

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

May 9, 2022

**CALL TO ORDER**      5:00 p.m.

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

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

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

Via Web: <https://irwd.webex.com/irwd/j.php?MTID=m1eb25b1d6bd8ef848ca99e0f48643c08>

Meeting Number (Access Code): 2486 585 8778

Meeting Password: 7M8CeSfyhj8

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

**PUBLIC COMMENT NOTICE**

Public comments are limited to three minutes per speaker on each subject. If you wish to address the Board of Directors on any item, you may attend the meeting in person and submit a “speaker slip” to the Secretary. Forms are provided outside of IRWD’s Board Room. If attending via Webex, please submit your request to speak, or your comment, via the “chat” feature and your remarks will be read into the record at the meeting. You may also submit a public comment in advance of the meeting by emailing [comments@irwd.com](mailto:comments@irwd.com) before 12:00 p.m. on Monday, May 9, 2022.

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**COMMUNICATIONS TO THE BOARD**

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

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

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**PRESENTATIONS**

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4. SCIENCE FAIR WINNERS

Each year, IRWD presents awards to local students for their water-related projects entered in the Irvine Unified School District Science Fair.

5. NWRI UPDATE

Kevin Hardy, Executive Director of the National Water Research Institute, will provide an update of NWRI's current activities and research projects.

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**CONSENT CALENDAR, ITEMS 6-12**

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6. BOARD MEETING MINUTES

Recommendation: That the minutes of the April 25, 2022 Regular Board meeting be approved as presented.

7. RATIFY/APPROVE BOARD OF DIRECTORS' ATTENDANCE AT MEETINGS AND EVENTS IN 2022

Recommendation: That the Board ratify/approve the event for Douglas Reinhart and John Withers, as described.

8. REGISTRAR OF VOTERS INFORMATION REQUEST AND CANDIDATE STATEMENT WORD LIMIT FOR THE ELECTION OF THE BOARD OF DIRECTORS

Recommendation: That the Board authorize the District Secretary to file the "Transmittal of Election Information" form for each General Election confirming IRWD's political and division boundaries, providing the Registrar of Voters with the requested information, selecting a 200-word limit for candidate statements of qualifications, and indicating that IRWD will not pay for the statements of qualifications.

9. DEEP AQUIFER TREATMENT SYSTEM MISCELLANEOUS REPAIR AND REHABILITATION FINAL ACCEPTANCE

Recommendation: That the Board accept construction of the Deep Aquifer Treatment System Miscellaneous Repair and Rehabilitation, authorize the General Manager to file a Notice of Completion, and authorize the payment of the retention 35 days after recording the Notice of Completion for Project 11483.

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**CONSENT CALENDAR, ITEMS 6-12, continued**

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10. REVISED IRWD POLICY PRINCIPLES REGARDING METROPOLITAN WATER DISTRICT'S INTEGRATED WATER RESOURCES PLAN AND LOCAL RESOURCES PROGRAM

Recommendation: That the Board adopt the revised IRWD policy principles regarding Metropolitan Water District's Integrated Water Resources Plan and Local Resources Program, incorporating revisions requested by the Board on April 11, 2022.

11. ELEVATOR MODERNIZATION PROJECT CONTRACT AWARD

Recommendation: That the Board authorize the General Manager to execute a contract with TKE Elevator Corporation in the amount of \$112,059 for the Sand Canyon Building and a contract with TKE Elevator Corporation in the amount of \$128,445 for the Michelson Water Recycling Plant Operations Center for elevator modernization.

12. TRUCK-MOUNTED CRANE PURCHASE CONTRACT AWARD

Recommendation: That the Board authorize the General Manager to execute a contract with Altec Industries, Inc. in the amount of \$366,954 for the purchase of one new truck-mounted crane.

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**ACTION CALENDAR**

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13. SANTIAGO RESERVOIR IMPROVEMENTS PROJECT UPDATE AND CONSULTANT VARIANCE

Recommendation: That the Board approve Variance No. 2 with AECOM in the amount of \$2,618,959 for additional design phase services for the Santiago Reservoir Improvements, Project 01813.

14. ONE-FOR-ONE EXCHANGE WITH DUDLEY RIDGE WATER DISTRICT

Recommendation: That the Board approve delivery of up to 5,000 acre-feet of IRWD's stored non-SWP water for use by Dudley Ridge Water District landowners in Kern County in exchange for exportable State Water Project Table A water from Dudley Ridge Water District consistent with the terms of the 2017 Agreement Between Dudley Ridge Water District and Irvine Ranch Water District for Long-Term Exchange Program.

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**ACTION CALENDAR, continued**

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15. AMENDMENT NO. 1 TO AGREEMENT FOR PLANNING AND ENVIRONMENTAL REVIEW OF DELTA CONVEYANCE PROJECT

Recommendation: That the Board authorize the General Manager to execute Amendment No. 1 to the agreement between Rosedale-Rio Bravo Water Storage District and Irvine Ranch Water District for preliminary planning and design costs related to a potential Delta Conveyance Project, subject to non-substantive changes approved by legal counsel.

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**OTHER BUSINESS**

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Pursuant to Government Code Section 54954.2, members of the Board of Directors or staff may ask questions for clarification, make brief announcements, and make brief reports on his/her own activities. The Board or a Board member may provide a reference to staff or other resources for 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.

- 16. General Manager's Report
- 17. Receive oral update(s) from District liaison(s) regarding communities within IRWD's service area and provide information on relevant community events.
- 18. Directors' Comments
- 19. Adjournment

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



May 9, 2022  
Prepared and  
submitted by: L. Bonkowski  
Approved by: Paul A. Cook *PAK*

CONSENT CALENDAR

BOARD MEETING MINUTES

SUMMARY:

Provided are the minutes of the April 25, 2022 Regular Board meeting for approval.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

Not applicable.

RECOMMENDATION:

THAT THE MINUTES OF THE APRIL 25, 2022 REGULAR BOARD MEETING BE APPROVED AS PRESENTED.

LIST OF EXHIBITS:

Exhibit "A" – April 25, 2022 Minutes

Note: This page is intentionally left blank.

EXHIBIT "A"

MINUTES OF REGULAR MEETING –APRIL 25, 2022

The regular meeting of the Board of Directors of the Irvine Ranch Water District (IRWD) was called to order at 5:00 p.m. by President LaMar on April 25, 2022 at the District offices, 15600 Sand Canyon Avenue, Irvine.

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

Directors Absent: None.

Written and Oral Communications: None.

Also Present: General Manager Cook, Executive Director of Technical Services Burton, Executive Director of Operations Chambers, Executive Director of Finance and Administration Clary, Executive Director of Water Policy Weghorst, Director of Treasury and Risk Management Jacobson, Director of Recycling Operations Zepeda, Director of Water Resources Sanchez, Director of Human Resources Mitcham, Director of Maintenance Mykitta, Director of Safety and Security Choi, Director of Information Services Kaneshiro, Director of Water Quality and Regulatory Compliance Colston, Secretary Bonkowski, Assistant Secretary Swan, General Counsel Collins, Consultant Newell, Special Legal Counsel Robinson, and members of the public and other staff.

CONSENT CALENDAR

On MOTION by Withers, seconded by McLaughlin and unanimously carried, CONSENT CALENDAR ITEMS 4 THROUGH 7 WERE APPROVED AS FOLLOWS:

4. BOARD MEETING MINUTES

Recommendation: That the minutes of the April 11, 2022 Regular Board meeting be approved as presented.

5. IRWD OPERATIONAL PERFORMANCE MEASURES

Recommendation: Receive and file.

6. MARCH 2022 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 March 2022 summary of Payroll ACH payments in the total amount of \$2,160,433 and approve the March 2022 accounts payable disbursement summary of Warrants 425269 through 426151, Workers' Compensation distributions, wire transfers, payroll withholding distributions and voided checks in the total amount of \$17,865,491.

CONSENT CALENDAR (CONTINUED)

7. ADOPTION OF REVISED IRWD SCHEDULE OF POSITIONS AND SALARY RATE RANGES

Recommendation: That the Board adopt the following resolution by title rescinding Resolution No. 2021-27 and adopting a revised Schedule of Positions and Salary Rate Ranges.

RESOLUTION NO. 2022 – 8

RESOLUTION OF THE BOARD OF DIRECTORS  
OF IRVINE RANCH WATER DISTRICT,  
SUPERSEDING RESOLUTION NO. 2021-27 AND  
ADOPTING A REVISED SCHEDULE OF  
POSITIONS AND SALARY RATE RANGES

ACTION CALENDAR

ORANGE HEIGHTS ZONE 5 TO 6 AND ZONE C+ TO E PUMP STATIONS AND ZONE 6 RESERVOIR CONSULTANT SELECTION

Executive Director of Technical Services Burton reported that the Irvine Community Development Company (ICDC) is developing the Orange Heights development (formerly Santiago Hills II) located in the City of Orange along Santiago Canyon Road between the 261 Toll Road and Jamboree Road. Mr. Burton said that the proposed Zone 5 to 6 and Zone C+ to E pump stations, which will be located next to the existing Zone 5 to 8 pump station along Santiago Canyon Road, will supply domestic water and recycled water to the new development. The proposed Zone 5 to 6 domestic water pump station will supply the proposed 2.4-million gallon (MG) Zone 6 domestic water reservoir that will serve the development.

Mr. Burton said that in 2016, when ICDC was actively advancing development, staff separated the IRWD facility improvements into two design contracts: 1) the Zone 5 to 6 and Zone C+ to E Pump Stations Project, and 2) the Zone 6 Reservoir Project. He said that IRWD contracted with Lee & Ro for the new pump stations and with Kleinfelder for the reservoir. Both consultants progressed design activities until November 2016 when ICDC halted its development plans, and staff stopped the design of both projects. The pump station design was stopped at the 30 percent completion level, and the reservoir design was stopped at the 60 percent completion level. He said that in February 2022, ICDC notified staff that development of the Santiago Hills II area, now called Orange Heights, is being restarted. To meet ICDC's aggressive schedule for the development, ICDC requested that IRWD's facilities be completed and online by September 2025.

Mr. Burton said that staff contacted Lee & Ro and Tetra Tech to negotiate a scope of work and fee to complete the design of the pump stations and reservoir. The Lee & Ro design team that worked on the project in 2016 is still intact and is ready to continue the project. He said that staff did not contact Kleinfelder as it has lost key staff members since working on the project in 2016 and has not worked on recent IRWD reservoir projects. He said that Tetra Tech has recently completed the design of the 3.7 MG Zone 1 and the 1.3 MG Fleming reservoirs. It has

performed well on both projects and is ready to complete the project in accordance with the required completion schedule.

Mr. Burton said that Lee & Ro and Tetra Tech submitted proposals to complete the designs. He said that staff negotiated both proposals with the respective consultants and confirmed that the scopes of work and fees are consistent with other recently completed pump station and reservoir projects.

Director Reinhart said that this item was reviewed by the Engineering and Operations Committee on April 19, 2022, and on MOTION by Reinhart, seconded by McLaughlin, and unanimously carried, THE BOARD AUTHORIZED THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH LEE & RO IN THE AMOUNT OF \$602,000 FOR ENGINEERING DESIGN SERVICES FOR THE ORANGE HEIGHTS ZONE 5 TO 6 AND ZONE C+ TO E PUMP STATIONS, PROJECTS 07136 AND 07139, AND AUTHORIZED THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH TETRA TECH IN THE AMOUNT OF \$484,000 FOR ENGINEERING DESIGN SERVICES FOR THE ORANGE HEIGHTS ZONE 6 RESERVOIR, PROJECT 07138.

#### WOODBIDGE RECYCLED WATER PIPELINE REPLACEMENT CONSTRUCTION AWARD

Executive Director of Technical Services Burton reported that this is IRWD's first major pipeline replacement project, and it will replace approximately 10 miles of asbestos cement pipe of the recycled water system in Woodbridge in Irvine. Mr. Burton said that the recycled water system serving the area was originally constructed between 1975 through 1981 and these pipelines have experienced multiple failures in recent years with a majority of the new pipe to be installed in East and West Yale Loops.

Mr. Burton said that the design has been coordinated with the City of Irvine and the Woodbridge community's multiple schools, parks, and the Woodbridge Village Association, and to reduce impacts to schools and traffic, the construction of new pipelines adjacent to schools will occur during Irvine Unified School District's summer recess from June 5 to August 17, 2022. He said that to allow the contractor to begin working during the upcoming summer and mitigate the current business market and long delivery times for materials, IRWD has pre-purchased approximately 10,000 feet of PVC pipe and ductile iron fittings for delivery before the end of May. He said that the remainder of the materials needed for the project will be procured by the contractor.

Mr. Burton said that in May 2021, IRWD retained West Yost to provide engineering design services for the project. West Yost completed the design and staff approved the construction plans and advertised the project for construction bidding to a select list of 18 pipeline contractors on March 15, 2022. The bid opening was held on April 14, 2022; seven bids were received with E.J. Meyer Company as the low bidder with a bid of \$11,959,999. He said that the bids ranged from 26% lower to 36% higher than the engineer's estimate of \$16,280,000. The difference between the low bid and the engineer's estimate can be attributed to the engineer's estimate having higher costs for bid items including traffic control, trench safety measures, potholing, installation of pipe, and bore and jack installations. E.J. Meyer has extensive experience with pipeline installation and is well qualified to construct the improvements. Following discussion, on MOTION by Reinhart, seconded by Withers and unanimously carried, THE BOARD

AUTHORIZED A BUDGET INCREASE FOR PROJECT 11571 IN THE AMOUNT OF \$4,200,000, FROM \$11,018,000 TO \$15,218,000, AND AUTHORIZED THE GENERAL MANAGER TO EXECUTE A CONSTRUCTION CONTRACT WITH E.J. MEYER COMPANY IN THE AMOUNT OF \$11,959,999 FOR THE WOODBRIDGE RECYCLED WATER PIPELINE REPLACEMENT, PROJECT 11571.

### LAKE FOREST WELL 2 TREATMENT SYSTEM CONSULTANT SELECTION

Executive Director of Technical Services Burton reported that Lake Forest Well 2, located in the city of Lake Forest, was reconstructed in 2011 using stainless steel casing in conformance with the California Well Construction Standards and permitted for use as a potable water supply. He said that the original production rate was 300 gallons per minute (gpm) with the most recent production rate at 250 gpm in 2019 when the well was shut down due to increased color resulting from iron and manganese precipitation.

Mr. Burton said that staff performed an economic analysis to determine the cost effectiveness of a water treatment system to remove iron and manganese to make Lake Forest Well 2 a reliable water supply to the potable water system. He said that capital expenditures included design, iron/manganese treatment, well bypass pipeline, waste discharge pipeline for off-specification and backwash waters, electrical and instrumentation and all ancillary equipment. He said that annual operation and maintenance costs included power, periodic pump replacement, well rehabilitation, and chemical costs. He said that the cumulative costs were then evaluated against current and projected water costs from Metropolitan Water District for the equivalent annual well production in acre-feet, and based on this analysis, the payback period to recover an estimated initial capital cost of \$1,800,000 is approximately six years.

Mr. Burton said that on February 17, 2022, staff issued a request for proposal for design engineering services for the project to AECOM, Lee & Ro, and Tetra Tech. He said that staff completed its evaluation of the proposals and based upon its strong project team, extensive knowledge and experience of the available treatment technologies that provides the most flexibility for treatment selection, design, and procurement, staff recommends awarding a Professional Services Agreement to Tetra Tech in the amount of \$340,729.

Director Reinhart said that this item was reviewed by the Engineering and Operations Committee on April 19, 2022, and on MOTION by Reinhart, seconded by McLaughlin and unanimously carried, THE BOARD AUTHORIZED THE GENERAL MANAGER TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH TETRA TECH IN THE AMOUNT OF \$340,729 FOR DESIGN ENGINEERING SERVICES FOR THE LAKE FOREST WELL 2 TREATMENT SYSTEM, PROJECT 11218.

### GENERAL MANAGER'S REPORT

General Manager Cook introduced Mr. Jacob Moeder to the Board and congratulated him on his promotion to Engineering Manager of Dams and Storage.

Mr. Cook said that there are 4,000 accounts eligible for disconnection and a total of \$2.5 million in past due balances that are to be offset by approximately \$700,000 to be reimbursed for sewer debt.

Mr. Cook reported that there have been four recent COVID-19 cases among staff.

Mr. Cook said that today he and Poseidon's Vice President Sachin Chawla were interviewed by KPCC radio in Pasadena relative to the proposed desalination project.

Mr. Cook further said that he may not be attending the upcoming ACWA conference as he was called for Federal jury duty next week.

#### COMMUNITY LIAISON UPDATES

Consultant Newell said he had nothing to report.

#### DIRECTORS' COMMENTS

Director Withers said that he attended the meetings listed on the report along with an ACWA reception. He said that he has also been busy with Orange County Sanitation District activities and that he will be stepping down as NWRI's Chairman but will remain a Board member.

Director Swan reported on his attendance at a MWDOC Administration and Finance Committee meeting, a WACO Planning meeting, and a Water Education Foundation Central Valley Tour.

Director McLaughlin said that she attended her regular District meetings.

Director LaMar reported that he attended a CCEEB Water Quality Task Force meeting and an ACWA Board of Directors' Strategic Planning workshop.

#### CLOSED SESSIONS

General Counsel Collins reported that the following Closed Sessions would be held:

- 1) CLOSED SESSION CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION – Pursuant to Government Code Section 54956.9(d)(1): *Kern County Water Agency v. Groundwater Banking Joint Powers Authority, Rosedale-Rio Bravo Water Storage District, Irvine Ranch Water District*, Kern County Superior Court Case No. BCV-21-100223, and
- 2) CLOSED SESSION CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION – Pursuant to Government Code Section 54956.9(d)(1): *City of Bakersfield v. Groundwater Banking Joint Powers Authority, Rosedale-Rio Bravo Water Storage District, Irvine Ranch Water District*, Kern County Superior Court Case No. BCV-21-100221.

#### OPEN SESSION

Following the Closed Session, the meeting was reconvened with directors LaMar, Swan, McLaughlin, Withers and Reinhart present. No action was reported.

ADJOURNMENT

There being no further business, Director LaMar adjourned the meeting at 6:08 p.m.

APPROVED and SIGNED this 9th day of May 2022.

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President, IRVINE RANCH WATER  
DISTRICT

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Secretary IRVINE RANCH WATER  
DISTRICT

APPROVED AS TO FORM:

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Claire Hervey Collins, General Counsel  
Hanson Bridgett LLP



May 9, 2022  
Prepared and  
submitted by: K. Swan  
Approved by: Paul A. Cook *P.A.C.*

CONSENT CALENDAR

RATIFY/APPROVE BOARD OF DIRECTORS’  
ATTENDANCE AT MEETINGS AND EVENTS IN 2022

SUMMARY:

Pursuant to Resolution 2014-38 adopted on August 25, 2014, the following events and meetings require approval by the Board of Directors:

Douglas Reinhart

April 13                      IRWD Introduction and Tour for Santa Ana Councilmember / OCWD Board Member Nelida Mendoza and Santa Ana Mayor Pro Tem Phil Bacerra

John Withers

April 21                      Association of California Water Agencies Leaders Reception, Laguna Hills

RECOMMENDATION:

THAT THE BOARD RATIFY/APPROVE THE EVENT FOR DOUGLAS REINHART AND JOHN WITHERS, AS DESCRIBED HEREIN.

LIST OF EXHIBITS:

None.

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May 9, 2022  
Prepared and  
submitted by: C. Compton  
Approved by: Paul A. Cook *PAC*

## CONSENT CALENDAR

### REGISTRAR OF VOTERS INFORMATION REQUEST AND CANDIDATE STATEMENT WORD LIMIT FOR THE ELECTION OF THE BOARD OF DIRECTORS

#### SUMMARY:

Members of the IRWD Board of Directors are elected on a staggered basis to four-year terms every two years during the general elections held in even-numbered years. Prior to each general election at which a member of the Board is to be elected, the Office of the Registrar of Voters requests that the District submit a “Transmittal of Election Information” form. Staff recommends the Board authorize the District Secretary to file the “Transmittal of Election Information” form for each general election providing the Registrar of Voters with the requested information, selecting a 200-word limit for Candidate Statements of Qualifications, and indicating that the District will not pay for the Statements of Qualifications.

#### BACKGROUND:

IRWD transitioned to a division-based election of its Board of Directors in November 2020. The members of the Board will continue be elected on a staggered basis to four-year terms every two years during the general elections held in even numbered years. The Board members from Divisions 1 and 4 were elected in 2020 and the Board members from Divisions 2, 3 and 5 will be elected in 2022.

#### Registrar of Voters “Transmittal of Election Information” Form:

Prior to each general election at which a member of the Board is to be elected, the Office of the Registrar of Voters requests that the District submit a “Transmittal of Election Information” form. Provided as Exhibit “A” is a letter from the Office of the Registrar of Voters and a copy of the “Transmittal of Election Information” form for the November 2022 general election. The Transmittal of Election Information” form requests that the District:

- Confirm the District’s boundaries and the boundaries of the District’s divisions;
- Provide the Registrar of Voters with the number of directors to be elected in that election, and the divisions from which they are to be elected;
- Provide the Registrar of Voters with a list of incumbents; and
- Select either a 200- or 400-word limit for Candidate Statements of Qualifications and indicate whether the District will or will not pay for those statements.

For many years, the District has submitted this form and provided the requested boundary, election, and incumbent information. Historically, the District has authorized 200 words and has elected not to pay for candidate statements.

Staff recommends the Board authorize the District Secretary to file the “Transmittal of Election Information” form for each general election confirming the District political and division boundaries, providing the Registrar of Voters with the requested information, selecting a 200-word limit for Candidate Statements of Qualifications, and indicating that the District will not pay for the Statements of Qualifications.

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE DISTRICT SECRETARY TO FILE THE “TRANSMITTAL OF ELECTION INFORMATION” FORM FOR EACH GENERAL ELECTION CONFIRMING IRWD’S POLITICAL AND DIVISION BOUNDARIES, PROVIDING THE REGISTRAR OF VOTERS WITH THE REQUESTED INFORMATION, SELECTING A 200-WORD LIMIT FOR CANDIDATE STATEMENTS OF QUALIFICATIONS, AND INDICATING THAT IRWD WILL NOT PAY FOR THE STATEMENTS OF QUALIFICATIONS.

LIST OF EXHIBITS:

Exhibit “A” – Letter from the Office of the Registrar of Voters and a copy of the “Transmittal of Election Information” Form

EXHIBIT "A"



**BOB PAGE**  
Registrar of Voters

**REGISTRAR OF VOTERS**  
1300 South Grand Avenue, Bldg. C  
Santa Ana, California 92705  
(714) 567-7600  
FAX (714) 567-7627  
ocvote.gov

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

April 28, 2022

**TO: General Manager/Director**

**FM: Marcia Nielsen, Candidate & Voter Services Manager**

**RE: Election Information for the November 8, 2022 General Election**

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Enclosed is a Transmittal of Election Information form to be completed and returned to the Registrar of Voters' office by **May 20, 2022**.

On the Transmittal of Election Information form, please **list the name(s) of Director(s)** whose term(s) expire and whose seat(s) will be scheduled for election on November 8, 2022. This would include any Director(s) appointed since your last election. Appointed Directors must file for the two-year unexpired term if they were appointed to fill a vacancy which would not have been scheduled for election until 2024.

We also need to know if your District **will** or **will not** pay for a Candidate's Statement of Qualifications and if the **District is authorizing 200 or 400 words** to be used in that statement.

Please send the completed Transmittal of Election Information form to me at Registrar of Voters, 1300 South Grand Avenue, Building C, Santa Ana, CA 92705 or email to **Marcia.Nielsen@ocvote.gov**.

Pursuant to Elections Code § 10522, the District is required to submit a map showing the current district boundary lines, with divisions (if any), regardless if changes have occurred by May 20, 2022. We would prefer to receive the map in **shape file format** by email to Matthew Eimers at **Matthew.Eimers@ocvote.gov**.

Candidate Filing for the November 8, 2022 General Election will be July 18, 2022 through August 12, 2022, 5:00 p.m. The Candidate's Handbook will be on our website before the filing period begins. We ask that you post this information to advise your members of these important dates.

If you have any questions, please contact me at **Marcia.Nielsen@ocvote.gov** or (714) 567-7568. Thanks for your assistance.

Enclosure



**TRANSMITTAL OF ELECTION INFORMATION SPECIAL DISTRICT**  
**(EC §10509, §10522)**

\_\_\_\_\_ DISTRICT

**DISTRICT BOUNDARIES:**

Choose One:

I will send the Registrar of Voters an electronic shape file of District boundaries and the boundaries of the Divisions of the District, if any, in which a Director is to be elected at the November 8, 2022 General Election.  
**(Note: This is the Registrar of Voters' preferred method of transmittal.)**

Attached is a map showing the boundaries of this District and the boundaries of the Divisions of the District, if any, in which a Director is to be elected at the November 8, 2022 General Election.

Choose One:

Voters in the District will be voting:       At-large       By Division

**THE ELECTIVE OFFICES FOR WHICH AN ELECTION WILL BE HELD WITHIN THE SPECIAL DISTRICT ON NOVEMBER 8, 2022 ARE:**

Choose One:

\_\_\_\_\_ Director(s) to be elected at-large  
(# of directors)

**OR**

Director(s) to be elected in the following Divisions:

\_\_\_\_\_ in Division \_\_\_\_\_  
(# of directors)                      (# of division)

\_\_\_\_\_ in Division \_\_\_\_\_  
(# of directors)                      (# of division)

\_\_\_\_\_ in Division \_\_\_\_\_  
(# of directors)                      (# of division)

\_\_\_\_\_ in Division \_\_\_\_\_  
(# of directors)                      (# of division)

Please list below the names of the Incumbents/Appointed Incumbents for the above-mentioned positions:

(Name) \_\_\_\_\_  Elected  Appointed (If appointed, the term ends in 20\_\_.)

(Name) \_\_\_\_\_  Elected  Appointed (If appointed, the term ends in 20\_\_.)

(Name) \_\_\_\_\_  Elected  Appointed (If appointed, the term ends in 20\_\_.)

(Name) \_\_\_\_\_  Elected  Appointed (If appointed, the term ends in 20\_\_.)

The District authorizes the Candidate's Statement of Qualifications to contain no more than:

**(Circle one)** (200) or (400) words.

The District (will) or (will not) pay for a Candidate's Statement of Qualifications.

Dated \_\_\_\_\_


\_\_\_\_\_  
(Signature)

(District Seal)

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

Phone #: \_\_\_\_\_ Email: \_\_\_\_\_

**NOTE:** Please return the above information no later than **May 20, 2022** to the Registrar of Voters' office, 1300 South Grand Avenue, Building C, Santa Ana, CA 92705, Attn: Marcia Nielsen or email to **Marcia.Nielsen@ocvote.gov**. Send the boundary map to Matthew Eimers at 1300 South Grand Avenue, Building C, Santa Ana, CA 92705 or at **Matthew.Eimers@ocvote.gov**.

May 9, 2022  
Prepared by: C. Spangenberg / M. Cortez  
Submitted by: K. Burton  
Approved by: Paul A. Cook 

CONSENT CALENDAR

DEEP AQUIFER TREATMENT SYSTEM  
MISCELLANEOUS REPAIR AND REHABILITATION FINAL ACCEPTANCE

SUMMARY:

The Deep Aquifer Treatment System (DATS) Miscellaneous Repair and Rehabilitation project is complete. IRWD's contractor on this project Pascal & Ludwig Constructors completed the required work and all punch list items. The project has received final inspection and acceptance of construction is recommended.

BACKGROUND:

The DATS project rehabilitated and modernized several portions of the treatment facility. The work included the addition of chlorine leak detectors at the degasifier feed injection points, replacement of the clean-in-place (CIP) cartridge filters, CIP tank, demolition and replacement of the CIP tank pad, addition of a chemical mixer, multi-level sensors, updated CIP control panel and program logic control unit, application of a chemical resistant coating at the CIP area and chlorine injection areas, repair of concrete cracks and spalls, modification of the three treatment trains piping, valving, and pipe supports to allow stage isolation cleanings, repair of the fiber glass and coating in the three degasifiers, replacement of the membrane pressure vessel supports, and replacement of membrane interconnectors, end adaptors, and brine seals.

Tetra Tech completed the design in January 2021. Pascal & Ludwig Constructors was awarded the construction contract in March 2021 and completed construction of all improvements in March 2022. A summary of construction change orders is provided as Exhibit "A".

Project Title:	DATS Miscellaneous Repair and Rehabilitation
Project No.:	11483
Design Engineer:	Tetra Tech
Construction Management by:	IRWD Staff
Contractor:	Pascal & Ludwig Constructors
Original Contract Cost:	\$1,410,717.00
Final Contract Cost:	\$1,554,125.48
Original Contract Days:	241
Final Contract Days:	352
Final Change Order Approved:	March 31, 2022

FISCAL IMPACTS:

Project 11483 is included in the FY 2021-22 Capital Budget. The existing budget is sufficient to fund the final payment for the project.

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15301 which provides exemption for minor alterations of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. A Notice of Exemption (NOE) for the project was filed with the Orange County Clerk Recorder on October 2, 2020.

COMMITTEE STATUS:

This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD ACCEPT CONSTRUCTION OF THE DEEP AQUIFER TREATMENT SYSTEM MISCELLANEOUS REPAIR AND REHABILITATION, AUTHORIZE THE GENERAL MANAGER TO FILE A NOTICE OF COMPLETION, AND AUTHORIZE THE PAYMENT OF THE RETENTION 35 DAYS AFTER RECORDING THE NOTICE OF COMPLETION FOR PROJECT 11483.

LIST OF EXHIBITS:

Exhibit "A" – Construction Change Order Summary




**EXHIBIT "A"**  
**DATS Miscellaneous Repair and Rehabilitation**  
**Project No. 11483**  
**Construction Change Order Summary**

Contractor: Pascal & Ludwig Constructors  
 Design Engineer: Tetra Tech

			Contract Amount						Contract Days				Original Completion Date:
			Original Contract Amount: \$1,410,717.00						Original Days: 241				11/18/2021
Change Order	Description	Category	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Total C.O. days	Revised Total Contract Days	Revised Completion Date
1	Approved by Exec. Director of Technical Services Approved on July 27, 2021 Additional cost for procuring, delivery, and assembly of CIP rollup ladder for incorrect model being specified. Deletion of 3-inch nozzle and an addition of 10-inch nozzle on new CIP tank. Procurement and installation of 13 new Centerline butterfly valves with gear operators.	D	\$ 16,058.66	\$16,058.66	\$0.00	\$16,058.66	1.14%	\$1,426,775.66	15	0	15	256	12/3/2021
2	Approved by Exec. Director of Technical Services Approved on October 27, 2021 Additional costs for using alternative CIP tank resin, modification and relocation of platform gratings to avoid obstructions, repair of additional cracks found at base of degasifier stacks, and installation of temporary concentrate dump valve, piping, relocation of CIP flush line to keep DATS operating during construction.	B	\$ 31,664.82	\$31,664.82	\$16,058.66	\$47,723.48	3.38%	\$1,458,440.48	30	15	45	286	1/3/2022
3	Approved by Exec. Director of Technical Services Approved on November 29, 2021 Addition of CIP tank to CIP pump pipe and fittings, CIP tank reinforced concrete foundation footing demolition/removal, additional concrete spall and crack repair, and additional chemical resistant coating on concrete in front of degasifiers.	B	\$ 84,828.00	\$84,828.00	\$47,723.48	\$132,551.48	9.40%	\$1,543,268.48	9	45	54	295	1/12/2022
4	Approved by Exec. Director of Technical Services Approved on March 31, 2022 Additional supports for piping modifications on three trains, two tank cone fittings on CIP tank, addition of chain wheel and butterfly valve to concentrate return line, modification of CIP system with relocation of pressure/flow switches, wiring, and three optical level sensors, testing, and credit for remaining portion of fiber glass repair bid item not used.	B	\$ 10,857.00	\$10,857.00	\$132,551.48	\$143,408.48	10.17%	\$1,554,125.48	57	54	111	352	3/10/2022
Total Change Orders				\$143,408.48									
Category				Total Amount			% of Original Contract						
A - Owner Directed Change				\$ -			0.00%						
B - Differing/Unknown Condition				\$ 127,349.82			9.03%						
C - External Agency, Regulatory, and/or Permit Required Change				\$ -			0.00%						
D - Design Oversight				\$ 16,058.66			1.14%						
TOTAL (A + B + C + D)				\$ 143,408.48			10.17%						

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May 9, 2022  
Prepared and  
submitted by: P. Weghorst  
Approved by: Paul A. Cook 

CONSENT CALENDAR

REVISED IRWD POLICY PRINCIPLES REGARDING  
METROPOLITAN WATER DISTRICT'S INTEGRATED WATER RESOURCES PLAN AND  
LOCAL RESOURCES PROGRAM

SUMMARY:

Metropolitan Water District is currently updating its Integrated Water Resources Plan (IRP) which will identify new regional targets for local water resource development. These new targets will affect updating and implementing Metropolitan's Local Resources Program, which provides incentives to water agencies for the development of water recycling, groundwater recovery, and seawater desalination projects. On May 7, 2020, the Board adopted a policy paper to help guide IRWD's advocacy efforts related to ongoing policy discussions on Metropolitan's IRP and Local Resources Program. Due to increased complexities, Metropolitan has been delayed in completing its 2020 IRP, which has delayed discussions regarding making changes to the Local Resource Program. To ensure that IRWD's policy positions are up to date for its continued advocacy efforts, staff has revised the policy position paper. This revised paper was reviewed with the Board on April 11, 2022. Based on input provided by the Board, staff has incorporated further changes into the revised policy paper and recommends the Board adopt the further revised IRP and Local Resources Program policy principles.

BACKGROUND:

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

Currently, Metropolitan is preparing its 2020 IRP which will affect the future development of local water supplies for Southern California. The completion of the IRP has been delayed to accommodate increased complexities in the preparation of the plan. Following is an overview of Metropolitan's efforts to update its IRP and Local Resources Program.

Integrated Water Resources Plan:

Metropolitan's IRP establishes a long-term strategy to provide its service area with cost effective and reliable water supplies. The last update to the IRP was in 2015 and the plan was due to be revised again in 2020. The 2015 IRP established goals to achieve additional water use efficiency and conservation, to stabilize and maintain imported water supplies, and to develop additional local water supplies. In the 2015 IRP, Metropolitan's IRWD focused on a single forecast of supplies and demands.

Consent Calendar: Revised IRWD Policy Principles Regarding Metropolitan Water District's Integrated Water Resources Plan and Local Resources Program

May 9, 2022

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Completion of the 2020 update to the IRP has been delayed due to complexities in looking at multiple scenarios that could play out in the future and how Metropolitan could respond to maintain water reliability for its service area. The 2020 update will anticipate how much water Southern California can expect from its imported and local supplies under four different scenarios assuming specific forecasts of regional water demands. By looking at multiple scenarios, Metropolitan will be investigating a suite of resources, policies, and investments that may be needed to maintain reliable water supplies through the year 2045. New targets for 2045 will affect the updating and implementation of Metropolitan's Local Resources Program.

Local Resources Program:

Metropolitan provides financial incentives through its Local Resources Program for the development of water recycling, groundwater recovery, and seawater desalination projects that offset a demand, or prevent adding a new demand, on Metropolitan for imported water supplies. Sliding scale payments made through the Local Resources Program are based on actual project unit costs that exceed Metropolitan's prevailing Full-service Tier-1 Treated Water Rates. Local Resources Program incentives are contingent upon the approval of Metropolitan's Board of Directors. Upon completion of the 2020 IRP, Metropolitan is expected to revise the program.

Revised IRWD Policy Principles:

To help guide IRWD's continued advocacy efforts related to ongoing policy discussions on Metropolitan's 2020 IRP and Local Resources Programs, staff has updated IRWD's policy position paper, which was adopted by the Board on May 7, 2020. This revised paper was reviewed with the Board on April 11, 2022. Based on input provided by the Board, staff has incorporated further changes into the revised policy paper that is provided as Exhibit "A". A redline version depicting changes that were made since the Board meeting on April 11 is provided as Exhibit "B". Staff recommends the Board adopt the revised policy principles.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

None.

COMMITTEE STATUS:

This item was reviewed by the Water Resources Policy and Communications Committee on April 7, 2022. The item was reviewed with the Board on April 11, 2022 where input was provided by the Board for further revisions to the policy paper.

Consent Calendar: Revised IRWD Policy Principles Regarding Metropolitan Water District's  
Integrated Water Resources Plan and Local Resources Program

May 9, 2022

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RECOMMENDATION:

THAT THE BOARD ADOPT THE REVISED IRWD POLICY PRINCIPLES REGARDING METROPOLITAN WATER DISTRICT'S INTEGRATED WATER RESOURCES PLAN AND LOCAL RESOURCES PROGRAM, INCORPORATING REVISIONS REQUESTED BY THE BOARD ON APRIL 11, 2022.

LIST OF EXHIBITS:

Exhibit "A" – Draft IRWD Policy Position Regarding Metropolitan Water District's Integrated Water Resources Plan and Local Resources Program

Exhibit "B" – Redline Draft RWD Policy Position Regarding Metropolitan Water District's Local Resources Program

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## Exhibit “A”

### IRVINE RANCH WATER DISTRICT POLICY POSITION METROPOLITAN WATER DISTRICT’S INTEGRATED WATER RESOURCES PLAN AND LOCAL RESOURCES PROGRAM

May 9, 2022

#### Issue Summary:

One way that Metropolitan Water District of Southern California plans for the future is through the development and implementation of its Integrated Water Resources Plan (IRP). The purpose of the plan is to formulate a long-term strategy to provide Metropolitan’s service area with cost effective and reliable water supplies. The last update to the IRP was in 2015 and in 2020 Metropolitan began preparing its 2020 update to the plan. The 2015 IRP established goals to achieve additional water use efficiency and conservation, to stabilize and maintain imported water supplies, and to develop additional local water supplies. In its 2015 IRP, Metropolitan focused on a single forecast of supplies and demands.

Completion of the 2020 update to the IRP has been delayed due to complexities associated with analyzing multiple scenarios that could play out in the future, and how Metropolitan could respond to maintain water reliability for its service area. The 2020 update will anticipate how much water Southern California can expect from its imported and local supplies under four different scenarios, with each assuming specific forecasts of regional water demands. By looking at multiple scenarios, Metropolitan will investigate a suite of resources, policies, programs, and projects that may be needed to maintain reliable water supplies through the year 2045. New targets for 2045 will affect the updating and implementation of Metropolitan’s Local Resources Program. There are numerous changing conditions, some of which are described below, that will influence Metropolitan’s efforts to update both the IRP and Local Resources Program.

#### *Changing Conditions:*

Metropolitan has historically implemented a regional approach to planning that has ensured its ability to provide reliable and high-quality water to its member agencies. The ability to continue with this approach into the future is being affected by the following changing conditions:

- An unexpected future where member agencies are collectively trending towards requiring less imported water supplies;
- Climate change impacts to the State Water Project (SWP) and an over-allocated Colorado River;
- Increased environmental constraints and ongoing uncertainties of a long-term solution to conveyance in the Sacramento-San Joaquin Delta make it difficult to predict the availability of Metropolitan’s future water supplies;
- Accumulating risks that a major earthquake will occur in the Delta that will dramatically reduce water supplies to Southern California;
- Emerging contaminants are impacting local groundwater basins creating short-term, increased dependence on imported water supplies from Metropolitan;

- Some member agencies are reducing dependence on Metropolitan by developing base-loaded local supplies that are relied upon continuously. Such base-loaded supplies negatively affect Metropolitan financially and strand capacity in Metropolitan’s water treatment facilities by reducing demands for imported supplies. Agencies that develop these base-loaded supplies still rely on Metropolitan as a “back-up supply” in the event local supplies are interrupted;
- IRWD and other agencies have developed extraordinary supplies and other projects that can be used during major droughts and emergencies. These types of supplies are referred to as “as-needed supplies”. Such as-needed supplies do not negatively affect Metropolitan financially and assist in maintaining local water supply reliability; and
- Metropolitan’s variable revenue structure may not be effective at covering all of Metropolitan’s costs into the future, creating financial instability.

*Scenario Planning:*

IRWD supports Metropolitan’s proposed multi-scenario planning approach to the 2020 IRP. Throughout that process, Metropolitan should: (1) protect existing imported water supply infrastructure and deliveries; (2) minimize potential stranding of conveyance, treatment, and storage assets; (3) carefully evaluate new water supply projects to improve regional water supply reliability; and (4) establish the highest priority for planning for the most likely scenario of reduced imported water supplies and reduced demands.

The complexities associated with planning for multi-scenarios is delaying the evaluation of the most likely scenario of reduced imported supplies and reduced demands. Completion of the 2020 IRP process for this most likely scenario first would help provide the region an understanding of the most likely suite of resources, policies and investments that may be needed to maintain reliable water supplies through the year 2045. The subsequent evaluation the other less likely scenarios would help identify uncertainties associated with what would be needed over the planning period.

*Local Resources Program Overview:*

In the 1990s, Metropolitan developed the Local Resources Program out of concern that its member agencies were becoming too reliant on imported water supplies and that supply diversification would benefit all of Metropolitan’s service area. The intent of the program was to incentivize new local water supplies to be developed by Metropolitan’s member agencies. This program has provided incentives to water agencies to develop water recycling, groundwater recovery, and desalination projects that offset a demand or prevent adding a new demand on Metropolitan for imported water supplies. The incentive program has also indirectly increased regional water supply reliability, decreased the burden on Metropolitan’s infrastructure, reduced costs, and freed up conveyance capacity in Metropolitan’s system.



Ongoing Policy Discussions:

Currently, Metropolitan and its member agencies are engaged in policy discussions related to how the changing conditions described above will affect the update to Metropolitan’s IPR and the Local Resources Program. The Municipal Water District of Orange County is involved in the discussions and seeking input from its member agencies on the issues. To help guide IRWD’s advocacy efforts related to the ongoing policy discussions on Metropolitan’s IRP and Local Resources Programs, staff has prepared the following policy principles.

Integrated Resources Plan Policy Principles:

1. Metropolitan should continue its regional approach to water resources planning and work to ensure its financial stability while maintaining the ability to provide reliable, cost effective and high-quality water supplies to its member agencies.
2. Metropolitan should evaluate previous approaches taken in the preparation of IRPs and develop a new approach that provides flexibility in dealing with current and future conditions and uncertainties.
3. Metropolitan’s new approach to the 2020 IRP should balance regional and member agency water supply reliability in a way that allows Metropolitan to maintain rate and financial stability.
4. Metropolitan’s 2020 IRP should encourage member agencies to take responsibility for complying with water conservation legislation and to implement projects that augment Metropolitan supplies during major droughts and supply interruptions.
5. To reduce risks to its imported supplies, Metropolitan should invest in the proposed Delta Conveyance Project, support subsidence related repairs to the California Aqueduct, and develop new innovative programs on the Colorado River.
6. Metropolitan should take actions to stabilize demands for its imported supplies to help maintain rate and financial stability.
7. Should Metropolitan be unable to maintain financial stability, it should consider enhancing its variable revenue structure with a fixed rate component that ensures it can cover its full cost of regional service.
8. Metropolitan should first plan for the most likely scenario of reduced future imported water supplies and reduced demands. This would establish a most likely suite of resources, policies, programs and projects that may be needed to maintain reliable water supplies through the year 2045.
9. Metropolitan should use the results of its evaluation of the less than likely scenarios to inform the development of an adaptive management strategy to deal with uncertainties associated with increased demands and/or increased imported supplies.
10. In preparing its 2020 IRP, Metropolitan should consider the feasibility, risk and ease of implementation of local supply projects when accounting for the potential benefits of the projects on regional water supply reliability.

Local Resources Plan Policy Principles:

1. Metropolitan should incentivize local drought resilient recycled water projects, extraordinary supply projects and other as-needed supplies that augment Metropolitan supplies during major droughts and supply interruptions while improving local water supply reliability. Metropolitan should also take an active role in ensuring that state mandates do not discourage the use of supplies from such projects.
2. Metropolitan should prioritize providing its incentives to local projects located in areas that have less access to local supplies, such as areas at high risk of shortage because they can only receive water from the State Water Project. Incentives provided to these high-risk areas should focus on development of as-need supplies rather than base-loaded supplies.
3. Metropolitan should consider limiting use of its Local Resources Program until average annual demands for water from Metropolitan are at levels that stabilize Metropolitan’s finances.
4. Projects shall be funded by the Local Resources Program through a competitive process based on specific criteria and block grants.
5. Metropolitan should not subsidize base-loaded local projects and other supplies that strand capacity in Metropolitan’s water treatment facilities and increase risk to rate and financial stability.
6. Metropolitan should not provide incentives for local projects that obligate the local communities in one part of Metropolitan’s service area to subsidize other communities in Metropolitan’s service area.
7. To increase demands for its supplies, Metropolitan should consider reallocating Local Resource Program funds to reduce overdraft in groundwater basins within Metropolitan’s service area.
8. Metropolitan should only consider providing incentives to local groundwater treatment projects up to the lowest cost and effective treatment of regulated constituents impacting the supplies.

## Exhibit “B”

### IRVINE RANCH WATER DISTRICT POLICY POSITION METROPOLITAN WATER DISTRICT’S INTEGRATED WATER RESOURCES PLAN AND LOCAL RESOURCES PROGRAM

~~April 7~~ May 9, 2022

#### Issue Summary:

One way that Metropolitan Water District of Southern California plans for the future is through the development and implementation of its Integrated Water Resources Plan (IRP). The purpose of the plan is to formulate a long-term strategy to provide Metropolitan’s service area with cost effective and reliable water supplies. The last update to the IRP was in 2015 and in 2020 Metropolitan began preparing its 2020 update to the plan. The 2015 IRP established goals to achieve additional water use efficiency and conservation, to stabilize and maintain imported water supplies, and to develop additional local water supplies. In its 2015 IRP, Metropolitan focused on a single forecast of supplies and demands.

Completion of the 2020 update to the IRP has been delayed due to complexities associated with analyzing multiple scenarios that could play out in the future, and how Metropolitan could respond to maintain water reliability for its service area. The 2020 update will anticipate how much water Southern California can expect from its imported and local supplies under four different scenarios, with each assuming specific forecasts of regional water demands. By looking at multiple scenarios, Metropolitan will investigate a suite of resources, policies, programs, and projects that may be needed to maintain reliable water supplies through the year 2045. New targets for 2045 will affect the updating and implementation of Metropolitan’s Local Resources Program. There are numerous changing conditions, some of which are described below, that will influence Metropolitan’s efforts to update both the IRP and Local Resources Program.

#### *Changing Conditions:*

Metropolitan has historically implemented a regional approach to planning that has ensured its ability to provide reliable and high-quality water to its member agencies. The ability to continue with this approach into the future is being affected by the following changing conditions:

- An unexpected future where member agencies are collectively trending towards requiring less imported water supplies;
- Climate change impacts to the State Water Project (SWP) and an over-allocated Colorado River;
- Increased environmental constraints and ongoing uncertainties of a long-term solution to conveyance in the Sacramento-San Joaquin Delta make it difficult to predict the availability of Metropolitan’s future water supplies;
- Accumulating risks that a major earthquake will occur in the Delta that will dramatically reduce water supplies to Southern California;
- Emerging contaminants are impacting local groundwater basins creating short-term, increased dependence on imported water supplies from Metropolitan;

- Some member agencies ~~will bear~~ reducing dependence on Metropolitan by developing base-loaded local supplies that are relied upon continuously. Such base-loaded supplies ~~thereby negatively affect Metropolitan financially and~~ stranding capacity in Metropolitan’s water treatment facilities by reducing demands for imported supplies. Agencies that develop these base-loaded supplies —~~while~~ still relying on Metropolitan as a “back-up supply” in the event local supplies are interrupted;
- IRWD and other agencies have developed extraordinary supplies and other projects that can be used during major droughts and emergencies. These types of supplies are referred to as “as-needed supplies”. Such as-needed supplies do not negatively affect Metropolitan financially and assist in maintaining local water supply reliability; and
- Metropolitan’s variable revenue structure may not be effective at covering all of Metropolitan’s costs into the future, creating financial instability.

*Scenario Planning:*

IRWD supports Metropolitan’s proposed multi-scenario planning approach to the 2020 IRP. Throughout that process, Metropolitan should: (1) protect existing imported water supply infrastructure and deliveries; (2) minimize potential stranding of conveyance, treatment, and storage assets; (3) carefully evaluate new water supply projects to improve regional water supply reliability; and (4) establish the highest priority for planning for the most likely scenario of reduced imported water supplies and reduced demands.

The complexities associated with planning for multi-scenarios is delaying the evaluation of the most likely scenario of reduced imported supplies and reduced demands. Completion of the 2020 IRP process for this most likely scenario first would help provide the region an understanding of the most likely suite of resources, policies and investments that may be needed to maintain reliable water supplies through the year 2045. The subsequent evaluation the other less likely scenarios would help identify uncertainties associated with what would be needed over the planning period.

*Local Resources Program Overview:*

In the 1990s, Metropolitan developed the Local Resources Program out of concern that its member agencies were becoming too reliant on imported water supplies and that supply diversification would benefit all of Metropolitan’s service area. The intent of the program was to incentivize new local water supplies to be developed by Metropolitan’s member agencies. This program has provided incentives to water agencies to develop water recycling, groundwater recovery, and desalination projects that offset a demand or prevent adding a new demand on Metropolitan for imported water supplies. The incentive program has also indirectly increased regional water supply reliability, decreased the burden on Metropolitan’s infrastructure, reduced costs, and freed up conveyance capacity in Metropolitan’s system.

Ongoing Policy Discussions:

Currently, Metropolitan and its member agencies are engaged in policy discussions related to how the changing conditions described above will affect the update to Metropolitan’s IPR and the Local Resources Program. The Municipal Water District of Orange County is involved in the discussions and seeking input from its member agencies on the issues. To help guide IRWD’s advocacy efforts related to the ongoing policy discussions on Metropolitan’s IPR and Local Resources Programs, staff has prepared the following policy principles.

Integrated Resources Plan Policy Principles:

1. Metropolitan should continue its regional approach to water resources planning and work to ensure its financial stability while maintaining the ability to provide reliable, cost effective and high-quality water supplies to its member agencies.
2. Metropolitan should evaluate previous approaches taken in the preparation of IRPs and develop a new approach that provides flexibility in dealing with current and future conditions and uncertainties.
3. Metropolitan’s new approach to the 2020 IRP should balance regional and member agency water supply reliability in a way that allows Metropolitan to maintain rate and financial stability.
4. Metropolitan’s 2020 IRP should encourage member agencies to take responsibility for complying with water conservation legislation and to implement projects that augment Metropolitan supplies during major droughts and supply interruptions.
5. To reduce risks to its imported supplies, Metropolitan should invest in the proposed Delta Conveyance Project, support subsidence related repairs to the California Aqueduct, and develop new innovative programs on the Colorado River.
6. Metropolitan should take actions to stabilize demands for its imported supplies to help maintain rate and financial stability.
7. Should Metropolitan be unable to maintain financial stability, it should consider enhancing its variable revenue structure with a fixed rate component that ensures it can cover its full cost of regional service.
8. Metropolitan should first plan for the most likely scenario of reduced future imported water supplies and reduced demands. This would establish a most likely suite of resources, policies, programs and projects that may be needed to maintain reliable water supplies through the year 2045.
9. Metropolitan should use the results of its evaluation of the less than likely scenarios to inform the development of an adaptive management strategy to deal with uncertainties associated with increased demands and/or increased imported supplies.
10. In preparing its 2020 IRP, Metropolitan should consider the feasibility, risk and ease of implementation of local supply projects when accounting for the potential benefits of the projects on regional water supply reliability.

Local Resources Plan Policy Principles:

1. Metropolitan should incentivize local drought resilient recycled water projects, ~~and~~ extraordinary supply projects and other as-needed supplies that augment Metropolitan supplies during major droughts and supply interruptions while improving local water supply reliability. Metropolitan should also take an active role in ensuring that state mandates do not discourage the use of supplies from such projects.
2. Metropolitan should prioritize providing its incentives to local projects located in areas ~~of~~ that have less access to local supplies, such as ~~South Orange County and northern portions of Metropolitan’s service area~~ areas at high risk of shortage because they can only receive water from the State Water Project. Incentives provided to these high-risk areas should focus on development of as-need supplies rather than base-loaded supplies.
3. Metropolitan should consider limiting use of its Local Resources Program until average annual demands for water from Metropolitan are at levels that stabilize Metropolitan’s finances.
4. Projects shall be funded by the Local Resources Program through a competitive process based on specific criteria and block grants.
5. Metropolitan should not subsidize base-loaded local projects and other supplies that strand capacity in Metropolitan’s water treatment facilities and increase risk to rate and financial stability.
6. Metropolitan should not provide incentives for local projects that obligate the local communities in one part of Metropolitan’s service area to subsidize other communities in Metropolitan’s service area.
7. To increase demands for its supplies, Metropolitan should consider reallocating Local Resource Program funds to reduce overdraft in groundwater basins within Metropolitan’s service area.
8. Metropolitan should only consider providing incentives to local groundwater treatment projects up to the lowest cost and effective treatment of regulated constituents impacting the supplies.

May 9, 2022  
Prepared by: R. Mykitta  
Submitted by: W. Chambers  
Approved by: Paul A. Cook *PA*

## CONSENT CALENDAR

### ELEVATOR MODERNIZATION PROJECT CONTRACT AWARD

#### SUMMARY:

The elevators at the Sand Canyon Building and the Michelson Water Recycling Plant (MWRP) Operations Center are original to both facilities. Elevator modernization is required to ensure durability and reliability, upgrade fire and safety features, and reduce energy consumption and operational costs. Staff recommends the Board authorize the General Manager to execute a contract with TKE Elevator Corporation in the amount of \$112,059 for the Sand Canyon Building and a contract with TKE Elevator Corporation in the amount of \$128,445 for MWRP Operations Center for elevator modernization.

#### BACKGROUND:

Mechanical and electrical components of elevators wear with use and begin to present reliability challenges and higher maintenance and operating costs as they age. The elevators located at the Sand Canyon Building and the MWRP Operations Center have been in operation for 30 years and 28 years, respectively. Elevator modernization is recommended after 20 years to improve durability, reliability, reduce energy consumption and operating costs, and improve fire and life safety features.

#### Bid Process:

Staff solicited proposals from two elevator companies that are members of the Sourcewell Cooperative Purchasing Agreement. Each company inspected the elevator cars, controllers, lift components and doors. Staff received proposals from both companies, and the low bidder for modernization of both elevators was TKE Elevator Corporation. The TKE Elevator Corporation proposals are provided as Exhibit "A" and Exhibit "B" for the Sand Canyon Building and the MWRP Operations Center, respectively.

#### FISCAL IMPACTS:

Sufficient funds are included in the Fiscal Year 2021-22 Capital Budget.

#### ENVIRONMENTAL COMPLIANCE:

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

#### COMMITTEE STATUS:

This item was not reviewed by a Committee.

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A CONTRACT WITH TKE ELEVATOR CORPORATION IN THE AMOUNT OF \$112,059 FOR THE SAND CANYON BUILDING AND A CONTRACT WITH TKE ELEVATOR CORPORATION IN THE AMOUNT OF \$128,445 FOR THE MICHELSON WATER RECYCLING PLANT OPERATIONS CENTER FOR ELEVATOR MODERNIZATION.

LIST OF EXHIBITS:

Exhibit "A" – TKE Elevator Corporation Proposal for the Sand Canyon Building

Exhibit "B" – TKE Elevator Corporation Proposal for the MWRP Operations Center





# Modernization Proposal

15600 Sand Canyon Ave

March 28, 2022

Purchaser: Irvine Ranch Water District  
Address: PO Box 57000  
Irvine, CA 92619-7000

Location: Irvine Ranch Water District  
Address: 15600 Sand Canyon Ave  
Irvine, CA 92618-3100

TK Elevator Corporation (hereinafter "TK Elevator") is dedicated to delivering Irvine Ranch Water District (hereinafter "Purchaser") the safest, highest quality vertical transportation solutions. I am pleased to present this customized Proposal (the "Proposal") in the amount of **\$112,058.57** inclusive of all applicable sales and use taxes to modernize the elevator equipment described in the pages that follow at the above-referenced location.

Our modernization package is engineered specifically for your elevator system and will include the elevator mechanical and electrical components being replaced, refurbished or retained.

Benefits of Modernization include:

- Increased durability and reliability
- Improved fire and life safety features
- Decreased waiting times
- Reduced energy consumption
- Reduced operational cost
- Reduced troubleshooting time

This Proposal shall remain in effect for the next forty-five (45) days unless it is revoked earlier by TK Elevator in writing. The price above is subject to escalation - even after Purchaser's acceptance of this Proposal - under certain circumstances including the possibility that TK Elevator may be subjected to increased charges by its suppliers for any of the applicable materials and/or components due to the imposition of new or increased taxes, tariffs, or other charges imposed by applicable governmental authorities or the possibility that the work described in this Proposal is not completed by December 31, 2022.

In the event you have any questions regarding the content of this Proposal, please do not hesitate to contact me. We appreciate your consideration.

Sincerely,

Katelyn Shepherd  
Account Manager  
katelyn.shepherd@tkelevator.com  
+1 714 9412317

# Modernization Proposal



**SCOPE OF WORK**

**Grouping Name:** CAR 1

Equipment Type: Hydraulic	Speed: 125 fpm
2 Stops (2 Front /0 Rear)	Capacity: 3500 lbs.

**Units Included**

Building	Nickname	OEM Serial #	TKE Serial #	Legal ID
Irvine Ranch Water District		EC8005	US302233	103341

**Description of Work**

**Controller**

- Non-Proprietary TAC 32 Controller
- Battery Lowering in Controller
- Seismic Features
- Solid State Starters
- Viscosity Control

**Power Unit**

- Submersible Power Unit
- Viscosity Control
- Biodegradable oil
- 2" Shutoff Valve Kit
- Isolation Couplings
- Overspeed Valve Kits for 2"
- Oil Line Piping

**Jack**

- Pipe Stands
- Packing

**Car**

- Retainer Plates for Seismic (Omega Rails)
- 21" Toe guard
- Fan: Two Speed
- Car Top Exit Switch
- Cab Wiring Material (200MK1)

**Hoistway**

- HN Boxes (per each 2 cars, grouped)
- Steel Tape with Mounting hardware, Selector and magnets (terminal limits included)
- TAC 32 Field Friendly Wiring Package Includes single traveling cable, hoistway wiring, interlock wiring, interlock connectors, and serial wiring.

# Modernization Proposal



## Pit

- Pit Stop Switch
- 2" Shutoff Valve Kit

## Cab

- Car Door (SSCO, #4 S/S)

## Door Equipment

- Interlock / Pick up Assemblies for existing Dover Operators. Includes closers. Front
- LD-16 Plus Door Operator with Complete carside equipment (FRONT)
  - includes Adapter kit (Tracks & Hangars), Clutch (w/ Car Door Lock latch & contact), & Car Top Inspection station (w/ alarm signal)
- Electronic Door Edge Closer
- Hoistway Hanger / Hanger Rollers
- Interlocks
- Pick Up Rollers
- Gibs

## Car Fixtures

- Main Car Station Includes Options Below
  - Applied Panel
- Debranded Car Station
- Vandal Resistant Floor Buttons
- Standard Braille Plates for Car Features
- Standard Key Switch Package
  - Fan
  - Light
  - Independent
  - Stop
  - Inspection/Hoistway Enable)
- Emergency Light mounted in COP
- 2004 and later Fire Service Phase II Features (includes instructions signage)
- Handicap Signal (Passing signal)
- Position Indicator (2" CE Segmented)
- ADA Phone System integral with COP (Rath)
- Speaker Pattern for Intercom System/ADA Phone
- No Smoking (Engraved)
- Locked Service Cabinet
- Certificate Window
- Default Engravings
- GFI Outlet
- #4 Stainless Steel Finish
- Emergency Light Test Button (constant pressure)
- Car Riding Lantern (Standard) #4 S/S

# Modernization Proposal



**Hall Fixtures**

- Fire Service Phase I Key Switch
- Fire Service Phase I Engraved Instructions
- Hoistway Jamb Braille
- Car Identification Plate for Main Egress Floor
- Hoistway Access Switch (Standalone)
- Terminal Hall Stations (Flush Mounted) with
  - Appendix O (Polycarbonate insert flame with engraved verbiage)
  - (#4 S/S)

The following items will be completed by third party labor or suppliers through the coordination of TKE:

Oil Disposal  
 General Building Related Work – See page 15 for scope

**1. Key Tasks and Approximate Lead Times**

Key Tasks to be performed to be performed by Purchaser prior to equipment fabrication:

- a. Execution of this Proposal
- b. Payment for pre-production and engineering
- c. Approval of layout (if applicable)
- d. Execution of TK Elevator's Material Release Form

**Approximate Durations/Lead Times**

Contract execution (can run concurrently with layout drawing package preparation and approval)	Varies
Survey and Order of Materials (additional time required for cab, signal, entrance preparation and approval, if applicable)	4 - 6 Weeks
Fabrication time (from receipt of all approvals, fully executed contract, Material Release Form and initial progress payment)	8-12 Weeks + Shipping
Modernization of elevator system (Per Unit): (Upon completion of all required preparatory work by others)	3 - 4 Weeks + State Inspection

The durations or lead times listed above are strictly approximations that can vary due to factors both within and outside of TK Elevator's control, are subject to change without notice to Purchaser and shall not be binding on TK Elevator.

**2. Payment Terms**

50% of the price set forth in this Proposal as modified by options selected from the section entitled "Value Engineering Opportunities & Alternates" (if applicable) will be due and payable as an initial progress payment within 30 days from TK Elevator's receipt of a fully executed copy of this Proposal. This initial progress payment will be applied to project management, permits, engineering and shop drawings, submittals, drilling mobilization (if required) and raw material

# Modernization Proposal



procurement. Material will be ordered once this payment is received and the parties have both executed this Proposal and the Material Release Form.

25% of the price set forth in this Proposal as modified by options selected from the section entitled "Value Engineering Opportunities & Alternates" (if applicable) shall be due and payable when the material described above has been furnished. Material is considered furnished when it has been received at the jobsite or TK Elevator staging facility. Supporting documentation of materials stored shall be limited to stored materials certificates of insurance and bills of lading. Receipt of this payment is required prior to mobilization of labor.

25% of the price set forth in this Proposal shall be made as progress payments throughout the life of the project. In the event TK Elevator fails to receive payment within thirty (30) days of the date of a corresponding invoice, TK Elevator reserves the right to demobilize until such a time that the payments have been brought up to date, and TK Elevator has the available manpower.

It is agreed that there will be no withholding of retainage from any billing and by the customer from any payment.

The payment terms breakdown above shall be considered the Schedule of Values for the project as written. Billing shall be submitted on or before the 25th day of the month according to the payment schedule above and accompanied by a form of G702-703 pay application/schedule of values and a conditional waiver, the format of which is hereby acknowledged and accepted.

The use of online Portals for the submission of billing shall follow the terms of the Proposal and Customer agrees to permit billing in accordance with the executed contract terms. Portal access and usage is to be provided free of additional charge to TK Elevator and any additional cost for such use is to be reimbursed to TK Elevator via a reimbursable change order immediately upon acceptance.

Purchaser agrees that TK Elevator shall have no obligation to complete any steps necessary to provide Purchaser with full use and operation of the installed equipment until such time as TK Elevator has been paid 100% both of the price reflected in this Proposal and for any other work performed by TK Elevator or its subcontractors in furtherance of this Proposal. Purchaser agrees to waive any and all claims to the turnover and/or use of that equipment until such time as those amounts are paid in full.

Proposal price:		\$112,058.57
Initial progress payment:	(50%)	\$56,029.29
Material furnished:	(25%)	\$28,014.64
Total of remaining progress payments:	(25%)	\$28,014.64

### 3. Warranty

TK Elevator warrants any equipment it installs as described in this Proposal against defects in material and workmanship for a period of one (1) year from the date of Purchaser's execution of TK Elevator's "Final Acceptance Form" on the express conditions that all payments made under this Proposal and any mutually agreed-to change orders have been made in full and that such equipment is currently being serviced by TK Elevator. In the event that TK Elevator's work is delayed for a period greater than six (6) months, the warranty shall be reduced by the amount of the delay. This warranty is in lieu of any other warranty or liability for defects. TK Elevator makes no warranty of merchantability and no warranties which extend beyond the description in this Proposal, nor are there any other warranties, expressed or implied, by operation of law or otherwise. Like any piece of fine machinery, the equipment described in this Proposal should be periodically inspected, lubricated, and adjusted by competent personnel. This warranty is not intended to supplant normal maintenance service and shall not be construed to mean that TK Elevator will provide free service for periodic examination, lubrication, or adjustment, nor will TK Elevator correct, without a charge, breakage, maladjustments, or other trouble arising from normal wear and tear or abuse,

# Modernization Proposal



misuse, improper or inadequate maintenance, or any other causes other than defective material or workmanship. In order to make a warranty claim, Purchaser must give TK Elevator prompt written notice at the address listed on the cover page of this Proposal and provided all payments due under the terms of this Proposal and any mutually agreed to written change orders have been made in full, TK Elevator shall, at its own expense, correct any proven defect by repair or replacement.

TK Elevator will not, under any circumstances, reimburse Purchaser for cost of work done by others, nor shall TK Elevator be responsible for the performance of any equipment that has been the subject of service, repair, replacement, revisions or alterations by others. If there is more than one (1) unit which is the subject of work described in this Proposal, this section shall apply separately to each unit as accepted.

#### 4. Preventative Maintenance Program

This Proposal does not include any maintenance, service, repair or replacement of the equipment or any other work not expressly described herein. TK Elevator will submit a separate proposal to Purchaser covering the maintenance and repair of this equipment to be supplied to Purchaser at an additional cost.

#### 5. Work Not Included – THIS WORK IS INCLUDED. SEE Exhibit A - PAGE 15 FOR SCOPE OF WORK.

There are certain items that are not included in this Proposal, many of which must be completed by Purchaser prior to and as a condition precedent to TK Elevator's performance of its work as described in this Proposal. In order to ensure a successful completion of this project, it shall be solely Purchaser's responsibility to coordinate its own completion of those items with TK Elevator. The following is a list of those items that are not included in this Proposal:

##### A. Hoistways and Equipment Rooms

1. Purchaser shall provide the following:

- a. A dry legal hoistway, properly framed and enclosed, and including a pit of proper depth and overhead. This is to include steel safety beam, inspection or access platforms, access doors, sump pump, lights, waterproofing and venting as required; dewatering of pit(s) and required permanent screening/
- b. A legal machine/control room, adequate for the elevator equipment, including floors, trap doors, gratings, access platforms, ladders, railings, foundations, lighting, ventilation sized per the TK Elevator shop drawings. Purchaser must maintain machine/control room temperature between 55 and 90 degrees Fahrenheit, with relative humidity less than 95% non-condensing at all times.
- c. Adequate bracing of entrance frames to prevent distortion during wall construction.
- d. All grouting, fire caulking, cutting, x-ray and removal of walls and floors, patching, coring, setting of sleeves/knockouts, penetrations and painting (except as specified) and removal of obstructions required for elevator work; along with all proper trenching and backfilling for any underground piping and/or conduit.
- e. All labor and materials necessary to support the full width of the hoistway at each landing for anchoring or welding TK Elevator sill supports, steel angles, sill recesses;
- f. The furnishing, installing and maintaining of the required fire rating of elevator hoistway walls, including the penetration of firewall by elevator fixture boxes;
- g. Ensuring that the elevator hoistways and pits are dewatered, cleaned and properly waterproofed;

##### B. Electrical and Life Safety:

1. Purchaser shall provide a dedicated, analog telephone or data line to the elevator telephone or communication device; one additional data line per group of elevators for diagnostic capability wired to designated controller;
2. Purchaser shall provide the following:
  - a. suitable connections from the power main to each controller and signal equipment feeders as required, including necessary circuit breakers and fused mainline disconnect switches per N.E.C. prior to installation. Suitable power supply capable of operating the new elevator equipment under all conditions;
  - b. piping and wiring to controller for mainline power, car lighting, and any other building systems that interface with the elevator controls per N.E.C. Articles 620-22 and 620-51;
  - c. any required hoistway / wellway, machine room, pit lighting and/or 110v service outlets;

# Modernization Proposal



- d. conduit and wiring for remote panels to the elevator machine room(s) and between panels. Remote panels required by local jurisdictions are not included in this proposal;
- e. a bonded ground wire, properly sized, from the elevator controller(s) to the primary building ground; and all remote wiring to the outside alarm bell as requested by all applicable code provisions;
- f. installed sprinklers, smoke/heat detectors on each floor, machine room and hoistways / wellways, shunt trip devices (not self-resetting) and access panels as may be required as well as normally open dry contacts for smoke/heat sensors, which shall be terminated by Purchaser at a properly marked terminal in the elevator controller;
- g. a means to automatically disconnect the main line and the emergency power supply to the elevator prior to the application of water in the elevator machine room that shall not be self-resetting;
- h. emergency power supply including automatic time delay transfer switch and auxiliary contacts with wiring to the designated elevator controller and along with electrical cross connections between elevator machine rooms for emergency power purposes;
- i. the following emergency power provisions are not included: interface in controller, pre-testing and testing, emergency power keyswitches;
- j. emergency power operation is included as part of the design of the elevator control system and based on each car in the group only, to properly sequence, one at a time to the programmed landing, and park. The design requires that the generator, transfer switch, and related circuitry are sufficient to run this function or any other function for any building other system that is associated with this project. In the event that the generator, transfer switch, and related circuitry are not sufficient, TK Elevator will provide Purchaser with a written change order for Purchaser's execution.
- k. a dry set of contacts which close 20 seconds prior to the transfer from normal power to emergency power or from emergency power to normal power whether in test mode or normal operating conditions in the event that an emergency power supply will be provided for the elevator;
- l. confirmation that the emergency standby power generator and/or building can accept the power generated to and from the elevator during both Hi-Speed and Deceleration. In cases where the generator and/or building load is not electrically sized to handle the power return from the regen drive, additional separate chopper and resistor units are available for purchase but not included in this proposal. The additional chopper and resistor units allow regenerated power to be dissipated in the resistor bank and not sent back into the building grid.

## C. Miscellaneous:

1. Purchaser shall provide all work relating to the finished cab flooring including, but not limited to, the provision of materials and its installation to comply with all applicable codes;
2. Hydraulic jack replacement:
  - a. the excavation of the elevator cylinder well hole in the event drilling is necessary through soil that is not free from rock, sand, water, building construction members and obstructions. Should obstructions be encountered, TK Elevator will proceed only after written authorization has been received from the Purchaser. The contract price shall be increased by the amount of additional labor at TK Elevator's standard labor rates as per the local office along with any additional expenses and materials required;
  - b. adequate ingress and egress, including ramping, for rail-mounted or truck-mounted drill rig;
  - c. Purchaser is responsible for pumping truck contractor to remove and dispose of spoils from the site. In the event that unforeseen and unfavorable below ground conditions are encountered, including but not limited to concrete around the cylinder, construction debris, adverse water and/or soil conditions, erosion, cavitations, oil contamination, or circumstances necessitating increased hole depth, etc., which require the employment of specialized contractors, TK Elevator shall immediately advise the Purchaser and costs will be extra to the contract;
  - d. in ground protection systems other than TK Elevator's standard HDPE or PVC protection system with bottomless corrugated steel casing;
  - e. any required trenching and backfilling for underground piping or casings, and conduit as well as any compaction, grouting, and waterproofing of block-out;
  - f. engineering, provision and installation of methane barriers or coordination/access;
  - g. access to 2" pressurized water supply within 100'-0" of the jack hole location;
  - h. a safe, accessible storage area for placement of D.O.T. 55 gallon containers for the purpose of spoils containment; obtaining of local environmental or disposal permits
  - i. any spoils or water testing;



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## 6. Working Hours, Logistics and Mobilization

- a. All work described in this Proposal shall be performed during TK Elevator's regular working days – defined as Monday thru Friday and excluding IUEC recognized holidays – and regular working hours – defined as those hours regularly worked by TK Elevator modernization mechanics at the TK Elevator branch office that will provide labor associated with the performance of the work described in this Proposal - unless otherwise specified and agreed to in writing by both TK Elevator and Purchaser (hereinafter TK Elevator's regular working days and regular working hours shall be collectively defined as “normal working hours”). TK Elevator shall be provided with uninterrupted access to the elevator hoistway and machine room areas to perform work during normal working hours.
- b. Purchaser shall provide on-site parking to all TK Elevator personnel at no additional cost to TK Elevator.
- c. Purchaser shall provide traffic control, lane closures, permits and flagmen to allow suitable access/unload of tractor trailer(s).
- d. Purchaser agrees to provide unobstructed tractor-trailer access and roll-able access from the unloading area to the elevator or escalator hoistways or wellways (as applicable).
- e. Purchaser will be required to sign off on the Material Release Form, which will indicate the requested delivery date of equipment to the site. If Purchaser is not ready to accept delivery of the equipment within ten (10) business days of the agreed upon date, Purchaser will immediately make payments due for equipment and designate an area adjacent to the elevator shaft where Purchaser will accept delivery. If Purchaser fails to provide this location or a mutually agreeable alternative, TK Elevator is authorized to warehouse the equipment at the TK Elevator warehouse or designated distribution facility at Purchaser's risk and expense. Purchaser shall reimburse TK Elevator for all costs due to extra handling and warehousing. Storage beyond ten (10) business days will be assessed at a rate of \$100.00 per calendar day for each unit listed in this Proposal, which covers storage and insurance of the elevator equipment and is payable prior to delivery.
- f. Purchaser agrees to provide a dry and secure area adjacent to the hoistway(s) at the ground level for storage of the elevator equipment and tools within ten (10) business days from receipt at the local TK Elevator warehouse. Any warranties provided by TK Elevator for vertical transportation equipment will become null and void if equipment is stored in any manner other than a dry, enclosed building structure. Any relocation of the equipment as directed by Purchaser after initial delivery will be at Purchaser's expense.
- g. TK Elevator includes one mobilization to the jobsite. A mobilization fee of \$2,500.00 per crew per occurrence will be charged for pulling off the job or for any delays caused by others once material has been delivered and TK Elevator's work has commenced.
- h. Access for this project shall be free and clear of any obstructions. A forklift for unloading and staging material shall also be provided by Purchaser at no additional cost.
- i. Purchaser shall provide an on-site dumpster. TK Elevator will be responsible for cleanup of elevator/ escalator packaging material; however, composite cleanup participation is not included in this Proposal.
- j. The hiring of a disposal company which MUST be discussed prior to any material being ordered or work being scheduled. TK Elevator will provide environmental services ONLY if this is specifically included under the "Scope of Work" section above. TK Elevator assumes no responsibility and/or liability in any way whatsoever for spoils or other contamination that may be present as a result of the cylinder breach and/or other conditions present on the work site.
- k. One or more of the units described in this Proposal will be out of service and unavailable to move passengers and/or property during entire duration of the performance of the work described in this Proposal until re-certified by the applicable authority(ies) having jurisdiction and in good standing with payment schedules.

## 7. Temporary Use, Inspection and Turnover

- a. Unless required by specification, TK Elevator will not provide for “temporary use” of the elevator(s) described in this Proposal prior to completion and acceptance of the complete installation. Temporary use shall be agreed to via a change order to this Proposal which shall require Purchaser's execution of TK Elevator's standard Temporary Use Agreement. Cost for temporary use of an elevator shall be \$200.00 per calendar day per hydraulic elevator and \$250.00 per calendar day for each traction elevator for rental use only, excluding personnel to operate. All labor and parts, including callbacks required during the temporary use period will be billed at TK Elevator's standard local billing rates. In the event that an elevator must be provided for temporary use, TK Elevator will require 30 days to perform final adjustments and re-inspection after the elevator has been returned to TK Elevator with all protection, intercoms and temporary signage



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removed. This duration does not include any provisions for finish work or for repairs of same, which shall be addressed on a project-by-project basis. Cost for preparation of controls for temporary use, refurbishment due to normal wear and tear, readjustment and re-inspection is \$3,500.00 per elevator up to 10 floors. For projects above 10 stops, an additional cost of \$1,500.00 / 10 floors shall apply. These costs are based on work performed during normal working hours.

Temporary use excludes vandalism or misuse. Any required signage, communication devices, elevator operators, and protection are not included while temporary use is being provided. All overtime premiums for repairs during the temporary use period will be billed at TK Elevator's local service billing rates.

b. The Proposal price set forth above includes one (1) inspection per unit by the applicable authority having jurisdiction if required by the government of the locality where the equipment is located. In the event the equipment fails that inspection due to no fault of TK Elevator, TK Elevator will charge Purchaser for both the cost of each re-inspection which shall be \$1,500.00 and a remobilization fee which shall be \$2,500.00 via change order prior to scheduling a re-inspection.

c. Upon notice from TK Elevator that the installation and/or modernization of the equipment is complete, Purchaser will arrange to have present at the jobsite a person authorized to make the final inspection and to execute TK Elevator's "Final Acceptance Form." The date and time that such person will be present at the site shall be mutually agreed upon but shall not be more than ten (10) business days after the date of TK Elevator's notice of completion to Purchaser unless both TK Elevator and Purchaser agree to an extension of that ten (10) day period in writing. Such final inspection and execution of TK Elevator's "Final Acceptance Form" shall not be unreasonably delayed or withheld.

d. Should the Purchaser or the local authority having jurisdiction require TK Elevator's presence at the inspection of equipment installed by others in conjunction with the work described in this Proposal, Purchaser agrees to compensate TK Elevator for its time at TK Elevator's current billing rate as posted at its local office.

e. At the conclusion of its work, TK Elevator will remove all equipment and unused or removed materials from the project site and leave its work area in a condition that, in TK Elevator's sole opinion, is neat and clean.

f. Purchaser agrees to accept a live demonstration of equipment's owner-controlled features in lieu of any maintenance training required in the bid specifications.

g. Purchaser agrees to accept TK Elevator's standard owner's manual in lieu of any maintenance, or any other, manual(s) required in the bid specifications.

## 8. MAX

MAX is a cloud based Internet of Things (IoT) platform that we, at our election, may connect to your elevators and escalators by means of installation of a remote-monitoring device or modem (each a "device"). MAX will analyze the unique signal output of your equipment 24/7 and when existing or potential outages are identified, MAX will automatically communicate with our dispatch centers. When appropriate, the dispatch center will alert our technicians during normal working hours. These MAX alerts provide the technician with precise diagnostics detail, which greatly enhances our ability to fix your equipment right the first time, MAXimizing the equipment uptime.

a. Purchaser authorizes TK Elevator and its employees to access purchaser's premises to install, maintain and/or repair the devices and, upon termination of the service agreement, to remove the same from the premises if we elect to remove.

b. TK Elevator is and shall remain the sole owner of the devices and the data communicated to us by the devices. The devices shall not become fixtures and are intended to reside where they are installed. TK Elevator may remove the devices and cease all data collection and analysis at any time.

c. If the service agreement between TK Elevator and Purchaser is terminated for any reason, TK Elevator will automatically deactivate the data collection, terminate the device software and all raw data previously received from the device will be removed and/or expunged or destroyed.

d. Purchaser consents to the installation of the devices in your elevators and to the collection, maintenance, use, expungement and destruction of the daily elevator data as set forth in this agreement.

e. The devices installed by TK Elevator contain trade secrets belonging to us and are installed for the use and benefit of our personnel only.

f. Purchaser agrees not to permit purchaser personnel or any third parties to use, access, tamper with, relocate, copy, disclose, alter, destroy, disassemble or reverse engineer the device while it is located on purchaser's premises.

g. The installation of this equipment shall not confer any rights or operate as an assignment or license to you of any patents, copyrights or trade secrets with respect to the equipment and/or any software contained or imbedded therein or utilized in connection with the collection, monitoring and/or analysis of data.

# Modernization Proposal



## 9. Additional Terms and Conditions

- a. In no event shall TK Elevator be responsible for liquidated, consequential, indirect, incidental, exemplary, and special damages associated with the work described in this Proposal.
- b. This Proposal is made without regard to compliance with any special purchasing, manufacturing or construction/installation requirements including, but not limited to, any socio-economic programs, such as small business programs, minority or woman owned business enterprise programs, or local preferences, any restrictive sourcing programs, such as Buy American Act, or any other similar local, state or federal procurement regulations or laws that would affect the cost of performance. Should any such requirements be applicable to the work described in this Proposal, TK Elevator reserves the right to modify this Proposal or rescind it altogether.
- c. TK Elevator is an equal opportunity employer.
- d. TK Elevator's performance of the work described in this Proposal is contingent upon Purchaser furnishing TK Elevator with any and all necessary permission or priority required under the terms and conditions of government regulations affecting the acceptance of this Proposal or the manufacture, delivery or installation of the equipment. All applicable sales and use taxes, permit fees and licenses imposed upon TK Elevator as of the date of the Proposal are included in the price of the Proposal. Purchaser is responsible for any additional applicable sales and use taxes, permit fees and licenses imposed upon TK Elevator after the date of the Proposal or as a result of any law enacted after the date of the Proposal.
- e. All taxes, tariffs, duties, permit and/or license fees imposed upon TK Elevator as of the date of the execution of this Proposal are included in the price of the Proposal. Purchaser is responsible, in addition to the Proposal price, to pay TK Elevator for any additional (or any increase in) applicable taxes, tariffs, duties, permit and/or license fees imposed upon TK Elevator after the date of acceptance of this Proposal by any governmental authority or by any of TK Elevator's suppliers of the materials and/or components required in connection with this Proposal.
- f. Purchaser agrees to provide TK Elevator's personnel with a safe place in which to work and TK Elevator reserves the right to discontinue work at the jobsite whenever, in TK Elevator's sole opinion, this provision is being violated.
- g. The pricing set forth in this Proposal assumes that the elevator pits will not be classified as a confined space. TK Elevator will follow its standard safety policy and procedures. Any job specific safety requirements over and above TK Elevator's standard practices and policies may require additional costs.
- h. TK Elevator will furnish and install all equipment in accordance with the terms, conditions, scope and equipment nomenclature as noted herein. Requested changes or modifications to such provisions will require a written change order issued on the Purchaser's letterhead and accepted by TK Elevator in writing prior to the execution of such work. This change order shall detail the current contract price, the amount of the change, and new contract value.
- i. This Proposal does not include a schedule for the work described and any such schedule shall be mutually agreed upon by an authorized representative of both TK Elevator and Purchaser in writing before becoming effective.
- j. In the event asbestos material is knowingly or unknowingly removed or disturbed in any manner at the jobsite, Purchaser shall monitor TK Elevator's work place and prior to and during TK Elevator's manning of the job, Purchaser shall certify that asbestos in the environment does not exceed .01 fibers per cc as tested by NIOSH 7400. In the event TK Elevator's employees or those of TK Elevator's subcontractors are exposed to an asbestos hazard, PCP's, lead or other hazardous substances, Purchaser agrees, to the fullest extent permitted by law, to indemnify, defend, and hold TK Elevator harmless from all damages, claims, suits, expenses, and payments resulting from such exposure. Identification, notification, removal and disposal of asbestos containing material, PCP's lead or other hazardous substances are the responsibility of the Purchaser.
- k. TK Elevator retains title to and a security interest in all equipment it supplies – which TK Elevator and Purchaser agree can be removed without material injury to the real property – until all payments including deferred payments and any extensions thereof, are made. In the event of any default by Purchaser on any payment, or any other provision of this Proposal, TK Elevator may take immediate possession of the equipment and enter upon the premises where it is located – without legal process – and remove such equipment or portions thereof, irrespective of the matter of its attachment to the real estate or the sale, mortgage or lease of the real estate. Pursuant to the Uniform Commercial Code, and at TK Elevator's request, Purchaser agrees to execute any financial or continuation statements which may be necessary for TK Elevator to file in public offices in order to perfect TK Elevator's security interest in such equipment.
- l. TK Elevator reserves the right to assign payments owed to TK Elevator under this Proposal.

# Modernization Proposal



- m. TK Elevator shall not be liable for any loss, damage or delay caused by acts of government, labor troubles, strikes, lockouts, fire, explosion, theft, floods, riot, civil commotion, war, malicious mischief, acts of God or any cause beyond its control.
- n. The rights of TK Elevator under this Proposal shall be cumulative and the failure on the part of the TK Elevator to exercise any rights hereunder shall not operate to forfeit or waive any of said rights. Any extension, indulgence or change by TK Elevator in the method, mode or manner or payment or any of its other rights shall not be construed as a waiver of any of its rights under this Proposal.
- o. In the event TK Elevator engages a third party to enforce the terms of this Proposal, and/or to collect payment due hereunder, either with or without suit, Purchaser agrees to pay all costs thereof together with reasonable attorney's fees. Purchaser does hereby waive trial by jury and does hereby consent to the venue of any proceeding or lawsuit under this Proposal to be in the county where the work covered by this Proposal is located.
- p. TK Elevator can furnish Certificate of Workers' Compensation, Bodily Injury and Property Damage Liability Insurance coverage to Purchaser upon written request.
- q. Should loss of or damage to TK Elevator's material, tools or work occur at the project site, Purchaser shall compensate TK Elevator for such loss, unless such loss or damage results from TK Elevator's own acts or omissions.
- r. Purchaser, in consideration of TK Elevator performing the services set forth in this Proposal, to the fullest extent permitted by law expressly agrees to indemnify, defend, save harmless, discharge, release and forever acquit TK Elevator Corporation, TK Elevator Manufacturing, Inc., their respective employees, officers, agents, insurers, affiliates, and subsidiaries (hereinafter singularly a "TK Elevator party" and collectively the "TK Elevator parties") from and against any and all claims, demands, suits, and proceedings for loss, property damage (including damage to the equipment which is the subject matter of this Proposal), personal injury or death that are alleged to either have arisen out of or be connected with the sale, marketing, presence, use, misuse, maintenance, installation, removal, modernization, manufacture, design, operation or condition of the equipment that is the subject matter of this Proposal or the labor and materials furnished in connection with this Proposal. Purchaser's duty to indemnify a TK Elevator party does not apply to the extent that the loss, property damage (including damage to the equipment which is the subject matter of this Proposal), personal injury or death is determined to be caused by or resulting from the negligence of that TK Elevator party. Purchaser recognizes that its obligation to defend the TK Elevator parties under this clause, which is separate and apart from its duty to indemnify the TK Elevator parties, includes payment of all attorneys' fees, court costs, judgments, settlements, interest and any other expenses of litigation arising out of such claims, demands, suits or proceedings.
- s. Purchaser further expressly agrees to name Tk Elevator Corporation and TK Elevator Manufacturing, Inc. along with their respective officers, agents, affiliates and subsidiaries as additional insureds in Purchaser's liability and any excess (umbrella) liability insurance policy(ies). Such insurance must insure TK Elevator Corporation and TK Elevator Manufacturing, Inc. for those claims and/or losses referenced in the above paragraph and those claims and/or losses arising from the negligence of TK Elevator Corporation and TK Elevator Manufacturing, Inc. Such insurance must specify that its coverage is primary and non-contributory. Purchaser hereby waives its right of subrogation.
- t. TK Elevator's participation in any controlled insurance program is expressly conditioned upon review and approval of all controlled insurance program information and documentation prior to enrollment. Any insurance credits if applicable, will be provided at that time.
- u. Unless so mutually agreed upon in a separate signed agreement, TK Elevator shall not be required to interact or correspond with any third party with whom Subcontractor is not in privity of contract concerning matters pertinent to this Agreement.

## 10. Project Clarifications

- a. For elevator modernization projects, each elevator cab will be weighed prior to the start of the modernization process of each individual unit. If the existing cabs are over 5% of the allowable weight and contracted capacity as noted on the original crosshead data tag and/or the elevators are out of balance, any additional scope of work to make code compliant will be determined on an elevator-by-elevator case basis and a change order for this work will be proposed accordingly. In addition, TK Elevator will not be responsible for any building structural items due to elevator exceeding the 5% allowable weight nor the under-sizing of the equipment proposed using the crosshead data tag information. Should additional or higher-rated equipment be required due to a discrepancy in the actual vs. car top crosshead data tag, additional cost may apply and will be provided via change order.

# Modernization Proposal



- b. No fire, security, lobby, or other panels were identified at the time of survey. If a panel is required, it will be provided through the Change Order process.
- c. Logistical Plan: Purchaser shall ensure that clear, unobstructed access by and between the machine room, elevators, storage areas, work areas, etc. for the duration of the project. Any required deviation from the stated logistical plan will be submitted as a change order to the project agreement.
- d. All equipment provided as a part of this project shall be provided and installed in accordance with the applicable A17.1 requirements at the time of the bid/proposal. Retained equipment shall remain 'as-is' and not be reconditioned nor modified to meet A17.1, OSHPD, structural, or seismic requirements, unless specifically included or clarified elsewhere. If any work is required on retained equipment, a change order will be provided detailing additional required scope and pricing.
- e. No related work / "work by others" is included in TK Elevator's pricing as this work will need to be completed by a general contractor. Please note that the wall area around all signal fixture boxes must be fire-rated based on current OSHPD requirements. In addition, any list provided by TK Elevator for such work will be made part of the project agreement documents.
- f. The existing electrical conduit between the elevator machine room and the elevator hoistway will be retained. Should it be determined during the modernization that the existing conduit is unusable due to the existing wires not being removable and/or there being a loss of integrity in the conduit walls, a new overhead electrical conduit run between the elevator machine room and elevator hoistway will be designed and installed through the change order process.
- g. The existing hydraulic oil line will be retained. This bid includes new Victaulic gasket replacements on all flexible connections. Should it be determined through the course of the modernization that any of the oil line is leaking, a new overhead oil line run between the elevator machine room and elevator hoistway will be designed and installed through the change order process.

# Modernization Proposal



## Acceptance

**Purchaser's acceptance of this Proposal and its approval by an authorized manager of TK Elevator will constitute exclusively and entirely the agreement between the parties for the goods and services herein described and full payment of the sum of One Hundred Twelve Thousand Fifty Eight Dollars and Fifty Seven Cents (\$112,058.57) inclusive of all applicable sales and use taxes.**

All other prior representations or regarding this work, whether written or verbal, will be deemed to be merged herein and no other changes in or additions to this Proposal will be recognized unless made in writing and properly executed by both parties as a change order. Should Purchaser's acceptance be in the form of a purchase order or other similar document, the provisions of this Proposal will exclusively govern the relationship of the parties with respect to this transaction. No agent or employee shall have the authority to waive or modify any of the terms of this Proposal without the prior written approval of an authorized TK Elevator manager.

**Irvine Ranch Water District (Purchaser):** **TK Elevator Corporation Management Approval**

By: \_\_\_\_\_  
(Signature of Authorized Individual)  
Jessie Muncy

\_\_\_\_\_  
(Print or Type Name)

\_\_\_\_\_  
(Print or Type Title)

\_\_\_\_\_  
(Date of Acceptance)

By: \_\_\_\_\_  
(Signature of Branch Representative)

Scott Jones  
Branch Manager

\_\_\_\_\_  
(Date of Execution)



SCHEDULING AND PRODUCTION  
REQUEST FOR PAYMENT

Please Remit To: TK Elevator  
PO Box 3796  
Carol Stream, IL 60132-3796

Attn: Jessie Muncy  
Irvine Ranch Water District  
PO Box 57000  
Irvine CA, 92619-7000

Date	Terms	Reference ID	Customer Reference # / PO
February 08, 2022	Immediate	ACIA-1X4ORI6	
Total Contract Price:			\$112,058.57
Initial progress payment:			(50%) \$56,029.29

For inquiries regarding your contract or services provided by TK Elevator, please contact your local account manager at +1 714 9412317. To make a payment by phone, please call 770-799-0476 with the reference information provided below.

Current and former service customers can now pay online at:  
<https://secure.billtrust.com/thyssenkruppelevator/ig/one-time-payment>

Thank you for choosing TK Elevator. We appreciate your business.

**Please detach the below section and provide along with payment.**

-----

Customer Name:	Irvine Ranch Water District	Remit To:
Location Name:	15600 Sand Canyon Ave	TK Elevator
Customer Number:	138287	PO Box 3796
Quote Number:	2021-2-1194406	Carol Stream, IL 60132-3796
<hr/>		
Reference ID:	ACIA-1X4ORI6	
<hr/>		
Remittance Amount:	\$56,029.29	
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# EXHIBIT "A"

## Exhibit A: Building Related Work By Others Scope of Work

**PROJECT ADDRESS:** Irvine Ranch Water District  
15600 Sand Canyon Ave.  
Irvine, CA 92618 Prevailing Wage

**PROJECT DESCRIPTION:** Elevator Modernization  
**No. of Elevators:** 1  
**No. of Landings:** 2  
**Type:** Hydro

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### All general construction work required for elevator modernization:

Furnish labor, materials, equipment and supervision for all general, mechanical, electrical and smoke detection systems related to the modernization of the above stated elevator(s) as listed below.  
This proposal is based on approved vendors being utilized.  
If a preferred vendor is required for this project, it may result in a change order.  
The work to be performed may be in conjunction with a modernization, working with an elevator contractor.  
This proposal is based on work being completed during normal business hours unless stated otherwise.  
If afterhours or overtime work is required, pricing may need to be adjusted.  
Proposal pricing is compliant with Davis Bacon Act or prevailing wage rates.

### **Machine room -**

Retain existing machine room door, lock and closer.  
**Note:** There are no modifications to the existing fire rating of the machine room walls included in this proposal.  
We will leave the existing HVAC "as is."  
If the existing HVAC does not meet the code parameters and an adjustment needs to be made, it will be done on a change order basis.  
Supply and install car light circuit with lockable disconnects.  
Supply and install feeder from the load side of the car light disconnect to controller.  
Supply and install wiring and piping for main feeder into controller from main disconnect.  
Install battery lowering contacts.  
<sup>1</sup> If local AHJ is to require shunt trip, see alternate below.  
This proposal is based on using the existing feeder from the main electrical service gear to the machine room. If this feeder or main service gear is required to be upgraded, it would be handled on a change order.  
Supply and install LED lamp guarded fixtures.  
Supply and install machine room GFCI.  
Supply and install positive earth ground to main controller.  
No short circuit coordination, arc flash, or selective coordination studies are included.  
This proposal is based on a new motor same HP as existing.  
Supply and install piping for phone lines into new controllers.  
**Note:** Owner must ensure a single use phone line is brought to the elevator machine room from the main building service connection/demarcation point. This line must be ordered at the start of the modernization so as to be available at time of inspection.  
Owner to provide demark connection, maintenance and phone line service charges.  
Any modifications or relocating of card access, CCTV, Security or other low voltage items to be completed by owner. They are not included.

### **Lobbies -**

No work is included for smoke containment doors or curtains.  
No work is included for lobby fixtures.



## EXHIBIT "A"

### ***The pit & hoist way -***

#### *In the pit -*

Supply and install pit light switch.

Supply and install guarded LED fixture.

Supply and install GFCI.

Pit Ladder will be the responsibility of the Elevator company if any modifications need to be made.

There are no provisions for a sump pump included in this proposal.

General patching, as needed.

Anything needed beyond this scope will be handled on a change order basis.

#### *In the hoist way -*

General patching for the hoist way walls.

**Note:** This price is for general patching only. If the elevator frames need modifications to achieve a proper fire rating, it would be handled on a change order.

There are no provisions for framework or patching included in this proposal.

Remove Fire Sprinkler if approved by local AHJ.

Anything needed beyond this scope will be handled on a change order basis.

### ***Hoist way ventilation -***

Leaving existing ventilation "as is."

This proposal is based on the existing vent being code compliant as of the date of the survey and in working condition.

Should the vent be found in any other state, it would be handled on a change order.

### ***Smoke detection and recall system-***

Supply and install smoke heads, heat heads & recall relays as needed, fed from existing fire panel tied to elevator control panel.

**Note:** This proposal is based on the existing FACP being addressable and or can modified to handle additional devices and zones. If FACP is password protected it must be provided by the owner for programming. If modifications need to be made, this will also be handled under a change order.

Provide FLS technician for pre-test with Elevator Company and for final acceptance with State AHJ.

If there are additional items required by local AHJ, it would be handled on a change order.

**Note:** Cad Drawings are not included in this proposal. If Cad Drawings are not available, it will be handled on a change order.

If elevator drawings or other elevator submittals are required to be submitted with the fire permit application, the elevator company must supply them for the permit at no cost to UCS.

### ***Emergency Power -***

No emergency power is included in this proposal.

### ***Car top time -***

Our estimated car top time is 5 hours and will be provided by the Elevator Company at no cost to UCS. If we exceed our estimated car top time it would be provided at no charge.

N/C

### ***General cleanup / dumpster / misc. materials / building permit, as needed -***

We will be responsible for clean-up and disposal of debris generated from our scope of work.

**NOTE:** There are no provisions for drawings included in this proposal. If drawings are required for permitting, this pricing may need to be adjusted.



## EXHIBIT "A"

### **Alternates:**

<sup>1</sup> If local AHJ is to require shunt trip, see alternate below.

\$5,068.85 Change Order if required

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All pricing for any wall/floor cutting assumes that the building is either constructed post 1978 or has no lead paint. If lead paint exists pricing for these items may vary.

<sup>1</sup> Our assumption is that the current HVAC system will operate 24/7, 12 months a year, allowing the existing HVAC system to meet the parameters set by the manufacturer for the new elevator equipment being installed. If this assumption is incorrect a change order would need to be given for a new stand alone HVAC system.

No provisions have been made for liquidated damages, nor will any be paid.

Times and date will have to be worked out with the Owner and Elevator Contractor.

This bid proposal does not include any pricing for asbestos/lead testing or removal.

Final machine room drawings, including equipment placement, must be submitted to GC.

Should the location of any equipment change, an additional charge may be incurred.

The proposal is based on state or local inspections being completed during normal business hours.

Bond requirements and fees will be addressed separately, if applicable.

Note: This page is intentionally left blank.

EXHIBIT "B"

IRWD Operations Center

March 28, 2022

Purchaser: Irvine Ranch Water District  
Address: PO Box 57000  
Irvine, CA 92619-7000

Location: IRWD Operations Center  
Address: 3512 Michelson  
Irvine, CA 92612

TK Elevator Corporation (hereinafter "TK Elevator") is dedicated to delivering Irvine Ranch Water District (hereinafter "Purchaser") the safest, highest quality vertical transportation solutions. I am pleased to present this customized Proposal (the "Proposal") in the amount of **\$128,445.37** inclusive of all applicable sales and use taxes to modernize the elevator equipment described in the pages that follow at the above-referenced location.

Our modernization package is engineered specifically for your elevator system and will include the elevator mechanical and electrical components being replaced, refurbished or retained.

Benefits of Modernization include:

- Increased durability and reliability
- Improved fire and life safety features
- Decreased waiting times
- Reduced energy consumption
- Reduced operational cost
- Reduced troubleshooting time

This Proposal shall remain in effect for the next forty-five (45) days unless it is revoked earlier by TK Elevator in writing. The price above is subject to escalation - even after Purchaser's acceptance of this Proposal - under certain circumstances including the possibility that TK Elevator may be subjected to increased charges by its suppliers for any of the applicable materials and/or components due to the imposition of new or increased taxes, tariffs, or other charges imposed by applicable governmental authorities or the possibility that the work described in this Proposal is not completed by December 31, 2022.

In the event you have any questions regarding the content of this Proposal, please do not hesitate to contact me. We appreciate your consideration.

Sincerely,

Katelyn Shepherd  
Account Manager  
katelyn.shepherd@tkelevator.com  
+1 714 9412317

# EXHIBIT "B"

## SCOPE OF WORK

**Grouping Name:** One (1) Elevator

Equipment Type: Hydraulic	Speed: 125 fpm
3 Stops (2 Front /1 Rear)	Capacity: 4000 lbs.

### Units Included

Building	Nickname	OEM Serial #	TKE Serial #	Legal ID
IRWD Operations Center	Only	200-6785		106067

### Description of Work

#### Controller

- Non-proprietary TAC 32 Controller (Includes Options listed below)
- Battery Lowering in Controller
- Seismic Features
- Solid State Starters
- Viscosity Control

#### Power Unit

- Submersible Power Unit
- Seismic Requirements
- Viscosity Control
- Biodegradable oil
- 2" Shutoff Valve Kit
- Isolation Couplings
- Overspeed Valve Kits for 2"
- Oil Line Piping

#### Jack

- Pipe Stands
- Packing

#### Car

- 21" Toe guard
- Fan: Two Speed
- Car Top Exit Switch
- Cab Wiring Material

#### Hoistway

- HN Boxes (per each 2 cars, grouped)
- Steel Tape with Mounting hardware, Selector and magnets (terminal limits included)
- TAC 32 Field Friendly Wiring Package Includes single traveling cable, hoistway wiring, interlock wiring, interlock connectors, and serial wiring.

## EXHIBIT "B"

### Pit

- Pit Stop Switch
- 2" Shutoff Valve Kit

### Cab

- Car Door (2SSS, #4 S/S)
- Car Door (2SSS, #4 S/S)

### Door Equipment

- LD-16 Plus Door Operator with Complete carside equipment (FRONT)
  - includes Adapter kit (Tracks & Hangars), Clutch (w/ Car Door Lock latch & contact), & Car Top Inspection station (w/ alarm signal)
- Front Door Operator (2SSS) Additional Lead Time
- Electronic Door Edge (Front and Rear)
- LD-16 Plus Door Operator with Complete carside equipment (REAR)
  - includes Adapter kit (Tracks & Hangars), Clutch (w/ Car Door Lock latch & contact)
- Closer
- Hoistway Hanger / Hanger Rollers
- Interlocks
- Pick Up Rollers
- Gibs

### Car Fixtures

- Main Car Station Includes Options Below
  - Applied Panel
- Debranded Car Station (No Logo)
- Vandal Resistant Floor Buttons
- Standard Braille Plates for Car Features
- Standard Key Switch Package
  - Fan
  - Light
  - Independent
  - Stop
  - Inspection/Hoistway Enable)
- Emergency Light mounted in COP
- 2004 and later Fire Service Phase II Features (includes instructions signage)
- Handicap Signal (Passing signal)
- Position Indicator (2" CE Segmented)
- ADA Phone System integral with COP (Rath)
- Speaker Pattern for Intercom System/ADA Phone
- No Smoking (Engraved)
- Locked Service Cabinet
- Certificate Window
- Default Engravings
- GFI Outlet
- #4 Stainless Steel Finish
- Door Open rear / Door Close rear
- Emergency Light Test Button

## EXHIBIT "B"

- Car Riding Lantern (Standard) #4 S/S
- Car Riding Lantern (Standard) REAR #4 S/S

### Hall Fixtures

- Fire Service Phase I Key Switch
- Fire Service Phase I Engraved Instructions
- Hoistway Jamb Braille
- Car Identification Plate for Main Egress Floor
- Hoistway Access Switch (Standalone)
- Terminal Hall Stations (Flush Mounted) with
  - Appendix O (Polycarbonate insert flame with engraved verbiage)
  - (#4 S/S)
- Intermediate Hall Stations (Flush Mounted) with
  - Appendix O (Polycarbonate insert flame with engraved verbiage)
  - (#4 S/S)

The following items will be completed by third party labor or suppliers through the coordination of TKE:

- Reskin front return, transom and strike jamb after installation of new car operating panel
- General Building Related Work – See page 15 for scope
- Oil Disposal

### 1. Key Tasks and Approximate Lead Times

Key Tasks to be performed to be performed by Purchaser prior to equipment fabrication:

- a. Execution of this Proposal
- b. Payment for pre-production and engineering
- c. Approval of layout (if applicable)
- d. Execution of TK Elevator's Material Release Form

### Approximate Durations/Lead Times

Contract execution (can run concurrently with layout drawing package preparation and approval)	Varies
Survey and Order of Materials (additional time required for cab, signal, entrance preparation and approval, if applicable)	4 - 6 Weeks
Fabrication time (from receipt of all approvals, fully executed contract, Material Release Form and initial progress payment)	8-12 Weeks + Shipping
Modernization of elevator system (Per Unit): (Upon completion of all required preparatory work by others)	3 - 4 Weeks + State Inspection

The durations or lead times listed above are strictly approximations that can vary due to factors both within and outside of TK Elevator's control, are subject to change without notice to Purchaser and shall not be binding on TK Elevator.

## EXHIBIT "B"

### 2. Payment Terms

50% of the price set forth in this Proposal as modified by options selected from the section entitled "Value Engineering Opportunities & Alternates" (if applicable) will be due and payable as an initial progress payment within 30 days from TK Elevator's receipt of a fully executed copy of this Proposal. This initial progress payment will be applied to project management, permits, engineering and shop drawings, submittals, drilling mobilization (if required) and raw material procurement. Material will be ordered once this payment is received and the parties have both executed this Proposal and the Material Release Form.

25% of the price set forth in this Proposal as modified by options selected from the section entitled "Value Engineering Opportunities & Alternates" (if applicable) shall be due and payable when the material described above has been furnished. Material is considered furnished when it has been received at the jobsite or TK Elevator staging facility. Supporting documentation of materials stored shall be limited to stored materials certificates of insurance and bills of lading. Receipt of this payment is required prior to mobilization of labor.

25% of the price set forth in this Proposal shall be made as progress payments throughout the life of the project. In the event TK Elevator fails to receive payment within thirty (30) days of the date of a corresponding invoice, TK Elevator reserves the right to demobilize until such a time that the payments have been brought up to date, and TK Elevator has the available manpower.

It is agreed that there will be no withholding of retainage from any billing and by the customer from any payment.

The payment terms breakdown above shall be considered the Schedule of Values for the project as written. Billing shall be submitted on or before the 25th day of the month according to the payment schedule above and accompanied by a form of G702-703 pay application/schedule of values and a conditional waiver, the format of which is hereby acknowledged and accepted.

The use of online Portals for the submission of billing shall follow the terms of the Proposal and Customer agrees to permit billing in accordance with the executed contract terms. Portal access and usage is to be provided free of additional charge to TK Elevator and any additional cost for such use is to be reimbursed to TK Elevator via a reimbursable change order immediately upon acceptance.

Purchaser agrees that TK Elevator shall have no obligation to complete any steps necessary to provide Purchaser with full use and operation of the installed equipment until such time as TK Elevator has been paid 100% both of the price reflected in this Proposal and for any other work performed by TK Elevator or its subcontractors in furtherance of this Proposal. Purchaser agrees to waive any and all claims to the turnover and/or use of that equipment until such time as those amounts are paid in full.

Proposal price:		\$128,445.37
Initial progress payment:	(50%)	\$64,222.69
Material furnished:	(25%)	\$32,111.34
Total of remaining progress payments:	(25%)	\$32,111.34

### 3. Warranty

TK Elevator warrants any equipment it installs as described in this Proposal against defects in material and workmanship for a period of one (1) year from the date of Purchaser's execution of TK Elevator's "Final Acceptance Form" on the express conditions that all payments made under this Proposal and any mutually agreed-to change orders have been made in full and that such equipment is currently being serviced by TK Elevator. In the event that TK Elevator's work is delayed for a period greater than six (6) months, the warranty shall be reduced by the amount of the delay. This warranty is in lieu of any other

## EXHIBIT "B"

warranty or liability for defects. TK Elevator makes no warranty of merchantability and no warranties which extend beyond the description in this Proposal, nor are there any other warranties, expressed or implied, by operation of law or otherwise. Like any piece of fine machinery, the equipment described in this Proposal should be periodically inspected, lubricated, and adjusted by competent personnel. This warranty is not intended to supplant normal maintenance service and shall not be construed to mean that TK Elevator will provide free service for periodic examination, lubrication, or adjustment, nor will TK Elevator correct, without a charge, breakage, maladjustments, or other trouble arising from normal wear and tear or abuse, misuse, improper or inadequate maintenance, or any other causes other than defective material or workmanship. In order to make a warranty claim, Purchaser must give TK Elevator prompt written notice at the address listed on the cover page of this Proposal and provided all payments due under the terms of this Proposal and any mutually agreed to written change orders have been made in full, TK Elevator shall, at its own expense, correct any proven defect by repair or replacement. TK Elevator will not, under any circumstances, reimburse Purchaser for cost of work done by others, nor shall TK Elevator be responsible for the performance of any equipment that has been the subject of service, repair, replacement, revisions or alterations by others. If there is more than one (1) unit which is the subject of work described in this Proposal, this section shall apply separately to each unit as accepted.

#### **4. Preventative Maintenance Program**

This Proposal does not include any maintenance, service, repair or replacement of the equipment or any other work not expressly described herein. TK Elevator will submit a separate proposal to Purchaser covering the maintenance and repair of this equipment to be supplied to Purchaser at an additional cost.

#### **5. Work Not Included – THIS WORK IS INCLUDED. SEE Exhibit A - PAGE 15 FOR SCOPE OF WORK.**

There are certain items that are not included in this Proposal, many of which must be completed by Purchaser prior to and as a condition precedent to TK Elevator's performance of its work as described in this Proposal. In order to ensure a successful completion of this project, it shall be solely Purchaser's responsibility to coordinate its own completion of those items with TK Elevator. The following is a list of those items that are not included in this Proposal:

##### **A. Hoistways and Equipment Rooms**

1. Purchaser shall provide the following:
  - a. A dry legal hoistway, properly framed and enclosed, and including a pit of proper depth and overhead. This is to include steel safety beam, inspection or access platforms, access doors, sump pump, lights, waterproofing and venting as required; dewatering of pit(s) and required permanent screening/
  - b. A legal machine/control room, adequate for the elevator equipment, including floors, trap doors, gratings, access platforms, ladders, railings, foundations, lighting, ventilation sized per the TK Elevator shop drawings. Purchaser must maintain machine/control room temperature between 55 and 90 degrees Fahrenheit, with relative humidity less than 95% non-condensing at all times.
  - c. Adequate bracing of entrance frames to prevent distortion during wall construction.
  - d. All grouting, fire caulking, cutting, x-ray and removal of walls and floors, patching, coring, setting of sleeves/knockouts, penetrations and painting (except as specified) and removal of obstructions required for elevator work; along with all proper trenching and backfilling for any underground piping and/or conduit.
  - e. All labor and materials necessary to support the full width of the hoistway at each landing for anchoring or welding TK Elevator sill supports, steel angles, sill recesses;
  - f. The furnishing, installing and maintaining of the required fire rating of elevator hoistway walls, including the penetration of firewall by elevator fixture boxes;
  - g. Ensuring that the elevator hoistways and pits are dewatered, cleaned and properly waterproofed;

##### **B. Electrical and Life Safety:**

1. Purchaser shall provide a dedicated, analog telephone or data line to the elevator telephone or communication device; one additional data line per group of elevators for diagnostic capability wired to designated controller;
2. Purchaser shall provide the following:



## EXHIBIT "B"

- a. suitable connections from the power main to each controller and signal equipment feeders as required, including necessary circuit breakers and fused mainline disconnect switches per N.E.C. prior to installation. Suitable power supply capable of operating the new elevator equipment under all conditions;
- b. piping and wiring to controller for mainline power, car lighting, and any other building systems that interface with the elevator controls per N.E.C. Articles 620-22 and 620-51;
- c. any required hoistway / wellway, machine room, pit lighting and/or 110v service outlets;
- d. conduit and wiring for remote panels to the elevator machine room(s) and between panels. Remote panels required by local jurisdictions are not included in this proposal;
- e. a bonded ground wire, properly sized, from the elevator controller(s) to the primary building ground; and all remote wiring to the outside alarm bell as requested by all applicable code provisions;
- f. installed sprinklers, smoke/heat detectors on each floor, machine room and hoistways / wellways, shunt trip devices (not self-resetting) and access panels as may be required as well as normally open dry contacts for smoke/heat sensors, which shall be terminated by Purchaser at a properly marked terminal in the elevator controller;
- g. a means to automatically disconnect the main line and the emergency power supply to the elevator prior to the application of water in the elevator machine room that shall not be self-resetting;
- h. emergency power supply including automatic time delay transfer switch and auxiliary contacts with wiring to the designated elevator controller and along with electrical cross connections between elevator machine rooms for emergency power purposes;
- i. the following emergency power provisions are not included: interface in controller, pre-testing and testing, emergency power keyswitches;
- j. emergency power operation is included as part of the design of the elevator control system and based on each car in the group only, to properly sequence, one at a time to the programmed landing, and park. The design requires that the generator, transfer switch, and related circuitry are sufficient to run this function or any other function for any building other system that is associated with this project. In the event that the generator, transfer switch, and related circuitry are not sufficient, TK Elevator will provide Purchaser with a written change order for Purchaser's execution.
- k. a dry set of contacts which close 20 seconds prior to the transfer from normal power to emergency power or from emergency power to normal power whether in test mode or normal operating conditions in the event that an emergency power supply will be provided for the elevator;
- l. confirmation that the emergency standby power generator and/or building can accept the power generated to and from the elevator during both Hi-Speed and Deceleration. In cases where the generator and/or building load is not electrically sized to handle the power return from the regen drive, additional separate chopper and resistor units are available for purchase but not included in this proposal. The additional chopper and resistor units allow regenerated power to be dissipated in the resistor bank and not sent back into the building grid.

### **C. Miscellaneous:**

1. Purchaser shall provide all work relating to the finished cab flooring including, but not limited to, the provision of materials and its installation to comply with all applicable codes;
2. Hydraulic jack replacement:
  - a. the excavation of the elevator cylinder well hole in the event drilling is necessary through soil that is not free from rock, sand, water, building construction members and obstructions. Should obstructions be encountered, TK Elevator will proceed only after written authorization has been received from the Purchaser. The contract price shall be increased by the amount of additional labor at TK Elevator's standard labor rates as per the local office along with any additional expenses and materials required;
  - b. adequate ingress and egress, including ramping, for rail-mounted or truck-mounted drill rig;
  - c. Purchaser is responsible for pumping truck contractor to remove and dispose of spoils from the site. In the event that unforeseen and unfavorable below ground conditions are encountered, including but not limited to concrete around the cylinder, construction debris, adverse water and/or soil conditions, erosion, cavitations, oil contamination, or circumstances necessitating increased hole depth, etc., which require the employment of specialized contractors, TK Elevator shall immediately advise the Purchaser and costs will be extra to the contract;
  - d. in ground protection systems other than TK Elevator's standard HDPE or PVC protection system with bottomless corrugated steel casing;
  - e. any required trenching and backfilling for underground piping or casings, and conduit as well as any compaction, grouting, and waterproofing of block-out;

## EXHIBIT "B"

- f. engineering, provision and installation of methane barriers or coordination/access;
- g. access to 2" pressurized water supply within 100'-0" of the jack hole location;
- h. a safe, accessible storage area for placement of D.O.T. 55 gallon containers for the purpose of spoils containment; obtaining of local environmental or disposal permits
- i. any spoils or water testing;

### 6. Working Hours, Logistics and Mobilization

- a. All work described in this Proposal shall be performed during TK Elevator's regular working days – defined as Monday thru Friday and excluding IUEC recognized holidays – and regular working hours – defined as those hours regularly worked by TK Elevator modernization mechanics at the TK Elevator branch office that will provide labor associated with the performance of the work described in this Proposal - unless otherwise specified and agreed to in writing by both TK Elevator and Purchaser (hereinafter TK Elevator's regular working days and regular working hours shall be collectively defined as “normal working hours”). TK Elevator shall be provided with uninterrupted access to the elevator hoistway and machine room areas to perform work during normal working hours.
- b. Purchaser shall provide on-site parking to all TK Elevator personnel at no additional cost to TK Elevator.
- c. Purchaser shall provide traffic control, lane closures, permits and flagmen to allow suitable access/unload of tractor trailer(s).
- d. Purchaser agrees to provide unobstructed tractor-trailer access and roll-able access from the unloading area to the elevator or escalator hoistways or wellways (as applicable).
- e. Purchaser will be required to sign off on the Material Release Form, which will indicate the requested delivery date of equipment to the site. If Purchaser is not ready to accept delivery of the equipment within ten (10) business days of the agreed upon date, Purchaser will immediately make payments due for equipment and designate an area adjacent to the elevator shaft where Purchaser will accept delivery. If Purchaser fails to provide this location or a mutually agreeable alternative, TK Elevator is authorized to warehouse the equipment at the TK Elevator warehouse or designated distribution facility at Purchaser's risk and expense. Purchaser shall reimburse TK Elevator for all costs due to extra handling and warehousing. Storage beyond ten (10) business days will be assessed at a rate of \$100.00 per calendar day for each unit listed in this Proposal, which covers storage and insurance of the elevator equipment and is payable prior to delivery.
- f. Purchaser agrees to provide a dry and secure area adjacent to the hoistway(s) at the ground level for storage of the elevator equipment and tools within ten (10) business days from receipt at the local TK Elevator warehouse. Any warranties provided by TK Elevator for vertical transportation equipment will become null and void if equipment is stored in any manner other than a dry, enclosed building structure. Any relocation of the equipment as directed by Purchaser after initial delivery will be at Purchaser's expense.
- g. TK Elevator includes one mobilization to the jobsite. A mobilization fee of \$2,500.00 per crew per occurrence will be charged for pulling off the job or for any delays caused by others once material has been delivered and TK Elevator's work has commenced.
- h. Access for this project shall be free and clear of any obstructions. A forklift for unloading and staging material shall also be provided by Purchaser at no additional cost.
- i. Purchaser shall provide an on-site dumpster. TK Elevator will be responsible for cleanup of elevator/ escalator packaging material; however, composite cleanup participation is not included in this Proposal.
- j. The hiring of a disposal company which MUST be discussed prior to any material being ordered or work being scheduled. TK Elevator will provide environmental services ONLY if this is specifically included under the "Scope of Work" section above. TK Elevator assumes no responsibility and/or liability in any way whatsoever for spoils or other contamination that may be present as a result of the cylinder breach and/or other conditions present on the work site.
- k. One or more of the units described in this Proposal will be out of service and unavailable to move passengers and/or property during entire duration of the performance of the work described in this Proposal until re-certified by the applicable authority(ies) having jurisdiction and in good standing with payment schedules.

### 7. Temporary Use, Inspection and Turnover

- a. Unless required by specification, TK Elevator will not provide for “temporary use” of the elevator(s) described in this Proposal prior to completion and acceptance of the complete installation. Temporary use shall be agreed to via a change

## EXHIBIT "B"

order to this Proposal which shall require Purchaser's execution of TK Elevator's standard Temporary Use Agreement. Cost for temporary use of an elevator shall be \$200.00 per calendar day per hydraulic elevator and \$250.00 per calendar day for each traction elevator for rental use only, excluding personnel to operate. All labor and parts, including callbacks required during the temporary use period will be billed at TK Elevator's standard local billing rates. In the event that an elevator must be provided for temporary use, TK Elevator will require 30 days to perform final adjustments and re-inspection after the elevator has been returned to TK Elevator with all protection, intercoms and temporary signage removed. This duration does not include any provisions for finish work or for repairs of same, which shall be addressed on a project-by-project basis. Cost for preparation of controls for temporary use, refurbishment due to normal wear and tear, readjustment and re-inspection is \$3,500.00 per elevator up to 10 floors. For projects above 10 stops, an additional cost of \$1,500.00 / 10 floors shall apply. These costs are based on work performed during normal working hours. Temporary use excludes vandalism or misuse. Any required signage, communication devices, elevator operators, and protection are not included while temporary use is being provided. All overtime premiums for repairs during the temporary use period will be billed at TK Elevator's local service billing rates.

b. The Proposal price set forth above includes one (1) inspection per unit by the applicable authority having jurisdiction if required by the government of the locality where the equipment is located. In the event the equipment fails that inspection due to no fault of TK Elevator, TK Elevator will charge Purchaser for both the cost of each re-inspection which shall be \$1,500.00 and a remobilization fee which shall be \$2,500.00 via change order prior to scheduling a re-inspection.

c. Upon notice from TK Elevator that the installation and/or modernization of the equipment is complete, Purchaser will arrange to have present at the jobsite a person authorized to make the final inspection and to execute TK Elevator's "Final Acceptance Form." The date and time that such person will be present at the site shall be mutually agreed upon but shall not be more than ten (10) business days after the date of TK Elevator's notice of completion to Purchaser unless both TK Elevator and Purchaser agree to an extension of that ten (10) day period in writing. Such final inspection and execution of TK Elevator's "Final Acceptance Form" shall not be unreasonably delayed or withheld.

d. Should the Purchaser or the local authority having jurisdiction require TK Elevator's presence at the inspection of equipment installed by others in conjunction with the work described in this Proposal, Purchaser agrees to compensate TK Elevator for its time at TK Elevator's current billing rate as posted at its local office.

e. At the conclusion of its work, TK Elevator will remove all equipment and unused or removed materials from the project site and leave its work area in a condition that, in TK Elevator's sole opinion, is neat and clean.

f. Purchaser agrees to accept a live demonstration of equipment's owner-controlled features in lieu of any maintenance training required in the bid specifications.

g. Purchaser agrees to accept TK Elevator's standard owner's manual in lieu of any maintenance, or any other, manual(s) required in the bid specifications.

### 8. MAX

MAX is a cloud based Internet of Things (IoT) platform that we, at our election, may connect to your elevators and escalators by means of installation of a remote-monitoring device or modem (each a "device"). MAX will analyze the unique signal output of your equipment 24/7 and when existing or potential outages are identified, MAX will automatically communicate with our dispatch centers. When appropriate, the dispatch center will alert our technicians during normal working hours. These MAX alerts provide the technician with precise diagnostics detail, which greatly enhances our ability to fix your equipment right the first time, MAXimizing the equipment uptime.

a. Purchaser authorizes TK Elevator and its employees to access purchaser's premises to install, maintain and/or repair the devices and, upon termination of the service agreement, to remove the same from the premises if we elect to remove.

b. TK Elevator is and shall remain the sole owner of the devices and the data communicated to us by the devices. The devices shall not become fixtures and are intended to reside where they are installed. TK Elevator may remove the devices and cease all data collection and analysis at any time.

c. If the service agreement between TK Elevator and Purchaser is terminated for any reason, TK Elevator will automatically deactivate the data collection, terminate the device software and all raw data previously received from the device will be removed and/or expunged or destroyed.

d. Purchaser consents to the installation of the devices in your elevators and to the collection, maintenance, use, expungement and destruction of the daily elevator data as set forth in this agreement.

## EXHIBIT "B"

- e. The devices installed by TK Elevator contain trade secrets belonging to us and are installed for the use and benefit of our personnel only.
- f. Purchaser agrees not to permit purchaser personnel or any third parties to use, access, tamper with, relocate, copy, disclose, alter, destroy, disassemble or reverse engineer the device while it is located on purchaser's premises.
- g. The installation of this equipment shall not confer any rights or operate as an assignment or license to you of any patents, copyrights or trade secrets with respect to the equipment and/or any software contained or imbedded therein or utilized in connection with the collection, monitoring and/or analysis of data.

### 9. Additional Terms and Conditions

- a. In no event shall TK Elevator be responsible for liquidated, consequential, indirect, incidental, exemplary, and special damages associated with the work described in this Proposal.
- b. This Proposal is made without regard to compliance with any special purchasing, manufacturing or construction/installation requirements including, but not limited to, any socio-economic programs, such as small business programs, minority or woman owned business enterprise programs, or local preferences, any restrictive sourcing programs, such as Buy American Act, or any other similar local, state or federal procurement regulations or laws that would affect the cost of performance. Should any such requirements be applicable to the work described in this Proposal, TK Elevator reserves the right to modify this Proposal or rescind it altogether.
- c. TK Elevator is an equal opportunity employer.
- d. TK Elevator's performance of the work described in this Proposal is contingent upon Purchaser furnishing TK Elevator with any and all necessary permission or priority required under the terms and conditions of government regulations affecting the acceptance of this Proposal or the manufacture, delivery or installation of the equipment. All applicable sales and use taxes, permit fees and licenses imposed upon TK Elevator as of the date of the Proposal are included in the price of the Proposal. Purchaser is responsible for any additional applicable sales and use taxes, permit fees and licenses imposed upon TK Elevator after the date of the Proposal or as a result of any law enacted after the date of the Proposal.
- e. All taxes, tariffs, duties, permit and/or license fees imposed upon TK Elevator as of the date of the execution of this Proposal are included in the price of the Proposal. Purchaser is responsible, in addition to the Proposal price, to pay TK Elevator for any additional (or any increase in) applicable taxes, tariffs, duties, permit and/or license fees imposed upon TK Elevator after the date of acceptance of this Proposal by any governmental authority or by any of TK Elevator's suppliers of the materials and/or components required in connection with this Proposal.
- f. Purchaser agrees to provide TK Elevator's personnel with a safe place in which to work and TK Elevator reserves the right to discontinue work at the jobsite whenever, in TK Elevator's sole opinion, this provision is being violated.
- g. The pricing set forth in this Proposal assumes that the elevator pits will not be classified as a confined space. TK Elevator will follow its standard safety policy and procedures. Any job specific safety requirements over and above TK Elevator's standard practices and policies may require additional costs.
- h. TK Elevator will furnish and install all equipment in accordance with the terms, conditions, scope and equipment nomenclature as noted herein. Requested changes or modifications to such provisions will require a written change order issued on the Purchaser's letterhead and accepted by TK Elevator in writing prior to the execution of such work. This change order shall detail the current contract price, the amount of the change, and new contract value.
- i. This Proposal does not include a schedule for the work described and any such schedule shall be mutually agreed upon by an authorized representative of both TK Elevator and Purchaser in writing before becoming effective.
- j. In the event asbestos material is knowingly or unknowingly removed or disturbed in any manner at the jobsite, Purchaser shall monitor TK Elevator's work place and prior to and during TK Elevator's manning of the job, Purchaser shall certify that asbestos in the environment does not exceed .01 fibers per cc as tested by NIOSH 7400. In the event TK Elevator's employees or those of TK Elevator's subcontractors are exposed to an asbestos hazard, PCP's, lead or other hazardous substances, Purchaser agrees, to the fullest extent permitted by law, to indemnify, defend, and hold TK Elevator harmless from all damages, claims, suits, expenses, and payments resulting from such exposure. Identification, notification, removal and disposal of asbestos containing material, PCP's lead or other hazardous substances are the responsibility of the Purchaser.
- k. TK Elevator retains title to and a security interest in all equipment it supplies – which TK Elevator and Purchaser agree can be removed without material injury to the real property – until all payments including deferred payments and any

## EXHIBIT "B"

extensions thereof, are made. In the event of any default by Purchaser on any payment, or any other provision of this Proposal, TK Elevator may take immediate possession of the equipment and enter upon the premises where it is located – without legal process – and remove such equipment or portions thereof, irrespective of the matter of its attachment to the real estate or the sale, mortgage or lease of the real estate. Pursuant to the Uniform Commercial Code, and at TK Elevator's request, Purchaser agrees to execute any financial or continuation statements which may be necessary for TK Elevator to file in public offices in order to perfect TK Elevator's security interest in such equipment.

l. TK Elevator reserves the right to assign payments owed to TK Elevator under this Proposal.

m. TK Elevator shall not be liable for any loss, damage or delay caused by acts of government, labor troubles, strikes, lockouts, fire, explosion, theft, floods, riot, civil commotion, war, malicious mischief, acts of God or any cause beyond its control.

n. The rights of TK Elevator under this Proposal shall be cumulative and the failure on the part of the TK Elevator to exercise any rights hereunder shall not operate to forfeit or waive any of said rights. Any extension, indulgence or change by TK Elevator in the method, mode or manner or payment or any of its other rights shall not be construed as a waiver of any of its rights under this Proposal.

o. In the event TK Elevator engages a third party to enforce the terms of this Proposal, and/or to collect payment due hereunder, either with or without suit, Purchaser agrees to pay all costs thereof together with reasonable attorney's fees. Purchaser does hereby waive trial by jury and does hereby consent to the venue of any proceeding or lawsuit under this Proposal to be in the county where the work covered by this Proposal is located.

p. TK Elevator can furnish Certificate of Workers' Compensation, Bodily Injury and Property Damage Liability Insurance coverage to Purchaser upon written request.

q. Should loss of or damage to TK Elevator's material, tools or work occur at the project site, Purchaser shall compensate TK Elevator for such loss, unless such loss or damage results from TK Elevator's own acts or omissions.

r. Purchaser, in consideration of TK Elevator performing the services set forth in this Proposal, to the fullest extent permitted by law expressly agrees to indemnify, defend, save harmless, discharge, release and forever acquit TK Elevator Corporation, TK Elevator Manufacturing, Inc., their respective employees, officers, agents, insurers, affiliates, and subsidiaries (hereinafter singularly a "TK Elevator party" and collectively the "TK Elevator parties") from and against any and all claims, demands, suits, and proceedings for loss, property damage (including damage to the equipment which is the subject matter of this Proposal), personal injury or death that are alleged to either have arisen out of or be connected with the sale, marketing, presence, use, misuse, maintenance, installation, removal, modernization, manufacture, design, operation or condition of the equipment that is the subject matter of this Proposal or the labor and materials furnished in connection with this Proposal. Purchaser's duty to indemnify a TK Elevator party does not apply to the extent that the loss, property damage (including damage to the equipment which is the subject matter of this Proposal), personal injury or death is determined to be caused by or resulting from the negligence of that TK Elevator party. Purchaser recognizes that its obligation to defend the TK Elevator parties under this clause, which is separate and apart from its duty to indemnify the TK Elevator parties, includes payment of all attorneys' fees, court costs, judgments, settlements, interest and any other expenses of litigation arising out of such claims, demands, suits or proceedings.

s. Purchaser further expressly agrees to name TK Elevator Corporation and TK Elevator Manufacturing, Inc. along with their respective officers, agents, affiliates and subsidiaries as additional insureds in Purchaser's liability and any excess (umbrella) liability insurance policy(ies). Such insurance must insure TK Elevator Corporation and TK Elevator Manufacturing, Inc. for those claims and/or losses referenced in the above paragraph and those claims and/or losses arising from the negligence of TK Elevator Corporation and TK Elevator Manufacturing, Inc. Such insurance must specify that its coverage is primary and non-contributory. Purchaser hereby waives its right of subrogation.

t. TK Elevator's participation in any controlled insurance program is expressly conditioned upon review and approval of all controlled insurance program information and documentation prior to enrollment. Any insurance credits if applicable, will be provided at that time.

u. Unless so mutually agreed upon in a separate signed agreement, TK Elevator shall not be required to interact or correspond with any third party with whom Subcontractor is not in privity of contract concerning matters pertinent to this Agreement.

v. The Purchaser must inform TK Elevator if Purchaser is, or becomes, an individual or entity that is - or that is majority owned or controlled by a party that is - included on any list of restricted parties maintained by (i) the United States of America; (ii) the United Nations; (iii) the European Union or any EU member state; (iv) the UK; or (v) any other national authority binding the parties of this contract.

## EXHIBIT "B"

In case the Purchaser, or any other beneficiary of this transaction, e.g. the end-user, is or becomes an individual or entity that is - or that is majority owned or controlled by a party that is - included on any list of restricted parties, TK Elevator reserves the right to cancel this Proposal immediately.

If the goods subject to this Proposal would be exported, re-exported, resold, used, transferred or otherwise disposed of in violation of any sanctions applicable to TK Elevator, TK Elevator also reserves the right to cancel this Proposal immediately. In this respect, the Purchaser shall be obliged to disclose the final delivery address, end-user and end-use of the goods upon request - insofar as legally permissible - and to notify TK Elevator of all circumstances that indicate an aforementioned infringement.

"Sanctions" means here any economic, trade or financial sanctions, laws, regulations, embargoes or restrictive measures imposed, enacted, administered or enforced by any Sanctions Authority. "Sanctions Authority" means (i) the US;(ii) the UN Security Council;(iii) the EU and any EU member state;(iv) the UK; or(v) any governmental institutions of any of the foregoing which administer Sanctions, including HM Treasury, OFAC, the US State Department and the US Department of the Treasury.

### 10. Project Clarifications

- a. For elevator modernization projects, each elevator cab will be weighed prior to the start of the modernization process of each individual unit. If the existing cabs are over 5% of the allowable weight and contracted capacity as noted on the original crosshead data tag and/or the elevators are out of balance, any additional scope of work to make code compliant will be determined on an elevator-by-elevator case basis and a change order for this work will be proposed accordingly. In addition, TK Elevator will not be responsible for any building structural items due to elevator exceeding the 5% allowable weight nor the under-sizing of the equipment proposed using the crosshead data tag information. Should additional or higher-rated equipment be required due to a discrepancy in the actual vs. car top crosshead data tag, additional cost may apply and will be provided via change order.
- b. No fire, security, lobby, or other panels were identified at the time of survey. If a panel is required, it will be provided through the Change Order process.
- c. Logistical Plan: Purchaser shall ensure that clear, unobstructed access by and between the machine room, elevators, storage areas, work areas, etc. for the duration of the project. Any required deviation from the stated logistical plan will be submitted as a change order to the project agreement.
- d. All equipment provided as a part of this project shall be provided and installed in accordance with the applicable A17.1 requirements at the time of the bid/proposal. Retained equipment shall remain 'as-is' and not be reconditioned nor modified to meet A17.1, OSHPD, structural, or seismic requirements, unless specifically included or clarified elsewhere. If any work is required on retained equipment, a change order will be provided detailing additional required scope and pricing.
- e. No related work / "work by others" is included in TK Elevator's pricing as this work will need to be completed by a general contractor. Please note that the wall area around all signal fixture boxes must be fire-rated based on current OSHPD requirements. In addition, any list provided by TK Elevator for such work will be made part of the project agreement documents.
- f. The existing electrical conduit between the elevator machine room and the elevator hoistway will be retained. Should it be determined during the modernization that the existing conduit is unusable due to the existing wires not being removable and/or there being a loss of integrity in the conduit walls, a new overhead electrical conduit run between the elevator machine room and elevator hoistway will be designed and installed through the change order process.
- g. The existing hydraulic oil line will be retained. This bid includes new Victaulic gasket replacements on all flexible connections. Should it be determined through the course of the modernization that any of the oil line is leaking, a new overhead oil line run between the elevator machine room and elevator hoistway will be designed and installed through the change order process.

## Acceptance

**Purchaser's acceptance of this Proposal and its approval by an authorized manager of TK Elevator will constitute exclusively and entirely the agreement between the parties for the goods and services herein described and full payment of the sum of One Hundred Twenty Eight Thousand Four Hundred Forty Five Dollars and Thirty Seven Cents (\$128,445.37) inclusive of all applicable sales and use taxes.**

All other prior representations or regarding this work, whether written or verbal, will be deemed to be merged herein and no other changes in or additions to this Proposal will be recognized unless made in writing and properly executed by both parties as a change order. Should Purchaser's acceptance be in the form of a purchase order or other similar document, the provisions of this Proposal will exclusively govern the relationship of the parties with respect to this transaction. No agent or employee shall have the authority to waive or modify any of the terms of this Proposal without the prior written approval of an authorized TK Elevator manager.

**Irvine Ranch Water District  
(Purchaser):**

**TK Elevator Corporation Management Approval**

By:

By:

\_\_\_\_\_  
(Signature of Authorized Individual)  
Richard Brown

\_\_\_\_\_  
(Signature of Branch Representative)

\_\_\_\_\_  
(Print or Type Name)

Scott Jones  
Branch Manager

\_\_\_\_\_  
(Print or Type Title)

\_\_\_\_\_  
(Date of Acceptance)

\_\_\_\_\_  
(Date of Execution)

EXHIBIT "B"

SCHEDULING AND PRODUCTION  
REQUEST FOR PAYMENT

Please Remit To: TK Elevator  
PO Box 3796  
Carol Stream, IL 60132-3796

Attn: Richard Brown  
Irvine Ranch Water District  
PO Box 57000  
Irvine CA, 92619-7000

Date	Terms	Reference ID	Customer Reference # / PO
March 28, 2022	Immediate	ACIA-1YGHBON	
Total Contract Price:			\$128,445.37
Initial progress payment:			(50%) \$64,222.69

For inquiries regarding your contract or services provided by TK Elevator, please contact your local account manager at +1 714 9412317. To make a payment by phone, please call 209-317-5636 with the reference information provided below.

Current and former service customers can now pay online at:  
<https://secure.billtrust.com/thyssenkruppelevator/ig/one-time-payment>

Thank you for choosing TK Elevator. We appreciate your business.

**Please detach the below section and provide along with payment.**

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Customer Name:	Irvine Ranch Water District	Remit To:
Location Name:	IRWD Operations Center	TK Elevator
Customer Number:	138287	PO Box 3796
Quote Number:	2022-2-1256035	Carol Stream, IL 60132-3796
<hr/>		
Reference ID:	ACIA-1YGHBON	
<hr/>		
Remittance Amount:	\$64,222.69	
<hr/>		



# EXHIBIT "B"

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<b>PROJECT ADDRESS:</b>	Irvine Ranch Water District 3512 Michelson Dr Irvine, CA 92612	<b>Prevailing Wage</b>
	Elevator Modernization	<b>No. of Elevators:</b> 1
		<b>No. of Landings:</b> 3
		<b>Type:</b> Hydro

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## All general construction work required for elevator modernization:

Furnish labor, materials, equipment and supervision for all general, mechanical, electrical and smoke detection systems related to the modernization of the above stated elevator(s) as listed below.

This proposal is based on approved vendors being utilized.

If a preferred vendor is required for this project, it may result in a change order.

The work to be performed may be in conjunction with a modernization, working with an elevator contractor.

This proposal is based on work being completed during normal business hours unless stated otherwise.

If afterhours or overtime work is required, pricing may need to be adjusted.

Proposal pricing is compliant with Davis Bacon Act or prevailing wage rates.

## Machine room -

Retain existing machine room door.

Supply and install all required signage and extinguishers.

There are no provisions for the addition of sprinklers to the machine room.

Supply and install car light circuit with lockable disconnects.

Supply and install feeder from the load side of the car light disconnect to controller.

Retain existing main line disconnect with battery lowering contacts.

Supply and install wiring and piping for main feeder into controller from main disconnect.

<sup>1</sup> **ALT:** If local AHJ is to require shunt trip, see alternate below.

This proposal is based on using the existing feeder from the main electrical service gear to the machine room. If this feeder or main service gear is required to be upgraded, it would be handled on a change order.

Supply and install (2) LED lamp guarded fixtures.

Supply and install (1) machine room GFCI.

Supply and install positive earth ground to main controller.

No short circuit coordination, arc flash, or selective coordination studies are included.

This proposal is based on a new motor same HP as existing.

Supply and install piping for phone lines into new controllers.

**Note:** Owner must ensure a single use phone line is brought to the elevator machine room from the main building service connection/demarcation point. This line must be ordered at the start of the modernization so as to be available at time of inspection.

Owner to provide demark connection, maintenance and phone line service charges.

Any modifications or relocating of card access, CCTV, Security or other low voltage items to be completed by owner. They are not included.

## Lobbies -

No work is included for lobby fixtures.

## EXHIBIT "B"

### **The pit & hoist way -**

#### *In the pit -*

Supply and install (1) pit light switch.

Supply and install (1) 4ft guarded LED fixture.

Supply and install (1) GFCI.

Pit Ladder will be the responsibility of the Elevator company if any modifications need to be made.

There are no provisions for a sump pump included in this proposal.

General patching, as needed.

No sprinkler work is included.

**Note:** No access to the pit was given at the time of our walkthrough.

Anything needed beyond this scope will be handled on a change order basis.

#### *In the hoist way -*

General patching for the hoist way walls.

**Note:** This price is for general patching only. If the elevator frames need modifications

to achieve a proper fire rating, it would be handled on a change order.

There are no provisions for framework or patching included in this proposal.

Remove Fire Sprinkler if approved by local AHJ.

**Note:** No access to the hoist way was given at the time of our walkthrough.

Anything needed beyond this scope will be handled on a change order basis.

### **Hoist way ventilation -**

Leaving existing ventilation "as is."

This proposal is based on the existing vent being code compliant as of the date of the survey and in working condition.

Should the vent be found in any other state, it would be handled on a change order.

### **Smoke detection and recall system- Pyro-Comm to do FLS work**

Plans and Permits are included.

Remove smoke detector at top of hoistway if approved by AHJ.

Supply and install (1) smoke head, (1) heat head, and fire hat relay in machine room.

Supply and install (1) heat head on ground floor lobby.

**Note:** Conduit to be ran in ceiling of ground level for new heat device. We will patch back the ceiling and paint to match.

Owner to supply paint color.

All new devices to be fed from existing fire panel tied to elevator control panel.

**Note:** This proposal is based on the existing FACP being addressable and or can modified to handle additional devices and zones. If FACP is password protected it must be provided by the owner for programming.

If modifications need to be made, this will also be handled under a change order.

Provide FLS technician for pre-test with Elevator Company and for final acceptance with State AHJ.

If there are additional items required by local AHJ, it would be handled on a change order.

**Note:** Cad Drawings are not included in this proposal. If Cad Drawings are not available, it will be handled on a change order.

### **Emergency Power -**

No emergency power is included in this proposal.

### **Car top time -**

Our estimated car top time is 4 hours.

N/C

Our estimated pit access time is 3 hours.

Car top time and pit access time will be provided by the elevator company. If we exceed our estimated car top time or pit access time it would be provided at no charge.

### **General clean up / dumpster / misc. materials / building permit, as needed -**

We will be responsible for clean-up and disposal of debris generated from our scope of work.

**NOTE:** There are no provisions for drawings included in this proposal. If drawings are required for permitting, this pricing may need to be adjusted.

## EXHIBIT "B"

### **Alternates:**

<sup>1</sup> If local AHJ is to require shunt trip, add:

\$5,068.85 Change Order if required

Shunt breaker will be located outside of machine room.

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All pricing for any wall/floor cutting assumes that the building is either constructed post 1978 or has no lead paint. If lead paint exists pricing for these items may vary.

No provisions have been made for liquidated damages, nor will any be paid.

Times and date will have to be worked out with the Owner and Elevator Contractor.

This bid proposal does not include any pricing for asbestos/lead testing or removal.

Should the location of any equipment change, an additional charge may be incurred.

The proposal is based on state or local inspections being completed during normal business hours.

Bond requirements and fees will be addressed separately, if applicable.

Proposal pricing is compliant with Davis Bacon Act or prevailing wage rates.

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May 9, 2022

Prepared by: R. Mykitta

Submitted by: W. Chambers

Approved by: Paul A. Cook



## CONSENT CALENDAR

### TRUCK-MOUNTED CRANE PURCHASE CONTRACT AWARD

#### SUMMARY:

Truck-mounted cranes are used by IRWD staff during construction and maintenance activities to safely lift heavy supplies and equipment. Truck-mounted cranes provide flexibility, improve productivity, and enhance worker safety because they can be used when working in roadways and at worksites throughout the District. Staff recommends the Board authorize the General Manager to execute a contract with Altec Industries, Inc. in the amount of \$366,954 for the purchase of one new truck-mounted crane.

#### BACKGROUND:

Staff uses truck-mounted cranes to lift heavy steel plates and safety equipment when making repairs to pipelines and sewers. Truck-mounted cranes are also used to lift equipment such as pumps and motors during maintenance activities. The current unit was purchased in 1990 and has accumulated over 4,274 operating hours. Replacement is required due to equipment age, condition, and increased frequency of maintenance.

#### Bid Process:

Staff solicited proposals from four distributors of truck-mounted cranes that are members of the Sourcewell Cooperative Purchasing Agreement. Staff received proposal from three distributors, and Altec Industries, Inc. was the low bidder with a price of \$366,954. Altec's proposal is provided as Exhibit "A".

#### FISCAL IMPACTS:

Sufficient funds for the truck-mounted crane are included in the Fiscal Year 2021-22 Capital Budget.

#### ENVIRONMENTAL COMPLIANCE:

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

#### COMMITTEE STATUS:

This item was not reviewed by a Committee.

Consent Calendar: Truck-mounted Crane Purchase Contract Award

May 9, 2022

Page 2

RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE A CONTRACT WITH ALTEC INDUSTRIES, INC. IN THE AMOUNT OF \$366,954 FOR THE PURCHASE OF ONE NEW TRUCK-MOUNTED CRANE.

LIST OF EXHIBITS:

Exhibit "A" – Altec Industries, Inc. Proposal

EXHIBIT "A"



Quote Number: 1037004  
 Opportunity Number: 1658036  
 Sourcewell Contract #: 012418-ALT  
 Date: 3/16/2022

Quoted for: IRVINE RANCH WATER DISTRICT

Customer Contact:

Phone: / Email:

Quoted by: Coy Hypes

Phone: / Email:

Altec Account Manager: Kurt Frey

REFERENCE ALTEC MODEL		Sourcewell Price
AC18-70B	Hydraulic Telescopic Crane	\$191,683

(A.) SOURCEWELL OPTIONS ON CONTRACT (Unit)

1	AC18-70B-AUTO	Automatic Transmission	\$7,778
2	AC18-70B-TANDEM	Tandem axle chassis	\$31,997
3	AC18-70B-FBO	Front Bumper Outrigger	\$6,655
4	AC18-70B-SHEAVE1	One (1) Sheave Load Block with holder	\$3,227

(A1.) SOURCEWELL OPTIONS ON CONTRACT (General)

1	DP	Dica Pads and Pad Holder - 24" x 24" x 1", With Rope Handle (Pair)	\$792
2	DP	Dica Pads and Pad Holder - 24" x 24" x 1", With Rope Handle (Pair)	\$792
<b>SOURCEWELL OPTIONS TOTAL:</b>			<b>\$242,924</b>

(B.) OPEN MARKET ITEMS (Customer Requested)

1	UNIT	12K LB, Single Speed, Main Winch / Rotation Resistant, 9/16" Wire Rope	\$0
2	UNIT & HYDRAULIC ACC	Non-Swivel Load Ball / 90K Oil Cooler / 70GAL Reservoir	\$0
3	BODY	Approx. 22FT Wooden Flatbed With Rub Rails	\$8,720
4	BODY & CHASSIS ACC	30K Pintle Hitch / Glad Hands / FBO Pad And Holder	\$420
5	ELECTRICAL	PTO Hour Meter / 7-Way Pin Trailer Receptacle / Trailer Brake Controller	\$0
6	FINISHING	Manual Kit (Pair) / CAL OSHA Certification	\$656
7	CHASSIS	2025 Freightliner 114SD 6x4 Cummins L9N (Natural Gas) At 320HP With Allison 3000RDS Transmission	\$52,397
8	OTHER	CNG Processing	\$10,525
<b>OPEN MARKET OPTIONS TOTAL:</b>			<b>\$72,718</b>

**SUB-TOTAL FOR UNIT/BODY/CHASSIS: \$ 315,642.00**

**Delivery to Customer via Trailer: \$ 26,850.00**

**State Tax (6%) \$ 18,938.52**

**County Tax (1.75%) \$ 5,523.74**

**TOTAL FOR UNIT/BODY/CHASSIS: \$ 366,954.26**

\*\*Pricing valid for 60 days\*\*

**NOTES**

**PAINT COLOR:** White to match chassis, unless otherwise specified

**WARRANTY:** Standard Altec Warranty for Aerials and Derricks - One (1) year parts warranty One (1) year labor warranty Ninety (90) days warranty for travel charges (Mobile Service) Limited Lifetime Structural Warranty. Chassis to include standard warranty, per the manufacturer.

**TO ORDER:** To order, please contact the Altec Account Manager listed above.

**CHASSIS:** Per Altec Commercial Standard

**DELIVERY:** No later than **24 MONTHS** ARO, FOB Customer Location

**TERMS:** Net 30 days

**BEST VALUE:** Altec boasts the following "Best Value" features: Altec ISO Grip Controls for Extra Protection, Only Lifetime Warranty on Structural Components in Industry, Largest Service Network in Industry (Domestic and Overseas), Altec SENTRY Web/CD Based Training, Dedicated/Direct Gov't Sales Manager, In-Service Training with Every Order.

**TRADE-IN:** Please ask your Altec Account Manager for more information

**BUILD LOCATION:** Roanoke, VA


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May 9, 2022

Prepared by: J. Moeder

Submitted by: K. Burton

Approved by: Paul A. Cook 

## ACTION CALENDAR

### SANTIAGO RESERVOIR IMPROVEMENTS PROJECT UPDATE AND CONSULTANT VARIANCE

#### SUMMARY:

The AECOM/GEI design team has completed the draft preliminary design report for the Santiago Reservoir Improvements project that includes several technical documents, results from the first phase of geotechnical field investigations, and hydraulic analysis of the new spillway. The design team and Division of Safety of Dams (DSOD) aligned on the hydraulic design criteria for the new spillway that has resulted in substantial changes to the spillway size and alignment. In parallel to advancing the preliminary design of the project, IRWD established Risk-informed Decision Making (RIDM) as a core component of its Dam Safety Program, which has potential impacts to the project. Staff recommends the Board authorize the General Manager to execute a variance in the amount of \$2,618,959 with AECOM for additional engineering design services for the Santiago Reservoir Improvements Project.

#### BACKGROUND:

In April 2020 IRWD, on behalf of both IRWD and Serrano Water District, retained AECOM to design the Santiago Creek Dam Outlet Tower and Spillway Improvements project in the amount of \$4,989,380. AECOM has progressed on the preliminary design activities including the first phase of geotechnical investigations and computational fluid dynamics analysis using the original spillway design concept and Probable Maximum Flood (PMF) developed in 2020. The PMF analysis is the hydraulic design criteria used to design spillways that represents the most severe flood event. The original PMF analysis indicated that the spillway would need to pass a reservoir inflow of 59,000 cubic feet per second (cfs). Staff presented the PMF analysis to DSOD for its review and acceptance, and after nearly one year of review and collaboration, DSOD and AECOM aligned on an updated PMF analysis that resulted in a reservoir inflow of 68,000 cfs.

After aligning with DSOD on the revised hydraulic design criteria for the spillway, AECOM completed the computational fluid dynamics analysis that identified significant challenges with containing the flow rate with the original spillway concept. As a result, the design team generated an alternative spillway design that, based on computer modeling, could successfully pass the increased flow rate. The revised design includes a shifted alignment and an overall larger spillway structure. This shifted alignment and larger footprint is prompting the need for additional geotechnical investigations to characterize the materials and complete the design. In the coming months, AECOM will advance the physical model phase that will further refine the spillway design.

### RIDM and Impacts on the Project:

Traditionally, dam safety assessments, which are integral components of any Dam Safety Program, utilize a standards-based approach that follows established rules and guidelines for design events and loads, structural capacities, and defensive design measures. Historically, the standards-based approach to dam safety has proven to be good practice, but that approach omits consideration of other dam safety elements such as human factors and operational issues that could potentially expose dam owners to increased levels of risk.

Another approach to dam safety that has been used at the federal level is RIDM, which is a more rigorous, systematic, and thorough process to dam safety that focuses on identifying and reducing risks. In the late 1990s, the Bureau of Reclamation was the first agency to incorporate RIDM into its dam safety program. Since that time, RIDM is now used by several dam regulators and dam owners throughout the United States. In 2020, DSOD announced to California dam owners that it will be integrating RIDM into its regulatory oversight of dams under its jurisdiction.

In parallel to advancing the preliminary design activities for the Santiago Reservoir Improvements Project, IRWD started integrating RIDM as a core component of its Dam Safety Program to enhance its program and align with DSOD's future statewide RIDM-based dam safety program. As part RIDM, IRWD completed Semi-Quantitative Risk Analysis (SQRA) on all five of its dams including Santiago Creek Dam, which is owned by IRWD and Serrano Water District. The risk analysis identified areas of uncertainty and information that supports the risk estimates. To minimize the potential for revisiting areas of uncertainty in the future when major improvements at Santiago Creek Dam are complete, staff executed Design Variance No. 1 with AECOM in the amount of \$46,780 to study the areas of uncertainty.

### Design Variance No. 2:

AECOM submitted a variance in the amount of \$2,618,959 that includes items required to complete the design and RIDM-related items. The additional scope of work required to complete the design amounts to \$1,585,820 and includes additional geotechnical investigations and engineering costs to successfully complete the design of the larger and more complex spillway and outlet structure. The additional RIDM-related scope of work amounts to \$1,033,139 and includes completing risk analysis on the spillway and outlet improvements and geotechnical investigations focused on reducing uncertainties. The revised design completion date is April 2024, one year past the original schedule. The scope of work and variance are provided as Exhibit "A".

At the Board meeting staff will provide a presentation, included as Exhibit "B", that elaborates on the items presented herein. Serrano Water District will review this item with its Board on May 24, 2022.

### FISCAL IMPACTS:

The project will be funded 75% by IRWD and 25% by SWD in accordance with the Irvine Lake ownership agreements. IRWD will fund its portion using the Water Replacement Fund.

ENVIRONMENTAL COMPLIANCE:

This project is subject to the California Environmental Quality Act (CEQA). In conformance with the California Code of Regulations Title 14, Chapter 3, Section 15004, the appropriate environmental document will be prepared when "meaningful information" becomes available.

COMMITTEE STATUS:

This item was reviewed by the IRWD/Serrano Water District Committee on April 26, 2022.

RECOMMENDATION:

THAT THE BOARD APPROVE VARIANCE NO. 2 WITH AECOM IN THE AMOUNT OF \$2,618,959 FOR ADDITIONAL DESIGN PHASE SERVICES FOR THE SANTIAGO RESERVOIR IMPROVEMENTS, PROJECT 01813.

LIST OF EXHIBITS:

Exhibit "A" – Variance No. 2 Scope of Work and Fee

Exhibit "B" – Presentation for Santiago Reservoir Improvements Project Update and Variance No. 2

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April 15, 2022

Mr. Jacob Moeder P.E.  
Senior Engineer – Capital Projects  
Irvine Ranch Water District  
15600 Sand Canyon Avenue  
Irvine, California 92618

**Subject: Variance Request for Santiago Creek Dam Outlet Tower and  
Spillway Improvements Project, PR 01813**

Dear Jacob:

The purpose of this document is to provide our proposed scope of work and fee estimate for a variance for the Santiago Creek Dam Outlet Tower and Spillway Improvements Final Design Project. These services will be provided for Irvine Ranch Water District (IRWD) and Serrano Water District (SWD), referred to herein as the Districts.

This variance request follows over five years of studies and evaluations by the AECOM/GEI team of the existing spillway, starting with a comprehensive condition assessment followed by an alternatives analysis, and progressing to final design of a replacement spillway. The goal is to design a hydraulically efficient and constructable spillway meeting the regulatory requirements of the California Division of Safety of Dams (DSOD). We have now identified and begun to incorporate several changes to the final design of the spillway that were previously unforeseen. We are requesting additional design fees to successfully complete and deliver the project for the Districts. The major variance items include:

- A spillway alignment re-evaluation,
- Additional geotechnical investigation for the new spillway alignment,
- Additional effort to complete the preliminary and final design due to increased size and complexity of the replacement spillway,
- Relocation the Irvine Lake Pipeline (ILP) under the new spillway,
- Risk analysis for construction including a cofferdam, and
- Incorporation of quantitative risk analysis for long-term project reliability into the final design of the project.

### **Background for Variance Request**

After a comprehensive condition assessment of the existing spillway, GEI Consultants, Inc. (GEI) performed an Alternatives Analysis in April 2020, which became the basis for design of a new spillway at Santiago Creek Dam. The preferred alternative selected during the

Mr. Jacob Moeder P.E.  
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Alternatives Analysis consisted of a 350 ft long L-shaped ogee weir leading to a 100-ft wide, 300-ft long curved chute that terminated in a stilling basin at the downstream end of the spillway. The selected alternative was located in the narrow canyon on the dam's left abutment with its footprint generally coinciding with the footprint of the existing spillway. This spillway alignment is shown in **Figure 1a**. The final design project was scoped to provide a detailed design of this selected preferred alternative. We describe the factors below that have contributed to the changes in alignment and design necessitating this request for a variance.

### Complicated Hydraulics

In Fall of 2020, work on the design project commenced with preliminary design of the new spillway. A range of tasks were performed including geologic explorations and hydraulic analyses to support the design of the spillway, which enabled the design team to gain a significantly increased understanding of the site and the proposed spillway. At this stage, key issues were identified as a result of the hydraulic Computational Fluid Dynamics (CFD) analyses, which indicated that the original alignment of the spillway from the Alternatives Analysis was untenable and would not sufficiently dissipate energy and contain flows around the sharp right-hand curve in the spillway. The CFD model included a detailed analysis of the hydraulic performance for various flow rates up to and including the Probable Maximum Flood (PMF) developed by GEI and submitted to DSOD. It is noteworthy that, at this time, DSOD had not yet reviewed or commented on the PMF study developed by GEI that had a peak inflow value of 54,000 cubic feet per second (cfs). It is also important to note that until the initial CFD modeling was performed there was no way of knowing that the selected alternative would be untenable.

### DSOD Review and Increase of PMF

Following the initial CFD modelling runs, DSOD provided their interpretation of the PMF study, which had a significantly higher peak inflow of over 75,000 cfs as compared to the PMF study performed by GEI. Multiple meetings were conducted with DSOD to discuss and debate appropriate parameters for use in arriving at a PMF that is sufficiently conservative for design of the spillway. While it would take a detailed discussion to fully explain the differences between the two PMF studies, in the end GEI agreed to change certain parameters, which resulted in an increase of the PMF inflow to 59,000 cfs for use in design. Conversely, DSOD agreed to reduce their PMF peak inflow to 68,000 cfs. DSOD agreed that GEI would use the 59,000 cfs peak inflow developed by GEI to meet standard design criteria for dam crest freeboard but requested that GEI show that the 68,000 cfs peak inflow developed by DSOD could also be safely routed through the spillway, although with reduced minimum freeboard requirements.

### Changes to Spillway Alignment and Components

As a result of the additional CFD modeling that was performed with the new agreed-upon PMF values, it became apparent that further alignment adjustments would be needed to the original alignment of the spillway for satisfactory hydraulic performance. The increased PMF values also had significant impact on the spillway and necessitated that the spillway weir, chute, and stilling basin would need to be enlarged and deepened to accommodate the higher flows due to the increase in PMF value. Most significantly, the proposed weir structure would need to be significantly longer and deeper than originally anticipated due to submergence issues with the increased flows. It also became clear that the geotechnical and topographic conditions in the vicinity of the new weir structure would present significant challenges that are magnified with the need for an enlarged weir structure. Because of the steep topographic drop of the slope of the rock line extending into the reservoir, this enlarged structure cannot be extended further into the reservoir as the structure would become significantly higher and wider, resulting in the need for significantly more excavation, benching, and concrete and encroachment into the existing dam embankment fill. Therefore, the only viable option is to fit the enlarged structure along the left edge of the reservoir, resulting in a much higher cut than originally anticipated in the slope on the left side of the weir structure.

### Alignment Development

During the drive to determine the appropriate alignment, a straightened intermediate alignment (**Figure 1b**) was developed that would address many of the challenges identified for the original curved alignment. However, this intermediate straightened alignment presented its own challenges and risk due to its proximity to the dam embankment. After consideration of the site topography, and hydraulic and geologic constraints, a layout with a further adjustment to the intermediate alignment has been developed, which minimizes the curve in the spillway chute while maintaining distance between the spillway and dam embankment. The plan of this revised spillway alignment is shown in the attached **Figure 1c**. This is the alignment that is now being carried to final design.

### Impacts on Left Slope Above Spillway

A major impact of the spillway realignment is on the slope on the left side of the spillway. The original alignment would have had a cut of about 10 feet, resulting in a relatively straightforward design without the need to understand the global stability of the 100-foot-plus tall slope above that supports the adjacent landfill. However, with the current design as shown in Figure 1c, the enlargement and deepening of the spillway will require significantly higher cut slopes of up to 40 feet that have the potential to destabilize the slope. As a result, there is a need to understand the geotechnical properties of the tall slope for design of slope reinforcement and a high tie-back retaining wall. Poor rock quality was identified in the first phase of investigation, and additional investigation is needed to reduce risk of over-design or

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under-design, with the goal of providing an appropriately robust and cost-effective design for this slope.

#### Impact on Irvine Lake Pipeline

In addition to the above issues and considerations, the existing Irvine Lake Pipeline (ILP) that crosses over Santiago Creek downstream of the existing spillway was not designed to handle the discharge capacity of the larger PMF flows (e.g., hydrodynamic forces, scour) and will therefore need to be replaced for the project. The replacement will involve placing the new ILP inside a casing pipe that will be installed by open-cut trenching or tunnelling beneath the creek. The design work for the ILP will be performed by AECOM.

Our proposal for the variance includes the following scope of work items to address additional data collection needs and analyses to provide a robust and cost-effective design for the modified alignment of the enlarged spillway, driven mainly by the increase in PMF, DSOD review comments further increasing the PMF, hydraulic performance of the spillway, and geotechnical/geologic conditions of the high slope on the left side of the spillway side-channel control structure.

## **SCOPE OF WORK**

### **Phase 1: Preliminary Design**

Additional budget is required to complete the preliminary design including the modifications to the spillway design to move the spillway alignment from the existing channel to the straighter alignment down the left abutment, the additional hydraulic modeling needed to size the spillway for the larger PMF inflow, responses to DSOD comments and update to the PMF report, and relocation of the ILP pipeline.

#### **Tasks 1 through 22: Preliminary Design**

Tasks 1 through 22 include all tasks for preliminary design that were authorized under the original PSA contract for IRWD Purchase Order No. 619735. Task 22 includes Variance No. 1 to PSA 619735 for Evaluation of PFM 103 - Scour through embankment cracks due to Seismic Loading Deformations of Santiago Creek Dam. Additional work anticipated for the Preliminary Design Phase is captured in Task 23 that follows.

#### **Task 23: Additional Preliminary Design Services**

##### **Subtask 23a: Revised Spillway Alignment**

GEI evaluated the constructability and hydraulic feasibility of the intermediate and later spillway alignments. The structural feasibility of the spillway walls was evaluated with consideration to the required height of the spillway walls, geologic conditions at the site, and



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relatively narrow rock abutment between the dam embankment and spillway canyon to determine if the dam embankment would be impacted during construction of the spillway. Various construction techniques for the spillway walls were evaluated to ensure the final proposed spillway configuration is constructable and cost effective.

A CFD model was developed to evaluate the hydraulic conditions within the intermediate alignment and support refinement of the spillway configuration to ensure the spillway is hydraulically feasible. This scope includes development of a revised alignment and up to five (5) modifications to the spillway weir alignment or stilling basin design.

#### **Subtask 23b: Update PMF Report**

The work under this subtask has been completed but has been included in the variance request for budget adjustment. DSOD provided comments on the Santiago Creek Dam PMF Report prepared by GEI, which required additional hydrologic modeling and analyses to address. The budget for this task covers the time spent on preparation, attendance, and follow-up discussions for the June 14<sup>th</sup>, 2021 meeting with DSOD. During this meeting, DSOD indicated conditional approval for the PMF hydrograph, provided dam crest freeboard requirements are met. Therefore, this task assumes no further work is needed to coordinate with DSOD and accounts for finalizing the PMF report based on the 59,000 cfs PMF hydrograph and the written comments received from DSOD in December 2020, which required that the spillway also safely route the 68,000 cfs.

#### **Subtask 23c: ILP Pipeline Relocation**

The ILP is a 36-inch diameter welded steel pipeline that is supported on concrete piers over the creek and spans approximately 300 feet. AECOM will design a relocation for the ILP that will include a new pipeline, related appurtenances, and a steel casing. The ILP will be routed under Santiago Creek, and the proposed spillway stilling basin, to protect it from spillway releases. Per discussions with the District, the relocated ILP will be upsized to a 54-inch diameter carrier pipe under the creek. The ILP and potential casing will be installed under the creek by open trench or tunneling methods. The construction method will be determined by AECOM during the preliminary design phase. Deliverables for this task will include an ILP relocation section in the Preliminary Design Report (PDR), preliminary design of the ILP relocation (30% drawings, estimate).

#### **Subtask 23d: Preliminary Design Report and Drawings**

Additional construction drawings are needed to represent the complex wall and chute construction in the revised spillway design. The original proposal included a total of 36 sheets in the drawing list related to the design of the spillway (sheets SP-1 to SP-36) and assumed 10 of those sheets would be prepared as part of the preliminary design. We are proposing to update the drawing list for the revised spillway design to a total of 51 sheets,

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with 27 of those sheets prepared during preliminary design. Therefore, we have included cost to prepare these additional 17 sheets during the Preliminary Design phase.

### **Subtask 23e: Additional Project Management Effort**

As indicated in a later section on Design Schedule Impacts, there has been a delay of about a year in the completion of the Preliminary Design stage. This has had a significant impact on the allocated project management task budget. We are, therefore, requesting additional project management budget to satisfactorily complete the preliminary design stage.

## **Phase 2 – Final Design**

### **Task 1: Project Management**

Additional project management time has been added to the budget to conduct AECOM/GEI risk workshops during the preparation of each final design deliverable. AECOM's risk specialist will update the Risk Register and present it during the workshops, which can be attended by the Districts if interested. The Risk Register will be used to anticipate construction risks and coordinate risk management strategies.

### **Tasks 5 and 13: Constructability and Final Design Deliverables**

These tasks are included to request budget additional budget to complete Final Design for Santiago Creek Dam Outlet Tower and Spillway Improvements Project. A more thorough constructability review and construction sequence is necessary to address the complex interactions between the dam raise, the existing spillway and outlet tower demolition, and the new spillway and outlet works modifications. Additional technical specifications and other modifications to the Project Manual are also required to address the materials used for construction and Contractor responsibilities during construction. Additional construction drawings are also needed to represent the complex wall and chute construction in the revised spillway design. The original proposal included a total of 36 sheets in the drawing list related to the design of the spillway (sheets SP-1 to SP-36). We are proposing to update the drawing list for the revised spillway design to a total of 51 sheets. Task 13a also includes an additional five sheets for the ILP relocation. A summary list of the proposed sheets is provided in Attachment A.

### **Task 15: Additional Geotechnical Analysis and Design**

Based on changes to the replacement spillway design that have occurred during the 30-percent design phase, the spillway weir bathtub will be larger, will extend significantly into the reservoir, and will significantly impact the slopes on the left side of the spillway and require large cuts on the right side of the spillway. This has resulted in an increased scope including large retaining walls, slope stabilization, and deep excavations. The additional geotechnical

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analyses and design tasks that are required to address this increased scope of the project are summarized below.

**Subtask 15a – Retaining wall design:** New retaining walls are proposed in the left and right sides of the spillway. The walls are anticipated to be ground anchor walls and will be designed for permanent use. Geotechnical analyses to be conducted include evaluations of anchor capacity, corrosion potential, global slope stability, and static and seismic wall loading. Seismic analysis for these retaining walls, and below described walls and slopes, will be conducted using simplified methods and evaluated using the existing Santiago Creek Dam seismic hazard analysis. We have assumed that static and seismic finite element analyses will not be required and have not budgeted for it. For the right wall, due to the close proximity to the existing dam, an evaluation will be conducted to ensure that installation of ground anchors will not negatively impact the stability of the existing dam.

At the stilling basin, a retaining wall will be designed to protect the outlet structure. An evaluation of anchor capacity and global stability will be performed.

Due to the weir extending significantly into the reservoir, return walls will need to be designed at the ends of the weir. Geotechnical evaluations of these return walls will be conducted, and an evaluation of the existing rock permeability will be performed.

**Subtask 15b – Slope stability:** Above the left ground anchor wall will be a retained slope. The slope is currently unstable and exhibits significant slaking, which has historically accumulated as detritus at the toe of the slope. The 30-percent design concept is to stabilize the retained slope with shotcrete and rock bolts where the existing slope cannot be cutback to a stable angle due to project constraints such as the existing landfill gas flare station. Where there is room, the slope will be cut back to a stable angle without shotcrete and rock bolts. In these areas, slope stability calculations will be performed to show that the permanent slope will be stable.

In the downstream chute, the excavation depth will decrease; however, differential conditions will develop where permanent cut slopes will be required on the right side of the spillway and fill below the chute with a descending slope will be required on the left side of the spillway. Geotechnical analyses to show that the right side cut slopes and descending left slopes are stable will be performed. Further, an evaluation of differential foundation conditions in this area will be performed, including over-excavation criteria. For evaluations of the retaining walls, differential foundation conditions, and other new project features, an evaluation of the onsite rock deformability parameters will be performed.

Due to the larger excavation anticipated by the 30-percent design, much larger disposal areas will need to be used to dispose of the material. Geotechnical analyses necessary for these disposal areas will be performed including slope stability and development of earthworks criteria.

**Subtask 15c – Foundation design:** Because the weir is now much larger than previously anticipated, and extends into the reservoir, a very tall concrete weir (up to approximately 37 feet) is anticipated in the 30-percent design, the weir will be founded on an existing rock slope and therefore will be subject to significant differential foundation conditions. The permanent stability of the weir will be evaluated geotechnically to show that global slope movement involving the weir does not occur. Foundation criteria for the rock slope will be developed.

**Subtask 15d – DSOD comment response:** As a result of the increased scope and complexity of the construction anticipated based on changes made during the 30-percent design, we anticipate that DSOD comment response will increase significantly in scope. We have, therefore, revised our budget to provide an additional allowance for geotechnical-related DSOD interaction during final design.

**Subtask 15e – Dynamic analysis of weir and walls:** It is anticipated that there is a potential for DSOD to request dynamic analysis of the weir and walls. As an optional task, GEI will perform dynamic analysis of the anchored walls, cantilever walls, RCC gravity wall at the stilling basin, and the weir, if so, requested by the DSOD. The dynamic analyses would be linear elastic, two-dimensional analyses. Three horizontal time histories would be developed based on the existing AECOM deterministic seismic hazard analysis for the site. Five cross sections would be analyzed, two at the weir (at the maximum section and minimum section), two at the anchored walls (one at the left wall, one at the right wall), two at the cantilever walls (at the maximum section and minimum section) and one at the stilling basin RCC gravity walls. At the weir, hydrostatic stresses from the reservoir would be included. For the anchored walls, construction sequencing of the top-down construction would be modeled. Damping would be modeled with assumed Rayleigh damping coefficients. The results of the cantilever wall analysis would be used to confirm the seismic loading is within acceptable limits of the wall design based on simplified analyses. The results of the anchored walls, RCC gravity wall, and the weir analyses would be used to confirm the design results in acceptable overturning and peak tensile and compressive stresses in the RCC gravity walls and weir. It would also confirm the peak dynamic stresses in the ground anchors are acceptable. These analyses would be performed once at a near-final design stage after the designs have already been iterated with simplified methods. The dynamic analyses would be documented in a draft TM. The time histories would be documented in a brief calculation package attached to the dynamic analysis TM. The draft TM would be submitted to DSOD and responses to DSOD comments, if any, would be provided, along with the final TM.

#### **Task 16: Supplemental Field Investigations**

The first phase of geotechnical field investigations occurred in Fall 2020 at the start of the preliminary design stage. The original scope also included an additional phase planned to be implemented around the 90% design when the environmental document and permitting phase is complete, which would allow vegetation clearing and work to occur in the creek. Due

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to the modifications to the spillway design, additional supplemental field investigations are needed early in the final design phase to support the design of the new spillway.

Our proposed supplemental field investigations include additional borings, test pits, and geophysical surveys needed to support this updated spillway design. The majority of these investigations would occur in the near future under Phase 2 Investigation once DSOD approves the Geotechnical Work Plan, and Phase 3 of the geotechnical investigations would occur around the 90% design when the environmental document and permits are complete.

With the exception of the geophysical surveys, the supplemental boring and test pit investigations will be carried out using the methods and procedures for drilling and logging that are described in the Geotechnical Exploration Work Plan previously prepared by AECOM and GEI (2020). The drilling will be performed by Gregg Drilling using the same equipment utilized for the 2020 explorations: a small, light-weight track rig will be used in the spillway and a truck-mounted rig will be used for the other borings. The test pits will be small (~ 3 ft wide x 15 ft long x 10 ft deep) excavations made with a rubber-tired or track-mounted backhoe. The geophysical surveys are a surficial, non-invasive activity that require no drilling or excavation. The surveys are conducted by inserting (usually by pushing or hammering) small (~ ¼-inch diameter) geophones on steel rods into the ground in a linear array that are connected to a cable. The geophones are used to send or record signals through the ground using hand-held equipment to perform the various survey methods, which include seismic refraction, multichannel analysis of surface waves, and electrical resistivity.

The design team will prepare a Geotechnical Work Plan, support the IRWD submittal process to DSOD, and respond to DSOD's comments on the Geotechnical Work Plan.

The proposed field investigations are described below and shown in the attached Figure 2. Table 1 (attached) provides additional details of the proposed explorations.

#### Phase 2 Investigation (Not Needing Vegetation Removal)

As shown in Figure 2, the Phase 2 Investigation includes five borings (S-15 through S-19), one test pit (TP-4) and two geophysical lines (SR-1 and SR-2). The Phase 2 Investigation is located to be accessible without vegetation clearing and the locations shown in Figure 2 can be adjusted, as necessary, to minimize impacts. These investigations are described below roughly in an upstream to downstream direction.

Borings S-15 and S-16 are horizontal borings proposed at the left wall of the spillway approach, where large cuts and spillway walls are anticipated. The existing geotechnical investigation locations and the proposed boring locations are shown in Figures 2 and 3. The two proposed horizontal borings will be advanced in an area with ground conditions likely similar to the ground conditions where the ground anchors will be installed.

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Boring S-19 will be an inclined boring drilled from the top of the slope above left side of the spillway. A downhole geophysical (televiewer) survey will be performed in the borehole to provide quantitative rock joint information necessary for stability analyses. Televiewer will also provide additional, detailed data on the in situ joint conditions at depth. Packer permeability testing also will be performed to provide information on the rock hydraulic conductivity.

SR-1 is a geophysical survey proposed along the shoreline upstream of the control structure, in the vicinity of the new left wall of the spillway. This geophysical survey will include seismic refraction, Multichannel Analysis of Surface Waves (MASW), and electrical resistivity, all of which are done using the same linear array of geophones.

Boring S-17 is proposed at the left abutment of the dam, in the existing spillway overlook area. This boring will evaluate the condition of the rock that will be retained by the right wall. The right wall will be significantly high and very close to the existing embankment. A downhole geophysical (televiewer) survey will be performed in the borehole to provide quantitative rock joint information necessary for stability analyses. Packer permeability testing also will be performed to provide information on the rock hydraulic conductivity.

Boring S-18 is proposed near the bottom of the proposed spillway chute. A downhole geophysical (televiewer) survey will be performed in the borehole to provide quantitative rock joint information necessary for stability analyses. Packer permeability testing is proposed at S-17 and S-19; however, if packer testing is unsuccessful at those locations due to low groundwater at the time of drilling, for example, packer testing may also be performed at S-18 to provide additional information on the rock hydraulic conductivity.

Test Pit TP-4 is intended to evaluate the 1969 fill and possibly the 1969 concrete rubble revetments anticipated to be encountered here and potentially retained. SR-2 is a geophysical survey proposed along the downstream end of the chute, near the stilling basin. This geophysical survey will include seismic refraction, MASW, and electrical resistivity, all of which are done using the same linear array of geophones.

#### Phase 3 Investigation (Needing Vegetation Removal)

The Phase 3 Investigation includes additional test pits and geophysical lines; however, due to the need for vegetation removal to perform these explorations, we understand they cannot be performed during the 2022 calendar year. Therefore, these investigations are anticipated to occur later, likely during the 90-percent design phase. These test pits and geophysical lines (note, vegetation clearing will be required along the proposed geophysical lines due to dense vegetation in the area) are proposed to evaluate the ground conditions along the existing steep slope at the proposed chute and stilling basin. Currently, there are no investigations that have been conducted here, other than the 1969 borings, which were not conducted to evaluate the proposed spillway. Borings are not proposed along the spillway

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chute because the steep existing slope would make access impractical. Therefore, the ground conditions in this area will be evaluated by comparing the boring results at the top and bottom of this hill (S-17 and S-18, respectively), and interpolating using the proposed test pit and geophysics data along the slope of the hill.

#### **Task 17: Additional Hydraulic Modeling**

The increased complexity of the spillway and the higher flow will require that additional CFD analyses be performed between 30 percent and 60 percent design for the new spillway alignment to develop and fine tune the final design geometry. This will include refining the stilling basin to account for downstream conditions.

The hydraulics team, including Alden Labs, will coordinate to perform final CFD runs prior to construction of the physical model. These additional runs are needed prior to building the physical model and will be focused on the stilling basin and flows in the creek. The physical model will verify the CFD model and will be constructed to make further refinements to the inlet structure, chute and terminal stilling basin structure. Work for 60 percent design will include coordinating with other design teams and presentations to the Board of Consultants (BOC).

From 60 percent to 100 percent design the hydraulic team will need to coordinate with Alden Labs and address comments from the BOC, regulatory agencies and perform additional evaluations to address comments. It has been GEI's recent experience on a spillway design project that the BOC had asked for additional runs on the physical model. In anticipation of BOC requesting additional runs with the physical model we are requesting additional budget for Alden Labs also to cover effort that may be needed to address BOC questions. This additional budget request will cover half a week of additional runs with the physical model in addition to engineering support as required.

#### **Task 18: Construction Risk Evaluation TM and Workshops**

This task includes the evaluation of construction risk including hydrologic risk, geotechnical risk, and construction sequencing and preparing a TM summarizing the results of our evaluations. The TM effort will be led by GEI with thorough quality control reviews by AECOM.

**Subtask 18a: Workshops.** AECOM, GEI and our subconsultant, Integrated Engineering & Construction (IEC), will participate in one half-day and one full day workshop to discuss and strategize construction risks associated with the Project. The first workshop will be held with AECOM and GEI construction experts and members of the design team and the second workshop will be held with the Districts. The goal of the workshops will be to identify, prioritize, and determine strategies needed to mitigate the risks during construction and will also address construction sequencing.

**Subtask 18b: Input to Risk Register.** GEI and IEC will provide input to the risk register that is being compiled and maintained by AECOM throughout the life of the Project.

**Subtask 18c: Construction Hydrologic Risk.** GEI will evaluate the construction hydrologic risk for the planned construction period of the project while considering the construction sequencing. To this end GEI will perform a refined analysis, leveraging prior work for lower frequency events, of the Santiago Creek Dam watershed hydrology focused on supporting development of a water diversion and construction reservoir operations plan. The refined analysis will be based on evaluation of historical Irvine Lake storage and outflow information supplemented by stream gauge and precipitation data obtained from USGS and the Districts. The analysis will include estimating minimum, maximum, and mean monthly average inflows to the reservoir, as well as reservoir inflow, outflow, and reservoir rise for storms with annual exceedance probabilities of  $p=0.5$  (2 year),  $p=0.1$  (10 year), and  $p=0.01$  (100 year). This analysis will be especially focused on evaluating and addressing the risk related to the winterizing of the spillway construction to allow to safely pass the design flood during the winter. The construction hydrologic risk for the storm events will be included in the final Construction Risk Evaluation TM. The evaluation of construction hydrologic risk was not included in GEI's original scope because the construction sequencing hadn't been developed highlighting the need for evaluation of this risk.

**Subtask 18d: Geotechnical Risks for Diversion Berm.** GEI will assess the geotechnical risks for the construction of an upstream diversion berm associated with challenges and issues that may arise when placing a berm on the existing lake silt. The diversion berm has currently been designed by AECOM for a 4-year design storm. If needed, the diversion berm will be redesigned by AECOM for the appropriate design storm following the results of the hydrologic risk analysis in Subtask 19c.

**Subtask 18e: Construction Risk TM.** GEI and IEC will document our findings from Subtasks 19c and 19d and input from the workshops to develop a TM summarizing the results of our evaluations. This Construction Risk TM will become a part of the final Constructability TM that is being prepared by AECOM. It is anticipated that the risk will largely be related to repair and replacement cost of the construction facilities and equipment along with the potential need to build back the spillway foundation if the winterization scheme for the spillway construction is unable to pass the flood causing a massive erosion.

### **Task 19: Lake Aeration System Evaluation and Design**

The existing Irvine Lake aeration system is comprised of an air compressor and metallic aeration line that is routed over the dam embankment that bifurcates into an array of flexible hoses that discharge compressed air underwater into the bottom of the lake near the outlet tower. The existing air compressor is located at the downstream toe of the dam inside a wood-framed garage shed. The purpose of the aeration system is to improve water quality



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through artificial aeration, which improves reservoir mixing and reduces thermal stratification and anoxia in the hypolimnion (bottom layer) of the reservoir. Anoxia can lead to severe water quality issues including elevated concentrations of trace metals, odor-producing compounds, and nutrients that fuel algae growth. Further, anoxia is detrimental to aquatic life and can cause fish kills. The current aeration system offers the Districts low efficiency transfer of oxygen from compressed ambient air into the reservoir water column.

AECOM will perform a water quality assessment for Irvine Lake and evaluate at least three modern and relevant aeration technologies to improve the water quality. The evaluation will consider, life cycle costs (including considerations for energy, labor, and capital), likelihood to achieve desired water quality, ease of operation, and IRWD/SWD experience and preferences. A preliminary design will be completed for the preferred option, to include sizing and system configuration needs based on modeling results, manufacturer specifications or other relevant documentation, identification of power requirements, equipment layout and associated control philosophy. AECOM's finding and recommendations will be presented in a Lake Aeration System TM.

AECOM will provide final design (drawings, technical specifications, and construction cost estimate) for the selected aeration system that will be added to the project construction documents.

#### **Task 20: Optional - QRA at 60% Design**

We have budgeted a level of effort commensurate with supporting the planned Quantitative Risk Assessment (QRA) at the 60% design stage to be facilitated by the Districts' consultant HDR, Inc. Following are brief descriptions of the breakdown items planned for this task.

**Subtask 20a: Meetings.** We have budgeted for a total of four meetings for this task. These include two separate meetings with HDR; the first to have an initial discussion on the project and HDR will be briefed by AECOM and GEI. It is anticipated that HDR will receive and review this design information and will develop PFMs to be used in the QRA workshops. We have budgeted for a second meeting with HDR to receive input from HDR on the PFMs developed for the QRA. In addition, we have budgeted for two additional meetings for subsequent discussions with the team and HDR.

**Subtask 20b: Analyses for selected critical PFMs.** We have budgeted for six critical PFMs to be evaluated with parametric sensitivity analyses for input to the QRA work. These potentially will be spillway PMF probability, excavation/wall stability, weir stability. Sensitivity analyses could potentially evaluate results for high, medium, and low estimates of parameters along with variations in loading conditions.

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**Subtask 20c: Risk workshops.** We have budgeted for 2 “estimators” each from AECOM and GEI to prepare for and participate in a QRA Risk workshop to be facilitated by HDR. We have assumed that this workshop will be one week-long.

**Subtask 20d: Report.** We have budgeted for input to the QRA Report to be prepared by HDR. We have also budgeted for review of the report to be prepared by HDR.

### **Task 21: Optional - Additional Embankment Cracking Evaluation and Geotechnical Investigation**

3D Nonlinear Deformation Analyses. AECOM has been contracted by IRWD to evaluate PFM 103—Scour (Concentrated Leak) through Embankment Cracks due to Seismic Loading and Deformations using a 2D nonlinear analysis. A 3D nonlinear deformation analysis of the dam embankment may be required to further evaluate PFM 103. Under the current separate contract, AECOM will conduct a 2D sensitivity analyses that will be helpful in determining which parameters (if any) require more study or additional geotechnical data collection or field explorations. This task does not include any dam embankment remedial design for addressing cracking potential if an issue is discovered during these analyses.

**Subtask 21a:** Geotechnical Investigation to Update Materials Characterization. This task would involve updating or verifying the same materials characterization from the properties identified in the 2D analyses. AECOM will conduct a field exploration/geotechnical data collection effort that will involve two (2) borings on the right abutment to evaluate the foundation characterization, five (5) borings in the upstream impervious zone, five (5) borings along the crest and four (4) borings on the downstream previous zone to evaluate the strength of the embankment materials. Please note that the number of borings may vary depending on the results of 2D sensitivity analyses.

**Subtask 21b:** 3D geometry modeling and deformation analysis will be developed for the existing dam embankment with results from the geotechnical investigation. Not all the time histories would be run for each return period, only a worst-case or representative history based on the results of the 2D analysis that is currently underway. Up to three (3) sensitivity analyses on material properties or ground motions (not the geometry) will be performed.

A draft memorandum will be prepared describing the analysis approach, materials characterization, and results of the analyses. Evaluations of cracking potential will be made based on distribution of displacements strains within the embankment. After review of the draft memo, comments from IRWD, SWD, HDR or other stakeholders will be incorporated into a final report.

AECOM will conduct a total of one (1) workshop with IRWD, SWD, and HDR to review the results of the 3D analysis. The workshop includes a Power Point presentation and discussion.

### Design Schedule Impacts:

The additional preliminary design and final design phase tasks identified in this variance will impact the project schedule. The schedule variance for key project deliverables is as follows:

	<b>Original Completion Date</b>	<b>Updated Completion Date</b>	<b>Schedule Variance</b>
Preliminary Design Report Completion	June 2021	June 2022	+12 months
Bid Set Completion	April 2023	April 2024	+12 months
Construction Completion	June 2025	February 2027	+20 months

### Cost Estimate:

A summary of the estimated budget requests for the proposed variances by phase is provided below.

	<b>Original Budget plus Approved Variance No. 1</b>	<b>Additional Budget Requested</b>	<b>Updated Budget Requested</b>
Phase 1 – Preliminary Design	\$2,956,400	\$200,470	\$3,156,870
Phase 2 – Final Design	\$2,079,760	\$2,418,489	\$4,498,249
<b>Totals</b>	<b>\$5,036,160</b>	<b>\$2,618,959</b>	<b>\$7,655,119</b>

Details of the proposed additional budgets requested for Phase 1 – Preliminary Design and Phase 2 – Final Design are provided in Table 2. Table 3 shows a detailed breakdown of labor hours and costs for GEI and Table 4 shows the detailed breakdown of subcontractor and direct costs.

Quotes from the drilling and geophysical subconsultants are provided as Attachment B.

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We propose performing professional engineering services for the tasks described above on a time-and-materials basis for a not-to-exceed variance amount of \$2,618,959.

If you have any questions or comments, please contact me at (714) 483-1354 or via e-mail at bryan.paine@aecom.com.

Sincerely,



Bryan C. Paine, PE, QSD, ENV SP  
Project Manager, Associate Vice President  
AECOM Technical Services, Inc.



Iqbal Ahmed, PhD, PE, GE  
Senior Project Manager  
GEI Consultants, Inc.

Attachments:

- Table 1 – Summary Description of Supplemental Field Work
- Table 2 – Variance Fee Estimate for AECOM/GEI Team
- Table 3 – Detailed Labor Estimate Breakdown for GEI Subconsultant
- Table 4 – Detailed Breakdown of Subcontractor and Soils Laboratory Costs
- Figure 1 – Plan of Updated Spillway Designs
- Figure 2 – Proposed Supplemental Investigation Plan
- Figure 3 – Cross Section of Left Slope
- Attachment A – List of Proposed Design Drawings
- Attachment B – Subconsultant Quotes

**Table 1. Summary Description of Supplemental Geotechnical Investigation Field Work**

<b>Exploration ID</b>	<b>Location - Purpose</b>	<b>Boring Inclination (from horizontal)</b>	<b>Length (ft)</b>	<b>Downhole Testing</b>	<b>Piezometer (Y/N)</b>	<b>Notes</b>
Boring S-15	Left Retaining Wall - Foundation Conditions	-5	100 [30 additional optional]	NA	N	In Spillway; No Vegetation Clearing
Boring S-16	Left Retaining Wall - Foundation Conditions	-5	100 [30 additional optional]	NA	N	In Spillway; No Vegetation Clearing
Boring S-17	Right Retaining Wall - Foundation Conditions	-90	115	Packer Permeability; Televiwer	Y	On Dam Crest; No Vegetation Clearing
Boring S-18	Stilling Basin - Foundation Conditions	-90	75	Televiwer	Y	Near DS Control Building; No Vegetation Clearing
Boring S-19	Left Retaining Wall - Foundation Conditions	-50	310	Packer Permeability; Televiwer	N	From Flare Station; No Vegetation Clearing
Test Pits TP-4 to TP-14	Chute and Stilling Basin - Foundation Conditions	NA	5 to 12 ft	NA	N	Heavy Vegetation Clearing Required
SR-1	Left Retaining Wall - Foundation Conditions	NA	240	NA	N	Spillway Shoreline; Minor Vegetation Clearing
SR-2	Chute and Stilling Basin - Foundation Conditions	NA	180	NA	N	Near DS Control Building; No Vegetation Clearing
SR-3 to SR-6	Chute - Foundation Conditions	NA	180 (x3) 600 (x1)	NA	N	Heavy Vegetation Clearing Required

**Table 2 - Variance Fee Breakdown for AECOM/GEI Team**  
 Irvine Ranch Water District and Serrano Water District  
 Santiago Creek Dam Outlet Tower and Spillway Improvements Project - Engineering Services  
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Task No.	Task Description	AECOM Labor Hours <sup>1</sup>						AECOM TOTAL HOURS	AECOM LABOR COSTS	GEI LABOR COSTS (no mark-up)	GEI DIRECT COSTS & MATERIALS <sup>2</sup> (no mark-up)	AECOM SUB-CONTRACTOR COSTS (no mark-up)	AECOM DIRECT COSTS & MATERIALS <sup>2</sup> (no mark-up)	TOTAL	
		Principal Engineer	Project Manager / Senior Engineer	Senior Project Engineer / Geologist / Scientist	Project Engineer / Geologist / Scientist	Senior Staff Engineer / Geologist / Scientist	Staff Engineer / Geologist / Scientist / CAD / GIS								Project Admin
		\$290	\$250	\$190	\$160	\$130	\$110								\$100
<b>Phase 1 - Preliminary Design</b>															
23.	Additional Preliminary Design Services														
	a. Revised Spillway Alignment		2				4	6	\$940	\$42,150	\$15,000	\$11,960		\$70,050	
	b. Update PMF Report									\$12,990				\$12,990	
	c. 30% Design - ILP Pipeline Relocation	2	4	2	16		16	40	\$6,280					\$6,280	
	d. Prepare Additional Spillway Plans (10 additional spillway sheets)									\$64,870				\$64,870	
	e. Project Management	16	80				20	116	\$26,640	\$19,640				\$46,280	
	<b>SUBTOTAL PHASE 1</b>	<b>18</b>	<b>86</b>	<b>2</b>	<b>16</b>		<b>20</b>	<b>162</b>	<b>\$33,860</b>	<b>\$139,650</b>	<b>\$15,000</b>	<b>\$11,960</b>		<b>\$200,470</b>	
<b>Phase 2 - Final Design</b>															
1.	Project Management (Risk Register Meetings)	8	16		24			48	\$10,160	\$4,320				\$14,480	
5.	Constructability and Access (includes considerations for Weir at EI 796)									\$6,700		\$27,220		\$33,920	
13.	Task Deliverables														
	a. Improvements Plans (17 additional spillway sheets & 5 additional ILP sheets)	8	16	16	60	40	96	244	\$35,520	\$68,760				\$104,280	
	b. Project Manual (Technical specifications for more complex spillway design)	4	8				8	20	\$3,960	\$32,440				\$36,400	
15.	Additional Geotechnical Tasks	8	16					24	\$6,320	\$426,420				\$432,740	
16.	Supplemental Geotechnical Investigations	8	16	60	12			136	\$23,640	\$181,540	\$22,000	\$348,760	\$33,830	\$609,770	
17.	Additional Hydraulic Modeling		4					4	\$1,000	\$35,520	\$15,000			\$51,520	
18.	Construction Hydrologic and Geotechnical Risk Assessment TM	4	8					12	\$3,160	\$62,300		\$7,280		\$72,740	
19.	Lake Aeration System Design (Draft TM, Final TM, and 3 additional sheets)	2	16	8	40	60	80	210	\$29,500					\$29,500	
20.	Optional - QRA at 60% Design														
	a. Meetings	8	32					40	\$10,320	\$10,320				\$20,640	
	b. Analyses for PFMs	28	68	128	184	80	8	496	\$90,080	\$90,080				\$180,160	
	c. Prepare and Participate in Workshop	56	56				4	116	\$30,640	\$30,640				\$61,280	
	d. Report	20	32	24			4	80	\$18,760	\$18,760				\$37,520	
21.	Optional - Additional Embankment Cracking Evaluation & Geotechnical Investigation														
	a1. Geotechnical Investigation to Update Materials Characterization - Foundation	2	5	13	19	75	12	140	\$19,810			\$24,410	\$5,593	\$49,813	
	a2. Geotechnical Investigation to Update Materials Characterization - Embankment	2	8	121	66	414	20	653	\$94,350			\$396,320	\$70,576	\$561,246	
	b. 3D Nonlinear Deformation Analysis	10	4	234	460	4		712	\$122,480					\$122,480	
	<b>SUBTOTAL PHASE 2</b>	<b>168</b>	<b>305</b>	<b>604</b>	<b>865</b>	<b>673</b>	<b>208</b>	<b>2,935</b>	<b>\$499,700</b>	<b>\$967,800</b>	<b>\$37,000</b>	<b>\$803,990</b>	<b>\$109,999</b>	<b>\$2,418,489</b>	
	<b>TOTAL</b>	<b>186</b>	<b>391</b>	<b>606</b>	<b>881</b>	<b>673</b>	<b>228</b>	<b>3,097</b>	<b>\$533,560</b>	<b>\$1,107,450</b>	<b>\$52,000</b>	<b>\$815,950</b>	<b>\$109,999</b>	<b>\$2,618,959</b>	

**Notes & Assumptions:**

- 1.) The billing rates for AECOM and GEI are being held to the same rates as the original contract.
- 2.) Direct Costs / Materials provided with no markup and include costs such as geotechnical borings, lab testing, mileage to meetings/site, courier fees, rental cars, airfare to DSOD offices, and document reproduction costs.

**Table 3 - Detailed Labor Estimate for GEI Subconsultant**  
 Irvine Ranch Water District and Serrano Water District  
 Santiago Creek Dam Outlet Tower and Spillway Improvements Project - Engineering Services  
 April 15, 2022

Task No.	Task Description	GEI Labor Hours <sup>1</sup>							GEI TOTAL HOURS	GEI LABOR COSTS	GEI TOTAL
		Principal Engineer	Project Manager / Senior Engineer	Senior Project Engineer / Geologist / Scientist	Project Engineer / Geologist / Scientist	Senior Staff Engineer / Geologist / Scientist	Staff Engineer / Geologist / Scientist / CAD / GIS	Project Admin			
		\$290	\$250	\$190	\$160	\$130	\$110	\$100			
<b>Phase 1 - Preliminary Design</b>											
23.	Additional Preliminary Design Services										
	a. Revised Spillway Alignment	46	59	74					179	\$42,150	\$42,150
	b. Update PMF Report	6	45						51	\$12,990	\$12,990
	c. 30% Design - ILP Pipeline Relocation								0	\$0	\$0
	d. Prepare Additional Spillway Plans (10 sheets)	8	8	60	100	255			431	\$64,870	\$64,870
	e. Project Management	16	60						76	\$19,640	\$19,640
	<b>SUBTOTAL PHASE 1</b>	<b>60</b>	<b>112</b>	<b>134</b>	<b>100</b>	<b>255</b>	<b>0</b>	<b>0</b>	<b>737</b>	<b>\$139,650</b>	<b>\$139,650</b>
<b>Phase 2 - Final Design</b>											
1.	Project Management (Risk Register Meetings)	8	8						16	\$4,320	\$4,320
5.	Constructability and Access (includes considerations for Weir at EI 796)	4	8	8	8	4	2		34	\$6,700	\$6,700
13.	Task Deliverables								-	-	-
	a. Improvements Plans (17 additional spillway sheets & 5 additional ILP sheets)	17	51	68	68	136	80	8	428	\$68,760	\$68,760
	b. Project Manual (includes considerations for Weir at EI 796)	12	20	24	60	60		20	196	\$32,440	\$32,440
15.	Additional Geotechnical Analysis/Design								-	-	-
	a. Retaining wall design	76	92	288		500			956	\$164,760	\$164,760
	b. Slope stability	32		168		200			400	\$67,200	\$67,200
	c. Foundation design	34		152		164			350	\$60,060	\$60,060
	d. DSOD comment response	40		120		120			280	\$50,000	\$50,000
	e. Dynamic analyses for weir and walls	30	60	110	200	60			460	\$84,400	\$84,400
16.	Supplemental Geotechnical Investigations								-	-	-
	Phase 2 Investigation (No Vegetation Clearing)								-	-	-
	a. Develop Workplan and DSOD approval, Field Prep		16		16				32	\$6,560	\$6,560
	b. Field Investigation	2	102	4	284				392	\$72,280	\$72,280
	c. Update GDR	4	24	8	160				196	\$34,280	\$34,280
	d. Update GIR	6	32	16	56				110	\$21,740	\$21,740
	Phase 3 Investigation (Vegetation Clearing Required)								-	-	-
	e. Field Prep		4		24				28	\$4,840	\$4,840
	f. Brush Clearing		4		16				20	\$3,560	\$3,560
	g. Test Pits (11 pits, machine dug)		8		50				58	\$10,000	\$10,000
	h. Geophysical Surveys		8		24				32	\$5,840	\$5,840
	i. Update Design/Reports	4	24	40	48				116	\$22,440	\$22,440
17.	Additional Hydraulic Modeling	64			106				170	\$35,520	\$35,520
18.	Construction Hydrologic and Geotechnical Risk Assessment TM & Workshops								-	-	-
	a. Workshops	24	16	8					48	\$12,480	\$12,480
	b. Input to Risk Register	10	16	8					34	\$8,420	\$8,420
	c. Hydrologic and Water Diversion Risk Assessment	14	12	10	40				76	\$15,360	\$15,360
	d. Geotechnical Risk and Cofferdam Assessment	12	12	20		28	8		80	\$14,800	\$14,800
	e. Input to Final Constructability TM	14	14	8	8		8		52	\$11,240	\$11,240
19.	Lake Aeration System Design								0	\$0	\$0
20.	Optional - QRA at 60 Percent								-	-	-
	a. Meetings	8	32						40	\$10,320	\$10,320
	b. Analyses for PFMs	28	68	128	184	80		8	496	\$90,080	\$90,080
	c. Prepare and Participate in Workshop	56	56					4	116	\$30,640	\$30,640
	d. Report	20	32	24				4	80	\$18,760	\$18,760
21.	Optional - Additional Embankment Cracking Evaluation and Geotechnical Investigation								0	\$0	\$0
	<b>SUBTOTAL PHASE 2</b>	<b>519</b>	<b>719</b>	<b>1212</b>	<b>1352</b>	<b>1352</b>	<b>98</b>	<b>44</b>	<b>5,296</b>	<b>\$967,800</b>	<b>\$967,800</b>
	<b>TOTAL</b>	<b>579</b>	<b>831</b>	<b>1,346</b>	<b>1,452</b>	<b>1,607</b>	<b>98</b>	<b>44</b>	<b>5,957</b>	<b>\$1,107,450</b>	<b>\$1,107,450</b>

**Notes & Assumptions:**

- 1.) The billing rates for AECOM and GEI are being held to the same rates as the original contract.
- 2.) Direct Costs / Materials provided with no markup and include costs such as geotechnical borings, lab testing, mileage to meetings/site, courier fees, rental cars, airfare to DSOD offices, and document reproduction costs.

**Table 4 - Detailed Breakdown of Subcontractor and Direct Costs**  
 Irvine Ranch Water District and Serrano Water District  
 Santiago Creek Dam Outlet Tower and Spillway Improvements Project - Engineering Services  
 April 15, 2022

**Subcontractor Costs<sup>1</sup>**

Task No.	Subcontractor	Task Description	Quantity	Unit	Unit Cost	Total Cost
Ph 1, Task 23a	Alden Labs	CFD hydraulic modeling computing services	1	LS	\$15,000.00	\$15,000.00
Ph 1, Task 23a	Integrated Engineering & Construction (Phil Martin)	Spillway constructibility technical support	1	LS	\$11,960.00	\$11,960.00
Ph 2, Task 5	Integrated Engineering & Construction (Phil Martin)	3rd party constructibility review, cost estimating review, and construction scheduling support	1	LS	\$27,220.00	\$27,220.00
Ph 2, Task 16b & 16h	Geovision	Geophysical Surveys (2 mobilizations)	1	LS	\$50,900.00	\$50,900.00
Ph 2, Task 16b	Gregg Drilling	5 borings totaling 755 feet, including environmental testing and disposal of drill cuttings	1	LS	\$243,495.00	\$243,495.00
Ph 2, Task 16b	Geovision	Downhole geophysics	1	LS	\$11,475.00	\$11,475.00
Ph 2, Task 16f & 16g	Innovative Services Group	Brush clearing & Test pits (11 pits, machine dug)	1	LS	\$42,890.00	\$42,890.00
Ph 2, Task 17	Alden Labs	Post completion Physical Model Support and CFD hydraulic modeling computing services	1	LS	\$15,000.00	\$15,000.00
Ph 2, Task 18	Integrated Engineering & Construction (Phil Martin)	Engineering services for Construction Hydrologic and Geotechnical Risk Assessment TM	1	LS	\$7,280.00	\$7,280.00
Ph 2, Task 21a1	ABC Liovin Drilling	Optional sonic borings on right abutment for materials characterization (2 borings)	1	LS	\$16,335.00	\$16,335.00
Ph 2, Task 21a1	Geovision	Optional borings - Downhole geophysics	1	LS	\$8,075.00	\$8,075.00
Ph 2, Task 21a2	ABC Liovin Drilling	Optional borings on dam embankment for materials characterization (9 borings)	1	LS	\$135,024.50	\$135,024.50
Ph 2, Task 21a2	Gregg Drilling	Option barge borings on dam embankment for materials characterization (5 borings)	1	LS	\$216,250.00	\$216,250.00
Ph 2, Task 21a2	Geovision	Optional borings - Downhole geophysics	1	LS	\$21,000.00	\$21,000.00
Ph 2, Task 21a2	American Integrated Services	Optional borings - Disposal of drilling cuttings	1	LS	\$24,045.00	\$24,045.00

Task No.	Subcontractor	Task Description	Quantity	Unit	Unit Cost	Total Cost
Ph 2, Task 16e3	AECOM Soils Lab	Water content tests	60	EA	\$20.00	\$1,200.00
Ph 2, Task 16e3	AECOM Soils Lab	Dry density tests	40	EA	\$36.00	\$1,440.00
Ph 2, Task 16e3	AECOM Soils Lab	Particle-size distribution tests	24	EA	\$150.00	\$3,600.00
Ph 2, Task 16e3	AECOM Soils Lab	Corrosivity suites	10	EA	\$260.00	\$2,600.00
Ph 2, Task 16e3	AECOM Soils Lab	Liquid limit and plastic limit tests	24	EA	\$160.00	\$3,840.00
Ph 2, Task 16e3	AECOM Soils Lab	Direct shear tests	0	EA	\$290.00	\$0.00
Ph 2, Task 16e3	AECOM Soils Lab	Triaxial shear tests - consolidated undrained	15	EA	\$410.00	\$6,150.00
Ph 2, Task 16e3	AECOM Soils Lab	Unconfined compressive strength tests on rock	40	EA	\$300.00	\$12,000.00
Ph 2, Task 16e3	AECOM Soils Lab	Modified Proctor	5	2	\$520.00	\$2,600.00
Ph 2, Task 16e3	AECOM Soils Lab	Point load strength tests on rock	0	EA	\$140.00	\$0.00
<b>Total</b>						<b>\$33,430.00</b>

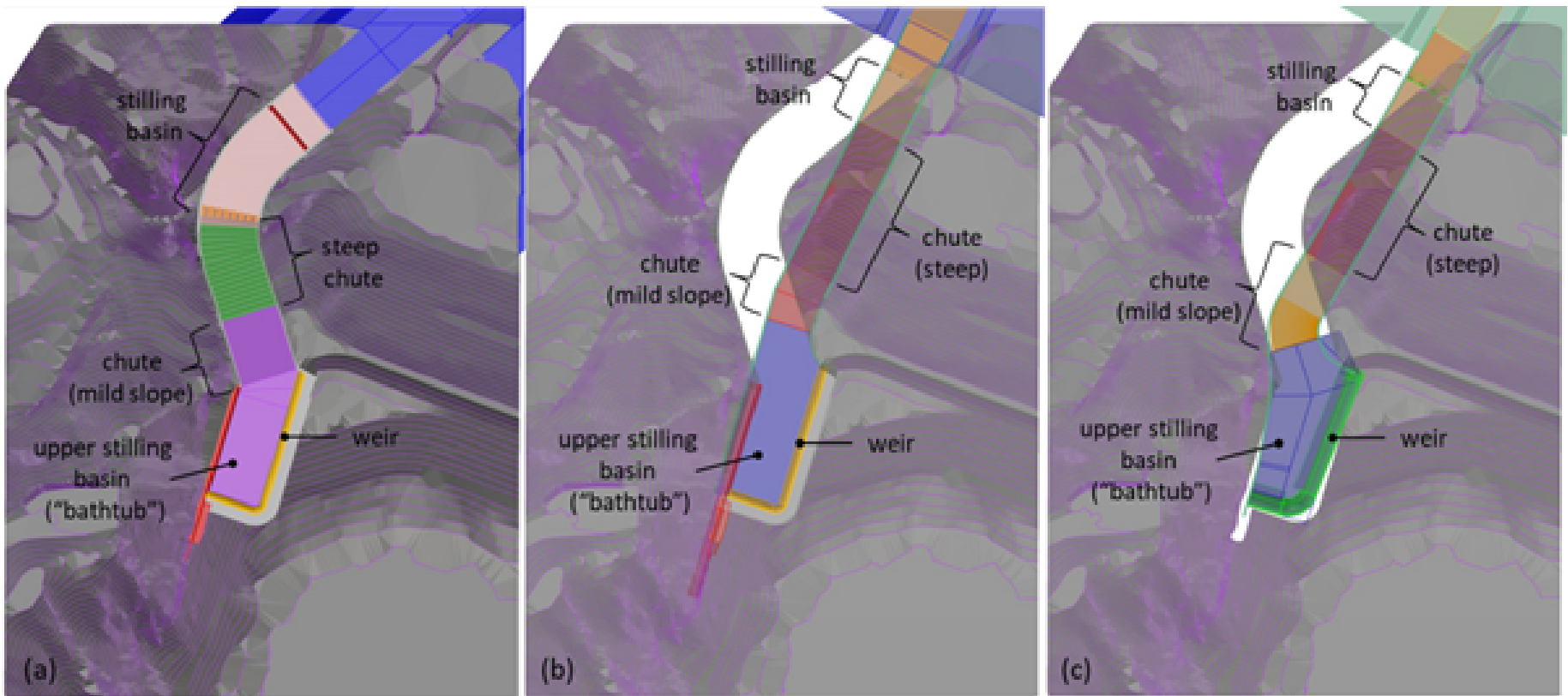
Task No.	Subcontractor	Task Description	Quantity	Unit	Unit Cost	Total Cost
Ph 2, Task 21a1	AECOM Soils Lab	Particle-size distribution tests	16	EA	\$150.00	\$2,400.00
Ph 2, Task 21a1	AECOM Soils Lab	Liquid limit and plastic limit tests	16	EA	\$160.00	\$2,560.00
<b>Total</b>						<b>\$4,960.00</b>

Task No.	Subcontractor	Task Description	Quantity	Unit	Unit Cost	Total Cost
Ph 2, Task 21a2	AECOM Soils Lab	Moisture density tests	50	EA	\$36.00	\$1,800.00
Ph 2, Task 21a2	AECOM Soils Lab	Particle-size distribution tests	50	EA	\$150.00	\$7,500.00
Ph 2, Task 21a2	AECOM Soils Lab	Liquid limit and plastic limit tests	50	EA	\$160.00	\$8,000.00
Ph 2, Task 21a2	AECOM Soils Lab	Pinhole	5	EA	\$290.00	\$1,450.00
Ph 2, Task 21a2	AECOM Soils Lab	Triaxial shear tests - consolidated undrained	20	EA	\$410.00	\$8,200.00
Ph 2, Task 21a2	AECOM Soils Lab	Triaxial shear tests - unconsolidated undrained	35	EA	\$160.00	\$5,600.00
Ph 2, Task 21a2	AECOM Soils Lab	Triaxial shear tests - Cyclic (additional \$1,000 for shipping)	10	EA	\$2,000.00	\$21,000.00
Ph 2, Task 21a2	AECOM Soils Lab	Consolidation	20	EA	\$560.00	\$11,200.00
<b>Total</b>						<b>\$64,750.00</b>

Notes:

1. All subcontractor and laboratory costs shown in the tables above include payment of prevailing wages.
2. Assumes AECOM Geotechnical Lab in Anaheim, CA will perform geotechnical laboratory testing.





Spillway Alternatives  
 Santiago Creek Dam  
 Irvine, California

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Irvine Ranch Water District / Serrano Water District  
 Irvine, California

**GEI**   
 Consultants

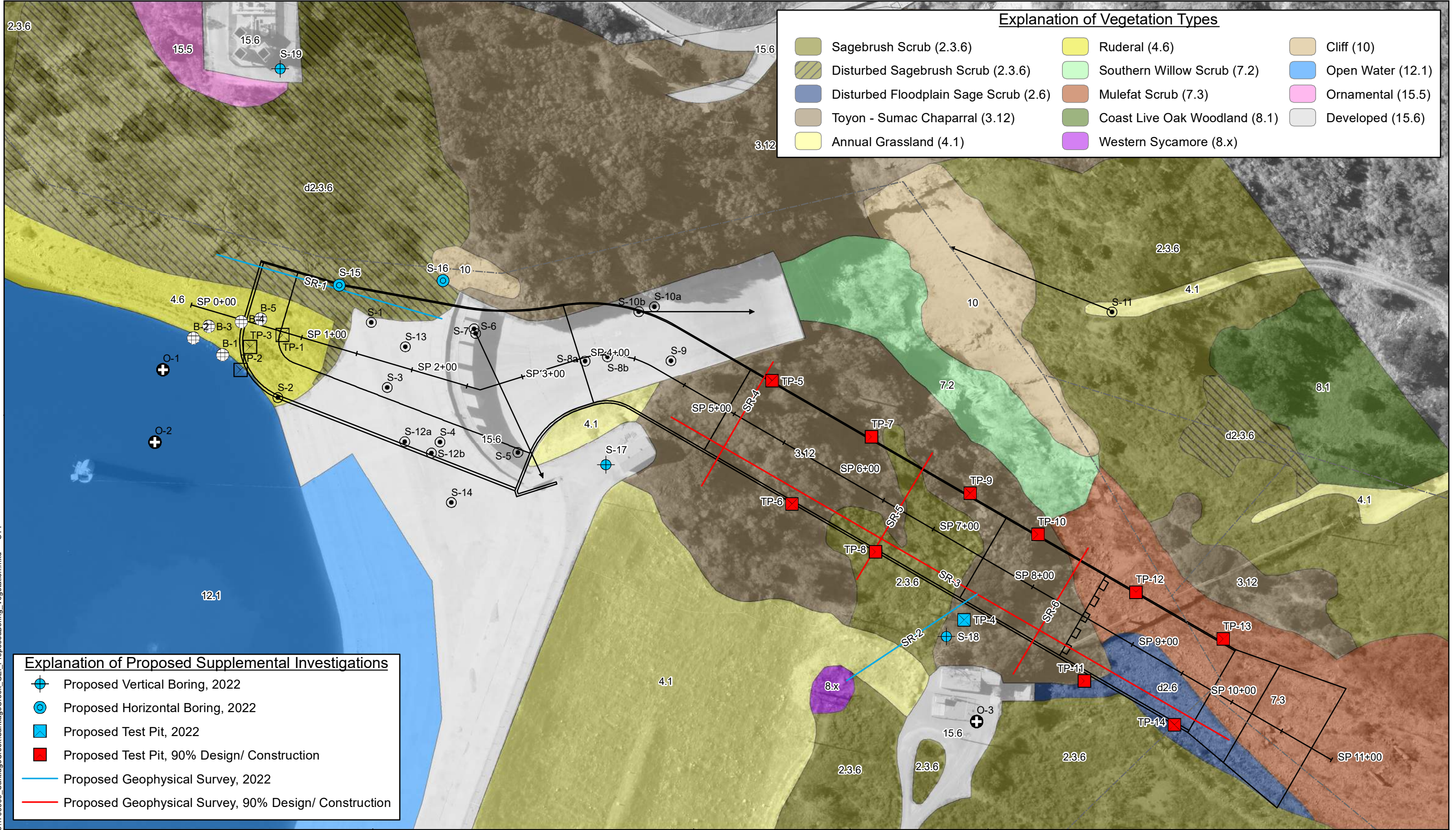
Project 2002748

SPILLWAY ALTERNATIVES

February 2022

Fig. 1





19-Jan-2022 Z:\Projects\1703969\_SantiagoCreek\GIS\ProposedBoring\_Vegetation.mxd STY

0 40 80 160 Feet

Santiago Creek Dam Outlet and Spillway Improvements  
Orange County, California

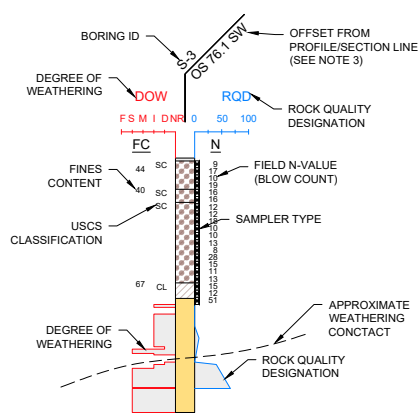
Serrano and Irvine Ranch Water District

**PROPOSED SUPPLEMENTAL INVESTIGATION PLAN**

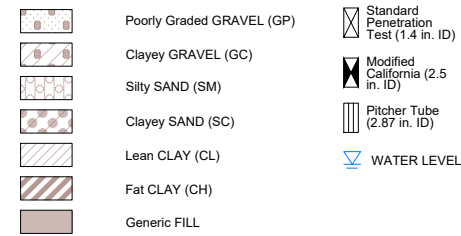
January 2022 **DRAFT** Figure 2



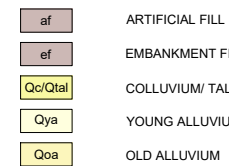
**BORING EXPLANATION**



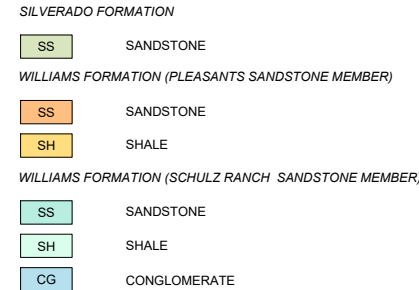
**SOIL LOG EXPLANATION**



**SURFICIAL DEPOSITS**



**GEOLOGIC UNITS**

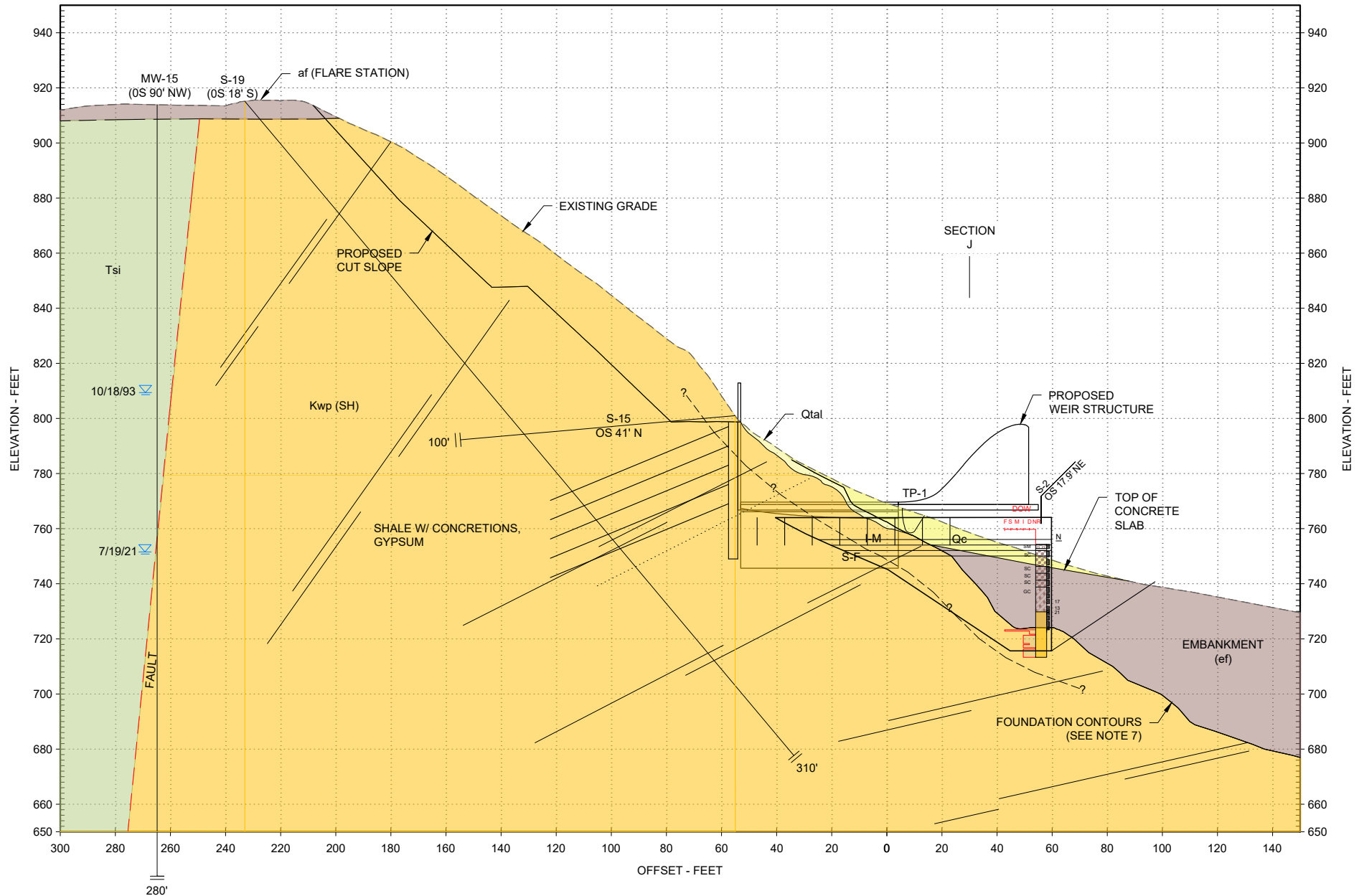


**DEGREE OF WEATHERING**

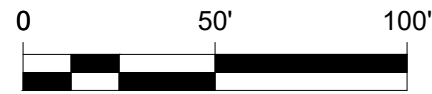


**NOTES**

- SEE PLATE 1 FOR PROFILE AND SECTION LOCATIONS.
- THE BORINGS REPRESENT THE SUBSURFACE CONDITIONS AT THOSE SPECIFIC LOCATIONS AT THE TIME THE BORING WAS COMPLETED. SUBSURFACE CONDITIONS MAY CHANGE OVER TIME.
- OFFSET DISTANCES SHOWN FOR EACH BORING REPRESENTS THE DISTANCE OF THE BORING TO THE PROFILE OR SECTION LINE. BORINGS ENTIRELY WITHIN BEDROCK ARE TYPICALLY PROJECTED ALONG STRIKE OF NEARBY BEDDING (SHOWN ON PLATE 1); OTHERS ARE PROJECTED PERPENDICULAR TO THE SECTION.
- THE PROFILE AND SECTIONS ARE HIGHLY INTERPRETIVE AND MAY NOT REFLECT ACTUAL SUBSURFACE CONDITIONS. ALL GEOLOGIC FEATURES AND CONTACTS SHOULD BE CONSIDERED APPROXIMATE.
- THE SCHEMATIC BEDDING SHOWN ON THE SECTIONS REFLECTS THE APPARENT DIP OF A NEARBY BEDDING MEASUREMENT (SHOWN ON PLATE 1) THAT IS PROJECTED ONTO THE LINE OF SECTION.
- THE PROFILE AND SECTIONS WERE DEVELOPED USING STANDARD METHODS THAT ARE COMMONLY USED BY PROFESSIONALS THROUGHOUT THE GEOLOGIC INDUSTRY.
- FOUNDATION SURFACE DIGITIZED FROM CONSTRUCTION DRAWING NO. 35 "BEDROCK CONTOUR MAP", DATED NOVEMBER 1931. DRAWING WAS MODIFIED BY HAND WRITTEN NOTES IN NOVEMBER 1933 TO READ "FOUNDATION CONTOUR MAP".
- VERTICAL DATUM IS NAVD88.



**A SECTION**  
Scale 1" = 50'



IRVINE RANCH WATER DISTRICT AND SERRANO WATER DISTRICT

**SECTION A  
SPILLWAY WEIR**

Proj. No.: 60633802	Date: FEBRUARY 2022
Project: SANTIAGO CREEK DAM SPILLWAY AND OUTLET WORKS IMPROVEMENTS PROJECT	Figure: 3

Attachment A: Updated Drawing List

Sheet No.	Drawing No.	Sheet Title
1	G-1	Title Sheet
2	G-2	Location Map, Vicinity Map, and Sheet Index
3	G-3	Construction Notes, Symbols, Agency Index & Abbreviations
4	G-4	General Notes and Hydrologic Information
5	G-5	Site Access Plan
6	G-6	Construction Storage and Laydown Plan
7	G-7	Overall Site Plan
8	C-1	Site Demolition and Salvage Plan
9	C-2	Site Demolition and Salvage Plan
10	C-3	Site Demolition and Salvage Details
11	C-4	Tower Abandonment Plan, Section, and Details
12	C-5	Spillway Demolition Plan
13	C-6	Temporary Spillway Slope Shoring Plan
14	C-7	Horizontal Control Plan
15	C-8	Inclined Outlet Access Road and Retaining Wall Plan
16	C-9	Dam Access Safety Improvement Plan, Sections, and Details
17	C-10	Temporary Bypass Pumping System Plan
18	C-11	Temporary Stormwater/Creek Diversion Plan and Details
19	C-12	Irvine Lake Pipeline Relocation Notes
20	C-13	Irvine Lake Pipeline Relocation Plan and Profile
21	C-14	Irvine Lake Pipeline Relocation Connection Plans
22	C-15	Irvine Lake Pipeline Relocation Details (Sheet 1 of 2)
23	C-16	Irvine Lake Pipeline Relocation Details (Sheet 2 of 2)
24	OW-1	Outlet Works General Plan
25	OW-2	Inclined Outlet Structure Cofferdam Notes and Arrangement
26	OW-3	Inclined Outlet Structure Cofferdam Sections and Details
27	OW-4	Inclined Outlet Structure Cofferdam Details
28	OW-5	Inclined Outlet Structure Excavation Plan and Profile
29	OW-6	Inclined Outlet Structure Plan and Profile
30	OW-7	Inclined Outlet Structure Point of Connection Details
31	OW-8	Inclined Outlet Structure Mechanical Details - 1
32	OW-9	Inclined Outlet Structure Mechanical Details - 2
33	OW-10	Inclined Outlet Structure Platform and Stairway Plan, Profile, and Details
34	OW-11	Inclined Outlet Structure Structural Notes, Legend, Abbreviations
35	OW-12	Inclined Outlet Structure Structural Plan, Sections, and Details
36	OW-13	Inclined Outlet Structure Structural Details - 1
37	OW-14	Inclined Outlet Structure Structural Details - 2
38	OW-15	Inclined Outlet Structure Structural Details - 3
39	OW-16	Inclined Outlet Structure Structural Details - 4
40	OW-17	Outlet Works Control Building Site Plan
41	OW-18	Outlet Works Control Building Sections
42	OW-19	Outlet Works Control Building Mechanical Plan
43	OW-20	Outlet Works Control Building Structural Notes
44	OW-21	Outlet Works Control Building Foundation Plan
45	OW-22	Outlet Works Control Building Roof Framing Plan
46	OW-23	Outlet Works Control Building Roof Framing Details
47	OW-24	Outlet Works Control Building Sections and Elevations
48	OW-25	Outlet Works Control Building Structural Details - 1
49	OW-26	Outlet Works Control Building Structural Details - 2
50	OW-27	Valve House Plan
51	OW-28	Valve House Sections
52	OW-29	Valve House Mechanical Plan
53	OW-30	Valve House Excavation Plan
54	OW-31	Valve House Structural Notes
55	OW-32	Valve House Foundation Plan
56	OW-33	Valve House Roof Framing Plan
57	OW-34	Valve House Roof Framing Details
58	OW-35	Valve House Sections and Elevations

Sheet No.	Drawing No.	Sheet Title
59	OW-36	Valve House Structural Details - 1
60	OW-37	Valve House Structural Details - 2
61	OW-38	Emergency Outlet Structure Plan
62	OW-39	Emergency Outlet Structure Excavation Plan
63	OW-40	Emergency Outlet Structure Section
64	OW-41	Emergency Outlet Structure Details
65	OW-42	Stilling Basin Plan and Profile
66	OW-43	Stilling Basin Sections and Details
67	WQ-1	Reservoir Water Quality System - General Plan
68	WQ-1	Reservoir Water Quality System - Aeration Equipment Details
69	SP-1	Spillway General Arrangement
70	SP-2	Spillway Plan and Profile Sta 0+00 to Sta 5+50
71	SP-3	Spillway Plan and Profile Sta 5+50 to Sta 11+00
72	SP-4	Spillway Subsurface Investigation Plan
73	SP-5	Spillway Construction Sequence - Stage 1
74	SP-6	Spillway Construction Sequence - Stage 2
75	SP-7	Spillway Construction Sequence - Stage 3
76	SP-8	Spillway Demolition Plan
77	SP-9	Spillway Excavation Plan (Sheet 1 of 2)
78	SP-10	Spillway Excavation Plan (Sheet 2 of 2)
79	SP-11	Spillway Excavation Sections (Sheet 1 of 3)
80	SP-12	Spillway Excavation Sections (Sheet 2 of 3)
81	SP-13	Spillway Excavation Sections (Sheet 3 of 3)
82	SP-14	Spillway Anchor and Drainage Plan (Sheet 1 of 2)
83	SP-15	Spillway Anchor and Drainage Plan (Sheet 2 of 2)
84	SP-16	Spillway Drainage Details
85	SP-17	Spillway Final Grading Plan (Sheet 1 of 2)
86	SP-18	Spillway Final Grading Plan (Sheet 2 of 2)
87	SP-19	Spillway Sections (Sheet 1 of 3)
88	SP-20	Spillway Sections (Sheet 2 of 3)
89	SP-21	Spillway Sections (Sheet 3 of 3)
90	SP-22	Spoils Disposal Plan and Sections
91	SP-23	Slope Stabilization Plan
92	SP-24	Slope Stabilization Details
93	SP-25	Structural Standard Notes
94	SP-26	Structural Design Criteria
95	SP-27	Structural Standard Details (Sheet 1 of 2)
96	SP-28	Structural Standard Details (Sheet 2 of 2)
97	SP-29	Spillway Structural Layout Plan
98	SP-30	Spillway Joint Layout Plan (Sheet 1 of 2)
99	SP-31	Spillway Joint Layout Plan (Sheet 2 of 2)
100	SP-32	Side Channel Weir Layout Plan
101	SP-33	Side Channel Weir Cross Sections
102	SP-34	Side Channel Weir Details
103	SP-35	Wall Type I Plan
104	SP-36	Wall Type I Elevation
105	SP-37	Wall Type I Cross Sections
106	SP-38	Wall Type II Plan
107	SP-39	Wall Type II Elevation
108	SP-40	Wall Type II Cross Sections
109	SP-41	Wall Type III Plan
110	SP-42	Wall Type III Elevation
111	SP-43	Wall Type III Cross Sections
112	SP-44	Wall Details
113	SP-45	Stilling Basin Plan
114	SP-46	Stilling Basin Cross Sections
115	SP-47	Stilling Basin Details
116	SP-48	Scour Protection Plan and Sections

Sheet No.	Drawing No.	Sheet Title
117	SP-49	Scour Protection Details
118	SP-50	Downstream Apron Plan
119	SP-51	Downstream Apron Cross Sections
120	BR-1	Pedestrian Bridge Structural Notes and Abbreviations
121	BR-2	Pedestrian Bridge General Arrangement Plan
122	BR-3	Pedestrian Bridge Structural Observations and Special Inspections
123	BR-4	Pedestrian Bridge Foundation Plan
124	BR-5	Pedestrian Bridge Elevations
125	BR-6	Pedestrian Bridge Abutment Sections
126	BR-7	Pedestrian Bridge Sections
127	BR-8	Pedestrian Bridge Abutment Details
128	BR-9	Pedestrian Bridge Details - 1
129	BR-10	Pedestrian Bridge Details - 2
130	BR-11	Pedestrian Bridge Miscellaneous Details - 3
131	SW-1	Stairway Plan
132	SW-2	Stairway Profile
133	SW-3	Stairway Sections and Details
134	SW-4	Stairway Details
135	E-1	Overall Electrical Site Plan, Legend & Abbreviations
136	E-2	Single Line Diagram
137	E-3	Control Building Electrical Plan
138	E-4	Valve Vault & EOS Electrical Plan
139	E-5	Control Building Conduit Plan
140	E-6	Outlet Works Valve Vault & EOS Conduit Plan
141	E-7	Control Building Lighting Security, and Grounding Plan
142	E-8	Valve Vault & EOS Lighting Security, and Grounding Plan
143	E-9	Control Building Panel Elevations
144	E-10	Electrical Conduit - Sections and Details
145	E-11	Electrical Service Plan and Details
146	E-12	PLC and Telemetry Schematic
147	E-13	Security Camera and Telemetry Details
148	E-14	Air Schematic Control Diagram
149	E-15	Emergency Outlet Valve Schematic Control Diagram
150	E-16	Electrical Details - 1
151	E-17	Electrical Details - 2
152	E-18	Cable and Conduit Schedule
153	I-1	Instrumentation Legend and Symbols
154	I-2	Outlet Works P&ID
155	I-3	Instrumentation Details
156	I-4	SCADA System Architecture
157	I-5	Telemetry System Details - 1
158	I-6	Telemetry System Details - 2
159	I-7	Reservoir Aeration System P&ID
160	EC-1	SWPPP Index Map and Notes
161	EC-2	SWPPP Notes
162	EC-3	SWPPP Excavation Area 1
163	EC-4	SWPPP Excavation Area 2
164	EC-5	SWPPP Excavation Area 3
165	EC-6	SWPPP Outlet Works Improvements Area 1
166	EC-7	SWPPP Outlet Works Improvements Area 2
167	EC-8	SWPPP Spillway Improvements Area 1
168	EC-9	SWPPP Spillway Improvements Area 2
169	EC-10	SWPPP Details - 1
170	EC-11	SWPPP Details - 2
171	EC-12	SWPPP Details - 3
172	EC-13	SWPPP Details - 4

Notes:  
 The original contract included 34 spillway drawings. This variance adds 17 spillway drawings, 5 ILP relocation drawings, and 3 reservoir aeration system drawings.  
 EOS = Emergency Outlet Structure  
 SCADA = supervisory control and data acquisition  
 SWPPP = Stormwater Pollution Prevention Plan  
 ILP=Irvine Lake Pipeline

## **Attachment B – Subconsultant and Subcontractor Quotes**

Date: March 24, 2022

To: Iqbal Ahmed, PE,  
Mark Fortner, PE

From: Dan Gessler, PE

Subject: **Change Order for additional CFD modeling during preliminary design of Santiago Dam Spillway**

Description of Additional Work:

The additional work for the preliminary design phase is to test an additional spillway alignment in the FLOW-3D model. The spillway alignment modification was provided by GEI. The need for the modification was discussed in a series of e-mails ending with an e-mail from Alden to GEI on Feb 26<sup>th</sup> 2021 providing the proposed budget.

Additional Budget

Model setup:	40 hrs
Simulations:	40 hrs
<u>Post Processing and Analysis</u>	<u>16 hrs</u>
Total	96 hrs

Billing rate for sr. CFD engineer is \$156.25/hr

Total budget for additional simulations is \$15,000

Date: March 24, 2022

To: Iqbal Ahmed, PE,  
Mark Fortner, PE

From: Dan Gessler, PE

Subject: **Change Order for Support with Final Design**

Description of Additional Work:

After completion of the physical model testing, a final model report will be prepared. The proposed budget did not include post model completion support to address additional questions that may be raised by the BOC or regulators. This change order is for additional funds for post model completion support.

Additional Budget

½ week of additional testing		\$5,000 <sup>1</sup>
SME support:	8 hrs at \$275/hr	\$2,200
Principal Engineer support	40 hrs at \$195/hr	\$7,800
Total		\$15,000

<sup>1</sup> Testing costs are \$10,000 per week for all staff and data collection equipment

Total budget for post model completion support is \$15,000



Integrated Engineering & Construction

22-Feb-22

PROPOSAL

AECOM

Santiago Reservoir Improvements

Constructability, Estimate Review and Scheduling Support Services

Task Description	Hours	Hourly Rate \$230
<b>Task 1—30 Percent Design</b>		
1.1 Review of existing drawings and information	4	
1.2 Constructability Meetings	8	
1.3 Review 30% Cost Estimate (prepared by AECOM) & review comments	16	
1.4 Develop 30% Construction Schedule (P6) and schedule narrative	16	
1.5 Meetings	8	
<b>Task 1 Total Hours</b>	<b>52</b>	<b>\$11,960</b>
<b>Task 2—60 Percent Design</b>		
2.1 Review of existing drawings and information	8	
2.2 Constructability Meetings	16	
2.3 Review 60% Cost Estimate (prepared by AECOM) & review comments	24	
2.4 Update 60% Construction Schedule (P6) and schedule narrative	24	
2.5 Meetings	8	
<b>Task 2 Total Hours</b>	<b>80</b>	<b>\$18,400</b>
<b>Task 3—90 Percent Design</b>		
3.1 Review of existing drawings and information	4	
3.2 Constructability Meetings	8	
3.3 Review 90% Cost Estimate (prepared by AECOM) & review comments	16	
3.4 Update 90% Construction Schedule (P6) and schedule narrative	16	
3.5 Meetings	8	
<b>Task 3 Total Hours</b>	<b>52</b>	<b>\$11,960</b>
<b>Task 4—100 Percent Design</b>		
4.1 Review of existing drawings and information	2	
4.2 Review 100% Cost Estimate (prepared by AECOM) & review comments	8	
4.3 Update 100% Construction Schedule (P6) and schedule narrative	4	
4.4 Meetings	4	
<b>Task 4 Total Hours</b>	<b>18</b>	<b>\$4,140</b>
<b>Total Hours</b>	<b>202</b>	<b>\$46,460</b>

Assumptions:

Site visit or travel for meetings is not included





February 2, 2022  
Proposal No. P21-0776 Rev 3

Todd Crampton, CEG  
GEI  
180 Grand Avenue, Suite 1410  
Oakland, CA 94612  
510.350.2934  
cell: 510.759.9470

**Proposal for Borehole and Surface Geophysics  
Santiago Creek Dam, Irvine, California**

Dear Mr. Crampton:

**GEOVision** is pleased to present this revised proposal to conduct geophysics for your project in Irvine, California. The scope of the project includes:

**PHASE 1**

BHTV (Borehole Televiwer) – Three (3) borings

- a) One at 75 ft – Vertical
- b) One at 115 ft – Vertical
- c) One at 310 ft – Vertical

SRT + ERT (Seismic Refraction and Electrical Resistivity Tomography) - Two (2) 2D lines and MASW (2) 1D lines

- a) One at 180 ft
- b) One at 240 ft

**PHASE 2**

SRT + ERT Four (4) 2D lines and MASW (4) 1D lines

- c) Three at 180 ft
- d) One at 600 ft

We will require a written contract and work authorization before mobilization.

***Borehole Televiwer Geophysics  
Acoustic Televiwer and Deviation (Verticality) Survey***

GEOVision proposes to provide borehole Televiwer surveys using one of our RG Borehole Televiwers, or equivalent. The Borehole Acoustic Televiwer utilizes acoustic waves to image the internal surface of the borehole. Because it is acoustic, and not optical, it does not require clear water to operate. The resulting images can be laid out vertically almost like a physical core. The instrument has a built-in fluxgate magnetometer to maintain orientation accuracy and triaxial

accelerometers to measure tilt throughout the measurement. Because of this, fractures that pass through the “core” (if you will) can not only be mapped, but oriented in space to provide an orientation angle relative to north, and a dip angle at a measured depth. This analysis is done after the data collection using specialized software tools. Here is a link to a description of the HRAT probe we will use:

<https://www.robertson-geo.com/wp-content/themes/robertson/downloadfiles/usermanual/1549561343.pdf>

### **Televiwer Environmental Conditions**

The acoustic televiwer requires a stable, fluid filled, uncased borehole between 67 and 150mm diameter.

### **OPTIONAL: Optical Televiwer Survey**

In the event that the borehole cannot hold fluid, GEOVision proposes to provide borehole Televiwer surveys using one of our Optical Televiwers, or equivalent. The Hi-OPTV provides a continuous high resolution oriented image of the borehole walls using a conventional light source. A unique optical system based on a fisheye lens allows the probe to survey 360 degrees simultaneously. This information is processed in real time to produce a complete ‘unwrapped’ image of the borehole oriented to magnetic north. While, unlike the HRAT, it can operate in air-filled boreholes, it is unsuitable for boreholes containing mud or cloudy fluids. The resulting images can be laid out vertically almost like a physical core, and in real color. The instrument has a built-in fluxgate magnetometer to maintain orientation accuracy and triaxial accelerometers to measure tilt throughout the measurement. Because of this, fractures that pass through the “core” (if you will) can not only be mapped, but oriented in space to provide an orientation angle relative to north, and a dip angle at a measured depth. This analysis is done after the data collection using specialized software tools. Here is a link to a description of the DOPTV probe we will use:

<https://www.robertson-geo.com/wp-content/themes/robertson/downloadfiles/usermanual/1558096925.pdf>

### **Televiwer Environmental Conditions**

The optical televiwer requires a stable, air or CLEAR fluid filled, uncased borehole between 67 and 150mm diameter.

### **Borehole Geophysics Fees**

We propose to complete the required borehole geophysical logging for four boreholes for the following fixed unit fee schedule:

ITEM	DESCRIPTION	UNIT	QTY	UNIT RATE	EXT COST
1	Mobilization	EA	3	700.00	2,100.00
1.1	Hand Carry / Loading pole	EA		1,000.00	
2	Borehole PS Suspension Velocity Logging				
2.1	Each borehole, first 100 ft	Borehole	3	2,250.00	6,750.00
2.2	Additional footage	Ft	225	5	1,125.00
3	Report (\$500/borehole, minimum \$1,000)	Borehole	3	500.00	1,500.00
4	Standby fees per day	Day		1,900.00	

**TOTAL****\$ 11,475.00****NOTES:**

1. Each borehole entry on a separate day is charged as a "first 100ft" log, even if it's the same borehole (unless its due to our delay or equipment). Multiple efforts on the same day are one entry. The most common reason to return to the same borehole on a subsequent day is because the borehole was obstructed.
2. The unit rates for logging include processing, as well as all expenses including per diem.
3. GEOVision will not charge you for standby if we can log a hole that day. This means that if we log a hole on Tuesday morning, and the next hole on Wednesday afternoon, we will not charge you for standby.
4. GEOVision reserves the right to NOT log a borehole if conditions indicate that there is a strong possibility that we will lose a logging tool. This is rare, but it can happen. For example, if there has been significant and continuing collapse in the borehole and attendant loss of circulation causing the drill string gets stuck, etc. This is why the method of drilling is so important. We strongly recommend rotary mud.

**Report**

A report will be provided describing the project, the methodology, the procedures and the results.

You will receive Televiwer images immediately at the site via flash drive; followed by Televiwer feature processed data with both wrapped (core) and unwrapped images, feature orientation and dip angles, with interpretive comments describing each feature, both in PDF (typically 1 foot per inch) and Excel formats; Deviation data in both ASCII and orthographic projection PDF formats; and Caliper (ATV only) in both PDF (typically 1 foot per inch) and ASCII formats.

**Borehole Schedule**

Generally, we can meet your required schedule provided we have three weeks advance notice. Faster mobilizations are certainly possible, depending on availability. **GEOVision** personnel will not be available during company scheduled holidays.

Due to present backlog, our final report will be produced within 30 days after completion of field work.

**Surface Geophysics****2D P-wave Refraction Tomography Survey (SRT)**

A geophysical survey using P-wave seismic refraction is proposed. The seismograph used during this investigation will consist of two to four Geometrics Geode 24-channel seismograph(s) (up to 96 channels), or equivalent. The seismic energy sources may consist of an accelerated weight drop (AWD), various sledgehammers and an aluminum plate. Receivers will consist of 4.5 to 10Hz vertical geophones aligned in single spreads of 24 to 48 geophones. Geophones will be spaced at from 5 to 10 ft, for spread lengths of up to 950 feet with multiple shot points occupied per spread including forward and reverse end shots, off end shots, and multiple interior shots. Overlapping spreads may be required for lines of length greater than 235 feet. Geophone spacing and total line lengths may change due to field conditions or data requirements. Seismic data will be stored on the laptop's hard disk and backed up to external hard disk at the end of the field day. Relative elevations of each geophone location will be measured with an engineer's transit and rod or DGPS. Seismic

refraction data will be processed using seismic tomography techniques and/or the generalized reciprocal method (GRM).

Following the first day's acquisition, data will be evaluated to determine if shallow water is encountered, in which case the methodology will be switched to S-wave refraction.

### ***Multi-Channel Analysis of Surface Wave Method (MASW)***

We propose to use active multi-channel analysis of surface waves (MASW) and passive (array or refraction microtremor) during this investigation, as necessary. The active techniques will be able to image the S-wave velocity of the upper 40 to 50 ft using hammer and weight drop sources and the passive techniques should extend depth of investigation to at least 80 ft or greater, depending on the level of passive background energy and the length of the lines.

The seismographs used during this investigation will consist of one or two Geometrics Geode signal enhancement seismograph with 24 channels, or equivalent. The seismic energy sources will consist of sledgehammers, an accelerated weight drop, and an aluminum plate. Receivers will consist of 4.5-Hz vertical geophones. If needed, passive microtremor data will be acquired using up to 48 geophones aligned in a "L" shaped array, nested triangle array, or a linear array depending upon site conditions.

Seismic lines will consist of 24 to 48 geophones spaced 5 to 10 ft apart. A minimum of thirteen (13) shot points will be occupied per line for the MASW collection. MASW data will be analyzed using the software packages WinSASW developed at University of Texas, Austin, software by Geogiga, Inc. and Geometrics, Inc., as necessary.

### ***2D Electrical Resistivity Tomography Survey (ERT)***

Resistivity data will be acquired on single-spread lines using as many as 112 electrodes extending up to 600 ft in length. Exact line locations and lengths will be determined in the field based on geologic information, site constraints, infrastructure and access.

An AGI Super Sting 112-electrode system, or equivalent, will be used for acquisition. Number of electrodes and ideal electrode spacing to be determined based on line placement. Line length can be up to 666 ft using 112 electrodes spaced 6 feet apart. This maximum spacing will provide exploration depth in excess of 130 feet with some loss of near-surface resolution. In contrast, we can deploy a line 550 feet in length consisting of 112 electrodes spaced 5 ft apart which will provide greater near surface resolution but a reduced exploration depth, likely to 100 feet or so.

Multiple array types will be acquired along each line, e.g., dipole-dipole, strong gradient, Wenner and/or inverse Schlumberger. Relative elevations of select electrode locations will be measured with an engineer's transit and rod or total stations system. The ends of each line will be surveyed with a submeter GPS system to tie the survey to the State Plane Coordinate System. The Super Sting will be programmed with the appropriate acquisition parameters and will automatically record potential differences between specified pairs of electrodes as determined by array type. Resistivity data will be run through a two-dimensional least squares or finite element modeling algorithm in the program EarthImager, also by AGI, to generate resistivity sections of the subsurface directly beneath each line.

### **Surface Geophysics Report**

A report will be provided for the geophysical investigation and will include a site map showing the location of the geophysical lines and a discussion of methodology, field procedures, data analysis and results. The report will be reviewed and approved by a California Professional Geophysicist.

### **Surface Schedule**

Generally, we can schedule projects provided we have four weeks advance notice. Faster mobilizations are certainly possible, depending on availability. We expect this work to require up to 5 field days. Preliminary results can be made available within three weeks following field work.

### **Refraction Geophysics Fees**

We propose to complete the requested seismic refraction work using the following fee schedule.

ITEM	DESCRIPTION	UNIT	QTY	UNIT RATE	TOTAL FEE
<b>1</b>	<b>Phases 1 and 2 Geophysical Survey – Mobilization and Demobilization (crew of 3)</b>	<b>LS</b>	<b>2</b>	<b>\$900</b>	<b>\$1,800</b>
<b>2</b>	<b>P-wave Refraction with MASW lines</b>				
2.1	Days, including expenses, equip fees (crew of 3)	Day	4	4,300	17,200
2.3	Processing per P-wave spread	Spreads	6	600	3,600
2.4	Processing for 1D MASW	Spreads	6	750	4,500
<b>3</b>	<b>Resistivity lines (est 3 sprds per day)</b>				
3.1	Days, including expenses, equip fees (crew of 3)	Day	4	4,300	17,200
3.2	Processing resistivity	Spreads	6	600	3,600
<b>4</b>	<b>Reporting, per line</b>	<b>Lines</b>	<b>6</b>	<b>500</b>	<b>3,000</b>
<b>5</b>	<b>Standby / Training Fees</b>	<b>Hour</b>		<b>500</b>	<b>-</b>
	<b>TOTAL ESTIMATED COST</b>				<b>\$ 50,900</b>

#### **NOTES:**

1. We have assumed standard topography (workable slopes) and no line clearing.
2. Data will not be acquired in locations deemed unsafe to do so.
3. You will provide access to all locations at the time of the measurements. Standby time will be charged for time waiting for access.
4. You will provide traffic control and lane closure if needed.
5. We may use high visibility marking paint to mark our lines on the ground. This paint should erode within 8 weeks of completing the survey. However, some traces may remain until the next rain.
6. We assume depth of investigation to be less than 100 feet. If greater depths of investigation are required, then a larger energy source must be mobilized, and additional accessible line length will be required.
7. We assume the number and location of the survey lines will not change significantly.

**Terms**

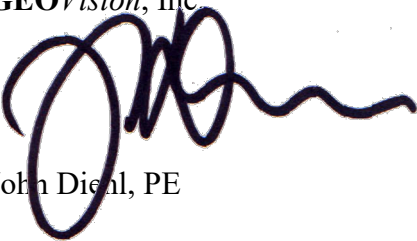
**GEO***Vision* requires a contract and written work authorization before mobilization. I have attached our standard terms. Please review, sign and return if acceptable.

We commit to using highly skilled personnel and state-of- the-art instrumentation for our work. However, it is the nature of geophysical measurements that some field conditions outside our control may result in poor quality data. Our work for this project will be done on a best effort basis.

Please call me at (951) 549-1234 if you have questions regarding this proposal or require additional information.

We look forward to working with you on this project.

Sincerely,  
**GEO***Vision*, Inc

A handwritten signature in black ink, appearing to read 'John Diehl', is written over the company name 'GEOVision, Inc'.

John Diehl, PE

Enclosures:   GV Standard Terms  
                  Technical Note – Seismic Refraction – Tomography  
                  Technical Note – Resistivity



# GREGG DRILLING, LLC.

Environmental, Geotechnical, and Marine Site Investigation Services

2726 Walnut Ave., Signal Hill, CA 90755 Ph: (562)427-6899 Fax: (562)427-3314

Client: GEI Consultants Date: Thursday, March 10, 2022  
 Contact: TODD CRAMPTON E-mail: [tcrampton@geiconsultants.com](mailto:tcrampton@geiconsultants.com)  
 Phone: 510.350.2934 Cell: 510.759.9470  
 Project: Santiago Creek Dam, Supplemental Investigation - Irvine, CA (IRWD) Proposal # 122-0235

**Scope:** Drill (5) borings in total with rotary & HQ3 coring: (2) Horizontal borings (-5deg) to ~100ft each inside spillway; [vertical borings] - (1) 75ft boring w/2" piezometer install & above grade monument w/packer testing & televiwer logging; (1) 115ft boring w/2" piezometer install & above grade monument w/packer testing & televiwer logging; & (1) 310ft boring w/packer testing & televiwer logging, backfill & patch surface to match

Item	Description of Services	Unit Cost	Units	Est. Qty.	Total
1	Mobilization / Demobilization -Spillway Rig, equipment and crew	\$ 12,435.00	Lump	1	\$ 12,435.00
2	Quality Control / Quality Assurance	\$ 3,500.00	Lump	1	\$ 3,500.00
3	40 ton crane deposit/recover rig/equip/materials	\$ 4,250.00	Day	3	\$ 12,750.00
	Drilling Operations - Breakdown by location				
4	S-15 (-5 Deg horizontal) ~100 ft	\$ 34,965.00	Each	1	\$ 34,965.00
5	S-16 (-5 Deg horizontal) ~100 ft	\$ 34,965.00	Each	1	\$ 34,965.00
6	Forklift and/or skid steer equipment	\$ 1,900.00	Wk	2	\$ 3,800.00
7	S-17 vertical ~115ft w/ packer testing, televiwer & piezometer	\$ 28,400.00	Each	1	\$ 28,400.00
8	S-18 vertical ~75ft w/ piezometer	\$ 19,045.00	Each	1	\$ 19,045.00
9	S-19 vertical ~310ft w/ packer testing	\$ 71,810.00	Each	1	\$ 71,810.00
10	IDW Analysis - VOCs via 8360, Title 22 metals & TPH Full Scan - STD	\$ 525.00	Each	5	\$ 2,625.00
11	DOT drums, 55 gallon w/disposal of non-hazardous material	\$ 300.00	Each	44	\$ 13,200.00
12	Packer bladder replacement	\$ 2,000.00	Each	3	\$ 6,000.00

**Estimated Total \$ 243,495.00**

**Assumptions:**

- Work will be performed under OSHA 1910.120 "Level D" safety protection
- Daily Rate is based on Monday through Friday work days
- Site accessible for equipment, Site is secure-No security required
- All locations to be hand augered/cleared to 5ft below surface
- No third party billing
- Project is subject to California Prevailing wages
- Project is NOT subject to Davis-Bacon (DBA) or Service Contract Act (SCA) rates
- Project is NOT subject to any Project Labor Agreements (PLA)
- Gregg is a non-union specialty drilling contractor
- A \$5000.00 Cancellation fee will be charged for cancellations with 48-hrs of confirmed scheduled st:

**Notes:**

- Federal Projects - Gregg is a Small Disadvantaged Business (SDB)
- California Public Utilities Commission (CPUC) - Gregg is a Minority Business Enterprise (MBE)
- Gregg is an Alaska Native Corporation (ANC) owned business
- Gregg is also a Small Business for various local entities within the State of California

Gregg Drilling, LLC  
GEI Consultants  
Santiago Creek Dam, Supplemental Investigation - Irvine, CA

Thursday, March 10, 2022

The project will be billed at the unit rates presented in this proposal multiplied by the actual number of units required to complete the work. Client will be responsible for obtaining all permits and traffic control necessary to complete the work, providing access to the drill site, providing an on-site water source and for manifesting and disposal of all investigation derived waste. The above prices are valid for 60 days of date herein; after 60 days all proposals are subject to review/modification. A minimum callout will be charged for projects under and up to 5-hrs per day including travel + materials and sur-charges. A cancellation fee will be charged for cancellations within 48-hrs of confirmed start date, including delays due to weather or site access. Client will be charged repair or replacement cost for all equipment damaged or lost due to adverse site conditions. In the event of downhole tool loss (breakage of rods, samplers, instrumented tooling, etc.), client will be responsible for costs associated with recovery efforts.

**Utilities:**

Each client by the act of retaining Gregg Drilling to provide services described above, also accepts the responsibility for locating and marking all drilling locations and for contacting Underground Service Alert/DIG ALERT and opening a DIG ALERT TICKET a minimum of 3 and a maximum of 14 days prior to drilling. This number shall be submitted to Gregg Drilling in order for Gregg to obtain a ticket a minimum of 72 hours prior to work commencement. Gregg Drilling shall not be held liable for any damage to underground utilities.

**Payment Terms:**

The preceding costs represent our best estimate for the tasks as we understand them. Client will be invoiced following completion of the work; all bills are due and payable in full within 30 days of the date of the invoice. Invoices not paid within 30 days will be subject to a 1.5% per month finance charge. For clients with existing Master Service Agreements (MSA) payment terms will be in accordance with the MSA. Please note Gregg Drilling will not accept "Pay When Paid" payment terms. Please sign and e-mail back a copy of this proposal and the attached Work Agreement to indicate acceptance of the proposal and conditions. Please do not hesitate to call if you have any questions or need any additional information.

Gregg Drilling, LLC

GEI Consultants

Signature: \_\_\_\_\_

Gabriel Evans  
Project Manager

Name/Title: \_\_\_\_\_





ADDRESS
CEG TODD CRAMPTON GEI Consultants 180 Grand Avenue, Suite 1410 Oakland, CA 94612

PROPOSAL #	DATE	EXPIRATION DATE
111823	03/16/2022	10/15/2023

**CONTACT**  
Todd Crampton

**PROJECT**  
Santiago Dam, Irvine - Spillwa

DATE	DESCRIPTION	HOURS	RATE	AMOUNT
03/16/2022	<b>Services</b> Site Access, Over growth/ Vegetation grubbing, brush clearing Santiago Dam, Irvine-Spillway  Vegetation clearing: up to 1,000 lineal feet to create several 6- to 8-foot-wide paths.  Test pits: if accessible @2:1 slope or less 11 pits up to about 10-12 feet deep (or to top of bedrock). The pits will be 24" to 30" wide and 10-15 feet long and will utilize the paths created by the vegetation clearing.	1	0.00	0.00
03/16/2022	<b>Services</b> Innovative Service Group (ISG) appreciates the opportunity to provide you with a proposal for brush clearing at the subject site. Based on the client provided information, ISG has developed the following scope of work and costing included in this response.	1	0.00	0.00
03/16/2022	<b>Services</b> Preconstruction and Mobilization Activities:  ISG will provide project specific PPE, equipment safety, site condition changes will be discussed daily. ISG will complete the following tasks: <ul style="list-style-type: none"> <li>• Conduct a site visit with the client to confirm and photo document current site conditions.</li> <li>• Client will Make Underground Service Alert notifications 48-hours if necessary</li> </ul>	0		0.00

DATE	DESCRIPTION	HOURS	RATE	AMOUNT
03/16/2022	prior to mobilization. <b>Services</b> (Option A) Excavator with thumb ISG will complete the following tasks: 2 day • Track and crush and a path to the location approx 1000' (estimated 2 day)	5	4,440.00	22,200.00
03/16/2022	**1-Excavator @ 3 day @ \$385.00 per hr. operator included @ 8hr days not to exceed \$3,080.00 <b>Services</b> (Option B) LABOR • Clear brush by hand tech/labor force (2 techs/1supervisor) approx not to exceed 48 man hrs @ \$155 p. hr. not to exceed \$7,440.00	48	155.00	7,440.00
03/16/2022	<b>Services</b> SCHEDULE: ISG can initiate pre-field activities within reasonable time upon acceptance of this proposal. ISG anticipated the work being completed as follows: Preconstruction and Mobilization day 1 Mobilization 2 days plus The supplied pricing is subject to the conditions, assumptions and exclusions listed herein. - Due to terrain, dust control measures are excluded. - Work hours of operation are between 7:00 AM to 5:00 PM five days a week. 8hr max and monitored by the engineer. - Delays associated with the uncovering or encountering any unknown anomalies, underground utilities, piping, hardscape or foundation, inaccessible terrain that impede future scope will be addressed on a T&M bases.	1	0.00	0.00
03/16/2022	<b>Services</b> • Mobilize to the site with a tracked excavator up to a 30,000-pound excavator and personnel mobilization (2 events) @\$375.00 per event (2 events) @\$375.00 per event  total- \$1750.00	2	875.00	1,750.00
03/16/2022	<b>Services</b> • Mobilize to the site with labor, supervisor, crew truck (4 events) @\$375.00 per event  total- \$1500.00	4	375.00	1,500.00

DATE	DESCRIPTION	HOURS	RATE	AMOUNT
03/16/2022	<b>Services</b> Exclusions; *digalert/underground service alert *Any permitting *Traffic control *overtime beyond 8 hr day Monday thru Friday *any work on Saturday or Sunday *Additional time due to any anomalies or inaccessible terrain *any license or permits , plan check, drawings, include being present for any city inspections. *does not include any standby time for access or shutdowns beyond 8 hrs day, standby rate \$2500 day  **any components of proposal removed will deem proposal void	1	0.00	0.00
03/16/2022	<b>Services</b> ***signed service agreement as follows, max 45 days commenced posted date invoice received net total +3% daily on past due invoicing***	1	0.00	0.00
03/30/2022	<b>Services</b> Subject to additional fuel surcharges beyond 30 days of this quote of 14% but not limited to.	1	0.00	0.00

Santiago Dam Spillway Irvine Ranch Water District Orange County, CA	SUBTOTAL	<b>\$32,890.00</b>
Allowance for field uncertainties and for delaying these services for approximately 18 months:		<u>\$10,000.00</u>
	TOTAL	<b>\$42,890.00</b>

Accepted By

Accepted Date



**ABC Liovin Drilling, Inc.**

1180 East Burnett Street, Signal Hill, CA 90755  
Phone: 562-981-8575 Fax: 562-981-9594  
<http://www.abcdrilling.com>  
California Contractor C-57 License No. 422904



Quote # 43981

# FAX

Attn: Christopher Goetz  
 To: **AECOM Inc** From Mario P Romero  
 Fax: 6 Pages Including This Page  
 Phone 714-567-2794 Date: Monday, March 7, 2022  
 Re: Quote - Santiago Creek Dam 1 Irvine Park Rd Orange, CA 92869

Dear Christopher,

Please review the attached quotation. If you have any questions please feel free to give me a call at (562) 981-8575. Please make sure to sign and date the bottom of every page and email or fax (562-981-9594) back to us. Our California SBE certification is included on the last page. I have also included some commonly requested license numbers below. Thank you for the opportunity to quote.

Mario P Romero

- NAICS Code 237110
- SIC Code 1781
- CAGE (SAM.gov) Code 1MKD3
- Dun Bradstreet (DUNS) # 113122436
- C-57 CA Contractors License # 422904 (expires 9/30 of even numbered years)
- C-23 NV Contractors License # 0081445 (expires 7/31 of even numbered years)
- FEIN Federal Employer ID # 33-0498383
- CA EIN California Employer ID # 427 4680 0
- CA FTB Corporation # 1700939
- CA DGS Small Business Enterprise SBE # 22141
- CA DIR Public Works Contractor Registration # 1000002851
- CA DMV Motor Carrier Permit (MCP) # 0102659

- Riverside County Well Drillers Registration # PI0000009
- San Bernardino County Well Drillers Registration # 145

- City of Los Angeles Business License 0002117126-0001-3
- City of San Diego Business License B2013050136
- City of Oceanside Business License BL-1251621



# ABC Liovin Drilling, Inc.

1180 East Burnett Street, Signal Hill, CA 90755  
Phone: 562-981-8575 Fax: 562-981-9594  
<http://www.abcdrilling.com>  
California Contractor C-57 License No. 422904



# QUOTE

Quote # 43981

### AECOM Inc

999 Town and Country Road  
Orange CA 92868

### JOB LOCATION:

Santiago Creek Dam  
1 Irvine Park Rd  
Orange CA 92869

ATTENTION: Christopher Goetz  
PHONE: 714-567-2794  
PHONE 2  
FAX  
PAGER:  
CELL: 949-374-4876  
HOME PHONE:  
FAX 2:

### QUOTE DATE:

Monday, March 7, 2022  
Revised:

Qty:	Unit	Description or Item	Unit Price:	TOTAL
1	Each	Mob/demob - Truck mounted sonic rig - per call out	\$2,000.00	\$2,000.00
1	Day	Drill crew daily travel to and from the site	\$525.00	\$525.00
2	Days	Truck mounted sonic rig with 3 man crew Daily Sonic rig setup, moving between holes, hand auger upper five feet, site clean up and decon. Sonic drill, continuously sample two borings, 1x125 and 1x60, borings will tag bedrock and then go an additional 10', backfill with neat cement and patch to match surface. Place drill cuttings into drums for transportation & disposal by client *Cost includes drill rig and 3 man crew on site 8 hours or less*	\$4,500.00	\$9,000.00
185	Feet	Cement grout backfill	\$8.00	\$1,480.00
6	Each	DOT drums for drill cuttings and decon	\$75.00	\$450.00
48	Hour	Prevailing wage surcharge - per man per hour.	\$60.00	\$2,880.00
?	Each	Forklift & hopper - delivery and pick up	\$350.00	?
?	Day	Forklift & hopper	\$300.00	?
?	Lump	Portable restroom (If required)	\$500.00	?
?	Hour	Site security (16hrs per night no weekends)	\$38.00	?
?	Hour	Premium time over 8 hrs on site - per man per hour	\$125.00	?
?	Each	Cancellation fee	\$1,500.00	?
?	Each	Damaged sonic bits due to hard drilling	\$350.00	?

Estimated total cost to complete this project: \$16,335.00

Signature & Date of Acceptance

Estimated total time required to complete this project: 2- Days



# ABC Liovin Drilling, Inc.

1180 East Burnett Street, Signal Hill, CA 90755  
Phone: 562-981-8575 Fax: 562-981-9594  
<http://www.abcdrilling.com>  
California Contractor C-57 License No. 422904



# QUOTE

Quote # 43981

Thank you for the opportunity to quote. We look forward to working with you on this project. Please note that prices reflect the footage quoted. If for any reason the actual total footage drilled is less than the quantity originally quoted, then prices may change to reflect the decreased footage. If you have any questions concerning this quotation, please feel free to call. Sincerely,

Mario P Romero

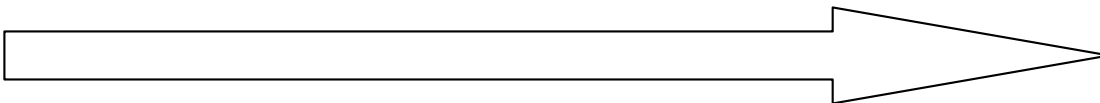
## Assumptions

- 1) Only 8 hours or less will be spent on site - cost provided for time over 8 if required
- 2) All drilling locations are at least 20 feet away from above ground utility lines
- 3) All borings and/or wells will be drilled off city streets therefore no traffic control will be required.
- 4) Drill site area is subject to hard drilling conditions and potential for refusal with Sonic core drilling
- 5) ABC will provide a Forklift/Hopper for moving well materials and spoils during drilling. - Upon request
- 6) There is a \$1500.00 cancellation fee for projects cancelled less than 48 hours from scheduled start time.
- 7) ABC is not responsible for damaging or repairing any sidewalk panels, sprinkler lines, grass, etc. while gaining access to and from drilling locations
- 8) Site security cost provided - Can provide upon request
- 9) Client will provide water for drilling/grouting operations when necessary for the duration of the project.
- 10) Client will survey and mark locations, call dig alert and add ABC Drilling to the Dig Alert Ticket at least 72 hours prior to start of field work
- 11) All changes to original scope will be subject to additional project costs
- 12) Site access for large truck mounted equipment - supplied by client
- 13) Equipment and material staging area supplied by client
- 14) Prevailing wages are included in the estimated project total.
- 15) Bit damage/replacement to be charged as shown on quote
- 16) Orange County well permits - supplied by client
- 17) Transportation and disposal of all drill cuttings and fluids - supplied by client
- 18) Proposal subject to rig and crew availability

I understand and agree to all of the above assumptions as well as the dollar amounts on the preceding page:

\_\_\_\_\_  
Signature and Date

**Please also read and sign the Terms and Conditions on the following page**





**ABC Liovin Drilling, Inc.**

1180 East Burnett Street, Signal Hill, CA 90755  
Phone: 562-981-8575 Fax: 562-981-9594  
http://www.abcdrilling.com  
California Contractor C-57 License No. 422904



**QUOTE**

Quote # 43981

***Terms And Conditions***

- 1) There is no retainage.
- 2) The quoted prices are good for 30 days from the original quote date. The prices are no longer valid after 30 days. If the project is to start 30 days after the original quote then a new quote needs to be done.
- 3) If at anytime ABC Liovin Drilling is mobilized to a drill site, and for any reason, condition, or circumstance, we are at the job site for less than four hours there will be a four hour minimum charge portal to portal.
- 4) Standby time and refusal are billable items.
- 5) Your firm is responsible for damaged equipment due to adverse drilling conditions if the operator advises to stop due to encountering these conditions and is told to continue.
- 6) Before any job can be scheduled, this form must be signed and faxed back to ABC Liovin Drilling.
- 7) ABC Liovin Drilling's Terms are net 30 days with weekly invoicing, unless otherwise agreed to in advance in writing. Any Balances that are past due and will become subject to a finance Charge of up to 24.0% Per annum. If it becomes necessary to instigate collection proceedings, client will be responsible for all Collection costs, this may include attorney fees, court costs, process servers, or any other person or company ABC Liovin deems necessary to employ or contract in its efforts to collect. And secure payment. For all intents and purposes this will be considered a legal and binding contract between ABC Liovin Drilling and the company listed on the title page. It is also considered that this agreement was executed in the city of Signal Hill, State of California.
- 8) If bedrock, cobbles, flowing sands, or other adverse drilling conditions are encountered, drilling will be continued on a time and materials basis, or terminated at the discretion of ABC LIOVIN DRILLING.
- 9) Your firm is responsible for:
  - a) Obtaining any well or site specific permits
  - b) Locating and clearly marking any underground installations or utilities.
  - c) Obtaining access to the site for a normal truck mounted drill rig with no overhead wires within 20 Ft. of the holes. ABC LIOVIN DRILLING SHALL NOT BE RESPONSIBLE for any damages to underground improvements not clearly and accurately marked.
  - d) Your firm is responsible for providing a source of water on site.

Please indicate your acceptance of this quotation \_\_\_\_\_

*Signature and Date*

\_\_\_\_\_  
*Printed Name and Title of person signing above*

This project is to be scheduled for \_\_\_\_\_

*Date and Time*

Please Fax back prior to job start date so that the job can be scheduled.



**ABC Liovin Drilling, Inc.**

1180 East Burnett Street, Signal Hill, CA 90755  
Phone: 562-981-8575 Fax: 562-981-9594  
<http://www.abcdrilling.com>  
California Contractor C-57 License No. 422904



**QUOTE**

Quote # 43981

**WAIVER OF HAND AUGERING/ AIR KNIFING REQUIREMENTS**

It is ABC Liovin Drilling, Inc's policy to clear borings using either hand augers or air knifing to a depth of at least 5 feet below ground surface (bgs) prior to advancing the borings. By signing this document, Client specifically waives this requirement.

In addition, Client expressly agrees that, in the event any underground utilities or other structures, materials or items are encountered from 0 to 5 feet bgs, Client assumes all responsibility for any damage to such utilities, structures, materials or items.

Client further agrees to indemnify and save harmless ABC Liovin Drilling, Inc from any and all costs, expenses, damages, charges, claims, demands or liabilities whatsoever, arising from any damage to underground utilities, structure, materials or items occurring between 0 to 5 feet.

By signing this document, Client Representative warrants and represents that he or she has express authority to bind Client to this document.

Client: \_\_\_\_\_

Client Representative: \_\_\_\_\_

Project Location: \_\_\_\_\_

Project Dates: \_\_\_\_\_

Signature: \_\_\_\_\_

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





ABC LIOVIN

**ABC Liovin Drilling, Inc.**

1180 East Burnett Street, Signal Hill, CA 90755  
Phone: 562-981-8575 Fax: 562-981-9594  
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QUOTE

Quote # 43981

12/28/21, 7:11 PM

Supplier Profile

Printed on: 12/28/2021 7:11:25 PM

To verify most current certification status go to: <https://www.caleprocure.ca.gov>



**Office of Small Business & DVBE Services**

**Certification ID:** 22141

**Legal Business Name:**  
ABC LIOVIN DRILLING INC

**Doing Business As (DBA) Name 1:**

**Doing Business As (DBA) Name 2:**

**Address:**  
1180 EAST BURNETT ST  
SIGNAL HILL  
CA 90755

**Email Address:**  
[eric@abcdrilling.com](mailto:eric@abcdrilling.com)

**Business Web Page:**  
<http://www.abcdrilling.com>

**Business Phone Number:**  
562/981-8575

**Business Fax Number:**  
562/981-9594

**Business Types:**  
Construction

Certification Type	Status	From	To
SB	Approved	12/10/2021	12/31/2023

Stay informed! KEEP YOUR CERTIFICATION PROFILE UPDATED!

-LOG IN at [CaleProcure.CA.GOV](https://www.caleprocure.ca.gov)

Questions?

Email: [OSDSHELP@DGS.CA.GOV](mailto:OSDSHELP@DGS.CA.GOV)

Call OSDS Main Number: 916-375-4940

707 3rd Street, 1-400, West Sacramento, CA 95605

**Leiva, Julie**

---

**From:** John Diehl <jdiehl@geovision.com>  
**Sent:** Tuesday, March 29, 2022 6:04 PM  
**To:** Leiva, Julie  
**Cc:** Glenn Goss; Emily Feldman  
**Subject:** [EXTERNAL] P22-0217 IRVINE LAKE PS SUSPENSION  
**Attachments:** Logging time in the hole.xls; App Note - P-S method.pdf; P-S Log Un-cased Borehole Preparation.pdf; GV STD TERMS 2018.pdf



March 29, 2022

Julie Leiva  
AECOM  
Staff Geologist, Geotechnical Group, Water  
M +1-925-753-1538  
[Julie.Leiva@aecom.com](mailto:Julie.Leiva@aecom.com)

## **PROPOSAL FOR BOREHOLE VELOCITY LOGGING Santiago Creek Dam, Irvine Lake, Irvine, CA**

Dear Ms. Leiva:

Following is our proposal P22-0217 for Borehole Suspension Velocity logging in seven (7) borings for your project at Irvine Lake in Irvine, CA. Following are the tasks outlined in your request:

Task A – Borings on R Abutment  
2 borings to 60 ft and 125 ft, respectively

Task B – Borings on Dam Embankment  
5 borings to 150 ft each

We will require a written Contract before mobilizing.

### ***P-S Suspension Logging***

GEOVision geophysical logging is performed with equipment that is NIST traceable, using Quality Assurance procedures approved by EPA, NRC, and the DOE. Velocity data will be collected at 1/2m intervals. At each measurement depth the digitally recorded data is checked, and recorded on digital media before moving to the next depth. Following completion of field work, the recorded digital records are processed by computer and interactively analyzed by an experienced geophysicist to produce plots and tables of P and S<sub>H</sub> wave velocity versus depth. Standard analysis is performed on receiver 1 to receiver 2 data, with separate analysis performed on source to receiver data as a quality assurance procedure. Data is presented in report format, with ASCII data files and digital records transmitted by email.

GEOVision will use our own procedure P-S Suspension Procedure V1.5. A detailed reference for the velocity measurement techniques used is:

Guidelines for Determining Design Basis Ground Motions, Report TR-102293, Electric Power Research Institute, Palo Alto, California, November 1993, Volume 1, Sections 7 and 8.

NOTE: A “rathole” of 15 ft is required to obtain data to the full depth desired. This is due to the construction of the OYO P-S suspension tool (see enclosed).

Here is a link to the manufacturer’s description of this tool:

<https://www.robertson-geo.com/wp-content/themes/robertson/downloadfiles/usermanual/1601899379.pdf>

**P-S Logging Environmental Conditions**

The OYO P-S Suspension Logging Method can be used in either cased or uncased boreholes. For best results, the borehole must be between 100 and 200 mm in diameter, or 4 to 8 inches. Uncased boreholes are preferred because the effects of the casing and grouting are removed. It is recommended that the borehole be drilled using the rotary mud method. This method does little damage to the borehole wall, and the drilling fluid (usually a bentonite mix) coats and seals the borehole wall reducing fluid loss and wall collapse. The borehole fluid is required for the logging, and must be well circulated prior to logging. If the borehole must be cased, the casing must be PVC and properly installed and grouted. The best method is using a tremie tube to pump grout from the bottom. Any voids in the grout will cause problems with the data. Likewise, large grout bulbs used to fill cavities will also cause problems. The grout must be set before testing. This means the grouting must take place at least 36 hours before testing. We have had good success specifying the ASTM Standard D4428/D4428M-91 Section 4.1 for borehole preparation (see ASTM website for copy). Everything must be followed. For example, if you think you would like to use some auger-type drilling method, consider how much damage this does to the borehole wall.

**Site Activities**

Here is a brief description of our activities at the site to you can plan.

1. We like to show up onsite a couple of hours ahead of when you expect to trip out after TD-ing the hole. If you completed the night before, we’ll ask the driller to trip back in to clean and circulate. It’s a little nerve-racking to drop a \$50,000 instrument into a hole that’s been sitting open for more than a few hours.
2. We will unpack and assemble our equipment and thoroughly test it while we’re waiting for you to finish.
3. When all the rods are out of the hole we’ll hand you our sheave with the logging cable already run. We’ll ask you to lift this sheave to the top of the drilling mast so we can log from your rig.
4. We’ll hoist the probe into vertical position and do some final checks
5. We’ll then lower the probe into position to log the first measurement. We will acquire usually starting from the surface or the bottom of the surface casing. We like to consult the drilling log before we start, to see if there are any sections we should be aware of.
6. We continue collecting data until we reach the bottom of the borehole. Attached is a “logging time in the hole” spreadsheet where you can calculate the total logging time.
7. Once we complete the logging, our probe is out of the hole, and we have verified the data, we’ll ask you to drop the sheave back to the ground. We’ll pack up and leave.

**Logging Fees**

We propose to complete the required borehole geophysical logging for this borehole for the following fee schedule.

**TASK A - R ABUTMENT**

ITEM	DESCRIPTION	QTY	UNIT COST	EXT COST
1	Mobilization (one Geophysicist)	2	750.00	1,500.00
2	Borehole PS Suspension Logging			
2.1	Each borehole, first 100 ft (1)	2	2700.00	5,400.00
2.2	Additional footage	25	7.00	175.00
4	Report, \$500 per borehole, min \$1000	1	1000.00	1,000.00
5	Standby fees per hour for training, safety meetings		235.00	
<b>TOTAL</b>				<b>\$8,075.00</b>

**TASK B - EMBANKMENT**

ITEM	DESCRIPTION	QTY	UNIT COST	EXT COST
1	Mobilization (one Geophysicist)	5	750.00	3,750.00
2	Borehole PS Suspension Logging			
2.1	Each borehole, first 100 ft (1)	5	2700.00	13,500.00
2.2	Additional footage	250	7.00	1,750.00
4	Report, \$500 per borehole, min \$1000	5	400.00	2,000.00
5	Standby fees per hour for training, safety meetings		235.00	
<b>TOTAL</b>				<b>\$21,000.00</b>

**NOTES:**

1. Each borehole entry on a separate day is charged as a "first 100ft" log, even if it's the same borehole (unless its due to our delay or equipment). Multiple efforts on the same day are one entry. The most common reason to return to the same borehole on a subsequent day is because the borehole was obstructed.
2. The unit rates for logging include processing, as well as all expenses including per diem.
3. You can adjust the quantities, such as anticipated depth, to see the new fees.
4. GEOVision reserves the right to NOT log a borehole if conditions indicate that there is a strong possibility that we will lose a logging tool. This is rare, but it can happen. An example is, if there has been significant and continuing collapse in the borehole and attendant loss of circulation. Then the drill string gets stuck, etc. etc. This is why the method of drilling is so important. We strongly recommend rotary mud.

**Report**

A report will be provided describing the project, the methodology, the procedures and the results, including tables and charts of the velocity profiles obtained from the borehole data. You will receive data for both Receiver-to-Receiver (R1-R2) and Source-to-Receiver (S-R1). You will also receive this data in Microsoft Excel format, including our new Layer Modeling template which will allow you to develop your own layer model using the suspension data.

Provided each boring is logged to sufficient depth, you will also receive a spreadsheet that calculates V30 using the NEHRP method. Why do we interpolate to 1m increments? The PS logger measures directly the travel time over a 1 meter interval. So, the overlapped measurements (at nominal 0.5m intervals for your data) are overlapping travel times. It is not explicitly correct to use these as representing individual 0.5m interval velocities.

**Schedule**

Generally, we can meet your required schedule provided we have two weeks advance notice. Faster mobilizations are certainly possible, depending on availability. However, we will need a written contract and authorization to proceed prior to mobilization. GEOVision personnel will not be available during company scheduled holidays.

Preliminary results can be made available within two weeks following field work. However, due to present backlog, our final report will be produced within 30 days after completion of field work.

**Terms**

GEOVision requires a Work Authorization to proceed before mobilization. We already have a Master Service Agreement.

We commit to using highly skilled personnel and state-of-the-art instrumentation for our work. However, it is the nature of geophysical measurements that some field conditions outside our control may result in poor quality data. Our work for this project will be done on a best effort basis.

Please feel free call me if you have any questions.

Yours very truly,  
GEOVision Geophysical Services

John Diehl

GEOVision Inc.

1124 Olympic Drive  
Corona, CA 92881-3390  
(951) 549-1234  
<http://www.geovision.com/>

Reference: P22-0217

Attached:       Application Note – PS Suspension Logging  
                  Specification for Borehole Preparation  
                  Calculator for Logging Time

# SUSPENSION P-S VELOCITY LOGGING METHOD



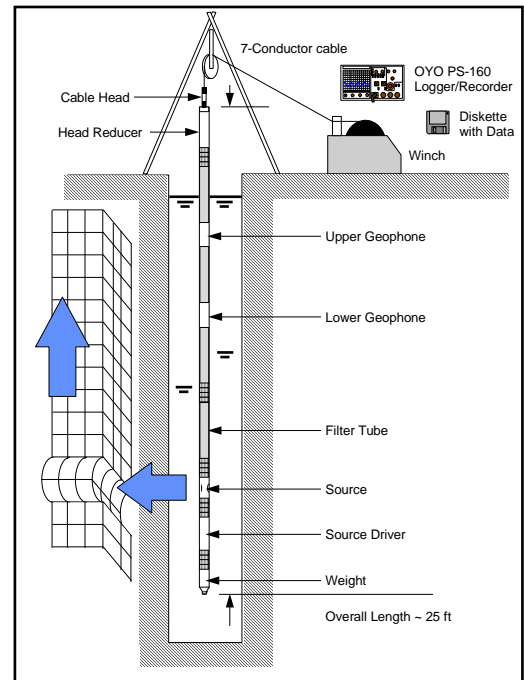
## Overview

Suspension P-S velocity logging is a relatively new method of measuring seismic wave velocity profiles. Developed in the mid-1970s to answer the need for a technique that could measure seismic shear-wave velocities in deep, uncased boreholes, it was originally used by researchers at the OYO Corporation of Japan. The method gained acceptance in Japan in the mid-1980s and was used with other velocity measurement methods to characterize earthquake site response. Since the early 1990s it has gained acceptance in the U.S., especially among earthquake engineering researchers. **GEOVision** personnel have logged over 1500 boreholes using this technique since 1991.

## Procedure

The OYO P-S Logging System uses a 7-meter probe, containing a source and two receivers spaced 1 meter apart, suspended by a cable. The armored 4- or 7-conductor cable serves both to support the probe and to convey data to and from a recording/control device on the surface. The probe is lowered into the borehole to a specified depth (a rotary encoder on the winch measures probe depth), where the source generates a pressure wave in the borehole fluid. The pressure wave is converted to seismic waves (P and S) at the borehole wall. Along the wall at each receiver location, the P and S waves are converted back to pressure waves in the fluid and received by the geophones, which send the data to the recorder on the surface.

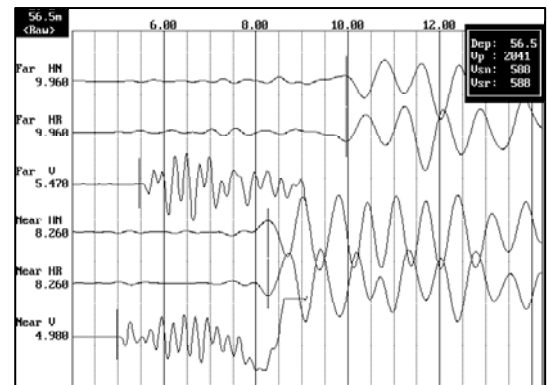
The elapsed time between arrivals of the waves at the receivers is used to determine the average velocity of a 1-meter-high column of soil around the borehole. Source to receiver analysis is also performed for quality assurance.



Oyo PS Suspension Logger Setup



Oyo PS Suspension Logging System



Waveform Data for a Single Measurement

## Applications

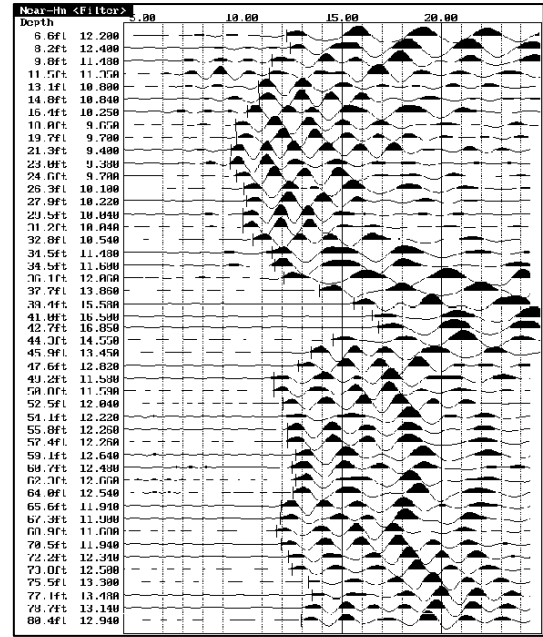
Typical applications of suspension P- and S-wave velocity logging include:

- Dam safety investigations
- Seismic site response studies for bridge abutments, dams, buildings, etc.
- Foundation studies
- Measurement of soil/rock properties (i.e. shear modulus, bulk modulus, compressibility, and Poisson's ratio)
- Characterization of strong motion sites
- Velocity control for seismic reflection surveys

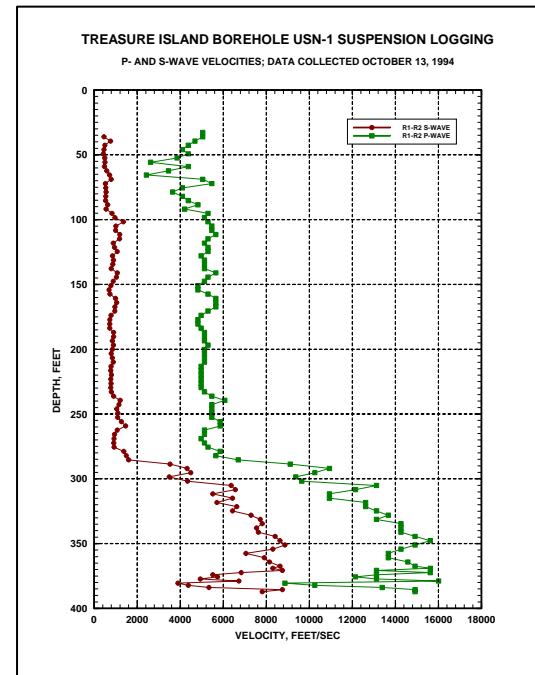
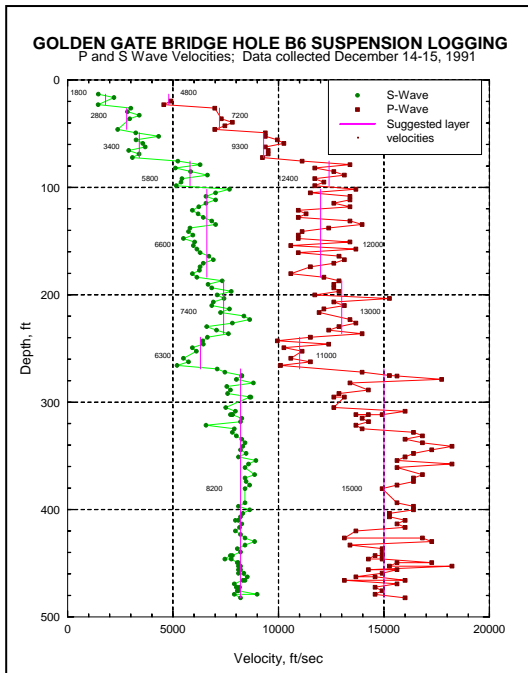
## Key Benefits

Suspension P- and S-wave velocity profiling using the OYO Suspension Logger has become the method of choice for obtaining high resolution borehole velocity measurements. The reasons are many:

- Only method that obtains both P- and S-wave velocity data reliably in a single hole at depths greater than 200 ft.
- Can be used in either uncased or cased (PVC) boreholes, although results are always better in uncased holes.
- Can be used in boreholes drilled from barges.
- Offers very high resolution (typically 1 meter) for resolving thin layers that can have a dramatic effect on surface response.
- Requires only 1 hole, as opposed to crosshole methods that require at least 2.
- Has been used to depths of 2,000 ft.



Depth Sequential Waveform Arrivals



- Specifically adapted to soils, whereas tools developed for oil exploration are optimized for rock.
- Permits measurement of soil and rock properties such as shear modulus, bulk modulus, compressibility, and Poisson's ratio.
- Not hindered by fast layers and lack of depth penetration like surface methods such as downhole.

## **SPECIFICATIONS FOR DRILLING UNCASSED BOREHOLES FOR P-S SUSPENSION LOGGING**

1. The OYO P-S Suspension Logging Method can be used in either cased or uncased boreholes. Uncased boreholes are preferred because the effects of the casing and grouting are removed. For best results, the borehole must be between 10 and 20 cm in diameter, or 4 to 8 inches.
2. It is recommended that the borehole be drilled using the rotary mud method. Drilling must be done with minimal sidewall disturbance. If you think you would like to use some auger-type drilling method, consider how much damage this does to the borehole wall. The rotary mud (also called rotary wash) method does little damage to the borehole wall, and the drilling fluid (usually a bentonite mix) coats and seals the borehole wall reducing fluid loss and wall collapse. The borehole fluid is required for the logging, and must be well circulated prior to logging.
3. NOTE: A "rathole" of 15 ft is required to obtain data to the full depth desired. This is due to the construction of the OYO P-S suspension tool (see enclosed).
4. GEOVision reserves the right to NOT log a borehole if conditions indicate that there is a strong possibility that we will lose the P-S Suspension logging tool. This is rare, but it can happen. An example is, if there has been significant and continuing collapse in the borehole and attendant loss of circulation. Then the drill string gets stuck, etc. etc. This is why the method of drilling is so important. We strongly recommend rotary mud.



**ABC Liovin Drilling, Inc.**

1180 East Burnett Street, Signal Hill, CA 90755  
Phone: 562-981-8575 Fax: 562-981-9594  
http://www.abcdrilling.com  
California Contractor C-57 License No. 422904



Quote # 44194

# FAX

Attn: Julie Leiva  
 To: **AECOM Inc** From Rick Hastings  
 Fax: 7 Pages Including This Page  
 Phone 714-567-2794 Date: Tuesday, March 29, 2022  
 Re: Revised Quote - Santiago Creek Dam TASK 2 1 Irvine Park Road Orange, CA 92869

Dear Julie,

Please review the attached quotation. If you have any questions please feel free to give me a call at (562) 981-8575. Please make sure to sign and date the bottom of every page and email or fax (562-981-9594) back to us. Our California SBE certification is included on the last page. I have also included some commonly requested license numbers below. Thank you for the opportunity to quote.

Rick Hastings

- NAICS Code 237110
- SIC Code 1781
- CAGE (SAM.gov) Code 1MKD3
- Dun Bradstreet (DUNS) # 113122436
- C-57 CA Contractors License # 422904 (expires 9/30 of even numbered years)
- C-23 NV Contractors License # 0081445 (expires 7/31 of even numbered years)
- FEIN Federal Employer ID # 33-0498383
- CA EIN California Employer ID # 427 4680 0
- CA FTB Corporation # 1700939
- CA DGS Small Business Enterprise SBE # 22141
- CA DIR Public Works Contractor Registration # 1000002851
- CA DMV Motor Carrier Permit (MCP) # 0102659

- Riverside County Well Drillers Registration # PI0000009
- San Bernardino County Well Drillers Registration # 145

- City of Los Angeles Business License 0002117126-0001-3
- City of San Diego Business License B2013050136
- City of Oceanside Business License BL-1251621

# ABC Liovin Drilling, Inc.

1180 East Burnett Street, Signal Hill, CA 90755  
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<http://www.abcdrilling.com>  
 California Contractor C-57 License No. 422904



CA SBE #22141

# QUOTE

Quote # 44194

## AECOM Inc

999 Town and Country Road  
 Orange CA 92868

## JOB LOCATION:

Santiago Creek Dam TASK 2  
 1 Irvine Park Road  
 Orange CA 92869

## QUOTE DATE:

Tuesday, March 29, 2022

## Revised:

Tuesday, March 29, 2022

ATTENTION: Julie Leiva  
 PHONE: 714-567-2794  
 PHONE 2  
 FAX  
 PAGER:  
 CELL: 925-753-1538  
 HOME PHONE:  
 FAX 2:

Qty:	Unit	Description or Item	Unit Price:	TOTAL
2	Each	PW-Mob/Demob Rig, Tools, Material and Crew * Qty assumes (1) "Full Size Rig/Mud Rotary Capable Rig and (1) "Limited Access Rig mobilization	\$700.00	\$1,400.00
14	Each	(AUTO HAMMER EQUIPPED CME-85/MUD ROTARY OR LIMITED ACCESS AUGER RIG SERVICE) Drill, Sample and Backfill (5) 150 foot "crest" and (4) 85 foot "bench" Geo-Tech soil borings. The borings will be backfilled with a 5% Bentonite/Portland cement grout and be finished at the surface with a color matched concrete patch as needed * Cost includes Rig, Tools and 2 Man Crew onsite 8 hours or less on Prevailing Wage  note: Quantity assumes (10) days with a "Mud Rotary" capable rig at the crest locations and (4) days with the Limited Access Rig at the (4) "bench" locations	\$4,300.00	\$60,200.00
10	Day	Mud Rotary Surcharge	\$1,500.00	\$15,000.00
?	Each	Geo-Tech Sample Rings (2.5" x 1.0")+Canister	\$28.00	?
1090	Foot	5% Bentonite/Portland cement grout backfill	\$7.00	\$7,630.00
9	Each	Color matched concrete patch	\$40.00	\$360.00
14	Day	Support Truck and Decon Trailer	\$300.00	\$4,200.00
1	Each	Mobilization/Demobilization of Forklift	\$350.00	\$350.00
14	Day	Forklift & Hopper Rental * Pricing based on minimum (10) day rental	\$300.00	\$4,200.00
75	Each	55 Gallon Drums * Estimate assumes roughly (70) soil and (5) decon drums will be used in this effort	\$75.00	\$5,625.00
?	Each	Roll of Visquine to protect surface under equipment	\$150.00	?
14	Day	Per Diem (2 man crew) * For out of town work and to maintain DOT compliance as needed	\$350.00	\$4,900.00
?	Week	Portable Restroom Rental	\$500.00	?
?	Hour	PW-Standby Time	\$550.00	?

**ABC Liovin Drilling, Inc.**

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**QUOTE**

Quote # 44194

?	Hour	PW-Per Man Overtime Rate after 8 hours on-site	\$200.00	?
?	Each	Cancellation fee	\$1,500.00	?
1	Cost+	(PROJECT COST ESCALATOR) 30% projected cost increase for (1) year from time of bid + 30 days due to current worldwide fuel and market conditions. ABC Drilling reserves the right to re cost this project if estimated cost increase does not cover current costing at time of scheduling	\$0.00	\$0.00

Estimated total cost to complete this project: \$103,865.00

Signature & Date of Acceptance

Estimated total time required to complete this project: 14-Days

**\$135,024.50 (including 30% potential escalation for 1-year delay)**

# ABC Liovin Drilling, Inc.

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http://www.abcdrilling.com  
California Contractor C-57 License No. 422904



# QUOTE

Quote # 44194

Thank you for the opportunity to quote. We look forward to working with you on this project. Please note that prices reflect the footage quoted. If for any reason the actual total footage drilled is less than the quantity originally quoted, then prices may change to reflect the decreased footage. If you have any questions concerning this quotation, please feel free to call. Sincerely,

Rick Hastings

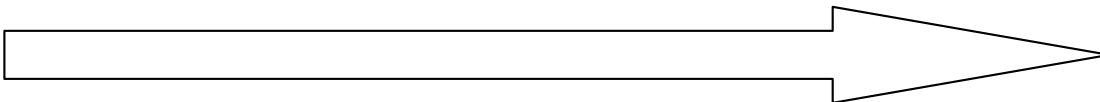
## Assumptions

- 1) This IS a prevailing wage job.
- 2) Traffic Control will be provided by client if required.
- 3) If refusal is encountered, the project may be continued on a time and material basis or at ABCs discretion.
- 4) If needed, Sampler Liners and Caps will be provided at an additional cost.
- 5) Client is responsible for site access.
- 6) Client will provide Porta Potty or restroom facilities. ABC can provide Portable Restrooms at an additional cost if need be.
- 7) Client will provide a Registered Geologist or Engineering Geologist during the drilling, if needed.
- 8) There is a \$1500.00 cancellation fee for projects cancelled less than 48 hours from scheduled start time.
- 9) Add an additional \$1500 per day per rig for drilling on the weekend or at night.
- 10) Water will be made available by Client
- 11) Soil cuttings will be spread onsite per clients direction.
- 12) All "Lump Sum Pricing" is for work described in the "CLIENT" provided RFQ any additional tasks or changes will be charged on a "T&M basis
- 13) All "Fixed Rate Pricing" (Each) is for work described in the "CLIENT" provided RFQ any additional tasks or changes will be charged on a T&M basis
- 14) Cost includes hand clearing top 5-6ft of boreholes
- 15) ABC can park equipment and stage all materials onsite during the duration of the project.
- 16) Client will survey and mark locations, call dig alert and add ABC to the Dig Alert Ticket at least 48 hours prior to ABC mobilizing onsite.
- 17) ABC is a non union drilling company. This bid does not include any additional union fees or costs necessary to enroll employees in the union. This would be done at an additional cost if needed.
- 18) Any site specific training will be billed at \$350 per hour if needed.
- 19) All changes to original scope will be subject to additional project costs
- 20) Borings will be backfilled with a 5% Bentonite/Portland Cement grout.
- 21) 48-hour cancellation fee applies

I understand and agree to all of the above assumptions as well as the dollar amounts on the preceding page:

\_\_\_\_\_  
Signature and Date

**Please also read and sign the Terms and Conditions on the following page**



**ABC Liovin Drilling, Inc.**

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California Contractor C-57 License No. 422904



QUOTE

Quote # 44194

***Terms And Conditions***

- 1) There is no retainage.
- 2) The quoted prices are good for 30 days from the original quote date. The prices are no longer valid after 30 days. If the project is to start 30 days after the original quote then a new quote needs to be done.
- 3) If at anytime ABC Liovin Drilling is mobilized to a drill site, and for any reason, condition, or circumstance, we are at the job site for less than four hours there will be a four hour minimum charge portal to portal.
- 4) Standby time and refusal are billable items.
- 5) Your firm is responsible for damaged equipment due to adverse drilling conditions if the operator advises to stop due to encountering these conditions and is told to continue.
- 6) Before any job can be scheduled, this form must be signed and faxed back to ABC Liovin Drilling.
- 7) ABC Liovin Drilling's Terms are net 30 days with weekly invoicing, unless otherwise agreed to in advance in writing. Any Balances that are past due and will become subject to a finance Charge of up to 24.0% Per annum. If it becomes necessary to instigate collection proceedings, client will be responsible for all Collection costs, this may include attorney fees, court costs, process servers, or any other person or company ABC Liovin deems necessary to employ or contract in its efforts to collect. And secure payment. For all intents and purposes this will be considered a legal and binding contract between ABC Liovin Drilling and the company listed on the title page. It is also considered that this agreement was executed in the city of Signal Hill, State of California.
- 8) If bedrock, cobbles, flowing sands, or other adverse drilling conditions are encountered, drilling will be continued on a time and materials basis, or terminated at the discretion of ABC LIOVIN DRILLING.
- 9) Your firm is responsible for:
  - a) Obtaining any well or site specific permits
  - b) Locating and clearly marking any underground installations or utilities.
  - c) Obtaining access to the site for a normal truck mounted drill rig with no overhead wires within 20 Ft. of the holes. ABC LIOVIN DRILLING SHALL NOT BE RESPONSIBLE for any damages to underground improvements not clearly and accurately marked.
  - d) Your firm is responsible for providing a source of water on site.

Please indicate your acceptance of this quotation \_\_\_\_\_

*Signature and Date*

\_\_\_\_\_  
*Printed Name and Title of person signing above*

This project is to be scheduled for \_\_\_\_\_

*Date and Time*

Please Fax back prior to job start date so that the job can be scheduled.

**ABC Liovin Drilling, Inc.**

1180 East Burnett Street, Signal Hill, CA 90755  
Phone: 562-981-8575 Fax: 562-981-9594  
<http://www.abcdrilling.com>  
California Contractor C-57 License No. 422904



**QUOTE**

Quote # 44194

**WAIVER OF HAND AUGERING/ AIR KNIFING REQUIREMENTS**

It is ABC Liovin Drilling, Inc's policy to clear borings using either hand augers or air knifing to a depth of at least 5 feet below ground surface (bgs) prior to advancing the borings. By signing this document, Client specifically waives this requirement.

In addition, Client expressly agrees that, in the event any underground utilities or other structures, materials or items are encountered from 0 to 5 feet bgs, Client assumes all responsibility for any damage to such utilities, structures, materials or items.

Client further agrees to indemnify and save harmless ABC Liovin Drilling, Inc from any and all costs, expenses, damages, charges, claims, demands or liabilities whatsoever, arising from any damage to underground utilities, structure, materials or items occurring between 0 to 5 feet.

By signing this document, Client Representative warrants and represents that he or she has express authority to bind Client to this document.

Client: \_\_\_\_\_

Client Representative: \_\_\_\_\_

Project Location: \_\_\_\_\_

Project Dates: \_\_\_\_\_

Signature: \_\_\_\_\_

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

# ABC Liovin Drilling, Inc.

1180 East Burnett Street, Signal Hill, CA 90755  
Phone: 562-981-8575 Fax: 562-981-9594  
<http://www.abcdrilling.com>  
California Contractor C-57 License No. 422904



# QUOTE

Quote # 44194

12/28/21, 7:11 PM

Supplier Profile

Printed on: 12/28/2021 7:11:25 PM

To verify most current certification status go to: <https://www.caleprocure.ca.gov>



## Office of Small Business & DVBE Services

**Certification ID:** 22141

**Legal Business Name:**  
ABC LIOVIN DRILLING INC

**Doing Business As (DBA) Name 1:**

**Doing Business As (DBA) Name 2:**

**Address:**  
1180 EAST BURNETT ST  
SIGNAL HILL  
CA 90755

**Email Address:**  
[eric@abcdrilling.com](mailto:eric@abcdrilling.com)

**Business Web Page:**  
<http://www.abcdrilling.com>

**Business Phone Number:**  
562/981-8575

**Business Fax Number:**  
562/981-9594

**Business Types:**  
Construction

Certification Type	Status	From	To
SB	Approved	12/10/2021	12/31/2023

Stay informed! KEEP YOUR CERTIFICATION PROFILE UPDATED!  
-LOG IN at [CaleProcure.CA.GOV](http://CaleProcure.CA.GOV)

Questions?  
Email: [OSDSHELP@DGS.CA.GOV](mailto:OSDSHELP@DGS.CA.GOV)  
Call OSDS Main Number: 916-375-4940  
707 3rd Street, 1-400, West Sacramento, CA 95605



# GREGG DRILLING, LLC.

Environmental, Geotechnical, and Marine Site Investigation Services

2726 Walnut Ave., Signal Hill, CA 90755 Ph: (562)427-6899 Fax: (562)427-3314

Client: AECOM Date: Tuesday, March 29, 2022  
 Contact: Julie Leiva E-mail: [Julie.Leiva@aecom.com](mailto:Julie.Leiva@aecom.com)  
 Phone: ### Cell: 925-753-1538  
 Project: Irvine Ranch Water District Santiago Creek Dam - Silverado, CA Proposal # 122-0286

**Scope:** Using our spud barge drill (5) borings up to 90ft below mudline, with geotechnical sampling w/shelby tubes to bedrock and then upto 10ft into rock w/HQ3 coring, backfill with grout. Mean water level at 35ft or less.

Item	Description of Services	Unit Cost	Units	Est. Qty.	Total
1	Mobilize equipment, deploy barge, & rig w/ necessary labor	\$ 39,500.00	Lump	1	\$ 39,500.00
2	Demobilize equipment, barge, & rig w/ necessary labor	\$ 19,500.00	Lump	1	\$ 19,500.00
Drilling Operations - Breakdown by location					
3	Overwater Borings ~90ft below mudline	\$ 28,950.00	Each	5	\$ 144,750.00
4	Rate escalation surcharge (Jan 2023 and beyond)	\$ 12,500.00	Lump	1	\$ 12,500.00

**Estimated Total** \$ 216,250.00

**Assumptions:**

- Work will be performed under OSHA 1910.120 "Level D" safety protection
- Daily Rate is based on Monday through Friday work days
- Site accessible for equipment, Site is secure-No security required
- **We Estimate 12-14 days to mob, deploy, drill, demob and complete this project**
- Project is subject to California Prevailing wages
- Project is NOT subject to Davis-Bacon (DBA) or Service Contract Act (SCA) rates
- Project is NOT subject to any Project Labor Agreements (PLA)
- Gregg is a non-union specialty drilling contractor
- A \$5000.00 Cancellation fee will be charged for cancellations with 48-hrs of confirmed scheduled st:

**Notes:**

- Federal Projects - Gregg is a Small Disadvantaged Business (SDB)
- California Public Utilities Commission (CPUC) - Gregg is a Minority Business Enterprise (MBE)
- Gregg is an Alaska Native Corporation (ANC) owned business
- Gregg is also a Small Business for various local entities within the State of California



Gregg Drilling, LLC  
AECOM  
Irvine Ranch Water District Santiago Creek Dam - Silverado, CA

Tuesday, March 29, 2022

The project will be billed at the unit rates presented in this proposal multiplied by the actual number of units required to complete the work. Client will be responsible for obtaining all permits and traffic control necessary to complete the work, providing access to the drill site, providing an on-site water source and for manifesting and disposal of all investigation derived waste. The above prices are valid for 60 days of date herein; after 60 days all proposals are subject to review/modification. A minimum callout will be charged for projects under and up to 5-hrs per day including travel + materials and sur-charges. A cancellation fee will be charged for cancellations within 48-hrs of confirmed start date, including delays due to weather or site access. Client will be charged repair or replacement cost for all equipment damaged or lost due to adverse site conditions. In the event of downhole tool loss (breakage of rods, samplers, instrumented tooling, etc.), client will be responsible for costs associated with recovery efforts.

**Utilities:**

Each client by the act of retaining Gregg Drilling to provide services described above, also accepts the responsibility for locating and marking all drilling locations and for contacting Underground Service Alert/DIG ALERT and opening a DIG ALERT TICKET a minimum of 3 and a maximum of 14 days prior to drilling. This number shall be submitted to Gregg Drilling in order for Gregg to obtain a ticket a minimum of 72 hours prior to work commencement. Gregg Drilling shall not be held liable for any damage to underground utilities.

**Payment Terms:**

The preceding costs represent our best estimate for the tasks as we understand them. Client will be invoiced following completion of the work; all bills are due and payable in full within 30 days of the date of the invoice. Invoices not paid within 30 days will be subject to a 1.5% per month finance charge. For clients with existing Master Service Agreements (MSA) payment terms will be in accordance with the MSA. Please note Gregg Drilling will not accept "Pay When Paid" payment terms. Please sign and e-mail back a copy of this proposal and the attached Work Agreement to indicate acceptance of the proposal and conditions. Please do not hesitate to call if you have any questions or need any additional information.

Gregg Drilling, LLC

AECOM

Signature: \_\_\_\_\_

Gabriel Evans  
Project Manager

Name/Title: \_\_\_\_\_



March 30, 2022

AIS Proposal No. 4201425

Julie Leiva  
AECOM  
300 S Grand Avenue  
Los Angeles, CA. 90071

**RE: Transportation and disposal of drummed waste – Santiago Creek**

Dear Julie,

American Integrated Services, Inc. (AIS) appreciates the opportunity to provide AECOM with a proposal for disposal of drums. Based on the information provided in your email today, an estimate of costs is provided below.

AIS is a full-service, minority-owned environmental services company specializing in remediation, construction, emergency response, and specialized transportation services. Founded in 1998, AIS has become an industry leader in providing turn-key environmental services.

AIS has five office locations and equipment yards stationed strategically throughout California and a Gulf Coast office in Pasadena, Texas. Our staff of over 400 full-time employees includes a full spectrum of engineers, geologists, scientists, as well as experts in the fields of environmental construction, demolition, industrial cleaning, decontamination, and remediation. AIS employs a large field staff including hazardous waste certified drivers, construction and demolition specialists, emergency response personnel, confined space and rescue crews, heavy equipment operators and environmental technicians. Our in-house waste management specialists have extensive experience managing a variety of waste streams including both solid and liquid, non-hazardous, regulated wastes, RCRA hazardous land-banned/incinerator materials, and TSCA wastes.

AIS field personnel are trained in accordance with 29 CFR 1910.120. In addition, the majority of our staff are confined space trained and trench/excavation certified per OSHA requirements. Our staff also receives additional specialty training depending on our client's requirements.

AIS owns over \$30 million dollars in equipment and assets including excavators, loaders, dozers, backhoes, bob cats, shoring hammers and equipment, scissor lifts, gear trucks, multiple supervisor and support vehicles, hazardous certified transportation vehicles (vacuum trucks, roll-off trucks, bob-tails, ten wheelers, drum trucks, flat beds, end dumps) and over 450 hazardous

certified and specialized roll-off bins, emergency response trailers and emergency response vehicles.

Our highly trained and experienced staff, extensive list of in-house equipment, and service commitment make it possible for us to provide safe, high quality and cost-effective services.

Lastly, AIS also carries all required insurance for performing the complex and demanding services associated with the environmental industry. In addition to standard general liability of \$20,000,000, AIS also carries auto, workers compensation and contractor’s pollution liability insurance. This specialized coverage ensures that both you our client and AIS are prepared for any unforeseen circumstances that may occur on your project.

**Scope of Work:**

Task B – Dam Embankment Drilling (U/S Slope, Dam Crest, D/S Slope)

- Stake bed transport – Assume up to 2 deliveries per upstream, crest, downstream – up to 6 deliveries
- Non-haz drum disposal – Assumed 85 drums
- Analytical testing – Assuming up to 2 tests per upstream, crest, downstream – up to 6 total

Qty	Equipment	U.O.M.	Rate	Cost
6	Analytical	Each	\$770.00	\$4,620.00
32	Transport drums to disposal – 3 trips	Hour	\$140.00	\$4,480.00
3	Prevailing wage on site	Hour	\$165.00	\$495.00
85	Disposal of Non-Hazardous drums	Each	\$170.00	\$14,450.00
	<b>Total for this project based on quantities above</b>	<b>Total</b>		<b>\$24,045.00</b>

**Assumptions:**

- **Prevailing wage rates included.**
- **Actual time and material will be charged.**
- **Disposal rate is based on non-hazardous results.**
- **Profiling, manifesting, and waste management is included in this bid.**
- **Non-Hazardous drum pricing is based on profile approval at Crosby & Overton, Inc.**
- **Pricing is valid until December 31, 2022.**

**Terms and Conditions:**

This work will be performed in accordance with American Integrated Services, Inc. Client Service Agreement (attached).

- Should action be brought to collect any sums past due, prevailing party shall be entitled to recover court costs and reasonable attorney's fees.
- Jurisdiction and venue for legal action shall be in the state and county of: (a) where the agreement is signed; (b) where the materials, service, or equipment was purchased; or (c) as otherwise provided by law with the (Seller) having the right to choose among these jurisdictions and venues for any particular dispute.

AIS appreciates the opportunity to submit this proposal. For your convenience, this proposal is presented in a form that can be accepted as an agreement. To accept this proposal, please sign below and return a copy to me via email at [mborrego@americanintegrated.com](mailto:mborrego@americanintegrated.com). Should you have any questions or need additional information, please contact me directly at 310-864-2489.

Best Regards,  
**American Integrated Services, Inc.**

*Meriah Rangel*

Meriah Rangel  
Junior Project Manager

Please sign and date below and return via e-mail to my attention at [mhernandez@americanintegrated.com](mailto:mhernandez@americanintegrated.com)

**Upon receipt of authorization to proceed we will schedule this work immediately.**

Print Name: \_\_\_\_\_

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



  
Irvine Ranch  
Water District

# SANTIAGO RESERVOIR IMPROVEMENTS PROJECT UPDATE AND VARIANCE NO. 2

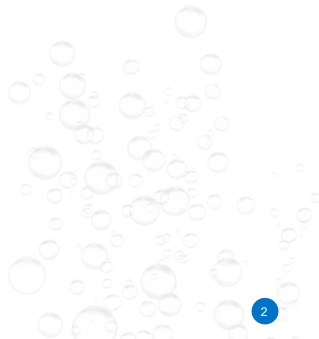
BOARD MEETING  
MAY 9, 2022


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## AGENDA

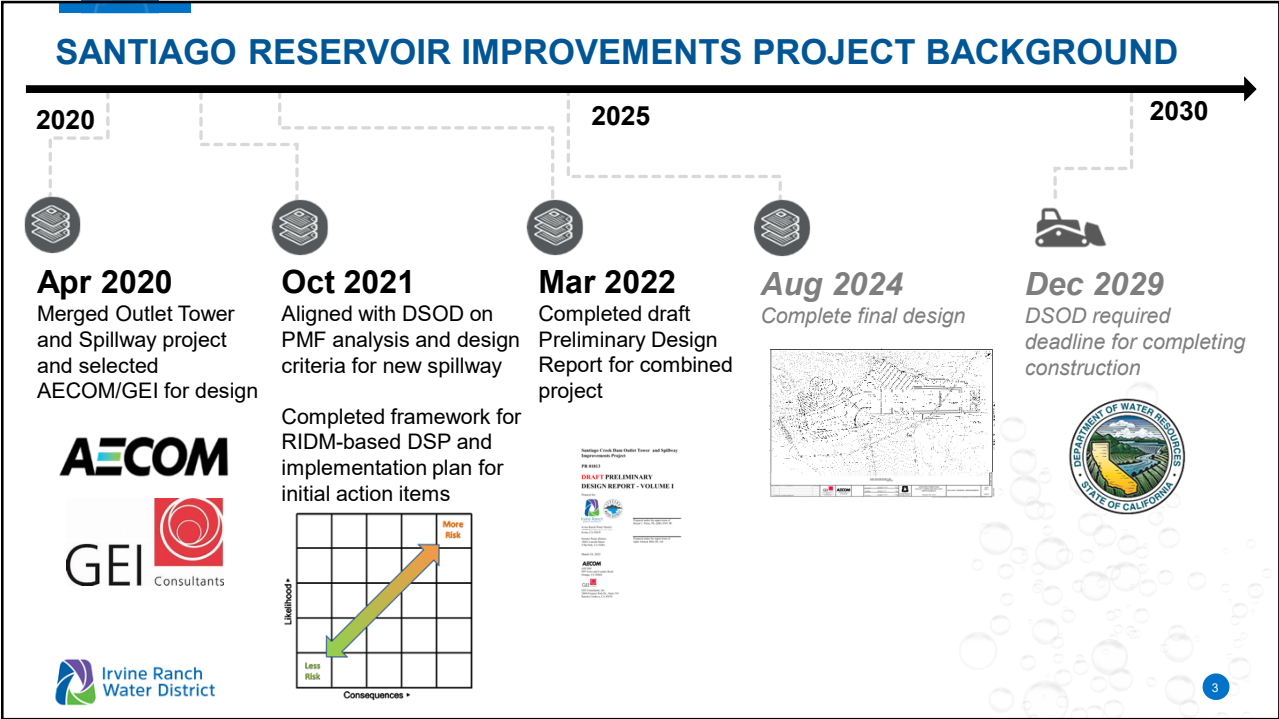
- Background
- Project Update
- Changes in Scope of Work
- Project Schedule & Next Steps
- Staff Recommendation



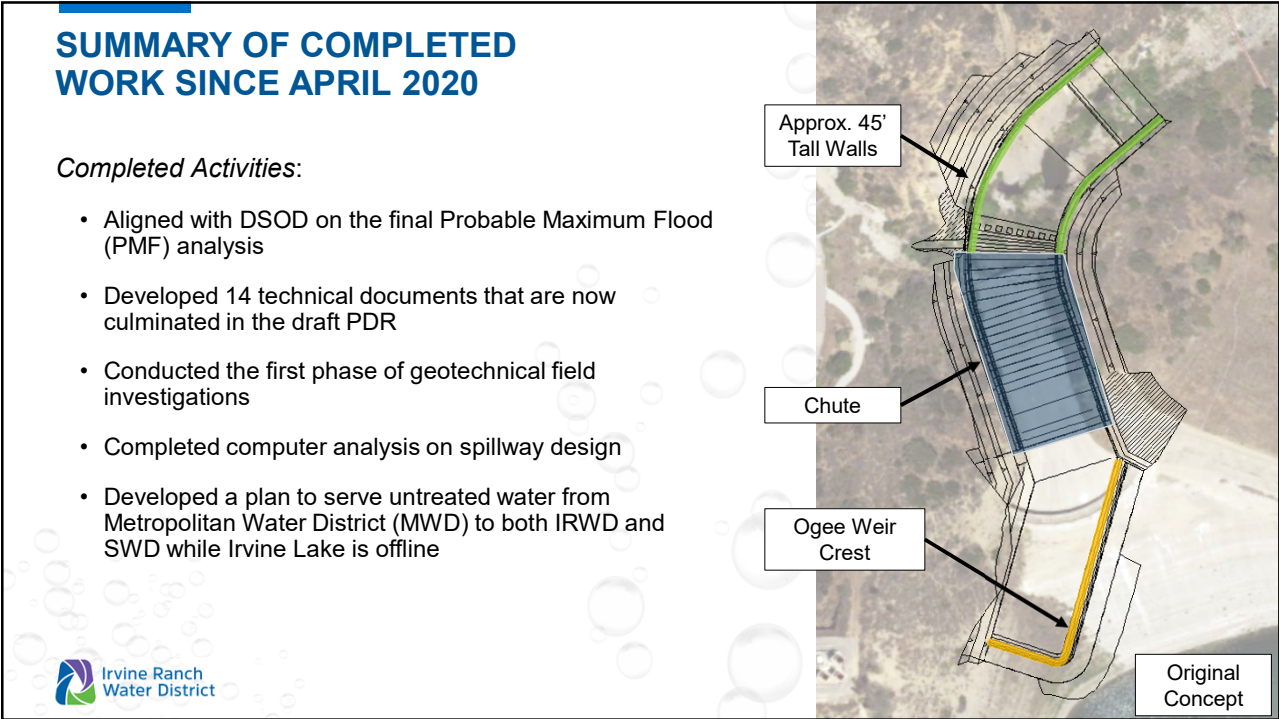
 Irvine Ranch  
Water District

2

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## SUMMARY OF ENVIRONMENTAL ACTIVITIES

### Completed the following activities:

- Jurisdictional Delineation
- Vegetation Mapping and Bio Tech Report

### Upcoming activities (Fall 2022):

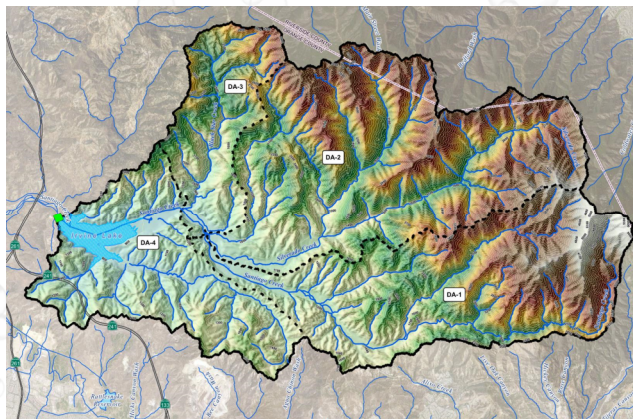
- Complete Focused Species Surveys
- Start permitting process
- Complete Initial Study and determine required CEQA document (MND or EIR)



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## CHANGED CONDITIONS SINCE 2020

- PMF analysis yielded higher hydraulic design criteria for new spillway.
- Computational Fluid Dynamics (CFD) analysis identified unfavorable hydraulic conditions and in conjunction with DSOD approved PMF prompted the need to realign the spillway.
- Semi-Quantitative Risk Analysis (SQRA) performed as part of transitioning to a Risk-Informed Decision Making (RIDM) based dam safety program identified concerns that warranted further evaluation.

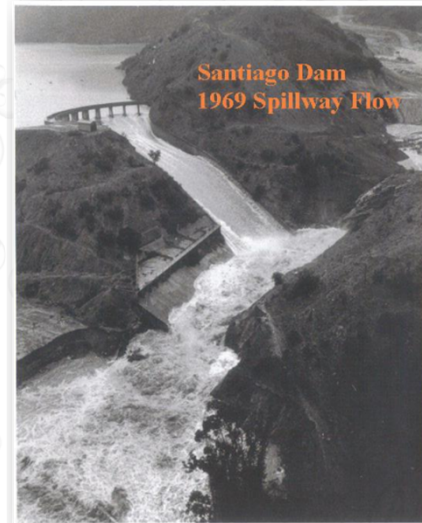


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## PROBABLE MAXIMUM FLOOD AND SPILLWAY HYDRAULIC DESIGN CRITERIA

- 1931:** Spillway designed for 1-in-1,000 year event, estimated to be 23,830 cfs.
- 1981:** DSOD report indicates that the spillway chute walls were sized to handle 30,000 cfs with 10-ft of freeboard.
- 2019:** GEI updated the PMF analysis and determined the peak reservoir inflow of 51,000 cfs.
  - Peak reservoir inflow was used as basis for original scope of work and fee.
- 2021:** DSOD reviewed GEI's analysis and determined the peak reservoir inflow of 68,000 cfs.

DSOD hydraulic design criteria for the spillway is 33% higher than original spillway concept.

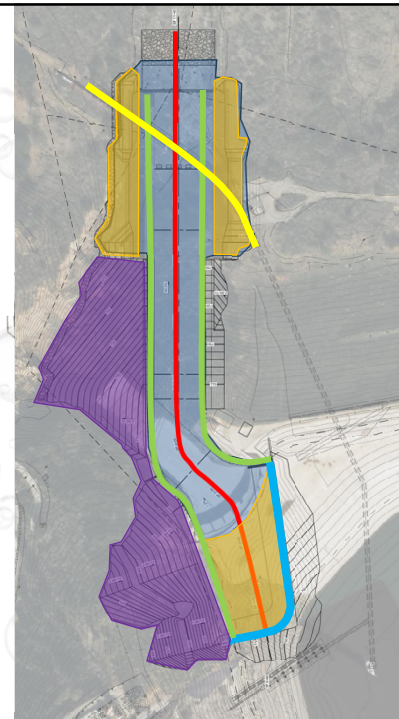


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## IMPACTS OF UPDATED HYDRAULIC DESIGN CRITERIA ON OVERALL DESIGN

- Spillway structure extends farther into reservoir
- Length of spillway increase from 800-ft to 1,100-ft
- Depth of ogee curve increase from 9-ft to 30-ft
- Height of walls along 1,100-ft spillway increase from 25-ft to 45-ft
- Roller compacted concrete foundation and walls
- Relocation of Irvine Lake Pipeline across Santiago Creek
- Shotcrete retaining wall with tiebacks and massive fill along left side of spillway

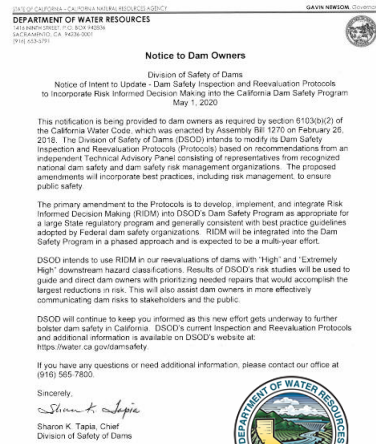


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## TRANSITION TO RIDM-BASED DAM SAFETY PROGRAMS

- Risk-Informed Decision Making (RIDM):
  - Process of making safety decisions by evaluating if existing risks are tolerable and present risk reduction measures are adequate
- In May 2020, DSOD announced transition to RIDM
  - Based upon “best practices” at the federal level
  - DSOD has 650 high and extremely high hazard dams within the state
  - DSOD plans on performing a comprehensive re-evaluation and identification of deficiencies for each dam
- IRWD enhanced its Dam Safety Program and now has a program that is RIDM-based
  - IRWD performed risk analysis on its dams including Santiago Creek Dam that is owned by both IRWD and SWD
    - DSOD staff attended the all-day risk analysis workshop for Santiago Creek Dam



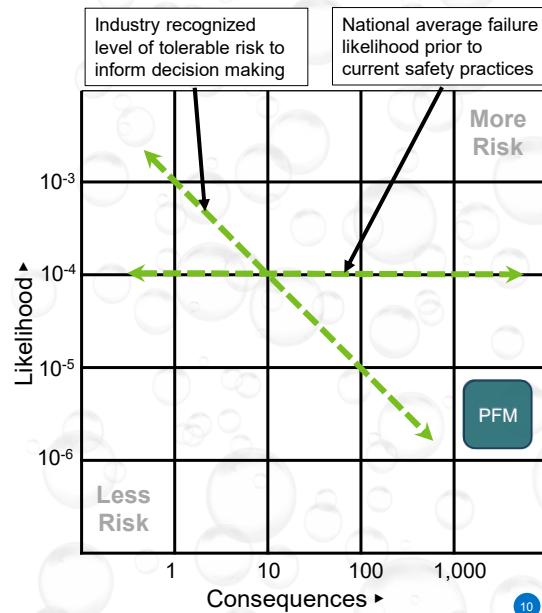
Next steps include performing risk analysis of the outlet tower and spillway improvements



## RIDM AND PROJECT IMPACTS

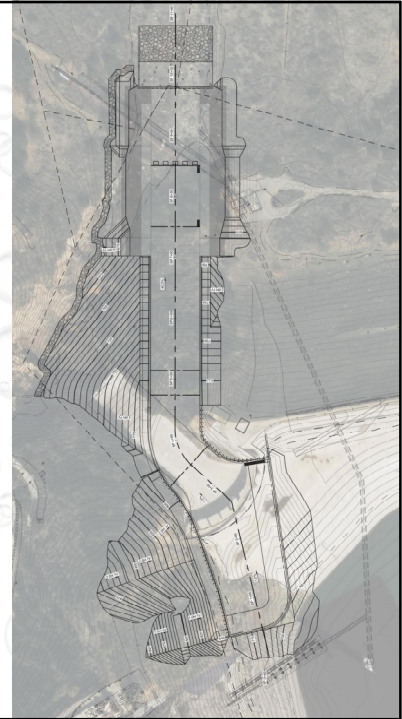
Evaluated several Potential Failure Modes (PFMs) for SQRA that identified the following:

- Areas of uncertainty and information that supports risk estimates
- Seismically induced cracking poses the highest risk for the dam
  - Completed first phase of cracking study since current project includes removing dam crest to widen road
  - Advancing second phase of cracking study that includes 2D analysis
  - Anticipate requiring additional geotechnical information to confirm potential for cracking and material strengths at specific areas of interest



## ADDITIONAL SCOPE OF WORK AND FEE

Description	Cost	Percent of Total
Design costs	\$976,050	38%
RIDM related costs	\$422,080	16%
Geotechnical investigations to complete design	\$609,770	23%
Geotechnical investigations for RIDM	\$611,059	23%
<b>Total Additional Scope of Work</b>	<b>\$2,618,959</b>	<b>100%</b>



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## UPDATED "ALL-IN" PROJECT COST

Description	2020 Estimate (\$ Million)	2022 Estimate (\$ Million)
Outlet Works	5	11
Spillway	78	125
Inclined Outlet Structure	20	30
<b>Total Estimated Construction Cost</b>	<b>103<sup>1</sup></b>	<b>166<sup>1</sup></b>
<b>Soft Costs</b>		
Design	5	7.5
Environmental (CEQA & Mitigation)		
Construction Management and Inspection	31 <sup>2</sup>	50.5 <sup>2</sup>
Other (DSOD Fees, Legal, etc)		
<b>Total Estimated Soft Costs</b>	<b>36</b>	<b>58</b>
<b>Estimated "All-In" Project Cost</b>	<b>139</b>	<b>224</b>

- 1) Includes construction contingency of 45%.
- 2) This estimate results in a total 35% soft cost.



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## PROJECT SCHEDULE

- Complete Preliminary Design Report July 2022
- Start CEQA document and permitting process November 2022
- Complete Design (Lake is drained/offline) Summer 2024
- Start Construction Fall 2024
- Construction Completion Fall 2027<sup>1</sup>
- DSOD Required Construction Completion December 2029

1) Original estimate was Summer 2025



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## NEXT STEPS

- IRWD and SWD Boards approve Variance No. 2
- Proceed with final design
- Proceed with environmental compliance activities



Santiago Creek Dam Spillway  
December 2010



14

14

## STAFF RECOMMENDATION

*That the Board authorize the General Manager to execute  
Variance No. 2 with AECOM in the amount of \$2,618,959  
for additional design phase services.*




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## QUESTIONS



16

May 9, 2022  
Prepared by: K. Welch  
Submitted by: F. Sanchez / P. Weghorst  
Approved by: Paul A. Cook 

## ACTION CALENDAR

### ONE-FOR-ONE EXCHANGE WITH DUDLEY RIDGE WATER DISTRICT

#### SUMMARY:

The IRWD long-term unbalanced exchange program with Buena Vista Water Storage District allows Buena Vista to store its high-flow Kern River supplies on a two-for-one basis in IRWD's Strand Ranch Integrated Banking Project. These Kern River supplies are referred to as "non-State Water Project (SWP)" supplies that are not exportable to IRWD's service area. In 2017, IRWD entered into a long-term one-for-one exchange agreement with Dudley Ridge Water District. This agreement allows IRWD to exchange its stored non-SWP supplies for an equal amount of Dudley Ridge Water District's exportable SWP Table A water.

As a result of the continued dry conditions statewide, Dudley Ridge landowners are evaluating their water needs for the year and are interested in using IRWD's non-SWP supplies in Kern County consistent with the exchange agreement. Staff recommends the Board approve delivery of up to 5,000 acre-feet (AF) of IRWD's stored non-SWP water for use in Kern County by Dudley Ridge landowners. In exchange, Dudley Ridge would return an equal amount of exportable Table A water to IRWD within five years. This water would then be banked for later use in IRWD's service area.

#### BACKGROUND:

IRWD's long-term unbalanced exchange program with Buena Vista provides IRWD access to high-flow Kern River water supplies for storage in IRWD's Water Bank. These Kern River supplies are referred to as non-SWP supplies that are not exportable to IRWD's service area. IRWD currently has 8,089 AF of non-SWP supplies in storage at the Water Bank.

In 2017, IRWD entered into a mutually beneficial long-term one-for-one exchange program with Dudley Ridge that allows IRWD to exchange its non-SWP water for an equal amount of Dudley Ridge's exportable SWP Table A water. This agreement, provided as Exhibit "A", allows IRWD to make up to 40,000 AF of non-SWP water available for delivery to Dudley Ridge landowners. This exchange program allows IRWD, in drought years, to provide non-SWP water supplies to Dudley Ridge landowners with agricultural operations in Kern County in exchange for SWP Table A water delivered back to IRWD within five years. This Table A water can then be stored in IRWD's Water Bank for later use in IRWD's service area.

#### Proposed 2022 One-for-One Exchange:

With the current dry conditions throughout the state, the California Department of Water Resource's final SWP allocation for 2022 is 5%. Dudley Ridge landowners are currently evaluating their water needs for the year and are interested in using IRWD's non-SWP supplies in Kern County consistent with the one-for-one exchange agreement. Staff recommends the Board approve delivery of up to 5,000 AF of IRWD's stored non-SWP water for use by Dudley Ridge landowners in Kern County.

These deliveries would be made over the summer months. In exchange, Dudley Ridge would return an equal amount of Table A water to IRWD within five years when the SWP allocation is 65% or greater. IRWD would benefit from the exchange by being able to use the SWP water in IRWD's service area consistent with IRWD's Coordinated Operating and Exchange Agreement with Metropolitan Water District and MWDOC.

FISCAL IMPACTS:

All costs associated with the one-one-exchange program are allocated on an equitable basis between IRWD and Dudley Ridge as set forth in the exchange program agreement. IRWD is responsible for all costs for the acquisition, storage, recovery, and conveyance of non-SWP water made available to Dudley Ridge. Dudley Ridge is responsible for all costs for the acquisition, conveyance, and recharge of SWP water returned to IRWD. Per the terms of the agreement, costs are reconciled and equalized once the water is returned.

ENVIRONMENTAL COMPLIANCE:

Both the Strand Ranch and Stockdale Integrated Banking Projects are subject to the California Environmental Quality Act (CEQA). In compliance with CEQA, the California Public Resources Code Section 21000 et. seq., and per the California CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3, Rosedale-Rio Bravo Water Storage as a lead agency, filed Notices of Determinations with the County of Kern and with the California State Clearinghouse for the Strand Ranch Integrated Banking Project Final Environmental Impact Report (EIR) and the Stockdale Integrated Banking Project Final EIR. IRWD, as a Responsible Agency, filed Notices of Determination with the Counties of Orange and Kern and with the California State Clearinghouse for both the Strand Ranch and Stockdale Integrated Banking Projects Final EIRs.

COMMITTEE STATUS:

This item was reviewed by the Supply Reliability Programs Committee on April 27, 2022.

RECOMMENDATION:

THAT THE BOARD APPROVE DELIVERY OF UP TO 5,000 ACRE-FEET OF IRWD'S STORED NON-SWP WATER FOR USE BY DUDLEY RIDGE WATER DISTRICT LANDOWNERS IN KERN COUNTY IN EXCHANGE FOR EXPORTABLE STATE WATER PROJECT TABLE A WATER FROM DUDLEY RIDGE WATER DISTRICT CONSISTENT WITH THE TERMS OF THE 2017 AGREEMENT BETWEEN DUDLEY RIDGE WATER DISTRICT AND IRVINE RANCH WATER DISTRICT FOR LONG-TERM EXCHANGE PROGRAM.

LIST OF EXHIBITS:

Exhibit "A" – 2017 Agreement Between Dudley Ridge Water District and IRWD for Long-term Exchange Program

# Exhibit "A"

## 2017 AGREEMENT BETWEEN DUDLEY RIDGE WATER DISTRICT AND IRVINE RANCH WATER DISTRICT FOR LONG-TERM EXCHANGE PROGRAM

THIS AGREEMENT (the "Agreement"), dated this 31 day of May, 2017, is made and entered into by and between DUDLEY RIDGE WATER DISTRICT ("DRWD") and IRVINE RANCH WATER DISTRICT ("IRWD"), each of the foregoing a California Water District formed under and existing pursuant to Section 34000 *et seq.* of the California Water Code (together, the "Parties" and each a "Party").

### RECITALS:

WHEREAS, IRWD has developed and continues to develop the Integrated Banking Project (defined below) in Kern County with storage, recharge and recovery capacities which it operates with Rosedale-Rio Bravo Water Storage District ("Rosedale"); and

WHEREAS, DRWD as an agricultural district holds a long-term Water Supply Contract with the California Department of Water Resources ("DWR") dated December 13, 1963, as amended, pursuant to which it is entitled to receive certain quantities of water from the State Water Project ("SWP"), including without limitation water derived from DRWD's Table A Amount ("Table A Water"); and

WHEREAS, IRWD has entered into the agreement entitled "Coordinated Operating, Water Storage, Exchange and Delivery Agreement" dated as of April 21, 2011 (the "COA"), by and among the Metropolitan Water District of Southern California ("Metropolitan"), the Municipal Water District of Orange County and IRWD; and

WHEREAS, each Party seeks to increase its flexibility and improve water management and reliability by implementing a long term exchange program beginning in 2017, in which IRWD, as a landowner in DRWD, will, at its discretion, recover up to 40,000 acre feet of non-SWP water from the Integrated Banking Project for delivery to DRWD, for use within DRWD's service area or within Kern County, in exchange for which IRWD will receive an equal amount of DRWD's Table A Water in accordance with the COA as provided herein; and

WHEREAS, DRWD will implement such program as a part of, and consistent with, the 2015 Update to its 2012 Agricultural Water Management Plan ("2015 AWMP"); and

WHEREAS, IRWD and DRWD desire to enter into this Agreement for the purpose of setting forth the terms and conditions of the Exchange Program (defined below); and

WHEREAS, Kern County Water Agency ("KCWA") supports a portion of IRWD's non-SWP water originating from Kern River supplies to be used by DRWD landowners within DRWD's service area or within Kern County.



WHEREAS, the Parties intend that this Agreement shall be consistent with that certain Water Banking and Exchange Program Agreement between Rosedale and IRWD dated as of January 13, 2009, as amended (the "Banking Agreement"), and that certain Water Banking, Recovery and Exchange Program Agreement [Stockdale West and Stockdale East Properties] between Rosedale and IRWD dated as of February 4, 2016, understanding that DRWD is not a party to nor bound by either of such agreements.

NOW, THEREFORE, in consideration of the promises and covenants herein contained, DRWD and IRWD agree as follows:

## **AGREEMENT:**

### **Section 1. Definitions of Certain Terms.**

**1.1 COA** means the agreement entitled "Coordinated Operating, Water Storage, Exchange and Delivery Agreement", dated as of April 21, 2011, by and among Metropolitan, the Municipal Water District of Orange County and IRWD.

**1.2 Exchange Program** means the program generally described in Section 2 and implemented under this Agreement.

**1.3 Exchange Water** means the amount of up to 40,000 acre feet of non-SWP water that IRWD determines, at its discretion, is available to recover from the Integrated Banking Project for delivery to DRWD under the Exchange Program while this Agreement is in effect.

**1.4 Integrated Banking Project** means, consistent with the COA, the project described in the Banking Agreement and such other banking assets or components or interests as IRWD may determine to operate in conjunction with the recharge, storage and recovery facilities on the property known as "Strand Ranch" and other property.

**1.5 DRWD POD** means the Integrated Banking Project turn-ins on the Cross Valley Canal (the "CVC"), to which IRWD delivers Exchange Water to DRWD or for its account pursuant to Section 3.

**1.6 IRWD POD** means the Integrated Banking Project turn-outs in Reach 2 of the CVC to which DRWD delivers Return Water to IRWD or for its account pursuant to the option for physical delivery of Return Water to the Integrated Banking Project described in Section 4.1.

**1.7 Return Water** means Table A Water or other SWP supplies available to or controlled by DRWD that will be delivered to IRWD in exchange for Exchange Water as provided herein.

**1.8 Table A Water** means water derived from DRWD's Table A Amount under DRWD's long-term Water Supply Contract with DWR.



**Section 2. Exchange Program.** IRWD shall make up to 40,000 AF of Exchange Water available at IRWD's discretion for delivery to DRWD over the term of this Agreement when and if DRWD requests Exchange Water and such request is approved by IRWD, in exchange for an equal amount of Return Water, to be delivered by DRWD to IRWD pursuant to Section 4 of this Agreement. IRWD may use for this purpose any water supplies that IRWD banks under a program that may be recovered and delivered to or as directed by DRWD in a manner acceptable to DRWD for its use either in or out of Kern County.

**Section 3. Conveyance of Exchange Water.**

**3.1** IRWD will utilize its recovery capacity to recover and deliver the Exchange Water to the DRWD POD.

**3.2** DRWD will take possession of the Exchange Water at the DRWD POD, when it is physically able to take delivery of Exchange Water, and will be responsible for conveying the Exchange Water for use by DRWD landowners.

**Section 4. Return Water.**

**4.1 General.** The timing and the location for the delivery of Return Water shall be as provided in this Section 4.1.

4.1.1 Within five (5) years of receiving a delivery of Exchange Water (the "Return Period"), and when the June 1 SWP allocation is 65% or greater, at a time of the year selected by DRWD, DRWD shall deliver an equivalent amount of Return Water, as provided herein, to IRWD. If the Return Period ends without a year with a June 1 SWP allocation of 65% or greater, then the Return Period will be extended one year at a time until a year occurs with the June 1 SWP allocation of 65% or greater which will trigger the delivery of the Return Water to IRWD. No more than five (5) one-year extensions would be provided. In the event five (5) extensions occur, DRWD's delivery of the Return Water shall be completed prior to the end of the fifth extension year. DRWD may also deliver Return Water to IRWD in any year when the June 1 SWP allocation is less than 65%.

4.1.2 With IRWD's approval, at the request of DRWD, DRWD may also pre-deliver Return Water prior to receiving a delivery of Exchange Water, up to an amount equal to, but not greater than, the amount of non-SWP water then stored by IRWD in the Integrated Banking Project. Within five (5) years of receiving a pre-delivery of Return Water, at a time of year selected by IRWD, and when DRWD is physically able to take delivery of Exchange Water and has demand therefor, IRWD shall, unless otherwise mutually agreed upon by IRWD and DRWD, deliver an equivalent amount of Exchange Water, as provided in Section 3. Exchange Water delivered as a result of a pre-delivery of Return Water shall be at an annual rate of twenty (20) percent of the pre-delivered amount until the return obligation has been fulfilled. At DRWD's request, IRWD may at IRWD's sole discretion provide Exchange Water at an increased rate per year. If by the end of the fifth year of a pre-delivery of Return Water, DRWD has not had the physical ability and demand to take delivery of all Exchange Water, then not more than one additional year would be allowed for Exchange Water deliveries.

4.1.3 Delivery of Return Water shall be made by either (i) if preferred by DRWD, an in-ground transfer of DRWD Table A Water from DRWD's Kern Water Bank account to the Integrated Banking Project, or otherwise (ii) as directed by Metropolitan, (A) delivery of Return Water from the California Aqueduct to the IRWD POD or (B) delivery to Metropolitan for subsequent delivery to Southern California. DRWD shall provide thirty (30) days written notice to IRWD before it delivers Return Water and will confer with IRWD as to the date(s) and location(s) of delivery.

**4.2 Return Water To Constitute Program Water.** The Parties acknowledge and agree that Return Water shall be deemed by IRWD to be Program Water, as defined in the COA, including Return Water delivered by in-ground transfer as provided in clause (i) of Section 4.1 and Return Water delivered as directed by Metropolitan as provided in clause (ii) of Section 4.1. However, all obligations to comply with the COA with respect to Return Water shall be borne by IRWD.

4.2.1 In accordance with the COA, Program Water delivered to the Metropolitan service area shall be under the control of Metropolitan, and any transfer, exchange or other transaction for water to be moved to Metropolitan's service area or to be made Program Water requires Metropolitan's prior consent; Metropolitan's consent to the Exchange Program shall be obtained as provided in Section 7 below.

4.2.2 Any provisions of Sections 10.2 and 10.3 to the contrary notwithstanding, control, carriage, handling, use, disposal, or distribution of water that has been delivered to Metropolitan for subsequent delivery to Southern California turnouts shall be governed as provided in the COA and DRWD shall have no responsibility therefor.

## **Section 5. Delivery Schedule.**

**5.1 General.** As and when requested by DRWD and approved by IRWD, and pursuant to a schedule established pursuant to Section 5.2, IRWD may deliver Exchange Water and DRWD may pre-deliver Return Water within the first fifteen (15) years of the execution of this Agreement. DRWD shall provide Return Water on a first-in and first-out basis as provided in Section 4 and any pre-delivered Return Water shall be credited to DRWD as directed by DRWD for such purpose. All Return Water shall be delivered to IRWD by the end of the term of this Agreement. All Exchange Water to be provided upon the pre-delivery of Return Water shall be delivered as provided in Section 3 by the end of the term of this Agreement.

**5.2 Exchange Water.** At DRWD's request, IRWD will provide a preliminary accounting of the amount of Exchange Water that IRWD has determined to be available. In any calendar year when DRWD requests and IRWD approves an Exchange Water delivery, DRWD shall supply a preliminary delivery schedule with dates and amounts to IRWD by May 1. IRWD will confirm its determination of the quantity of Exchange Water available, the Parties will meet and confer as necessary and shall finalize the delivery schedule by June 1 of such calendar year. Exchange Water delivery shall be scheduled in coordination with the KCWA.

**5.3 Return Water.** The delivery of Return Water shall be scheduled in accordance with the applicable agreements governing Table A Water and the COA, and also in coordination with KCWA when the Return Water is returned to the Integrated Banking Project.

**Section 6. Losses.** Losses will be accounted for on an equitable basis. Exchange Water will be delivered to DRWD's POD net of losses determined in accordance with the applicable "Memorandum of Understanding" between Rosedale and adjoining entities which amount to 15 percent for water that was diverted to the Integrated Banking Project by IRWD. DRWD may incur other losses up to 2 % through the CVC conveyance as assigned by KCWA or any other losses that may be incurred with delivery to DRWD's service area. To ensure a 1-for-1 exchange, all Return Water (including water pre-delivered in accordance with this Agreement) will be delivered to IRWD considering applicable losses, such that the quantity of Return Water delivered by in-ground transfer or delivered to the IRWD POD or to the point where Metropolitan takes control of the water under the COA if delivered to Southern California, as determined pursuant to Section 4.1, is equal to the amount necessary to provide for the applicable losses associated with the method of return. For example, if the Return Water is delivered by in-ground transfer or delivered to Southern California, then there would be no losses to provide for. If the Return Water is delivered to the IRWD POD by DRWD, then 10% losses associated with the Memorandum of Understanding will need to be provided for in the Return Water deliveries. Exhibit "A" provides the adjustment factors to be used in providing for losses for each method of delivering Return Water. Exhibit "A" also includes examples of adjusting for losses associated with each method of making Return Water deliveries to ensure a 1-for-1 exchange. IRWD may incur other losses up to 2 % through the CVC conveyance as assigned by KCWA or any other losses that may be incurred with delivery to the IRWD POD.

**Section 7. Coordination of Approvals and Agreements.**

**7.1 Coordination and Costs.** The Exchange Program will require approvals from DWR, KCWA, and Metropolitan. IRWD and DRWD shall jointly coordinate using their respective staff resources in the development of all agreements necessary to deliver Exchange Water to DRWD and to deliver Return Water to IRWD. IRWD and DRWD shall each be responsible for their own costs associated with such coordination. IRWD and DRWD shall each execute reasonable indemnification agreements, consistent with their respective responsibilities as set forth in Section 10, to the extent required in connection with such approvals; provided, that neither Party shall be required to execute any such agreement that is unacceptable to its board of directors.

**7.2 Contingent Effectiveness.** The effectiveness of this Agreement shall be contingent upon consent to the herein-described Exchange Program by Metropolitan, as indicated by its signature below, and approval of the herein-described Exchange Program by DWR as required for SWP delivery between SWP contractors, and approval by KCWA to the extent required by such DWR authorizing agreement(s). If within one (1) year of the execution of this Agreement by the Parties (the "Contingent Effectiveness Period"), any of the approvals described in the preceding sentence are not obtained, this Agreement shall cease to be effective; provided, the Parties may mutually agree to and make any modifications of this Agreement that they determine are necessary to gain such consent or approval.

## **Section 8. Costs.**

**8.1 Per Acre Foot Costs.** All per acre foot costs associated with the Exchange Program will be paid as set forth in this Section. An illustrative table that assumes that Return Water is delivered to the IRWD POD using current approximate costs is set forth in Exhibit "B" attached and incorporated herein. As indicated in Exhibit "B", the use of assumed non-SWP water costs and SWP allocation percentage reflect the Parties' overall intent to approximately equalize to each Party the per acre foot cost, and if the assumptions materially change, the Parties agree to make adjustments to the cost responsibilities in Sections 8.1.1 and 8.1.2 to approximately equalize the allocation of costs. The costs listed in Exhibit "B" are by way of example and not limitation, and if a new per acre foot cost attributed to the Exchange Program is incurred that was not anticipated in the costs listed in Exhibit "B", each of the Parties shall be responsible for one-half of the new cost unless the Parties agree otherwise.

**8.1.1 Exchange Water Costs.** Notwithstanding any other provision of this Agreement, IRWD shall be responsible for all per acre foot costs for acquisition and storage of Exchange Water prior to its delivery to the DRWD POD. IRWD shall be responsible for all costs of recovery of the Exchange Water, including recovery operation and maintenance, Rosedale administrative charges for recovery and CVC conveyance to the DRWD POD. Each of the Parties shall be responsible for one-half of all KCWA fees, including transaction set-up fees, per acre foot transaction request fees and third-party out-of-county fees.

**8.1.2 Return Water Costs.** Notwithstanding any other provision of this Agreement, DRWD shall be responsible for all per acre foot costs for Return Water. DRWD shall be responsible for all costs of delivery of the Return Water to the IRWD POD, including CVC pumping to the IRWD POD, CVC conveyance to the IRWD POD, and Rosedale administrative charges for recharge in the Integrated Banking Project. For water delivered to the IRWD POD via the CVC or to Southern California, the water delivery costs charged by the DWR (variable OMP&R and off-Aqueduct charges) are to be paid by Metropolitan under the COA. The costs of providing for applicable losses upon the delivery of Return Water to the IRWD POD can be allocated to equalize the cost per acre foot paid by the Parties as shown in the example provided as Exhibit "B".

**8.2 Out of Pocket Costs Other Than Coordination Costs Or Per Acre Foot Costs.** Without limiting the generality of Section 10.1 of this Agreement in any way, each Party shall bear its own expenses and costs incurred in connection with activities undertaken by such Party relating to the Exchange Program, except for costs of coordination otherwise provided for in Section 7.1 or per acre foot costs described and otherwise provided for in Section 8.1. A Party's expenses to be borne by such Party under this Section include without limitation (i) actual out-of-pocket expenses incurred by such Party (including costs of its staff), (ii) the actual amount of legal fees, consulting fees and similar third-party charges incurred by such Party in connection with the Exchange Program, including without limitation the costs incurred by such Party in connection with preparing and reviewing any environmental documentation, (iii) all costs of litigation (including without limitation attorneys' fees) actually incurred by such Party in defending any action brought by a third party as the result of or challenging such Party's actions in connection with the Exchange Program, and (iv) damages actually payable by such Party relating to any activities such Party undertakes in connection with the Exchange Program, except

to the extent such damages were the direct result of the willful misconduct of the other Party that would otherwise be indemnified under Section 10 unless otherwise mutually agreed by the Parties.

**8.3 Payments.** The Parties agree to promptly process statements, invoices, payments, and reimbursements as needed to effectuate this Section 8 and Section 7.1.

**Section 9. Environmental Compliance.** On May 27, 2008 Rosedale certified an environmental impact report (SCH 2007041080) for the Integrated Banking Project (“Strand Ranch EIR”) and subsequently on said date IRWD approved the Strand Ranch EIR as a responsible agency. On January 14, 2010 IRWD certified a Negative Declaration (SCH 2009111097) for the IRWD / Jackson Ranch Water Allocation Project (“Jackson ND”). On December 8, 2015 Rosedale certified an environmental impact report (SCH 2010091076) for the Stockdale Integrated Banking Project (“Stockdale EIR”) and subsequently on December 14, 2015 IRWD approved the Stockdale EIR as a responsible agency. The Strand Ranch and Stockdale EIRs evaluated, among other things, the banking project facilities and the delivery of water from the facilities to IRWD for use in the IRWD service area.

DRWD has adopted a Negative Declaration (SCH 201621110) for DRWD’s 2015 AWMP that addresses long-term banking and exchange programs, including the (a) IRWD Strand Ranch and Stockdale Integrated Banking Projects, (b) transfers with other SWP contractors or their member units, and (3) transfers with other SWP contractors or their member units with established water banking or exchange programs. Accordingly DRWD has determined that the Exchange Program has been adequately addressed by California Environmental Quality Act (“CEQA”) action(s). Additionally, not as a requirement, but as an accommodation to approval agencies, DRWD has adopted a Notice of Exemption prior to DRWD taking action on this Agreement.

**Section 10. Indemnification.**

10.1. In the event of an administrative challenge and/or litigation related to the Exchange Program, this Agreement or either of the Parties’ environmental compliance in connection therewith (a “Challenge”), the Parties will promptly meet and confer to perform a risk assessment of the Challenge and cooperate in good faith to determine how to proceed in light of the Challenge. In the event of a Challenge, either Party may at any time elect to terminate the Agreement by 20 days’ written notice to the other Party; provided, that upon any such termination, this Agreement shall remain in effect solely with respect to any Return Water that must be provided as of the date of the termination notice. If neither Party elects to terminate the Agreement and the Challenge is not withdrawn, the Parties shall jointly defend the Challenge with counsel mutually acceptable to the Parties. All out of pocket costs of the joint defense and any damages, awards or losses resulting therefrom shall be split equally by the Parties. Any costs associated with a Challenge incurred by counsel or other third parties engaged by only one of the Parties shall be borne solely by that Party.

10.2 IRWD, its officers, agents, and employees shall not be liable for the control, carriage, handling, use, disposal, or distribution of Exchange Water downstream of the DRWD POD, or for the control, carriage, handling, use, disposal, or distribution of Return Water upstream of the IRWD POD, nor for any claim of damage of any nature whatsoever, including

but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal or distribution of such water, unless such damages or claims are a result of negligent, intentional or reckless misconduct on the part of IRWD.

10.3 DRWD, its officers, agents, and employees shall not be liable for the control, carriage, handling, use, disposal, or distribution of Return Water downstream of the IRWD POD or downstream of the point of delivery of Return Water to Metropolitan for delivery to Southern California or for the control, carriage, handling, use, disposal, or distribution of Exchange Water upstream of the DRWD POD, nor for any claim of damage of any nature whatsoever, including, but not limited to, property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal, or distribution of such water, unless such damages or claims are a result of negligent, intentional or reckless misconduct on the part of DRWD.

10.4 In-ground transfers which are accounting transfers not involving a physical delivery or POD are not deemed to be subject to the provisions of the preceding two paragraphs.

10.5 Neither IRWD nor DRWD shall be liable to the other for any claims related to the impairment of the quality of water as a result of storage in any Party's banking facilities or the aquifer from any cause.

10.6 Except as otherwise provided in Section 10.1, each Party shall at all times indemnify, defend and save the other Party free and harmless from, and pay in full, any and all causes of action, claims, liabilities, obligations, demands, losses, judgments, damages or expenses, including reasonable attorney fees and costs ("claims") in any manner arising out of or connected with the indemnifying Party's activities in its performance under the Agreement or its diversion, control, carriage, handling, use, disposal or distribution of water into and out of storage, and any claims relating to any third party claiming a prior right, or interference with their right, to water delivered from one Party to the other, and any claims made by landowners in the respective Party's service area as a result of activities of the indemnifying party or its diversion, control, carriage, handling, use, disposal or distribution of water into and out of storage, excepting any loss, damage or expense and claims for loss, damage or expense resulting in any manner from the negligent act or acts of the other Party, or its Board of Directors, officers, representatives, consultants, contractors, agents or employees.

10.7 In the event a Party entitled to indemnification is made a party to any action, lawsuit, or other adversarial proceeding alleging negligent or wrongful conduct on the part of an indemnifying Party, then (1) the indemnifying Party shall provide a defense to the other or, at the indemnitee's option, reimburse the indemnitee its costs of defense, including reasonable attorneys' fees, incurred in defense of such claims, and (2) the indemnifying Party shall promptly pay any final judgment or portion thereof rendered against the indemnitee(s).

**Section 11.** **Notices.** All written notices required to be given pursuant to the terms of the Agreement shall be either (i) personally delivered, (ii) deposited in the United States express mail or first class mail, registered or certified, return receipt requested, postage prepaid, (iii) delivered by overnight courier service, or (iv) delivered by facsimile transmission or e-mail, provided that the original of such notice is sent by certified United States mail, postage prepaid, or by overnight courier, no later than one (1) business day following such facsimile transmission

or email. All such notices shall be deemed delivered upon actual receipt (or upon first attempt at delivery pursuant to the methods specified in clauses (i), (ii) or (iii) above if the intended recipient refuses to accept delivery). All such notices shall be delivered to the addresses shown in the Agreement or to such other address as the receiving Party may from time to time specify by written notice to the other Party given in the manner provided herein.

**Section 12. Mediation.** The Parties agree that any and all disputes, claims or controversies regarding the Exchange Program or this Agreement shall be submitted to mediation in a mutually agreeable venue and if the matter is not resolved through mediation, then it may be submitted to any court of competent jurisdiction. Any affected Party may commence mediation by providing the other Party a written request for mediation, setting forth the subject of the dispute and the relief requested. The Parties shall cooperate with one another in selecting a mediator and in scheduling the mediation proceedings. The Parties covenant that they shall participate in the mediation in good faith, and that they shall share equally in costs charged by the mediator. All offers, promises, conduct and statements, whether oral or written, made in the course of the mediation by any of the Parties, their agents, employees, experts and attorneys, and by the mediator or any of the mediator's employees, are confidential, privileged and inadmissible for any purpose, including impeachment, in any arbitration or other proceeding involving the Parties, provided that evidence that is otherwise admissible or discoverable shall not be rendered inadmissible or non-discoverable as a result of its use in the mediation. The provisions of this Agreement with respect to mediation may be enforced by any Court of competent jurisdiction, and the Party seeking such enforcement shall be entitled to an award of all costs, fees and expenses, including attorneys' fees, to be paid by the Party against whom such enforcement is ordered.

**Section 13. Entire Agreement.** This Agreement constitutes the entire agreement between the IRWD and DRWD with respect to the subject matter hereof. This Agreement supersedes all prior negotiations, discussions, contracts, agreements or understandings between the parties hereto, and no evidence of any prior or contemporaneous parol agreement or understanding shall be admissible to vary its terms. This Agreement shall not be amended or modified in any way except by a written instrument executed by each party hereto. The foregoing notwithstanding, this Agreement shall not supersede the Agreement Between Dudley Ridge Water District and Irvine Ranch Water District, dated February 25, 2010.

**Section 14. Termination For Breach.** Either Party may terminate the Agreement if the other Party breaches any material obligation under the Agreement and such breach continues for a period of sixty (60) days, or such other period as may be reasonable under the circumstances, after the date on which written notice is issued by the non-breaching Party. The non-breaching Party shall be entitled to seek any and all legal or equitable damages and/or remedies as a result of the breaching Party's breach.

In the event that either IRWD or DRWD is in material default of the Agreement, the non-defaulting Party shall provide written notice to the defaulting Party, identifying with reasonable specificity the nature of the claimed default. If the defaulting Party has not cured the event(s) of material default which is (are) identified in the notice required by this section within twenty (20) business days after receipt of written notification, or such other period as is reasonable under the circumstances, the non-defaulting Party shall be entitled to any and all remedies which may be

available to it at law or in equity. This provision is not intended to provide a separate termination right, which is set forth in the first paragraph of this Section.

**Section 15. Choice of Laws; Venue.** The Agreement shall be governed and construed in accordance with the laws of the State of California. Venue for any action brought for the purpose of enforcing any provision of the Agreement shall be in Kern County, California.

**Section 16. Cumulative Rights; Waiver.** No failure by either Party to exercise, and no delay in exercising any rights, shall be construed or deemed to be a waiver thereof, nor shall any single or partial exercise by either Party preclude any other or future exercise thereof or the exercise of any other right. Any waiver of any provision or of any breach of any provision of this Agreement must be in writing, and any waiver by either party of any breach of any provision of this Agreement shall not operate as or be construed to be a waiver of any other breach of that provision or of any breach of any other provision of this Agreement.

**Section 17. Further Action.** The Parties agree to and shall take such further action and execute and deliver such additional documents as may be reasonably required to effectuate the Exchange Program, consistent with each and all of the terms and conditions of this Agreement.

**Section 18. Assignment.** Neither Party shall assign or otherwise transfer its rights or obligations in, under or to the Exchange Program or this Agreement, in whole or in part, without the prior written consent of the other Party, which may be withheld in such other Party's sole and absolute discretion.

**Section 19. Force Majeure; Change In Law.** The respective obligations of each Party hereto shall be suspended while it is prevented from complying by acts of God; war; riots; civil insurrection; acts of civil or military authority; fires; floods; earthquakes; labor accidents or incidents; rules and regulations of any federal, state, or other governmental agency (other than the Parties themselves); changes in law, rules, or regulations of any federal, state or other governmental agency (other than the Parties themselves); or other cause of the same or other character any of which are beyond the reasonable control of such Party (collectively, "Force Majeure"). In the event of a suspension due to the foregoing, the Party whose obligations are suspended shall promptly notify the other Party in writing of such suspension and the cause and estimated duration of such suspension.

The Party providing such notice shall be excused from fulfilling its obligations under the Agreement until such time as the Force Majeure has ceased to prevent performance or other remedial action is taken, at which time the Party shall promptly notify the other Party of the resumption of its obligations under the Agreement. Any Party rendered unable to fulfill any of its obligations by reason of a Force Majeure shall exercise due diligence to remove such inability with reasonable dispatch within a reasonable time period and mitigate the effects of the Force Majeure. The relief from performance shall be of no greater scope and of no longer duration than is required by the Force Majeure.

**Section 20. Interpretation.** It is agreed and acknowledged by the parties that the Agreement has been arrived at through negotiation involving their respective counsel, and that each Party has had a full and fair opportunity to revise the terms of the Agreement. Consequently, the



normal rule of construction that any ambiguities are to be resolved against the drafting party shall not apply in construing or interpreting the Agreement.

**Section 21. Headings.** Headings used in the Agreement are for reference only and shall not affect the construction of the Agreement.

**Section 22. No Third Party Beneficiaries.** No third party beneficiaries are intended by the Parties hereto, and no third party shall be entitled to claim or enforce any rights under this Agreement.

**Section 23. Severability.** In the event that any provision of the Agreement is determined by a court to be invalid, the court shall reform the provision in a manner that is both consistent with the terms of the Agreement taken as a whole and legally valid. The remainder of the Agreement shall not be affected thereby.

**Section 24. Successors and Permitted Assigns.** All covenants and agreements contained in the Agreement by or on behalf of any of the Parties shall bind and inure to the benefit of their respective successors and permitted assigns under Section 18, whether so expressed or not.

**Section 25. Counterparts.** This Agreement may be executed in counterparts. Facsimile and other electronic signatures shall be binding for all purposes.

**Section 26. Effective Date; Term.** Subject to Section 7.2, this Agreement shall take effect on the date first written above. Unless the terms of contingent effectiveness are not satisfied pursuant to Section 7.2 or the Agreement is terminated under Section 10.1 or Section 14 or the Agreement is extended with terms mutually agreed to and accepted by the Parties in writing, the term of this Agreement shall extend to and including November 4, 2035.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date first hereinabove written.

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DUDLEY RIDGE WATER DISTRICT

By   
Manager-Engineer

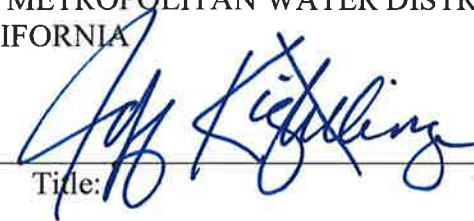
IRVINE RANCH WATER DISTRICT

By   
General Manager

CONSENT:

In accordance with Paragraph 3.2 of that agreement entitled “Coordinated Operating, Water Storage, Exchange and Delivery Agreement,” (the “COA”) dated as of April 21, 2011, by and among The Metropolitan Water District of Southern California (“Metropolitan”), the Municipal Water District of Orange County and the Irvine Ranch Water District, and in accordance with Section 15(d) of Metropolitan’s State Water Project Contract with the California Department of Water Resources, THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA hereby provides its written consent to IRWD’s acquisition of State Water Project Water on Metropolitan’s behalf as described in the Exchange Program defined herein, so long as that water meets the requirements of the COA.

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

By:   
Title:

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

**EXHIBIT “A”**

**Adjustment Factors for Losses Associated with  
Methods of Delivery of Return Water to  
Ensure a 1-for-1 Exchange<sup>1</sup>**

<b>Method of Delivery of Return Water</b>	<b>In-ground Transfer from Kern Water Bank to IRWD Integrated Banking Project</b>	<b>Metropolitan Takes Delivery to Southern California</b>	<b>Delivery to IRWD Integrated Banking Project via Cross Valley Canal<sup>2</sup></b>
<b>Adjustment Factor for Losses</b>	1.0	1.0	1.10

1/ IRWD and DRWD may each incur their own conveyance losses up to 2% through the Cross Valley as assigned by KCWA.

2/ Deliveries to the IRWD Integrated Banking Project are subject to losses defined in the “Memorandum of Understanding” between Rosedale and adjoining entities. Accordingly, Return Water deliveries to the Integrated Banking Project by DRWD as a *SWP Agricultural Contractor* will be subject to 10% losses.

**Example 1:** If IRWD provides Exchange Water in an amount of 1,000 AF and Return Water is delivered to IRWD’s Integrated Banking Project via the Cross Valley Canal, then the following calculations would provide for Memorandum of Understanding losses upon the delivery of Return Water (10% percent losses would be required):

Exchange Water delivered = 1,000 AF  
 Return Water delivered = 1,000 AF \* 1.10 = 1,100 AF  
 Net Return Water = 1,000 AF

**Example 2:** If IRWD provides Exchange Water in an amount of 1,000 AF and Return Water is delivered through in-ground transfer, then the following calculations would provide for losses upon the delivery of Return Water:

Exchange Water delivered = 1,000 AF  
 Return Water delivered = 1,000 AF \* 1.0 = 1,000 AF  
 Net Return Water = 1,000 AF

**Example 3:** If IRWD provides Exchange Water in an amount of 1,000 AF and Return Water is delivered to Southern California, then the following calculations would provide for losses upon the delivery of Return Water:

Exchange Water delivered = 1,000 AF  
 Return Water delivered = 1,000 AF \* 1.0 = 1,000 AF  
 Net Return Water = 1,000 AF


**EXHIBIT “B”**

**Example of Equalizing the Cost Per Acre-Foot  
Associated with the Exchange Program**

All per acre foot costs associated with the Exchange Program will be paid as set forth in Section 8. An illustrative table using current approximate costs for Exchange Water delivered to DRWD and Return Water delivered (or pre-delivered) to IRWD’s Integrated Banking Project via Cross Valley Canal is set forth in this Exhibit B

*Estimated per Acre-Foot Costs by Participant (in current dollars)*

	DRWD	IRWD	Metropolitan
<b>Exchange Water Costs</b>			
Stored Exchange Water		\$ 84.00	
KCWA Fees: transaction set up fee, per AF transaction request fees, third party out of county fee	\$ 2.50	\$ 2.50	
Recovery of Exchange Water		\$ 72.00	
Recovery operations, maintenance costs		\$ 2.00	
Rosedale admin. charge for recovery at Integrated Banking Project		\$ 3.00	
CVC conveyance of Exchange Water to DRWD		\$ 3.00	
<b>Return Water Costs</b>			
DRWD Table A (assumes 65% SWP allocation)	\$151.00		
Water Toll			\$ 28.00
CVC pumping to Integrated Banking Project	\$ 7.00		
CVC conveyance of Return Water to Integrated Banking Project	\$ 3.00		
Rosedale admin charge for recharge at Integrated Banking Project	\$ 3.00		
Estimated cost with 10% losses associated with delivery of Return Water to Integrated Banking Project via the Cross Valley Canal. Calculated in this example as: $(\$151+\$7+\$3+\$3)*0.10/2$	\$ 8.20	\$ 8.20	
<b>Totals</b>	\$ 174.70	\$ 174.70	\$ 28.00

May 9, 2022  
Prepared by: K. Welch  
Submitted by: F. Sanchez / P. Weghorst  
Approved by: Paul A. Cook 

## ACTION CALENDAR

### AMENDMENT NO. 1 TO AGREEMENT FOR PLANNING AND ENVIRONMENTAL REVIEW OF DELTA CONVEYANCE PROJECT

#### SUMMARY:

In February 2021, IRWD entered into an agreement with Rosedale-Rio Bravo Water Storage District to participate in the planning of the proposed Delta Conveyance Project (DCP) through the Kern County Water Agency (KCWA). The DCP would allow IRWD to receive water supply benefits from the State Water Project and potentially secure water supplies from north of the San Joaquin-Sacramento Delta (the Delta) for delivery to IRWD's Water Banks with fewer restrictions and reduced carriage losses. To continue IRWD's participation over the next two years, Rosedale has requested that IRWD execute Amendment No. 1 to the agreement. Staff recommends the Board authorize the General Manager to execute Amendment No. 1 to the Agreement Between Rosedale-Rio Bravo Water Storage District and Irvine Ranch Water District for Preliminary Planning and Design Costs Related to a Potential Delta Conveyance Project, subject to non-substantive changes approved by legal counsel.

#### BACKGROUND:

As originally proposed in 2009, the California WaterFix was the state's plan to upgrade outdated infrastructure in the Delta. The California Department of Water Resources (DWR) withdrew permits for the WaterFix in May 2019 and initiated environmental review and planning of a smaller DCP. DWR would construct the proposed DCP to add new diversions in the north Delta and a 6,000 cubic feet per second (cfs) tunnel to facilitate water deliveries in the State Water Project (SWP). In 2020, DWR requested that SWP contractors fund the planning and environmental review of the DCP over four years through 2024. Several SWP contractors, including KCWA, chose to enter into a DWR funding agreement for two years and then reevaluate continued participation. As a member unit of KCWA, Rosedale entered into an agreement with KCWA to fund its share of the planning costs.

#### IRWD Participation in DCP Planning – Through Rosedale:

In December 2020, IRWD entered into agreement with Rosedale to participate in the DCP planning for an assigned share associated with 2,000 acre-feet (AF) of base Table A water. Under the agreement, IRWD would pay a share of planning and environmental review costs in the amount of \$198,000 to be paid over four years. IRWD would receive DCP benefits from a portion of KCWA member units that chose not to participate in the project. Through a future agreement, Rosedale would assign IRWD a DCP conveyance capacity in the amount of 3.0 cfs. With an assignment of DCP costs and benefits through Rosedale, IRWD would be entitled to an incremental increase in Table A water, would have the ability to use 3.0 cfs of dedicated DCP tunnel capacity, and have access to unused capacity when available.

DWR has requested SWP contractors that are only committed to two years of planning, such as KCWA, to make a commitment for the final two years. KCWA has requested that its participating member units execute an amendment to their respective agreements to commit the funding for the final two years of planning work. On April 11, 2022, Rosedale's Board authorized the additional two-year commitment. Under IRWD and Rosedale's agreement, IRWD committed to four years of planning in the amount of \$198,000 and this has not changed. Rosedale has requested that IRWD and Rosedale execute Amendment No. 1 to the agreement in which the parties acknowledge and agree that Rosedale and KCWA have committed to the additional two years. A copy of Amendment No. 1 to the agreement is provided as Exhibit "A". IRWD's legal counsel has reviewed the draft Amendment No. 1 and included recitals for clarification.

In the future, IRWD and Rosedale would enter into a separate agreement to formally assign DCP benefits to IRWD should KCWA agree to continue with its participation in the DCP beyond the planning and environmental phase.

#### IRWD Participation in DCP Planning – Through Dudley Ridge Water District:

Since 2021, IRWD also has been participating in the DCP planning through its land ownership within Dudley Ridge Water District. If Dudley Ridge decides to continue its participation in the project through construction, IRWD would receive 2.6 cfs of capacity in the DCP tunnel. Dudley Ridge landowners pay for planning and environmental review costs through an assessment of a \$50 per acre-foot (AF) charge on Table A deliveries. IRWD will pay this assessment until it has finished paying its \$166,000 share of Dudley Ridge's costs. This share in the costs is associated with IRWD's 1,749 AF of base Table A amounts in Dudley Ridge. Currently, the Dudley Ridge Board is considering its continued participation in the DCP planning through 2024.

#### FISCAL IMPACTS:

The planning and environmental review of the DCP is included in the FY 2022-23 Capital Budget. The estimated cost of IRWD's participation in the DCP Planning is \$198,000 to be paid over four years through 2024.

#### ENVIRONMENTAL COMPLIANCE:

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

#### COMMITTEE STATUS:

This item was reviewed by the Supply Reliability Programs Committee on April 27, 2022.

Action Calendar: Amendment No. 1 to Agreement for Planning and Environmental Review of  
Delta Conveyance Project

May 9, 2022

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RECOMMENDATION:

THAT THE BOARD AUTHORIZE THE GENERAL MANAGER TO EXECUTE AMENDMENT NO. 1 TO THE AGREEMENT BETWEEN ROSEDALE-RIO BRAVO WATER STORAGE DISTRICT AND IRVINE RANCH WATER DISTRICT FOR PRELIMINARY PLANNING AND DESIGN COSTS RELATED TO A POTENTIAL DELTA CONVEYANCE PROJECT, SUBJECT TO NON-SUBSTANTIVE CHANGES APPROVED BY LEGAL COUNSEL.

LIST OF EXHIBITS:

Exhibit "A" – Amendment No. 1 to the Agreement Between Rosedale-Rio Bravo Water Storage District and Irvine Ranch Water District for Preliminary Planning and Design Costs Related to a Potential Delta Conveyance Project

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EXHIBIT "A"

AMENDMENT NO 1

TO

AGREEMENT BETWEEN ROSEDALE-RIO BRAVO WATER STORAGE DISTRICT

AND

IRVINE RANCH WATER DISTRICT

FOR PRELIMINARY PLANNING AND DESIGN COSTS

RELATED TO A POTENTIAL DELTA CONVEYANCE PROJECT

This *Amendment No. 1 to Agreement for Preliminary Planning, Environmental Review and Design Costs Related to a Potential Delta Conveyance Project* ("Amendment") is made by and between the ROSEDALE-RIO BRAVO WATER STORAGE DISTRICT ("Rosedale") and IRVINE RANCH WATER DISTRICT ("IRWD"), each referred to as a "Party" and collectively as "Parties."

WHEREAS, on February 25, 2021, the Parties entered into an *Agreement for Preliminary Planning, Environmental Review and Design Costs Related to a Potential Delta Conveyance Project* ("Agreement") under which IRWD agreed to pay a proportionate share of costs up to approximately \$198,000 for 2021 through 2024 charged to Rosedale by Kern County Water Agency ("Agency") pursuant to the *Contract Between Kern County Water Agency and its Member Units for Preliminary Planning and Design Costs Related to a Potential Delta Conveyance Project* ("Agency Contract");

WHEREAS, the Agency, Rosedale and other Member Units participating in the potential Delta conveyance project ("DCP") subsequently limited their funding to cover the Department of Water Resources' ("DWR") costs for the environmental review, planning and design costs of a potential Delta conveyance project ("DCP") to covering years 2021 and 2022, which reduced Rosedale's request for funding from IRWD;

WHEREAS, pursuant to the Agency Contract, the Agency has requested that the Agency's member units (including Rosedale) execute an Amendment No. 1 to the Agency Contract under which the member units signing such Amendment No. 1 shall commit to provide additional funding to cover DWR's costs for the environmental review, planning and design costs of a potential DCP during 2023 and 2024;

WHEREAS, Pursuant to Paragraph 5 of the Agreement, prior to Rosedale's making a commitment to the Agency to provide additional funding for preliminary planning, environmental review and design of the potential DCP for the benefit of IRWD, Rosedale and IRWD shall review the progress of the environmental review, planning and design of a potential DCP and shall collectively determine whether additional funds shall be contributed without obligation of IRWD to contribute any additional funds; and

WHEREAS, the Parties have met and conferred on those items specified in Paragraph 5 of the Agreement, and desire to commit additional funding for the environmental review, planning and design costs of a potential DCP during 2023 and 2024.

NOW, THEREFORE, it is hereby mutually agreed by the Parties as follows:

1. Upon Rosedale's execution of Amendment No. 1 of the Agency Contract, Paragraph 5 of the Agreement shall be amended as follows (strikeouts shown in ~~strike through~~ and additions underlined):

Rosedale shall provide IRWD with monthly updates on the environmental review, planning and design of the potential Delta conveyance project, including budget and progress updates if available. The Parties have collectively determined to commit additional funding for the environmental review, planning and design costs of a potential Delta conveyance project during 2023 and 2024 for a total IRWD contribution of up to approximately \$198,000 for the period 2021 through 2024. Prior to Rosedale's making a commitment to the Agency to provide any additional funding for preliminary planning, environmental review and design of the potential Delta conveyance project for the benefit of IRWD beyond 2024, Rosedale and IRWD shall review the progress of the environmental review, planning and design of a potential Delta conveyance project and shall collectively determine whether additional funds shall be contributed without obligation of IRWD to contribute any additional funds. Any additional funds to be provided by IRWD shall be subject to an executed amendment to this Agreement.

2. All other provisions of the *Agreement for Preliminary Planning, Environmental Review and Design Costs Related to a Potential Delta Conveyance Project* shall remain in full force and effect.

IN WITNESS WHEREOF, each Party has executed this Agreement on the date set forth below its signature.

Irvine Ranch Water District

Rosedale-Rio Bravo Water Storage District

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

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

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

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

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

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

DRAFT

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