

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

August 26, 2019

PLEDGE OF ALLEGIANCE

CALL TO ORDER

5:00 p.m., Board Room, District Office
15600 Sand Canyon Avenue, Irvine, California

ROLL CALL

Directors Reinhart, Matheis, Swan, and Withers and President LaMar

NOTICE

If you wish to address the Board on any item, including Consent Calendar items, please file your name with the Secretary. Forms are provided on the lobby table. Remarks are limited to three minutes per speaker on each subject. Consent Calendar items will be acted upon by one motion, without discussion, unless a request is made for specific items to be removed from the Calendar for separate action.

COMMUNICATIONS TO THE BOARD

1. A. Written:

B. Oral:

2. ITEMS RECEIVED TOO LATE TO BE AGENDIZED

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

CONSENT CALENDAR

Resolution No. 2019-27

Items 3-8

3. RATIFY/APPROVE BOARD OF DIRECTORS' ATTENDANCE AT MEETINGS AND EVENTS

Recommendation: That the Board ratify/approve the meetings and events for Mary Aileen Matheis, Douglas Reinhart, Steven LaMar and John Withers, as described.

4. MINUTES OF BOARD MEETINGS

Recommendation: That the minutes of the August 8, 2019 Special Board Meeting and the August 12, 2019 Regular Board meeting be approved as presented.

CONSENT CALENDAR - Continued

Resolution No. 2019-27

Items 3-8

5. TREASURY REPORT

Recommendation: That the Board receive and file the Treasurer's Investment Summary Report, the Summary of fixed and Variable Rate Debt, and Disclosure Report of Reimbursements to Board Members and Staff; approve the July 2019 Summary of Payroll ACH Payments in the total amount of \$2,025,298 and approve the July 2019 accounts payable Disbursement Summary of warrants 400141 through 400803 Workers' Compensation Distributions, wire transfers, payroll withholding distributions and voided checks in the total amount of \$32,241,538.

6. ORANGE COUNTY GREAT PARK REACH "A" SEWER IMPROVEMENTS FINAL ACCEPTANCE

Recommendation: That the Board authorize the General Manager to accept construction of the Orange County Great Park Reach "A" Sewer Improvements, Project 10068; authorize the General Manager to file a Notice of Completion; and authorize the release of retention 35 days after filing of the Notice of Completion.

7. REIMBURSEMENT AGREEMENT BETWEEN IRWD AND THE CITY OF IRVINE FOR THE 2019-20 ANNUAL SLURRY SEAL AND PAVEMENT REHABILITATION PROJECT

Recommendation: That the Board authorize the General Manager to execute a Reimbursement Agreement with the City of Irvine for the 2019-20 Annual Slurry Seal and Pavement Rehabilitation Project, subject to non-substantive changes.

8. COMMENDING CHARLEY WILSON FOR HIS SERVICE TO THE SANTA MARGARITA WATER DISTRICT AND THE WATER INDUSTRY

Recommendation: Adopt a resolution commending Mr. Charley Wilson for his 19 years of service to the Santa Margarita Water District and the water industry.

Reso. No. 2019-26

ACTION CALENDAR

9. WELL TREATMENT ALTERNATIVE STUDY CONSULTANT SELECTION

Recommendation: That the Board authorize the General Manager to execute a Professional Services Agreement with Black & Veatch in the amount of \$229,822 and approve a budget increase in the amount of \$191,900, from \$133,100 to \$325,000, to the FY 2019-20 Capital Budget for the Well Treatment Alternatives Study, Project 01402.

ACTION CALENDAR (Continued)

10. SYPHON RESERVOIR IMPROVEMENT PROJECT ENVIRONMENTAL COMPLIANCE VARIANCE NO. 2

Recommendation: That the Board authorize the General Manager to execute Variance No. 2 to the Professional Services Agreement with ESA in the amount of \$273,240 for additional environmental work associated with the Syphon Reservoir Improvement Project.

11. ENVIRONMENTAL COMPLIANCE FOR THE KERN FAN GROUNDWATER STORAGE PROJECT

Recommendation: That the Board authorize the General Manager to execute a Professional Services Agreement with Environmental Sciences Associates in the amount of \$359,595 to prepare a Supplemental Environmental Impact Report for the Kern Fan Groundwater Storage Project.

12. IRWD POLICY PRINCIPLES FOR THE CALIFORNIA WATER RESILIENCE PORTFOLIO

Recommendation: That the Board adopt the proposed Position Paper regarding the California Water Resilience Portfolio.

13. 2019 LEGISLATIVE UPDATE: AB 1486 (TING) SURPLUS LAND

Recommendation: That the Board authorize staff to change IRWD's position from "Oppose Unless Amended" to "Watch", if and when amendments are placed into the bill addressing IRWD's concerns, or to "Oppose", if amendments are not placed into the bill addressing the District's concerns.

OTHER BUSINESS

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 factual 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.

14. General Manager's Report

15. Directors' Comments

OTHER BUSINESS (Continued)

16. Receive oral update(s) from District liaison(s) regarding communities within IRWD's service area and provide information on relevant community events.
17. Adjourn

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 Irvine Ranch Water District Board of Directors in connection with a matter subject to discussion or consideration at an open meeting of the Board of Directors 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 at the entrance to the Board of Directors Room of the District Office. The Irvine Ranch Water District Board Room is wheelchair accessible. If you require any special disability-related accommodations (e.g., access to an amplified sound system, etc.), please contact the District Secretary at (949) 453-5300 during business hours at least seventy-two (72) hours prior to the scheduled meeting. This agenda can be obtained in alternative format upon written request to the District Secretary at least seventy-two (72) hours prior to the scheduled meeting.

August 26, 2019
Prepared and
submitted by: K. Swan
Approved by: Paul A. Cook



CONSENT CALENDAR

RATIFY/APPROVE BOARD OF DIRECTORS'
ATTENDANCE AT MEETINGS AND EVENTS

SUMMARY:

Pursuant to Resolution 2006-29 adopted on August 28, 2006, approval of attendance of the following events and meetings are required by the Board of Directors.

Events/Meetings

Steven LaMar

September 5 MWDOC Water Policy Dinner, Costa Mesa
September 12 Orange County Coast Keeper's Toast the Coast, Newport Beach

Mary Aileen Matheis

December 11-13 Colorado River Water Users Association Annual Conference, Las Vegas

Douglas Reinhart

December 11-13 Colorado River Water Users Association Annual Conference, Las Vegas

John Withers

September 5 MWDOC Water Policy Dinner, Costa Mesa
September 12 Orange County Coast Keeper's Toast the Coast, Newport Beach

RECOMMENDATION:

THAT THE BOARD RATIFY/APPROVE THE MEETINGS AND EVENTS FOR STEVEN LAMAR, MARY AILEEN MATHEIS, DOUGLAS REINHART, AND JOHN WITHERS AS DESCRIBED HEREIN.

LIST OF EXHIBITS:

None.

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August 26, 2019
Prepared and
submitted by: L. Bonkowski
Approved by: Paul A. Cook



CONSENT CALENDAR

MINUTES OF BOARD MEETINGS

SUMMARY:

Provided are the minutes of the August 8, 2019 and August 12, 2019 Board meetings for approval.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE MINUTES OF THE AUGUST 8, 2019 AND AUGUST 12, 2019 BOARD MEETINGS BE APPROVED AS PRESENTED.

LIST OF EXHIBITS:

Exhibit "A" – August 8, 2019 Minutes
Exhibit "B" – August 12, 2019 Minutes

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EXHIBIT "A"

MINUTES OF SPECIAL MEETING – AUGUST 8, 2019

The Special Meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order at 2:00 p.m. by President LaMar on August 8, 2019 at the Irvine Ranch Water District's Operations Center, 3512 Michelson, Irvine, California.

Directors Present: Reinhart, Matheis, Withers, and LaMar.

Directors Absent: Swan.

Also Present: General Manager Cook, Executive Director of Finance and Administration Clary, Executive Director of Technical Services Burton, Executive Director of Water Policy Weghorst, Executive Director of Operations Chambers, Director of Public Affairs Beeman, Director of Human Resources Roney, General Counsel Collins, Director of Recycling Operations Zepeda, Director of Water Quality and Regulatory Compliance Colston, Director of Water Operations Roberts, Director of Treasury and Risk Management Jacobson, Director of Water Resources Sanchez, Director of Maintenance Mykitta, Director of Administration Services Mossbarger, Secretary Bonkowski, Principle Engineer Mori, Fiona Hutton and Associates, and Mr. Richard Bernard of Fairbank, Maslin, Metz and Associates.

COMMUNICATIONS TO THE BOARD

WRITTEN AND ORAL COMMUNICATIONS: None.

REVIEW OF AGENDA

General Manager Cook reviewed the agenda items.

REVIEW OF UPDATED 2019 IRWD GOALS AND TARGET ACTIVITIES LIST

General Manager Cook reported that the foundational documents, the IRWD Mission, Vision and Values Statement and the IRWD Strategic Objectives are provided in the agenda package and asked if the Board wished to discuss or make recommendations for refining these documents. The Board had no changes or recommendations. Mr. Cook reviewed the 2019 Goals and Target Activities list and said that the changes were noted in a track change format. Following discussion on several items, President LaMar thanked staff for all of their efforts on these projects.

SYPHON RESERVOIR IMPROVEMENT PROJECT PUBLIC OUTREACH

Director of Public Affairs Beeman reported that in January 2018, the IRWD Board of Directors approved a Professional Services Agreement with Fiona Hutton and Associates (FHA) to develop and implement a public outreach program for the proposed Syphon Reservoir Improvement Project. Ms. Beeman said that a customer survey and several focus groups were completed that gauged customers' perception, awareness, and views on recycled water and the project. Mr. Richard Bernard of Fairbank, Maslin, Maullin, Metz and Associates (FM3) presented the findings from the customer survey and focus groups. Representatives from FHA then reviewed the outreach activities to date, and community outreach training and preparations.

NEW WATER QUALITY REGULATIONS – POLY- AND PER-FLUORINATED ALKYL SUBSTANCES

Using a PowerPoint presentation, Mr. Jim Colston reviewed the new water quality regulations due to the presence of poly- and per-fluorinated alkyl substances (PFAS) in the environment. Both the U.S. Environmental Protection Agency and the California Division of Drinking Water (DDW) have announced important planned regulatory actions including the process for developing maximum contaminant levels (MCLs) and other important regulatory thresholds. Mr. Colston reviewed: 1) technical background explaining what PFAS are and where they are found; 2) details about the statewide investigation by DDW; 3) impacts from PFAS to the Orange County Groundwater Producers; 4) treatment solutions; 5) public outreach; 6) legislative and regulatory actions; and 7) regional solutions and next steps.

Mr. Colston said that in March 2019 DDW initiated a statewide investigation of PFAS in drinking water including the identification of sources. Orange County Water District, on behalf of the Orange County Groundwater Producers, began testing of drinking water wells throughout the basin that DDW had identified as known or suspected to contain PFAS. Nine of the Producers, including IRWD, have wells with detectable levels of PFAS. He said that of the 51 tested wells, two of the wells exceed the response level of 70 ppt. He said that if DDW-proposed response levels are adopted, 71 of 200 wells in Orange County would exceed the level which would equate to a loss of 100,000 acre-feet, and cost \$50 million in imported water annually. He said that wellhead treatment costs are estimated at \$200 million. He further reviewed the OCWD response.

Principle Engineer Mori reviewed the treatment solutions and Director Beeman reviewed IRWD's public outreach on this issue with the most important message being that IRWD's drinking water does not contain PFAS.

CLOSED SESSION

Legal Counsel Collins said that a Closed Session would be held as follows:

CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION

Significant exposure to litigation pursuant to Government Code Section 54956.9(d)(2). (One (1) potential case.)

OPEN SESSION

Following the Closed Session, the meeting was reconvened with Directors Withers, LaMar, Matheis and Reinhart present. Legal Counsel Collins stated that there were no actions taken in closed session that are required to be reported out under the provisions of the Brown Act.

IRWD EMERGENCY POWER CAPABILITIES

Mr. Rick Mykitta reported that IRWD's existing emergency generation systems are designed to provide back-up power during short-term (i.e., 24 hour maximum) power outages. During extended outages (up to three days), the ability to provide services becomes more dependent on resources beyond the District's capabilities. Using a PowerPoint presentation, Mr. Mykitta reviewed assumptions for an extended outage scenario where in order to continue services critical for human health and safety (specifically, potable water treatment / deliveries and sewage

collection / treatment) during an extended power outage, IRWD will need to rely substantially on the following: 1) Orange County Sanitation District's (OCSD) system to accept diverted sewage flows; 2) imported potable water supply from Metropolitan Water District; 3) diesel fuel supplies in storage; 4) natural gas from Southern California Gas Company; and 5) conservation efforts by IRWD customers. He said that to sustain the generation of electricity by IRWD emergency generators, a sufficient supply of fuel must be available to maintain uninterrupted service during extended power outages. Currently, the District has adequate diesel fuel storage capabilities to support operations for approximately 24 hours after which time fuel supplies must be replenished. An extended outage caused by an earthquake may also damage major transportation routes. He said to ensure the uninterrupted operation of IRWD facilities during long-term power outages, staff recommends: 1) developing a plan to sustain IRWD operations for three days; 2) performing an engineering evaluation; and 3) including project(s) in the Fiscal Year 2019/20 Capital Budget. Following discussion, it was the consensus of the Board to develop a plan to sustain IRWD operations for the targeted extended outage period under the assumed conditions.

ADJOURNMENT

There being no further business, President LaMar adjourned the meeting.

APPROVED and SIGNED this 26th day of August, 2019.

President, IRVINE RANCH WATER DISTRICT

Secretary IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

Claire Hervey Collins, Legal Counsel
Lewis Brisbois

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EXHIBIT "B"

MINUTES OF REGULAR MEETING – AUGUST 12, 2019

The regular meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order at 5:04 p.m. by Acting President Matheis on August 12, 2019 in the District office, 15600 Sand Canyon Avenue, Irvine, California.

Directors Present: Reinhart, Matheis, and Withers.

Directors Absent: Swan and LaMar.

Also Present: General Manager Cook, Executive Director of Finance and Administration Clary, Executive Director of Technical Services Burton, Executive Director of Water Policy Weghorst, Executive Director of Operations Chambers, Director of Public Affairs Beeman, Director of Human Resources Roney, General Counsel Collins, Director of Water Operations Zepeda, Director of Water Quality and Regulatory Compliance Colston, Director of Water Operations Roberts, Director of Treasury and Risk Management Jacobson, Director of Water Resources Sanchez, Director of Maintenance Mykitta, Government Relations Officer/Deputy General Counsel Compton, Secretary Bonkowski, Principle Engineer Malloy, Ms. Sandra Jacobs, Mr. Victor Zamora, Mr. Les Fields, and members of staff and the public.

WRITTEN COMMUNICATIONS: None.

ORAL COMMUNICATIONS: Ms. Sandra Jacobs, Board President of Santa Margarita Water District, thanked the Board for supporting her in the recent Local Agency Formation Commission election.

ITEMS TOO LATE TO BE AGENDIZED: None.

PRESENTATIONS

RESOLUTION OF COMMENDATION FOR STEVE MALLOY

On MOTION by Reinhart, seconded by Withers, and unanimously carried, THE FOLLOWING RESOLUTION WAS ADOPTED BY TITLE:

RESOLUTION NO. 2019-26

RESOLUTION OF THE BOARD OF DIRECTORS OF IRVINE RANCH WATER DISTRICT COMMENDING STEVEN MALLOY FOR HIS DEDICATED AND LOYAL SERVICE TO THE DISTRICT

General Manager Cook and Acting President Matheis presented the resolution to Mr. Steve Malloy. Mr. Malloy then thanked the Board and staff for their support and for being able to manage innovative projects during his 40+ years of service at the District.

PRESENTATIONS (CONTINUED)

IRWD HEADQUARTERS SUCCULENT GARDEN DESIGN AWARDS

Mr. Victor Zamora of Tropical Plaza Nursery presented four awards that Tropical Plaza Nursery received from the California Landscape Contractors Association (CLCA) for its design and construction of the IRWD Headquarters Succulent Garden. Awards included: 1) 1st place “Landscape Installation Orange County Green Award”; 2) 1st place “Landscape Beautification Award”; 3) 1st place “Landscape Installation, Special Effects Incorporating IRWD Logo into Landscape Design”; and 4) 1st place “Humanitarian Award” for the donation made toward the project by a CLCA Member, which is the highest honor CLCA awards in Orange County. Additionally, Mr. Zamora said that the 48-inch box Dragon tree was donated to honor General Manager Cook, and the quarter twist concrete bench was donated to honor Secretary Bonkowski to view the garden during her lunch break.

CONSENT CALENDAR

General Manager Cook asked that Item No. 7, ACWA COMMITTEE NOMINATIONS AND REGION 10 ELECTION FOR 2020-21 TERM, be moved to the Action Calendar for discussion. There being no objections, this item was moved accordingly. On MOTION BY Withers, seconded by Reinhart, and unanimously carried, CONSENT CALENDAR ITEMS 5 AND 6, AND 8 THROUGH 12 WERE APPROVED AS FOLLOWS:

5. RATIFY/APPROVE BOARD OF DIRECTORS’ ATTENDANCE AT MEETINGS AND EVENTS

Recommendation: That the Board ratify/approve the meetings and events for Mary Aileen Matheis, Douglas Reinhart, Steven LaMar and John Withers, as described.

6. MINUTES OF BOARD MEETING

Recommendation: That the minutes of the July 22, 2019 Regular Board meeting be approved as presented.

8. 2019 LEGISLATIVE AND REGULATORY UPDATE

Recommendation: Receive and file.

9. RENEWAL OF GROUP MEDICAL, DENTAL, VISION, AND TERM LIFE INSURANCE FOR CALENDAR YEAR 2020

Recommendation: That the Board authorize staff to continue the District’s health insurance coverage with CalPERS with changes in District and employee contribution rates as outlined in the exhibit provided, continue the District’s dental insurance coverage with ACWA/JPIA with no change in premium rates, continue the District’s vision insurance coverage with EyeMed with no change in premium rates, continue the District’s Term Life and AD&D coverage with Reliance Standard with no change in premium rates, and offer voluntary Delta Dental and EyeMed buy-up plans for employee purchase for the calendar year 2020.

CONSENT CALENDAR (CONTINUED)

10. SAND CANYON PROFESSIONAL CENTER PHASE II – PROFESSIONAL SERVICES VARIANCE NO. 5

Recommendation: That the Board authorize the General Manager to execute Professional Services Variance No. 5 in the amount of \$21,700 with Ware Malcomb for additional architectural services for Project No. 06210.

11. LAGUNA CANYON ROAD AND QUAIL HILL PARKWAY CATHODIC PROTECTION FINAL ACCEPTANCE

Recommendation: That the Board accept construction of the Laguna Canyon Road and Quail Hill Parkway Cathodic Protection Projects 05156 and 10541, 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.

12. VAULT LIDS REPLACEMENT FINAL ACCEPTANCE

Recommendation: That the Board accept construction of the Vault Lid Replacement Projects 06121, 06123 and 07116, 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.

ACTION CALENDAR

ACWA COMMITTEE NOMINATIONS AND REGION 10 ELECTION FOR 2020-2021 TERM

General Manager Cook said that this item was reviewed by the Water Resources Policy and Communications Committee. He said that relative to Exhibit “B-1”, the ACWA Committee Consideration Form, Director Swan requested a change that the Water Management Committee be listed as his first choice and that Energy Committee be listed as his second choice. Director Matheis recommended voting for the OC nominees for the Region 10 Board. On MOTION by Matheis, seconded by Reinhart, THE BOARD AUTHORIZED THE DISTRICT TO SUBMIT THE AMENDED ASSOCIATION OF CALIFORNIA WATER AGENCIES COMMITTEE CONSIDERATION FORM FOR BOARD AND STAFF COMMITTEE APPOINTMENTS FOR THE 2020-2021 TERM, AND THE BOARD SUPPORTED THE CANDIDATES FOR REGION 10 CHAIR AND VICE-CHAIR AS PROPOSED BY THE NOMINATING COMMITTEE ALONG WITH THE CANDIDATES FROM ORANGE COUNTY AS BOARD MEMBERS, AND AUTHORIZED THE GENERAL MANAGER TO SIGN AND SUBMIT THE REGION 10 BOARD BALLOT FOR THE 2020-2021 TERM.

METER READING AND ELECTRONIC BILLING CONTRACT VARIANCES

Executive Director of Finance and Administration Clary reported that two five-year Professional Services Agreements previously authorized by the Board are both in their final year and will exceed their authorized amounts in Fiscal Year 2019-20. She said that Fiserv Solutions, LLC provides electronic billing (eBill) services for the distribution of customer bills in an electronic format and for on-line and on-demand electronic payments. Fiserv’s original contract amount

ACTION CALENDAR (CONTINUED)

was for \$900,000 and a variance in the amount of \$197,000 is now needed to continue services through FY 2019-20. Alexander's Contract Services provides meter reading services for the vast majority of IRWD's customer meters. Ms. Clary further said that Alexander's original contract amount was for \$6,534,000 and a variance in the amount of \$394,000 is now required to continue services through FY 2019-20.

On MOTION by Reinhart, seconded by Withers, and unanimously carried, THE BOARD AUTHORIZED THE GENERAL MANAGER TO EXECUTE A VARIANCE TO THE AGREEMENT WITH FISERV SOLUTIONS, LLC IN THE AMOUNT OF \$197,000 FOR ELECTRONIC BILLING SERVICES AND TO THE ALEXANDER'S CONTRACT SERVICES AGREEMENT IN THE AMOUNT OF \$394,000 FOR PROFESSIONAL METER READING SERVICES.

Director Reinhart requested staff to provide a future report on AMI (electric meters.)

2019 WATER USE EFFICIENCY OUTREACH CAMPAIGN

Director of Public Affairs Beeman reported that staff proposes a 2019 water use efficiency outreach campaign comprised of several small targeted customer outreach efforts to help sustain customer water use awareness and to thank customers for their continued vigilance in using water efficiently. Ms. Beeman said that the efforts will also assist staff in baseline customer outreach activities involving newsletters, social media and ongoing community outreach workshops and events. She said that IRWD's public affairs consultant Suple Advertising & Design proposes to implement the "Don't Waste a Good Thing" campaign and to lead the development of several targeting outreach efforts.

Director Withers reported that this item was reviewed and approved by the Water Resources Policy and Communications Committee. On MOTION by Withers, seconded and unanimously carried, THE BOARD AUTHORIZED THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH SUKLE ADVERTISING & DESIGN IN THE AMOUNT OF \$214,500 FOR IMPLEMENTATION OF THE 2019 WATER USE EFFICIENCY CAMPAIGN.

GENERAL MANAGER'S REPORT: None.

DIRECTORS' COMMENTS

Director Reinhart reported on his attendance at a South Orange County agencies group joint meeting, a SOCWA Board meeting, a MWDOC Planning and Operations Committee meeting, a MWDOC Board meeting, an OCWD Board meeting, and a SOCWA Board meeting.

Director Withers reported on his attendance at an OCSD Centrifuge facility ribbon-cutting event, a Water Education Foundation Board of Director retreat where General Manager Cook and he presented information on strategic planning, an ACWA Region 10 program, a breakfast meeting with Mr. A. G. Kamura relative to sustainable urban agriculture, and a luncheon meeting with Mr. Jason Paulus of Paulus Engineering for a meet and greet. He said that this Thursday he will be traveling to East Bay MUD in Oakland to make a presentation on processing improvement

DIRECTORS' COMMENTS (CONTINUED)

plans. He further complimented staff for their efforts at the recent Strategic Planning workshop, which he said was one of the best ever.

Director Matheis reported on her attendance at the booths following the OCSD ribbon-cutting event, a Water Education Fountain Board Retreat in Long Beach, a monthly WACO meeting, and an ISDOC Executive Committee meeting, and said that tomorrow she will be attending an Urban Water Institute conference.

COMMUNITY UPDATES

Consultant Mr. Bruce Newell reported on canyon activities noting that Southern California Edison is still working in the area, and that he attended a coastal group meeting. He further said that he appreciated that the District painted the fire hydrants,

ADJOURNMENT

Acting President Matheis adjourned in the Board meeting at 5:57 p.m.

APPROVED and SIGNED this 26th day of August, 2019.

President, IRVINE RANCH WATER DISTRICT

Secretary IRVINE RANCH WATER DISTRICT

APPROVED AS TO FORM:

Claire Hervey Collins, Legal Counsel
Lewis Brisbois

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August 26, 2019
Prepared by: J. Davis / T. Fournier
Submitted by: R. Jacobson / C. Clary
Approved by: Paul A. Cook



CONSENT CALENDAR

JULY 2019 TREASURY REPORT

SUMMARY:

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

- A. The July 2019 Investment Summary Report. This Investment Summary Report conforms with the 2019 Investment Policy and provides sufficient liquidity to meet estimated expenditures during the next six months, as outlined in Exhibit "A".
- B. The Summary of Fixed and Variable Debt as of July 31, 2019, as outlined in Exhibit "B".
- C. The Monthly Interest Rate Swap Summary as of July 31, 2019, as outlined in Exhibit "C".
- D. The July 31, 2019 Disbursement Summary of warrants 400141 through 400803, wire transfers, Workers' Compensation distributions, payroll withholding distributions, and voided checks in the total amount of \$32,241,538 as outlined in Exhibit "D".
- E. The Summary of Payroll ACH payments in the total amount of \$2,025,298 as outlined in Exhibit "E".
- F. The Disclosure Report of Reimbursements to Board Members and Staff for July 2019, detailing payments or reimbursements for individual charges of \$100.00 or more per transaction, as outlined in Exhibit "F".

FISCAL IMPACTS:

As of July 31, 2019, the book value of the investment portfolio was \$357,020,757, with a 2.15% rate of return and a market value of \$357,928,653. Based on the District's June 30, 2019 quarterly real estate investment rate of return of 8.94%, the weighted average return for the fixed income and real estate investments was 4.15%.

As of July 31, 2019, the outstanding principal amount of fixed and variable rate debt was \$667,325,000. The monthly weighted average all-in variable rate was 1.46%. Including the District's weighted average fixed rate bond issues of 3.70% and the previous month's 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 3.05%.

Payroll ACH payments totaled \$2,025,298, and wire transfers, all other ACH payments, and checks issued for debt service, accounts payable, payroll, and water purchases for July totaled \$32,241,538.

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 not submitted to a Committee; however, the investment and interest rate swap reports are submitted to the Finance and Personnel Committee on a monthly basis.

RECOMMENDATION:

THAT THE BOARD RECEIVE AND FILE THE TREASURER'S INVESTMENT SUMMARY REPORT, THE SUMMARY OF FIXED AND VARIABLE RATE DEBT, AND DISCLOSURE REPORT OF REIMBURSEMENTS TO BOARD MEMBERS AND STAFF; APPROVE THE JULY 2019 SUMMARY OF PAYROLL ACH PAYMENTS IN THE TOTAL AMOUNT OF \$2,025,298; AND APPROVE THE JULY 2019 ACCOUNTS PAYABLE DISBURSEMENT SUMMARY OF WARRANTS 400141 THROUGH 400803 WORKERS' COMPENSATION DISTRIBUTIONS, WIRE TRANSFERS, PAYROLL WITHHOLDING DISTRIBUTIONS AND VOIDED CHECKS IN THE TOTAL AMOUNT OF \$32,241,538.

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

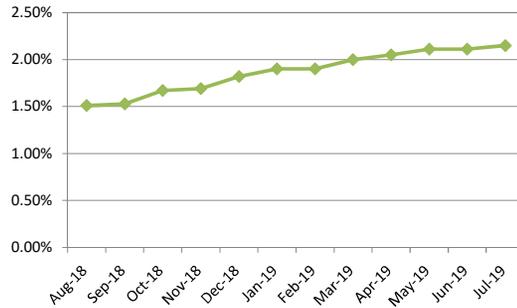
Exhibit "E" – Monthly Payroll ACH Summary

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

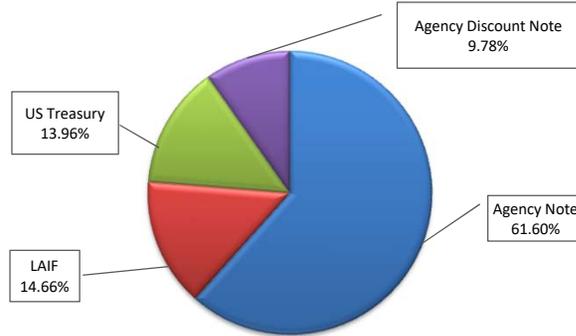
Exhibit "A"

Irvine Ranch Water District Investment Portfolio Summary July 2019

Monthly Fixed Income Yield



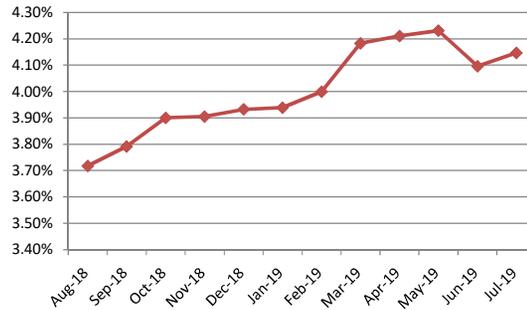
Portfolio Distribution



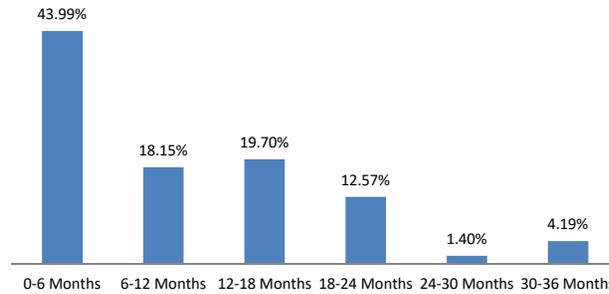
Investment Summary

Type	PAR	Book Value	Market Value
Agency Note	220,550,000	220,230,217	220,504,034
LAIF	52,500,000	52,500,000	52,589,869
US Treasury	50,000,000	49,417,998	49,950,550
Agency Discount Note	35,000,000	34,872,542	34,884,200
Grand Total	358,050,000	357,020,757	357,928,653

**Weighted Average Return
Including Real Estate Portfolio**



Maturity Distribution



Top Issuers

Issuer	PAR	% Portfolio
Fed Farm Credit Bank	85,000,000	23.75%
Fed Home Loan Bank	75,000,000	20.95%
Fed Natl Mortgage Assoc	70,550,000	19.70%
State of California Treasury - LAIF	52,500,000	14.66%
US Treasury	50,000,000	13.96%
Fed Home Loan Mortgage Corp	25,000,000	6.98%
Grand Total	358,050,000	100.00%

IRVINE RANCH WATER DISTRICT
INVESTMENT SUMMARY REPORT

07/31/19

SETTLMT	Call Schedule	Initial Call	Maturity Date	Rating	INVESTMENT TYPE	INSTITUTION / ISSUER	PAR Amount	COUPON DISCOUNT	YIELD	ORIGINAL COST	CARRY VALUE	MARKET VALUE ⁽¹⁾ 7/31/2019	UNREALIZED ⁽²⁾ GAIN/(LOSS)
08/23/17			08/01/19		LAIF	State of California Tsy.	\$52,500,000		2.440%	\$52,500,000.00	\$52,500,000.00	52,589,868.98	89,868.98
05/28/19	NA	NA	08/16/19	NR	FHLB - Discount Note	Fed Home Loan Bank	5,000,000	2.335%	2.380%	4,974,055.50	4,995,135.41	4,995,650.00	514.59
09/01/16	N/A	N/A	08/28/19	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.150%	1.160%	4,998,500.00	4,999,962.88	4,996,450.00	(3,512.88)
09/01/16	NA	NA	08/28/19	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.125%	1.132%	4,999,000.00	4,999,975.25	4,996,150.00	(3,825.25)
03/29/19	NA	NA	08/29/19	NR	FHLB - Discount Note	Fed Home Loan Bank	10,000,000	2.400%	2.460%	9,988,000.00	9,981,333.33	9,983,700.00	2,366.67
09/28/16	Quarterly	03/09/17	09/09/19	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.125%	1.142%	4,997,500.00	4,999,902.69	4,994,650.00	(5,252.69)
04/10/18	NA	NA	09/13/19	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	2.375%	2.288%	5,006,000.00	5,000,495.20	5,000,900.00	404.80
09/28/16	Continuous after	12/27/16	09/27/19	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	1.250%	1.189%	5,001,500.00	5,000,078.15	4,993,600.00	(6,478.15)
04/18/19	NA	NA	10/01/19	NR	FHLB - Discount Note	Fed Home Loan Bank	10,000,000	2.370%	2.429%	9,890,717.00	9,959,841.79	9,964,400.00	4,558.21
10/12/16	Continuous after	10/03/17	10/03/19	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	10,000,000	1.125%	1.160%	9,989,780.00	9,999,218.91	9,977,100.00	(22,118.91)
10/12/16	Continuous after	10/11/17	10/11/19	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	10,000,000	1.120%	1.205%	9,975,000.00	9,997,920.48	9,978,500.00	(19,420.48)
06/14/19	NA	NA	11/05/19	NR	FHLB - Discount Note	Fed Home Loan Bank	5,000,000	2.130%	2.178%	4,957,400.00	4,971,600.00	4,972,250.00	650.00
11/08/16	Quarterly	05/08/17	11/08/19	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.250%	1.245%	5,000,750.00	5,000,067.81	4,988,250.00	(11,817.81)
11/28/16	NA	NA	11/15/19	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	1.375%	1.440%	4,990,550.00	4,999,074.21	4,989,200.00	(9,874.21)
05/30/19	NA	NA	11/19/19	NR	FFCB - Discount Note	Fed Farm Credit Bank	5,000,000	2.315%	2.374%	4,944,375.69	4,964,631.94	4,968,200.00	3,568.06
11/28/16	Quarterly	05/25/17	11/25/19	Aaa/AA+/NR	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.400%	1.503%	4,985,000.00	4,998,406.59	4,984,000.00	(14,406.59)
12/12/16	NA	NA	12/12/19	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.450%	1.440%	5,001,450.00	5,000,174.95	4,987,050.00	(13,124.95)
12/21/16	NA	NA	12/19/19	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.500%	1.621%	4,982,350.00	4,997,739.25	4,987,100.00	(10,639.25)
12/20/17	NA	NA	01/17/20	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	1.500%	1.932%	4,956,250.00	4,984,358.51	4,985,700.00	1,341.49
10/16/17	NA	NA	02/28/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.500%	1.612%	4,987,025.00	4,996,835.00	4,982,150.00	(14,685.00)
12/19/18	NA	NA	02/29/20	Aaa/NR/AAA	Treasury - Note	US Treasury	10,000,000	1.250%	2.672%	9,833,593.76	9,914,321.73	9,946,500.00	32,178.27
12/20/17	NA	NA	03/13/20	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	4.125%	1.940%	5,237,200.00	5,095,287.96	5,063,550.00	(31,737.96)
12/20/18	NA	NA	03/31/20	Aaa/NR/AAA	Treasury - Note	US Treasury	10,000,000	2.250%	2.665%	9,948,000.00	9,971,606.00	10,007,400.00	35,794.00
10/03/17	NA	NA	04/20/20	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	1.375%	1.630%	4,968,350.00	4,991,049.52	4,973,950.00	(17,099.52)
06/29/18	NA	NA	04/23/20	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	2.500%	2.544%	4,996,000.00	4,998,472.05	5,013,600.00	15,127.95
06/29/18	NA	NA	05/15/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	2.550%	2.566%	4,998,450.00	4,999,349.27	5,017,550.00	18,200.73
11/21/17	Continuous after	02/20/18	05/20/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.830%	1.930%	4,987,500.00	4,988,707.85	4,991,500.00	2,792.15
06/11/18	NA	NA	06/11/20	Aaa/NR/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	2.550%	2.570%	4,997,100.00	4,998,750.34	5,015,700.00	16,949.66
11/10/17	NA	NA	06/22/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.500%	1.750%	4,968,000.00	4,996,130.63	4,975,650.00	(20,480.63)
04/19/18	NA	NA	07/30/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.500%	2.535%	4,886,000.00	4,950,184.87	4,973,000.00	22,815.13
06/08/18	NA	NA	07/30/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.500%	2.559%	4,890,100.00	4,948,909.83	4,973,000.00	24,090.17
12/20/17	Quarterly	11/10/16	08/10/20	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	1.450%	2.052%	4,923,000.00	4,961,899.38	4,965,150.00	3,250.62
09/14/18	NA	NA	08/24/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	2.680%	2.789%	4,989,700.00	4,994,356.76	5,035,150.00	40,793.24
05/21/18	Continuous after	12/01/17	09/01/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.680%	2.735%	4,884,250.00	4,944,900.78	4,976,650.00	31,749.22
09/14/18	NA	NA	09/04/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	2.690%	2.794%	4,990,050.00	4,994,479.89	5,034,900.00	40,420.11
12/12/17	One Time	09/28/18	09/28/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	2.000%	2.000%	5,000,000.00	5,000,000.00	4,991,600.00	(8,400.00)

IRVINE RANCH WATER DISTRICT
INVESTMENT SUMMARY REPORT

07/31/19

SETTLMT	Call Schedule	Initial Call	Maturity Date	Rating	INVESTMENT TYPE	INSTITUTION / ISSUER	PAR Amount	COUPON DISCOUNT	YIELD	ORIGINAL COST	CARRY VALUE	MARKET VALUE ⁽¹⁾ 7/31/2019	UNREALIZED ⁽²⁾ GAIN/(LOSS)
10/31/17	One Time	10/30/18	10/30/20	Aaa/NR/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,550,000	1.850%	1.850%	5,550,000.00	5,550,000.00	5,527,134.00	(22,866.00)
09/28/18	NA	NA	10/31/20	Aaa/NR/AAA	Treasury - Note	US Treasury	5,000,000	1.750%	2.847%	4,889,453.13	4,845,031.81	4,983,200.00	138,168.19
12/13/17	Continuous after	08/23/17	11/23/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.770%	2.060%	4,958,750.00	4,977,419.84	4,981,050.00	3,630.16
12/13/17	Quarterly	05/24/18	11/24/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.900%	2.023%	4,982,500.00	4,990,413.18	4,990,350.00	(63.18)
11/30/17	NA	NA	11/24/20	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.850%	1.964%	4,983,550.00	4,992,740.87	4,989,200.00	(3,540.87)
12/20/17	NA	NA	12/28/20	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.875%	2.023%	4,978,400.00	4,987,928.26	4,990,750.00	2,821.74
11/09/18	NA	NA	12/31/20	Aaa/NR/AAA	Treasury - Note	US Treasury	5,000,000	2.375%	2.958%	4,939,843.75	4,960,203.14	5,026,350.00	66,146.86
10/12/18	NA	NA	01/31/21	Aaa/NR/AAA	Treasury - Note	US Treasury	10,000,000	1.375%	2.890%	9,664,843.76	9,781,471.76	9,911,300.00	129,828.24
12/14/18	NA	NA	02/16/21	Aaa/AA+/AAA	FHLMC - Note	Fed Home Loan Mortgage Corp	5,000,000	2.375%	2.806%	4,954,750.00	4,966,816.67	5,028,200.00	61,383.33
12/14/18	NA	NA	02/28/21	Aaa/NR/AAA	Treasury - Note	US Treasury	5,000,000	2.000%	2.755%	4,919,515.95	4,940,659.22	5,002,150.00	61,490.78
02/12/19	NA	NA	03/12/21	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	10,000,000	2.500%	2.516%	9,996,500.00	9,997,283.93	10,079,600.00	82,316.07
02/25/19	NA	NA	03/12/21	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	2.375%	2.549%	4,982,700.00	4,986,340.88	5,030,500.00	44,159.12
06/17/19	NA	NA	03/17/21	Aaa/AA+/NR	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.950%	1.938%	5,001,050.00	5,000,976.06	4,995,950.00	(5,026.06)
06/14/19	NA	NA	04/30/21	Aaa/AA+/AAA	FNMA - Note	Fed Natl Mortgage Assoc	5,000,000	1.750%	1.913%	4,985,000.00	4,986,049.56	4,978,850.00	(7,199.56)
07/26/19	NA	NA	07/19/21	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	1.875%	1.927%	4,995,000.00	4,995,041.44	4,992,100.00	(2,941.44)
03/08/19	NA	NA	01/15/22	Aaa/AA+/NR	Treasury - Note	US Treasury	5,000,000	2.500%	2.460%	5,005,468.75	5,004,703.96	5,073,650.00	68,946.04
03/21/19	NA	NA	02/03/22	Aaa/AA+/AAA	FFCB - Note	Fed Farm Credit Bank	5,000,000	2.030%	2.361%	4,954,350.00	4,960,132.33	5,008,650.00	48,517.67
03/08/19	NA	NA	03/11/22	Aaa/AA+/NR	FHLB - Note	Fed Home Loan Bank	5,000,000	2.500%	2.549%	5,002,750.00	5,002,384.67	5,069,950.00	67,565.33
TOTAL INVESTMENTS							\$358,050,000			\$356,276,922.29	\$357,020,756.81	\$357,928,652.98	\$907,896.16

Petty Cash
Ck Balance

3,400.00
273,413.00
\$356,553,735.29

⁽¹⁾ 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.

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

⁽³⁾ Real estate rate of return is based on most recent quarter end return

Outstanding Variable Rate Debt	\$270,200,000
Net Outstanding Variable Rate Debt (Less \$60 million fixed-payer swaps)	\$210,200,000
Investment Balance:	\$356,553,735
Investment to Variable Rate Debt Ratio:	170%
Portfolio - Average Number of Days To Maturity	275

	Investment Portfolio	Real Estate ⁽³⁾ Portfolio	Weighted Avg. Return
July	2.15%	8.94%	4.15%
June	2.11%	8.94%	4.10%
Change	0.04%		0.05%

This Investment Summary Report is in conformity with the 2019 Investment Policy and provides sufficient liquidity to meet the next six months estimated expenditures.
*S - Step up

Irvine Ranch Water District
Summary of Real Estate - Income Producing Investments
6/30/2019

	ACQUISITION DATE	PROPERTY TYPE	OWNERSHIP INTEREST	ORIGINAL COST	MARKET VALUE 6/30/2019	ANNUALIZED RATE OF RETURN QUARTER ENDED 6/30/2019
Sycamore Canyon	Dec-92	Apartments	Fee Simple	\$ 43,550,810	\$ 148,625,000	18.69%
Wood Canyon Villas	Jun-91	Apartments	Limited Partner	\$ 6,000,000	\$ 28,710,327	8.53%
ITC (230 Commerce)	Jul-03	Office Building	Fee Simple	\$ 5,739,845	\$ 11,730,000	9.45%
Waterworks Business Pk.	Nov-08	Research & Dev.	Fee Simple	\$ 8,630,577	\$ 9,180,000	6.48%
Sand Canyon Professional Center	Jul-12	Medical Office	Fee Simple	\$ 8,648,594	\$ 11,220,000	8.89%
Total - Income Properties				\$ 72,569,826	\$ 209,465,327	14.50%
OTHER REAL ESTATE DESCRIPTION						
Serrano Summit - Promissory Note	Sep-17	NA	NA	\$ 81,600,000	\$ 81,600,000	4.00%
Total - Income Producing Real Estate Investments				\$ 154,169,826	\$ 291,065,327	8.94%

IRVINE RANCH WATER DISTRICT INVESTMENT SUMMARY REPORT
INVESTMENT ACTIVITY
Jul-19

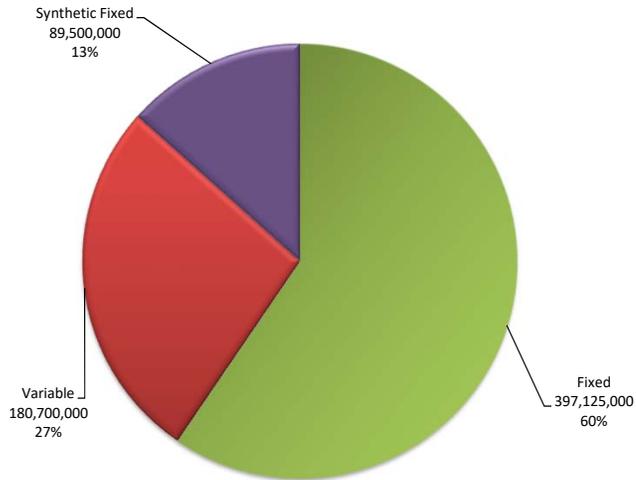
MATURITIES/SALES/CALLS

PURCHASES

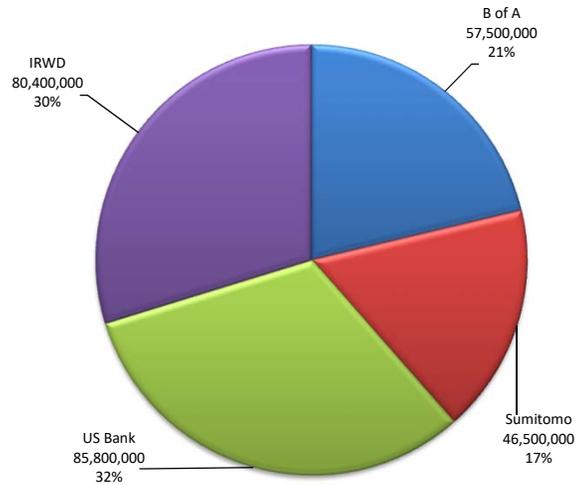
DATE	SECURITY TYPE	PAR	YIELD	Settlement Date	Maturity Date	SECURITY TYPE	PAR	YIELD TO MATURITY
7/19/2019	FHLMC - NOTE	\$5,000,000	1.10%	7/26/2019	7/19/2021	FFCB - Note	\$5,000,000	1.93%
7/26/2019	FNMA - Note	\$5,000,000	1.18%					

Exhibit "B"
Irvine Ranch Water District
Summary of Fixed and Variable Rate Debt
July 2019

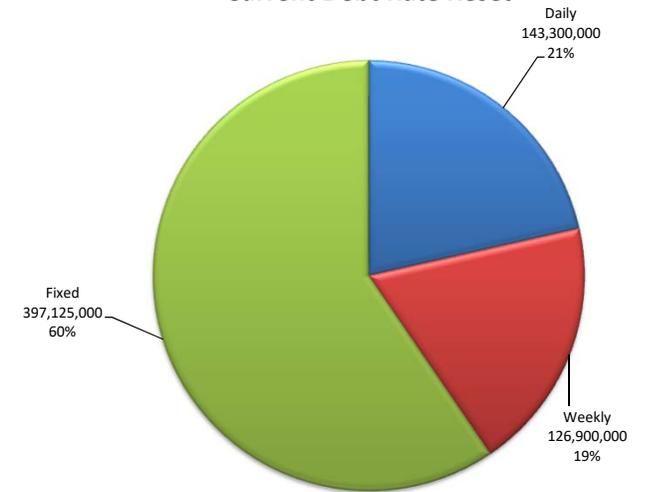
Current Debt Mix By Type



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	\$28,300,000	4.24%	US Bank	BAML	Variable	Daily
Series 2008-A Refunding	04/24/08	07/01/35	\$46,500,000	6.97%	Sumitomo	BAML	Variable	Weekly
Series 2011-A-1 Refunding	04/15/11	10/01/37	\$48,240,000	7.23%	IRWD	Goldman	Variable	Weekly
Series 2011-A-2 Refunding	04/15/11	10/01/37	\$32,160,000	4.82%	IRWD	Goldman	Variable	Weekly
Series 2009 - A	06/04/09	10/01/41	\$57,500,000	8.62%	US Bank	US Bank	Variable	Daily
Series 2009 - B	06/04/09	10/01/41	\$57,500,000	8.62%	B of A	Goldman	Variable	Daily
2010 Refunding COPS	02/23/10	03/01/20	\$1,980,000	0.30%	N/A	N/A	Fixed	Fixed
2016 COPS	09/01/16	03/01/46	\$116,745,000	17.49%	N/A	N/A	Fixed	Fixed
2010 Build America Taxable Bond	12/16/10	05/01/40	\$175,000,000	26.22%	N/A	N/A	Fixed	Fixed
Series 2016	10/12/16	02/01/46	\$103,400,000	15.49%	N/A	N/A	Fixed	Fixed
Total			\$667,325,000	100.00%				

IRVINE RANCH WATER DISTRICT
SUMMARY OF FIXED & VARIABLE RATE DEBT

July-19

ITN
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	\$28,300,000	US BANK	05/07/15	12/15/21	Aa3/VMIG1	AA-/A-1+	N/R	\$28,681,468	0.3300%	\$94,649	BAML	DAILY	0.10%	\$28,300	BANK OF NY											
SERIES 2008-A Refunding	04/24/08	07/01/35	JUL 1	5th Bus. Day	\$60,215,000	\$46,500,000	SUMITOMO	04/01/11	07/21/21	A1/P-1	A/A-1	A/F1	\$47,187,945	0.3150%	\$148,642	BAML	WED	0.07%	\$32,550	BANK OF NY											
SERIES 2011-A-1 Refunding	04/15/11	10/01/37	Oct 1	1st Bus. Day	\$60,545,000	\$48,240,000	N/A	N/A	N/A	Aa1/VMIG1	A-1+	AAA/F1+	N/A	N/A	N/A	Goldman	WED	0.13%	\$60,300	BANK OF NY											
SERIES 2011-A-2 Refunding	04/15/11	10/01/37	Oct 1	1st Bus. Day	\$40,370,000	\$32,160,000	N/A	N/A	N/A	Aa1/VMIG1	A-1+	AAA/F1+	N/A	N/A	N/A	Goldman	WED	0.13%	\$40,200	BANK OF NY											
SERIES 2009 - A	06/04/09	10/01/41	Oct 1	1st Bus. Day	\$75,000,000	\$57,500,000	US BANK	04/01/11	12/15/21	Aa2/VMIG 1	AA-/A-1+	AA/F1+	\$58,142,740	0.3300%	\$191,871	US Bank	DAILY	0.07%	\$40,250	US BANK											
SERIES 2009 - B	06/04/09	10/01/41	Oct 1	1st Bus. Day	\$75,000,000	\$57,500,000	B of A	04/01/11	05/16/22	Aa2/VMIG 1	A/A-1	A1/F1+	\$58,142,740	0.3000%	\$174,428	Goldman	DAILY	0.10%	\$57,500	US BANK											
\$349,430,000						\$270,200,000						SUB-TOTAL VARIABLE RATE DEBT					\$192,154,893					0.3172%					\$609,590				
															(Wt. Avg)					(Wt. Avg)											
FIXED RATE ISSUES																															
2010 REFUNDING COPS	02/23/10	03/01/20	Mar -1	MAR/SEPT	\$85,145,000	\$1,980,000	N/A	N/A	N/A	Aa1	AAA	AAA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	BANK OF NY											
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	\$116,745,000	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	\$103,400,000	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											
\$480,290,000						\$397,125,000						SUB-TOTAL FIXED RATE DEBT																			
\$829,720,000						\$667,325,000						TOTAL- FIXED & VARIABLE RATE DEBT																			

Remarketing Agents			GO VS COP's		
Goldman	137,900,000	51%	GO:	548,600,000	82%
BAML	74,800,000	28%	COPS:	118,725,000	18%
US Bank	57,500,000	21%	Total	<u>667,325,000</u>	
	<u>270,200,000</u>				

LOC Banks		Breakdown Between Variable & Fixed Rate Mode	
SUMITOMO	46,500,000	Daily Issues	143,300,000 21%
BANK OF AMERICA	57,500,000	Weekly Issues	46,500,000 7%
US BANK	85,800,000	ITN Issues	80,400,000 12%
	<u>189,800,000</u>	Sub-Total	<u>270,200,000</u>
		Fixed Rate Issues	\$397,125,000 60%
		Sub-Total - Fixed	<u>397,125,000</u>
		TOTAL DEBT	
		FIXED & VAR.	<u>667,325,000</u> 100%

IRVINE RANCH WATER DISTRICT
SUMMARY OF DEBT RATES
Jul-19

Rmkt Agent Mode	GOLDMAN DAILY	GOLDMAN WEEKLY	GOLDMAN WEEKLY	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	57,500,000	48,240,000	32,160,000	28,300,000	46,500,000	57,500,000
Bank	BOFA	(SIFMA -1)	(SIFMA -1)	US BANK	Sumitomo	US BANK
Reset		Wednesday	Wednesday	Wednesday	Wednesday	
7/1/2019	1.10%	1.89%	1.89%	1.37%	1.42%	1.20%
7/2/2019	0.95%	1.89%	1.89%	1.15%	1.42%	1.05%
7/3/2019	0.75%	1.89%	1.89%	0.98%	1.42%	0.92%
7/4/2019	0.75%	1.48%	1.48%	0.98%	1.00%	0.92%
7/5/2019	0.75%	1.48%	1.48%	0.69%	1.00%	0.82%
7/6/2019	0.75%	1.48%	1.48%	0.69%	1.00%	0.82%
7/7/2019	0.75%	1.48%	1.48%	0.69%	1.00%	0.82%
7/8/2019	0.65%	1.48%	1.48%	0.56%	1.00%	0.60%
7/9/2019	0.60%	1.48%	1.48%	0.48%	1.00%	0.50%
7/10/2019	0.60%	1.48%	1.48%	0.51%	1.00%	0.65%
7/11/2019	0.60%	1.17%	1.17%	0.68%	0.68%	0.65%
7/12/2019	0.85%	1.17%	1.17%	0.82%	0.68%	0.85%
7/13/2019	0.85%	1.17%	1.17%	0.82%	0.68%	0.85%
7/14/2019	0.85%	1.17%	1.17%	0.82%	0.68%	0.85%
7/15/2019	0.82%	1.17%	1.17%	0.93%	0.68%	1.00%
7/16/2019	0.98%	1.17%	1.17%	1.05%	0.68%	1.00%
7/17/2019	1.03%	1.17%	1.17%	1.09%	0.68%	1.03%
7/18/2019	1.18%	1.26%	1.26%	1.19%	0.86%	1.10%
7/19/2019	1.27%	1.26%	1.26%	1.36%	0.86%	1.27%
7/20/2019	1.27%	1.26%	1.26%	1.36%	0.86%	1.27%
7/21/2019	1.27%	1.26%	1.26%	1.36%	0.86%	1.27%
7/22/2019	1.40%	1.26%	1.26%	1.36%	0.86%	1.36%
7/23/2019	1.38%	1.26%	1.26%	1.35%	0.86%	1.40%
7/24/2019	1.36%	1.26%	1.26%	1.45%	0.86%	1.39%
7/25/2019	1.36%	1.39%	1.39%	1.46%	1.12%	1.43%
7/26/2019	1.40%	1.39%	1.39%	1.45%	1.12%	1.43%
7/27/2019	1.40%	1.39%	1.39%	1.45%	1.12%	1.43%
7/28/2019	1.40%	1.39%	1.39%	1.45%	1.12%	1.43%
7/29/2019	1.40%	1.39%	1.39%	1.44%	1.12%	1.42%
7/30/2019	1.42%	1.39%	1.39%	1.42%	1.12%	1.42%
7/31/2019	1.42%	1.39%	1.39%	1.40%	1.12%	1.42%
Avg Interest Rates	1.05%	1.38%	1.38%	1.09%	0.96%	1.08%
Rmkt Fee	0.10%	0.13%	0.13%	0.10%	0.07%	0.07%
LOC Fee	0.30%			0.33%	0.32%	0.33%
All-In Rate	1.45%	1.50%	1.50%	1.52%	1.35%	1.48%
Par Amount	105,740,000		32,160,000	74,800,000		57,500,000

Interest Rate Mode	Percent of Total Variable Rate Debt	Par Outstanding	Weighted All-In Average Rate	Base Rate Average
Daily	53.03%	143,300,000	1.48%	1.07%
Weekly	46.97%	126,900,000	1.45%	1.23%
Fixed	100.00%	\$ 270,200,000	1.46%	1.14%
COPS 2010	0.50%	1,980,000	3.82%	
COPS 2016	29.40%	116,745,000	2.90%	
BABS 2010	44.07%	175,000,000	4.45%	(1)
SERIES 2016	26.04%	103,400,000	3.32%	
	100.00%	\$ 397,125,000	3.70%	
All-In Debt Rate Including \$60 Million Notional Amount of Swaps				3.05%

(1) Rate adjusted up from 4.35% as a result of sequestration reducing BAB's subsidy by 6.2%

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**IRVINE RANCH WATER DISTRICT
INTEREST RATE SWAP MONTHLY SUMMARY REPORT - DETAIL
July 31, 2019**

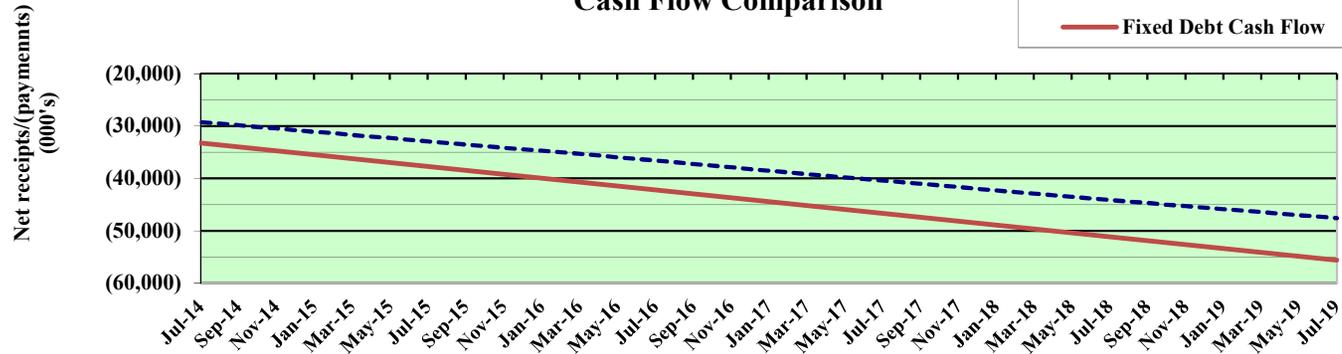
LIBOR Avg %	Prior Mo.	Current Mo.	12-Mo Avg
	2.40%	2.31%	2.37%

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	
Fixed Payer Swaps - By Effective Date														
3/10/2007	3/10/2029	9.6	ML	30,000,000	FXP	LIBOR	5.687%	(71,355)	(90,634)	(90,634)	(16,936,361)	19,722,812	(10,277,188)	
3/10/2007	3/10/2029	9.6	CG	30,000,000	FXP	LIBOR	5.687%	(71,355)	(90,634)	(90,634)	(16,936,361)	19,733,069	(10,266,931)	
Totals/Weighted Avgs		9.6		\$ 60,000,000			5.687%	\$ (142,710)	\$ (181,268)	\$ (181,268)	\$ (33,872,721)	\$ 39,455,881	\$ (20,544,119)	
Total Current Year Active Swaps				\$ 60,000,000				\$ (142,710)	\$ (181,268)	\$ (181,268)	\$ (33,872,721)	\$ 39,455,881	\$ (20,544,119)	

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
Total Current Year Terminated Swaps								\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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
Total Current Year Active & Terminated Swaps				\$ 60,000,000				\$ (142,710)	\$ (181,268)	\$ (181,268)	\$ (33,872,721)	\$ 39,455,881	\$ (20,544,119)

**Interest Rate Swap Portfolio
Cash Flow Comparison**



Cash Flow Comparison Synthetic Fixed vs. Fixed Rate Debt	
Cash Flow to Date	
Synthetic Fixed =	\$47,588,941
Fixed Rate =	\$55,615,796
Assumptions:	
- Fixed rate debt issued at 4.93% in Mar-07	
(estimated TE rate - Bloomberg)	
- 'Synthetic' includes swap cash flow + interest + fees to date	

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IRWD
AP DISBURSEMENTS AND VOIDS FOR JULY 2019

CHECK OR WIRE #	SUPPLIER	PAYMENT DATE	PAYMENT METHOD	AMOUNT	STATUS
400141	JCI JONES CHEMICALS INC	1-Jul-19	IRWD Check	3,475.67	Reconciled
400142	SHENKMAN & HUGHES PC	1-Jul-19	IRWD Check	30,000.00	Reconciled
400143	GREWAL, PRABHJOT	2-Jul-19	IRWD Check	37.12	Reconciled
400144	PEREZ, IVAN	2-Jul-19	IRWD Check	104.43	Reconciled
400145	KHOSH, NOOSHIN	2-Jul-19	IRWD Check	577.36	Reconciled
400146	VANG, MELANIE	2-Jul-19	IRWD Check	210.12	Reconciled
400147	JCI JONES CHEMICALS INC	2-Jul-19	IRWD Check	5,255.25	Reconciled
400148	IRWD-PETTY CASH CUSTODIAN	2-Jul-19	IRWD Check	993.91	Reconciled
400149	Hufana, Mr. Eugenio D II (Gino)	3-Jul-19	IRWD Check	106.14	Reconciled
400150	LaMar, Steven E	3-Jul-19	IRWD Check	1,356.83	Reconciled
400151	Matheis, Mary Aileen	3-Jul-19	IRWD Check	1,084.88	Reconciled
400152	Prewoznik, Frank	3-Jul-19	IRWD Check	77.61	Reconciled
400153	Swan, Peer	3-Jul-19	IRWD Check	4,459.64	Reconciled
400154	AGILENT TECHNOLOGIES, INC.	3-Jul-19	IRWD Check	237.05	Reconciled
400155	AGILENT TECHNOLOGIES, INC.	3-Jul-19	IRWD Check	452.74	Reconciled
400156	AM CONSERVATION GROUP, INC.	3-Jul-19	IRWD Check	583.65	Reconciled
400157	AMAZON CAPITAL SERVICES, INC.	3-Jul-19	IRWD Check	920.48	Reconciled
400158	ANTHEM BLUE CROSS	3-Jul-19	IRWD Check	234.65	Reconciled
400159	ANTHEM BLUE CROSS	3-Jul-19	IRWD Check	597.14	Reconciled
400160	ANTHEM BLUE CROSS	3-Jul-19	IRWD Check	597.14	Reconciled
400161	ANTHONY N. LARSEN	3-Jul-19	IRWD Check	225	Reconciled
400162	AT&T	3-Jul-19	IRWD Check	3,603.20	Reconciled
400163	AT&T	3-Jul-19	IRWD Check	11.59	Reconciled
400164	BILL'S SWEEPING SERVICE INC	3-Jul-19	IRWD Check	460	Reconciled
400165	BOYD & ASSOCIATES	3-Jul-19	IRWD Check	216	Reconciled
400166	BRIGHTVIEW LANDSCAPE DEVELOPMENT	3-Jul-19	IRWD Check	64.28	Reconciled
400167	BRIGNOLO, CATHERINE	3-Jul-19	IRWD Check	42.58	Reconciled
400168	BROOKFIELD RESIDENTIAL	3-Jul-19	IRWD Check	51.95	Reconciled
400169	CALIFORNIA BARRICADE RENTAL, INC.	3-Jul-19	IRWD Check	1,150.00	Reconciled
400170	CARTER, PAULA	3-Jul-19	IRWD Check	13.34	Reconciled
400171	CNC ENGINEERING	3-Jul-19	IRWD Check	1,208.75	Reconciled
400172	CONSORTIUM WEST BUILDERS	3-Jul-19	IRWD Check	1,153.65	Reconciled
400173	CONSTELLATION NEWENERGY, INC.	3-Jul-19	IRWD Check	47,997.75	Reconciled
400174	COX COMMUNICATIONS, INC.	3-Jul-19	IRWD Check	264.97	Reconciled
400175	CSU FULLERTON AUXILIARY SERVICES CORPORATION	3-Jul-19	IRWD Check	13,021.23	Reconciled
400176	DODDI, BHARGAVI	3-Jul-19	IRWD Check	25.75	Reconciled
400177	DOWNEY, CALEB	3-Jul-19	IRWD Check	72.64	Reconciled
400178	EAST ORANGE COUNTY WATER DISTRICT	3-Jul-19	IRWD Check	72,080.34	Reconciled
400179	EHS INTERNATIONAL, INC	3-Jul-19	IRWD Check	3,000.00	Reconciled
400180	EMERGENCY POWER CONTROLS INC	3-Jul-19	IRWD Check	868	Reconciled
400181	ENTERPRISE HOLDINGS, INC.	3-Jul-19	IRWD Check	13,839.43	Reconciled
400182	ESMAEILPOUR, BRANDON	3-Jul-19	IRWD Check	269.26	Reconciled
400183	ESRI	3-Jul-19	IRWD Check	3,300.00	Reconciled
400184	EVANS-HYDRO INC	3-Jul-19	IRWD Check	6,733.69	Reconciled
400185	FISHER SCIENTIFIC COMPANY LLC	3-Jul-19	IRWD Check	2,416.67	Reconciled
400186	GEI CONSULTANTS INC	3-Jul-19	IRWD Check	60,597.03	Reconciled
400187	GENTERRA CONSULTANTS INC	3-Jul-19	IRWD Check	6,767.00	Reconciled
400188	GRAYBAR ELECTRIC COMPANY	3-Jul-19	IRWD Check	392.73	Reconciled
400189	HACH COMPANY	3-Jul-19	IRWD Check	2,002.52	Reconciled
400190	HALDEMAN INC	3-Jul-19	IRWD Check	775.38	Reconciled
400191	HARRINGTON INDUSTRIAL PLASTICS LLC	3-Jul-19	IRWD Check	8,529.49	Reconciled
400192	HELPMATES STAFFING SERVICES	3-Jul-19	IRWD Check	4,753.30	Reconciled
400193	HILL BROTHERS CHEMICAL COMPANY	3-Jul-19	IRWD Check	10,654.15	Reconciled
400194	HOME DEPOT USA INC	3-Jul-19	IRWD Check	274.12	Reconciled
400195	HORIZON TECHNOLOGY INC	3-Jul-19	IRWD Check	1,893.65	Reconciled
400196	HSG INC	3-Jul-19	IRWD Check	1,744.00	Reconciled
400197	HUMANA INSURANCE COMPANY	3-Jul-19	IRWD Check	73.8	Reconciled
400198	ICP DAS USA INC	3-Jul-19	IRWD Check	1,298.00	Reconciled
400199	IRVINE PACIFIC	3-Jul-19	IRWD Check	138.17	Reconciled
400200	IRVINE PIPE & SUPPLY INC	3-Jul-19	IRWD Check	954.1	Reconciled
400201	IRVINE PROPERTY MANAGEMENT	3-Jul-19	IRWD Check	15.44	Reconciled
400202	JANGA, VENKATA	3-Jul-19	IRWD Check	20.42	Negotiable
400203	JOHN MICHAEL COVAS	3-Jul-19	IRWD Check	173.2	Negotiable
400204	KAESER COMPRESSORS, INC.	3-Jul-19	IRWD Check	377.17	Reconciled
400205	KAPI RESIDENCES INC	3-Jul-19	IRWD Check	880.34	Negotiable
400206	KILL-N-BUGS TERMITE AND PEST CONTROL SERVICES	3-Jul-19	IRWD Check	5,650.00	Reconciled
400207	KLEINFELDER, INC.	3-Jul-19	IRWD Check	2,242.00	Reconciled

IRWD
AP DISBURSEMENTS AND VOIDS FOR JULY 2019

CHECK OR WIRE #	SUPPLIER	PAYMENT DATE	PAYMENT METHOD	AMOUNT	STATUS
400208	LAGUNA BEACH COUNTY WATER DISTRICT	3-Jul-19	IRWD Check	3,603.01	Reconciled
400209	LE, KIM	3-Jul-19	IRWD Check	44.92	Reconciled
400210	LEE & RO, INC.	3-Jul-19	IRWD Check	5,629.00	Reconciled
400211	LENNAR HOMES	3-Jul-19	IRWD Check	192.9	Reconciled
400212	LUU, JOCELYN	3-Jul-19	IRWD Check	2.01	Reconciled
400213	MC FADDEN-DALE INDUSTRIAL	3-Jul-19	IRWD Check	74.95	Reconciled
400214	MERRIMAC PETROLEUM, INC.	3-Jul-19	IRWD Check	25,090.22	Reconciled
400215	MICHELE CHAVIS-LOVING	3-Jul-19	IRWD Check	1,445.64	Reconciled
400216	MOBILE MODULAR MANAGEMENT CORPORATION	3-Jul-19	IRWD Check	1,212.19	Reconciled
400217	MPULSE MOBILE, INC	3-Jul-19	IRWD Check	120.47	Reconciled
400218	MR CRANE INC	3-Jul-19	IRWD Check	1,447.20	Reconciled
400219	MUNICIPAL MAINTENANCE EQUIPMENT INC	3-Jul-19	IRWD Check	20,014.68	Reconciled
400220	NASRIN GHAZIYAR AND SAHAR GHAZIYAR	3-Jul-19	IRWD Check	79.45	Reconciled
400221	NATIONAL READY MIXED CONCRETE SALES, LLC	3-Jul-19	IRWD Check	549.54	Reconciled
400222	NATURES IMAGE INC	3-Jul-19	IRWD Check	13,642.00	Reconciled
400223	NAVIGANT CONSULTING, INC	3-Jul-19	IRWD Check	7,406.00	Reconciled
400224	O.C. SUPERIOR CUSTOM CLEANING	3-Jul-19	IRWD Check	832	Reconciled
400225	OLEN COMMERCIAL REALTY	3-Jul-19	IRWD Check	121.78	Reconciled
400226	OLIN CORPORATION	3-Jul-19	IRWD Check	22,206.94	Reconciled
400227	ORANGE COUNTY SANITATION DISTRICT	3-Jul-19	IRWD Check	78.53	Reconciled
400228	ORANGE COUNTY TREASURER	3-Jul-19	IRWD Check	2,900.00	Reconciled
400229	P ASSETS, INC	3-Jul-19	IRWD Check	40.69	Reconciled
400230	PALO VERDE IRRIGATION DISTRICT	3-Jul-19	IRWD Check	221,429.00	Reconciled
400231	PARKHOUSE TIRE INC	3-Jul-19	IRWD Check	5,087.37	Reconciled
400232	PERKINELMER HEALTH SCIENCES INC	3-Jul-19	IRWD Check	1,249.86	Reconciled
400233	POLLARDWATER.COM	3-Jul-19	IRWD Check	179.95	Reconciled
400234	QUICKEL PAVING INC	3-Jul-19	IRWD Check	14,595.00	Reconciled
400235	R & S SOIL PRODUCTS, INC	3-Jul-19	IRWD Check	700.38	Reconciled
400236	RAM AIR ENGINEERING INC	3-Jul-19	IRWD Check	12,065.31	Negotiable
400237	RED WING SHOE STORE	3-Jul-19	IRWD Check	363.63	Reconciled
400238	REPLAN, MARK	3-Jul-19	IRWD Check	939.87	Negotiable
400239	RESTEK CORPORATION	3-Jul-19	IRWD Check	3,642.87	Reconciled
400240	RICHARD C. SLADE & ASSOCIATES LLC	3-Jul-19	IRWD Check	5,215.81	Reconciled
400241	RLG ENTERPRISES, INC	3-Jul-19	IRWD Check	600.7	Reconciled
400242	SAN CARLO APARTMENTS	3-Jul-19	IRWD Check	843.82	Reconciled
400243	SANTA ANA BLUE PRINT	3-Jul-19	IRWD Check	620.85	Reconciled
400244	SANTA MARGARITA FORD	3-Jul-19	IRWD Check	109.11	Reconciled
400245	SCHINDLER ELEVATOR CORPORATION	3-Jul-19	IRWD Check	221.9	Reconciled
400246	SHADY CANYON GOLF CLUB	3-Jul-19	IRWD Check	1,182.70	Reconciled
400247	SHAMROCK SUPPLY CO INC	3-Jul-19	IRWD Check	246.29	Reconciled
400248	SMT AUTOMOTIVE LLC	3-Jul-19	IRWD Check	525.28	Reconciled
400249	SOUTHERN CALIFORNIA EDISON COMPANY	3-Jul-19	IRWD Check	442,715.32	Reconciled
400250	SPATIAL WAVE, INC.	3-Jul-19	IRWD Check	20,280.00	Reconciled
400251	SUSAN A. SIROTA	3-Jul-19	IRWD Check	4,525.00	Reconciled
400252	TACTICAL PROPERTY HOLDINGS LLC	3-Jul-19	IRWD Check	864.9	Negotiable
400253	TALLEY INC	3-Jul-19	IRWD Check	1,578.60	Reconciled
400254	THERMO ELECTRON NORTH AMERICA LLC	3-Jul-19	IRWD Check	1,539.16	Reconciled
400255	THYSSENKRUPP ELEVATOR CORPORATION	3-Jul-19	IRWD Check	396.46	Reconciled
400256	TIC-SPECTRUM OFFICE	3-Jul-19	IRWD Check	2,195.31	Reconciled
400257	TROPICAL PLAZA NURSERY INC	3-Jul-19	IRWD Check	9,256.92	Reconciled
400258	TRUKSPECT, INC	3-Jul-19	IRWD Check	903.96	Reconciled
400259	TYCO FIRE & SECURITY (US) MANAGEMENT INC	3-Jul-19	IRWD Check	4,563.52	Reconciled
400260	UNITED HEALTHCARE INSURANCE COMPANY	3-Jul-19	IRWD Check	284.07	Reconciled
400261	USA BLUEBOOK	3-Jul-19	IRWD Check	589.34	Reconciled
400262	VERIZON WIRELESS SERVICES LLC	3-Jul-19	IRWD Check	12,958.91	Reconciled
400263	VERTECH INDUSTRIAL SYSTEMS, LLC	3-Jul-19	IRWD Check	10,631.52	Reconciled
400264	WASTE MANAGEMENT OF ORANGE COUNTY	3-Jul-19	IRWD Check	490.03	Reconciled
400265	WATERLINE TECHNOLOGIES INC	3-Jul-19	IRWD Check	5,680.00	Reconciled
400266	WAXIE'S ENTERPRISES, INC	3-Jul-19	IRWD Check	231.33	Reconciled
400267	WORKFORCE SAFETY LLC	3-Jul-19	IRWD Check	1,500.00	Reconciled
400268	YAN, RUI	3-Jul-19	IRWD Check	34.5	Negotiable
400269	YORKVILLE INVESTMENT, INC	3-Jul-19	IRWD Check	103.85	Negotiable
400270	PERS LONG TERM CARE	8-Jul-19	IRWD Check	538.89	Reconciled
400271	INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL 47	8-Jul-19	IRWD Check	2,391.96	Reconciled
400272	ORANGE COUNTY SHERIFF'S OFFICE	8-Jul-19	IRWD Check	62.5	Reconciled
400273	FRANCHISE TAX BOARD	8-Jul-19	IRWD Check	1,112.33	Reconciled
400274	STATE WATER RESOURCES CONTROL BOARD	10-Jul-19	IRWD Check	194,145.30	Reconciled

IRWD
AP DISBURSEMENTS AND VOIDS FOR JULY 2019

CHECK OR WIRE #	SUPPLIER	PAYMENT DATE	PAYMENT METHOD	AMOUNT	STATUS
400275	SOUTHERN CALIFORNIA EDISON COMPANY	10-Jul-19	IRWD Check	2,482.73	Reconciled
400276	IRWD-PETTY CASH CUSTODIAN	10-Jul-19	IRWD Check	1,195.22	Reconciled
400277	Cho, Harry K (Harry)	11-Jul-19	IRWD Check	115	Reconciled
400278	Matheis, Mary Aileen	11-Jul-19	IRWD Check	320.09	Reconciled
400279	Pan, Jenny W (Jenny)	11-Jul-19	IRWD Check	52.34	Negotiable
400280	Phuong, Sophia	11-Jul-19	IRWD Check	89.63	Negotiable
400281	Reinhart, Douglas J	11-Jul-19	IRWD Check	1,187.64	Reconciled
400282	Spangenberg, Carl W (Carl)	11-Jul-19	IRWD Check	24	Reconciled
400283	Withers, John B	11-Jul-19	IRWD Check	798.43	Reconciled
400284	GRAINGER	11-Jul-19	IRWD Check	1,903.18	Reconciled
400285	AFLAC	11-Jul-19	IRWD Check	13,594.27	Reconciled
400286	AGILENT TECHNOLOGIES, INC.	11-Jul-19	IRWD Check	850.26	Reconciled
400287	ALLIANT INSURANCE SERVICES, INC	11-Jul-19	IRWD Check	4,601.00	Reconciled
400288	AMAZON CAPITAL SERVICES, INC.	11-Jul-19	IRWD Check	127.84	Reconciled
400289	ASHFORD, WALT	11-Jul-19	IRWD Check	343.65	Reconciled
400290	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA	11-Jul-19	IRWD Check	500	Reconciled
400291	AUTOZONE PARTS, INC.	11-Jul-19	IRWD Check	228.28	Reconciled
400292	AVISTA TECHNOLOGIES, INC	11-Jul-19	IRWD Check	8,355.89	Reconciled
400293	B & K ELECTRIC WHOLESale	11-Jul-19	IRWD Check	2,777.91	Reconciled
400294	BANK OF NEW YORK MELLON TRUST COMPANY NA	11-Jul-19	IRWD Check	736	Reconciled
400295	BARTEL ASSOCIATES, LLC	11-Jul-19	IRWD Check	9,995.00	Reconciled
400296	BEE EMERGENCY RESPONSE TEAM	11-Jul-19	IRWD Check	350	Reconciled
400297	BELL TOWER FLORIST & GIFTS	11-Jul-19	IRWD Check	96.96	Reconciled
400298	BERGMAN KPRS, LLC	11-Jul-19	IRWD Check	937.14	Negotiable
400299	BIOMAGIC INC	11-Jul-19	IRWD Check	16,893.05	Reconciled
400300	BOYD & ASSOCIATES	11-Jul-19	IRWD Check	3,537.00	Reconciled
400301	BRENNTAG PACIFIC INC	11-Jul-19	IRWD Check	5,675.20	Reconciled
400302	BSI SERVICES AND SOLUTIONS (WEST) INC.	11-Jul-19	IRWD Check	18,595.00	Reconciled
400303	BUCKLEY, DAVID	11-Jul-19	IRWD Check	48.89	Reconciled
400304	C WELLS PIPELINE MATERIALS INC	11-Jul-19	IRWD Check	30,232.11	Reconciled
400305	CANON FINANCIAL SERVICES, INC	11-Jul-19	IRWD Check	401.91	Reconciled
400306	CANON SOLUTIONS AMERICA, INC.	11-Jul-19	IRWD Check	39.13	Reconciled
400307	CAPTIVE AUDIENCE MARKETING INC.	11-Jul-19	IRWD Check	79	Reconciled
400308	CAROLLO ENGINEERS, INC	11-Jul-19	IRWD Check	64,498.50	Reconciled
400309	CHEM TECH INTERNATIONAL INC	11-Jul-19	IRWD Check	16,280.08	Reconciled
400310	CHEN, XIAOPING	11-Jul-19	IRWD Check	1,050.79	Negotiable
400311	CHIANG, CONNIE	11-Jul-19	IRWD Check	153.55	Negotiable
400312	CHO DESIGN ASSOCIATES, INC	11-Jul-19	IRWD Check	800	Reconciled
400313	CITY OF IRVINE	11-Jul-19	IRWD Check	840	Reconciled
400314	CLARIS STRATEGY INC.	11-Jul-19	IRWD Check	9,830.00	Reconciled
400315	CONNEXUS INDUSTRIES INC.	11-Jul-19	IRWD Check	26,597.53	Negotiable
400316	CONSTELLATION NEWENERGY, INC.	11-Jul-19	IRWD Check	118.95	Reconciled
400317	CORELOGIC INC	11-Jul-19	IRWD Check	27.32	Reconciled
400318	CSAC EXCESS INSURANCE AUTHORITY	11-Jul-19	IRWD Check	293,325.00	Reconciled
400319	CULLIGAN OF SANTA ANA	11-Jul-19	IRWD Check	12,000.00	Reconciled
400320	D & G SIGNS	11-Jul-19	IRWD Check	2,724.38	Reconciled
400321	D & H WATER SYSTEMS INC.	11-Jul-19	IRWD Check	1,489.78	Reconciled
400322	DELL MARKETING LP	11-Jul-19	IRWD Check	58,429.02	Reconciled
400323	DERISCHEBOURG, DALE	11-Jul-19	IRWD Check	275	Negotiable
400324	DO, BEN	11-Jul-19	IRWD Check	23.32	Reconciled
400325	EI&C ENGINEERING INC	11-Jul-19	IRWD Check	54,586.50	Reconciled
400326	EMD MILLIPORE CORPORATION	11-Jul-19	IRWD Check	1,119.32	Reconciled
400327	ENTERPRISE HOLDINGS, INC.	11-Jul-19	IRWD Check	13,408.93	Reconciled
400328	ENVIRONMENTAL SCIENCE ASSOCIATES	11-Jul-19	IRWD Check	12,228.88	Reconciled
400329	EUROFINS EATON ANALYTICAL, INC.	11-Jul-19	IRWD Check	105	Reconciled
400330	EXTRA SPACE MANAGEMENT INC	11-Jul-19	IRWD Check	3,185.27	Negotiable
400331	FAN, FAN	11-Jul-19	IRWD Check	63.61	Negotiable
400332	FEDEX	11-Jul-19	IRWD Check	643.11	Reconciled
400333	FERGUSON ENTERPRISES, LLC	11-Jul-19	IRWD Check	7,670.73	Reconciled
400334	FIREHOSEDIRECT.COM	11-Jul-19	IRWD Check	278.33	Reconciled
400335	FIRST CHOICE SERVICES	11-Jul-19	IRWD Check	499.15	Reconciled
400336	FISHER SCIENTIFIC COMPANY LLC	11-Jul-19	IRWD Check	1,368.34	Reconciled
400337	FOUGHT, CYNTHIA J.	11-Jul-19	IRWD Check	2,869.99	Reconciled
400338	GALPERINA-VAL, YELIZAVETA	11-Jul-19	IRWD Check	12.62	Reconciled
400339	GARZA INDUSTRIES, INC	11-Jul-19	IRWD Check	281.93	Reconciled
400340	GLENN LUKOS ASSOCIATES, INC	11-Jul-19	IRWD Check	1,459.62	Reconciled
400341	GLOBAL REAL ESTATE USA INC.	11-Jul-19	IRWD Check	34.9	Reconciled

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CHECK OR WIRE #	SUPPLIER	PAYMENT DATE	PAYMENT METHOD	AMOUNT	STATUS
400342	GRAINGER	11-Jul-19	IRWD Check	2,972.55	Reconciled
400343	GRAYBAR ELECTRIC COMPANY	11-Jul-19	IRWD Check	1,157.91	Reconciled
400344	GRIGSBY, SUSAN	11-Jul-19	IRWD Check	35.83	Negotiable
400345	HAAKER EQUIPMENT COMPANY	11-Jul-19	IRWD Check	326.79	Reconciled
400346	HACH COMPANY	11-Jul-19	IRWD Check	496.69	Reconciled
400347	HARMSWORTH ASSOCIATES	11-Jul-19	IRWD Check	2,040.00	Reconciled
400348	HARRINGTON INDUSTRIAL PLASTICS LLC	11-Jul-19	IRWD Check	11,207.61	Reconciled
400349	HAZEN AND SAWYER	11-Jul-19	IRWD Check	999.74	Reconciled
400350	HDR ENGINEERING INC	11-Jul-19	IRWD Check	17,262.03	Reconciled
400351	HE, QIAN	11-Jul-19	IRWD Check	19.64	Negotiable
400352	HELPMATES STAFFING SERVICES	11-Jul-19	IRWD Check	12,313.16	Reconciled
400353	HILL BROTHERS CHEMICAL COMPANY	11-Jul-19	IRWD Check	7,050.00	Reconciled
400354	HILTS CONSULTING GROUP, INC.	11-Jul-19	IRWD Check	5,993.00	Reconciled
400355	HOME DEPOT USA INC	11-Jul-19	IRWD Check	194.45	Reconciled
400356	HOWDEN ROOTS LLC	11-Jul-19	IRWD Check	32,191.26	Reconciled
400357	HSU, JENNIFER	11-Jul-19	IRWD Check	3,054.54	Reconciled
400358	INLAND POTABLE SERVICES, INC.	11-Jul-19	IRWD Check	91,884.00	Reconciled
400359	INNOVYZE, INC.	11-Jul-19	IRWD Check	22,070.00	Reconciled
400360	IRON MOUNTAIN INFORMATION MANAGEMENT INC	11-Jul-19	IRWD Check	1,568.06	Reconciled
400361	IRVINE PACIFIC	11-Jul-19	IRWD Check	18.48	Reconciled
400362	IRVINE PIPE & SUPPLY INC	11-Jul-19	IRWD Check	659.98	Reconciled
400363	JI, NING	11-Jul-19	IRWD Check	172	Negotiable
400364	JIA, LETAO	11-Jul-19	IRWD Check	19.12	Negotiable
400365	JINKINS, RICHARD	11-Jul-19	IRWD Check	44.16	Reconciled
400366	KB HOMES	11-Jul-19	IRWD Check	893.45	Negotiable
400367	KIM, SHAWN	11-Jul-19	IRWD Check	38.12	Reconciled
400368	KPRS CONSTRUCTION SERVICES, INC.	11-Jul-19	IRWD Check	654,744.02	Reconciled
400369	KUSTERS ZIMA CORPORATION	11-Jul-19	IRWD Check	25,051.57	Reconciled
400370	LEE & RO, INC.	11-Jul-19	IRWD Check	38,554.50	Reconciled
400371	LEGACY CUSTOM HOMES INC	11-Jul-19	IRWD Check	853.48	Reconciled
400372	LEMAITRE, JEAN-MARC	11-Jul-19	IRWD Check	267.9	Reconciled
400373	LENNAR HOMES	11-Jul-19	IRWD Check	281.97	Reconciled
400374	LIFANG, SHI	11-Jul-19	IRWD Check	128.26	Reconciled
400375	LIU, QI	11-Jul-19	IRWD Check	12.13	Negotiable
400376	MC CABE, MICHAEL	11-Jul-19	IRWD Check	28.54	Negotiable
400377	MC MASTER CARR SUPPLY CO	11-Jul-19	IRWD Check	862.5	Reconciled
400378	MICHAEL BAKER INTERNATIONAL, INC.	11-Jul-19	IRWD Check	1,883.40	Reconciled
400379	MICHELE CHAVIS-LOVING	11-Jul-19	IRWD Check	5,059.99	Reconciled
400380	MULTIQUIP INC	11-Jul-19	IRWD Check	327.31	Reconciled
400381	MURROW, MARIKO	11-Jul-19	IRWD Check	38.32	Negotiable
400382	NCH CORPORATION	11-Jul-19	IRWD Check	407.56	Reconciled
400383	NEWPORT REAL ESTATE SERVICES	11-Jul-19	IRWD Check	13,100.00	Reconciled
400384	NOVACOAST INC	11-Jul-19	IRWD Check	225	Reconciled
400385	OFFERPAD LLC	11-Jul-19	IRWD Check	142.38	Reconciled
400386	OLIN CORPORATION	11-Jul-19	IRWD Check	18,472.87	Reconciled
400387	ONESOURCE DISTRIBUTORS LLC	11-Jul-19	IRWD Check	94.71	Reconciled
400388	ORACLE AMERICA, INC.	11-Jul-19	IRWD Check	6,428.13	Reconciled
400389	ORANGE COUNTY AUTO PARTS CO	11-Jul-19	IRWD Check	1,359.95	Reconciled
400390	ORANGE COUNTY FIRE AUTHORITY	11-Jul-19	IRWD Check	801	Reconciled
400391	ORANGE COUNTY SANITATION DISTRICT	11-Jul-19	IRWD Check	1,890.00	Reconciled
400392	PACIFIC COAST BOLT CORP	11-Jul-19	IRWD Check	5,266.83	Reconciled
400393	PAPER DEPOT DOCUMENT DESTRUCTION LLC	11-Jul-19	IRWD Check	360	Reconciled
400394	PARKHOUSE TIRE INC	11-Jul-19	IRWD Check	663.6	Reconciled
400395	PAYNE & FEARS LLP	11-Jul-19	IRWD Check	11,938.30	Reconciled
400396	PELLETIER & ASSOCIATES, INC.	11-Jul-19	IRWD Check	1,117.00	Reconciled
400397	PILLSBURY WINTHROP SHAW PITTMAN LLP	11-Jul-19	IRWD Check	822	Reconciled
400398	PLUMBERS DEPOT INC.	11-Jul-19	IRWD Check	6,677.14	Reconciled
400399	PORTOLA SPRINGS COMM ASSN	11-Jul-19	IRWD Check	349.13	Negotiable
400400	PRO MOBILE AUTO DETAILING	11-Jul-19	IRWD Check	300	Reconciled
400401	PRUDENTIAL OVERALL SUPPLY	11-Jul-19	IRWD Check	6,597.83	Reconciled
400402	PTI SAND & GRAVEL INC	11-Jul-19	IRWD Check	2,297.52	Reconciled
400403	PUREWORKS, INC.	11-Jul-19	IRWD Check	6,300.00	Reconciled
400404	PURSLEY, JOSEPH	11-Jul-19	IRWD Check	200	Reconciled
400405	QWEST ENGINEERING INC.	11-Jul-19	IRWD Check	622.49	Reconciled
400406	RAM AIR ENGINEERING INC	11-Jul-19	IRWD Check	615	Reconciled
400407	REINGOLD, LISA	11-Jul-19	IRWD Check	25.49	Reconciled
400408	RELIANCE SAFETY CONSULTANTS, INC.	11-Jul-19	IRWD Check	7,288.99	Reconciled

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400409	RENTOKIL NORTH AMERICA, INC	11-Jul-19	IRWD Check	1,036.00	Reconciled
400410	RESENDIZ, JESUS AND CANALES, NOHEMI	11-Jul-19	IRWD Check	13.62	Reconciled
400411	RICHMOND AMERICAN HOMES OF MARYLAND, INC	11-Jul-19	IRWD Check	136.02	Negotiable
400412	RLG ENTERPRISES, INC	11-Jul-19	IRWD Check	624.41	Reconciled
400413	SAFETY CENTER INCORPORATED	11-Jul-19	IRWD Check	280	Reconciled
400414	SANTA ANA BLUE PRINT	11-Jul-19	IRWD Check	951.12	Reconciled
400415	SANTA ANA WATERSHED PROJECT AUTHORITY	11-Jul-19	IRWD Check	15,032.00	Reconciled
400416	SANTA MARGARITA FORD	11-Jul-19	IRWD Check	1,140.87	Reconciled
400417	SEAL ANALYTICAL INC	11-Jul-19	IRWD Check	7,717.99	Reconciled
400418	SHAMROCK SUPPLY CO INC	11-Jul-19	IRWD Check	558.2	Reconciled
400419	SHERWIN WILLIAMS COMPANY	11-Jul-19	IRWD Check	2,252.75	Reconciled
400420	SIMI VALLEY LANDFILL AND RECYCLING CENTER	11-Jul-19	IRWD Check	231.84	Reconciled
400421	SIRIUS COMPUTER SOLUTIONS INC	11-Jul-19	IRWD Check	68,181.05	Reconciled
400422	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	11-Jul-19	IRWD Check	1,114.84	Reconciled
400423	SOUTHERN CALIFORNIA EDISON COMPANY	11-Jul-19	IRWD Check	64,007.72	Reconciled
400424	STANTEC CONSULTING SERVICES INC.	11-Jul-19	IRWD Check	6,970.00	Reconciled
400425	START INC.	11-Jul-19	IRWD Check	821.74	Reconciled
400426	SU, HAINING	11-Jul-19	IRWD Check	29.14	Negotiable
400427	TETRA TECH, INC	11-Jul-19	IRWD Check	10,954.00	Reconciled
400428	THE NEW HOME COMPANY SOUTHERN CALIFORNIA LLC	11-Jul-19	IRWD Check	887.7	Negotiable
400429	THOMPSON INDUSTRIAL SUPPLY	11-Jul-19	IRWD Check	566.48	Reconciled
400430	TOLL BROS., INC.	11-Jul-19	IRWD Check	1,044.04	Reconciled
400431	TRI POINTE HOMES, INC.	11-Jul-19	IRWD Check	56.06	Reconciled
400432	TRUKSPECT, INC	11-Jul-19	IRWD Check	1,807.92	Reconciled
400433	UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA	11-Jul-19	IRWD Check	1,532.95	Reconciled
400434	UNITED SITE SERVICES OF CALIFORNIA INC	11-Jul-19	IRWD Check	549.83	Reconciled
400435	US BANK NAT'L ASSOC N.DAKOTA	11-Jul-19	IRWD Check	4,000.00	Reconciled
400436	VAUGHAN'S INDUSTRIAL REPAIR CO INC	11-Jul-19	IRWD Check	534	Reconciled
400437	WALTERS WHOLESALE ELECTRIC	11-Jul-19	IRWD Check	439.48	Reconciled
400438	WASTE MANAGEMENT OF ORANGE COUNTY	11-Jul-19	IRWD Check	4,536.37	Reconciled
400439	WATERSMART SOFTWARE, INC	11-Jul-19	IRWD Check	13,597.50	Reconciled
400440	WEI, LARRY	11-Jul-19	IRWD Check	25.93	Reconciled
400441	WEST COAST SAFETY SUPPLY INC	11-Jul-19	IRWD Check	10,460.37	Reconciled
400442	WOLTERS KLUWER LEGAL & REGULATORY US, A DIVISION OF CCH INCORPORATED	11-Jul-19	IRWD Check	246.1	Reconciled
400443	WYATT, KRYSTA	11-Jul-19	IRWD Check	48.64	Negotiable
400444	XU, YING	11-Jul-19	IRWD Check	24.85	Negotiable
400445	YIN, HONG	11-Jul-19	IRWD Check	19.93	Reconciled
400446	ZHANG, LIYANG	11-Jul-19	IRWD Check	14.12	Reconciled
400447	JCI JONES CHEMICALS INC	15-Jul-19	IRWD Check	3,338.90	Reconciled
400448	Burton, Kevin L (Kevin)	18-Jul-19	IRWD Check	37.79	Reconciled
400449	Cortez, Malcolm A (Malcolm)	18-Jul-19	IRWD Check	111.36	Negotiable
400450	De Leon, Sharon	18-Jul-19	IRWD Check	448.03	Negotiable
400451	Hoffman, Michael S (Mike)	18-Jul-19	IRWD Check	265.56	Reconciled
400452	Johnson, Susanne	18-Jul-19	IRWD Check	416.39	Reconciled
400453	Justice, Jack L (Jack)	18-Jul-19	IRWD Check	92	Reconciled
400454	Mroczek, Michael	18-Jul-19	IRWD Check	88.06	Reconciled
400455	Navarro, Hector R	18-Jul-19	IRWD Check	500.66	Reconciled
400456	Shih, Han-Tsuei (Josephine)	18-Jul-19	IRWD Check	887.82	Reconciled
400457	A&A WIPING CLOTH CO	18-Jul-19	IRWD Check	1,336.10	Reconciled
400458	ABM INDUSTRY GROUPS, LLC	18-Jul-19	IRWD Check	18,915.01	Reconciled
400459	ACCUSOURCE, INC.	18-Jul-19	IRWD Check	762.2	Reconciled
400460	ACE STAINLESS SUPPLY	18-Jul-19	IRWD Check	8,119.02	Reconciled
400461	ADS LLC	18-Jul-19	IRWD Check	2,160.00	Reconciled
400462	AECOM TECHNICAL SERVICES, INC.	18-Jul-19	IRWD Check	38,652.19	Reconciled
400463	AIR RESOURCES BOARD	18-Jul-19	IRWD Check	110	Reconciled
400464	AIR TECHNOLOGY LABORATORIES	18-Jul-19	IRWD Check	289	Reconciled
400465	AIRGAS, INC.	18-Jul-19	IRWD Check	1,576.70	Reconciled
400466	ALEXANDER'S CONTRACT SERVICES, INC.	18-Jul-19	IRWD Check	120,909.68	Reconciled
400467	ALLIANT INSURANCE SERVICES, INC	18-Jul-19	IRWD Check	9,697.00	Reconciled
400468	ALLIANT INSURANCE SERVICES, INC	18-Jul-19	IRWD Check	1,250.00	Reconciled
400469	AMAZON CAPITAL SERVICES, INC.	18-Jul-19	IRWD Check	1,698.25	Reconciled
400470	ANTHEM BLUE CROSS	18-Jul-19	IRWD Check	597.14	Reconciled
400471	ANTHEM BLUE CROSS	18-Jul-19	IRWD Check	234.65	Reconciled
400472	ANTHEM BLUE CROSS	18-Jul-19	IRWD Check	597.14	Reconciled
400473	APCO GRAPHICS INC	18-Jul-19	IRWD Check	107.75	Reconciled
400474	APTEAN, INC.	18-Jul-19	IRWD Check	23,091.60	Reconciled
400475	AT&T	18-Jul-19	IRWD Check	6,977.66	Reconciled

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400476	ATHENS SERVICES	18-Jul-19	IRWD Check	8,561.43	Reconciled
400477	ATHENS SERVICES	18-Jul-19	IRWD Check	2,005.12	Reconciled
400478	B & H PHOTO & VIDEO	18-Jul-19	IRWD Check	2,278.74	Reconciled
400479	BALL, ASHLEY	18-Jul-19	IRWD Check	1.9	Negotiable
400480	BILL'S SWEEPING SERVICE INC	18-Jul-19	IRWD Check	1,050.00	Reconciled
400481	BIOMERIEUX INC	18-Jul-19	IRWD Check	286.63	Reconciled
400482	BLACK & VEATCH CORPORATION	18-Jul-19	IRWD Check	252,892.48	Reconciled
400483	BOYD & ASSOCIATES	18-Jul-19	IRWD Check	651	Reconciled
400484	BRISENO, CHRISTOPHER	18-Jul-19	IRWD Check	19.4	Reconciled
400485	BURLINGTON SAFETY LABORATORY OF CALIFORNIA INC	18-Jul-19	IRWD Check	628.15	Reconciled
400486	C WELLS PIPELINE MATERIALS INC	18-Jul-19	IRWD Check	1,113.07	Reconciled
400487	CALIFORNIA DEPARTMENT OF TAX AND FEE ADMINISTRATION	18-Jul-19	IRWD Check	2,003.00	Reconciled
400488	CDW GOVERNMENT LLC	18-Jul-19	IRWD Check	13,499.50	Reconciled
400489	CHO DESIGN ASSOCIATES, INC	18-Jul-19	IRWD Check	7,620.78	Reconciled
400490	CITY OF SANTA ANA	18-Jul-19	IRWD Check	106.37	Reconciled
400491	CLEAN ENERGY	18-Jul-19	IRWD Check	5,383.17	Reconciled
400492	CONSTELLATION NEWENERGY, INC.	18-Jul-19	IRWD Check	9,078.37	Reconciled
400493	CR & R INCORPORATED	18-Jul-19	IRWD Check	407.58	Reconciled
400494	CREAGHE, LORENA	18-Jul-19	IRWD Check	173.96	Reconciled
400495	CSAC EXCESS INSURANCE AUTHORITY	18-Jul-19	IRWD Check	734,030.00	Reconciled
400496	D & H WATER SYSTEMS INC.	18-Jul-19	IRWD Check	16,336.31	Reconciled
400497	DEE JASPAR & ASSOCIATES, INC.	18-Jul-19	IRWD Check	2,525.20	Reconciled
400498	EHSANY, MEHDI	18-Jul-19	IRWD Check	318.16	Negotiable
400499	ENTERPRISE INFORMATION SYSTEMS, INC.	18-Jul-19	IRWD Check	2,750.00	Negotiable
400500	ENVIRONMENTAL RESOURCE ASSOCIATES	18-Jul-19	IRWD Check	909.64	Reconciled
400501	EVERETT DOREY LLP	18-Jul-19	IRWD Check	508.5	Reconciled
400502	FARRELL & ASSOCIATES	18-Jul-19	IRWD Check	1,579.64	Reconciled
400503	FERGUSON ENTERPRISES, LLC	18-Jul-19	IRWD Check	371.15	Reconciled
400504	FERGUSON ENTERPRISES, LLC	18-Jul-19	IRWD Check	3,520.19	Reconciled
400505	FIRE EXTINGUISHING SAFETY & SERVICE	18-Jul-19	IRWD Check	4,902.63	Reconciled
400506	FISERV	18-Jul-19	IRWD Check	280.95	Reconciled
400507	FISHER SCIENTIFIC COMPANY LLC	18-Jul-19	IRWD Check	130.82	Reconciled
400508	GANAHL LUMBER CO.	18-Jul-19	IRWD Check	44.5	Reconciled
400509	GEI CONSULTANTS INC	18-Jul-19	IRWD Check	21,887.21	Reconciled
400510	GHAVAMNSIRI, AZADEH	18-Jul-19	IRWD Check	36.57	Reconciled
400511	GM SAGER CONSTRUCTION CO,INC.	18-Jul-19	IRWD Check	36,510.00	Reconciled
400512	GRAINGER	18-Jul-19	IRWD Check	2,473.34	Reconciled
400513	GRAYBAR ELECTRIC COMPANY	18-Jul-19	IRWD Check	2,522.15	Reconciled
400514	GROB, LUKAS	18-Jul-19	IRWD Check	36.14	Negotiable
400515	HABITAT RESTORATION SCIENCES, INC.	18-Jul-19	IRWD Check	1,183.00	Negotiable
400516	HAMILTON, KURT	18-Jul-19	IRWD Check	882.49	Reconciled
400517	HARMSWORTH ASSOCIATES	18-Jul-19	IRWD Check	698	Reconciled
400518	HELPMATES STAFFING SERVICES	18-Jul-19	IRWD Check	12,543.89	Reconciled
400519	HILL BROTHERS CHEMICAL COMPANY	18-Jul-19	IRWD Check	3,694.46	Reconciled
400520	HOME DEPOT USA INC	18-Jul-19	IRWD Check	730.43	Reconciled
400521	IDEXX DISTRIBUTION, INC	18-Jul-19	IRWD Check	973.2	Reconciled
400522	INFOSEND, INC.	18-Jul-19	IRWD Check	13,808.48	Reconciled
400523	INORGANIC VENTURES INC	18-Jul-19	IRWD Check	879.09	Reconciled
400524	INTEGRATED PERFORMANCE CONSULTANTS, INC.	18-Jul-19	IRWD Check	7,539.70	Reconciled
400525	IRVINE MANAGEMENT COMPANY	18-Jul-19	IRWD Check	3,175.91	Negotiable
400526	IRVINE PIPE & SUPPLY INC	18-Jul-19	IRWD Check	1,086.64	Reconciled
400527	IRWD-PETTY CASH CUSTODIAN	18-Jul-19	IRWD Check	869.02	Reconciled
400528	ISHAK, JOSEPH	18-Jul-19	IRWD Check	412.46	Reconciled
400529	JACK RUBIN & SONS, INC	18-Jul-19	IRWD Check	1,562.38	Reconciled
400530	KAO, JENNY	18-Jul-19	IRWD Check	12.5	Reconciled
400531	KILL-N-BUGS TERMITE AND PEST CONTROL SERVICES	18-Jul-19	IRWD Check	1,925.00	Reconciled
400532	KIM, TYLER	18-Jul-19	IRWD Check	44.41	Reconciled
400533	KONECRANES INC	18-Jul-19	IRWD Check	1,064.00	Reconciled
400534	KOURY ENGINEERING & TESTING, INC.	18-Jul-19	IRWD Check	7,272.00	Reconciled
400535	KRONICK MOSKOVITZ TIEDEMANN & GIRARD	18-Jul-19	IRWD Check	843.15	Reconciled
400536	KRUEGER INTERNATIONAL, INC.	18-Jul-19	IRWD Check	5,872.15	Reconciled
400537	LAYFIELD USA CORPORATION	18-Jul-19	IRWD Check	4,117.00	Reconciled
400538	LILLESTRAND LEADERSHIP CONSULTING, INC.	18-Jul-19	IRWD Check	5,537.62	Negotiable
400539	MAP COMMUNICATIONS, INC.	18-Jul-19	IRWD Check	1,037.54	Reconciled
400540	MARK KADESH	18-Jul-19	IRWD Check	10,000.00	Reconciled
400541	MC FADDEN-DALE INDUSTRIAL	18-Jul-19	IRWD Check	296.94	Reconciled
400542	MC MASTER CARR SUPPLY CO	18-Jul-19	IRWD Check	92.56	Reconciled

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CHECK OR WIRE #	SUPPLIER	PAYMENT DATE	PAYMENT METHOD	AMOUNT	STATUS
400543	MISSION COMMUNICATIONS, LLC	18-Jul-19	IRWD Check	347.4	Reconciled
400544	MOUSER ELECTRONICS, INC.	18-Jul-19	IRWD Check	1,067.36	Reconciled
400545	MSC INDUSTRIAL SUPPLY CO	18-Jul-19	IRWD Check	51.98	Reconciled
400546	MULTIQUIP INC	18-Jul-19	IRWD Check	1,779.76	Reconciled
400547	MUNICIPAL UNDERGROUND SERVICES INC	18-Jul-19	IRWD Check	29,450.00	Reconciled
400548	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY	18-Jul-19	IRWD Check	1,374,367.52	Reconciled
400549	NALCO US 2 INC	18-Jul-19	IRWD Check	301.01	Reconciled
400550	NAVIGANT CONSULTING, INC	18-Jul-19	IRWD Check	10,578.00	Reconciled
400551	OLIN CORPORATION	18-Jul-19	IRWD Check	22,193.55	Reconciled
400552	ONESOURCE DISTRIBUTORS LLC	18-Jul-19	IRWD Check	3,201.82	Reconciled
400553	ORANGE COUNTY AUTO PARTS CO	18-Jul-19	IRWD Check	657.18	Reconciled
400554	PACIFIC RESOURCE RECOVERY	18-Jul-19	IRWD Check	2,117.30	Reconciled
400555	PIVOT INTERIORS INC	18-Jul-19	IRWD Check	1,948.81	Reconciled
400556	PRAXAIR DISTRIBUTION INC	18-Jul-19	IRWD Check	242.16	Reconciled
400557	PRUDENTIAL OVERALL SUPPLY	18-Jul-19	IRWD Check	865.8	Reconciled
400558	PSOMAS	18-Jul-19	IRWD Check	8,456.53	Reconciled
400559	QUALITY ENVIRONMENTAL CONTAINERS	18-Jul-19	IRWD Check	8,954.22	Reconciled
400560	RAM AIR ENGINEERING INC	18-Jul-19	IRWD Check	4,955.67	Negotiable
400561	RANCHO MARIPOSA APTS	18-Jul-19	IRWD Check	1,363.33	Reconciled
400562	RENTOKIL NORTH AMERICA, INC	18-Jul-19	IRWD Check	5,278.00	Reconciled
400563	RINCON TRUCK CENTER INC.	18-Jul-19	IRWD Check	812.59	Reconciled
400564	SEAL ANALYTICAL INC	18-Jul-19	IRWD Check	13,931.82	Reconciled
400565	SERRANO WATER DISTRICT	18-Jul-19	IRWD Check	30,943.37	Reconciled
400566	SHAMROCK SUPPLY CO INC	18-Jul-19	IRWD Check	1,152.72	Reconciled
400567	SIRIUS COMPUTER SOLUTIONS INC	18-Jul-19	IRWD Check	9,933.80	Reconciled
400568	SKORUZ TECHNOLOGIES	18-Jul-19	IRWD Check	17,280.00	Reconciled
400569	SMARTCOVER SYSTEMS	18-Jul-19	IRWD Check	34,645.98	Reconciled
400570	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	18-Jul-19	IRWD Check	2,742.96	Negotiable
400571	SOUTHERN CALIFORNIA EDISON COMPANY	18-Jul-19	IRWD Check	673,817.27	Reconciled
400572	SOUTHERN CALIFORNIA EDISON COMPANY	18-Jul-19	IRWD Check	366	Reconciled
400573	SOUTHERN CALIFORNIA GAS COMPANY	18-Jul-19	IRWD Check	1,284.55	Reconciled
400574	STANTEC CONSULTING SERVICES INC.	18-Jul-19	IRWD Check	20,107.00	Reconciled
400575	STERIS CORPORATION	18-Jul-19	IRWD Check	5,222.73	Reconciled
400576	STETSON ENGINEERS INC.	18-Jul-19	IRWD Check	3,499.94	Reconciled
400577	TAIT ENVIRONMENTAL SERVICES INC	18-Jul-19	IRWD Check	3,186.88	Reconciled
400578	TESCO CONTROLS, INC.	18-Jul-19	IRWD Check	26,500.00	Reconciled
400579	THE IRVINE COMPANY	18-Jul-19	IRWD Check	1,998.60	Reconciled
400580	THE NEW HOME COMPANY SOUTHERN CALIFORNIA LLC	18-Jul-19	IRWD Check	137.42	Negotiable
400581	THE PARKLANDS	18-Jul-19	IRWD Check	75.96	Reconciled
400582	THERMO ELECTRON NORTH AMERICA LLC	18-Jul-19	IRWD Check	8,792.00	Reconciled
400583	THOMAS HARDER & CO	18-Jul-19	IRWD Check	25,035.00	Reconciled
400584	TOLL BROS., INC.	18-Jul-19	IRWD Check	1,093.17	Reconciled
400585	TRAN, JANINE	18-Jul-19	IRWD Check	230.2	Negotiable
400586	TROPICAL PLAZA NURSERY INC	18-Jul-19	IRWD Check	236.66	Reconciled
400587	ULINE INC	18-Jul-19	IRWD Check	313.11	Reconciled
400588	UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA	18-Jul-19	IRWD Check	2,279.33	Reconciled
400589	UNITED PARCEL SERVICE INC	18-Jul-19	IRWD Check	116	Reconciled
400590	UNITED SITE SERVICES OF CALIFORNIA INC	18-Jul-19	IRWD Check	302.8	Reconciled
400591	V&A CONSULTING ENGINEERS	18-Jul-19	IRWD Check	7,152.00	Reconciled
400592	VULCAN MATERIALS COMPANY	18-Jul-19	IRWD Check	1,621.58	Reconciled
400593	VWR INTERNATIONAL, LLC	18-Jul-19	IRWD Check	308.6	Reconciled
400594	WATERLINE TECHNOLOGIES INC	18-Jul-19	IRWD Check	4,753.92	Reconciled
400595	WAXIE'S ENTERPRISES, INC	18-Jul-19	IRWD Check	4,137.02	Reconciled
400596	WECK LABORATORIES INC	18-Jul-19	IRWD Check	830	Reconciled
400597	WEST COAST SAFETY SUPPLY INC	18-Jul-19	IRWD Check	4,278.75	Reconciled
400598	WIRELESS WATCHDOGS, LLC	18-Jul-19	IRWD Check	1,128.00	Reconciled
400599	ZHU, ZHAOCHENG	18-Jul-19	IRWD Check	73.82	Negotiable
400600	FIDELITY SECURITY LIFE INSURANCE COMPANY	19-Jul-19	IRWD Check	22,258.75	Reconciled
400601	ORANGE COUNTY SHERIFF'S OFFICE	19-Jul-19	IRWD Check	62.5	Reconciled
400602	FRANCHISE TAX BOARD	19-Jul-19	IRWD Check	1,676.50	Negotiable
400603	INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS LOCAL 47	19-Jul-19	IRWD Check	2,391.96	Reconciled
400604	PERS LONG TERM CARE	19-Jul-19	IRWD Check	538.89	Reconciled
400605	JCI JONES CHEMICALS INC	22-Jul-19	IRWD Check	6,617.73	Reconciled
400606	Cook, Nicholas	25-Jul-19	IRWD Check	172.3	Negotiable
400607	Gates, Laura	25-Jul-19	IRWD Check	23.9	Negotiable
400608	Malloy, Steven L (Steven)	25-Jul-19	IRWD Check	40	Reconciled
400609	Marcacci, Mark	25-Jul-19	IRWD Check	108.5	Reconciled

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AP DISBURSEMENTS AND VOIDS FOR JULY 2019

CHECK OR WIRE #	SUPPLIER	PAYMENT DATE	PAYMENT METHOD	AMOUNT	STATUS
400610	Moeder, Jacob J (Jacob)	25-Jul-19	IRWD Check	363.8	Reconciled
400611	Pan, Jenny W (Jenny)	25-Jul-19	IRWD Check	21.54	Negotiable
400612	Shinbashi, Allen	25-Jul-19	IRWD Check	1,581.32	Reconciled
400613	ABSOLUTE STANDARDS, INC.	25-Jul-19	IRWD Check	1,765.00	Reconciled
400614	ADT SECURITY SERVICES INC	25-Jul-19	IRWD Check	412.47	Negotiable
400615	AGILENT TECHNOLOGIES, INC.	25-Jul-19	IRWD Check	351.57	Reconciled
400616	AIRGAS, INC.	25-Jul-19	IRWD Check	5,065.69	Reconciled
400617	ALSTON & BIRD LLP	25-Jul-19	IRWD Check	350,528.73	Negotiable
400618	AMAZON CAPITAL SERVICES, INC.	25-Jul-19	IRWD Check	4,969.71	Reconciled
400619	AMERICAN GEOTECHNICAL, INC.	25-Jul-19	IRWD Check	1,187.50	Reconciled
400620	ANDERSONPENNA PARTNERS, INC	25-Jul-19	IRWD Check	24,234.00	Negotiable
400621	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA	25-Jul-19	IRWD Check	37,807.58	Negotiable
400622	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA	25-Jul-19	IRWD Check	2,526.38	Reconciled
400623	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA	25-Jul-19	IRWD Check	468.36	Reconciled
400624	ASSOCIATION OF CALIFORNIA WATER AGENCIES/JPIA	25-Jul-19	IRWD Check	27,624.72	Negotiable
400625	ASSURED FLOW SALES INC	25-Jul-19	IRWD Check	426.84	Negotiable
400626	AT&T	25-Jul-19	IRWD Check	1,839.62	Reconciled
400627	AT&T	25-Jul-19	IRWD Check	6,813.91	Reconciled
400628	AT&T	25-Jul-19	IRWD Check	66	Reconciled
400629	AUTOZONE PARTS, INC.	25-Jul-19	IRWD Check	19.47	Reconciled
400630	B & K ELECTRIC WHOLESALE	25-Jul-19	IRWD Check	6,481.80	Reconciled
400631	BDC SPECIAL WASTE	25-Jul-19	IRWD Check	1,599.28	Reconciled
400632	BERMUDO, KAISSEL KAIJA	25-Jul-19	IRWD Check	23.53	Reconciled
400633	BILL'S SWEEPING SERVICE INC	25-Jul-19	IRWD Check	780	Negotiable
400634	BOFA SECURITIES, INC.	25-Jul-19	IRWD Check	15,432.61	Reconciled
400635	BORCHARD SURVEYING & MAPPING, INC.	25-Jul-19	IRWD Check	6,225.00	Reconciled
400636	BRENNTAG PACIFIC INC	25-Jul-19	IRWD Check	21,645.57	Negotiable
400637	BRIGHTVIEW LANDSCAPE DEVELOPMENT	25-Jul-19	IRWD Check	317.32	Negotiable
400638	BROOKFIELD RESIDENTIAL	25-Jul-19	IRWD Check	199.82	Reconciled
400639	BROWN AND CALDWELL	25-Jul-19	IRWD Check	114,403.00	Reconciled
400640	BUSH & ASSOCIATES INC	25-Jul-19	IRWD Check	9,848.00	Negotiable
400641	CALDESAL	25-Jul-19	IRWD Check	5,000.00	Negotiable
400642	CALIFORNIA BARRICADE RENTAL, INC.	25-Jul-19	IRWD Check	7,492.50	Reconciled
400643	CALIFORNIA NEWSPAPER PARTNERSHIP	25-Jul-19	IRWD Check	1,227.00	Reconciled
400644	CALIFORNIA WATER EFFICIENCY PARTNERSHIP	25-Jul-19	IRWD Check	8,520.73	Reconciled
400645	CANON FINANCIAL SERVICES, INC	25-Jul-19	IRWD Check	8,398.83	Reconciled
400646	CAROLLO ENGINEERS, INC	25-Jul-19	IRWD Check	25,703.00	Negotiable
400647	CHURCH, WILLIAM	25-Jul-19	IRWD Check	22.36	Negotiable
400648	CITY OF IRVINE	25-Jul-19	IRWD Check	1,616.65	Negotiable
400649	CLA-VAL COMPANY	25-Jul-19	IRWD Check	3,087.40	Reconciled
400650	CLEAN ENERGY	25-Jul-19	IRWD Check	5,122.74	Reconciled
400651	CONSTELLATION NEWENERGY, INC.	25-Jul-19	IRWD Check	342.19	Reconciled
400652	COUNTY OF ORANGE	25-Jul-19	IRWD Check	2,960.50	Reconciled
400653	COUNTY OF ORANGE	25-Jul-19	IRWD Check	27,233.33	Reconciled
400654	COX COMMUNICATIONS, INC.	25-Jul-19	IRWD Check	133.71	Reconciled
400655	CPC SYSTEMS, INC.	25-Jul-19	IRWD Check	5,242.49	Negotiable
400656	CULLIGAN OF SANTA ANA	25-Jul-19	IRWD Check	4,000.00	Reconciled
400657	DATA CLEAN CORPORATION	25-Jul-19	IRWD Check	554	Reconciled
400658	DE VAUL PAINT COMPANY	25-Jul-19	IRWD Check	834.42	Reconciled
400659	DEE JASPAR & ASSOCIATES, INC.	25-Jul-19	IRWD Check	308	Reconciled
400660	DEVELOPMENT AND CONSERVATION MANAGEMENT, INC.	25-Jul-19	IRWD Check	2,000.00	Reconciled
400661	DIRECTV INC	25-Jul-19	IRWD Check	131.98	Reconciled
400662	DOLPHIN PARTNERS INC	25-Jul-19	IRWD Check	1,106.00	Reconciled
400663	EKI ENVIRONMENT & WATER, INC.	25-Jul-19	IRWD Check	28,041.72	Negotiable
400664	ENVIRONMENTAL RESOURCE ASSOCIATES	25-Jul-19	IRWD Check	2,050.27	Reconciled
400665	EUROFINS EATON ANALYTICAL, INC.	25-Jul-19	IRWD Check	646.8	Reconciled
400666	FARRELL & ASSOCIATES	25-Jul-19	IRWD Check	102.18	Reconciled
400667	FEDEX	25-Jul-19	IRWD Check	336.98	Reconciled
400668	FERGUSON ENTERPRISES, LLC	25-Jul-19	IRWD Check	329.72	Reconciled
400669	FIONA HUTTON & ASSOCIATES, INC.	25-Jul-19	IRWD Check	30,441.92	Reconciled
400670	FIRE EXTINGUISHING SAFETY & SERVICE	25-Jul-19	IRWD Check	579.27	Reconciled
400671	FISHER SCIENTIFIC COMPANY LLC	25-Jul-19	IRWD Check	3,712.00	Reconciled
400672	FLEET SOLUTIONS LLC	25-Jul-19	IRWD Check	4,888.74	Reconciled
400673	FRONTIER CALIFORNIA INC.	25-Jul-19	IRWD Check	943.55	Reconciled
400674	GARCOA-BROWN, SONIA	25-Jul-19	IRWD Check	25.01	Negotiable
400675	GEI CONSULTANTS INC	25-Jul-19	IRWD Check	1,581.00	Reconciled
400676	GOLDMAN, SACHS & CO. LLC	25-Jul-19	IRWD Check	14,335.62	Negotiable

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400677	GRAINGER	25-Jul-19	IRWD Check	5,846.61	Reconciled
400678	HAAKER EQUIPMENT COMPANY	25-Jul-19	IRWD Check	527.25	Reconciled
400679	HABITAT RESTORATION SCIENCES, INC.	25-Jul-19	IRWD Check	2,366.00	Negotiable
400680	HACH COMPANY	25-Jul-19	IRWD Check	4,860.96	Reconciled
400681	HADADY, SIMA	25-Jul-19	IRWD Check	21.94	Negotiable
400682	HDR ENGINEERING INC	25-Jul-19	IRWD Check	13,864.00	Negotiable
400683	HELPMATES STAFFING SERVICES	25-Jul-19	IRWD Check	12,074.34	Reconciled
400684	HENSEL PHELPS	25-Jul-19	IRWD Check	410.94	Negotiable
400685	HILL BROTHERS CHEMICAL COMPANY	25-Jul-19	IRWD Check	9,506.13	Reconciled
400686	HOME DEPOT USA INC	25-Jul-19	IRWD Check	1,404.63	Reconciled
400687	IDEA HALL	25-Jul-19	IRWD Check	4,500.00	Negotiable
400688	INFOSEND, INC.	25-Jul-19	IRWD Check	23,330.51	Reconciled
400689	IRVINE MANAGEMENT COMPANY	25-Jul-19	IRWD Check	811.74	Reconciled
400690	IRVINE PACIFIC	25-Jul-19	IRWD Check	61.33	Reconciled
400691	IRVINE PIPE & SUPPLY INC	25-Jul-19	IRWD Check	3,278.81	Reconciled
400692	IRWD-PETTY CASH CUSTODIAN	25-Jul-19	IRWD Check	799.47	Reconciled
400693	JACKSON TIDUS, A LAW CORPORATION	25-Jul-19	IRWD Check	1,848.00	Reconciled
400694	JAIDKA, ASHIM	25-Jul-19	IRWD Check	11.24	Reconciled
400695	JCI JONES CHEMICALS INC	25-Jul-19	IRWD Check	5,360.25	Reconciled
400696	JUST ENERGY SOLUTIONS INC.	25-Jul-19	IRWD Check	51.87	Reconciled
400697	KEY INFORMATION SYSTEMS, INC.	25-Jul-19	IRWD Check	2,050.00	Reconciled
400698	KILL-N-BUGS TERMITE AND PEST CONTROL SERVICES	25-Jul-19	IRWD Check	200	Reconciled
400699	KIMBALL MIDWEST	25-Jul-19	IRWD Check	1,324.25	Reconciled
400700	KLEINFELDER, INC.	25-Jul-19	IRWD Check	38,677.60	Negotiable
400701	LANDCARE HOLDINGS, INC.	25-Jul-19	IRWD Check	9,610.99	Reconciled
400702	LCS TECHNOLOGIES, INC.	25-Jul-19	IRWD Check	11,745.00	Negotiable
400703	LEE, YVONNE	25-Jul-19	IRWD Check	16.36	Negotiable
400704	LEND US, LLC	25-Jul-19	IRWD Check	11.84	Negotiable
400705	LEVY, RON	25-Jul-19	IRWD Check	495.03	Negotiable
400706	LI, LI	25-Jul-19	IRWD Check	101.97	Negotiable
400707	LIN, YAOJIE	25-Jul-19	IRWD Check	176.94	Reconciled
400708	MARK ENTERPRISES, INC.	25-Jul-19	IRWD Check	37,346.05	Reconciled
400709	MC FADDEN-DALE INDUSTRIAL	25-Jul-19	IRWD Check	62.16	Reconciled
400710	MERRIMAC PETROLEUM, INC.	25-Jul-19	IRWD Check	20,803.07	Reconciled
400711	MOBILE MODULAR MANAGEMENT CORPORATION	25-Jul-19	IRWD Check	1,212.19	Reconciled
400712	MORALES, JULIO	25-Jul-19	IRWD Check	24.27	Reconciled
400713	MSC INDUSTRIAL SUPPLY CO	25-Jul-19	IRWD Check	555.94	Reconciled
400714	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY	25-Jul-19	IRWD Check	4,820.59	Reconciled
400715	MUTUAL PROPANE	25-Jul-19	IRWD Check	144.05	Reconciled
400716	NATURALWELL, LLC	25-Jul-19	IRWD Check	1,045.00	Reconciled
400717	NEPTUNE TECHNOLOGY GROUP, INC.	25-Jul-19	IRWD Check	161,194.00	Negotiable
400718	NINYO & MOORE	25-Jul-19	IRWD Check	7,547.75	Reconciled
400719	NMG GEOTECHNICAL INC	25-Jul-19	IRWD Check	7,369.20	Negotiable
400720	NORMAN S. WRIGHT CLIMATEC MECHANICAL EQUIPMENT	25-Jul-19	IRWD Check	5,841.34	Reconciled
400721	O.C. SUPERIOR CUSTOM CLEANING	25-Jul-19	IRWD Check	3,600.00	Reconciled
400722	OLIN CORPORATION	25-Jul-19	IRWD Check	40,682.26	Negotiable
400723	ONESOURCE DISTRIBUTORS LLC	25-Jul-19	IRWD Check	24,924.46	Negotiable
400724	ORANGE COUNTY HOSE	25-Jul-19	IRWD Check	128.83	Reconciled
400725	ORANGE COUNTY LOCAL AGENCY FORMATION COMMISSION	25-Jul-19	IRWD Check	9,500.00	Reconciled
400726	ORANGE COUNTY SANITATION DISTRICT	25-Jul-19	IRWD Check	56,969.60	Reconciled
400727	ORANGE LINE OIL COMPANY	25-Jul-19	IRWD Check	2,324.07	Reconciled
400728	OSTS, INC	25-Jul-19	IRWD Check	1,760.00	Reconciled
400729	PAL, ROHIT	25-Jul-19	IRWD Check	66.53	Negotiable
400730	PELLETIER & ASSOCIATES, INC.	25-Jul-19	IRWD Check	390	Reconciled
400731	PENA, BETHANY	25-Jul-19	IRWD Check	10.77	Negotiable
400732	PINNACLE TOWERS LLC	25-Jul-19	IRWD Check	749.21	Negotiable
400733	PONNAPPAN, SHUNMUGASUNDARAM	25-Jul-19	IRWD Check	46.8	Negotiable
400734	PRO MOBILE AUTO DETAILING	25-Jul-19	IRWD Check	1,250.00	Reconciled
400735	PSOMAS	25-Jul-19	IRWD Check	6,401.25	Reconciled
400736	PTI SAND & GRAVEL INC	25-Jul-19	IRWD Check	1,312.82	Reconciled
400737	RAM AIR ENGINEERING INC	25-Jul-19	IRWD Check	5,925.00	Negotiable
400738	RANCHO MADERAS APTS	25-Jul-19	IRWD Check	261.4	Negotiable
400739	REAL WATER CONSULTANTS INC.	25-Jul-19	IRWD Check	9,717.00	Negotiable
400740	RED WING SHOE STORE	25-Jul-19	IRWD Check	371.04	Reconciled
400741	RELIABLE WATER SOLUTIONS, LLC	25-Jul-19	IRWD Check	1,929.80	Reconciled
400742	RELIANCE SAFETY CONSULTANTS, INC.	25-Jul-19	IRWD Check	1,600.00	Negotiable
400743	REN, XIAOYA	25-Jul-19	IRWD Check	21.2	Negotiable

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CHECK OR WIRE #	SUPPLIER	PAYMENT DATE	PAYMENT METHOD	AMOUNT	STATUS
400744	RICHARD C. SLADE & ASSOCIATES LLC	25-Jul-19	IRWD Check	633.45	Reconciled
400745	RINCON TRUCK CENTER INC.	25-Jul-19	IRWD Check	1,357.46	Reconciled
400746	ROSEDALE - RIO BRAVO WATER STORAGE DISTRICT	25-Jul-19	IRWD Check	86,645.61	Negotiable
400747	RUSSELL, BYRON	25-Jul-19	IRWD Check	93.37	Negotiable
400748	S & J SUPPLY CO INC	25-Jul-19	IRWD Check	5,959.93	Reconciled
400749	SAN REMO APTS	25-Jul-19	IRWD Check	642.61	Negotiable
400750	SANDERS PAVING INC	25-Jul-19	IRWD Check	33,512.00	Reconciled
400751	SANTA ANA BLUE PRINT	25-Jul-19	IRWD Check	1,263.84	Negotiable
400752	SCHINDLER ELEVATOR CORPORATION	25-Jul-19	IRWD Check	221.9	Reconciled
400753	SECURITAS SECURITY SERVICES USA, INC.	25-Jul-19	IRWD Check	60,129.68	Negotiable
400754	SHAMROCK SUPPLY CO INC	25-Jul-19	IRWD Check	197.19	Reconciled
400755	SIMON, KEN	25-Jul-19	IRWD Check	403.83	Reconciled
400756	SITMATIC	25-Jul-19	IRWD Check	1,352.04	Reconciled
400757	SLAYBAUGH, RUSSELL C	25-Jul-19	IRWD Check	117.62	Negotiable
400758	SMISEK, TOM	25-Jul-19	IRWD Check	180	Reconciled
400759	SOFFA ELECTRIC, INC.	25-Jul-19	IRWD Check	49,699.60	Negotiable
400760	SONG, WEI	25-Jul-19	IRWD Check	782.11	Negotiable
400761	SOUTH COAST WATER CO.	25-Jul-19	IRWD Check	90	Negotiable
400762	SOUTH ORANGE COUNTY WASTEWATER AUTHORITY	25-Jul-19	IRWD Check	54,383.00	Negotiable
400763	SOUTHERN CALIFORNIA EDISON COMPANY	25-Jul-19	IRWD Check	164,722.79	Reconciled
400764	SOUTHERN CALIFORNIA EDISON COMPANY	25-Jul-19	IRWD Check	49.32	Reconciled
400765	SOUTHERN CALIFORNIA GAS COMPANY	25-Jul-19	IRWD Check	1,638.45	Negotiable
400766	SOUTHERN CALIFORNIA GAS COMPANY	25-Jul-19	IRWD Check	30,729.41	Reconciled
400767	SPARKLETTS	25-Jul-19	IRWD Check	288.09	Negotiable
400768	SPATIAL WAVE, INC.	25-Jul-19	IRWD Check	2,880.00	Reconciled
400769	STANTEC CONSULTING SERVICES INC.	25-Jul-19	IRWD Check	5,043.50	Reconciled
400770	STREAKWAVE WIRELESS, INC.	25-Jul-19	IRWD Check	2,863.74	Reconciled
400771	SUEZ TREATMENT SOLUTIONS INC.	25-Jul-19	IRWD Check	749.46	Reconciled
400772	SULZER ELECTRO-MECHANICAL SERVICES (US) INC.	25-Jul-19	IRWD Check	4,594.46	Reconciled
400773	SUN-STAR ELECTRIC, INC.	25-Jul-19	IRWD Check	1,230.00	Reconciled
400774	TAGUE, LAURIE	25-Jul-19	IRWD Check	1,557.88	Negotiable
400775	TEVORA BUSINESS SOLUTIONS, INC.	25-Jul-19	IRWD Check	9,497.17	Negotiable
400776	THE IRVINE COMPANY LLC	25-Jul-19	IRWD Check	50,000.00	Negotiable
400777	THOMAS, VARGHESE	25-Jul-19	IRWD Check	123.64	Reconciled
400778	THOMPSON INDUSTRIAL SUPPLY	25-Jul-19	IRWD Check	1,737.55	Reconciled
400779	TIC-OFFICE PROPERTIES	25-Jul-19	IRWD Check	685.68	Negotiable
400780	TIC-SPECTRUM OFFICE	25-Jul-19	IRWD Check	86.66	Negotiable
400781	TOLL BROS., INC.	25-Jul-19	IRWD Check	111,079.49	Negotiable
400782	TRAN, ALEXANDER	25-Jul-19	IRWD Check	83.62	Reconciled
400783	TRENCH SHORING COMPANY	25-Jul-19	IRWD Check	103.44	Reconciled
400784	TRI POINTE HOMES, INC.	25-Jul-19	IRWD Check	51.38	Negotiable
400785	TRIPAC MARKETING INC	25-Jul-19	IRWD Check	1,133.78	Reconciled
400786	TROPICAL PLAZA NURSERY INC	25-Jul-19	IRWD Check	3,630.01	Reconciled
400787	UNITED PARCEL SERVICE INC	25-Jul-19	IRWD Check	63.83	Reconciled
400788	URBAN WATER INSTITUTE INC	25-Jul-19	IRWD Check	1,250.00	Negotiable
400789	US BANK NAT'L ASSOC N.DAKOTA	25-Jul-19	IRWD Check	10,034.93	Negotiable
400790	US BANK NAT'L ASSOCIATION NORTH DAKOTA	25-Jul-19	IRWD Check	61,568.49	Negotiable
400791	VAUGHAN'S INDUSTRIAL REPAIR CO INC	25-Jul-19	IRWD Check	16,437.19	Reconciled
400792	WANG, ZHAOYI	25-Jul-19	IRWD Check	42.09	Reconciled
400793	WATERWISE PRO TRAINING LLC	25-Jul-19	IRWD Check	450	Negotiable
400794	WAXIE'S ENTERPRISES, INC	25-Jul-19	IRWD Check	239.1	Reconciled
400795	WEST COAST SAND & GRAVEL INC.	25-Jul-19	IRWD Check	486.43	Reconciled
400796	WESTAMERICA COMMUNICATIONS, INC.	25-Jul-19	IRWD Check	975	Reconciled
400797	WIRELESS WATCHDOGS, LLC	25-Jul-19	IRWD Check	1,160.00	Reconciled
400798	WOODBRIIDGE PINES APTS	25-Jul-19	IRWD Check	1,653.71	Negotiable
400799	XIAN, XUEQIONG	25-Jul-19	IRWD Check	13.3	Negotiable
400800	XIONG, SISONG	25-Jul-19	IRWD Check	58.89	Negotiable
400801	YORKE ENGINEERING, LLC	25-Jul-19	IRWD Check	3,178.62	Reconciled
400802	YP LLC	25-Jul-19	IRWD Check	91	Reconciled
400803	CALIFORNIA DEPARTMENT OF TAX AND FEE ADMINISTRATION	30-Jul-19	IRWD Check	794.82	Negotiable
SUB-TOTAL CHECKS ISSUED				9,506,117.52	
13251	YORK INSURANCE SERVICES GROUP INC - CA	2-Jul-19	IRWD Wire	3,737.75	Negotiable
13252	CALPERS	5-Jul-19	IRWD Wire	202,075.66	Negotiable
13253	CHARD SNYDER & ASSOCIATES, INC.	8-Jul-19	IRWD Wire	16,133.64	Negotiable
13254	CHARD SNYDER & ASSOCIATES, INC.	8-Jul-19	IRWD Wire	1,292.79	Negotiable
13255	CHARD SNYDER & ASSOCIATES, INC.	9-Jul-19	IRWD Wire	1,528.85	Negotiable

IRWD
AP DISBURSEMENTS AND VOIDS FOR JULY 2019

CHECK OR WIRE #	SUPPLIER	PAYMENT DATE	PAYMENT METHOD	AMOUNT	STATUS
13256	INTERNAL REVENUE SERVICE	9-Jul-19	IRWD Wire	204,977.12	Negotiable
13257	FRANCHISE TAX BOARD	9-Jul-19	IRWD Wire	62,871.00	Negotiable
13258	EMPLOYMENT DEVELOPMENT DEPARTMENT	9-Jul-19	IRWD Wire	14,859.38	Negotiable
13259	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	9-Jul-19	IRWD Wire	3,026.42	Negotiable
13260	GREAT-WEST LIFE & ANNUITY INSURANCE COMPANY	9-Jul-19	IRWD Wire	151,279.75	Negotiable
13261	CALPERS	9-Jul-19	IRWD Wire	510,668.71	Negotiable
13262	CALPERS	9-Jul-19	IRWD Wire	2,891.07	Negotiable
13263	CALPERS	10-Jul-19	IRWD Wire	5,246,805.00	Negotiable
13264	YORK INSURANCE SERVICES GROUP INC - CA	10-Jul-19	IRWD Wire	4,133.01	Negotiable
13265	SUMITOMO MITSUI BANKING CORPORATION	11-Jul-19	IRWD Wire	1,501,624.11	Negotiable
13266	SUMITOMO MITSUI BANKING CORPORATION	11-Jul-19	IRWD Wire	50,347.40	Negotiable
13267	U.S. BANK NATIONAL ASSOCIATION	11-Jul-19	IRWD Wire	32,199.97	Negotiable
13268	BANK OF AMERICA	11-Jul-19	IRWD Wire	51,359.42	Negotiable
13269	BANK OF NEW YORK MELLON TRUST COMPANY NA	11-Jul-19	IRWD Wire	102,757.80	Negotiable
13270	U.S. BANK NATIONAL ASSOCIATION	15-Jul-19	IRWD Wire	74,175.86	Negotiable
13271	SUMITOMO MITSUI BANKING CORPORATION	15-Jul-19	IRWD Wire	39,535.45	Negotiable
13272	U.S. BANK NATIONAL ASSOCIATION	15-Jul-19	IRWD Wire	63,691.07	Negotiable
13273	BANK OF AMERICA	15-Jul-19	IRWD Wire	63,124.01	Negotiable
13274	CHARD SNYDER & ASSOCIATES, INC.	15-Jul-19	IRWD Wire	1,556.12	Negotiable
13275	CALPERS	15-Jul-19	IRWD Wire	1,336.77	Negotiable
13276	YORK INSURANCE SERVICES GROUP INC - CA	16-Jul-19	IRWD Wire	2,172.47	Negotiable
13277	U.S. BANK NATIONAL ASSOCIATION	16-Jul-19	IRWD Wire	6,753.80	Negotiable
13278	BRUSSEAU, MICKELA	16-Jul-19	IRWD Wire	22.09	Negotiable
13279	MUNICIPAL WATER DISTRICT OF ORANGE COUNTY	17-Jul-19	IRWD Wire	556,363.11	Negotiable
13280	CHARD SNYDER & ASSOCIATES, INC.	18-Jul-19	IRWD Wire	1,312.96	Negotiable
13281	CHARD SNYDER & ASSOCIATES, INC.	18-Jul-19	IRWD Wire	11,557.17	Negotiable
13282	CHARD SNYDER & ASSOCIATES, INC.	18-Jul-19	IRWD Wire	23,946.05	Negotiable
13283	CHARD SNYDER & ASSOCIATES, INC.	22-Jul-19	IRWD Wire	17,396.18	Negotiable
13284	INTERNAL REVENUE SERVICE	22-Jul-19	IRWD Wire	210,652.18	Negotiable
13285	FRANCHISE TAX BOARD	22-Jul-19	IRWD Wire	65,794.79	Negotiable
13286	EMPLOYMENT DEVELOPMENT DEPARTMENT	22-Jul-19	IRWD Wire	15,247.53	Negotiable
13287	CALIFORNIA DEPARTMENT OF CHILD SUPPORT SERVICES	22-Jul-19	IRWD Wire	3,026.42	Negotiable
13288	GREAT-WEST LIFE & ANNUITY INSURANCE COMPANY	22-Jul-19	IRWD Wire	163,778.99	Negotiable
13289	CALPERS	22-Jul-19	IRWD Wire	231,294.86	Negotiable
13290	YORK INSURANCE SERVICES GROUP INC - CA	23-Jul-19	IRWD Wire	1,713.58	Negotiable
13291	CALPERS	23-Jul-19	IRWD Wire	1,476.85	Negotiable
13292	FILANC-BALFOUR BEATTY JV	24-Jul-19	IRWD Wire	287,044.82	Negotiable
13293	FILANC-BALFOUR BEATTY JV	24-Jul-19	IRWD Wire	10,308.49	Negotiable
13294	YORK INSURANCE SERVICES GROUP INC - CA	30-Jul-19	IRWD Wire	2,272.04	Negotiable
13295	BANK OF NEW YORK MELLON TRUST COMPANY NA	30-Jul-19	IRWD Wire	1,822.92	Negotiable
13296	CHARD SNYDER & ASSOCIATES, INC.	30-Jul-19	IRWD Wire	4,960.54	Negotiable
13297	CHARD SNYDER & ASSOCIATES, INC.	30-Jul-19	IRWD Wire	3,130.65	Negotiable
13298	CHARD SNYDER & ASSOCIATES, INC.	30-Jul-19	IRWD Wire	583.31	Negotiable
13299	CHARD SNYDER & ASSOCIATES, INC.	30-Jul-19	IRWD Wire	1,884.75	Negotiable
13300	BANK OF NEW YORK MELLON TRUST COMPANY NA	31-Jul-19	IRWD Wire	2,650,512.50	Negotiable
13301	ORANGE COUNTY WATER DISTRICT	31-Jul-19	IRWD Wire	10,030,990.20	Negotiable
13302	CALPERS	31-Jul-19	IRWD Wire	9,244.90	Negotiable
13303	CALPERS	31-Jul-19	IRWD Wire	2,444.00	Negotiable
13304	CALPERS	31-Jul-19	IRWD Wire	9,724.30	Negotiable
SUB-TOTAL WIRES ISSUED				22,735,420.58	
TOTAL AP DISBURSEMENTS AND VOIDS FOR JULY 2019				32,241,538.10	

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Exhibit "E"

MONTHLY SUMMARY OF PAYROLL ACH PAYMENTS

**July
2019**

	AMOUNT	VENDOR	PURPOSE
7/5/2019	987,095.80	BANK OF AMERICA	ACH Payments for Payroll
7/19/2019	<u>1,038,202.00</u>	BANK OF AMERICA	ACH Payments for Payroll
	<u>\$2,025,297.80</u>		

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Exhibit "E"

MONTHLY SUMMARY OF PAYROLL ACH PAYMENTS

**July
2019**

	AMOUNT	VENDOR	PURPOSE
7/5/2019	987,095.80	BANK OF AMERICA	ACH Payments for Payroll
7/19/2019	<u>1,038,202.00</u>	BANK OF AMERICA	ACH Payments for Payroll
	<u>\$2,025,297.80</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-JUL-19 to 31-JUL-19

NAME	CHECK NO.	CHECK DATE	AMOUNT	ITEM DESCRIPTION	EXPENSE JUSTIFICATION
Cho, Harry	400277	11-Jul-19	115.00	Other(Misc)	Professional Engineers license fee renewal
Cook, Nicholas	400606	25-Jul-19	172.30	Certification	SWRCB Water Distribution Operator Grade III
De Leon, Sharon	400450	18-Jul-19	278.62	Lodging	Esri Conference, San Diego, CA - July 9, 2019
Hoffman, Michael	400451	18-Jul-19	188.00	Membership Renewal	CWEA membership
Johnson, Susanne	400452	18-Jul-19	278.65	Lodging	Esri Conference, San Diego, CA - July 9, 2019
LaMar, Steven	400150	3-Jul-19	547.28	Lodging	Federal Advocacy meetings, Washington, D.C. - March 12, 2019
LaMar, Steven	400150	3-Jul-19	547.28	Lodging	Federal Advocacy meetings, Washington, D.C. - March 13, 2019
Matheis, Mary Aileen	400151	3-Jul-19	379.34	Lodging	ACWA Annual Washington, D.C. Conf., Washigton, D.C. - February 25, 2019
Matheis, Mary Aileen	400151	3-Jul-19	379.34	Lodging	ACWA Annual Washington, D.C. Conf., Washigton, D.C. - February 26, 2019
Matheis, Mary Aileen	400151	3-Jul-19	188.26	Lodging	Urban Water Institute 2019 Water Conf., Palm Springs, CA - February 28, 2019
Matheis, Mary Aileen	400278	11-Jul-19	224.27	Lodging	California Water Policy Conference 28, San Diego, CA - April 5, 2019
Moeder, Jacob	400610	25-Jul-19	328.00	Membership Renewal	WEF 2020 membership
Navarro, Hector	400455	18-Jul-19	278.62	Lodging	Esri Conference, San Diego, CA - July 9, 2019
Reinhart, Douglas	400281	11-Jul-19	258.28	Lodging	ACWA 2019 Spring Conference, Monterey, CA - May 7, 2019
Reinhart, Douglas	400281	11-Jul-19	258.28	Lodging	ACWA 2019 Spring Conference, Monterey, CA - May 8, 2019
Reinhart, Douglas	400281	11-Jul-19	258.28	Lodging	ACWA 2019 Spring Conference, Monterey, CA - May 9, 2019
Reinhart, Douglas	400281	11-Jul-19	199.95	Auto Rental	ACWA 2019 Spring Conference, Monterey, CA - May 7-9, 2019
Shih, Josephine	400456	18-Jul-19	324.77	Lodging	Esri Conference, San Diego, CA - July 9, 2019
Shih, Josephine	400456	18-Jul-19	324.77	Lodging	Esri Conference, San Diego, CA - July 10, 2019
Shinbashi, Allen	400612	25-Jul-19	107.75	Other(Misc)	Cell phone case replacement
Shinbashi, Allen	400612	25-Jul-19	1,388.85	Other(Misc)	Cell phone replacement and screen protector (damaged on company business)
Swan, Peer	400153	3-Jul-19	743.56	Airfare	Annual Washington, D.C. Conferences for CASA and ACWA - February 24-27, 2019
Swan, Peer	400153	3-Jul-19	573.96	Airfare	ACWA Energy Committee meeting, Sacramento, CA - March 7, 2019
Swan, Peer	400153	3-Jul-19	643.36	Airfare	Water Now 4th Annual Summit, Austin, TX - March 26-29, 2019
Swan, Peer	400153	3-Jul-19	264.73	Lodging	Water Now 4th Annual Summit, Austin, TX - March 26, 2019
Swan, Peer	400153	3-Jul-19	264.73	Lodging	Water Now 4th Annual Summit, Austin, TX - March 27, 2019
Swan, Peer	400153	3-Jul-19	334.10	Lodging	Water Now 4th Annual Summit, Austin, TX - March 28, 2019
Swan, Peer	400153	3-Jul-19	573.96	Airfare	Anne J. Schneider Lecture Series, Sacramento, CA - April 3, 2019
Withers, John	400283	11-Jul-19	260.73	Lodging	ACWA 2019 Spring Conference, Monterey, CA - May 7, 2019
Withers, John	400283	11-Jul-19	260.73	Lodging	ACWA 2019 Spring Conference, Monterey, CA - May 8, 2019
Withers, John	400283	11-Jul-19	196.50	Auto Rental	ACWA 2019 Spring Conference, Monterey, CA - May 7-9, 2019
Total Amount:			\$11,142.25		

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August 26, 2019
Prepared by: T. Lynch/J. Moeder/R. Mori
Submitted by: K. Burton
Approved by: Paul A. Cook



CONSENT CALENDAR

ORANGE COUNTY GREAT PARK REACH “A” SEWER IMPROVEMENTS
FINAL ACCEPTANCE

SUMMARY:

The Orange County Great Park Reach “A” Sewer Improvements project is complete. The contractor, T.E. Roberts, Inc., completed the required work and all punch list items. The project has received final inspection and acceptance of construction is recommended.

BACKGROUND:

FivePoint constructed the Reach “A” sewer in 2014 to serve the planned development at the Great Park. After constructing these sewers, FivePoint increased the number of proposed dwelling units at the Great Park which prompted the need to upsize the Reach “A” sewer. FivePoint has since upsized various portions of the sewer within its development. As part of the Reach “A” Sewer Improvements Project, IRWD upsized the portion of the sewer through the Irvine Company Development Company’s (ICDC) property and under the 5-freeway. The project consisted of upsizing approximately 1,500 feet of sewer pipeline, including the bore and jack beneath the 5-freeway and miscellaneous manhole access improvements south of the I-5 freeway.

Staff completed the design in July 2018, and T.E. Roberts, Inc. was awarded the construction contract on September 11, 2018. After awarding the contract, T.E. Roberts proceeded with coordinating with Caltrans for the permit required for the bore and jack under the 5-freeway and successfully procured the permit and proceeded with construction in February 2019. T.E. Roberts has completed construction and the project is ready for acceptance.

Project Title:	Orange County Great Park Reach “A” Sewer Improvements Project
Project No.:	10068
Design Engineer:	MBF Consulting, Inc.
Construction Management by:	IRWD Staff
Contractor:	T.E. Roberts, Inc.
Original Contract Cost:	\$1,251,110
Final Contract Cost:	\$1,312,976.18

Original Contract Days: 365

Final Contract Days: 349

Final Change Order Approved On: July 9, 2019

FISCAL IMPACTS:

Project 10068 is included in the FY 2019-20 Capital Budget. The existing budget is sufficient to fund the final payment for the project.

ENVIRONMENTAL COMPLIANCE:

Construction of capital domestic water, sewer, and recycled water facilities for the Great Park Development is subject to 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 AUTHORIZE THE GENERAL MANAGER TO ACCEPT CONSTRUCTION OF THE ORANGE COUNTY GREAT PARK REACH "A" SEWER IMPROVEMENTS, PROJECT 10068; AUTHORIZE THE GENERAL MANAGER TO FILE A NOTICE OF COMPLETION; AND AUTHORIZE THE RELEASE OF RETENTION 35 DAYS AFTER FILING OF THE NOTICE OF COMPLETION.

LIST OF EXHIBITS:

None.

August 26, 2019
Prepared by: B. Rios / K. Lew
Submitted by: K. Burton
Approved by: Paul A. Cook



CONSENT CALENDAR

REIMBURSEMENT AGREEMENT BETWEEN IRWD AND THE CITY OF IRVINE FOR THE 2019-20 ANNUAL SLURRY SEAL AND PAVEMENT REHABILITATION PROJECT

SUMMARY:

The City of Irvine is proceeding with its annual slurry seal and pavement rehabilitation project for miscellaneous areas throughout Irvine. This project requires an individual Reimbursement Agreement (RA) since the estimated construction cost is over \$100,000. Staff recommends that the Board authorize the General Manager to execute an RA with the City for the 2019-20 Annual Slurry Seal and Pavement Rehabilitation project, subject to non-substantive changes.

BACKGROUND:

IRWD has had an RA in place with the City since 1995 for managing various street rehabilitation projects. Typically included in the City's Capital Improvement projects are alternate bid items for raising existing IRWD sewer manhole covers, sewer cleanouts, and water valve frames and lids to the new pavement grade. Any project up to \$100,000 in reimbursable costs can be authorized by the General Manager as an addendum to this "umbrella" RA.

IRWD and the City have also agreed that any City street improvement project that involves the construction, modification or relocation of IRWD facilities with an estimated construction cost over \$100,000 will be administered through a separate RA. The City's 2019-20 Annual Slurry Seal and Street Rehabilitation project has an estimated construction cost of \$144,500. Therefore, this project requires a project-specific RA.

This project focuses on the areas of the Irvine Spectrum, UC Irvine, and Portola Springs. Approximately 88 domestic and 29 recycled water valve frames and lids, six sewer cleanouts, and 47 sewer manholes will be installed or adjusted to new pavement grade. The estimated construction cost is \$144,500 plus a city administrative fee equal to 4% of the actual construction cost per the terms of the RA. A Vicinity Map is attached as Exhibit "A", the engineer's estimate as Exhibit "B", and the RA as Exhibit "C". The RA has been reviewed by IRWD's legal counsel.

FISCAL IMPACTS:

Projects 07796, 07795, and 07797 are included in the FY 2019-20 Capital Budget and have adequate budgets to fund these projects.

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 15061 (b) (3). The

Consent Calendar: Reimbursement Agreement between IRWD and the City of Irvine for the
2019-20 Annual Slurry Seal Pavement Rehabilitation Project

August 26, 2019

Page 2

activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on August 20, 2019.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A REIMBURSEMENT AGREEMENT WITH THE CITY OF IRVINE FOR THE 2019-20 ANNUAL SLURRY SEAL AND PAVEMENT REHABILITATION PROJECT, SUBJECT TO NON-SUBSTANTIVE CHANGES.

LIST OF EXHIBITS:

Exhibit "A" – Annual Slurry Seal and Pavement Rehabilitation Engineer's Estimate

Exhibit "B" – Annual Slurry Seal and Pavement Rehabilitation Vicinity Map

Exhibit "C" – Annual Slurry Seal and Pavement Rehabilitation Reimbursement Agreement

EXHIBIT "A"

REIMBURSEMENT AGREEMENT BETWEEN IRVINE RANCH WATER DISTRICT (IRWD)
AND THE CITY OF IRVINE
FOR
ANNUAL STREET REHABILITATION AND SLURRY SEAL PROJECT, BID NO. 20-1618

ENGINEER'S ESTIMATE

ITEM NO.	DESCRIPTION	QUANTITY	UNITS	UNIT COST	EXTENDED AMOUNT
A-1	INSTALL NEW IRWD WATER VALVE FRAME AND COVER TO GRADE	88	EA	\$ 850.00	\$ 74,800.00
A-2	INSTALL NEW IRWD RECLAIM WATER VALVE FRAME AND COVER TO GRADE	29	EA	\$ 850.00	\$ 24,650.00
A-3	INSTALL NEW IRWD SEWER CLEANOUT FRAME AND COVER TO GRADE	6	EA	\$ 850.00	\$ 5,100.00
A-4	ADJUST EXISTING IRWD SEWER MANHOLE FRAME AND COVER TO GRADE	47	EA	\$ 850.00	\$ 39,950.00
TOTAL CONSTRUCTION ESTIMATE					\$ 144,500.00
4% ADMINISTRATION FEE PER SECTION 5 OF AGREEMENT					\$ 5,780.00
TOTAL COSTS					\$ 150,280.00

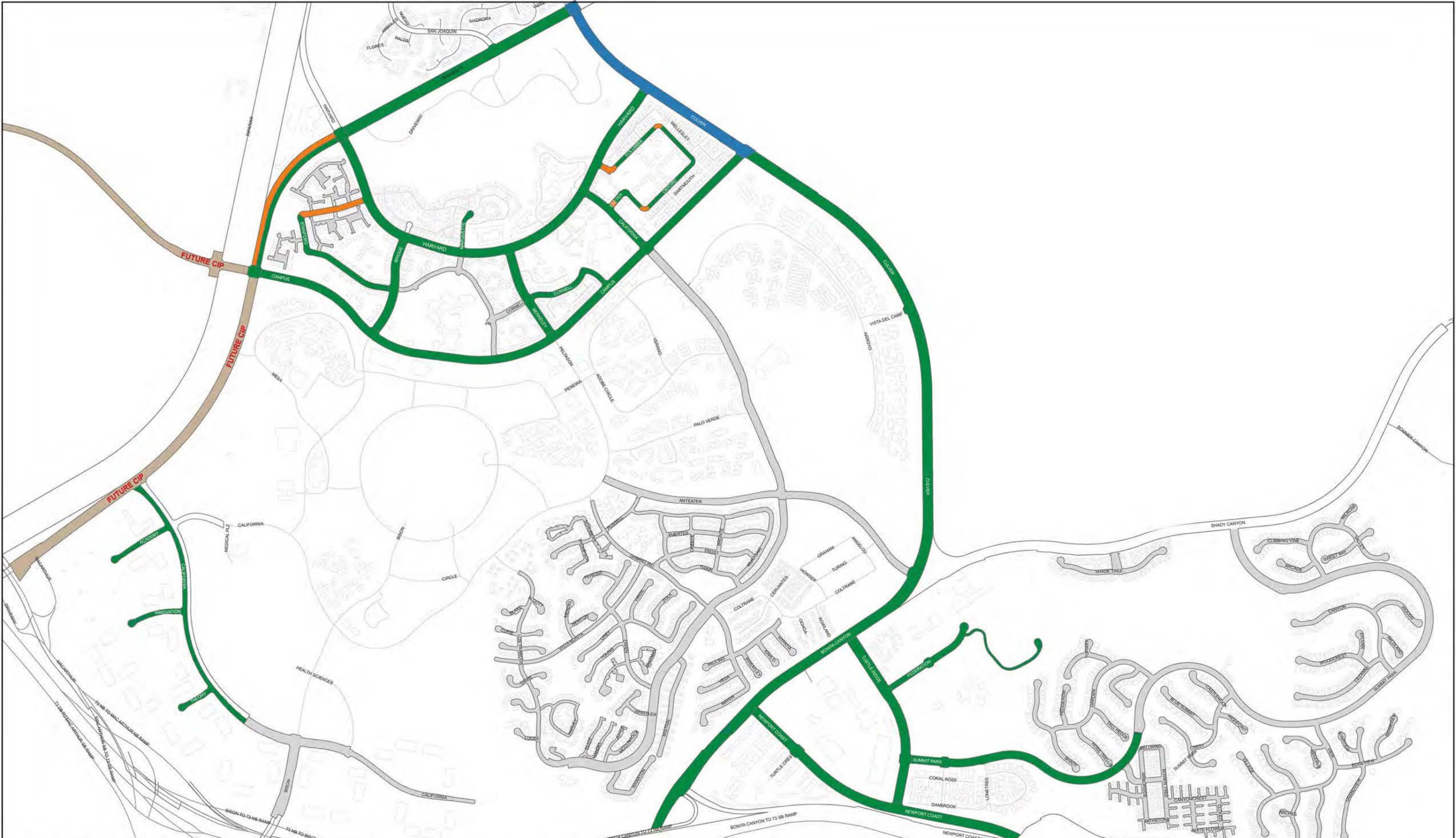
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ZONE 1b SPECTRUM

- Variable Depth Edge Grind and 2" Fiber Reinforced AC Overlay
- Crack Seal / Type 2 Slurry Seal (Weekend Work)
- Crack Seal / Type 2 Slurry Seal
- Private Streets





ZONE 2 UCI

- Variable Depth Edge Grind and 2" Fiber Reinforced AC Overlay
- Repairs in Various locations / Crack Seal / Slurry Seal
- Crack Seal / Type 2 Slurry Seal
- Private Streets





ZONE 3 PORTOLA SPRINGS

- Crack Seal / Type 1 Slurry Seal
- Crack Seal / Type 2 Slurry Seal
- Private Streets



EXHIBIT "C"

File No. 07796

REIMBURSEMENT AGREEMENT BETWEEN

IRVINE RANCH WATER DISTRICT

AND THE CITY OF IRVINE

FOR

INSTALLATION AND ADJUSTMENT OF STREET UTILITIES TO GRADE FOR

ANNUAL STREET REHABILITATION AND SLURRY SEAL

BID NO. 20-1618

This Agreement is made and entered into as of this ____ day of _____, 2019, by and between IRVINE RANCH WATER DISTRICT, a California water district formed and existing pursuant to the California Water District Law, hereinafter referred to as "DISTRICT," and the CITY OF IRVINE, a municipal corporation, hereinafter referred to as "CITY."

W I T N E S S E T H:

WHEREAS, CITY proposes to construct street and utility improvements within the areas of the Spectrum, UCI, and Portola Springs, for the Annual Street Rehabilitation And Slurry Seal, Bid No. 20-1618 (the "Project"), within the jurisdictional boundaries of DISTRICT and the City of Irvine; and

WHEREAS, such construction will necessitate the installation or adjustment to grade of the following District facilities: approximately 88 Water Valves, approximately 29 Recycled Water Valves, approximately 6 Sewer Cleanouts and approximately 47 Sewer Manholes, as described on Exhibit "A" attached hereto incorporated by reference herein (hereinafter referred to as the "IRWD FACILITIES"); and

WHEREAS, the parties have determined that it would be more expedient for CITY to construct the IRWD FACILITIES rather than for DISTRICT to do so; and

WHEREAS, DISTRICT is amenable to the CITY constructing the IRWD FACILITIES with the CITY agreeing to advance the costs; and

WHEREAS, DISTRICT intends to fully reimburse the CITY through payments billed by the CITY and approved by DISTRICT for the entire cost of the IRWD FACILITIES; and

WHEREAS, except as otherwise provided herein, upon the completion of the IRWD FACILITIES, the parties intend that the IRWD FACILITIES shall become the property of DISTRICT in accordance with the terms and conditions hereinafter set forth.

NOW, THEREFORE, in consideration of the mutual promises and covenants hereinafter set forth, the parties hereto agree as follows:

SECTION 1. IRWD FACILITIES. In conjunction with the Project, CITY agrees to initiate and pursue to completion the design and construction of the IRWD FACILITIES pursuant to this Agreement.

SECTION 2. PLANS. CITY agrees that the IRWD FACILITIES shall be completed pursuant to project plans and specifications (the "Plans and Specifications") approved by DISTRICT. Prior to commencement of preparation of the Plans and Specifications, CITY shall submit its design engineer's proposal for the design of the IRWD FACILITIES to DISTRICT. DISTRICT will have a period of five (5) calendar days from its receipt of such design proposal to review and either indicate its approval or request changes. CITY shall cause its design engineer to review and respond to any requested changes. The Plans and Specifications must incorporate (directly or by reference) the applicable portions of DISTRICT's latest edition of *Construction Manual for the Construction of Water, Sewer, and Recycled Water Facilities* (the "Construction Manual"). CITY shall let the contract for the construction of the IRWD FACILITIES (together with non-reimbursable work to be completed by CITY within the Project) pursuant to plans prepared by CITY's design engineer.

SECTION 3. BIDDING AND AWARD.

3.1 The parties agree that the construction of the IRWD FACILITIES shall be included in CITY's contract(s) awarded for the Project and that the IRWD FACILITIES shall be bid as a separate item or items that can be deleted. During the bidding process, CITY shall deliver to IRWD one (1) complete set of the bid documents that include the IRWD FACILITIES, including all related addenda concurrently with the distribution thereof to prospective bidders. Upon opening of bids by CITY, CITY will submit the bids or a spread sheet summary of the bids to DISTRICT. DISTRICT will have a period of ten (10) calendar days from its receipt of the bid results for review and approval of the IRWD FACILITIES bid item(s) submitted by the bidder identified to DISTRICT by CITY as CITY's proposed successful bidder. CITY agrees that bids received for the construction of the IRWD FACILITIES bid item(s) shall be subject to the approval of DISTRICT prior to award of the Project construction contract(s) that include the IRWD FACILITIES. If DISTRICT does not approve such bids, then either party may terminate this Agreement upon 24 hours' prior written notice, in which event CITY shall have no further obligation to construct the IRWD FACILITIES, and DISTRICT may elect to install the IRWD FACILITIES with its own contractor. If DISTRICT approves of the IRWD FACILITIES bid item(s) of CITY's successful bidder, then CITY shall cause the IRWD FACILITIES to be constructed as part of the contract awarded to such bidder.

3.2 Estimated Costs. The total estimated construction cost for the IRWD Facilities is \$144,500, but the amount to be reimbursed by DISTRICT will be based on the actual costs of construction plus an administration fee as set forth in further detail in Section 5.

3.3 Contract Documents. Upon award of the construction contract, CITY shall provide DISTRICT with one original copy of the fully-executed contract documents and one copy of the bid package relating to the IRWD Facilities received from the successful bidder.

SECTION 4. DESIGN REVISIONS AND CHANGE ORDERS.

4.1 DISTRICT agrees to reimburse CITY for any change order(s) for revision(s) requested by DISTRICT or otherwise required to construct the IRWD FACILITIES. CITY shall promptly furnish DISTRICT with copies of any proposed change order(s) to such contract within five (5) working days of the initiation of the changed conditions to such contract, which change orders will be subject to DISTRICT approval if and to the extent the IRWD FACILITIES are affected.

4.2 DISTRICT shall promptly review proposed change order(s) and provide CITY with a response within five (5) working days or sooner of receiving proposed change order(s) information from CITY. DISTRICT agrees not to unreasonably cause delay(s) to the construction schedule of the Project in reviewing proposed change order(s) for the IRWD FACILITIES. Notwithstanding any other provision herein, any approval required to be given by the DISTRICT under this Section 4 will be deemed given if no response to the CITY's request for such approval is received by the CITY within eight (8) working days following the written request for such approval, unless the parties agree otherwise in a writing executed by both parties.

SECTION 5. REIMBURSEMENT.

5.1 Costs. CITY shall keep a separate accounting of all costs incurred by CITY in relation to the IRWD Facilities. DISTRICT shall reimburse CITY for the following costs (collectively, the "Costs"):

(1) Actual Costs: the actual costs of design, construction, permits, bonds, and legal fees (excluding the costs of preparation of this Agreement) incurred by CITY in connection with the design and construction of the IRWD Facilities;

plus

(2) Administration Fee: an administration fee which shall be equal to four percent (4%) of the actual cost of construction (costs paid directly to CITY's contractor for construction only, excluding any cost for design, surveying, geotechnical or other work) of the IRWD FACILITIES. This amount is deemed to cover all costs of project administration, including, but not limited to, accounting, inspection, surveying, compaction testing, geotechnical services and engineering.

5.2 Invoicing & Payment. Within sixty (60) days of DISTRICT's acceptance of the IRWD FACILITIES as provided in Section 8, a final accounting of the Costs shall be made by CITY and submitted to DISTRICT along with an invoice for the Costs and any supporting documentation necessary to show the amounts which represent Costs of IRWD FACILITIES. Amounts paid pursuant to progress payment invoices shall be subject to

adjustment in the final accounting. Within 30 days after the DISTRICT's receipt of the final accounting, DISTRICT agrees to pay to CITY the total amount of the Costs.

SECTION 6. LAWS, ORDINANCES, RULES AND REGULATIONS. CITY shall require in its contract for the construction of the IRWD FACILITIES that its contractor be fully informed of and comply with all laws, ordinances, rules and regulations, including, but not limited to, all applicable requirements of the California Labor Code, prevailing wage laws, the Construction Manual, and the Rules and Regulations of DISTRICT, in connection with the construction of the IRWD FACILITIES.

SECTION 7. INSPECTION. DISTRICT shall have sole and absolute discretion as to all aspects of design and construction of the IRWD FACILITIES, and DISTRICT shall be entitled to inspect the construction of IRWD FACILITIES as it deems necessary to assure compliance with the Plans and Specifications, including shop drawing review and material inspection thereof. DISTRICT shall have access to all phases of the Project work to be performed by CITY for the purpose of such inspection; provided, however, all questions regarding the work being performed will be directed to CITY's resident engineer. DISTRICT will promptly notify CITY of any portion of the work on the IRWD FACILITIES which appears not to conform to the Plans and Specifications. The determination of DISTRICT as to conformity of the IRWD FACILITIES with the Plans and Specifications shall be made in DISTRICT's sole and absolute discretion. DISTRICT shall not unreasonably withhold its approval as to such conformity of the IRWD FACILITIES with the Plans and Specifications. CITY shall require its contractor to construct the IRWD FACILITIES so that the IRWD FACILITIES conform to the Plans and Specifications. CITY shall assume full responsibility for certifying or obtaining certification of the compaction of backfill material over the IRWD Facilities.

SECTION 8. ACCEPTANCE.

8.1 Acceptance. DISTRICT shall accept the IRWD FACILITIES when the IRWD FACILITIES have been completed by CITY in accordance with all requirements of the Plans and Specifications, including any change orders approved by DISTRICT as provided in Section 4.

8.2 As-Builts. At the time of completion and acceptance of the IRWD Facilities, CITY shall furnish DISTRICT with one copy of the contractor's redlined set of blue-line "record" drawings (showing all revisions, manufacturer and type of valves, pipe and fittings as required by DISTRICT) and one copy of the compaction reports and certificate, survey notes, and cut sheets.

SECTION 9. OWNERSHIP. Notwithstanding the fact that CITY shall accomplish the construction of the IRWD FACILITIES subject to reimbursement, the IRWD FACILITIES to be completed hereunder, together with the necessary franchises, licenses, easements, rights-of-way, and other privileges, shall at all times be subject to the applicable rates, rules and regulations of DISTRICT, as modified or amended from time to time. CITY hereby disclaims any interest in the IRWD FACILITIES and hereby transfers and assigns to DISTRICT any and all right, title, and interest it may have in the IRWD FACILITIES upon their completion and acceptance.

DISTRICT shall own, operate and maintain the IRWD FACILITIES following acceptance thereof.

SECTION 10. GUARANTEES. CITY will, pursuant to the requirement(s) of the Plans and Specifications, cause its contractor(s) for the IRWD FACILITIES to guarantee the IRWD FACILITIES against defects in workmanship and materials for a period of one (1) year from the date of acceptance by CITY, which acceptance shall be given only after acceptance by DISTRICT as provided in Section 8. It is further agreed that CITY shall cause the IRWD FACILITIES to be brought or restored to full compliance with the requirements of the Plans and Specifications, including any test requirements, for any portions of the IRWD FACILITIES which during said one (1) year period are found not to be in conformance with the provisions of the Plans and Specifications. This guarantee is in addition to any and all other warranties, express or implied, from CITY's contractors or material manufacturers, with respect to the IRWD FACILITIES. The guarantee and obligations under this section shall in no way be relieved by DISTRICT's inspection and/or acceptance of the IRWD FACILITIES. This section sets forth the entire guarantee and warranty of CITY with respect to the IRWD FACILITIES. The express or implied warranties of other persons with respect to IRWD FACILITIES shall in no way be limited by the guarantee and warranty of CITY contained in this section. If requested by DISTRICT, CITY agrees to assign to DISTRICT the contractor's guarantee and/or any other guarantees or warranties relating to the IRWD FACILITIES.

SECTION 11. INDEMNIFICATION.

11.1 CITY shall indemnify, defend and hold DISTRICT, its officers, agents, employees, and engineers harmless from any expense, liability or claim for death, injury, loss, damage or expense to persons or property which may arise or is claimed to have arisen during construction of the IRWD FACILITIES as a result of any work or action performed by CITY or on behalf of CITY, save and except to the extent such expense, liability or claim is proximately caused in whole or in part by any act, omission, or negligence of DISTRICT, its officers, agents, employees or engineers or by any act or omission for which DISTRICT, its officers, agents, employees or engineers are liable without fault.

11.2 DISTRICT shall indemnify, defend and hold CITY, its officers, agents, and employees, harmless from any expense, liability or claim for death, injury, loss, damage or expense to persons or property which may arise or is claimed to have arisen either (i) as a result of any acts performed by DISTRICT, its officers, agents, or employees, with respect to the IRWD FACILITIES construction; or (ii) following DISTRICT acceptance of the IRWD FACILITIES, with respect to maintenance and operation of the IRWD FACILITIES, save and except to the extent such expense, liability or claim is proximately caused in whole or in part by any negligence of CITY, its officers, agents, employees or engineers, or by any act or omission for which CITY, its officers, agents, employees or engineers are liable without fault.

SECTION 12. INSURANCE AND BONDING. CITY shall cause its contractor(s) to provide performance and payment bonds for the construction of the Project including the IRWD FACILITIES and to obtain insurance coverage sufficiently broad to insure the matters set forth in this Agreement and to include DISTRICT, its officers, agents, employees and engineers, as additional insureds on all insurance policies that CITY requires its contractor(s) to provide. As

evidence of such insurance coverage, CITY shall, prior to commencement of construction of the IRWD FACILITIES, provide DISTRICT with certificates of insurance and insurance endorsements from CITY's contractor(s) in a form acceptable to DISTRICT.

SECTION 13. TERMINATION.

13.1 DISTRICT shall have the right to terminate this Agreement at any time, subject to the provisions of this section, by providing five (5) business days' prior written notice to CITY, except as provided in Section 3 with respect to unapproved bids. If at the request or direction of a party other than CITY, the construction of the IRWD Facilities is not accomplished or completed, DISTRICT shall remain obligated for the actual amount of the Costs incurred by CITY to the date of termination.

13.2 If CITY's Project is canceled or modified so as to eliminate the necessity of the construction of the IRWD Facilities, CITY shall have the right to terminate this Agreement and thereby terminate its obligation to construct the IRWD FACILITIES, by providing five (5) business days' prior written notice to DISTRICT. In such case, DISTRICT will not be obligated for any design or any other Costs incurred by CITY. If IRWD elects to construct the IRWD FACILITIES, DISTRICT may, but shall not be obligated to, acquire the design or other work from CITY by separate agreement.

SECTION 14. NOTICE. Any notice or other written instrument required or permitted by this Agreement to be given to either party shall be deemed received when personally served or twenty-four (24) hours after being deposited in the U.S. Mail, postage prepaid, registered or certified and addressed as follows:

DISTRICT: Irvine Ranch Water District
15600 Sand Canyon Avenue
P.O. Box 57000
Irvine, CA 92619-7000
Attn: General Manager

CITY: City of Irvine
6427 Oak Canyon, Bldg. 1
Irvine, CA 92618
Attn: Allison Tran, Associate Engineer

SECTION 15. SUCCESSORS AND ASSIGNS; INTEGRATION; AMENDMENT. This Agreement shall be binding upon and inure to the benefit of the successor and assigns of CITY and DISTRICT. This Agreement constitutes the entire Agreement between CITY and DISTRICT and supersedes all prior understandings and agreements between the parties with respect to the subjects hereof. This Agreement may be modified only in writing signed by both parties hereto.

SECTION 16. LEGAL FEES. In the event of any declaratory or other legal or equitable action instituted between CITY and DISTRICT in connection with this Agreement, the

prevailing party shall be entitled to recover from the losing party all of its costs and expenses, including court costs and reasonable attorneys' fees.

SECTION 17. DEEMED APPROVAL. Any approval required to be given by either party pursuant to this Agreement shall be deemed given if no response to the party's request for such approval is received by the requesting party within fifteen (15) days following the written request for such approval.

SECTION 18. SEVERABILITY. If any term, provision, covenant or condition of this Agreement is held to be invalid, void or other unenforceable, to any extent, by any court of competent jurisdiction, the remainder of this Agreement shall not be affected thereby, and each term provision, covenant or condition of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

SECTION 19. APPLICABLE LAW. This Agreement shall be construed and enforced in accordance with the laws of the State of California.

SECTION 20. WAIVER. The waiver of any provision of this Agreement by either party shall not be deemed to be a waiver of any other provision or of any preceding or subsequent breach hereunder.

IN WITNESS WHEREOF, the parties to the Agreement have executed this Agreement on the date herein above written.

IRVINE RANCH WATER DISTRICT

By _____
Paul Cook, General Manager

Dated _____

ATTEST:

By _____
Secretary/Assistant Secretary

Dated _____

APPROVED AS TO FORM:

By _____
Legal Counsel, IRWD

Dated _____

CITY OF IRVINE
A Municipal Corporation

By _____
John A. Russo
City Manager of the City of Irvine

Dated _____

By _____
Mark A. Steuer
Director of Public Works

Dated _____

ATTEST:

By _____
Molly M. Perry
City Clerk of the City of Irvine

Dated _____

APPROVED AS TO FORM:

By _____
Robert Owen, RUTAN & TUCKER, LLP
City Attorney of the City of Irvine

Dated _____

August 26, 2019
Prepared and
submitted by: L. Bonkowski
Approved by: Paul A. Cook



PRESENTATION

RESOLUTION COMMENDING CHARLEY WILSON FOR HIS DEDICATED SERVICE
TO THE SANTA MARGARITA WATER DISTRICT AND THE WATER INDUSTRY

SUMMARY:

Staff recommends commending Mr. Charley Wilson for his dedicated service to the Santa Margarita Water District and the water industry, and has prepared a resolution for presentation at the meeting.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE BOARD ADOPT THE FOLLOWING RESOLUTION BY TITLE:

RESOLUTION NO. 2019-

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT COMMENDING
CHARLEY WILSON FOR HIS DEDICATED
SERVICE TO SANTA MARGARITA WATER DISTRICT
AND THE WATER INDUSTRY

LIST OF EXHIBITS:

Exhibit "A" – Resolution

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EXHIBIT "A"

RESOLUTION NO. 2019-27

RESOLUTION OF THE BOARD OF DIRECTORS OF
IRVINE RANCH WATER DISTRICT COMMENDING
CHARLEY WILSON FOR HIS DEDICATED SERVICE
TO THE SANTA MARGARITA WATER DISTRICT
AND THE WATER INDUSTRY

WHEREAS, Charley Wilson was appointed to the Santa Margarita Water District on April 21, 2000, and during his tenure served as Board President for three years, chaired its Finance and Administration Committee, served on its Water Quality and Innovations Committee and its External Affairs Ad Hoc Committee; and

WHEREAS, Charley was recognized for his energetic force in providing leadership in his position at Santa Margarita Water District as well as in the water industry; and

WHEREAS, Charley served as a leading public affairs professional in Southern California for more than 30 years of which he spent 25 years in the electric utility industry with Southern California Edison where he coordinated the development and implementation of strategic planning and communication efforts to align company interests with local, state and federal government officials and agencies; and

WHEREAS, Charley, selected by the Special Districts of Orange County, served on the Orange County Local Agency Formation Commission for nine years after serving as Alternate for 10 years; and

WHEREAS, Charley has served as Chairman of the Southern California Water Coalition, providing leadership in its mission to securing adequate, reliable affordable, quality water for Southern California; and

WHEREAS, Charley was instrumental in developing and nurturing the strong alliance between the Santa Margarita Water District and the Irvine Ranch Water District on many issues, initiatives, and projects including the Baker Water Treatment Plant.

NOW, THEREFORE, BE IT RESOLVED, the Board of Directors of the Irvine Ranch Water District commends Charley Wilson for 19 years of service at Santa Margarita Water District, and his dedication and service that he has rendered to the water industry. On this occasion, the Board extends its best wishes for Charley in his retirement from the Board.

SIGNED and APPROVED this 26th day of August 2019.

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

Secretary, IRVINE RANCH WATER DISTRICT

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August 26, 2019

Prepared by: M. Robinson / E. Akiyoshi

Submitted by: K. Burton

Approved by: Paul A. Cook



ACTION CALENDAR

WELL TREATMENT ALTERNATIVES STUDY CONSULTANT SELECTION

SUMMARY:

As part of the July 2018 Groundwater Workplan Update, Well Treatment Alternatives Exploration was added to the Strategic Planning Goals and Target Activities List and will explore opportunities to increase local groundwater production. Staff requests that the Board authorize the General Manager to execute a Professional Services Agreement with Black & Veatch (B&V) in the amount of \$229,822 for engineering services for the Well Treatment Alternative Study (Study) and approve a budget increase in the amount of \$191,900, from \$133,100 to \$325,000, to the FY 2019-20 Capital Budget.

BACKGROUND:

At the July 2018 Board Strategic Planning Workshop, the Groundwater Work Plan identified the potential use of existing Wells 51 and 52, and two well sites in the Tustin Legacy Area to increase local potable groundwater. A location map is included as Exhibit "A". Subsequently, staff developed a planning study concept and conducted preliminary work to prepare to issue a Request for Proposal (RFP). The scope of work for this project includes planning analysis for treatment and conveyance, development of life-cycle costs, and an alternative ranking matrix based on IRWD's criteria and priorities. This is a planning-level study and will include next steps prior to the preliminary design process.

Additionally, prior to issuing the RFP, IRWD retained Richard C. Slade & Associates to conduct a review of the surrounding groundwater hydrogeology, current groundwater models, and other available information. The review also included preliminary estimates of production rates and water quality and assisted in the RFP preparation. Staff received proposals from B&V, West Yost, and Kennedy Jenks. All the firms presented qualified teams and well thought-out approaches to the project and scope of work.

Consultant Selection:

While all of the teams were well qualified, B&V presented the most balanced team tailored specifically to the goals and objectives for this project. Its team brings the appropriate depth needed to place the right people in the right roles. B&V has completed numerous small- to large-scale projects related to groundwater treatment that include planning optimization and design analysis, and its technical experience in groundwater treatment at all phases of development will provide valuable guidance during the course of the project. B&V's proposal provided a clear project approach and demonstrated a solid understanding of the level of effort required to complete this project. B&V's technical ability was demonstrated by completing preliminary treatment analysis at Wells 21 and 22 Treatment Plant and providing the results in

the proposal. B&V presented a detailed proposal that provided a clear and organized plan to accomplish the eight tasks identified in the RFP. The proposal included an additional alternative with example treatment and conveyance analysis that demonstrated B&V's creativity and initiative. Additionally, a sound approach was outlined to identify obstacles early in the analysis process that would otherwise alter the decision-making process. This approach will allow staff to gain confidence during the alternative ranking process and ensure the best alternative is selected. The consultant selection matrix is attached as Exhibit "B", and B&V's scope of work and fee proposal are attached as Exhibit "C".

Staff recommends that the Board authorize the General Manager to execute a Professional Services Agreement with B&V in the amount of \$229,822 and approve a budget increase in the amount of \$191,900.

FISCAL IMPACTS:

The Well Treatment Alternatives Study, Project 01402, is included in the FY 2019-20 Capital Budget and will be funded through regional potable water funds. Staff requests a budget increase of \$191,900 to fund the project as shown in the following table.

Project No.	Current Budget	Addition <Reduction>	Total Budget
01402	\$133,100	\$191,900	\$325,000

ENVIRONMENTAL COMPLIANCE:

This study is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15262 which provides exemption for planning studies.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on August 20, 2019.

RECOMMENDATION:

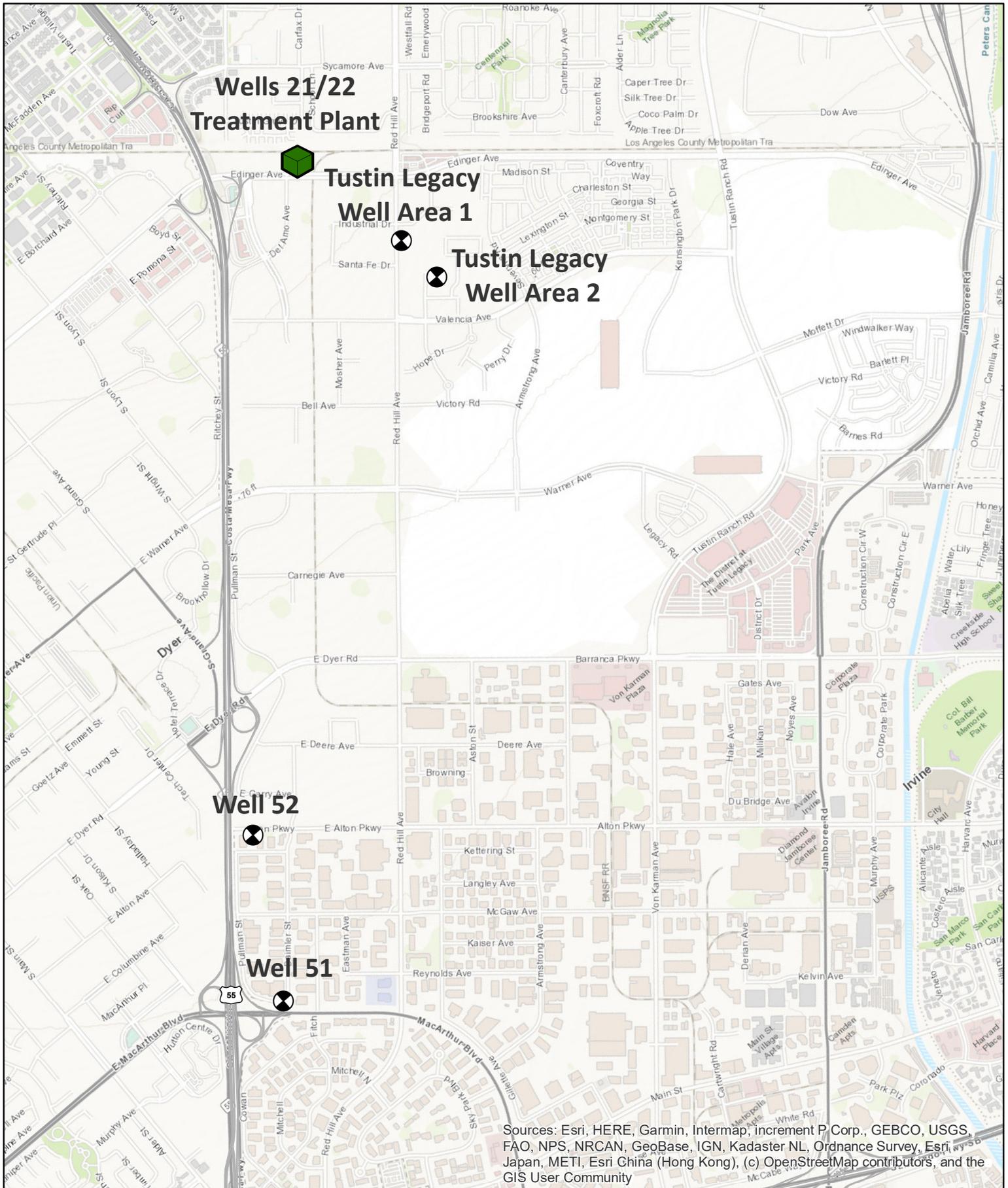
THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH BLACK & VEATCH IN THE AMOUNT OF \$229,822 AND APPROVE A BUDGET INCREASE IN THE AMOUNT OF \$191,900, FROM \$133,100 TO \$325,000, TO THE FY 2019-20 CAPITAL BUDGET FOR THE WELL TREATMENT ALTERNATIVES STUDY, PROJECT 01402.

LIST OF EXHIBITS:

Exhibit "A" – Location Map

Exhibit "B" – Consultant Evaluation Matrix

Exhibit "C" – Black & Veatch Scope of Services and Cost Estimate



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri, Swisstopo, Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



Planning and Technical Services
15600 Sand Canyon Ave
Irvine, CA 92618



General Location Map
Well Treatment Alternative Study | February 2019

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EXHIBIT "B"

CONSULTANT EVALUATION MATRIX

Well Treatment Alternative Study

Item	Description	Weights	WEST YOST	KENNEDY/JENKS	BLACK & VEATCH		
A	TECHNICAL APPROACH						
1	Project Understanding	30%	3	2	1		
2	Project Approach	40%	3	1	2		
3	Project Team	30%	2	3	1		
	<u>Weighted Score</u>	100%	2.70	1.90	1.40		
Ranking of Consultants			3	2	1		
B	SCOPE OF WORK						
TASK		Task Hours	FEE	Task Hours	FEE	Task Hours	FEE
1	TASK 1 - Project Management	114	\$34,724	95	\$26,854	207	\$44,945
2	TASK 2 - Data Collection and Information Review	42	\$9,876	24	\$5,134	88	\$13,852
3	TASK 3 - Hydrogeology and Groundwater Evaluation	130	\$29,334	22	\$9,752	32	\$6,449
4	TASK 4 - Well Site Treatment Alternatives	306	\$72,228	64	\$19,603	322	\$58,400
5	TASK 5 - Conveyance Alternatives	460	\$102,752	94	\$19,748	202	\$34,390
6	TASK 6 - Project Life-Cycle Costs	130	\$29,588	36	\$7,320	64	\$12,170
7	TASK 7 - Alternative Ranking Matrix	84	\$20,980	71	\$14,271	104	\$18,243
8	TASK 8 - Conceptual Study	288	\$64,800	211	\$47,258	241	\$41,373
	SUB-TOTAL ENGINEERING SERVICES, FEE	1,554	\$364,282	617	\$149,940	1,260	\$229,822
9.1	Optional Tasks	84	\$18,830	200	\$40,000		
	TOTAL ENGINEERING SERVICES, FEE	1,638	\$383,112	817	\$189,940	1,260	\$229,822
	Avg \$/hr		\$234		\$243		\$182
D	OTHER						
	Miscellaneous Items						
	Multiplier		-		-		-
	Conflict of Interest		No		No		No
	Joint Venture		No		No		No
	Addendum Acknowledgement		N/A		N/A		N/A
	Scope of Work Exclusions		No		No		No
	Exceptions taken to IRWD Std. Contract		No		No		No
	Insurance (Professional & General Liability)		Yes, Certs Provided		Yes, Certs Provided		Yes, Certs Provided

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IRVINE RANCH WATER DISTRICT

CONVEYANCE &
TREATMENT ALTERNATIVES
FOR WELLS 51, 52, &
TUSTIN LEGACY

AUGUST 1, 2019



BLACK & VEATCH

August 1, 2019

Mitch Robinson
Irvine Ranch Water District
Engineering Department
15600 Sand Canyon Avenue
Irvine, CA 92618

Dear Mitch:

Black & Veatch is pleased to submit our proposal for the Conveyance and Treatment Alternatives for Wells 51, 52, and Tustin Legacy. Based on our meetings with you, we see challenges and opportunities with the study and we are focused on delivering a study that meets your overall objective of having a solid implementable concept that you can compare to your other water supply options. Our Team is ready to meet this challenge! Some highlights of our team, experience and approach include:

Experienced Team Leadership – Our key team leadership are experts in their respective area and will bring relevant similar experience to this project. Our Ground Water lead Ed is a national expert in hydrogeology and a perfect person to review and confirm the previous work. Lee our treatment lead understands the unique aspects of groundwater treatment and brings recent similar evaluations at EMWD and Santa Monica. Finally, Brandy is an experienced modeler with over 50 modeling projects and one of our experts in Innovyze’s InfoWater. For IRWD this means our technical approach to the project will be right, we will have creative ideas leading to the best solutions, and you can have confidence we will deliver a solid concept report.

A Unique Approach to Water Quality Analysis – A challenge with this study is making treatment decisions with the current water quality data, it could drive overly conservative treatment concepts that unnecessarily inflate the costs of the project. Our approach to water quality analysis is to use statistically based water quality blending models and look at probabilities of water quality to make treatment decisions. Lee and Gil have used a similar approach to design the final expansion to OCWD’s GWRS and the brine concentration study for EMWD. We have already developed a preliminary blending model for your project that we have included in the appendix. The approach will ensure that our treatment concepts are “right sized” and the corresponding costs are realistic for comparing to your other supply options.

Ideas to Maximize Your Current Assets – An important aspect of the treatment evaluation will be to find the most cost-effective way to treat the four new wells. Our team are RO experts and have already developed ideas that could more than double the current capacity of the Wells 21 & 22 Treatment Plant. Finding cost effective ways to get more capacity from this facility could lead to the best treatment solutions and an affordable new supply for IRWD.

We are committed to maintaining our partnership with IRWD and we hope that after reviewing our proposal, you will agree that our Team offers the very best in experience, expertise, creative thinking, and value for this project. If you have any questions or would like additional information, please feel free to contact me. We look forward to working with you on this important project.

Very truly yours,

Black & Veatch Corporation



Jeff Neemann, D.Eng, PE
Project Director



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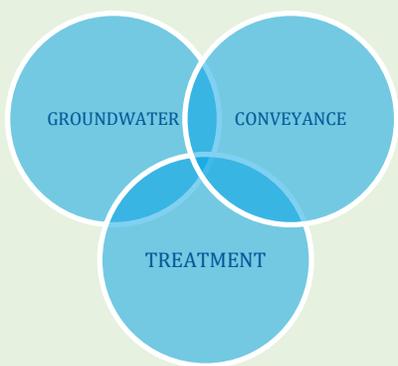
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Scope & Methodology

PROJECT UNDERSTANDING

This study is an important piece of IRWD’s objectives of increased reliability and independence from imported water. Wells 51 and 52 and the proposed Tustin Legacy wells and their treatment are a potential source to help meet potable water demands now and in the future. However, like many plans, there are many moving parts and pieces. To know how these wells can fit into the bigger picture, this study needs to develop solid concepts and realistic costs, so this supply option can be compared to others. As we discussed this study with you, we identified four high level goals that will guide our work. The table below highlights these goals and our approach to deliver on these goals.

IRWD GOAL	BLACK & VEATCH APPROACH	BENEFIT TO IRWD
Verify feasibility from groundwater study	<ul style="list-style-type: none"> • Involve experienced groundwater practice leader in assessment • Develop concepts and guide additional modeling that can provide value to IRWD 	<ul style="list-style-type: none"> • Better defined feasibility of groundwater concepts
Evaluate and select treatment methods for now and the future	<ul style="list-style-type: none"> • Develop modular treatment concepts that can be applied to alternatives • Evaluate ideas to maximize production from the underutilized 21/22 WTP 	<ul style="list-style-type: none"> • Potential to better utilize and maximize investment in 21/22 WTP • Identification of reliable and cost-effective treatment concepts
Develop conveyance solutions that are integrated into the current system	<ul style="list-style-type: none"> • Use multiple criteria to assess conveyance alternatives • Model all zones in the analysis 	<ul style="list-style-type: none"> • Optimized conveyance solutions that considers current operations
Develop realistic costs and select the best alternative to compare with other water supply planning projects	<ul style="list-style-type: none"> • Develop planning cost model based on current market conditions • Incorporate a sensitivity analysis to better define range and probability of costs 	<ul style="list-style-type: none"> • Better confidence in costs and potential range of costs • Better information to compare to other water supply scenarios



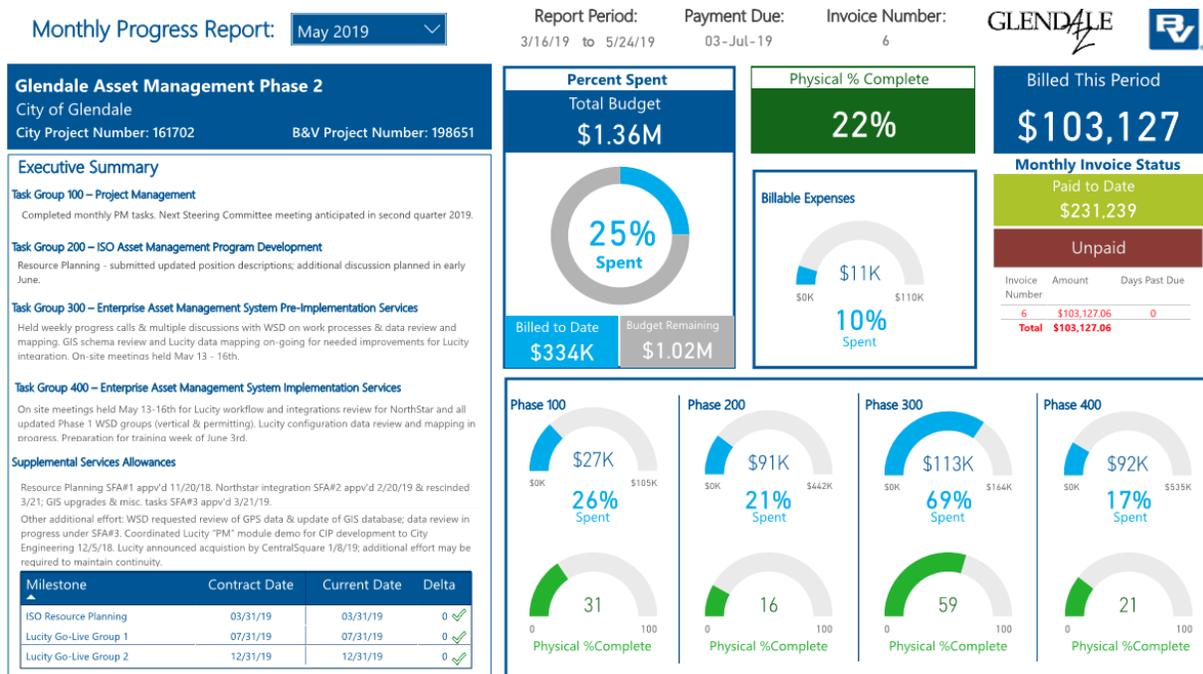
This study is about finding the convergence of groundwater, treatment, and conveyance alternatives to select the best solution for IRWD. [We have highlighted our concepts and approach to the study on the following pages.](#)

Task 1 – Project Management

This Study will require close monitoring of Black & Veatch’s scope and progress to ensure we are moving toward your goals and delivering results efficiently. IRWD’s objective for the study is to be thorough, but not turn it into an exhaustive research study. A challenge for our team is to do the right level of engineering analysis that helps select the best solution. To drive project success, Black & Veatch has prepared a detailed scope of work which includes identifying important assumptions. This scope of work, located in the Appendix, is a great starting point to discuss and refine during negotiations to assure the project objectives are met with utmost efficiency.

Regarding project delivery, Brian Waite will set expectations with the team during the internal kick-off meeting. Roles and responsibilities will be clearly defined, and each discipline lead will be given a scope and budget they need to manage to. As the project moves along, Brian will review cost reports on a weekly or bi-weekly basis and communicate the time charges to the discipline leads. The discipline leads will be required to review the reports and identify any potential project issues or risks with respect to the scope and budget. We are currently taking this approach with the Municipal Water District of Orange County on the Distribution System Water Supply Integration Phase 1 Hydraulic Modeling Project.

Black & Veatch PMs have an innovative tool at their disposal called Power BI. It is a visual dashboard that will tell Brian all the financial information he needs to know about the project in real time. This tool will be especially important for this project as Brian will be able to compare physical % complete verses percent budget spent on both a project level basis and individual task basis at any time. Identifying potential scope and budget issues early will allow the appropriate corrections to be made improving efficiency and ultimately helping the project to be successful. We will share this information about progress as part of our monthly status report and project management meetings, so you understand the complete health of the project.



Brian Waite will use PM tools such as the dashboard above to track project progress and communicate project health with the IRWD project team.

Task 2 – Data Collection and Information Review

Innovative Data Analysis that Will Build Confidence in the Project Evaluations. Our approach to Task 2 is more than just digging into data and reviewing information, it is about creating an analysis of the data. The following section highlights our approach to data gaps and using statistics and projections to analyze the data.

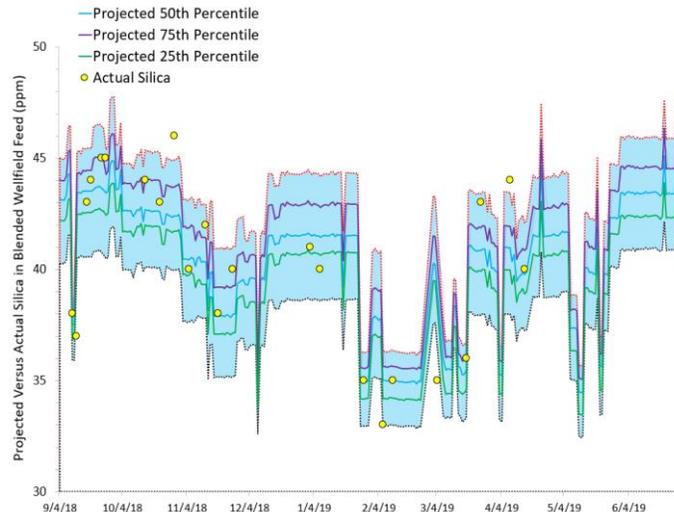
DATA GAP ANALYSIS

An evaluation of historical data will be performed to determine what parameters, if any, are missing to develop a robust water quality and demand projection model. From a preliminary review of existing data, the most important areas requiring greater quantity and quality:

- Historical trends of all available water quality and flow data for Wells 21, 22, 51, and 52
- Current water quality and flows from Wells 51/52 and Tustin Legacy Sites A and B – will require drilling and new sample collection
- Historical and current water quality and mobility data for nearby plumes, such as the Marine Corp Air Station VOC plume
- Water quality data will emphasize parameters important to treatment efficacy and regulatory compliance
 - Design parameters: Total dissolved solids, color, odor, hardness, silica, suspended solids
 - Emerging contaminants: Per- and polyfluoroalkyl substances (PFAS), trichloroethylene, 1,2,3-trichloropropane, etc.

PROBABILISTIC WATER DATA MODEL

One of the challenges with limited water quality data is putting too much weight in specific values that can lead to over or under designed concepts. To address this, Black & Veatch proposes to develop a spreadsheet based probabilistic water quality model. The probabilistic water data model provides confidence distributions around important design parameters, such as contaminant concentrations and water flows. This information will provide a statistically reliable set of conditions from which to evaluate the effectiveness of the alternative treatment options and design treatment facilities for Wells 51/52 and Tustin Legacy Sites.



Black & Veatch used a similar probabilistic model for the groundwater for EMWD's Perris II Desalter to project silica concentrations for a brine treatment concept study

SPATIAL WATER QUALITY INTERPOLATION

Our review of your data shows the Tustin Legacy Sites are not well represented in the historical water quality data. As noted in the technical information in the Appendix, some of these data gaps in the available well water quality can be filled in to a degree using information from nearby wells. There to help fill this gap a spatial

interpolation analysis will be performed to determine the expected water quality at these locations so that later phases of the project can use the interpolated data to make treatment projections.

Task 3 – Hydrogeology and Groundwater Evaluation

Using the Right Experts to Confirm and Guide the Groundwater System Approach. IRWD has already developed the Hydrogeology Technical Memorandum (2019 TM) and completed investigations with the anticipated design, productivity, and water quality for two new supply well sites. The 2019 TM provides an effective basis for our team to use to assess the treatment and conveyance alternatives. The primary objective of this task will be to confirm critical aspects from the 2019 TM and determine if additional studies could provide value to IRWD to better define the current study.

In anticipation of this task, our Groundwater Lead Ed Rectenwald reviewed the 2019 TM and associated information. Preliminary observations of that review include:

- The assessment was very thorough based on information available.
- We generally agree that the approach described in this assessment is the best path moving forward with the testing of existing Wells 51 and 52 and the planned new supply wells at Tustin Legacy Site's A and B.
- We agree with the potential need for rehab or additional rehab of the existing supply Wells 51 and 52. They may be in great condition, but it cannot be certain until the testing has been completed.
- We believe Site B is potentially located too close to Site A (1000 feet distance between the two wells), especially if both supply wells are pumping simultaneously. There is potential with over stressing the aquifer(s). Additional groundwater modeling could be warranted to define this potential more.
- There also appear to be more concern with excessive VOC contamination for Site B that should be investigated more.

While these observations are preliminary, they do suggest that confirmation of the 2019 TM could result in identifying additional work, such as additional modeling. While Black & Veatch will not conduct the modeling, it will be important for our team to understand the current model and make recommendations about the approach for additional modeling. This will ensure the results provide value to the current study and answer the important questions.



Aging Supply Well No. 12 in Miami-Springs Wellfield

Miami-Dade Water and Sewer Department – Miami Springs Wellfield Hydrogeologic Study and Wellfield Rehabilitation/Expansion

Our Groundwater Lead Ed has performed many other similar peer review and evaluations of similar studies. For Miami-Dade WASD, he was requested to review the assessment and approach for the wellfield project that includes a total of 23 wells. Ed has now been integrated into the team as a technical lead through project completion. [Ed will bring a unique perspective to this project and will ensure that the results of this study are based on sound groundwater and hydrogeology conclusions.](#)

Task 4 – Well Site Treatment Alternatives

Understanding the Water Quality to Build the Best Water Treatment Solutions. The proposed treatment alternatives thoroughly capture viable treatment options with respect to the location and conveyance of raw and treated water. Our approach is to look for opportunity for optimization and innovation regarding the specific treatment processes selected, how they build into alternatives, and how to maximize your current assets.

WATER QUALITY TREATMENT IMPLICATIONS

The variability in water quality of the impacted well sites (21, 22, 51, 52, and Legacy Sites A and B) needs to be addressed individually but optimized collectively. In general, existing water data suggest that treatment needs to remove gross organics (color and odor) or dissolved salts, but rarely both. As can be seen in the following table, there are a range of different options that can be used for a specific treatment objective – which emphasizes the importance of developing high confidence in the water quality for each well. Of most importance to this project are membrane desalination (nanofiltration and reverse osmosis) and granular activated carbon (GAC). Membrane desalination is more of a catch-all technology, but at the expense of high operating costs and lost water as concentrate reject. Comparatively, GAC can be a cost-effective option to remove specific organic constituents with near 100 percent recovery but will not provide salt removal. A combination of treatment technologies will be proposed to achieve compliant finished water while minimizing costs.

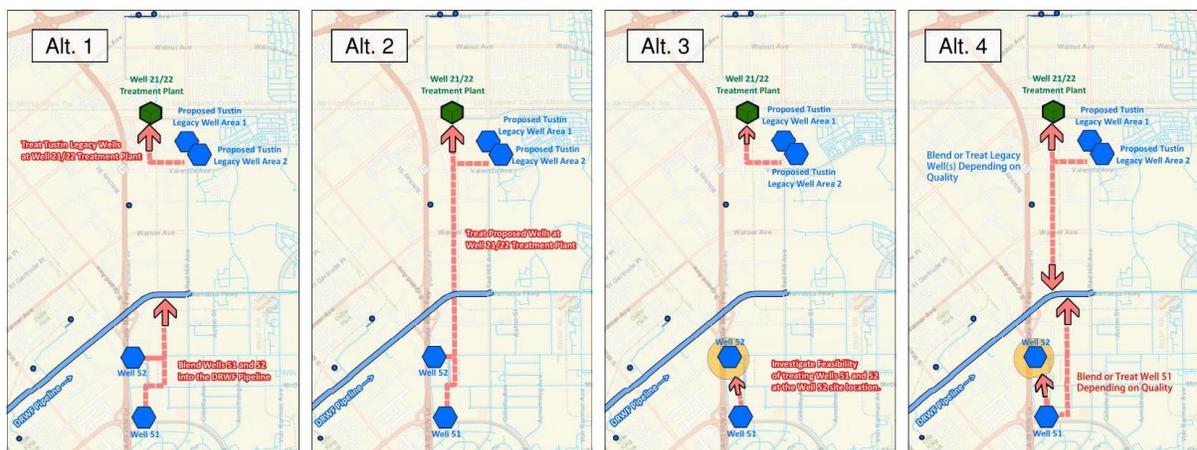
TREATMENT OBJECTIVE	TECHNOLOGY OPTIONS	IMPACTED WELLS
Color removal	<ul style="list-style-type: none"> NF, RO, GAC 	<ul style="list-style-type: none"> Wells 51 and 52 Possibly Tustin Legacy Sites A and B
TDS reduction	<ul style="list-style-type: none"> NF, RO 	<ul style="list-style-type: none"> Wells 21 and 22 Possibly Tustin Legacy Sites A and B
Nitrate	<ul style="list-style-type: none"> NF, RO, IEX 	<ul style="list-style-type: none"> Wells 21 and 22 Possibly Tustin Legacy Sites A and B
CEC's (ex. 1,2,3-TCP, PFAS, TCE)	<ul style="list-style-type: none"> RO, GAC, IEX, AOP 	<ul style="list-style-type: none"> Possibly Wells 51 and 52 Possibly Tustin Legacy Sites A and B
Heavy Metals (ex. As, Fe)	<ul style="list-style-type: none"> RO, IEX, Greensand 	<ul style="list-style-type: none"> Possibly Wells 51 and 52 Possibly Tustin Legacy Sites A and B
Disinfection	<ul style="list-style-type: none"> Chlorine, Chloramine, MF/UF, RO, UV 	<ul style="list-style-type: none"> Necessary for distribution

RO = Reverse Osmosis
 NF = Nanofiltration
 GAC = Granular Activated Carbon
 IEX = Ion Exchange
 AOP = Advanced Oxidation Process
 UV = Ultraviolet Irradiation
 MF/UF = Microfiltration/Ultrafiltration

PUTTING TOGETHER THE BEST TREATMENT ALTERNATIVES

After evaluating the best treatment processes that match the water quality concerns, our team will build a series of treatment alternatives to compare and evaluate. We have reviewed the three treatment alternatives from the RFP and developed critical aspects and challenges for the alternatives. Based on our preliminary evaluation, we saw a potential limitation in Alternative 1 where blending of Wells 51/52 with DRWF may not be sufficient to reduce odor or color to target values. Therefore, we have developed a potential fourth alternative that could blend higher quality individual wells and then treat the wells that need it either at Wells 21 & 22 Treatment Plant or a new plant.

TREATMENT ALTERNATIVE	CRITICAL ASPECTS OF THE ALTERNATIVE
<p style="text-align: center;"><u>Alternative 1</u></p> <ul style="list-style-type: none"> Blending of raw water from Wells 51/52 with DRWF Pipeline Treatment of Legacy Sites at Well 21/21 Treatment Plant 	<ul style="list-style-type: none"> Odor threshold may be exceeded in the DRWF pipeline under worst-case conditions making blending ineffective Legacy Wells can be fully integrated into existing Well 21/22 WTP
<p style="text-align: center;"><u>Alternative 2</u></p> <ul style="list-style-type: none"> Treatment of all wells (51, 52, and Legacy Sites A/B) at Well 21/22 Treatment Plant 	<ul style="list-style-type: none"> Expansion of the existing RO building to treat all well water will require aggressive operation after costly equipment refurbishment Treatment of all water by membrane desalination is likely overkill and unnecessary for wells with only color and odor issues (Wells 51/52)
<p style="text-align: center;"><u>Alternative 3</u></p> <ul style="list-style-type: none"> Treat Wells 51/52 at Well 52 WTP Treatment of Legacy Sites A/B at Well 21/21 Treatment Plant 	<ul style="list-style-type: none"> Minimizes conveyance Promotes independent treatment of Wells 51/52 and Legacy Sites A/B – important if updated water quality results show significant differences between wells
<p style="text-align: center;"><u>Alternative 4</u></p> <ul style="list-style-type: none"> Blending of raw Well 51 Legacy Site A, and/or Legacy Site B with DWRP pipeline Treat Well 52 at Well 52 site location Integrate unblended Legacy Site well(s) at Well 21/22 Treatment Plant 	<ul style="list-style-type: none"> Contingency scenario if updated water quality shows that any individual well is of high enough quality to blend directly into the DWRP pipeline



MAXIMIZING THE POTENTIAL CAPACITY FROM WELL 21 & 22 TREATMENT PLANT

Being able to leverage existing treatment infrastructure is a cost-effective way to treat the new wells. Our extensive RO evaluation and design experience will help develop ideas for cost-effective and sustainable expansion options for the Well 21/22 Treatment Plant. Expansion options span the minimally invasive replacement of 400 ft² membranes with higher-area 440 ft² elements to the more aggressive concept of adding pressure vessels to existing trains and/or increasing the operating flux. As noted in the following table, these options can be effective, but require experience as to not sacrifice plant performance and sustainability.



We have developed ideas to more than double the Well 21 & 22 Treatment Plant capacity with operational changes and new equipment to maximize your existing asset.

IDEA	CAPACITY IMPACT	COST IMPACT
1. Increase membrane area per element (440 ft ² vs 400 ft ²)	<ul style="list-style-type: none"> ▪ Increase production by 10% 	<ul style="list-style-type: none"> ▪ Negligible if integrated into normal replacement schedule
2. Add more pressure vessels to existing trains by going 3 rows higher	<ul style="list-style-type: none"> ▪ Adds about 530 gpm per RO train and about 1600 gpm total 	<ul style="list-style-type: none"> ▪ Purchase and installation up to \$10,000 per vessel ▪ Costs could increase substantially if it requires upgrading process equipment, such as feed pumps
3. Increase average membrane flux from 14.6 GFD to 17 GFD	<ul style="list-style-type: none"> ▪ Will add about 180 gpm capacity per train and 540 gpm total 	<ul style="list-style-type: none"> ▪ Energy and cleaning costs will marginally increase with higher feed pressure
4. Install fourth RO train with high-area membrane elements and 11 rows of pressure vessels	<ul style="list-style-type: none"> ▪ Will contribute about 2,200 gpm in added capacity 	<ul style="list-style-type: none"> ▪ RO equipment cost of about \$2M to \$3M
5. Combine Ideas 1, 2, 3, and 4 into one project	<ul style="list-style-type: none"> ▪ Expands total facility capacity from 5,000 gpm to about 11,800 gpm with blending 	<ul style="list-style-type: none"> ▪ Minimal retrofit or operating costs expected by change to existing train ▪ Most cost associated with purchase of new 3 mgd membrane skid
6. "Mirror" the treatment building to the West and add 5 additional RO trains	<ul style="list-style-type: none"> ▪ Each train adds 1500 gpm increasing total plant capacity by about 7500 gpm 	<ul style="list-style-type: none"> ▪ Most costly of ideas, but when compared to other new facilities could still be cost effective as some infrastructure could be reused

Task 5 – Conveyance Alternatives

Understanding the Challenges and Understanding the Model to Develop Efficient Solutions.

When conducting the conveyance alternatives analyses, we will not only focus on the most efficient method to convey the well water to the distribution system but will also consider the impacts to the connection point and existing infrastructure such as high service pump stations. Using our extensive experience in developing and selecting the right conveyance alternative, we have come up with a preliminary list of challenges that we would like to discuss further with you. Working through these alternatives we will help address the challenges and develop solutions that effectively and efficiently meet the system demands.

CONVEYANCE ALTERNATIVES CHALLENGES

Alternative 1: Blend Well 51/52 into DRWF Pipeline

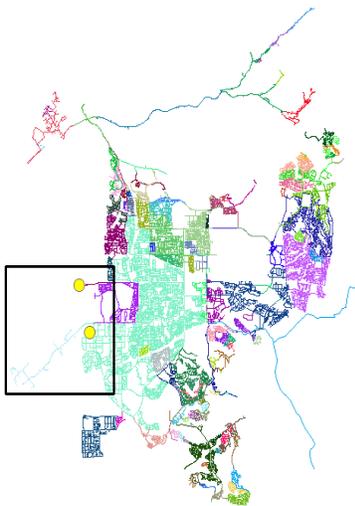
- Optimized pipeline route and ROW congestion
- Impact of the discharge pressure of the existing wells
- “Absorbent” location in the distribution system

Alternative 2: Treat Well 51/52 and Proposed Tustin Legacy Wells at Well 21/22 WTP

- Optimized pipeline route and ROW congestion
- New high service pump stations at Well 21/22 WTP
- New or replaced transmission main from Well 21/22 WTP
- “Absorbent” location in the distribution system

Alternative 3: Treat Well 51/52 at New Well 52 WTP/Proposed Tustin Legacy Wells at Well 21/22 WTP

- Optimized pipeline route and ROW congestion
- New finished water pipeline from Well 51/52 WTP
- New high service pump stations at Well 21/22 WTP
- New or replaced transmission main from Well 21/22 WTP
- “Absorbent” location in the distribution system



The image to the left illustrates the numerous zones within the hydraulic model.

The IRWD water system is complex and comprised of 125 zones within the hydraulic model. Our preliminary analysis shows the immediate impacts of this study can be limited to four zones: TRN (Well 21/22 Treatment Plant), TLG (distribution), DWF (Dryer Road Well Field) and CTI (distribution). However, **Black & Veatch recommends including all zones in the study to ensure the impacts of the new flow are fully understood and documented.**

BLACK & VEATCH'S PRELIMINARY MODELING ASSESSMENT

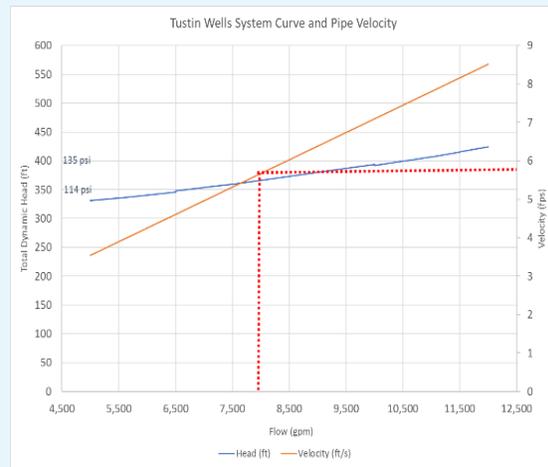
Black & Veatch's Conveyance Lead, Brandy Thigpen, is an expert in hydraulic modeling and using hydraulic models to aid in system design. Brandy has 21 years of experience, has completed over 50 hydraulic modeling projects and is an expert in using Innowyze's InfoWater program, the same hydraulic modeling software as IRWD. She has already reviewed the IRWD model and can become very proficient with the model in short order. Using IRWD's hydraulic model, we completed a preliminary analysis of the increased flows from the Well 21 & 22 Treatment Plant to demonstrate our ability to work within the model. While we have developed alternatives, this preliminary analysis will need to be refined with improvements identified and repeated for the other alternatives.

EXAMPLE ANALYSIS



The left image shows two potential pipe routes to convey raw water from the Tustin Legacy Well Area 1 and 2 to the Well 21/22 Treatment Plant. It also shows the location where the distribution system will see increase flows (X) as a result of the additional well supply.

The route analysis will need to consider capital costs from length and diameter requirements, but also right-of-way (ROW) congestion. A longer route might end up being the less expensive route due to the other utilities in the ROW, or due to the traffic restrictions.



The right image shows the system curve at Location X and the resulting velocities in the 24-inch transmission main along Edinger Ave. The existing flow in the water main, per the hydraulic model, is around 5,100 gpm (7.3 MGD) which results in a pipe velocity of 3.5 fps.

An additional 2,000 - 3,000 gpm from Tustin Legacy Sites A and B would result in the total flows through the 24-inch transmission main to increase to about 8,000 gpm and would cause the velocity to be around 6 fps.



Black & Veatch has worked with the Tampa Water Department (TWD) to fully explain their assumptions and thought process throughout the project. They have documented their approach to each task in detail. As a result, the City has gained a more thorough understanding of its distribution system condition and capabilities. This understanding is expected to result in an improved ability to identify the most economical distribution system improvements necessary to achieve established service levels.

Brian Pickard

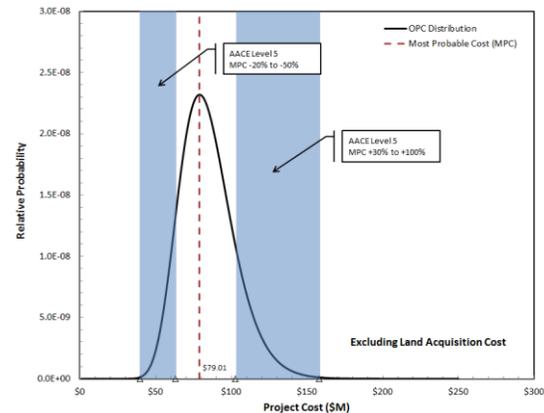
City of Tampa Chief Planning Engineer

Task 6 – Project Life Cycle

Developing Realistic Cost Estimates that Can be Used to Make Decisions. In a planning study there are many non-financial aspects of alternatives that are considered, but it is important to have realistic planning level cost estimates to make decisions. Our approach to developing project life cycle costs involve using a process level costing tools, developing complete O&M costs, and using construction estimators to validate planning level costs. This helps us develop more complete and realistic project life cycles costs that will let IRWD make decisions with confidence.

MORE THAN JUST A UNIT COST ESTIMATE

To do effective planning level treatment and conveyance costs, Black & Veatch has built a spreadsheet-based cost estimating tool. The opinions of probable capital cost of alternatives will be developed using a cost-buildup approach based on several common cost categories including installed equipment costs, additional project costs, contractor mark-up costs, and non-construction costs. We will use equipment quotes, previous estimates, and our standard cost formulas to build the estimates. We also present the costs in the form of a probability distribution with a most probable cost (MPC) and associated range of uncertainty. We apply a lognormal probability distribution to account for a higher degree of cost uncertainty with certain aspects of the cost, so we can show you probability that the total project cost lies within the selected range of costs.



We have used most probably cost analysis to better communicate the range and likelihood of planning level costs

COMPLETE ANNUAL O&M ESTIMATES

When developing annual costs, some studies just focus on chemicals and power, while they are usually the major factors, our approach is to develop a more complete annual cost. We develop annual operation, maintenance, repair, and replacement (OMR&R) opinions of probable costs that include well water pumping energy costs, treatment chemicals, treatment process energy costs, disposal of wastes/residuals, and periodic repair and replacement of equipment. This more holistic approach ensures a more accurate apples to apples comparison and allows IRWD to better understand budget implications of the recommended concept.

ESTIMATES VALIDATED BY CONSTRUCTION ESTIMATORS

While planning projects are sometimes very high-level estimates, our approach is to still involve detail cost estimate to validate our approach. Black & Veatch maintains a project delivery group that routinely bids water and wastewater design/build (D/B) and Engineer/Procure/Construct (EPC) construction contracts across the country. Our full-time career construction cost estimators from this group are available to estimate planning projects, thus providing reliable, independent estimates that IRWD can rely on.

Task 7 – Alternative Ranking Matrix

CRITICAL CRITERIA

The following are potential criteria that could be programmed into the KP matrix to quantify and determine the optimum treatment alternative. Our team will work with your team to select the best criteria and weighting.

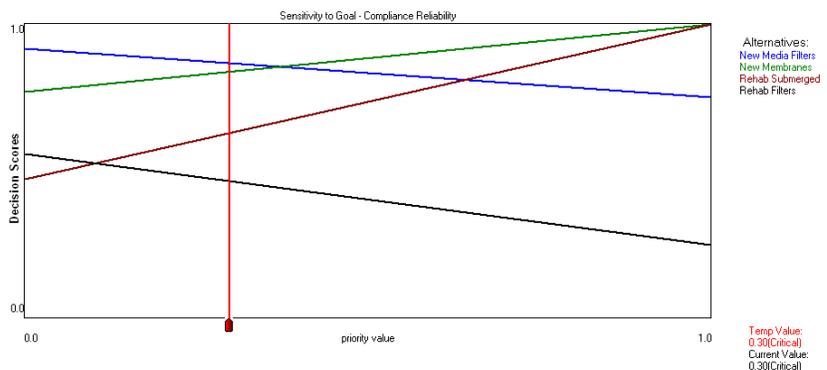
- Technology Readiness - Scalability; Availability; Quantity and quality of successful operating data under comparable treatment conditions; Personnel and plant support
- Performance Reliability -How well does the alternative handle variability in water quality and flow?; What is the likelihood for system failure and contaminant breach into the distribution system?
- Performance Robustness - How well can the technology adapt to treating future, unknown target pollutants such as PFAS
- Capital and O&M Costs - Construction cost; Energy consumption; Repair and maintenance; Consumables; Financing; O&M Labor
- Operations & Maintenance – How easy is the system to operate and maintain, level of automation, level of instrumentation

MAKING EFFECTIVE DECISIONS

An alternatives evaluation will be conducted based on a computational ranking method using the Kepner-Tregoe® (KP) Decision Analysis process. Economic and non-economic factors will be weighted and combined to support the cost benefit analysis to determine which alternatives are the most technically and economically feasible. The alternatives will also be evaluated with a cost-to-benefit ratio to help select and overall treatment recommendation. Black & Veatch has firsthand experience using the KP process to ensure that the right decision is made to the satisfaction of the client and the client’s constituents.

DEVELOPING A SCORING SENSITIVITY ANALYSIS

During our meetings with IRWD, we will go through your “wants” and “needs” to help establish the criteria for the evaluation. Separation of the wants and needs can be import as alternatives that don’t meet the needs must be eliminated or combined with other alternatives. Throughout the decision-making process we will conduct sensitivity analysis to see how changes to the weighting factors, which are subjective, subsequently change the screening/ranking results. The sensitivity analysis can be important to evaluate the “wants” and determine their influence on the decision. The decision process must be unbiased and well documented to support the final recommendations. This detailed comparison of alternatives will ensure a complete evaluation and that the best treatment alternative is selected for IRWD.



Example sensitivity analysis that shows as you slide the weighting of a criteria each “cross-over” point is a potential place that the decision could change to a different

Team

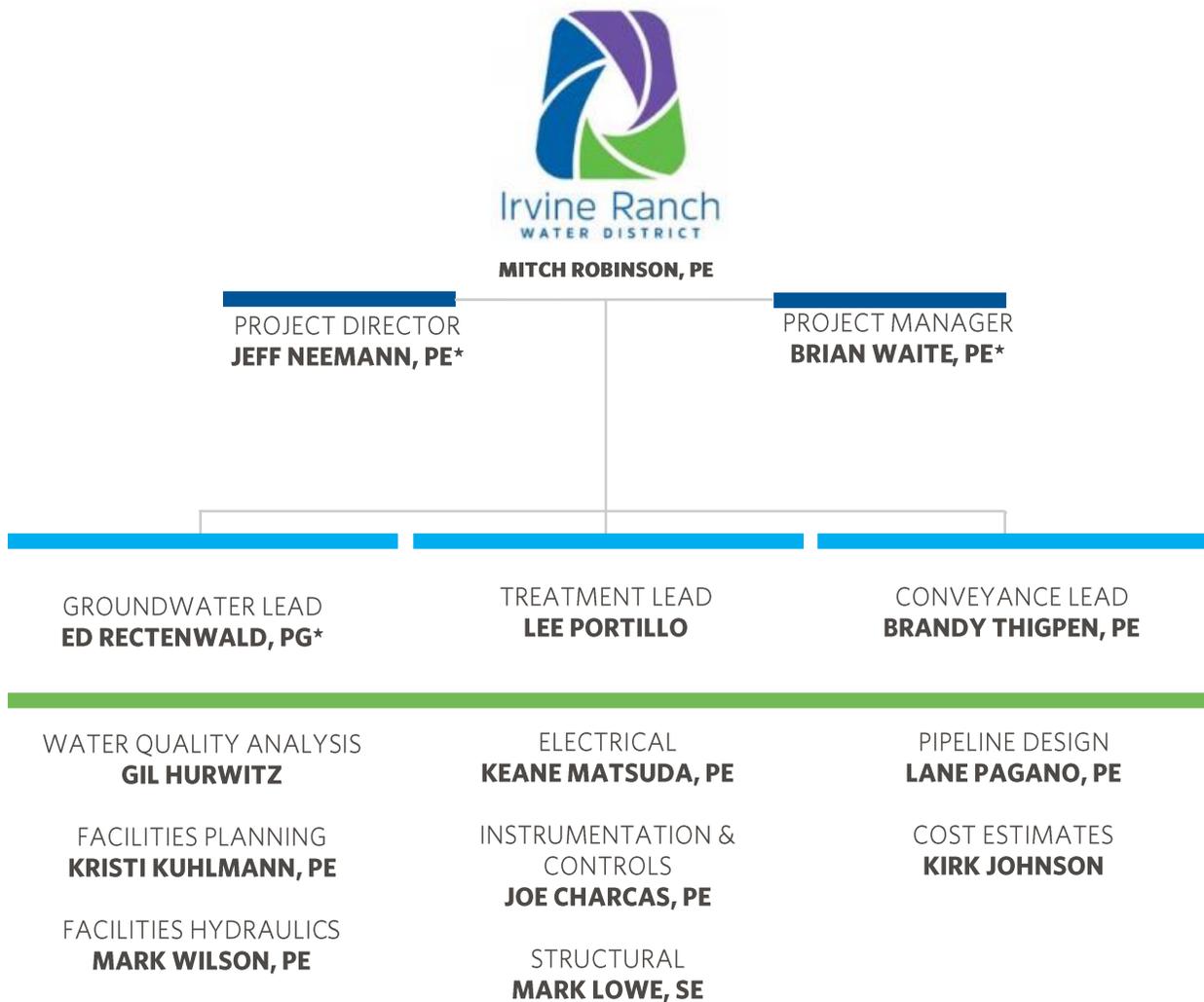
Black & Veatch has assembled a project team tailored specifically to the goals and objectives of your Project. Our unmatched technical capabilities and extensive experience with treatment and conveyance planning and design align us perfectly to execute this work. We have assembled a talented local team, including our treatment and conveyance experts, to bring added efficiency and responsiveness and proven working relationships to the District.



I would definitely trust Jeff to lead and deliver on a time critical project. Jeff is always very responsive to the District's needs and his process expertise and ability to execute on that has proven to be very beneficial to us."

Bill Hagenburger, P.E.
COO, Beaver Water District

This first-rate team of professionals is experienced in complex projects similar to yours. The team brings the depth needed to place the right people in the right roles. As shown in the organizational chart below, Black & Veatch has pulled together a team that will efficiently execute this Project and deliver the recommendations meet IRWD's priorities.



PROJECT LEADERS

In addition to our technical understanding, we also bring a collaborative project management approach. Collaboration starts with our strong project leadership, Jeff Neemann and Brian Waite will lead our team and be your main interface. The combination of Jeff’s strong technical background and Brian’s ability to drive project schedule and budget provides a perfect combination for this project. Our key project leaders and why we selected them for this project are described more below.



Dr. Neemann brings more than 20 years of expertise in water treatment design and technologies evaluation. Jeff has led the development and implementation of multiple water design alternative studies throughout his career and is well versed in groundwater treatment. He will be a “hands on” Project Director by leading the technical aspects of the work that will include managing and working directly with IRWD and the B&V Technical Leaders.

<p>Jeff Neemann, D.Eng, PE Project Director 45% availability</p>	<p>KEY PROJECTS</p> <ul style="list-style-type: none"> ▪ Santa Monica Groundwater Restoration Program City of Santa Monica ▪ Ground Water Replenishment System Final Expansion OCWD ▪ Perris II Desalter EMWD 	<p>WHY JEFF?</p> <ul style="list-style-type: none"> ▪ Effective at communicating technical information in a non-technical way ▪ Great workshop and meeting facilitator that makes sure all parties in the meeting participate and provide input
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Mr. Waite brings over 18 years of experience in the planning, design and construction management of water infrastructure projects. He has managed a variety of small to large projects and has been a key team member on numerous successful projects resulting in high client satisfaction. As project manager, Brian will provide close coordination with IRWD throughout the project and will assure scope, schedule, budget and quality expectations are met. With his extensive experience managing projects of this scale, Brian will ensure that your project is successfully completed on time and budget.

<p>Brian Waite, PE Project Manager 35% availability</p>	<p>KEY PROJECTS</p> <ul style="list-style-type: none"> ▪ Ground Water Replenishment System Final Expansion OCWD ▪ Metering Option Evaluation for Member Agencies MWDOC ▪ OC-43 Turnout Valve Vault Site Evaluation City of Tustin 	<p>WHY BRIAN?</p> <ul style="list-style-type: none"> ▪ Proven local project manager ▪ Collaborative management style that engages in frequent face-to-face meetings ▪ Well-rounded technically that will assist Jeff with technical execution.
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KEY PROJECT EXPERTS

Black & Veatch provides technical experts that will bring applicable ideas and practical solutions to your study. Our key project experts are described below.



Edward Rectenwald, PG
Groundwater Lead
20% availability

ROLE ON PROJECT

- Review proposed wells hydraulic performance and capacity
- Review groundwater information provided
- Confirm recommended next steps for well siting
- Provide additional recommendations/insights regarding wells & hydrogeology
- Identify potential for contaminant intrusion due to the addition of new wells

WHY ED?

Ed has over 23 years of experience in various hydrologic, geologic, environmental investigations, design, construction and expert witness testimony. As Black & Veatch's Hydrogeology National Practice Leader, Ed will ensure that recommendations previously made to you are accurate and that your decision-making information is sound.



Lee Portillo
Treatment Lead
25% availability

ROLE ON PROJECT

- Provide analysis of 3 treatment alternatives provided by the District
- Identify and compare applicable treatment technologies
- Evaluate and model water quality

WHY LEE?

Lee specializes in the utilization of technologies to treat ground water and other drinking water sources. He has extensive project experience in the design and implementation membrane treatment facilities including the design of multiple full-scale Reverse Osmosis facilities. Lee will utilize his pilot operation and design experience to ensure you have practical solutions and a realistic design alternative analysis.



Brandy Thigpen, PE
Conveyance Lead
40% availability

ROLE ON PROJECT

- Model conveyance alignments based on varying treatment alternatives
- Propose pipe alignments and improvements for conveyance from each well.
- Evaluate operation changes necessary to accommodate the addition of the proposed potable water

WHY BRANDY?

Brandy specializes in water distribution modeling, hydraulic analysis, transient analysis, and system optimization. Her experience includes water supply, treatment and distribution, wastewater collection, treatment, and reuse, and water / wastewater infrastructure master planning. From her experience using your modeling software, InfoWater, on countless projects, Brandy will efficiently and accurately determine the best design alternatives to convey water from the proposed wells.

References

Our team brings experience and expertise in areas of groundwater flow modeling, well planning, and well development of all kinds. Black & Veatch also has a wealth of experience with hydraulic studies, alignment studies, and wellhead treatment. Our team offers the following:

- **Knowledge of District Standards and Procedures.** Black & Veatch has developed a strong presence in Southern California through successful collaboration on a wide variety of projects including the District's own Biosolids and Energy Recovery Facilities Project. We know your systems and standards as we have worked together in the past on many successful projects, so that will translate into confidence in delivering on this important assignment.
- **Proven Groundwater and Well Head Treatment Study Expertise.** Black & Veatch has assisted many other major California utilities with the design and alternative analysis of systems to treat and convey groundwater in an effort to provide a new supply of water. We have completed similar work for the award-winning Charnock Groundwater Treatment Project for the City of Santa Monica and the San Bernardino Municipal Water District.
- **Talented, Tested Black & Veatch Team.** As shown through the projects featured in this section, we know how to implement successful projects within the Southern California regulatory arena. The project profiles provide client contact information, and we urge you to check our references regarding our technical competence and personal responsiveness.



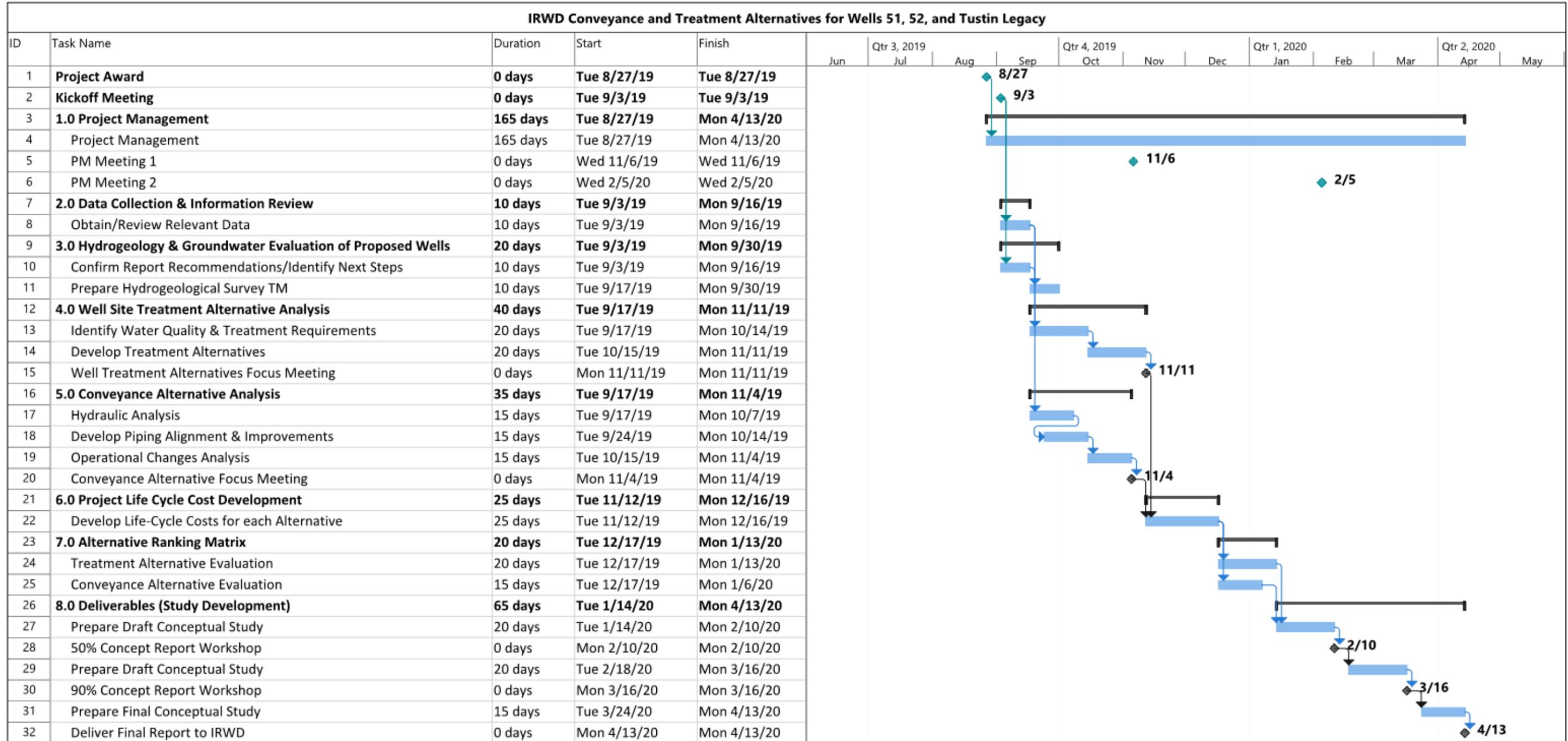
Award-Winning Projects

We have assisted clients around the world in developing alternative water supply projects to diversify their water supply portfolio, including a multi-barrier treatment system for the City of Santa Monica to restore contaminated groundwater supplies. This award-winning project was taken from pilot-scale testing to full-scale design-build implementation by our team which involved many planning steps.

SELECTION OF APPLICABLE EXPERIENCE	Study	Design	Groundwater	Treatment	Conveyance	Project Highlights
City of Santa Monica - Groundwater Restoration Program	■	■	■	■	■	<ul style="list-style-type: none"> ▪ Treatment Technology Evaluation ▪ Contaminated groundwater treatment ▪ Conveyance Assessment & Design ▪ Well Rehab & Design
Eastern Municipal Water District - Perris II Desalter		■	■	■	■	<ul style="list-style-type: none"> ▪ Preliminary Design Report Refinements ▪ Groundwater Treatment ▪ Hydraulic Modeling & Conveyance Analysis
City of Cape Coral - Comprehensive Water Resource Program		■	■			<ul style="list-style-type: none"> ▪ Well Rehab, Siting, and Design Groundwater & Hydraulic Modeling
Orange County Water District - Groundwater Replenishment System Final Expansion		■	■	■	■	<ul style="list-style-type: none"> ▪ Design ▪ Water Quality Modeling ▪ Hydraulic Analysis ▪ Pilot Study Results Analysis
San Antonio Water System - Vista Ridge Integration Project		■		■	■	<ul style="list-style-type: none"> ▪ Water Quality Modeling ▪ Hydraulic Modeling & Analysis ▪ Infrastructure Assessment
San Bernardino Municipal Water Dept. - Bunker Hill Water Supply Project	■	■	■	■	■	<ul style="list-style-type: none"> ▪ Treatment technology evaluation ▪ Conveyance & Treatment Design
Soquel Creek Water District - Groundwater Treatment Project	■	■	■	■		<ul style="list-style-type: none"> ▪ Planning study ▪ Design of well head and centralized groundwater treatment facilities
San Bernardino Valley Water Dept. - Baseline Feeder Well Replacement		■	■	■	■	<ul style="list-style-type: none"> ▪ Well equipping ▪ Design of reservoir, pump station, and disinfection system ▪ CDPH coordination
City of Upland - Ion Exchange Facility at Plant 12		■	■	■		<ul style="list-style-type: none"> ▪ Detailed design for a 2,600 gpm ion exchange treatment facility ▪ Provided significant coordination with CDPH
City of Downey - CDPH 97-005 Study	■		■	■		<ul style="list-style-type: none"> ▪ Treatment technology assessment ▪ Coordination with CDPH
Castaic Lake Water Agency - CDPH 97-005 Policy Memo Compliance Report	■		■	■		<ul style="list-style-type: none"> ▪ Treatment technology evaluation including ion exchange, NF/RO, fluidized bed reactor, and electro dialysis reversal ▪ Completed detailed source water quality assessment
California Dept. of Corrections - High Desert State Prison Selection for Arsenic Removal		■	■	■		<ul style="list-style-type: none"> ▪ Provided technology evaluation, detailed design, for removal of VOCs and arsenic from the groundwater supply
City of Stockton - Marley Cooling Tower Plant		■	■	■		<ul style="list-style-type: none"> ▪ Provided raw water quality assessment and detailed design of IX facility for CrVI removal
Metropolitan Water District - Dry Year Program Expansion Project		■	■	■		<ul style="list-style-type: none"> ▪ Provided preliminary treatment technology evaluation for native groundwater contaminants and conceptual level design
City of Carson - On-Call Services	■		■	■		<ul style="list-style-type: none"> ▪ Peer review of treatment process selection ▪ Conducted raw water quality assessment and treatment technology screening
City of Geneva - RO WTP Pilot Study & Design	■	■	■	■		<ul style="list-style-type: none"> ▪ Pilot Testing & design for new groundwater treatment facility ▪ Iron & Manganese removal
San Antonio Water System - Brackish Groundwater Desalination Program	■	■	■	■	■	<ul style="list-style-type: none"> ▪ Well siting & design ▪ Membrane treatment ▪ Blending

Schedule

Planning requires a sequential series of activities that build upon each previous step. Below we have outlined our proposed schedule to accomplish this work in about 8 months and to meet your project objectives and deadline as provided within your RFP. This schedule matches up with our proposed detailed scope of work that is included as an appendix to this proposal. While the efforts could be accelerated if needed, this approach allows for time to collaborate with you to develop the best ideas and solutions.



Budget

We have included all aspects of our budget proposal in a separate sealed envelope as requested by the District's RFP.

Joint Venture

Our team is not a Joint Venture and does not include subcontractors.

Conflict of Interest

Black & Veatch does not have any known conflicts of interest.

Insurance/Contract

Black & Veatch can comply with the insurance limits and requirements, but we propose two small changes regarding our policies that have been included in our past contracts.

- The first full paragraph on page 6, please delete the words "or reduced" on the second line.
- Last paragraph on page 6 regarding subrogation, please insert at the end of both sentences the words "except with regard to professional liability insurance".



APPENDIX A: SCOPE OR WORK

THE SCOPE OF SERVICES

1.0 Project Management

1.1 PROJECT MANAGEMENT

Black & Veatch (B&V) will conduct project management activities including monitoring of scope, schedule, and budget. This task includes general project coordination between the Engineer, IRWD, and others as required. Other components of the Project Management Task include:

- a) Maintaining/updating a Gantt-style milestone-based project schedule using MS Project 2010 (or later)
- b) Preparing and submitting monthly invoices. Invoices will include a billing summary showing billings this period, billings to date and remaining budget for each task. Invoices will also include a monthly status report summarizes work performed during the specific invoice period.
- c) Preparing and updating action item logs and decision logs. These logs will be provided on a monthly basis or as requested by IRWD.

B&V will notify IRWD of any potential out of scope work as soon as it is identified.

1.2 QUALITY CONTROL

B&V will implement our Quality Management Program which consists of preparing a quality management plan (QMP). The QMP will updated and maintained throughout the life of this project. Each B&V deliverable will receive an independent QC review as identified in the QMP. The QC process will be documented in the standard B&V QC review spreadsheet. The QC reviewer will provide comments in the QC review spreadsheet. Each QC comment will require a response from the team. In addition, the QC reviewer will sign-off that the response is acceptable, and the team will assure the QC comments have been adequately addressed.

1.3 PROJECT MEETINGS

B&V has budgeted eight (8) project meetings. The following list of meetings have been assumed for budgetary purposes with the indicated durations in parenthesis:

- Kick-off meeting (1.5 hours)
- Well treatment alternative focus meeting (1.5 hours)
- Conveyance alternative focus meeting (1.5 hours)
- Alternatives Evaluation Workshop (2 hours)
- 50% Concept Report Workshop (2 hours)
- 90% Concept Report Workshop (2 hours)
- Two (2) project management meetings (1 hour each)

B&V will prepare the agenda with each meeting, prepare and issue meeting minutes and record action items and decisions in the appropriate log.

2.0 Data Collection and Information Review

2.1 OBTAIN/REVIEW RELEVANT BACKGROUND INFO.

B&V will collect, review and incorporate pertinent existing information to gain a general understanding and background for the Proposed Wells. B&V will review the following information:

- o 2019 Water Well Data Survey and Assessment Tech Memo (See Task 3.1)
- o Well Completion Reports
- o Well Rehab Reports
- o Site Maps
- o As-built drawings
- o Board Presentations
- o Hydraulic Model.

This task also includes developing probabilistic water data model.

3.0 Hydrogeology and Groundwater Evaluation of Proposed Wells

3.1 CONFIRM REPORT RECOMMENDATIONS AND IDENTIFY NEXT STEPS

B&V will review the 2019 Water Well Data Survey and Assessment Tech Memo dated June 2019. This 2019 TM contains key information that will be used in the later Tasks for analysis. Utilizing the 2019 TM, B&V will

- a) Confirm the Proposed Wells hydraulic performance and capacity, including sustainable and specific yield
- b) Confirm the groundwater information provided
- c) Provide B&V's professional opinion on the review and analysis of the existing data and approach moving forward with the testing of existing Wells 51 and 52 and the planned new supply wells at Site A and B.
- d) Identify any missing information or analysis and provide recommended next steps

The hydrogeological evaluation will be summarized in a Technical Memorandum (TM). Refer to Task 8.1 for preparation of this TM.

3.2 ADDITIONAL MODELING COORDINATION (OPTIONAL TASK)

Additional modeling may be recommended as part of this study. Although this modeling would be performed by others, B&V will assist with the coordination and review the results. A level of effort will developed later when a more in-depth review of the 2019 TM is performed.

4.0 Well Site Treatment Alternatives

A core purpose of the Study is to analyze and provide feasible treatment alternatives for the Proposed Wells. IRWD has defined three general alternatives to be analyzed as described in Tasks 4.1 through 4.3

In this task, B&V will address the following issues with each alternative:

- a) Identify water quality and treatment requirements to meet minimum local, regional, state, and federal standards. B&V will develop a probabilistic water data model. The information from the model output will provide a statistically reliable set of conditions from which to evaluate the efficacy of the alternative treatment options and design treatment facilities.
- b) Identify potential intrusion of contaminants into the groundwater aquifer from continued pumping in the future.
- c) Recommend treatment methodology for each of the four Proposed Wells. The treatment methodology will include the physical scope of recommended treatment. A process flow diagram will be developed along with a definition of the spatial requirements. This task does not in include a general arrangement site layout.
- d) Discussion on the emerging contaminants of concern PFAS/PFOA and if the treatment alternatives provide any removal.

Task 5 describes the conveyance work required for each treatment alternative analyzed.

4.1 ALTERNATIVE 1 - BLEND W/ EXIST SUPPLY

This alternative utilizes IRWD's Dyer Road Well Field (DRWF) pipeline as a method to blend water from Wells 51 and 52, and Well 21/22 Treatment Plant to treat the two Tustin Legacy Wells. IRWD's Well 21/22 Treatment Plant was constructed to supply approximately 6,400 acre-feet/year of treated water into the potable system. Due to water basin levels, the plant is producing approximately 2,400 acre-feet/year. Analysis for this alternative will include proposed changes to the Well 21/22 Treatment Plant to accommodate treatment for the Tustin Legacy Wells.

4.2 ALTERNATIVE 2 – TREAT AT WELL 21/22 TREATMENT PLANT

This alternative utilizes IRWD's existing Well 21/22 Treatment Plant as a location to treat the four Proposed Wells. Analysis for this alternative will include proposed changes to the Wells 21/22 Treatment Plant to accommodate treatment for the Proposed Wells.

4.3 ALTERNATIVE 3 – TREAT LOCALLY AT EXISTING WELL 52 SITE AREA

This alternative utilizes Well 52 site for a future treatment plant to treat Wells 51 and 52, and Well 21/22 Treatment Plant to treat the two Tustin Legacy Wells. Analysis for this alternative should

also include proposed changes to the Wells 21/22 Treatment Plant to accommodate treatment for the Tustin Legacy Wells.

B&V will review the four general arrangement treatment layouts developed by IRWD staff for consideration into the development of this alternative.

4.4 ALTERNATIVE 4 – BLENDING AND TREATMENT OPTIONAL TASK

B&V has identified another alternative that would potentially be further analyzed if updated water quality shows that any individual well is of high enough quality to blend directly into the DWRP pipeline. Here is a description of the additional alternative:

- Blend raw Well 51 Legacy Site A, and/or Legacy Site B with DWRP pipeline
- Treat Well 52 at Well 52 site location
- Integrate unblended Legacy Site well(s) at Well 21/22 Treatment Plant

5.0 Conveyance Alternatives

B&V will develop conveyance alternatives and perform a preliminary hydraulic analysis to support the alternatives identified in Task 4.

5.1 PIPING ALIGNMENTS OR IMPROVEMENTS

B&V will prepare preliminary pipe alignment plans (maps) to show water being conveyed from each well location. B&V will evaluate up to two (2) possible alignments for each alternative. The maps will be prepared to scale using available aerial mapping imagery as background file. The map will identify pipeline sizes, lengths and point of connections. An utility investigation is not included in this task. Potential pipeline construction challenges such as railroad crossings, traffic restrictions and known major utility crossings will be identified.

5.2 HYDRAULIC ANALYSIS

Utilizing the District’s hydraulic model, B&V will evaluate the conveyance improvements for the treatment alternatives described in Task 4. IRWD has identified two scenarios to be modeled and evaluated, which include a 24 hour Extended Period simulation (EPS) for Existing Maximum Day Demand (MDD), and 24 hour EPS simulation for Future MDD. The scenarios described will include a parent scenario without system improvements, and a child scenario with system improvements. B&V will analyze the two child scenarios. B&V will use InfoWater Version 12.4 to update and run the hydraulic model.

5.3 RECOMMEND OPERATIONAL CHANGES

For each alternative, B&V will describe any recommended operational changes to existing tanks, pumps, MWD Turnouts, and other major facilities to accommodate the future potable groundwater from a high level perspective. B&V will evaluate hydraulic impacts on all 125 zones to ensure the impacts of the new flow are fully understood and documented.

6.0 Project Life-Cycle Cost

6.1 DEVELOP LIFE-CYCLE COSTS

B&V will develop planning level life-cycle costs for each of the alternatives described in Task 4 and the associated selected conveyance alternative (See Task 5). Costs will include capital and O&M costs but exclude labor associated with O&M. These costs will be used as part of the alternatives ranking process. B&V will use our planning cost model and incorporate a sensitivity analysis to better define the range and probability of costs. The life cycle cost analysis will:

- a) Be for the proposed alternatives in total dollars and cost per acre- foot for both capital facilities. Cost estimating will meet AACEi Class 5.
- b) Compare the costs to existing and future MWD treated costs

B&V's Structural, Electrical and I&C discipline leads will provide input to the capital costs.

7.0 Alternative Ranking Matrix

7.1 ALTERNATIVES EVALUATION

B&V will evaluate the alternatives in Task 4 using the Kepner-Tregoe® (KP) Decision Analysis process, a computational ranking method. Economic and non-economic factors will be weighted and combined to support the cost benefit analysis to determine which alternatives are the most technically and economically feasible.

The economic and non-economic factors for each alternative would be identified in collaboration with the District via the Evaluation Workshop. Weightage will be assigned to each criterion and a numerical ranking system will be developed, establishing the performance of each alternative against each criterium. The non-economic evaluation criteria will be programed into the decision matrix to determine viability as compared to economic factors to create a full cost benefit analysis.

B&V will compare up to 2 conveyance alternatives for each treatment alternative. The highest ranked conveyance alternative will be used in the development of the life-cycle costs (Task 6) and for the alternatives evaluation described above.

The results of the alternatives evaluation will be summarized in the Draft Conceptual Study Report.

8.0 Deliverables

B&V will prepare and deliver the documents identified in Tasks 8.1 through 8.3. Native files (Word, Excel, Access and GIS files in shapefile or geodatabase format) will be included with the deliverables.

8.1 PREPARE INITIAL SURVEY TM

B&V will prepare a brief TM called summarizing the results of the work performed in Task 3. Only an electronic submittal will be provided. No hard copies. The level of effort includes responding to and incorporating minor comments.

8.2 PREPARE DRAFT CONCEPTUAL STUDY

B&V will prepare and submit a draft Conceptual Study Report. This draft report is considered 90% complete at this milestone. A digital PDF plus 5 hard copies will be provided.

8.3 PREPARE FINAL CONCEPTUAL STUDY

B&V will respond to written IRWD comments and incorporate comments into the final study report as agreed to by IRWD and B&V. B&V will deliver a digital PDF plus 5 paper copies with changelog addressing IRWD comments. The level of effort assumes one round of IRWD comments only.

End of Scope of Work



Black & Veatch Corporation
5 Peters Canyon Rd, Suite 300, Irvine, CA 92606
P +1 949-788-4233 E NeemannJJ@bv.com

August 1, 2019

Mitch Robinson
Irvine Ranch Water District
Engineering Department
15600 Sand Canyon Avenue
Irvine, CA 92618

Dear Mr. Robinson,

Black & Veatch is pleased to submit our qualifications and technical approach for the Conveyance and Treatment Alternatives for Wells 51, 52 and Tustin Legacy. We are excited about the opportunity to work with you and your team to support this initial step in identifying new groundwater supply sources. In accordance with the instructions in your Request for Proposal (RFP), we are pleased to submit this budget proposal for the subject project in a separate, sealed envelope.

Budget Proposal. The enclosed fee schedule represents our budget proposal, which reflects our approach to completing your project in cost effective manner while meeting the project goals. As noted in the RFP, compensation will be based on actual salary times the hours spent times a multiplier. Direct costs include local travel costs and reproduction. We look forward to meeting with you to discuss our proposal should you have any questions.

Scope of Work. We have developed our budget proposal based on our estimated effort to address the scope of work submitted in our proposal in the Appendix. This scope of work was built upon the scope of work included in the RFP.

We appreciate the opportunity to provide professional services to IRWD and look forward to starting work on this important project. If you have any questions about this proposal, please contact me at 949-788-4233 or neemannjj@bv.com.

Very truly yours,
BLACK & VEATCH CORPORATION

A handwritten signature in blue ink, appearing to read 'Jeff Neemann', with a long horizontal flourish extending to the right.

Jeff Neemann, D.Eng, PE
Project Director



**IRVINE RANCH WATER DISTRICT
CONVEYANCE AND TREATMENT ALTERNATIVES FOR WELLS 51, 52 AND TUSTIN LEGACY STUDY - HOURS MATRIX
PREPARED BY BLACK & VEATCH**



STAFF TITLE	Jeff Neemann, Project Director	Brian Walte, Project Manager	Ed Rectenwald, Groundwater Lead	Lee Portillo, Treatment Lead	Brandy Thigpen, Conveyance Lead	Sil Hurwitz, Water Quality	Kristi Kuhlmann, Facilities Planning	Mark Wilson, Facilities Hydraulics	Quality Control / Cost Estimating	Jane Pagano, Pipeline (Engineer 3)	Engineer 2/Project Controls	Admin/Finance	Clerical	Total Labor	Labor Fee	Direct Expenses	Total Expenses	Total Fee	Notes	
BILLING RATE	\$299	\$247	\$243	\$216	\$183	\$176	\$232	\$265	\$245	\$158	\$124	\$90	\$88							Composite multiplier is 3.0
TASK																				
Task 1 Project Management														207	\$44,153	\$792	\$792	\$ 44,945		
Task 1.1 Project Mangement	2	24	0	0	0	0	0	0	0	0	16	12	0	54	\$9,565	\$0	\$0	\$9,565		
Task 1.2 Quality Control	2	4	0	0	0	0	8	0	34	0	0	0	0	48	\$11,775	\$0	\$0	\$11,775		
Task 1.3 Project Meetings	20	15	0	23	14	13	4	4	0	4	0	4	4	105	\$22,812	\$792	\$792	\$ 23,604	Meetings held at IRWD	
Task 2 Data Collection and Information Review														88	\$13,852	\$0	\$0	\$13,852		
Task 2.1 Obtain/review relevant background info	2	0	2	4	12	20	0	0	0	8	40	0	0	88	\$13,852	\$0	\$0	\$13,852		
Task 3 Hydrogeology & Groundwater Evaluation of Wells														32	\$6,449	\$0	\$0	\$6,449		
Task 3.1 Confirm recommendations/next steps	2	0	18	0	0	0	0	0	0	0	12	0	0	32	\$6,449	\$0	\$0	\$6,449		
Task 3.2 Additional Modeling Coord. (Optional Task)																				
Task 4 Well Site Treatment Alternatives														322	\$58,400	\$0	\$0	\$ 58,400		
Task 4.1 Develop Alternative 1 - Blend w/ exist supply	4	2	2	16	2	24	6	6	0	0	40	0	0	102	\$18,140	\$0	\$0	\$18,140		
Task 4.2 Develop Alternative 2 - Treat at Well 21/22 TP	4	2	2	16	2	24	8	8	0	0	40	0	0	106	\$19,135	\$0	\$0	\$ 19,135		
Task 4.3 Develop Alternative 3 - Treat locally at Well 52 Site	4	2	2	16	2	24	12	12	0	0	40	0	0	114	\$21,125	\$0	\$0	\$21,125		
Task 4.4 Alternative 4 - Blending, Treatment Optional Task																				
Task 5 Conveyance Alternatives														202	\$34,390	\$0	\$0	\$ 34,390		
Task 5.1 Piping Alignments	4	4	0	2	4	0	2	2	0	24	48	0	0	90	\$14,049	\$0	\$0	\$14,049		
Task 5.2 Hydraulic Analysis	2	1	2	0	48	0	2	2	0	4	12	0	0	73	\$13,206	\$0	\$0	\$13,206		
Task 5.3 Recommend operational changes	2	1	2	2	24	0	0	0	0	0	8	0	0	39	\$7,135	\$0	\$0	\$7,135		
Task 6 Project Life-Cycle Cost														64	\$12,170	\$0	\$0	\$12,170		
Task 6.1 Develop life-cycle costs	2	0	0	10	0	20	0	0	16	0	16	0	0	64	\$12,170	\$0	\$0	\$12,170		
Task 7 Alternative Ranking Matrix														104	\$18,243	\$0	\$0	\$ 18,243		
Task 7.1 Well Treatment alternatives evaluation	4	1	0	8	0	24	2	2	0	0	16	0	0	57	\$10,358	\$0	\$0	\$10,358		
Task 7.2 Conveyance alternatives evaluation	4	1	2	0	8	0	0	0	0	16	16	0	0	47	\$7,886	\$0	\$0	\$7,886		
Task 8 Deliverables														241	\$41,073	\$300	\$300	\$ 41,373		
Task 8.1 Prepare Hydrogeological Survey TM	2	1	8	0	0	0	0	0	0	0	8	2	0	21	\$3,953	\$0	\$0	\$3,953		
Task 8.2 Prepare Draft Concept Study	4	2	6	16	24	42	2	2	0	16	32	8	6	160	\$27,059	\$150	\$150	\$27,209		
Task 8.3 Finalize Concept Study	2	1	3	6	8	14	0	0	0	6	16	2	2	60	\$10,060	\$150	\$150	\$ 10,210		
Total Hours	66	61	49	119	148	205	46	38	50	78	360	28	12	1,260						
Total Fee	\$19,734	\$15,037	\$11,892	\$25,747	\$27,040	\$35,990	\$10,692	\$10,072	\$12,253	\$12,285	\$44,460	\$2,509	\$1,020		\$228,730	\$1,092	\$1,092	\$229,822		

August 26, 2019
Prepared by: J. Corey / K. Welch
Submitted by: F. Sanchez / P. Weghorst
Approved by: Paul A. Cook



ACTION CALENDAR

SYPHON RESERVOIR IMPROVEMENT PROJECT ENVIRONMENTAL COMPLIANCE VARIANCE NO. 2

SUMMARY:

On September 25, 2017, the Board authorized a Professional Services Agreement with Environmental Science Associates (ESA) to prepare an Environmental Impact Report (EIR) for the Syphon Reservoir Improvement Project. Staff and the consultants at ESA have identified additional environmental compliance work that is necessary beyond the original scope of work. The additional work is needed to fulfill the requirements of state and federal agencies, to prepare a second Administrative Draft EIR, to conduct unforeseen biological surveys and to perform additional environmental review and project management activities. To accommodate this additional work, a variance has been prepared to ESA's Professional Services Agreement. Staff recommends that the Board authorize the General Manager to execute Variance No. 2 to the Professional Services Agreement with ESA in the amount of \$273,240 for additional environmental work associated with the Syphon Reservoir Improvement Project.

BACKGROUND:

Staff has been working with ESA to prepare the EIR for the Syphon Reservoir Improvement Project, which would increase the recycled water storage capacity of the reservoir by approximately 4,100 acre-feet. IRWD proposes to increase the storage capacity of the Reservoir by replacing the existing 59-foot high engineered dam with a new 136-foot high engineered dam. A location map of the Syphon Reservoir is shown as Exhibit "A".

On September 25, 2017, the Board authorized a Professional Services Agreement with ESA in the amount of \$611,226 to prepare an EIR for the project. Following is an overview of the variance to the agreement that was previously approved by staff, and a second variance to conduct additional environmental review work.

Environmental Review of Geotechnical Investigations:

The preparation of an EIR was originally scoped to include the environmental review of additional geotechnical investigations needed to inform the project design. In July 2018, engineers at HDR recommended that the geotechnical investigations be completed as a separate phase of the project that would inform both the design of the dam and the environmental analyses to be included in the EIR. Implementation of HDR's recommendation required the development of an Initial Study/Mitigated Negative Declaration (IS/MND) for the geotechnical investigations in parallel with the development of the project EIR.

Variance No. 1:

In August 2018, the General Manager executed Variance No. 1 to ESA's Professional Services Agreement in the amount of \$99,771 for the preparation of an IS/MND for the Syphon Reservoir Geotechnical Investigations Project. On June 24, 2019, the Board adopted the IS/MND and approved the geotechnical investigations. The work is expected to begin in September 2019 and take seven months to complete.

Preparation of Habitat Restoration and Mitigation Plan:

During the preparation of the IS/MND, ESA coordinated with the United States Fish & Wildlife Services (USFWS) and California Department of Fish & Wildlife (CDFW) in the development of a Habitat Restoration and Mitigation Plan for upland impacts. This plan was identified as being required and a high priority in order to conduct the geotechnical investigations. ESA's efforts in preparing the plan exceeded the original scope of work included in the Professional Services Agreement as well as Variance No. 1.

Variance No. 2:

ESA has prepared Variance No. 2 to its Professional Services Agreement. The scope of work to be completed under Variance No. 2 is associated largely with additional requirements and coordination that is needed with USFWS and CDFW in preparing the EIR and in the development of the Conceptual Mitigation Plan that will address the impacts to coastal sage scrub resulting from the Syphon Reservoir Improvement Project. The Variance also includes a budget for the preparation of the Habitat Restoration and Mitigation Plan that was required to implement the Geotechnical Investigations Project and for ESA to prepare responses to comments received from USFWS and CDFW on the IS/MND. Variance No.2 also includes time and budget to support additional project management, rare plant surveys, support for evaluating mitigation land options and coordination with IRWD's design and public outreach consultants.

Other Requested Work:

The original scope of work included the preparation of one Administrative Draft EIR and one Screencheck Draft EIR. Variance No. 2 will provide the resources needed, at staff's request, to prepare a second Administrative Draft EIR that will be required to accommodate the more extensive coordination efforts that are now expected in the preparation of the EIR. Also at staff's request, Variance No. 2 will allow for ESA to provide assistance in making modifications to the Syphon Reservoir Grant Deed, assistance in the assessment of property that might be acquired for conservation and restoration opportunities and support for other environmental compliance work required as a part of the preparation of the EIR.

Staff has reviewed ESA's request for Variance No. 2 and finds it to be fair and reasonable. Staff recommends that the Board authorize the General Manager to execute Variance No. 2 to the Professional Services Agreement with ESA in the amount of \$273,240 for additional environmental work. Variance No. 2 and ESA's corresponding scope of work is attached as Exhibit "B".

FISCAL IMPACTS:

Project 03808, Syphon Reservoir Improvement Project, is included in the FY 2019-20 Capital Budget as a flagged project. ESA's cost to perform the additional work under Variance No. 2 is \$273,240. The existing project budget and Expenditure Authorizations are sufficient at this time to fund the Variance No. 2 related work to be performed by ESA.

ENVIRONMENTAL COMPLIANCE:

The project is subject to the California Environmental Quality Act (CEQA). IRWD is preparing an EIR in conformance with CEQA, California Code of Regulations Title 14, Chapter 3, Article 6, Section 15070.

COMMITTEE STATUS:

This item was reviewed by the Engineering and Operations Committee on August 20, 2019.

RECOMMENDATION:

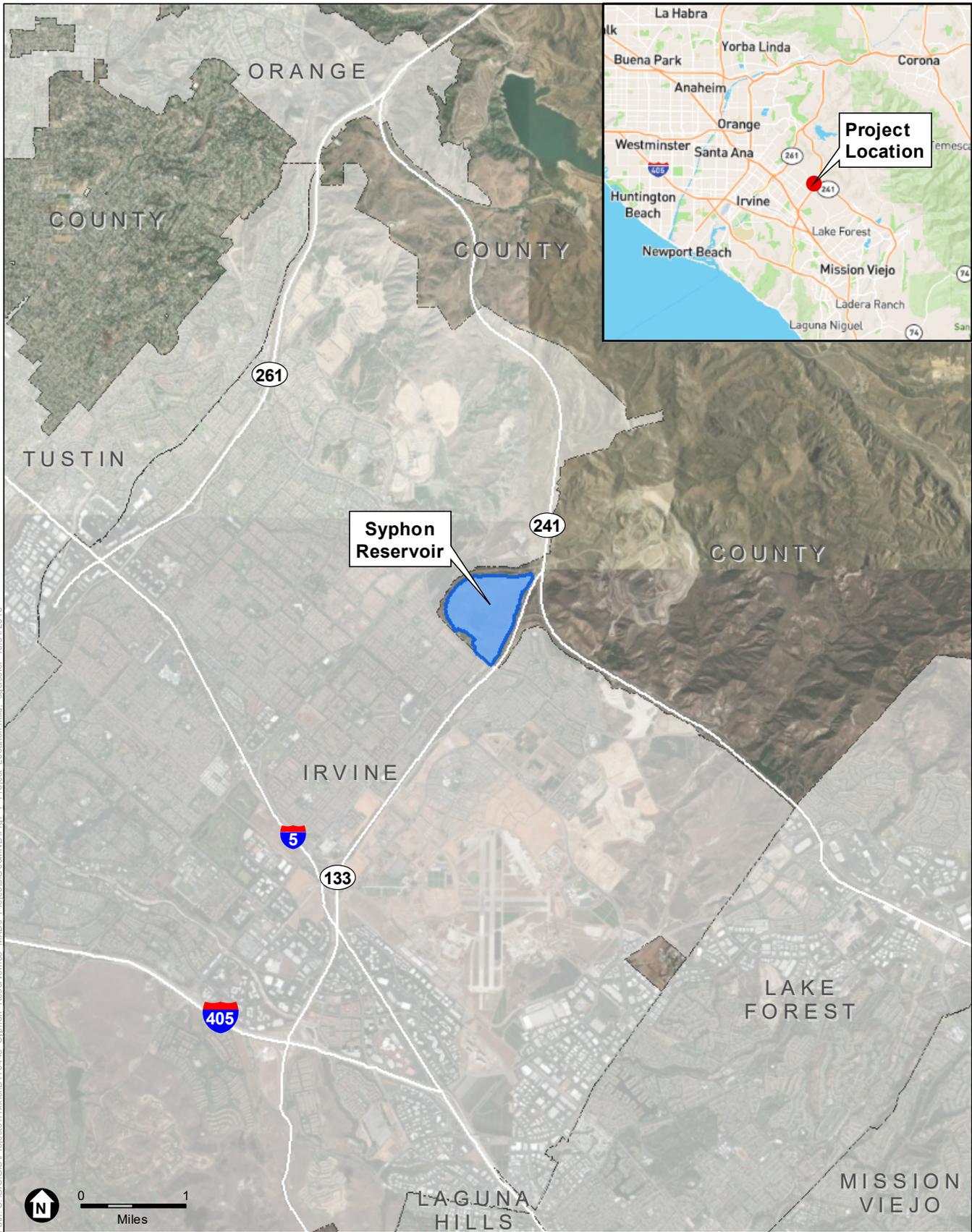
THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE VARIANCE NO. 2 TO THE PROFESSIONAL SERVICES AGREEMENT WITH ESA IN THE AMOUNT OF \$273,240 FOR ADDITIONAL ENVIRONMENTAL WORK ASSOCIATED WITH THE SYPHON RESERVOIR IMPROVEMENT PROJECT.

LIST OF EXHIBITS:

Exhibit "A" – Project Location Map: Syphon Reservoir
Exhibit "B" – Variance No. 2 with ESA Scope of Work and Budget

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EXHIBIT "A"



SOURCE: ESRI, 2016; OC LAFCO, 2018

IRWD Syphon Reservoir

Figure 1-1
Project Location



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Exhibit "B"

IRVINE RANCH WATER DISTRICT PROFESSIONAL SERVICES VARIANCE

Project Title: Syphon Reservoir Improvement Project

Project No.: 03808 Date: July 24, 2019
 Purchase Order No.: 603968 Variance No.: 2

Originator: IRWD ENGINEER/CONSULTANT Other (Explain) _____

Description of Variance (*attach any back-up material*):

Additional assistance with Biological Technical Report/Mitigation Plan and Agency Coordination (USFWS/CDFW); rare plant survey #2; coordination with public outreach and design consultants, and a second Administrative Draft EIR..
 (See attached letter proposal with scope of work.)

Engineering & Management Cost Impact:

Classification	Manhours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
(See attached Table 1 for details)						
Total \$ =						\$273,240

Schedule Impact:

Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule

Required Approval Determination:

Total Original Contract	\$611,226	<input type="checkbox"/> Director: Cumulative total of Variances less than or equal to \$50,000.
Previous Variances	\$99,771	<input type="checkbox"/> Executive Director: Cumulative total of Variances less than or equal to \$75,000.
This Variance	\$273,240	
Total Sum of Variances	\$373,011	<input type="checkbox"/> General Manager: Cumulative total of Variances less than or equal to \$100,000.
New Contract Amount	\$984,237	
Percentage of Total Variances to Original Contract	61%	<input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$100,000.

ENGINEER/CONSULTANT: Environmental Science Associates IRVINE RANCH WATER DISTRICT
 Company Name

Jennifer Johnson 7/24/19 _____
 Project Engineer/Manager Date Department Director Date
[Signature] 7/24/19 _____
 Engineer's/Consultant's Management Date General Manager/Board Date

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July 24, 2019

Fiona M. Sanchez
Director of Water Resources
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92718

Subject: Professional Services Variance No. 2: Syphon Reservoir Improvement Project CEQA Compliance

Dear Fiona:

ESA appreciates this opportunity to build on our previously-approved scope of work for the Syphon Reservoir Improvement Project, originally dated October 13, 2017 and modified by Variance No. 1 in August 2018. As part of our Technical Studies for Biological Resources included under Task 4 of our scope of work, ESA is supporting IRWD with agency coordination and consultation related to addressing biological mitigation and constraints associated with the Syphon Reservoir project site, namely the Orange County NCCP/HCP and the Mitigation Grant Deed. ESA is continuing to support IRWD with development of mitigation plans.

As explained below in our scope of work, now that IRWD and ESA have met several times with the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), and have completed numerous surveys of the Syphon Reservoir site, we have a better understanding of the level of effort required to support IRWD with agency consultations, including USFWS, CDFW, TCA, and NCC, as well as identify onsite and offsite mitigation lands for a Conceptual Mitigation Plan covering both the Syphon Reservoir Improvement Project and the Geotechnical Investigations Project. ESA is requesting a modification to our scope of work to include additional effort to meet the requirements of the stakeholder agencies in developing the Conceptual Mitigation Plan, as well as a Habitat Restoration Plan for just the upland impacts associated with the Geotechnical Investigation Project as requested by USFWS/CDFW.

In addition, ESA is requesting a modification to our scope of work to add additional support for other tasks, such as project and schedule management, a second Administrative Draft EIR, and a second rare plant survey for 2019. The rare plant survey completed in 2018, as originally scoped, supported the Geotechnical Investigations Project MND that was added under Variance No. 1. Given the resulting time extension for preparation and publication of the EIR for the reservoir expansion, ESA is recommending a second rare plant survey, with additional justification provided below.

We appreciate the opportunity to submit this request and look forward to continuing our work with IRWD on the Syphon Reservoir Improvement Project. If you would like to discuss any aspect of our proposed scope or budget, please contact Jennifer Jacobus at 213-448-2586 or jjacobus@esassoc.com or Sarah Spano at 213-599-4325 or sspano@esassoc.com.

Sincerely,

Tom Barnes, Vice President
Southern California Water Practice Group

Jennifer Jacobus, Ph.D.
Senior Managing Associate
Southern California Water Practice Group



Scope of Work

Task 1: Project Management

ESA's approved scope of work included project management activities to manage the scope and budget and internal Project Team coordination, as well as progress reports and invoicing. It was assumed that ESA's Project Manager required 10 hours per month for project management time over the duration of the contract, then assumed to be October 2017 to May 2019, or 20 months. There was a delay in the initiation of the contract by approximately 4 months. However, given the extension of the of project timeline through August 2020, ESA is requesting additional budget for project management through August 2020, or an additional 12 months.

Task 3: Project Schedule

ESA's approved scope of work included regular tracking, updating and reporting on the project schedule for the duration of the project through May 2019. Similar to the request for Task 1 Project Management, given the extension of the of project timeline through August 2020, ESA is requesting additional budget for project schedule activities through August 2020, or an additional 12 months.

Task 4: Technical Studies – Cultural Resources Technical Report

ESA's approved scope of work included preparation of a cultural resources technical report that evaluates impacts for both the Geotechnical Investigations Project and the Reservoir Improvement Project. The scope of work assumes up to three cultural resources will require documentation. As a result of research and surveys, ESA encountered five cultural resources that required documentation and preparation of DPR Forms. As a result, ESA is requesting additional budget to account for the effort required to process the additional resources. The budget for this additional effort can be reallocated from Task 7, AB52 Tribal Cultural Resources, given the level of effort required to support IRWD in AB52 correspondence and consultation is less than anticipated.

Task 4: Technical Studies – Biological Technical Report

4.2 Conduct Agency/Stakeholder Coordination

ESA's approved scope of work included early agency coordination for purposes of determining the process for potentially modifying the Grant Deed and to understand agency expectations for compensatory mitigation. ESA fulfilled this scope by meeting with USFWS/CDFW ("Wildlife Agencies") in October 2018 to understand that approval is required for the Reservoir Improvement Project and that USFWS as third-party beneficiary will ask for a mitigation ratio that could be as high as 4:1. ESA has prepared multiple exhibits that show the boundaries of the Grant Deed and NCCP Reserve to facilitate discussion with IRWD, USFWS and CDFW. ESA also participated in a meeting with IRWD and legal counsel regarding the project and the NCCP and Grant Deed.

ESA's approved scope of work included agency coordination for purposes of identifying potential mitigation options and strategies. ESA has developed a framework for onsite and offsite mitigation and has presented options and strategies to IRWD in the form of spreadsheet tables. Tables for *CSS and Wetland/Riparian Habitat Impacts and Mitigation* were prepared, identifying whether impacts would occur in or out of the NCCP Reserve



and in or out of the Mitigation Grant Deed, and what impact ratios may apply and what the worst case, median case, and optimistic cases would involve in terms of total habitat mitigation requirements. This was submitted in January 2019 and also revised and presented in February 2019 including an executive summary version. These tables formed the basis of several discussions and were refined and revised several times based on new information and comments from IRWD staff. The framework for onsite/offsite mitigation has generally been discussed with the agencies as well.

In addition to the approved scope of work, ESA participated in a meeting with the Wildlife Agencies in December 2018 to receive their recommendations for priority mitigation lands. The Wildlife Agencies presented 10 parcels for IRWD to consider for offsite mitigation associated with the Grant Deed. IRWD also provided ESA with information from OCTA regarding mitigation lands recently considered for their HCP. ESA conducted a desktop analysis to locate, describe, evaluate and rank these parcels for mitigation consideration. ESA created a table to present *Potential Conservation and Restoration Sites to Offset CSS Impacts within the Mitigation Grant Deed*, which was submitted to IRWD in January 2019. This table compared basic attributes, locations, and characteristics of more than 10 sites, and was used to discuss preferences and priorities for selecting “target” sites for further vetting. This table was further refined for a meeting in February 2019 and presented as: *Summary of Priority Levels for Off-Site CSS Mitigation Opportunities*. The table assumed the need for 45 to 180 acres CSS restoration and/or preservation acreage. Our presentation included a map exhibit identifying sites by the priority level assigned to each.

Under the approved scope of work, ESA anticipated participating in 2 meetings with Wildlife Agencies and 2 meetings with IRWD. To date, ESA has participated in 2 meetings with Wildlife Agencies, participated in 4 teleconferences with IRWD and attended one meeting at IRWD to discuss mitigation needs and opportunities for riparian/wetland mitigation. ESA also has conducted 8 internal meetings and has handled all correspondence with the Wildlife Agencies.

ESA requests for the scope of work and budget to be modified to include the tasks described above. These tasks were not specifically envisioned under the approved scope of work. Inclusive of the scope modifications described above, ESA considers Task 4.2 to be complete. Any additional meetings associated with mitigation planning will be part of Task 4.6 as described below.

4.4 Biological Studies – Rare Plant Survey

ESA previously conducted focused special-status plant surveys for Syphon Reservoir in spring and summer of 2018. Since Southern California has had a series of drought years, surveys were recommended in 2018 in case lack of precipitation resulted in worse conditions for detecting plants for the following spring/summer of 2019. Two special-status plant species were found on-site in 2018, Catalina mariposa lily (*Calochortus catalinae*) and San Diego County viguiera (*Bahiopsis laciniata*), but conditions on-site were dry and Catalina mariposa lilies were identified from dried plant parts characteristic of that species.

Due to the heavy rainfall during the 2018-2019 rainy season, ESA strongly recommends conducting updated focused surveys for special-status plant species. Furthermore, the results of special-status plant surveys are typically considered valid for 1 year, and given the high precipitation for this current rainy season, regulatory



agencies (e.g., USFWS and CDFW) are likely to scrutinize the results of previous surveys if they are not updated this year, and updated surveys would be more defensible.

ESA biologists will conduct updated focused surveys to determine the presence/absence of special-status plant species, including federally- and State-listed plant species as well as those plants identified as special-status by the CNPS. Two surveys will be conducted in April and May, to include the blooming periods of potentially present special-status plants. The location of any observed special-status species will be recorded and mapped on an aerial photograph of the project site.

At the completion of the special-status plant surveys, the results will be incorporated into the Biological Technical Report (for the Syphon Reservoir Improvement Project), and will include a description of survey methodology and the numbers and locations of any special-status plants observed.

4.5 Biological Resources Technical Report

As part of the scope of work approved under Variance No. 1, ESA prepared a Biological Resources Technical Report to support the Syphon Geotechnical Investigations Project IS/MND. However, during the course of developing the BTR and the IS/MND, ESA provided additional support and recommendations for the realignment of access roads and modification of exploration locations in order to minimize biological impacts, particularly to resources under the jurisdiction of CDFW. ESA identified alternative construction techniques and suggested alternative access routes. ESA also performed additional tree surveys within the proposed footprint of the Geotechnical Investigations Project to identify whether any trees potentially would be removed that meet CDFW's DBA (diameter at breast height) requirement of 2 inches, and to identify where individual trees and shrubs potentially could be avoided. This effort culminated in a refinement of the locations of access roads and other project components associated with the Geotechnical Investigations Projects.

ESA requests for the scope of work and budget to be modified to include the tasks described above. These tasks were not specifically envisioned under Variance No. 1.

4.6 Develop Mitigation Plan

ESA's approved scope of work includes development of a Conceptual Mitigation Plan that will be sufficient to meet the requirements of CEQA. As stated previously, now that IRWD and ESA have met several times with the Wildlife Agencies and have completed numerous surveys of the Syphon Reservoir site, we have a better understanding of the level of effort required to prepare this plan. ESA is requesting modification to our approved scope of work to include additional detail and assumptions that were not previously articulated.

ESA has begun to develop the framework for the Conceptual Mitigation Plan through the efforts described above under Task 4.2. The Mitigation Plan will provide for both upland and riparian/wetland habitat mitigation onsite and offsite and will describe the extent and manner whereby offsite mitigation will be implemented to compensate for project effects to CSS and least Bell's vireo. The Conceptual Mitigation Plan will include location of mitigation sites, how mitigation will be implemented (e.g., restoration, preservation, or enhancement), objectives and performance standards that must be achieved, as well as habitat types and acreages to be restored. The Conceptual Mitigation Plan may include alternatives in the event that offsite mitigation lands are not conclusively



identified and selected (or acquired) in time for publication of the CEQA document. This scope of work includes the potential effort involved for up to 3 alternative off-site mitigation sites (e.g., 2 alternative sites for upland mitigation and 1 site for riparian/wetland mitigation).

The previous scope of work included submittal of a draft Conceptual Mitigation Plan to IRWD, to be revised once based on consolidated comments. It is now apparent that the final draft Conceptual Mitigation Plan would also be submitted to the Wildlife Agencies for review, and a final Conceptual Mitigation Plan would be developed during the CEQA process.

ESA assumes the following additional meetings will be required:

- Four meetings with IRWD during preparation of the draft Conceptual Mitigation plan, and
- Four meetings with the Wildlife Agencies, including preparation time.

This task does not include field visits to offsite mitigation parcels. As requested, Task 4.7 is included below, to provide support to IRWD for evaluation of offsite parcels for mitigation credit. This scope of work does not include preparation of detailed Habitat Restoration Plans, which will be developed to guide the implementation of the Conceptual Mitigation Plan described in the Final EIR. The detailed Habitat Restoration Plans will be prepared as part of the permitting process once the mitigation locations are finalized. The scope of work for the detailed Habitat Restoration Plans will be developed and submitted to IRWD for approval under a separate contract.

4.7 Acquisition Property Assessment/Broker Coordination

At IRWD's request, ESA is including this Task 4.7 to assist IRWD with the process of considering properties for acquisition as conservation and, possibly for restoration opportunities, to offset impacts at the Syphon Reservoir property. This task assumes that IRWD will desire specific information regarding properties that collectively include up to 1,000 acres. ESA will coordinate with IRWD and its Broker to identify a short list of properties for assessment. An ESA senior ecologist will conduct a desktop analysis, including review of current and recent historic aerial imagery of each property, database searches for sensitive species and communities and jurisdictional features. The senior ecologist will visit each property to perform a general evaluation of each site's habitat conservation values and to identify habitat restoration opportunities and potential constraints. This scope assumes up to four full days would be required to visit the sites.

After the site visits are complete, ESA will prepare a map of each site at a general level of detail to identify valuable conservation areas, potential restoration opportunity areas, constraints, and noteworthy features (e.g., connectivity to preserved open space, wetland/riparian areas, potential public access issue areas, etc.). This task assumes preparation of tabulated information for each site; the maps and tables will be presented together in a brief memorandum to IRWD. This task provides for three conference calls to discuss preliminary findings and attendance at one focused meeting to discuss findings and potential options associated with the three sites. Costs associated with various options will be discussed at a general level of detail but full cost estimates are not proposed to be prepared at this stage. ESA assumes that the results of this task will inform the properties to be included in the Conceptual Mitigation Plan and to be discussed with the Wildlife Agencies as part of Task 4.6



above. This task includes time for general correspondence and interim information requests over a period of approximately three months.

Task 5: Coordination with Design and Public Outreach

ESA's approved scope of work anticipated coordination with IRWD's owner's representative, HDR, as well as its public outreach consultant, Fiona Hutton and Associates (FHA). ESA's coordination to-date has included participation in two in-person meetings with HDR as well as review and comment for the conceptual Recreation Plan and review and comment for the Validation Study. As part of the Geotechnical Investigations Project, ESA has also reviewed the Geotechnical Investigation Work Plan and prepared a data request for associated the Initial Study/Mitigated Negative Declaration. These tasks were not specifically envisioned under the approved scope of work. Given the evolution of the project, and the bifurcation of the CEQA process for the Geotechnical Investigation Project, there is additional level of effort required for coordination with HDR and FHA. ESA requests a modification to our scope of work to incorporate the specific work completed to-date. In addition, ESA anticipates continued coordination to be required with HDR and FHA for purposes of developing the project description technical details for the Reservoir Improvement Project EIR as well as refining language for the EIR audience. ESA intends to submit a data request to HDR for the EIR project description, submit a draft project description for HDR and FHA to review and comment. ESA anticipates participating in up to three meetings with FHA during the CEQA scoping process, up to three meetings with HDR, and up to two meetings with the geotechnical consultant.

Task 10A. Administrative Draft EIR No. 2

ESA's original scope of work included one Administrative Draft EIR (ADEIR) and one Screencheck Draft EIR. Per discussions with IRWD, we propose to amend our scope of work to include a second Administrative Draft EIR (ADEIR No. 2). ESA will receive and review one set of consolidated comments from IRWD staff on the first ADEIR. Then, ESA will prepare ADEIR No. 2 for review by IRWD. ESA is prepared to attend two with IRWD staff and appropriate consultants to review comments on the first ADEIR and/or the revised ADEIR No. 2.

Deliverables:

- > Five hard-copies of ADEIR No. 2
- > All technical appendices submitted on CD/DVD

Task 18: Initial Study/ Mitigated Negative Declaration

Task 18c: Screencheck Draft IS/MND

In December 2018, the State of California Office of Planning and Research (OPR) published revised and updated CEQA Guidelines, including revisions to Appendix G Environmental Checklist (Initial Study). When ESA prepared the Screencheck Draft IS/MND for the Geotechnical Investigations Project in January 2019, the Initial Study was revised to incorporate the changes made in the December 2018 CEQA Guidelines. ESA requests for the scope of work and budget to be modified to include the tasks described above. These tasks were not anticipated under Variance No. 1.



Task 18e: Response to Comments and Final IS/MND

IRWD received a joint comment letter from USFWS/CDFW in response to the public Draft IS/MND. At IRWD's request, ESA attended an in-person meeting with the agencies on April 23, 2019, to discuss the letter to resolve any misunderstanding about the applicability of the NCCP/HCP and the Mitigation Grant Deed to the Geotechnical Investigations Project. This meeting was not included in our previously-approved scope of work under Variance No. 1. ESA is requesting to modify our scope of work to include the costs associated with preparing for, traveling to, and attending this meeting.

In the comment letter, USFWS/CDFW requested preparation of a Mitigation Plan for their review prior to initiating the Geotechnical Investigations Project. As discussed at the meeting on April 23, 2019, ESA will prepare a draft Mitigation Plan (i.e., Habitat Restoration and Enhancement Plan or HREP) for submittal to IRWD for review and comment. The plan will include IRWD's plans and specifications for implementing restoration outside of the boundaries of the future reservoir expansion and inundation area as well as provisional measures for mitigation within the inundation area in the event that the Reservoir Improvement Project does not proceed within four years. ESA will revise and finalize the Mitigation Plan based on IRWD's comments, and upon final approval will submit the Mitigation Plan to USFWS/CDFW. This scope of work assumes the agencies may have comments to the Mitigation Plan, such that ESA would work together with IRWD to make one round of revisions to the Mitigation Plan. This scope of work also includes time for coordination and communication with the Wildlife Agencies and IRWD to negotiate the final Mitigation Plan.

Task 19. Assistance with Grant Deed Modification

In conjunction with agency coordination and preparation of the Conceptual Mitigation Plan described above as Tasks 4.2 and 4.6, ESA has been included in initial discussions with IRWD and its legal counsel, as well as the Wildlife Agencies regarding the Grant Deed for the Syphon Reservoir site and whether implementation of the Reservoir Improvement Project would require modification of the Grant Deed. If requested by IRWD, ESA will continue to provide support future discussions with legal counsel and the Wildlife Agencies regarding the potential Grant Deed modification, providing technical expertise regarding onsite biological resources and associated permitting process that would serve to inform decisions regarding the legal and contractual status of the Grant Deed. ESA assumes the that legal process for modifying or amending the Grant Deed, if necessary, would be handled by IRWD's legal counsel.

Task 20. Additional Environmental Compliance Support

During the course of providing environmental compliance support under this contract, IRWD may identify additional tasks that require support from ESA due to unforeseen issues that arise during the CEQA process. Tasks performed under this Task 20 would be requested by IRWD. ESA would develop a scope of work for IRWD approval prior to conducting any work under this Task 20.

Cost

Commensurate with the level of effort associated with the tasks described above, we are requesting a budget amendment of **\$273,240**. The detailed budget calculations are shown in the attached **Table 1**.



Professional Services Variance

ESA's Professional Services Variance (Exhibit C) is included at the end of this proposal.

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August 26, 2019
Prepared by: J. Corey / K. Welch
Submitted by: F. Sanchez / P. Weghorst
Approved by: Paul A. Cook



ACTION CALENDAR

ENVIRONMENTAL COMPLIANCE FOR THE KERN FAN GROUNDWATER STORAGE PROJECT

SUMMARY:

In August 2017, IRWD and Rosedale-Rio Bravo Water Storage District jointly submitted a grant application to the California Water Commission (CWC) for the proposed Kern Fan Groundwater Storage Project (Kern Fan Project). The project would develop a regional water bank in the Kern Fan area to capture, recharge and store unallocated Article 21 water from the State Water Project (SWP) during wet hydrologic periods. The stored water would be extracted when needed to provide ecosystem, emergency supply and water supply benefits. A Supplemental Environmental Impact Report (EIR) needs to be prepared for the Kern Fan Project consistent with requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Staff recommends the Board authorize the General Manager to execute a Professional Services Agreement with Environmental Science Associates (ESA) in the amount of \$359,595 to prepare a Supplemental EIR for the Kern Fan Project.

BACKGROUND:

Proposition 1, also known as the Water Quality, Supply and Infrastructure Improvement Act of 2014, dedicated \$2.7 billion for investments in new water storage projects in California through the Water Storage Investment Program (WSIP). In August 2017, IRWD and Rosedale jointly submitted an application to the CWC that requested \$86 million in grant funds for the Kern Fan Project from the WSIP. In July, 2018, the CWC conditionally awarded \$67.5 million in grant funding to the project.

Project Overview:

The proposed Kern Fan Project will develop a regional water bank and associated facilities to capture and store unallocated Article 21 water from the SWP as well as other supplies during periods when surface water is abundant. The proposed project would be implemented in two phases. Phase 1 includes the acquisition of up to 640 acres of land, construction and operation of recharge facilities, up to six groundwater recovery wells, a new canal, three lift stations and a turnout from the California Aqueduct to convey up to 500 cubic feet per second of water to and from the project. Phase 2 includes the purchase of an additional 640 acres of land and the construction and operation of additional recharge facilities, conveyance facilities and six groundwater recovery wells. A preliminary project location map is provided as Exhibit "A".

Preparation of Supplemental EIR:

In December 2015, IRWD and Rosedale certified the Stockdale Integrated Water Banking Project Final EIR in compliance with CEQA. The Stockdale Final EIR evaluated environmental

impacts due to the construction and operation of facilities on the Stockdale West and Stockdale East properties and identified a general area for a future third water banking site. The Stockdale Final EIR included a program-level analysis of impacts associated with the construction and operations of facilities on the third site.

IRWD and Rosedale intend to implement water banking facilities on the third site as Phase 1 of the Kern Fan Project, which will be located within the boundaries identified in the Stockdale Final EIR. Accordingly, a Supplemental EIR will be prepared to include a project-level environmental review that is needed for Phase 1 of the Kern Fan Project. The Supplemental EIR will also include review of the construction and operation of the facilities contemplated in Phase 2 of the project. To support ongoing efforts to secure federal funding for the project, the Supplemental EIR will also fulfill the requirements of NEPA.

Environmental Compliance Consultant Services:

IRWD and Rosedale both have extensive experience working with ESA on water banking projects including the preparation of Final EIRs for both the Strand Ranch and Stockdale West Integrated Banking Projects. ESA's experience in the environmental review of water banking projects in the Kern Fan Area make it uniquely qualified to prepare a Supplemental EIR for the Kern Fan Project. In recognition of ESA's unique qualifications, staff has negotiated a scope of work and cost estimate with ESA to prepare the Supplemental EIR. Staff, with the assistance of Rosedale staff, has determined that the resulting proposal include the following key strengths:

- A project management team with a superior depth of expertise and knowledge of working with both IRWD and Rosedale on water banking projects;
- An excellent understanding of the key issues associated with the Kern Fan Project;
- An informed approach that reflects staff's expectations as well as the requirements of CEQA and NEPA;
- A scope of work that reflects the expected level of effort and outstanding qualifications of the project team; and
- Appropriate commitments to the project by the proposed principal in charge and the project manager.

Staff expects that using ESA's services for this work will result in an overall cost and time savings for the Kern Fan Project and recommends that ESA be awarded a sole-source Professional Services Agreement to prepare the Supplemental EIR for the project. ESA's cost estimate to complete the work is \$359,595. ESA's scope of work, cost estimate and schedule are included as Exhibit "B".

Cost Sharing with Rosedale:

The Cost Share Agreement that was executed between IRWD and Rosedale for early planning activities associated with the Kern Fan Project calls for IRWD and Rosedale to share equally the cost of the preparation of the Supplemental EIR and related technical studies necessary to determine the recharge, storage and recovery limitations of both phases of the project. Initially,

IRWD will fund the cost of the Supplemental EIR. It is expected that the agreement with ESA will be assigned to the Kern Fan Joint Powers Authority in the near future. At that time, the sharing of costs incurred with the preparation of the Supplemental EIR will be reconciled between IRWD and Rosedale.

FISCAL IMPACTS:

The cost for the environmental review of the proposed Kern Fan Groundwater Storage Project is included in Project 10854 in the FY 2019-20 Capital Budget. The existing budget and Expenditure Authorizations are sufficient at this time.

ENVIRONMENTAL COMPLIANCE:

The Kern Fan Groundwater Storage Project is subject to CEQA. A Supplemental Environmental Impact Report is being prepared in conformance with CEQA, California Code of Regulations Title 14, Chapter 3, Article 6, Section 15070.

COMMITTEE STATUS:

This item was reviewed at the Supply Reliability Programs Committee on August 19, 2019.

RECOMMENDATION:

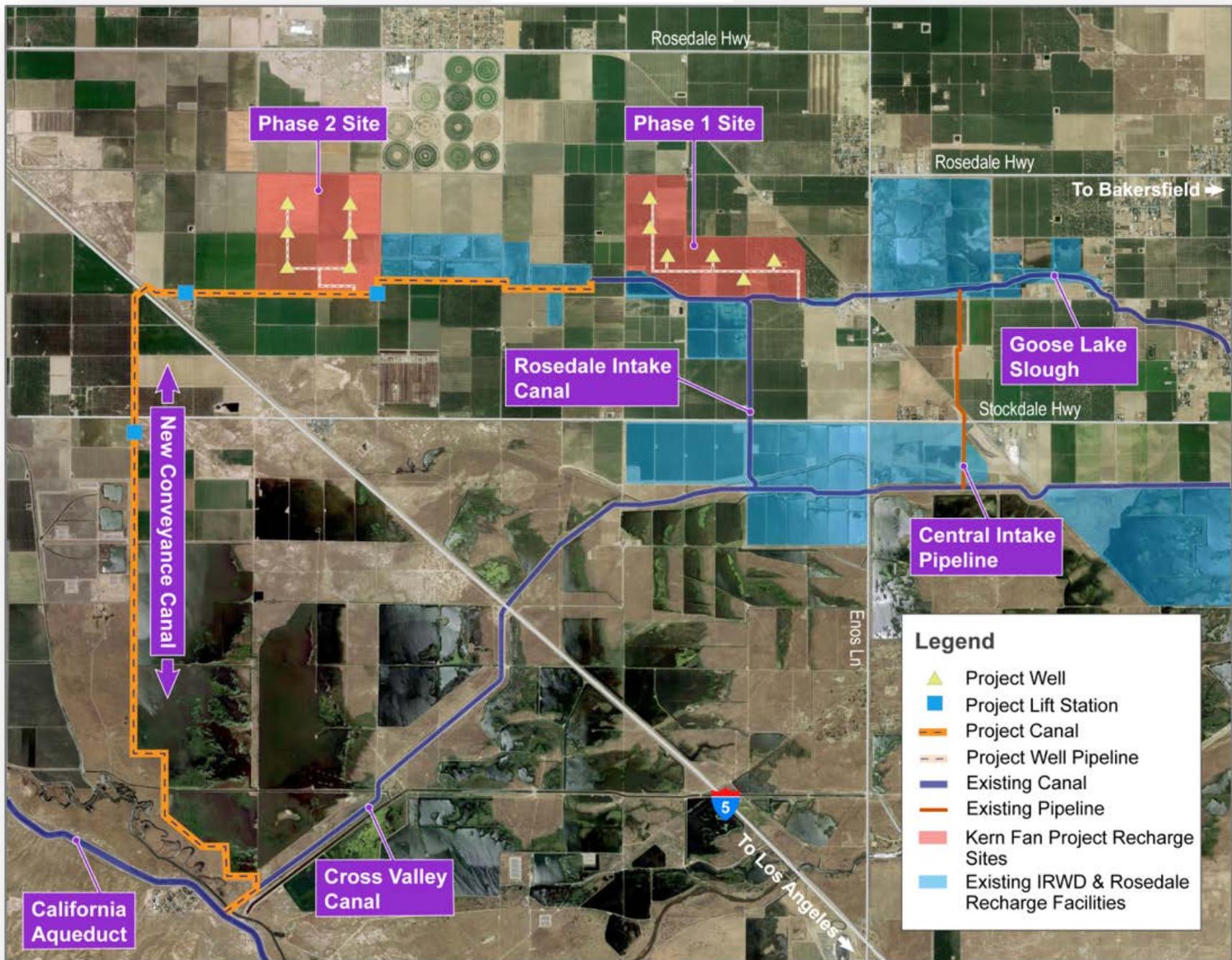
THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH ENVIRONMENTAL SCIENCES ASSOCIATES IN THE AMOUNT OF \$359,595 TO PREPARE A SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR THE KERN FAN GROUNDWATER STORAGE PROJECT.

LIST OF EXHIBITS:

Exhibit "A" – Kern Fan Groundwater Project Location Map
Exhibit "B" – ESA Scope of Work, Schedule and Cost Estimate for Preparing a Supplemental EIR for the Kern Fan Groundwater Storage Project

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EXHIBIT "A"



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Exhibit "B"

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www.esassoc.com

August 5, 2019

Jo Ann Corey
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

Subject: Kern Fan Groundwater Storage Project CEQA documentation

Dear Ms. Corey:

As requested by Irvine Ranch Water District (IRWD), ESA has developed a scope of work for environmental documentation, pursuant to the California Environmental Quality Act (CEQA) for the proposed Kern Fan Groundwater Storage Project (Kern Fan Project).

The proposed Kern Fan Project has received funding through the California Water Commission's (CWC) Water Storage Investment Program (WSIP). The goal of the WSIP is to fund water storage projects that provide public benefits, improve operation of the state water system, determine if they are cost effective, and provide a net improvement in ecosystem and water quality conditions. The WSIP would receive funding via Proposition 1, also known as the Water Quality, Supply and Infrastructure Act of 2014.

The Kern Fan Project was developed from the Storage Integration Study through the Association of California Water Agencies (ACWA). This study defined and quantified the benefits of integrating the operation of new storage projects with the existing State Water Project (SWP) and Central Valley Project (CVP) in the interest of helping to fulfill statewide water supply needs and priorities. As such, eight projects were described in this study that could provide such benefits, including the proposed Kern Fan Project.

The proposed Kern Fan Project would serve to develop a regional water bank in the Kern Fan to capture and store water during conditions when surface water is abundant. The Project would be implemented in two phases and would consist of two new recharge and recovery facilities, jointly owned by IRWD and Rosedale-Rio Bravo Water Storage District (Rosedale). The first phase would include purchasing 640 acres of land in the Kern Fan area while the second phase would involve acquiring an additional 640 acres for expansion of the water banking facilities in order to provide ecosystem benefits in the Delta.

In December 2015, IRWD and Rosedale certified the Stockdale Integrated Water Banking Project (Stockdale Project) Final Environmental Impact Report (Final EIR) in compliance with CEQA. The Final EIR included a program-level analysis of a 640-acre recharge and recovery site, the location of which had not been identified. For purposes of CEQA, Phase 1 of the proposed Kern Fan Project can be considered the third site of the Stockdale Project since it is within the boundaries set in the Final EIR. In addition, Phase 2 of the Kern Fan Project adds a fourth site in the vicinity of the Stockdale Project.



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Using this framework, ESA has prepared a scope of work for a supplemental EIR to the Stockdale Project Final EIR, such that the third site is specifically identified along with appurtenant conveyance facilities, and a fourth site is being added to be evaluated at a program level.

ESA will also provide permitting assistance to the lead agency preparing the pertinent permits. ESA will provide a separate scope and cost estimate for permitting upon request by IRWD or Rosedale.

1. Project Understanding

Our understanding of the Project is based on staff reports from IRWD, the July 2017 concept/feasibility report prepared by Dee Jaspar & Associates for the Kern Fan Project, and the application and appeal materials submitted to the CWC for consideration of Proposition 1 funding under the WSIP.

The Kern Fan Project will recharge and store up to 100,000 acre-feet (AF) of water, primarily during wet periods, in the Kern County Groundwater Sub-basin of the San Joaquin Valley Groundwater Basin for subsequent recovery and use for public and non-public benefits. IRWD and Rosedale propose to develop a regional water bank in the Kern Fan area that would capture, recharge and store water during conditions when surface water is abundant and extract water when needed to provide ecosystem, emergency supply, and water supply benefits. The water would be used at a later date through use of new and existing groundwater wells and subsequent direct or exchange delivery. Operations of the Project will be coordinated with the SWP through the California Department of Water Resources (DWR).

The Kern Fan Project could be operated such that in wet years, IRWD and Rosedale would divert unallocated SWP Article 21 supplies to store in the Project. IRWD and Rosedale would share first priority rights to 75 percent of the water delivered into storage for use in their respective water banking and supply reliability programs. The remaining 25 percent of the stored water would be held as SWP system water that would be used by DWR for ecosystem benefits purposes. This 25 percent of the water would be made available for ecosystem benefits through 1-for-1 exchanges that would occur when the water is extracted from the ground. The 1-for-1 exchanges would result in Table A water that is held in Lake Oroville, being reclassified as SWP system water and the SWP system water being extracted from the ground, being reclassified as Table A water. The Table A water would be used to meet demands either directly or through operational exchanges. The SWP system water left in Oroville Reservoir would then be used to provide short-term ecosystem pulse flows to generate ecosystem benefits by improving habitat for fish in the Feather and Sacramento Rivers and Delta.

The Kern Fan Project will significantly contribute to attainment of the three objectives of the California Water Action Plan: (1) more reliable water supplies; (2) improved habitat conditions of important species, and (3) more resilient and sustainably managed water infrastructure. Specifically, the Kern Fan Project will cost-effectively recharge and store groundwater for subsequent recovery to address the following project objectives:

- Enhance water supply reliability;



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- Reduce imported water demands on the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Delta) to benefit spring and winter-run Chinook salmon;
- Provide water supply during drought conditions;
- Provide water supply for emergency response benefits;
- Establish temporary wetlands through intermittent recharge events that will attract migratory and other water birds in Kern County;
- Benefit the water levels in the Kern County Groundwater Sub-basin;
- Manage water in a resilient and sustainable manner; and
- Be integrated into other water storage projects and storage reservoirs to provide greater statewide benefits

Phase 1

As mentioned above, the proposed Kern Fan Project would be implemented in two phases: Phase 1 and Phase 2. Phase 1 includes purchasing approximately 640 acres of land within Rosedale's boundary and within the boundaries of the Stockdale Project Final EIR. Groundwater recharge facilities including interbasin structures, conveyance facilities, and six groundwater recovery wells would be located on this property as shown on the Feasibility Study Map, which is included as Appendix A in the Dee Jasper report (July 2017). The initial recharge at this proposed Phase 1 property would be 230 cubic-feet per second (cfs) but decrease to an approximate maintenance rate of 115 cfs.

Phase 1 includes the construction of new conveyance facilities, including a conveyance pipeline, check structure, and turnout structure with lift station. Water would be conveyed to the Phase 1 property for groundwater recharge from Friant-Kern Canal or Kern River via the Goose Lake Slough or from the Cross Valley Canal (CVC) via the Rosedale Intake Canal. Therefore, Phase 1 includes construction of a conveyance pipeline between the Rosedale Intake Canal and the proposed Phase 1 property. A new check structure would be constructed in the Goose Lake Slough with a reinforced concrete turnout structure to convey water from the Goose Lake Slough to the proposed Phase 1 property. The turnout structure would include a lift station with four 60-cfs pumps. Each pump would be equipped with 300 horsepower (hp) vertical motors, discharge piping, metering, appurtenances, lighting, electrical, controls, and SCADA communication.

Another component of Phase 1 includes the construction of six recovery wells which would return water to the Goose Lake Slough or to the CVC via the Rosedale Intake Canal. Each well would be 20-inch diameter cased to approximately 920 feet with an approximate capacity of 5 cfs. The wells would be equipped with vertical turbine pumps, 400-hp vertical motors, discharge piping, appurtenances, electrical and controls, and site improvements.



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Currently, the Goose Lake Slough is used to supply water to the existing Rosedale West Basins for groundwater recharge. In order to have capacity in the Goose Lake Slough to recharge water at Phase 1 property, water would be supplied to the existing Rosedale West Basins via a new canal, three lift stations, and a reinforced concrete turnout at the California Aqueduct. As a result, the final component of Phase 1 includes the construction of a canal, lift stations, and a reinforced concrete turnout to convey 500 cfs of water approximately 10 miles to the easterly end of Rosedale West Basins. The proposed concrete lined canal would convey this water supply and have siphon crossings at several locations including East Side Canal, KWB Main Canal, WKWD 36" DIP Transmission Main, Stockdale Highway, Kosareff Storage Yard & Residence, and Interstate 5 (I-5) Freeway. Three lift stations would be constructed within the canal where the first two lift stations would consist of a reinforced concrete pump station, six 83-cfs low lift pumps with 400-hp vertical motors, discharge piping appurtenances, electrical and controls and the third station would consist of a reinforced concrete pump station, six 67-cfs low lift pumps with 300-hp vertical motors, discharge piping appurtenances, electrical and controls. The first two lift stations would convey 500 cfs to the east side of the I-5 freeway and the third lift station would convey 400 cfs to the Rosedale West Basins and the Goose Lake Slough. Lastly, a reinforced concrete turnout structure would be constructed at the east end of the West Basins to convey recharge water to the Rosedale West Basins and Goose Lake Slough if needed.

Phase 2

Similar to Phase 1, Phase 2 includes the construction and operation of groundwater recharge and recovery facilities and the purchase of an additional 640 acres of land within the Rosedale boundary but outside of the limits of the Stockdale Project Final EIR. The preliminary location for Phase 2, shown on the Feasibility Study Map (Dee Jasper, July 2017), is used for purposes of scoping a program level assessment for Phase 2; however, this location is subject to change. Groundwater recharge would initially occur at 230 cfs but would decrease to an approximate maintenance rate of 115 cfs. Phase 2 would consist of the construction of levees, interbasin structures, conveyance facilities, and six groundwater recovery wells. These would be 20-inch diameter wells cased to approximately 920 feet. Each well would be equipped with vertical turbine pumps, 400-hp vertical motors, discharge piping, appurtenances, electrical and controls, and site improvements. These recovery wells would return water to the California Aqueduct, the Goose Lake Slough, or the CVC via the Rosedale Intake Canal.

2. Scope of Work

ESA proposes to provide environmental documentation that complies with the State CEQA Guidelines as well as CEQA Plus requirement of the State Water Resources Control Board. All deliverables defined below in the scope of work will be provided in electronic format unless otherwise indicated. Electronic files will include both Microsoft Word and Adobe PDF format. All electronic deliverables will be made available on a password-protected FTP site and/or provided on CD where indicated.



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Task 1: Project Initiation and Project Management

ESA will attend a kick-off meeting at IRWD offices. ESA will prepare a schedule and outline for the Draft Supplemental EIR (SEIR). After the kick-off meeting, ESA will prepare and submit an initial data request for information necessary to inform the project description and the impact analyses.

ESA will provide regular status updates to IRWD and Rosedale. Potential impacts to schedule will be reported to both agencies promptly. ESA will participate in monthly team conference calls with IRWD and Rosedale on an as-needed basis to maintain focus on action items and milestones for effective schedule management. ESA will be available for additional team meetings as identified in the tasks below, at IRWD offices or by teleconference over the course of the Project. We anticipate approximately eight (8) hours per month for Project management and coordination for the duration of the Project (15 months), including correspondence and invoicing.

Task 2: Project Description

ESA will prepare a draft project description based on information provided by IRWD and Rosedale. This scope of work assumes that IRWD and Rosedale will provide ESA with materials sufficient to inform the project description, including the Phase 1 and Phase 2 project components, footprints, and general characteristics/features. Phase 1 components will be described specifically while Phase 2 components will be described generally. The project description will include project location and setting, site characteristics, project objectives, components of the project, construction methods and schedule, and operation and maintenance requirements, including operational energy usage. This section will also include the requested permits and approvals for the proposed Project.

The project description will describe the conditions under which DWR would use water stored in the Project for public benefits, including ecosystem benefits in the Delta and emergency water supply in the event of drought or infrastructure failure. The Draft SEIR will briefly describe the operational plans being prepared by DWR and CDFW to manage the use of water stored in the Project (as well as other similar projects throughout the state) and monitor the benefits as required by the CWC, including an Emergency Supplies Operational Plan, Oroville Operational Plan, and Adaptive Management Plan. The Draft SEIR will not evaluate the environmental impacts of implementing these plans other than describing the ecosystem benefits associated with the water stored in the Project.

In addition, ESA will submit a preliminary list of the past, present, and reasonably foreseeable future projects and activities in the surrounding areas that will serve as the basis for the cumulative impact analysis, as well as an overview of the Project alternatives to be analyzed in the EIR. ESA will submit the draft project description to IRWD and Rosedale for review. ESA will attend up to two (2) team meetings to discuss the project description and will revise the project description up to two times after receipt of consolidated comments from both agencies.



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Task 3: Notice of Preparation and Notice of Completion

Concurrently with preparation of the project description (Task 2), ESA will prepare the Notice of Preparation (NOP) and Notice of Completion (NOC) as required by the State CEQA Guidelines including a brief description of the Project, site map, and summary of potential environmental impacts of the Project. This scope of work assumes that an Initial Study will not be prepared or included with the NOP.

ESA will confer with IRWD and Rosedale to create a mailing list that identifies appropriate stakeholders. ESA will conduct mailings to the State Clearinghouse, responsible and trustee agencies, surrounding property owners and persons requesting notice. ESA will post a public notice in the *Bakersfield Californian* and *Orange County Register* and will file the NOP with the Orange County and Kern County Clerks. ESA will attend one (1) meeting with the Project team for this task.

Task 4: Public Scoping

ESA will work with IRWD and Rosedale to coordinate and attend two (2) public Scoping Meetings, one in the vicinity of the Project location and Rosedale in Kern County and one in the vicinity of IRWD in Orange County. ESA will prepare presentation materials and conduct an interactive presentation to solicit and record public comments pertaining to the scope and content of the EIR.

ESA will prepare a scoping memorandum summarizing the scoping process and comments received during the NOP review period and Scoping Meetings. The comment memorandum will be included as an Appendix to the Draft SEIR. In addition to the Scoping Meetings, ESA will attend one (1) rehearsal meeting with the Project team prior to the Scoping Meeting for this task.

Task 5: Technical Studies

Task 5a: Biological Resources Technical Report

ESA will prepare a Biological Technical Report (BTR) describing the biological resources within the various project areas including up to a 500-foot buffer (250 feet for linear elements) beyond the potentially affected areas. The BTR will provide an assessment of Project impacts to biological resources. The BTR will be appended to the Draft SEIR and referenced in the Biological Resources chapter of the Draft SEIR. The BTR will summarize the biological field survey methodology, findings, and mitigation recommendations. This serves to streamline the Draft SEIR chapter and improve readability.

ESA in-house biologists will conduct a CNDDDB database search to update the special status-species with potential to occur in the vicinity of the Project, relative to those identified in the previous Stockdale Project Final EIR. ESA will also review relevant documentation for the near-adjacent Kern Water Bank NCCP/HCP area, the Metropolitan Bakersfield HCP, and the Bakersfield HCP (if available). ESA biologists will conduct a field survey to characterize the baseline conditions of biological resources at the Project sites, for use in evaluating Project impacts. The field survey will focus on the footprint of facilities associated with Phase 1 of the Project but



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will also provide mapping of habitat or land cover for Phase 2. A windshield survey in and around the Project vicinity will inform the description of baseline conditions in the area being considered for Phase 2 facilities. The field survey will take two people up to three days to complete. Once the baseline conditions are established, ESA will evaluate the potential impacts to special-status species and plant communities. As burrowing owl (*Athene cunicularia*) is known to occur in the area, potentially suitable burrows and any evidence of owls will be identified and recorded using GPS units. This scope of services does not include full protocol surveys for burrowing owl since it is presumed to be premature to conduct that level of effort. Mitigation recommendations will be included if necessary, along with a discussion of the applicability of any mitigation measures from the previous Stockdale Project Final EIR. The BTR will include a comprehensive list of permits required from resource agencies to implement the Project as well.

The BTR will include a section describing the fishery ecosystem benefits of the Project, relying on the analysis in the technical memorandum prepared by Cramer Fish Sciences (8/4/2017) to characterize these benefits, particularly for Chinook salmon (*Oncorhynchus tshawytscha*), but for other fish species as well.

If direct evidence of special-status species, such as burrowing owl or kit fox, are detected during the field survey, ESA will determine if there may be a need for additional focused surveys for such species and provide recommendations for potential future surveys. If the Project schedule warrants it, ESA would submit an additional scope and fee to conduct surveys in the near term, if necessary.

Task 5b: Cultural Resources Technical Report

ESA will conduct a Phase I Cultural Resources Assessment (CRA) to evaluate the potential impacts associated with the Project. The report will address both CEQA and Section 106 of the National Historic Preservation Act requirements. ESA will compile an Area of Potential Effects (APE) Map that encompasses areas of direct and indirect effects for the Phase 1 Project components. ESA will conduct a records search at the Southern San Joaquin Valley Information Center at California State University, Bakersfield for the Project area plus a 0.5-mile buffer and additional archival research to identify known and potential cultural resources within the Project area prior to initiating a field survey. ESA also request a Sacred Lands File Search from the Native American Heritage Commission.

The field survey will be conducted by a team of four surveyors over the course of six days and will be aimed at identifying surface evidence of archaeological resources and historic built environment resources within the APE. ESA assumes that the survey not exceed 640 acres and 10 linear miles (with a survey corridor not to exceed 300 feet in width), and that the lift stations, turnout, check structure, and any proposed staging areas or access routes will be encompassed within this area. Based on our previous work in this area, ESA anticipates that both prehistoric and historic-era resources may be encountered during the survey and, for the purposes of this scope of work, we assume that no more than five cultural resources will be documented or updated. If additional resources are encountered, IRWD-Rosedale will be notified immediately. ESA also assumes that formal evaluations of any un-evaluated resources will not be necessary. If un-evaluated resources cannot be avoided and there is a potential



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for impacts, evaluations to determine if the resources qualify as historical resources pursuant to CEQA or historic properties pursuant to Section 106 would be conducted under a separate scope and cost.

ESA will summarize information from the records search and site survey and identify the potential for impacts to archaeological, historical, and Native American resources in the Phase I CRA. The Phase I CRA will also address potential impacts to the California Aqueduct, which was previously determined eligible for the National Register and is listed in the California Register, and is thus a historical resource pursuant to CEQA and historic property pursuant to Section 106. Similar to the BTR, the CRA will serve to streamline the Cultural Resources EIR chapter and improve readability. Citing the results of the CRA, the EIR will identify potential impacts of the Project and provide mitigation measures to minimize impacts.

Task 5c: Prepare Paleontological Resources Technical Report

ESA will conduct a Paleontological Resources Assessment (PRA) to evaluate the potential impacts associated with the Project. A paleontological database search will be requested from the Natural History Museum of Los Angeles County (LACM) to identify the potential for fossil-sensitive formations to be impacted by the Project. Geologic and soils maps, geotechnical studies, and unpublished literature will be reviewed. The results of the paleontological resources study will be documented in a Paleontological Resources Assessment Report (PRAR), which will contain the geological and regulatory contexts for the Project, will summarize the methods and results of the research, and will provide recommendations for additional work or mitigation measures, if any are deemed necessary. Similar to the BTR and CRA, the PRA will serve to streamline the analysis of paleontological resources in the Geology and Soils chapter of the EIR and improve readability. Citing the results of the PRA, the EIR will identify potential impacts of the Project and provide mitigation measures to minimize impacts.

Task 6: Prepare an Administrative Draft SEIR

ESA will prepare an Administrative Draft SEIR (ADSEIR) in accordance with State CEQA Guidelines and CEQA Plus Guidelines. The ADSEIR will include the project description, including any revisions that occur as a result of the Scoping Meeting. The ADSEIR will summarize environmental setting, regulatory framework, potential environmental impacts, and proposed mitigation by resource area. Phase 1 will be evaluated at a project level, and Phase 2 will be evaluated at a program level. As required by CEQA, the setting will describe the baseline conditions in the study area “as it exists before the commencement of the project” and the effects of the Project on existing conditions. The impact analysis will identify direct, indirect, and cumulative impacts for design, construction, and operation of the Project based on thresholds of significance. The analysis will include all environmental topics in Appendix G of the CEQA Guidelines (December 2018). Mitigation measures will be identified to avoid or substantially lessen potential environmental effects. The ADSEIR will also provide an analysis of CEQA project alternatives.

To the extent feasible, ESA will leverage in the information in the Stockdale Project Final EIR to streamline the effort to prepare the Kern Fan Project ADSEIR. For similar impacts, mitigation measures adopted in the Stockdale Project Final EIR will be incorporated into the Kern Fan Project ADSEIR.



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ESA will submit the ADSEIR to IRWD and Rosedale for review. ESA understands that IRWD and Rosedale will provide the ADSEIR to CWC, DWR, and CDFW for review as well. ESA will attend two (2) team meetings during the ADSEIR preparation stage. The following issue areas will be addressed in the ADSEIR.

Aesthetics

The ADSEIR will summarize the aesthetic and visual impacts associated with construction and operation of the proposed Project. The ADSEIR will include photographs and a description of existing visual conditions in the Project area and will evaluate if the proposed Project will substantially degrade the existing visual character of the Project area. The ADSEIR will evaluate the potential effects to public view corridors resulting from the proposed Project and determine whether the Project would substantially alter the character of scenic vistas or create substantial new sources of light and glare. Mitigation measures will be identified if necessary to reduce aesthetic impacts.

Air Quality

The ADSEIR will summarize existing air quality in the Project area and will identify current attainment plans for criteria pollutants. The San Joaquin Valley Air Pollution Control District (APCD) thresholds of significance will be identified for operational and construction activities. ESA will coordinate with the Project team to identify construction-related and operational impacts of the Project to air quality. Utilizing the latest California Emissions Estimator Model (CalEEMod), ESA will estimate emissions of criteria pollutants resulting from the construction methods to be used in construction of Phase 1 facilities. These results will be extrapolated to estimate air emissions associated with construction of Phase 2 facilities. The ADSEIR will also estimate long-term operational emissions for both Phase 1 and Phase 2 based on estimates of equipment operation and energy use. ESA will prepare a data request to identify the types, number, and duration of use of equipment needed for operational and construction activities. The ADSEIR will provide the setting and air quality impact assessment and mitigation measures will be developed to minimize air pollutant emissions. The ADSEIR will compare Project emissions with APCD threshold of significance. The ADSEIR will also evaluate the Project's consistency with the regional air quality attainment plans and will address global climate change issues (see GHGs below).

Biological Resources

Impact analysis in the ADSEIR will be based on the Biological Technical Report (BTR) (see Task 5a). The ADSEIR will document the existing biological resources in the Phase 1 and Phase 2 project areas, present the potential impacts as identified in the BTR, and include recommended mitigation measures as necessary. As required for the CWC WSIP, the ADSEIR will also include the description from the BTR that describes how the Project will provide ecosystem benefits in the Sacramento-San Joaquin Delta.

Cultural Resources

Impact analysis in the ADSEIR will be based on the Cultural Resources Assessment (CRA) (see Task 5b). The ADSEIR will document the existing cultural and historic resources in the Phase 1 and Phase 2 project areas,



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present the potential impacts as identified in the CRA, and include recommended mitigation measures as necessary.

Geology, Soils and Mineral Resources

The ADSEIR will include regional and local geologic and seismologic data pertinent to the Project area, including information from the U.S. Geological Survey and California Geological Survey as well as data from any geotechnical reports prepared for the Phase 1 sites. The ADSEIR will identify potential geologic impacts of the Project and will provide mitigation measures to minimize the effects where possible. The ADSEIR also will identify any mineral resource zones or oil well fields in the Project area and potential impacts related to access to such resources. This section will also include an analysis of potential impacts to paleontological resources based on the Paleontological Resources Assessment (PRA) (see Task 5c).

Greenhouse Gas Emissions (GHGs) and Energy

The ADSEIR will include analysis of Greenhouse Gas Emissions (GHGs) for the Project. Construction-related and operational GHGs would be quantified in terms of CO₂ equivalents (CO₂e) to account for varying warming potential of gases, and compared to regional thresholds of significance. ESA will also determine whether the Project would interfere with implementation of the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32, or AB32) or Governor Schwarzenegger's Executive Order S-3-05, which both set State-wide goals to reduce GHGs to 1990 levels by 2020. This analysis will consider the collective size of Project facilities with respect to levels of CO₂e emissions and the energy efficiency parameters of the Project. The ADSEIR will identify potential impacts to local and regional energy supplies and potential for conflicts with state and local plans for renewable energy and energy efficiency due to Project operation.

Hazards and Hazardous Materials

ESA will conduct a search of publically-available databases (including the Cortese List in accordance with Appendix G of the CEQA Guidelines) to identify any hazardous materials sites in the Project vicinity. The ADSEIR will summarize the results of the database search and rely on other Project-related documentation (e.g., Phase I Site Assessments) to identify known contamination sites at the Phase 1 properties and the general vicinity for Phase 2 components. The EIR will list potentially hazardous materials used at the Project sites historically and disclose hazardous materials to be stored or used during construction and operation of the proposed Project. If applicable, the ADSEIR will address the potential effects of the Project on mobilization of existing soil contamination and/or groundwater contamination due to construction and operation of the Project. This scope of work does not include groundwater modeling; any inference regarding Project effects on subsurface contaminants would be done using groundwater modeling provided by IRWD and Rosedale (see Hydrology and Water Quality below). Mitigation measures will be developed to minimize potential hazards where feasible.



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Hydrology and Water Quality

The ADSEIR will identify surface water and groundwater resources in the Project area and will evaluate potential impacts posed by the Project during construction and operation. The ADSEIR will rely on geotechnical investigations and groundwater modeling to be provided by IRWD and Rosedale that describe the recharge capacities of the Project sites and potential impacts of recharge and extraction activities both onsite and offsite in accordance with the Project terms of operation. The ADSEIR will summarize the results of a groundwater drawdown analysis for proposed production well operations and a mounding analysis for proposed recharge operations. The ADSEIR will describe publically-available groundwater quality data and analyze the impact of Project operations on any nearby plumes. The ADSEIR will describe storm water runoff control requirements and provide mitigation if necessary to meet construction and operational storm water runoff quality requirements. The ADSEIR will describe the applicability of Rosedale's Long Term Recovery Operations Plan, as developed for the Stockdale Project and appended to that Final EIR.

In addition, the ADSEIR will discuss the Sustainable Groundwater Management Act (SGMA) and evaluate the potential for the Project to conflict with SGMA and the groundwater sustainability plan (GSP) being developed for the Project area. We understand Rosedale is part of the Kern Groundwater Authority Groundwater Sustainability Agency (GSA). This scope of work assumes that Rosedale will provide information to ESA regarding the GSA and the development of the GSP and the relationship of the Kern Fan Project to the GSP.

Land Use, Agriculture and Forestry

ESA will conduct land use surveys of the Project area to identify current uses and sensitive receptors. Local General Plans, airport master plans, and habitat conservation plans will be identified and summarized as applicable. State-designated important farmland and Kern County agricultural preserves in the Project area also will be identified. The ADSEIR will identify the adopted land use and agricultural goals and policies that could be affected by the Project. The ADSEIR will evaluate consistency of the proposed Project with existing land uses within the project area and develop mitigation measures to avoid or substantially lessen inconsistencies where feasible. This scope of work assumes that the California Agricultural Land Evaluation and Site Assessment (LESA) model will be used to evaluate impacts, similar to the analysis in the Stockdale Project Final EIR. Some Kern Fan Project components may be placed on agricultural lands such as the canal and lift stations. The LESA model will be used to substantiate conclusions regarding impacts of such permanent improvements to agricultural lands.

Noise

ESA will briefly describe and discuss existing noise sources at the Project site and describe the existing noise environment. ESA will summarize state and local noise policies, regulations, and standards as they pertain to the proposed Project. The EIR will discuss the potential for onsite construction activities to generate noise and affect sensitive receptors. This discussion will be based upon proposed construction activities and scheduling information provided by IRWD and Rosedale. Otherwise, this discussion will be based upon peak noise and vibration levels generated by an assumed standard mix of construction equipment and activities. The ADSEIR



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will evaluate the Project compliance with existing noise standards and policies. This scope of work assumes no noise measurements are required for purposes of the ADSEIR.

Population and Housing / Growth Inducement

ESA will evaluate and discuss the potential for the Project to indirectly induce growth due to the potential for the Project to remove an obstacle to growth, namely water supply. The ADSEIR will discuss population growth in both IRWD and Rosedale's service area, along with general water supply and demand projections. The ADSEIR will discuss the purpose of the Project to improve overall water supply reliability within IRWD's service area rather than a predictable water source that would support development on an annual basis.

Tribal Cultural Resources

This scope of work assumes that IRWD and Rosedale will implement the Tribal outreach and consultation as required by Assembly Bill 52. The ADSEIR will summarize the results of such outreach and consultation, noting whether any Tribal Cultural Resources will be impacted by the Project and any mitigation measures agreed upon by IRWD, Rosedale and the Tribes. As part of this task, ESA has included time to assist IRWD and Rosedale with consultation, including assistance with drafting notification letters, responding to requests for consultation, and participating in up to one conference call with Tribes. We have included up to 8 hours of staff time for assistance with consultation.

Transportation

The ADSEIR will characterize the existing regional and local transportation networks in the Project area, including traffic flow, access, and circulation conditions. The ADSEIR will assess the potential for construction traffic and operational traffic to conflict with programs, plans, ordinances, or policies addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. ESA will estimate Project construction traffic volume on the basis of estimates of earthwork quantities onsite, worker crew size, and equipment needs. This will be used to evaluate Project effects to vehicle miles traveled and emergency access. Mitigation measures will be developed if required to reduce adverse effects to traffic and circulation.

Utilities, Service Systems

The ADSEIR will review the potential effects of the Project on utilities and energy use resulting from both construction and operation of the Project. The ADSEIR will describe any potential need for water entitlements to operate the Project.

Wildfire

Wildfire is a new resource category added to the CEQA Guidelines Appendix G in December 2018. The ADSEIR will reconfirm that the project area is not located in a high fire hazard zone or state responsibility area, and therefore will have no impacts related to wildfire.



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Cumulative Effects

ESA will address potential cumulative impacts of implementing the proposed Project in conjunction with past, present, and reasonably foreseeable public and private projects in the immediate Project area. The analysis will include a description of the geographic area in which cumulative impacts could be experienced for each resource area. ESA will consult the local General Plan and relevant agencies to compile a list of major projects planned within or near the area over the next 10-15 years as well as projects under way or completed in the last five years. A brief description of the relevant past, present, and proposed future projects occurring in the area that could produce effects similar to the Project will be provided. As CEQA requires, the analysis will focus on the potential for the Project's impacts to be cumulatively considerable when combined with the impacts of other related projects.

Alternatives

The ADSEIR will evaluate alternatives to the Project including the No Project Alternative plus up to two additional alternatives, as dictated by Project impacts and CEQA requirements. The ADSEIR will compare the alternatives to determine if any would substantially meet the project objectives and reduce significant impacts associated with the proposed Project. As required by CEQA, IRWD and Rosedale will consider any alternatives identified by agencies or others at scoping meetings or in response to the NOP and determine whether they should be included in the ADSEIR as feasible or infeasible. The ADSEIR will identify the environmentally superior alternative based on the conclusions of the analysis.

CEQA Plus Requirements

To satisfy the National Environmental Policy Act (NEPA), the CEQA-Plus Guidelines of the SWRCB require the review of federal cross-cutting regulations. The ADSEIR will include a chapter that assesses the potential for the Project to comply with such federal laws and executive order, including the following:

- Clean Air Act
- Coastal Barriers Resources Act
- Coastal Zone Management Act
- Endangered Species Act
- Environmental Justice Executive Order
- Farmland Protection Policy Act
- Floodplain Management Executive Order
- Magnuson-Stevens Fishery Conservation and Management Act
- Migratory Bird Treaty Act
- National Historic Preservation Act



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- Protection of Wetlands Executive Order
- Safe Drinking Water Act
- Wild and Scenic Rivers Act

Task 7: Prepare a Screencheck Draft SEIR

ESA will revise the Draft SEIR per the comments received from IRWD and Rosedale staff on the ADSEIR. ESA will prepare a Screencheck Draft SEIR for review by both agencies. ESA will attend one (1) team meeting to discuss revisions to the ADSEIR prior to circulating the Screencheck Draft SEIR to IRWD and Rosedale to review.

Task 8: Prepare Public Draft SEIR, Notice of Availability, and Notice of Completion

ESA will incorporate comments from IRWD and Rosedale staff and prepare the Public Draft SEIR. ESA will compile the mailing list and conduct the mailing and public noticing required by CEQA for the Public Draft SEIR. ESA will prepare and file the NOC with the State Clearinghouse and the Notice of Availability (NOA) of the Draft SEIR with both the Orange County and Kern County Clerks. The notices will include the date and location of public meetings on the Draft SEIR. ESA will produce up to five (5) bound hard copies, fifty (50) CDs containing electronic versions of the Public Draft SEIR, fifty (50) NOAs, and five (5) NOCs, and two (2) CDs with PDF files of the Draft Public SEIR, NOA, and NOC for IRWD and Rosedale records.

Task 9: Conduct Public Meeting

ESA will organize and arrange two (2) Public Meetings to receive comments on the Draft SEIR, one in Orange County and one in Kern County. ESA will take the lead in conducting a presentation. ESA will prepare presentation materials and an agenda and conduct a presentation. Presentation and/or hard copy materials will be approved by IRWD and Rosedale in advance of the meetings. The presentation will be organized as a summary overview of the Draft SEIR and will identify potential environmental issues. ESA will attend one (1) rehearsal meeting with the Project team prior to the Public Meetings for this task.

The purpose of the Public Meetings will be to collect additional comments on the Draft SEIR. ESA will document all comments received during the Public Meetings and will incorporate them into the Final SEIR if applicable.

Task 10: Prepare Final SEIR and Response to Comments

At the conclusion of the public review period, ESA will work with IRWD and Rosedale to obtain all comments received on the Draft SEIR. ESA will provide a detailed review and evaluation of all of the comments received. ESA will develop a strategy for addressing the comments and will present this approach to IRWD and Rosedale during a team meeting. An Administrative Final SEIR containing proposed responses to comments to the Draft



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SEIR will be prepared once ESA's approach is agreed to by IRWD and Rosedale. For purposes of estimating level of effort, this scope assumes no more than 40 pages of comment letters will be received.

ESA will submit an administrative Final SEIR to IRWD and Rosedale for review. After incorporation of comments on the Administrative Final SEIR, ESA will prepare a Screencheck Final SEIR for review by IRWD and Rosedale. ESA assumes that comments on the Screencheck Final SEIR will be minimal, due to early consultation with both agencies when comments are received.

The Response to Comments in conjunction with the Draft SEIR will constitute the Final SEIR. After IRWD and Rosedale have reviewed the Final SEIR, ESA will incorporate the necessary revisions into the document and will mail a copy to each entity that commented.

Task 11: Prepare Findings, Statement of Overriding Considerations, Notice of Determination

ESA will prepare draft Findings of Fact and a Statement of Overriding Considerations (SOC) (if necessary) for review by the IRWD and Rosedale Boards of Directors. ESA will incorporate IRWD and Rosedale's comments and will prepare the final Findings. ESA will prepare and file the Notice of Determination (NOD) with the County Clerks and the State Clearinghouse following certification by Rosedale first as the CEQA Lead Agency and IRWD second as a Responsible Agency. The 2019 CEQA filing fees for California Department of Fish and Wildlife, as well as County filing fees, are included as part of this task.

Task 12: Prepare a Mitigation Monitoring Compliance and Reporting Program

In compliance with Public Resources Code Section 21081.6, ESA will prepare a draft Mitigation Monitoring Compliance and Reporting Program (MMCRP) for review by IRWD and Rosedale. MMCRP describes the required mitigation necessary to avoid or reduce significant impacts, the responsible parties, tasks, and schedule necessary for monitoring mitigation compliance.

3. Cost Estimate and Schedule

Attached as **Table 1** is a detailed cost estimate showing the level of effort for each task described above, based on hourly assumptions and ESA standard billing rates. The cost of the proposed Project is not-to-exceed \$359,595.

The following is ESA's estimated 15-month schedule for implementing the above scope of work. This schedule assumes a kick-off date during September 2019.



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Task No.	Task Name	Duration	Start	Finish
1	Kickoff Meeting	0	9/4/2019	9/4/2019
2	Project Description and Data Request	6 weeks	9/5/2019	10/17/2019
3	ESA prepares a NOP and NOC	6 weeks	9/5/2019	10/17/2019
4	30-day Scoping Period and Public Meeting	30 days	10/18/2019	11/18/2019
5	Technical Reports	8 weeks	10/18/2019	12/13/2019
6	Prepare Administrative Draft SEIR	16 weeks	11/19/2019	3/10/2020
	Agency Review of ADSEIR	3 weeks	3/11/2020	4/1/2020
7	Prepare Screencheck Draft SEIR	6 weeks	4/2/2020	5/14/2020
	Agency Review of Screencheck DSEIR	2 weeks	5/15/2020	5/29/2020
8	Prepare Public Draft SEIR, NOA, and NOC	2 weeks	6/1/2020	6/15/2020
9	45-day Draft SEIR Review and Public Meeting	45 days	6/16/2020	7/31/2020
10	Prepare Final SEIR and Response to Comments	8 weeks	8/3/2020	9/28/2020
11	Prepare Findings, SOC, and NOD	3 weeks	9/29/2020	10/20/2020
12	Prepare MMCRP	3 weeks	9/29/2020	10/20/2020

Please do not hesitate to contact Jennifer Jacobus at 213-599-4300 if you have any questions about our scope of work or level of effort. We appreciate the opportunity to propose on this effort and to continue to support the development of IRWD and Rosedale’s cooperative groundwater banking activities in Kern County.

Sincerely,

Tom Barnes
 Vice President
 Director, Southern California Water Practice Group

Jennifer Jacobus
 Senior Managing Associate, Southern California Water Practice Group

Attachment A

Cost Proposal: ESA Non-Labor Expenses Summary

Reimbursable Expenses

Project Supplies	\$	-
Printing/Reproduction	\$	1,800
Document and Map Reproductions (CD + Digital Photo)	\$	100
Postage and Deliveries	\$	250
Mileage	\$	2,100
Vehicle Rental	\$	300
Lodging	\$	3,700
Airfare	\$	-
Other Travel Related	\$	1,500
Newspaper Ads for NOP and Draft EIR - 2 newspapers	\$	1,500
SSJVIC, LACM Records Search Fees	\$	1,600
CEQA CDFW Filing Fee; County Filing Fees	\$	3,500
Subtotal Reimbursable Expenses	\$	16,350
0% Fee on Reimbursable Expenses	\$	-
Total Reimbursable Expenses	\$	16,350

ESA Equipment Usage

General Equipment:

Company Vehicle Usage	\$	-
HP Plotter	\$	-
Computer Time (GIS)	\$	-
Trimble GPS	\$	300
Tablet GPS	\$	-
Laser level	\$	-
Garmin GPS or equivalent	\$	-
Laptop Computers	\$	-
LCD Projector	\$	-
Noise Meter	\$	-
Total Equipment Usage Costs	\$	300

August 26, 2019
Prepared by: C. Compton
Submitted by: F. Sanchez / P. Weghorst
Approved by: Paul A. Cook



ACTION CALENDAR

IRWD POLICY PRINCIPLES FOR THE CALIFORNIA WATER RESILIENCE PORTFOLIO

SUMMARY:

IRWD policy position papers are reviewed periodically to determine if the positions are still valid, need to be revised, or if new papers should be written on other issues. In April 2019, California Governor Gavin Newsom signed Executive Order N-10-19. The executive order directed the California Natural Resources Agency, the California Environmental Protection Agency, and the California Department of Food and Agriculture to prepare a Water Resilience Portfolio that identifies the key priorities for the Administration's water portfolio moving forward. Based on the discussions taking place in Sacramento and around the state regarding what should be included in the California Water Resilience Portfolio, staff recommends that the Board adopt IRWD's proposed Water Resilience Portfolio Policy Principles paper.

BACKGROUND:

In 2004, IRWD began producing policy papers on topics of particular interest to IRWD. Because of IRWD's standing in the water industry, its position is regularly solicited on issues of vital interest to the industry and the community. In order to keep these position papers current and germane, staff occasionally recommends that the Board review the papers and, when appropriate, incorporate updates or adopt new papers.

On April 29, 2019, Governor Gavin Newsom signed Executive Order N-10-19, which is attached as Exhibit "A". The order directed three state agencies – the California Natural Resources Agency, the California Environmental Protection Agency, and the California Department of Food and Agriculture – to develop a comprehensive strategy to build a climate-resilient water system and ensure healthy waterways. The agencies are to develop a Water Resilience Portfolio that identify the key priorities for the Administration's water portfolio moving forward.

As part of the process, the state agencies are to inventory and assess the following:

- Existing demand for water on a statewide and regional basis, and available water supply to address this demand;
- Existing water quality of California's aquifers, rivers, lakes and beaches;
- Projected water needs in coming decades for communities, economy and environment;
- Anticipated impacts of climate change to water systems, including growing drought and flood risks, and other challenges to water supply reliability;
- Work underway to complete voluntary agreements for the Sacramento and San Joaquin river systems regarding flows and habitat;

- Current planning to modernize conveyance through the Bay-Delta with a new single tunnel project;
- Expansion of the state’s drinking water program to ensure all communities have access to clean, safe and affordable drinking water; and
- Existing water policies, programs, and investments within state government.

The Water Resilience Portfolio, per the executive order, is to incorporate the following principles:

- Prioritize multi-benefit approaches that meet multiple needs at once;
- Utilize natural elements such as forests and floodplains;
- Embrace innovation and new technologies;
- Encourage regional approaches among water users sharing watersheds;
- Incorporate successful approaches from other parts of the world;
- Integrate investments, policies and programs across state government; and
- Strengthen partnerships with local, federal and tribal governments, water agencies and irrigation districts, and other stakeholders.

Given that discussions are taking place regarding the Water Resilience Portfolio, staff is proposing that the Board adopt a policy principles paper on the California Water Resilience Portfolio to guide the District’s advocacy efforts, a draft of which is attached as Exhibit “B”. Based on the final version of this paper, IRWD will submit a comment letter on this topic to the California Natural Resources Agency by its deadline of September 1, 2019.

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

None.

COMMITTEE STATUS:

This item was reviewed by the Supply Reliability Programs Committee on August 19, 2019.

RECOMMENDATION:

THAT THE BOARD ADOPT THE PROPOSED IRWD POLICY POSITION PAPER REGARDING THE CALIFORNIA WATER RESILIENCE PORTFOLIO.

LIST OF EXHIBITS:

Exhibit “A” – Executive Order N-10-19

Exhibit “B” – Draft IRWD Policy Principles for the California Water Resilience Portfolio

EXHIBIT "A"
EXECUTIVE DEPARTMENT
STATE OF CALIFORNIA

Executive Order N-10-19

WHEREAS, water is a human right, and is central to California's strength and vitality; and

WHEREAS, we face a range of existing water challenges, including unsafe drinking water across the state, major flood risks that threaten public safety, severely depleted groundwater aquifers, agricultural communities coping with uncertain water supplies, and native fish populations threatened with extinction; and

WHEREAS, climate change is having a profound impact on water and other resources, making the climate warmer and more variable, which reduces mountain snowpack, intensifies drought and wildfires, and drives shorter, more intense wet seasons that worsen flooding; and

WHEREAS, California continues to grow, with our population projected to grow to 50 million over the next several decades and our economic activities expanding as the world's fifth largest economy; and

WHEREAS, the future prosperity of our communities and the health of our environment depend on tackling pressing current water challenges while positioning California to meet broad water needs through the 21st century; and

WHEREAS, many state programs, policies and investments are being implemented, such as the Sustainable Groundwater Management Act and new urban water efficiency standards, that can be built upon to meet these evolving challenges; and

WHEREAS, providing clean, dependable water supplies to communities, agriculture, and industry while restoring and maintaining the health of our watersheds is both necessary and possible; and

WHEREAS, achieving this goal requires a broad portfolio of collaborative strategies between government, sovereign tribes, local communities, water agencies, irrigation districts, environmental conservationists, academia, business and labor leaders, and other stakeholders.

NOW, THEREFORE, I, GAVIN NEWSOM, Governor of the State of California, by virtue of the power and authority vested in me by the Constitution and the statutes of the State of California, do hereby issue this Order to become effectively immediately.

IT IS HEREBY ORDERED THAT:

1. The California Natural Resources Agency, the California Environmental Protection Agency, the California Department of Food and Agriculture, in consultation with the Department of Finance, shall together prepare a water resilience portfolio that meets the needs of California's communities, economy, and environment through the 21st century.

These agencies will reassess priorities contained within the 2016 California Water Action Plan, update projected climate change impacts to our water systems, identify key priorities for the administration's water portfolio moving forward, and identify how to improve integration across state agencies to implement these priorities.

2. These agencies shall first inventory and assess:
 - a. Existing demand for water on a statewide and regional basis and available water supply to address this demand.
 - b. Existing water quality of our aquifers, rivers, lakes and beaches.
 - c. Projected water needs in coming decades for communities, economy and environment.
 - d. Anticipated impacts of climate change to our water systems, including growing drought and flood risks, and other challenges to water supply reliability.
 - e. Work underway to complete voluntary agreements for the Sacramento and San Joaquin river systems regarding flows and habitat.
 - f. Current planning to modernize conveyance through the Bay Delta with a new single tunnel project.
 - g. Expansion of the state's drinking water program to ensure all communities have access to clean, safe and affordable drinking water.
 - h. Existing water policies, programs, and investments within state government.

3. This water resilience portfolio established by these agencies shall embody the following principles:
 - a. Prioritize multi-benefit approaches that meet multiple needs at once.
 - b. Utilize natural infrastructure such as forests and floodplains.
 - c. Embrace innovation and new technologies.
 - d. Encourage regional approaches among water users sharing watersheds.
 - e. Incorporate successful approaches from other parts of the world.
 - f. Integrate investments, policies and programs across state government.
 - g. Strengthen partnerships with local, federal and tribal governments, water agencies and irrigation districts, and other stakeholders.

4. These agencies shall conduct extensive outreach to inform this process, including to other state agencies, sovereign tribes, federal and local government, local water agencies, agricultural groups, environmental justice and environmental conservation organizations, local and statewide business leaders, academic experts and other stakeholders.

IT IS FURTHER ORDERED that as soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that widespread publicity and notice shall be given to this Order.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its departments, agencies, or other entities, its officers or employees, or any other person.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 29th day of April 2019.

A handwritten signature in black ink, appearing to read "Gavin Newsom", written over a horizontal line.

GAVIN NEWSOM
Governor of California

ATTEST:

A handwritten signature in black ink, appearing to read "Alex Padilla", written over a horizontal line.

ALEX PADILLA
Secretary of State

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EXHIBIT "B"

IRWD POLICY PRINCIPLES FOR THE CALIFORNIA WATER RESILIENCE PORTFOLIO AUGUST 26, 2019 – **DRAFT**

ISSUE SUMMARY:

On April 29, 2019, Governor Gavin Newsom signed Executive Order N-10-19. The order directed three state agencies – the California Natural Resources Agency, the California Environmental Protection Agency, and the California Department of Food and Agriculture – to develop a comprehensive strategy to build a climate-resilient water system and ensure healthy waterways in light of climate change. The agencies are to develop a Water Resilience Portfolio that identifies the key priorities for the Administration's water portfolio moving forward.

As a state and federal leader in water resources public policy and governance, the Irvine Ranch Water District (IRWD) works to promote policy initiatives that allow IRWD, along with other water purveyors in California, to enhance the quality, reliability and resiliency of water supplies. IRWD also works to advance policies that would build resiliency into California's water systems and enhance the health of the state's waterways. As a means of providing input into the discussions surrounding the Water Resilience Portfolio and in order to guide IRWD's advocacy efforts related to the Portfolio, the following policy principles have been adopted by the IRWD Board of Directors.

DEFINITION OF WATER RESILIENCE:

California has a climate that cycles between periods of large amounts of precipitation and times of drought. While the future impacts of climate change on California's weather cycles are not known with complete certainty, it appears that changes to weather cycles will result in more rainfall and less snow in the mountains, earlier snowmelt, more intense rain events, and increasingly frequent droughts.

Evidence suggests changes to California's weather cycles are already affecting water resources throughout the state, which in turn negatively impact ecosystems, economies, and communities. California can and should take action to build water resilience into its water resource management and planning that accounts for these changes.

Water resilience for California means moving the state to better water resource management through cost-effective infrastructure investments, flexible systems operations, and changes in policy and regulations that result in water systems, communities, ecosystems, and economies adapting to and mitigating for the impacts of climate change to water supplies and watersheds.

A Water Resilience Portfolio must recognize the complex nature of California's water resource infrastructure and management which includes funding constraints and balancing the water needs of people, businesses, agriculture, and the environment. The portfolio must also recognize the diversity of communities across the state; the importance of flexible water resource management and diverse water supply development; and the need for actions that acknowledge, coordinate and work within the different roles, powers and limitations that exist among the various water resource managers.

The ultimate outcome of the portfolio should be a list of proposed actions that will ensure California manages water resources effectively and flexibly, thereby promoting healthy watersheds and water supplies for our communities and businesses in the 21st century.

POLICY PRINCIPLES:

The California Water Resilience Portfolio should position the California to obtain and consider the best science and data available to analyze, model, and then develop and implement the changes necessary to meet current and future water supply needs in an era of climate change. The following are issue areas and associated actions that should be included in the Water Resilience Portfolio to help ensure California builds water resilience due to climate change:

1) Enhance Weather Forecasting and Optimize Storage through Integration:

Improve California's ability to capitalize on and prepare for the impacts of climate change and greater variability in our weather.

INITIAL ACTIONS NEEDED:

- Create and fund a California Atmospheric River Weather Center to improve weather modeling and forecasting to ensure California can predict with more lead time and accuracy the strength, frequency, duration and volumes of water anticipated from atmospheric rivers;
- Strengthen data collection of on-the-ground snowpack and runoff conditions in the Sierra Nevada and other snow-cover areas of the state to create more accurate runoff estimates and a more accurate water picture each year;
- Complete an analysis of how to optimize the state's existing conveyance and water storage facilities through enhanced surface and groundwater storage integration, and an analysis of what additional water storage and conveyance facilities and improvements are needed to ensure the state adapts to a climate with less snowpack and more extreme hydrologic volatility; and
- Change reservoir and conveyance operations while maintaining public safety, and amend regulatory rules to improve surface and groundwater storage integration, as indicated by the analysis, to optimize the capture and storage of wet-year water, which would otherwise be lost to the ocean, to maximize benefits to agricultural, urban communities, and the environment in drier times.

2) Focus on Climate Change-Driven Disaster and Its Environmental Impacts:

Increased climate-driven wildfires and flooding are expected impacts of climate change in California. Mitigating and preparing for climate-driven wildfire and flooding can increase water resilience, enhance and protect watershed health, and prepare ecosystems and communities to better withstand climate change-driven disasters.

INITIAL ACTIONS NEEDED:

- Provide state funding for a single, standardized fire camera system for each county, prioritizing high fire areas and the wildland-urban interface, to ensure fires are spotted and responded to more quickly, lessening the chance for the wildfire, particularly wind-driven wildfires in Southern California, to become catastrophic wildfires;
- Improve forest health and resiliency to wildfires through active watershed and wide-scale fuels management that puts California on a path to obtaining and maintaining forest health statewide, as this will increase water supply, water quality, slow runoff, improve ecosystems, build forest resiliency to wildfires and reduce catastrophic wildfires; and
- Assess how California's flood plains can be restored, where it makes sense, and how floodwaters captured can be directed to surface storage and groundwater recharge.

3) Improve Water Transfers and Exchanges to Capture More Water in Wet Years:

With climate change driving greater hydrologic volatility in California, it is essential that the state improve the ability of water rights holders, and state and federal project contractors, to transfer and exchange water for the benefit of urban communities, agriculture and the environment. Additionally, the state needs to modify its transfer and exchange approval process to ensure that more water that would otherwise be lost to the ocean (i.e., "new water") can be captured in the form of rain during wetter years, and moved to storage for use in dryer years.

INITIAL ACTIONS NEEDED:

- Develop standardized Department of Water Resources-approved template agreements to expedite approval of short-term water transfers and exchanges to make short-term water transfers and exchanges easier to complete, thereby maximizing the beneficial use of water resources in the state;
- Prioritize and expedite agreements for transfers or exchanges that have a storage component to enable the state's storage network to capture more precipitation in the form of rainfall, or are designed to reduce losses to the ocean while providing drought protection, emergency supplies, and environment enhancements;
- Integrate the operations of surface and groundwater storage programs to provide opportunities for environmental enhancements while optimizing water supply benefits to agricultural and urban communities; and
- Encourage stakeholder discussion and state and federal action to expand water rights consolidated places of use. Optimizing the use of consolidated places of use should be done with stakeholder agreement to maximize water resource benefits to the environment and the state's agricultural and urban communities.

4) Evaluate and Build California’s Water System Resilience:

Actions should be undertaken to move all California water systems, with a combination of existing and future water supply projects and water efficiency measures, to be able to meet 80% of daily residential and business demands at build-out 95% of the time under the reasonably foreseeable climate change scenarios. System reliability targets should be set for water systems serving agricultural operations based on the composition of the agricultural operations they serve.

INITIAL ACTIONS NEEDED:

- Encourage regional evaluations and studies of water supply and system reliability under various climate change scenarios through regional collaborations between retail and wholesale water agencies utilizing existing planning documents such as Urban Water Management Plans, Agricultural Water Management Plans and Groundwater Sustainability Plans. Such collaborative studies should be conducted in a manner that is consistent with the roles, responsibilities and policies of participating agencies and should be used to inform supplier actions to improve resiliency;
- Implement “Making Water Conservation a California Way of Life” legislation to achieve reasonable *water use efficiency* statewide and in a manner that preserves *water conservation* as a tool water suppliers will use to respond to droughts;¹
- Move forward with a long-term Delta solution that addresses enhanced conveyance and environmental protection in the Delta, supports a safe and secure water supply for the entire state, and mitigates climate impacts on the Delta’s ecosystem. Within the next 10 years, construction on enhanced conveyance and environmental protection should be well underway; and
- Evaluate and reform regulatory frameworks and processes pertaining to water resources to avoid regulatory decisions being made in silos. Decision-making in a silo can exacerbate climate change impacts on urban and agricultural water systems and the environment without realizing needed improvements in water resiliency.

5) Incentivize the Investment in and Development of Emergency Water Supplies:

With climate change likely bringing more frequent and intense droughts to California, the state needs to evaluate how it will ensure sufficient water supplies during times of shortage. Development of emergency water supplies will aid the state in mitigating the impacts of more frequent droughts. Unfortunately, few water suppliers have made these investments. The state needs to adjust policies and statutes to encourage the investment in emergency supply development and to provide assurances that water suppliers will have access emergency supplies they develop for this purpose.²

¹Water use efficiency is the use of water more efficiently and reducing inefficiencies for a given set of beneficial uses, but not necessarily a reduction in the total volume used within a community. Water conservation is a temporary or permanent reduction in total amount of water used regardless of the use, typically in response to a shortage.

² An emergency water supply is a supply that has been developed by a water supplier to enhance its water supply reliability during times of shortage and is in addition to the water supplies that the supplier draws upon during non-shortage times to meet water demands within its service area (e.g., IRWD’s Strand Ranch Water Banking Project.).

INITIAL ACTIONS NEEDED:

- Amend the Urban Water Management Planning Act to specifically recognize emergency water supplies as a category of supply a water supplier may discuss and assess in an Urban Water Management Plan, in addition to base load supplies and contingency supplies;
- As the Department of Water Resources develops the structure and reporting requirements for the Annual Water Supply and Demand Assessment, include emergency water supplies in the reporting structure, and in the calculation of water supply compared to water demand;
- Amend the Urban Water Management Planning Act to provide that an emergency water supply can be used in a Water Shortage Contingency Plan as part of the planned water supplier response to a water shortage; and
- Establish as state policy that state agencies shall allow a water supplier that develops and establishes an emergency supply to use that supply during a water shortage or drought consistent with its Water Shortage Contingency Plan.

6) Expand Water Recycling, a Non-Hydrologically Dependent Supply:

As a non-hydrologically-dependent water supply, expanding water recycling in the state would allow California to develop new water supplies without putting greater pressure on supplies stressed by climate change. The water community is prepared to expand reuse and use of water recycling as one means of adapting to and mitigating climate change, but regulatory certainty is needed from the state.

INITIAL ACTIONS NEEDED:

- Update the Title 22 Water Recycling Criteria (CCR, Title 22, Division 4, Chapter 3), which has not been updated in nearly 20 years, to remove outdated and overly prescriptive requirements for non-potable recycled water that are not needed to protect public health -or the environment;
- Fund and complete the research needed for the State Water Resources Control Board to develop regulations for raw water augmentation by 2023;
- Fund and complete the research needed for the State Water Resources Control Board to develop regulations for treated drinking water augmentation by 2025; and
- Modify existing regulatory structures to ensure that recycled water is regulated as a resource and not a waste, and take a “fit for purpose” regulatory approach for recycled water, appropriately balancing public health and safety with how the water is used.

CONCLUSION:

Achieving water resilience in California requires that state and local agencies work together to adapt to and mitigate for the impacts of climate change. The water infrastructure and operational changes that we already know need to be made to adapt to and mitigate for the impacts of climate change on our water resources should be included in the Portfolio. The initial actions recommended above are actions need to build water resilience due to climate change. They will place California on the path to achieving water resilience, but other actions, not related to climate change, are also needed (e.g., addressing safe drinking water in disadvantaged communities, cleaning up groundwater contamination, and fully implementing the Sustainable Groundwater Management Act).

August 26, 2019
Prepared and
submitted by: C. Compton
Approved by: Paul A. Cook



ACTION CALENDAR

2019 LEGISLATIVE UPDATE: AB 1486 (TING), SURPLUS LAND

SUMMARY:

As legislation and regulations develop, staff provides updates and recommendations to the Water Resources Policy and Communications Committee and the Board, as appropriate. This report provides an update on AB 1486 (Ting, D-San Francisco), a legislative proposal that seeks to amend the Surplus Land Act. IRWD currently has an “opposed unless amended” position on the bill. Staff recommends that the Board authorize staff to change IRWD’s position from “oppose unless amended” to “watch”, if and when amendments are placed into the bill addressing IRWD’s concerns with definition of “surplus land” and “use” contained in the bill, or “oppose”, if amendments are not placed into the bill addressing the District’s concerns.

BACKGROUND:

AB 1486 proposes to revise the rules related to local agencies’ disposal of surplus land. The rules that govern a local agency’s disposition of surplus land in California is known as the Surplus Land Act.

Specifically, AB 1486 would revise the definition of “surplus land” within the Government Code and would restrict local agencies’ ability to dispose of surplus land. Under this bill, prior to a local agency conducting negotiations to dispose of real property it owns, the local agency must issue a written notice of availability to low- and moderate-income housing providers. This means that prior to negotiating the sale of any property owned by a local agency, a local agency would need to offer the property for housing.

AB 1486 was a reintroduction of a bill Assemblymember Ting ran last year, but the bill was amended several times as it has moved through the legislative process this year. A broad coalition of local agencies and local agency associations oppose the bill (unless it is amended) because it:

- Expands the lands which would be subject to the Surplus Land Act;
- Limits the actions a local agency can take when negotiating to dispose of surplus land; and
- Levies a 50 percent penalty based on the sale price of any land sold in violation of the Surplus Land Act.

AB 1486’s Definition of “Surplus Land” and “Use”:

Of particular concern to IRWD and the coalition is the definition of “surplus land” and “use” contained in the bill. The bill currently defines surplus land as:

“[L]and owned in fee simple by any local agency for which the local agency’s governing body takes formal action in a regular public meeting declaring that the land is surplus and is not necessary for the agency’s use. Land shall be declared either “surplus land” or “exempt surplus land” before a local agency may take any action to dispose of it. Exclusive negotiating agreements or other agreements or contracts for land held in the Community Redevelopment Property Trust Fund shall be subject to this article. Nothing in this article shall be interpreted to require a local agency to dispose of land that is determined to be surplus. Nothing in this article prevents a local agency from obtaining fair market value for the sale or lease of the surplus land consistent with Section 54226.”

In conjunction with the “surplus land” definition, the bill defines agency use. The largest concern with the “use” definition currently included in the bill is that it excludes commercial uses or activities, including nongovernmental retail, entertainment, or office development, and property held or disposed of for the sole purpose of investment or generation of revenue.

Because the bill has the potential to impact IRWD’s investment and real property transactions, IRWD currently has an “oppose unless amended” position on AB 1486.

Potential Amendments Being Discussed:

Staff, through and in conjunction with the coalition, continues its work to obtain amendments to AB 1486, which will mitigation its impact on IRWD. Recently, the author’s staff indicated that the author would be willing to take amendments along the lines of the following:

- Modify the “surplus land” and “use” definition to clarify that special districts, excluding transit districts, may undertake commercial uses or activities, including nongovernmental retail, entertainment, or office development, and hold or disposed of property for the sole purpose of investment or generation of revenue the agency’s governing body takes action in a public meeting declaring that the use of the site will: (1) directly further the express purpose of agency work or operations or (2) is expressly authorized by a statute governing the local agency;
- Permit a local agency to commission appraisals, conduct due diligence, engage in discussions with brokers or real estate agents not representing a potential buyer, complete other studies to determine value or best use of land, issuance of a request for qualifications, and development of marketing materials, and define those activities that are not violating the Surplus Land Act’s exclusive negotiation provisions; and
- Modify the penalty provisions provided in the bill to reduce the penalty for first time violators of the Surplus Land Act to 30 percent of the sale price of any land disposed of in violation of the act, and provide 60 days for local agencies to correct violations before a penalty can be assessed.

The author has indicated that they will only take the amendments if the coalition agrees to an additional term, and if they remove opposition to the bill when the amendments inserted into the bill. The additional term is that when a district disposes of property with 10 or more residential units, or that could have residential development placed upon it, that 15 percent of the total units developed on the property be dedicated for affordable housing.

Staff, along with the coalition, continue to work to obtain the amendments list above in a way that protects the interests of special districts, including IRWD. Staff recommends that the Board authorize staff to change the District's position from "oppose unless amended" to "watch", if and when amendments are placed into the bill addressing IRWD's concerns, or to an "oppose", if amendments are not placed into the bill addressing the District's concerns. Staff's recommendation is based on the fact that if the proposed amendments, with some slight changes, were inserted into the bill, they would substantially limit the potential impact of the bill on IRWD's overall investment and real property transactions. If the bill is not amended, it could impact IRWD's overall investments and real property transactions.

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

While this item has been discussed on multiple occasions at recent meetings of the Water Resources Policy and Communications Committee, the changes to AB 1486 described above were not reviewed with the Committee due to timing.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE STAFF TO CHANGE IRWD'S POSITION FROM "OPPOSE UNLESS AMENDED" TO "WATCH", IF AND WHEN AMENDMENTS ARE PLACED INTO THE BILL ADDRESSING IRWD'S CONCERNS, OR TO "OPPOSE", IF AMENDMENTS ARE NOT PLACED INTO THE BILL ADDRESSING THE DISTRICT'S CONCERNS.

LIST OF EXHIBITS:

None.

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