>SUBTOTAL TASK 1</b>		<b>82</b>	<b>526</b>	<b>-</b>	<b>200</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>640</b>	<b>\$167,936</b>	<b>-</b>	<b>\$240,796</b>
<b>Task 2 - 90% Design Dam Embankment Improvement</b>												
2.2	Update Plan Set (Also Addressing IRWD/DSOD Comments) (For Spillway)	16	80	80	80	-	24	-	280	\$64,128	-	\$64,128
2.3	Update Specifications (Also Addressing IRWD/DSOD Comments) (For Spillway)	4	12	12	12	-	-	-	40	\$9,696	-	\$9,696
2.4	Update Opinion of Probable Construction Cost (OPCC) TM- Class 2 (Support AECOM For Spillway)	2	8	8	-	-	8	-	26	\$5,776	-	\$5,776
2.5	Submit 90% Design Package (IRWD and DSOD)- Including Briefing Presentation (For Spillway)	4	8	8	8	-	12	-	40	\$8,448	-	\$8,448
2.6	Risk Workshop for 90% Design Package	32	44	-	-	-	16	-	92	\$25,560	\$1,500	\$27,060
<b>SUBTOTAL TASK 2</b>		<b>58</b>	<b>152</b>	<b>108</b>	<b>100</b>	<b>0</b>	<b>60</b>	<b>0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$115,108</b>
<b>Task 3 - 100% Design Dam Embankment Improvement</b>												
3.2	Update Plan Set (Also Addressing IRWD/DSOD Comments)	4	12	12	-	-	24	-	52	\$10,536	-	\$10,536
3.3	Update Specifications (Also Addressing IRWD/DSOD Comments)	4	12	12	-	-	-	-	28	\$7,464	-	\$7,464
<b>SUBTOTAL TASK 3</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$18,000</b>
<b>Task 4 - Final Design Dam Embankment Improvement</b>												
4.1	Finalize Plans (Addressing IRWD/DSOD Backcheck Comments)	4	12	12	-	-	24	-	52	\$10,536	-	\$10,536
4.2	Finalize Specifications (Addressing IRWD/DSOD Backcheck Comments)	4	12	12	-	-	-	-	28	\$7,464	-	\$7,464
<b>SUBTOTAL TASK 4</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$18,000</b>
<b>Task 5 - Project Management and Meetings</b>												
5.5	Additional Meetings (30 Meetings)	-	136	-	136	-	-	0	272	\$64,736	-	\$64,736
5.2	Budget Monitoring, Progress Reports, Schedule, and Invoicing	-	200	-	80	-	-	24	304	\$75,664	-	\$75,664
5.3	Monthly Progress Meetings (Assuming 18 Months Project Duration)	-	220	-	120	-	-	-	340	\$86,120	-	\$86,120
5.6	GEI/AECOM Coordination	-	50	-	100	-	-	-	150	\$33,100	-	\$33,100
<b>SUBTOTAL TASK 5</b>		<b>-</b>	<b>606</b>	<b>-</b>	<b>436</b>	<b>-</b>	<b>-</b>	<b>24</b>	<b>1066</b>	<b>\$259,620</b>	<b>-</b>	<b>\$259,620</b>
<b>Task 6 - Modification of Spillway Right Wall from Type 1 and 2 Gravity Type 3 RCC</b>												
6.1	Spillway General Sheets - 4 Sheets	2	39	-	50	-	-	-	91	\$21,282	-	\$21,282
6.2	Spillway Excavation Sheets - 9 Sheets	2	39	-	140	-	-	-	181	\$38,022	-	\$38,022
6.3	Spillway Slab Panel Sheets - 4 Sheets	2	39	-	50	-	-	-	91	\$21,282	-	\$21,282
6.4	Spillway Slab Anchor Sheets - 7 Sheets	2	39	-	60	-	-	-	101	\$23,142	-	\$23,142
6.5	Spillway Drainage Sheets - 4 Sheets	2	55	-	90	-	-	-	147	\$33,362	-	\$33,362
6.6	Spillway Final Grading Sheets - 5 Sheets	2	39	-	70	-	-	-	111	\$25,002	-	\$25,002
6.7	Spillway Isometric Sheets - 2 Sheets	2	50	-	70	-	-	-	122	\$28,192	-	\$28,192
6.8	Spillway Structural Layouts and Joint Plans - 4 Sheets	2	34	-	70	-	-	-	106	\$23,552	-	\$23,552
6.9	Wall Type I Sheets - 5 Sheets	2	50	-	70	-	-	-	122	\$28,192	-	\$28,192
6.10	Right Closure and Transition Wall Sheets - 8 Sheets	2	50	-	90	-	-	-	142	\$31,912	-	\$31,912
6.11	Wall Type II & III Sheets - 6 Sheets	2	50	-	80	-	-	-	132	\$30,052	-	\$30,052
6.12	Stilling Basin Sheets - 2 Sheets	2	34	-	30	-	-	-	66	\$16,112	-	\$16,112
6.13	Spillway and Dam Instrumentation Sheets - 3 Sheets	2	44	-	60	-	-	-	106	\$24,592	-	\$24,592
6.14	Expanded Right Wall Type III Analysis	20	100	100	200	-	-	-	420	\$94,920	-	\$94,920
6.15	Coordination with Geotechnical Team for Expanded Right Wall Type III Analysis	-	100	120	100	-	-	-	320	\$74,000	-	\$74,000
6.16	Walkway Design Adjustments for an all RCC Approach	-	40	80	120	-	-	-	240	\$51,520	-	\$51,520
6.17	Expanded Right Wall Type III Analysis	-	280	-	280	-	-	-	560	\$133,280	-	\$133,280
6.18	PLAXIS Analysis of Type III Wall	-	120	-	120	-	-	-	240	\$57,120	-	\$57,120
6.19	Coordination with Structural Team for Expanded Right Wall Type III Analysis	-	80	-	120	-	-	-	200	\$45,520	-	\$45,520
6.20	Spillway Straightening Concept (Value Engineering) TM	24	48	48	40	-	-	-	184	\$43,056	-	\$43,056
6.21	In-House Technical Review	48	40	-	20	-	-	-	108	\$31,448	-	\$31,448
<b>SUBTOTAL TASK 6</b>		<b>118</b>	<b>1,370</b>	<b>348</b>	<b>1,930</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3,790</b>	<b>\$875,560</b>	<b>-</b>	<b>\$875,560</b>
<b>Phase 3 - Final Design of Outlet Tower and Spillway Improvements</b>												
<b>Task 14 - Bid Period Assistance Services</b>												
14.1	Bid Period Assistance Services	8	64	-	-	-	-	-	92	\$23,808	\$600	\$24,408
<b>SUBTOTAL TASK 14</b>		<b>8</b>	<b>64</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>92</b>	<b>\$23,808</b>	<b>\$600</b>	<b>\$24,408</b>
<b>TOTAL</b>		<b>266</b>	<b>2,718</b>	<b>498</b>	<b>2,666</b>	<b>-</b>	<b>-</b>	<b>24</b>	<b>5,588</b>	<b>\$1,326,924</b>	<b>\$600</b>	<b>\$1,551,492</b>

**Notes & Assumptions:**

- The billing rates for AECOM and GEI are escalated from the original contract to the midpoint of design, which is 2025. With a 3% annual escalation for cost of living, this corresponds to a 16% increase in rates from the original contract.
- Direct Costs / Materials provided with no markup and include costs such as document reproduction costs.

**Table 3 - List of Design Drawing Sheets to be Revised**  
Irvine Ranch Water District  
Santiago Creek Dam Improvement Project - Engineering Services  
November 13, 2024

NO. OF SHEETS	DWG NO	SHEET TITLE
<b>General</b>		
1	G-01	TITLE SHEET
2	G-02	SHEET INDEX (1 OF 2)
3	G-03	SHEET INDEX (2 OF 2)
4	G-04	LOCATION MAP, VICINTY MAP AND GENERAL NOTES
5	G-05	ABBREVIATIONS, SYMBOLS AND SURVEY CONTROL DATA
6	G-06	RESERVOIR STAGE-STORAGE, OUTLET WORKS, AND SPILLWAY RATING CURVE
7	G-07	SURVEY CONTROL PLAN
8	G-08	GENERAL ARRANGEMENT PLAN
9	G-10	PRIMARY CONTRACTOR STAGING AREA PLAN
10	G-11	SECONDARY CONTRACTOR STAGING AREA PLAN
11	G-20	CONSTRUCTION PHASE I DRY SEASON 2025 - OVERALL PLAN
12	G-22	CONSTRUCTION PHASE I WET SEASON 2025/2026
13	G-23	CONSTRUCTION PHASE II DRY SEASON 2026
14	G-24	CONSTRUCTION PHASE II WET SEASON 2026/2027
15	G-25	CONSTRUCTION PHASE III DRY SEASON 2027
16	G-26	CONSTRUCTION PHASE III WET SEASON 2027/2028
<b>Demolition</b>		
17	D-01	DEMOLITION GENERAL PLAN
<b>Erosion Control</b>		
18	EC-01	EROSION CONTROL INDEX MAP
19	EC-02	EROSION CONTROL PLAN - AREA 1
20	EC-03	EROSION CONTROL PLAN - AREA 2
21	EC-04	EROSION CONTROL PLAN - AREA 3
22	EC-05	EROSION CONTROL DETAILS 1
<b>Inlet/Outlet Works</b>		
23	OW-C01	INLET/OUTLET WORKS GENERAL ARRANGEMENT PLAN
24	OW-C07	IRVINE LAKE PIPELINE PLAN AND PROFILE
25	OW-C08	EMERGENCY OUTLET PIPE PLAN AND PROFILE
26	OW-C21	TYPICAL CIVIL DETAILS 2
<b>Spillway</b>		
27	SP-C01	SPILLWAY GENERAL ARRANGEMENT
28	SP-C02	SPILLWAY PLAN AND PROFILE STA SP 0+00 TO STA SP 5+50
29	SP-C03	SPILLWAY PLAN AND PROFILE STA SP 5+50 TO STA SP 11+50
30	SP-C04	SPILLWAY LOCATIONS OF SUBSURFACE EXPLORATIONS
31	SP-C05	SPILLWAY EXCAVATION PLAN (SHEET 1 OF 2)
32	SP-C06	SPILLWAY EXCAVATION PLAN (SHEET 2 OF 2)
33	SP-C07	STEPPED EXCAVATION DETAIL
34	SP-C08	SPILLWAY EXCAVATION ISOMETRIC (SHEET 1 OF 3)
35	SP-C09	SPILLWAY EXCAVATION ISOMETRIC (SHEET 2 OF 3)
36	SP-C10	SPILLWAY EXCAVATION ISOMETRIC (SHEET 3 OF 3)
37	SP-C12	SPILLWAY EXCAVATION SECTIONS (SHEET 2 OF 4)
38	SP-C13	SPILLWAY EXCAVATION SECTIONS (SHEET 3 OF 4)
39	SP-C14	SPILLWAY EXCAVATION SECTIONS (SHEET 4 OF 4)
40	SP-C15	SPILLWAY SLAB PANEL PLAN
41	SP-C17	SPILLWAY SLAB PANEL PLAN DETAILS (SHEET 2 OF 4)
42	SP-C18	SPILLWAY SLAB PANEL PLAN DETAILS (SHEET 3 OF 4)
43	SP-C19	SPILLWAY SLAB PANEL PLAN DETAILS (SHEET 4 OF 4)
44	SP-C23	SPILLWAY SLAB ANCHOR PLAN DETAILS (SHEET 2 OF 4)
45	SP-C24	SPILLWAY SLAB ANCHOR PLAN DETAILS (SHEET 3 OF 4)
46	SP-C25	SPILLWAY SLAB ANCHOR PLAN DETAILS (SHEET 4 OF 4)
47	SP-C26	SPILLWAY SLAB NONTYPICAL ANCHOR PLAN SUMMARY (SHEET 1 OF 2)
48	SP-C27	SPILLWAY SLAB NONTYPICAL ANCHOR PLAN SUMMARY (SHEET 2 OF 2)
49	SP-C28	SPILLWAY SLAB TYPICAL ANCHOR PLAN SUMMARY
50	SP-C29	SPILLWAY ANCHOR SECTIONS
51	SP-C31	SPILLWAY DRAINAGE PLAN (SHEET 1 OF 2)
52	SP-C32	SPILLWAY DRAINAGE PLAN (SHEET 2 OF 2)
53	SP-C34	SPILLWAY RIGHT WALL DRAINAGE PROFILE

**Table 3 - List of Design Drawing Sheets to be Revised**  
Irvine Ranch Water District  
Santiago Creek Dam Improvement Project - Engineering Services  
November 13, 2024

<b>NO. OF SHEETS</b>	<b>DWG NO</b>	<b>SHEET TITLE</b>
54	SP-C35	SPILLWAY DRAINAGE SECTIONS
55	SP-C37	SPILLWAY FINAL GRADING PLAN (SHEET 1 OF 2)
56	SP-C38	SPILLWAY FINAL GRADING PLAN (SHEET 2 OF 2)
57	SP-C41	SPILLWAY SECTIONS (SHEET 1 OF 3)
58	SP-C42	SPILLWAY SECTIONS (SHEET 2 OF 3)
59	SP-C43	SPILLWAY SECTIONS (SHEET 3 OF 3)
60	SP-S03	SPILLWAY ISOMETRIC (SHEET 1 OF 2)
61	SP-S04	SPILLWAY ISOMETRIC (SHEET 2 OF 2)
62	SP-S05	SPILLWAY STRUCTURAL LAYOUT PLAN
63	SP-S06	SIDE CHANNEL CONTROL STRUCTURE JOINT LAYOUT PLAN
64	SP-S07	SPILLWAY CHUTE JOINT LAYOUT PLAN
65	SP-S09	SIDE CHANNEL RCC SUPPORT BLOCK PLAN
66	SP-S13	WALL TYPE I PLAN
67	SP-S14	WALL TYPE I TIEBACK SCHEDULE (SHEET 1 OF 2)
68	SP-S15	WALL TYPE I TIEBACK SCHEDULE (SHEET 2 OF 2)
69	SP-S16	WALL TYPE 1 ELEVATIONS
70	SP-S17	WALL TYPE 1 CROSS SECTIONS
71	SP-S18	RIGHT CLOSURE WALL CONSTRUCTION SEQUENCING PLAN
72	SP-S19	RIGHT CLOSURE WALL PLAN
73	SP-S20	RIGHT CLOSURE WALL ELEVATIONS
74	SP-S21	RIGHT CLOSURE WALL CROSS SECTIONS AND DETAILS
75	SP-S26	RIGHT TRANSITION WALL CONSTRUCTION SEQUENCING PLAN
76	SP-S27	RIGHT TRANSITION WALL PLAN
77	SP-S28	RIGHT TRANSITION WALL ELEVATIONS
78	SP-S29	RIGHT TRANSITION WALL CROSS SECTIONS
79	SP-S30	WALL TYPE II PLAN
80	SP-S31	WALL TYPE II ELEVATIONS
81	SP-S32	WALL TYPE II CROSS SECTIONS
82	SP-S33	WALL TYPE III PLAN
83	SP-S34	WALL TYPE III ELEVATIONS
84	SP-S35	WALL TYPE III CROSS SECTIONS
85	SP-S40	STILLING BASIN PLAN
86	SP-S41	STILLING BASIN CROSS SECTIONS
87	SP-I01	SPILLWAY & DAM INSTRUMENTATION PLAN
88	SP-I02	SPILLWAY & INSTRUMENTATION DETAILS
89	SP-I03	SPILLWAY & DAM INSTRUMENTATION SCHEDULE
<b>Civil</b>		
90	C-01	DAM CREST MSE WALL PLAN AND PROFILE
91	C-03	INLET/OUTLET STRUCTURE ACCESS ROAD PLAN AND PROFILE
92	C-04	INLET/OUTLET STRUCTURE ACCESS ROAD DETAIL PLANS
93	C-05	DAM CONTROL BUILDING PROFILE AND SECTIONS
94	C-10	RESERVOIR AERATION SYSTEM GENERAL ARRANGEMENT
<b>Electrical</b>		
95	E-02	ELECTRICAL SITE PLAN UTILITY SERVICES
96	E-03	ELECTRICAL SITE PLAN POWER AND CONTROLS

**Table 4 - List of Design Drawing Sheets to be Added**  
Irvine Ranch Water District  
Santiago Creek Dam Improvement Project - Engineering Services  
November 13, 2024

NO. OF SHEETS	DWG NO	SHEET NAME
<b>General</b>		
1	G-27	OCWR CONSTRUCTION ACCESS ROADWAY
<b>Excavation and Foundation Treatment</b>		
2	FD-01	DAM FOUNDATION GENERAL PLAN
3	FD-02	SURFACE TREATMENT DETAILS
<b>Dam Embankment</b>		
4	EM-01	DAM EMBANKMENT GENERAL PLAN
5	EM-02	DAM MAXIMUM SECTION AND PROFILE
6	EM-03	DAM CREST DETAILS
7	EM-04	DAM EMBANKMENT SECTION 1
8	EM-05	DAM EMBANKMENT SECTION 2
9	EM-06	DAM EMBANKMENT SECTION 3
10	EM-07	DAM EMBANKMENT SECTION 4
11	EM-08	DAM EMBANKMENT SECTION 5
12	EM-09	DAM EMBANKMENT SECTION 6
13	EM-10	DAM DOWNSTREAM TOE PLAN
14	EM-11	DAM DOWNSTREAM SECTIONS
15	EM-12	MISCELLANEOUS EMBANKMENT DETAILS
16	EM-13	DAM BENCH AND GROIN DRAIN DETAILS
17	EM-14	SEEPAGE COLLECTION PLAN
18	EM-15	SEEPAGE COLLECTION AND DRAIN PROFILE
19	EM-16	GROIN DRAIN OUTLET PLAN AND PROFILE
20	EM-17	EARTHEN SWALE DRAINAGE DETAILS
<b>Borrow Areas</b>		
21	BA-01	BORROW AREAS GENERAL PLAN
22	BA-02	BORROW AREA BA 1 PLAN AND SECTION
23	BA-03	BORROW AREA BA 2 PLAN AND SECTION
24	BA-04	BORROW AREA BA 3 PLAN AND SECTION
25	BA-05	BORROW AREA BA 4 PLAN AND SECTION
<b>Reservoir Grading</b>		
26	GR-10	DISPOSAL AREA PLAN
27	GR-11	DISPOSAL AREA SECTIONS
<b>Instrumentation</b>		
28	IN-01	DAM INSTRUMENTATION PLAN
29	IN-02	INSTRUMENTATION - TOE DRAIN WEIR DETAILS
30	IN-03	INSTRUMENTATION - ACCELEROGRAPH INSTALLATION DETAILS
31	IN-04	INSTRUMENTATION - SURVEY MONUMENTS AND PIEZOMETERS DETAILS
32	IN-05	INSTRUMENTATION - INCLINOMETER
33	IN-06	INSTRUMENTATION - ADAS SYSTEM
34	IN-07	INSTRUMENTATION SCHEDULE

Irvine Ranch Water District  
 Santiago Creek Dam Improvement Project - Engineering Services  
 November 13, 2024

**Table 5 - List of Specification Sections to be Revised**

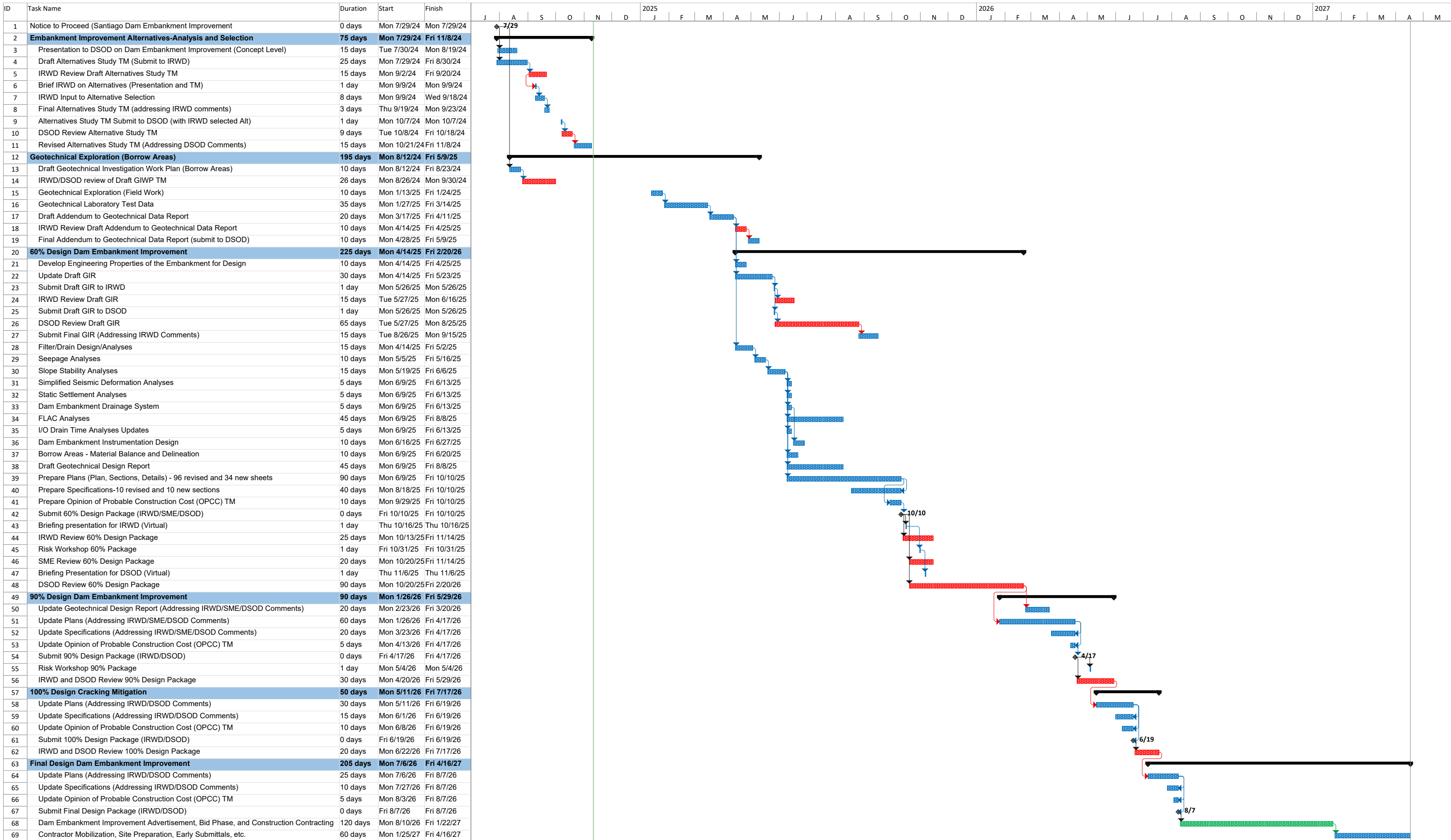
NO. OF SECTIONS	SECTION	SECTION DESCRIPTION
1	02050	DEMOLITION AND ABANDONMENT
2	02080	EXCAVATION, DEWATERING, AND GROUNDWATER LEVEL CONTROL
3	02201	EARTHWORK AND GRADING**
4	02371	RIPRAP
5	02578	PAVEMENT REMOVAL AND REPLACEMENT**
6	17000	GENERAL INSTRUMENTATION CONTROL REQUIREMENTS*
7	17332	INSTRUMENTATION AND CONTROL SYSTEM TESTING
8	17333	INSTRUMENTATION AND CONTROL SYSTEM COMMISSIONING

**Table 6 - List of Specification Sections to be Added**

NO. OF SECTIONS	SECTION	SECTION DESCRIPTION
1	02221	EXCAVATION AND FOUNDATION TREATMENT
2	02225	BORROW SOURCES
3	02227	DAM EMBANKMENT CONSTRUCTION
4	02280	PIEZOMETER AND WELL DECOMMISSIONING
5	02371	RIPRAP AND BEDDING
6	02578	PAVEMENT REMOVAL AND REPLACEMENT
7	02720	INTERNAL DRAINAGE SYSTEM PIPING
8	02915	SOIL PREPARATION
9	17010	DAM INSTRUMENTATION SYSTEM
10	17011	AUTOMATED DATA ACQUISITION SYSTEM



Table 7 - Proposed Design Schedule  
November 13, 2024



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November 22, 2024

Mr. Jacob Moeder  
Project Manager  
Irvine Ranch Water District  
15600 Sand Canyon Avenue  
Irvine, California 92618

**Subject: Santiago Creek Dam QRA on Embankment Modification Design**

Dear Mr. Moeder,

**Introduction and Understanding**

This proposal provides our recommended scope of work (SOW) to prepare for and complete the 60% and 90% design Quantitative Risk Analyses (QRA) for the planned embankment modifications at the Irvine Ranch Water District's (IRWD's) Santiago Creek Dam. The proposed scope of work presented in this memorandum is based on (1) the initial SQRA portfolio assessment of IRWD's dams, (2) the 60% spillway designs risk analysis completed in August 2023, (3) the seismic cracking QRA completed for existing conditions in May 2024, and (4) our discussions with IRWD on the approach to this SOW.

HDR previously recommended that a seismic response embankment cracking PFM for Santiago Creek Dam be further evaluated with a Quantitative Risk Analysis (QRA). IRWD directed its consultants to complete preliminary engineering analyses, additional site characterization and other activities to further evaluate embankment seismic response and prepare for and complete the cracking QRA. The plan for the existing Santiago Creek Dam risk analysis included performing a QRA on the embankment dam cracking PFM following the completion of additional site characterization and engineering analyses to better define strength parameters and performance of the downstream pervious shell material, impervious upstream shell, and crest materials. The QRA workshop on a seismically induced cracking and internal erosion PFM of the existing embankment was completed on May 28-31, 2024. The workshop also included a discussion of select dam modification measures to address the PFM.

Following the May 2024 embankment QRA, IRWD indicated that embankment modifications will also lead to changes to the spillway design, including the interface between the spillway and embankment. Additional consideration will be needed for PFMs identified during the spillway QRA to determine whether those modifications change the completed risk analysis. This includes PFM C-42 that became SAN-SP-08 involving internal erosion along a path through the thin ridge between the embankment and the spillway, and possibly others regarding the right spillway wall (reference: *Santiago Dam 60% Design Risk Analysis Report*, HDR, February 2023).

The SOW for the Santiago Creek Dam embankment improvements final design risk analysis involves two steps:

1. Preparing a Plan for the Embankment Improvements risk analyses and workshop, and
2. Execute the risk workshops after the 60% and 90% designs and prepare a risk report.

The intent of the risk analysis will be to estimate the seismically induced cracking PFM likelihood and consequence with embankment modification in place and compare the risk of that PFM with tolerable risk guidelines. During the risk analysis workshops, other PFMs associated with changes

to the spillway/embankment interface design noted above will also be discussed and if deemed risk drivers will be further evaluated and estimated for risk.

## Scope of Services

### Task 1 –Embankment Improvements Risk Analysis Workshop Plan

The Santiago Creek Dam Embankment Improvements Risk Analysis Plan will include the following:

- Overall objectives of the 60% and 90% design risk analyses,
- Expected outcomes,
- A summary of the facilities that are being evaluated,
- The method for risk portrayal,
- Schedule,
- Participants (facilitation team, Subject Matter Experts (SMEs) that will participate in the risk estimation process, and other IRWD and design personnel providing input to the risk estimating team) and their roles.
- Summary of the Santiago Creek Dam configuration, construction, and engineering properties of zones within the embankment, foundation alluvium and terrace deposits, and foundation bedrock.
- Summary of the Basis of Design for the embankment modifications and embankment/spillway interface modifications
- Candidate event tree for the cracking PFM including commentary on event tree nodes to assist with evaluation of the planned site characterization and lab testing program, as well as preparation activities associated with the separate cracking PFM workshop.
- Summary description of the data and associated engineering analyses to be used as the basis for risk analysis (QRA or SQRA) of the embankment improvements,
- Other preparation requirements and activities for the risk analysis including any training of SME's if needed, and
- Other details for PFM risk estimation.

The Task 1 scope is as follows:

- **Task 1.1 - Initial Project Briefing.** The Design Team(s) will prepare for and present design summaries for the embankment modification, including design criteria, site characterization results and assumptions, results of engineering analyses completed as of the time of the briefing, and other information that may be relevant to completing the risk analysis workshop. We have assumed this briefing will be a maximum of 4 hours and up to 5 members of HDR's risk analysis team will participate in the briefing.
- **Task 1.2 – Workshop Approach.** HDR will present IRWD and design team with summaries of the approaches to the workshops and method/process for risk estimating for the embankment improvements risk analysis.
- **Task 1.3 Embankment Cracking PFM, Spillway/Embankment Interface PFMs.** HDR will develop and present initial failure mode event trees for the embankment dam crest cracking PFM and other credible PFMs for the 60% and 90% embankment improvement designs.
- **Task 1.4 – Workshop Agenda and Schedule.** Develop Agenda and Schedule for the workshop, including the following:
  - Design/Analysis presentations
  - Finalizing PFM event trees and considerations
  - Risk estimating
  - Describing confidence and uncertainties in the risk estimates

- Other discussion as required including surveillance and monitoring, data gaps, potential risk reduction measures, and major findings and understandings from the workshop.
- **Task 1.5 – 1.7 – Workshop Plan and Presentation.** HDR will develop a draft risk analysis workshop plan for the 60% and 90% workshops for IRWD review and will present the plan during a virtual meeting with IRWD. HDR will address IRWD’s review comments and finalize the plan. The Plan will provide guidance on data and analyses that are expected to support the risk analysis of the embankment improvements.

Assumptions:

- The Plan will be based on HDR organizing and executing the workshop on behalf of IRWD including facilitation, note taking, risk modeling, and report preparation. The Plan will further assume that HDR will provide a total of 2 SMEs for the risk estimating workshop.
- The design engineers will provide subject matter experts to present the design/analysis information.
- The risk analysis workshop SMEs for risk estimating will be the same as those from the May 28-31, 2024, Cracking QRA Workshop, i.e. a facilitator, two geotechnical SME, a recorder and a risk analyst. HDR will also provide two structural SMEs to evaluate spillway/embankment interface PFMs (part time participation).
- HDR’s scope does not include any supplemental or complementary analyses. If HDR’s review of analyses performed by the design team indicate that additional analyses are needed, we will provide recommendations for those analyses to IRWD and design team. Depending on the additional analyses that may be required, the date for the risk analysis workshops may have to be modified.

Deliverables:

- Risk Analysis Workshop Plan (draft and final)

**Task 2 – 60% Embankment Improvement Design Risk Analysis Workshop and Report**

The following generalized scope is provided as a framework that will be further developed as the Plan is prepared under Task 1.

- **Task 2.1 – Workshop Preparation.** Preparation activities such as developing a pre-workshop summary briefing for the SMEs. HDR will review designer prepared briefing materials such as site characterization information, 60% designs and seismic response modeling relevant to the cracking potential failure mode to be estimated. If appropriate, HDR will develop summaries of available information in a format required for input to the risk estimating model and provide workshop input on other specialty topics to help define potential cracking depth, width, erodibility of embankment materials and other engineering input using available tools from the USBR/USACE toolbox for risk analysis of contact erosion associated with cracks in embankment dams. HDR will also review other embankment improvement designs, including the embankment/spillway interface.
- **Task 2.2 - Conduct risk analysis workshop.** Up to four days are anticipated to complete the risk analysis of the embankment improvements. Risk workshop attendees are anticipated to be the same as those that attended the QRA on the existing embankment on May 28-31, 2024, as listed below:
  - Facilitator - Matt Balven (HDR)
  - Recorder – Vic Crosariol (HDR)
  - Geotech SME – Keith Ferguson (HDR)
  - Geotech SME – Chris Krivanec (HDR)
  - Risk Analyst – Stephanie Williams (HDR)

- *Geotech SME – Lelio Mejia (Geosyntec)*
- *Geotech SME – Faiz Makdisi (GF)*
- *Geotech SME – Dave Guitierrez (GEI)*

HDR will also provide two structural SMEs from the previous spillway risk analysis workshop, Bill Feidler and Kenny Dosanjh, on a part time basis while spillway/embankment interface PFMs are being evaluated.

- **Task 2.3 – Debriefing Meeting.** HDR will prepare a debrief presentation following the workshop and present it to IRWD either at the end of the risk analysis workshop or in a separate virtual meeting.
- **Tasks 2.4 to 2.6 – Risk Analysis Report and Presentation.** HDR will prepare a draft risk analysis report and submit it to IRWD for review. A briefing on the report will be presented prior to review by IRWD. Comments on the report will be tracked and resolution of comments documented prior to issuing of the final report.

Assumptions:

- The risk workshops will be completed at an in-person meeting to be held at IRWD’s headquarters. It is expected that the workshop will take up to 4 working days to complete.
- Non-HDR risk workshop attendees will be contracted directly to IRWD, not as a sub to HDR.
- A site visit will not be required since the QRA workshop attendees will be the same as those from the May 28-31, 2024, Cracking QRA Workshop.
- The scope of this task is limited to risk analysis and excludes detailed design or constructability reviews.

Deliverables:

- Risk Analysis Workshop Report (draft and final)

**Task 3– 90% Embankment Improvement Design Risk Analysis Workshop and Report**

- **Task 3.1 – Workshop Preparation.** Preparation activities such as developing a pre-workshop summary briefing for the SMEs. HDR will review designer prepared briefing materials such 90% designs and any supplemental analyses completed since the 60% design.
- **Task 3.2 - Conduct risk analysis workshop.** Up to three days are anticipated to complete the embankment improvement risk analysis, focusing on PFMs of concern identified during the 60% design risk workshop. Risk workshop attendees are anticipated to be the same as those that attended the 60% design QRA workshop.
- **Task 3.3 – Debriefing Meeting.** HDR will prepare a debrief presentation following the workshop and present it to IRWD at the end of the risk analysis workshop or in a separate virtual meeting.
- **Tasks 3.4 to 3.6 – Risk Analysis Report Update and Presentation.** HDR will prepare a revised risk analysis report and submit it to IRWD for review. A briefing on the report will be presented prior to review by IRWD. Comments on the report will be tracked and resolution of comments documented prior to issuing of the final report.

Assumptions:

- The risk workshops will be completed at an in-person meeting to be held at IRWD’s headquarters. It is expected that the workshop will take up to 3 working days to complete.

- The scope of this task is limited to risk analysis and excludes detailed design or constructability reviews.

Deliverables:

- Revised Risk Analysis Workshop Report (draft and final)

**Task 4 - Project Management**

Activities include maintaining a Project Management and Quality Control Plan, staff coordination, schedule and budget monitoring, coordination of internal quality assurance reviews, and submission of monthly progress reports and invoices for our work.

For purposes of estimating the level of effort and direct costs associated with project management, we have assumed that the duration of the risk analysis project will be up to 12 months. A total of up to 12 progress reports are included under this task. To facilitate communications with IRWD’s PM, monthly meetings will be held to discuss project status and upcoming activities. Up to 12 calls will be held.

Assumptions:

- The overall project duration will be 12 months.
- The schedule will be dependent on the design team schedule, as described below.

Deliverables:

- Monthly progress reports and invoices.

**Task 5 – Additional Evaluation Services**

HDR will provide additional evaluations services associated with the embankment improvement risk analyses as requested by IRWD. This service may include the intermittent review of the design team’s construction documents and attend coordination meetings with the IRWD and DSOD. This task assumes a budgeted amount of \$30,000.00 and will be authorized by IRWD in writing before rendering services.

**Proposed Budget**

The proposed budget for this scope of work is summarized by task below. Attached is a detailed budget estimate for each task including personnel, estimated hours and direct costs.

Task 1	EMBANKMENT IMPROVEMENTS RISK ANALYSIS WORKSHOP PLAN	\$ 28,670.
Task 2	60% MODIFIED EMBANKMENT IMPROVEMENT DESIGN CRACKING QRARISK ANALYSIS WORKSHOP AND RISK ANALYSIS REPORT	\$ 180,079.
Task 3	90% MODIFIED EMBANKMENT IMPROVEMENT DESIGN CRACKING QRARISK ANALYSIS WORKSHOP AND RISK ANALYSIS REPORT	\$ 116,381.
Task 4	PROJECT MANAGEMENT	\$ 39,810.
Task 5	ADDITIONAL EVALUATION SERVICES	\$ 30,000.
<b>Total Budget Requested -</b>		<b>\$ 394,940.</b>

Mr. Jacob Moeder  
November 22, 2024

### **Proposed Schedule**

The schedule for the 60% design technical review and the risk analysis workshop will depend on the design team's schedule to deliver the 60% design submittal, which is currently scheduled to be delivered to IRWD on October 10, 2025. The 90% designs are due April 17, 2026. We anticipate the Workshop Plan will be prepared two months in advance of the 60% design risk workshop, the technical review will be completed two weeks after the 60% submittal, and the QRA workshops will be held approximately one month after the 60% and 90% submittals. The risk reports will be completed one month after the completion of each risk workshop. We have assumed a notice to proceed date of July 1, 2025, and a total duration of 12 months.

### **Closure**

Please let us know if you have any questions or desire further information. We are prepared to discuss and update the scope of work and level of effort necessary to meet the needs of IRWD going forward.

Please contact Andy Gong at (619) 674-4986 or at [andy.gong@hdrinc.com](mailto:andy.gong@hdrinc.com) if you have any questions or require additional information.

Sincerely,

**HDR Engineering, Inc.**



Andy Gong, PE, CFM  
Project Manager



Anna Lantin, PE  
Vice President



Irvine Ranch Water District  
 Santiago Dam Modification QRA Workshop and Report  
 Estimated Level of Effort and Fee



TASKS		LEVEL OF EFFORT									FEE				
No.	Description	Sr Project Manager	Senior Technical Advisor, Dam	Senior Technical Advisor, Risk	Technical Leader, Geotech	Geotech Engineer/Recorder	Senior Technical Advisor, Structural	Risk Modeler	Project Accountant	Project Administrator	Total Labor	Labor	Direct Costs	Total	TOTAL
Client Billing Rates		\$325	\$375	\$355	\$370	\$275	\$355	\$275	\$185	\$135	\$318		Calc	Calc	0
<b>1</b>	<b>Prepare Risk Workshop Plan - Modified Embankment</b>														
1.1	Project Briefing	1	3	4	4						12	\$4,350	\$0	\$4,350	
1.2	Workshop Approach		3	5	2						10	\$3,640	\$0	\$3,640	
1.3	PFM's and Preliminary Event Trees		2	2	4	4					12	\$4,040	\$0	\$4,040	
1.4	Workshop Agenda and Schedule		1	2		2					5	\$1,635	\$0	\$1,635	
1.5	Draft Risk Workshop Plan	2	2	5	2	6					17	\$5,565	\$0	\$5,565	
1.6	Plan Presentation and Comment Resolution		2	5	2	2					11	\$3,815	\$0	\$3,815	
1.7	Final Risk Workshop Plan	1	2	4	4	6					17	\$5,625	\$0	\$5,625	
	<b>Subtotal 1   Prepare Risk Workshop Plan - Modified Embankment</b>	<b>4</b>	<b>15</b>	<b>27</b>	<b>18</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>84</b>	<b>\$28,670</b>	<b>\$0</b>	<b>\$28,670</b>	<b>\$28,670</b>
<b>2</b>	<b>60% Design QRA Workshop and Report</b>														
2.1	Workshop Preparation		35	8	35	32	8	8			126	\$42,755	\$0	\$42,755	
2.2	Conduct Risk Workshop		40	40	40	40	28	40			228	\$75,940	\$9,784	\$85,724	
2.3	Debrief Meeting (2 hours)		2	4	2	4					12	\$4,010	\$0	\$4,010	
2.4	Draft Risk Analysis Report	2	4	20	4	60		8		5	103	\$30,105	\$0	\$30,105	
2.5	Presentation of Findings and Recommendations		2	4	2	4					12	\$4,010	\$0	\$4,010	
2.6	Final Risk Analysis Report	2	4	8	4	24				3	45	\$13,475	\$0	\$13,475	
	<b>Subtotal 2   60% Design QRA Workshop and Report</b>	<b>4</b>	<b>87</b>	<b>84</b>	<b>87</b>	<b>164</b>	<b>36</b>	<b>56</b>	<b>0</b>	<b>8</b>	<b>526</b>	<b>\$170,295</b>	<b>\$9,784</b>	<b>\$180,079</b>	<b>\$180,079</b>
<b>3</b>	<b>90% Design QRA Workshop and Report</b>														
3.1	Workshop Preparation		6	6	6	16	6	6			46	\$14,780	\$0	\$14,780	
3.2	Conduct Risk Workshop		30	30	30	30	24	30			174	\$58,020	\$7,701	\$65,721	
3.3	Debrief Meeting (2 hours)		2	4	2	4					12	\$4,010	\$0	\$4,010	
3.4	Revise Risk Analysis Report	2	4	16	4	28		8		5	67	\$19,885	\$0	\$19,885	
3.5	Presentation of Findings and Recommendations		2	4	2	4					12	\$4,010	\$0	\$4,010	
3.6	Final Risk Analysis Report	2	2	6	2	12				3	27	\$7,975	\$0	\$7,975	
	<b>Subtotal 3   90% Design QRA Workshop and Report</b>	<b>4</b>	<b>46</b>	<b>66</b>	<b>46</b>	<b>94</b>	<b>30</b>	<b>44</b>	<b>0</b>	<b>8</b>	<b>338</b>	<b>\$108,680</b>	<b>\$7,701</b>	<b>\$116,381</b>	<b>\$116,381</b>
<b>4</b>	<b>Project Management</b>														
4.1	Project Management	60							44	24	128	\$30,880	\$0	\$30,880	
4.2	Kickoff and monthly status meetings	4		2							6	\$2,010	\$0	\$2,010	
4.3	Meeting with DSOD	8		8	4						20	\$6,920	\$0	\$6,920	
	<b>Subtotal 4   Project Management</b>	<b>72</b>	<b>0</b>	<b>10</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>44</b>	<b>24</b>	<b>154</b>	<b>\$39,810</b>	<b>\$0</b>	<b>\$39,810</b>	<b>\$39,810</b>
<b>5</b>	<b>Additional Evaluation Services</b>														
5.1	Additional Evaluation Services		40	40						6	86	\$30,000	\$0	\$30,000	
	<b>Subtotal 5   Additional Evaluation Services</b>	<b>0</b>	<b>40</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>86</b>	<b>\$30,000</b>	<b>\$0</b>	<b>\$30,000</b>	<b>\$30,000</b>
<b>TOTAL, hours</b>		<b>84</b>	<b>188</b>	<b>227</b>	<b>155</b>	<b>278</b>	<b>66</b>	<b>100</b>	<b>44</b>	<b>46</b>	<b>1,188</b>				
<b>TOTAL, dollars</b>												<b>\$377,455</b>	<b>\$17,485</b>	<b>\$394,940</b>	<b>\$394,940</b>

**DRAFT**

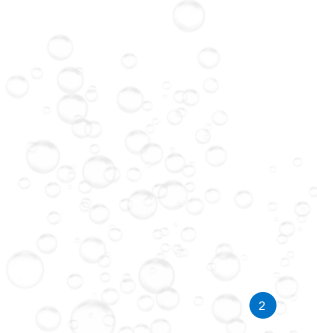

ID	Task Name	Duration	Start	Finish	Predecessors	2026															
						May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
1	<b>Santiago Dam Embankment QRA</b>	<b>286 days</b>	<b>Tue 7/1/25</b>	<b>Tue 8/4/26</b>																	
2	Notice to Proceed	1 day	Tue 7/1/25	Tue 7/1/25																	
3	<b>Project Management</b>	<b>286 days</b>	<b>Tue 7/1/25</b>	<b>Tue 8/4/26</b>	<b>2</b>																
4	Prepare 60% QRA Workshop Plan – Modified Embankment	2 mons	Fri 8/15/25	Thu 10/9/25	5SS-2 mons																
5	60% Design Submittal (By Others)	1 day	Fri 10/10/25	Fri 10/10/25																	
6	60% Workshop	1 wk	Mon 10/13/25	Fri 10/17/25	5																
7	Prepare 60% Draft Risk Report	1 mon	Mon 10/20/25	Fri 11/14/25	6																
8	IRWD/DSOD Review	1 mon	Mon 11/17/25	Fri 12/12/25	7																
9	Prepare 60% Final Risk Report	1 mon	Mon 12/15/25	Fri 1/9/26	8																
10	Prepare 90% QRA Workshop Plan – Modified Embankment	2 mons	Fri 2/20/26	Thu 4/16/26	11SS-2 mons																
11	90% Design Submittal (By Others)	1 day	Fri 4/17/26	Fri 4/17/26																	
12	90% Workshop	1 wk	Mon 4/20/26	Fri 4/24/26	11																
13	Prepare 90% Draft Risk Report	1 mon	Mon 4/27/26	Fri 5/22/26	12																
14	IRWD/DSOD Review	1 mon	Mon 5/25/26	Fri 6/19/26	13																
15	Prepare 90% Final Risk Report	1 mon	Mon 6/22/26	Fri 7/17/26	14																
16																					



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## AGENDA

- Background
- Recap from July 2024 Board Meeting
- Proposed Embankment Improvements
- Variance and Budget Adjustment
- Staff Recommendation




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## SANTIAGO CREEK DAM

- Constructed in 1933
- Dam crest length is 1,425-ft long
- Dam height is 136-ft high
- Current storage capacity about 24,000 ac-ft to spillway crest
  - 26,700 ac-ft to flashboards
  - 28,000 ac-ft with proposed project






*Irvine Lake*



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## EXTENDED TIMELINE FOR SANTIAGO CREEK DAM IMPROVEMENTS

Year	Event
2000	Jun 2008 DSOD requests investigation of Outlet Tower stability
2015	Nov 2017 Board approved AECOM design contract for Outlet Tower improvements
2020	Apr 2020 Board approved AECOM/GEI design team contract for Outlet Tower & Spillway improvements
2030	Dec 2024 Recommendation for addition of embankment improvements

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## RECAP OF JULY 2024 BOARD MEETING

- Provided overall project update including key accomplishments since starting design in 2020
- Summarized outcome of Cracking Study and associated potential risk
- Board approved:
  - Budget increase for Outlet Tower and Spillway Improvements
  - Variance for completing alternatives analysis for embankment improvements to address Cracking Study



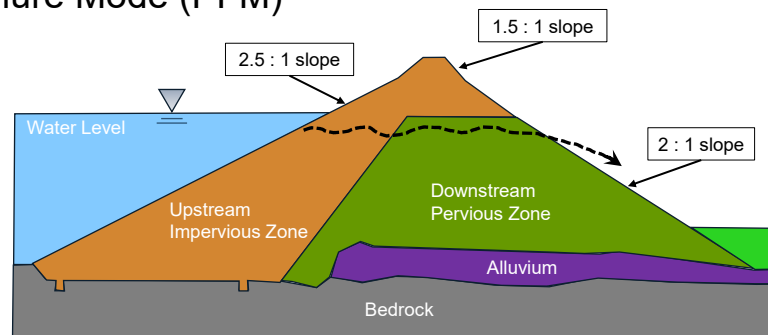
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## SUMMARY OF CRACKING STUDY RISK ANALYSIS

### Explanation of Potential Failure Mode (PFM)

- Key Factors in Risk Analysis
  - Seismic event
  - Crack estimates
  - Water level



**LEGEND:**

	WATER LEVEL
	UPSTREAM IMPERVIOUS ZONE
	DOWNSTREAM PERVIOUS ZONE
	ARTIFICIAL FILL
	ALLUVIUM
	BEDROCK

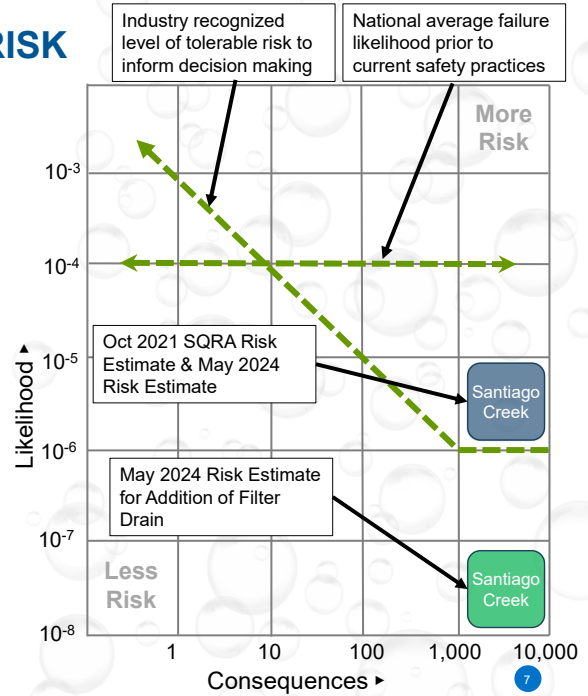


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## SUMMARY OF CRACKING STUDY RISK ANALYSIS

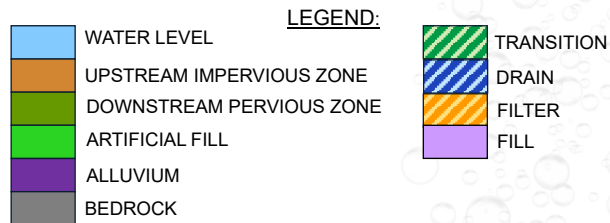
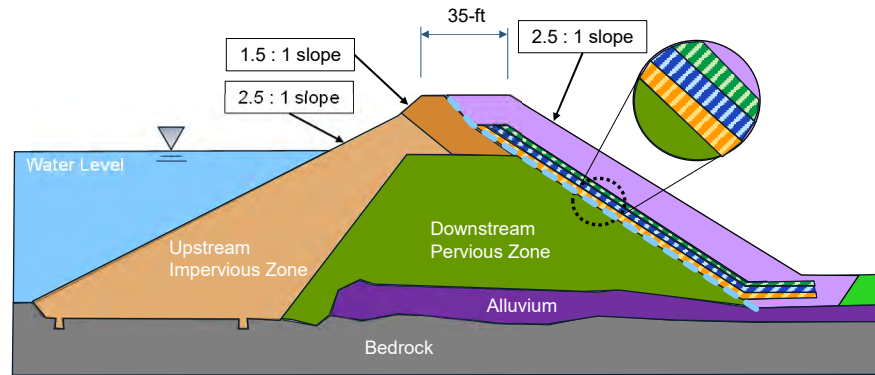
- Subject Matter Experts (SME's) estimated crack depths for a range of seismic events. The consensus is that the crack depth could generally range from 3-ft to 38-ft.
- SME's estimate that the risk is similar magnitude as the Semi-Quantitative Risk Analysis (SQRA) completed in 2021 ( $10^{-5}$  to  $10^{-6}$ ).
- SME's estimate that the risk would lower by two orders of magnitude by installing a properly engineered filter drain ( $10^{-7}$  to  $10^{-8}$ ).



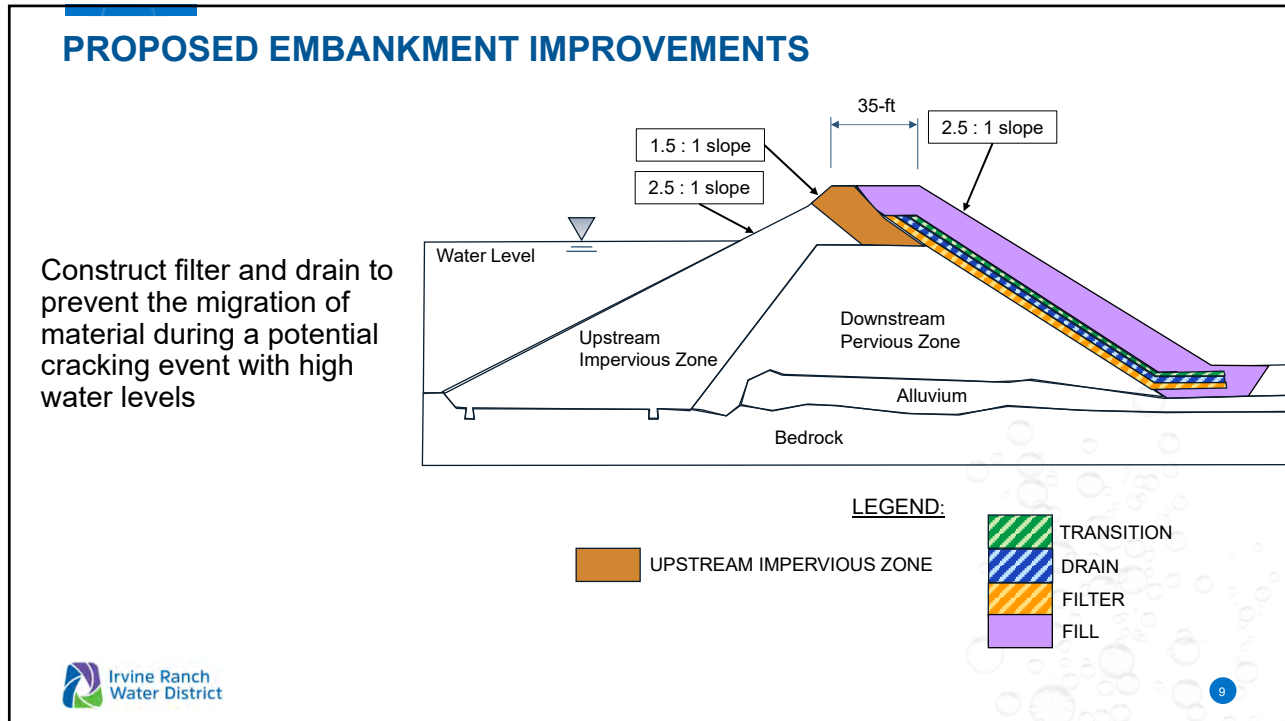
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## PROPOSED EMBANKMENT IMPROVEMENTS

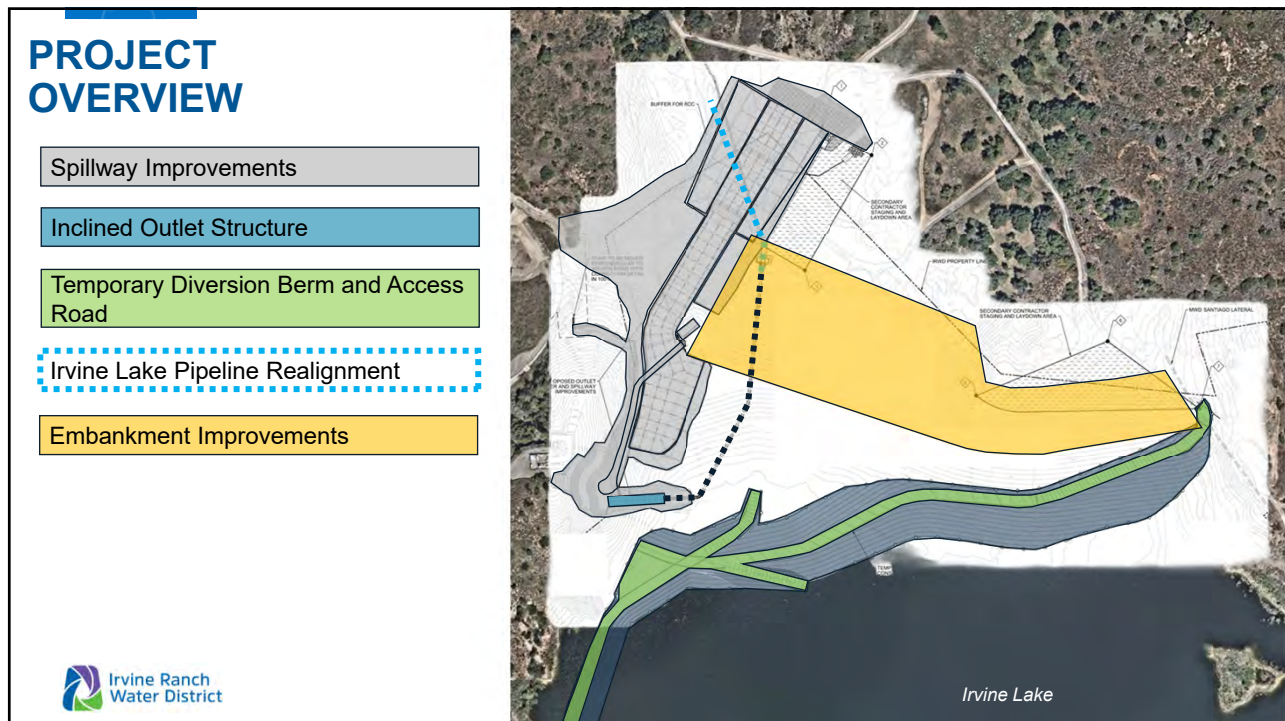
Construct filter and drain to prevent the migration of material during a potential cracking event with high water levels



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## SCOPE OF WORK AND FEE FOR EMBANKMENT IMPROVEMENTS

The following variances are requested.

Description	Current Contract Amount (\$)	Variance Cost (\$)	Total (\$)	Consultant
Design	8,947,936	5,293,817	14,241,753	AECOM
Risk Analysis	199,918	394,940	594,858	HDR
<b>Total Additional Scope of Work</b>	<b>9,147,854</b>	<b>5,688,757</b>	<b>14,836,611</b>	



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## UPDATED "ALL-IN" PROJECT COST

Description of Improvements	Spillway & Outlet (\$ Million)	Embankment (\$ Million)	Santiago Creek Dam Improvements (\$ Million)
Outlet Works	14		14
Spillway	222		222
Inclined Outlet Structure	26		26
Embankment		100	100
<b>Total Estimated Construction Cost</b>	<b>262<sup>1</sup></b>	<b>100<sup>2</sup></b>	<b>362</b>
<b>Soft Costs (30% of Construction Cost)</b>			
Design	10	6	16
Environmental (CEQA & Mitigation)			
Construction Management and Inspection	68	24	92
Other (DSOD Fees, Legal, etc)			
<b>Total Estimated Soft Costs</b>	<b>78</b>	<b>30</b>	<b>108</b>
<b>Estimated "All-In" Project Cost<sup>3</sup></b>	<b>340</b>	<b>130</b>	<b>470</b>



- 1) Includes construction contingency of 12.5%.
- 2) Includes construction contingency of 25%.
- 3) Cost estimate is based on starting construction in 2027.

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## UPDATED PROJECT FUNDING SPLITS

### Summary of Splits

Description	Existing Split (%)	Proposed Split (%)
Water Replacement	94.8	50.2
Regional Water New Capital	5.2	49.8
	<b>100</b>	<b>100</b>

### Explanation of Regional Water New Capital

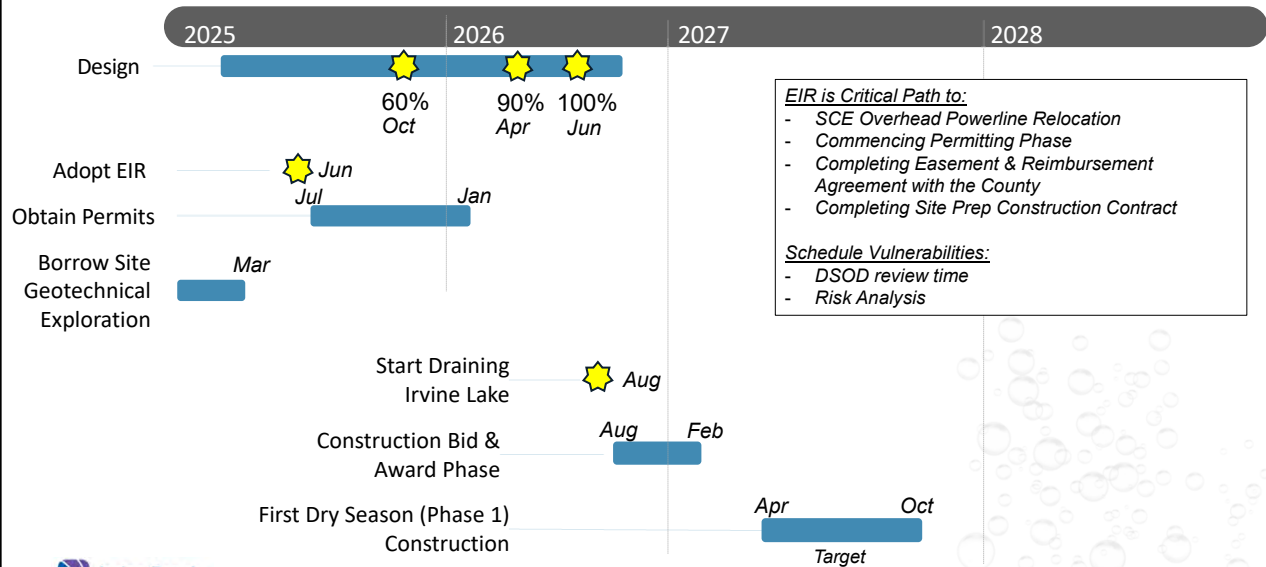
Description	Split (%)	Notes
Additional storage by acquiring SWD's 25% Capacity in Irvine Lake	25	
Increased storage by constructing spillway at higher elevation (IRWD's share)	7.6	4,000 ac-ft additional storage of existing 24,000 ac-ft storage; spillway costs only
Embankment Improvements (IRWD's share)	17.2	
	<b>49.8</b>	



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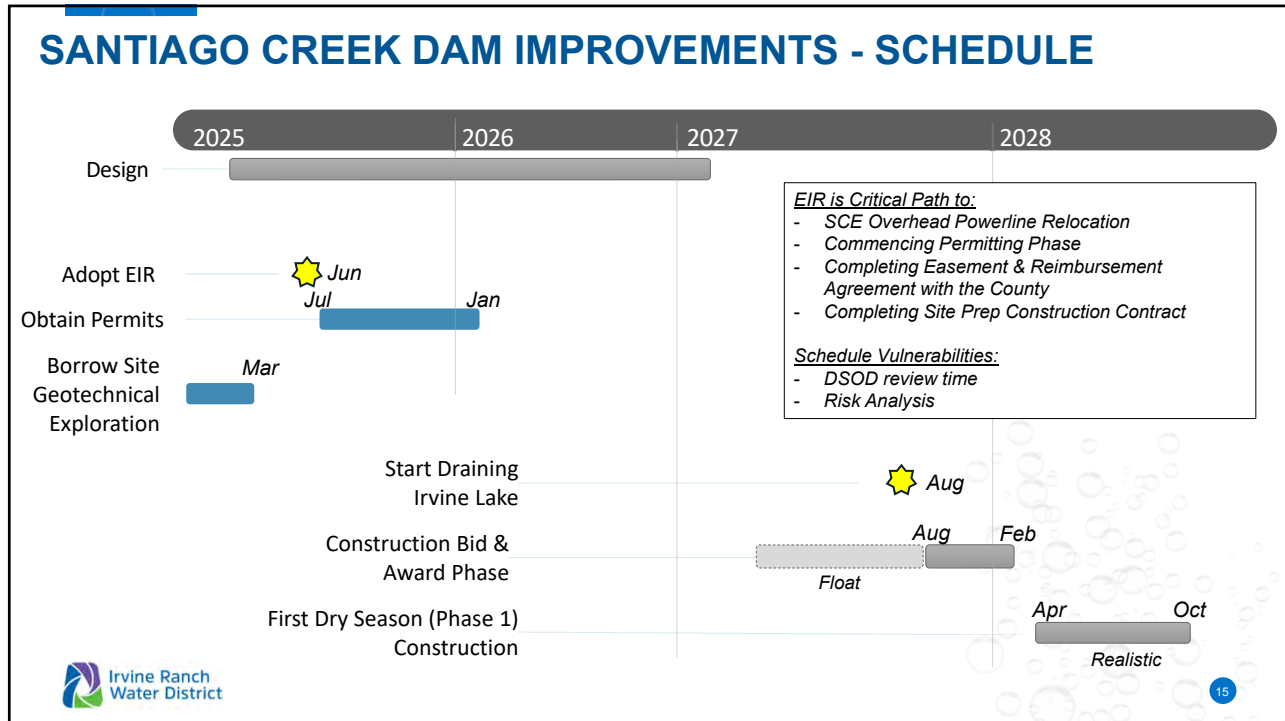
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## SANTIAGO CREEK DAM IMPROVEMENTS - SCHEDULE



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## NEXT STEPS

- Notify DSOD of selected alternative and updated project schedule
- Proceed with embankment improvements design and integrating into project
- Continue with EIR process



Irvine Lake  
May 2023



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## STAFF RECOMMENDATIONS

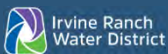
- Authorize the General Manager to execute Variance No. 8 with AECOM in the amount of \$5,293,817 for additional engineering design services.
- Authorize the General Manager to execute Variance No. 1 with HDR in the amount of \$394,940 for additional engineering design services.
- Authorize a budget increase for Project 01813 in the amount of \$130,000,000, from \$340,000,000 to \$470,000,000.



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## QUESTIONS



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December 16, 2024  
Prepared and  
Submitted by: K. Swan  
Approved by: Paul A. Cook *PAC*

ACTION CALENDAR

ANNUAL BOARD OF DIRECTORS' FEES

SUMMARY:

The Finance and Personnel Committee annually reviews the Board of Directors' compensation and recommends that the Board either accept or deny a fee increase for the new calendar year. Pursuant to the District's Ordinance No. 1989-1 and enacted under Section 20202 et seq. of the California Water Code, the Board's meeting compensation increases on January 1 of each year, not exceed an amount equal to five (5%) percent, and no compensation for more than 10 days in a calendar month.

BACKGROUND:

The most recent Board of Directors' compensation increase was effective in January 2024. The current compensation for the Board of Directors is \$331 per meeting, not to exceed 10 meetings per calendar month. In accordance with Section 20202 et seq. of the California Water Code, the Board's meeting compensation increases on January 1 of each year by five (5%) percent, subject to acceptance or rejection by the Board. If the Board approves a 5% increase, the resulting per meeting fee would be \$348 (rounded to the nearest dollar).

Provided as Exhibit "A" is a survey of the Director Fees of other water districts for comparative purposes containing service connections and combined operating and capital budgets.

FISCAL IMPACTS:

A 5% increase has a nominal impact on the operating budget if accepted by the Board.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act (CEQA), Code of Regulations, Title 14, Chapter 3, Section 15378.

COMMITTEE STATUS:

This item was reviewed by the Finance and Personnel Committee on December 11, 2024.

RECOMMENDATION:

THAT THE BOARD EITHER ACCEPT OR DECLINE THE FIVE (5%) PERCENT COMPENSATION INCREASE FOR CALENDAR YEAR 2025.

LIST OF EXHIBITS:

Exhibit "A" – Survey of Director Fees

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## Exhibit "A"

**2024 BOARD OF DIRECTORS PER DIEM SURVEY**  
(as of November 4, 2024)

<b>Agency</b>	<b>Service Connections</b>	<b>Combined Operating &amp; Capital Budgets</b>	<b>Per Diem</b> <i>(10 meetings per month unless noted)</i>
Contra Costa Water Agency	61,699	\$233.4 million	\$100
East Bay Municipal Utility District	403,388	\$1.2599 billion	Monthly salary of \$1,606.50
Eastern Municipal Water District	170,843	\$618.7 million	\$258
Elsinore Valley Municipal Water District	84,802	\$322.1 million	\$221.43 (3 Directors) \$232.50 (1 Director) \$244.13 (1 Director)
Inland Empire Utilities Agency	--	\$421.9 million	\$312
Irvine Ranch Water District	131,300	\$345.5 million	\$331
Moulton Niguel Water District	55,144	\$172.5 million	\$294
Municipal Water District of Orange County	--	\$232.3 million	\$327.43
Orange County Water District	~200	\$254.6 million	\$330.75
Rancho California Water District	54,296	\$161.2 million	\$245
San Diego County Water Authority	--	\$1.85 billion Two-year Budget	\$150 Board \$180 Officers
Santa Clara Valley Water District	--	\$964 million	\$384.16 <i>15 days per month</i>
Santa Margarita Water District	70,177	\$124.3 million	\$324
South Coast Water District	13,837	\$89.7 million	\$310
West Basin Municipal Water District	335	\$232.9 million	\$303.88 Monthly: \$520.32 auto + \$434.48 communications
Western Municipal Water District	24,519	\$209.2 million	\$300 MWD representative receives 10 add'l mtgs

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December 16, 2024  
Prepared and  
submitted by: K. Swan  
Approved by: Paul A. Cook *PA*

ACTION CALENDAR

ELECTION OF OFFICERS FOR 2025

SUMMARY:

The Bylaws of the District provide that the President and Vice President shall be elected by the Board from among its members. The term of office of the President and Vice President is one year, or until the election and qualification of their successors. On December 11, 2023, Director Reinhart was elected to the office of President and Director LaMar was elected to the office of Vice President for 2024.

While there are no formal election procedures set forth in the Bylaws, it is suggested that the General Manager be appointed temporary Chairman to conduct the election of President. The temporary Chairman would open nominations, accept nominations which need not be seconded, accept a motion to close the nominations, and conduct the balloting by voice vote. The President would then conduct the election of the Vice President in a similar manner.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT AN ELECTION BE CONDUCTED OF THE PRESIDENT AND VICE PRESIDENT OF THE BOARD OF DIRECTORS OF THE IRVINE RANCH WATER DISTRICT FOR 2025.

LIST OF EXHIBITS:

None.

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