El Dorado Irrigation District

AGENDA
REGULAR MEETING OF THE BOARD OF DIRECTORS

District Board Room, 2890 Mosquito Road, Placerville, California
August 28, 2023 — 9:00 A.M.

Board of Directors

Brian K. Veerkamp—Division 3
President

Alan Day—Division 5
Vice President

George Osborne—Division 1
Director

Pat Dwyer—Division 2
Director

Lori Anzini—Division 4
Director

Executive Staff

Jim Abercrombie
General Manager

Brian D. Poulsen
General Counsel

Jennifer Sullivan
Clerk to the Board

Jesse Saich
Communications

Brian Mueller
Engineering

Jamie Bandy
Finance

Jose Perez
Human Resources

Tim Ranstrom
Information Technology

Dan Corcoran
Operations

PUBLIC COMMENT: Anyone wishing to comment about items not on the Agenda may do so during the public comment period. Those wishing to comment about items on the Agenda may do so when that item is heard and when the Board calls for public comment. Public comments are limited to five minutes per person.

PUBLIC RECORDS DISTRIBUTED LESS THAN 72 HOURS BEFORE A MEETING: Any writing that is a public record and is distributed to all or a majority of the Board of Directors less than 72 hours before a meeting shall be available for immediate public inspection in the office of the Clerk to the Board at the address shown above. Public records distributed during the meeting shall be made available at the meeting.

AMERICANS WITH DISABILITIES ACT: In accordance with the Americans with Disabilities Act (ADA) and California law, it is the policy of El Dorado Irrigation District to offer its public programs, services, and meetings in a manner that is readily accessible to everyone, including individuals with disabilities. If you are a person with a disability and require information or materials in an appropriate alternative format, or if you require any other accommodation for this meeting, please contact the EID ADA coordinator at 530-642-4045 or email at adacoordinator@eid.org at least 72 hours prior to the meeting. Advance notification within this guideline will enable the District to make reasonable accommodations to ensure accessibility.

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PUBLIC PARTICIPATION INSTRUCTIONS

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CALL TO ORDER

Roll Call
Pledge of Allegiance
Moment of Silence

ADOPT AGENDA

COMMUNICATIONS

General Manager's Employee Recognition

PUBLIC COMMENT

COMMUNICATIONS

General Manager

Brief reports on District activities or items of interest to the public, including activities or developments that occur after the agenda is posted.

Clerk to the Board

Board of Directors

Brief reports on community activities, meetings, conferences and seminars attended by the Directors of interest to the District and the public.

APPROVE CONSENT CALENDAR

Action on items pulled from the Consent Calendar

CONSENT CALENDAR

1. **Clerk to the Board (Sullivan)**
   Consider approving the minutes of the August 14, 2023 regular meeting of the Board of Directors.

   Option 1: Approve as submitted.
   Option 2: Take other action as directed by the Board.
   Option 3: Take no action.

   Recommended Action: Option 1.

2. **Office of the General Counsel (Poulsen)**
   Consider adopting a resolution declaring Assessor Parcel No. 105-210-021 (Hidden Lake) to be surplus to District needs.

   Option 1: Adopt a resolution declaring Assessor Parcel No. 105-210-021 (Hidden Lake) to be surplus to District needs
   Option 2: Take other action as directed by the Board.
   Option 3: Take no action.

   Recommended Action: Option 1.

3. **Office of the General Counsel (Leeper)**
   Consider authorizing additional funding in the amount of $16,000 for a hydrologic modeling services contract amendment and $30,000 for capitalized labor for a total funding request of $46,000 for the Permit 21112 Change in Point of Diversion Project, Project No. 16003.

   Option 1: Authorize additional funding in the amount of $16,000 for a hydrologic modeling services contract amendment and $30,000 for capitalized labor for a total funding request of $46,000 for the Permit 21112 Change in Point of Diversion Project, Project No. 16003.
   Option 2: Take other action as directed by the Board.
   Option 3: Take no action.

   Recommended Action: Option 1.

4. **Finance (Royal)**
   Consider awarding a contract to Intech Mechanical Company Inc. in the not-to-exceed amount of $119,429 for the replacement of the heating, ventilation and air conditioning control system and installation of 32 global plasma solution filtration systems and authorize additional funding of $11,943 in contingency for a total funding request of $131,372 for the Headquarters Facility Improvements Project, Project No. 23030.

   Option 1: Award a contract to Intech Mechanical Company Inc. in the not-to-exceed amount of $119,429 for the replacement of the heating, ventilation, and air conditioning control system and installation of 32 global plasma solution filtration systems and authorize additional funding of $11,943 in contingency for a total funding request of $131,372 for the Headquarters Facility Improvements Project, Project No. 23030.
   Option 2: Take other action as directed by the Board.
   Option 3: Take no action.

   Recommended Action: Option 1.

END OF CONSENT CALENDAR

INFORMATION ITEMS

5. **Engineering (Eden-Bishop)**
   Review of water treatment plant condition assessments and preliminary improvement recommendations.

   Recommended Action: None – Information only.

ACTION ITEMS

6. Finance (Bandy)

Consider ratifying EID General Warrant Registers for the periods ending August 8 and August 15, 2023, and Board and Employee Expense Reimbursements for these periods.

Option 1: Ratify the EID General Warrant Register and Board and Employee Expense Reimbursements as submitted.
Option 2: Take other action as directed by the Board.
Option 3: Take no action.

Recommended Action: Option 1.

7. Engineering (Kelsch)

Consider awarding a contract to Doug Veerkamp General Engineering, Inc. in the not-to-exceed amount of $286,990 for construction of the Sly Park Day Use Area Stabilization Project, and authorize additional funding of $8,000 for construction engineering services, $2,900 for specialty inspection, $54,000 for capitalized labor, and $35,189 in contingencies for a total funding request of $387,079 for the Sly Park Day Use Area Stabilization, Project No. 21037.02, which staff has determined is exempt from the California Environmental Quality Act.

Option 1: Award a contract to Doug Veerkamp General Engineering, Inc. in the not-to-exceed amount of $286,990 for construction of the Sly Park Day Use Area Stabilization Project, and authorize additional funding of $8,000 for construction engineering services, $2,900 for specialty inspection, $54,000 for capitalized labor, and $35,189 in contingencies for a total funding request of $387,079 for the Sly Park Day Use Area Stabilization, Project No. 21037.02, which staff has determined is exempt from the California Environmental Quality Act.
Option 2: Take other action as directed by the Board.
Option 3: Take no action.

Recommended Action: Option 1.

8. Engineering (Delongchamp)

Consider awarding a contract to Carollo Engineers in the not-to-exceed amount of $146,425 to prepare a Basis of Design Report and authorize additional funding of $45,000 for capitalized labor and $20,000 in contingencies for a total funding request of $211,425 for the Reservoir 1 and Pollock Pines Reservoir Replacement Project, Project No. 23009.01.

Option 1: Award a contract to Carollo Engineers in the not-to-exceed amount of $146,425 to prepare a Basis of Design Report and authorize additional funding of $45,000 for capitalized labor and $20,000 in contingencies for a total funding request of $211,425 for the Reservoir 1 and Pollock Pines Reservoir Replacement Project, Project No. 23009.01.
Option 2: Take other action as directed by the Board.
Option 3: Take no action.

Recommended Action: Option 1.

CLOSED SESSION

A. Conference with Real Property Negotiators
Government Code Section 54956.8: Property: District water rights (pre-1914 water right and associated conserved water)
District negotiators: General Manager, General Counsel, Operations Director
Under negotiation: quantity of water, price and terms of payment for purchase
Negotiating parties: any interested party

B. Conference with Real Property Negotiators
Government Code Section 54956.8
Property: A.P.N. 076-280-001-000
District negotiators: General Manager, General Counsel, Operations Director
Under negotiation: price and terms of payment for purchase of property
Negotiating parties: Noelle Glouchevitch

C. Conference with General Counsel—Anticipated Litigation (Poulsen)
Government Code Sections 54956.9(d)(2)
(one potential case: contractor claim regarding Flume 45 Abutment Project)

REVIEW OF ASSIGNMENTS

ADJOURNMENT

TENTATIVELY SCHEDULED ITEMS FOR FUTURE MEETINGS

Engineering
- Reservoir A Filter Valve Replacement contract, Action, September 25 (Eden-Bishop)
- Bridlewood Tank, Reservoir 7A Tank and Reservoir 4 Recoating Project design contract, Action, September 25 (Delongchamp/Eden-Bishop)
- Marina Village No. 1 Lift Station Bypass contract and project funding, Consent, September 25
- Facility Capacity Charges Update consultant contract, Action, September 25 (Mueller/Brink)
- Marina Village No. 1 Lift Station emergency culvert repair contract, Action, September 25 (Money)

Finance
- Cost of Service Analysis status update, Information, September 25 (Bandy)
- Feasibility and costs to restructure the District's utility billing and meter reading schedules, Information, September 25 (Downey)
- 2022 Annual Audit, Action, September 25 (Lane)

Human Resources
- Updated Employee Handbook, Consent, September 25 (Perez)
- Updated Public Pay Schedules, Consent, September 25 (Calvert/Vinton)

Office of the General Counsel/Engineering
- Caldor Fire reconstruction and cost recovery summary, Information, September 25 (Leeper/Mueller)

Office of the General Manager/Office of the General Counsel
- Key Performance Indicators, Information, September 25 (Abercrombie/Poulsen)

EL DORADO IRRIGATION DISTRICT
August 28, 2023

General Manager Communications

Awards and Recognitions

a) The District received a call from customer Kimberly Brooks to express her appreciation to Matt Keeler, Distribution Operator, who recently worked on a repair near her home. Ms. Brooks said, "He was amazing and so helpful." This service demonstrates the staff's continued commitment to the District's *Excellent Customer Service* guiding principle.

Staff Reports and Updates

None

El Dorado Irrigation District

MINUTES
REGULAR MEETING OF THE BOARD OF DIRECTORS

District Board Room, 2890 Mosquito Road, Placerville, California
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CALL TO ORDER

President Veerkamp called the meeting to order at 9:00 A.M.

Roll Call
Board

Present: Directors Osborne, Dwyer, Veerkamp, Anzini and Day

Staff

Present: General Manager Abercrombie, General Counsel Poulsen and Board Clerk Sullivan

Pledge of Allegiance and Moment of Silence

Director Veerkamp led the Pledge of Allegiance and Moment of Silence dedicated to those affected by the Maui fires and victims and families impacted by the firefighting helicopter crash in Southern California.

ADOPT AGENDA

ACTION: Agenda was adopted.

MOTION PASSED

Ayes: Directors Anzini, Osborne, Dwyer, Veerkamp and Day

COMMUNICATIONS

Awards and Recognitions

General Manager Abercrombie recognized EID staff Don Holland and Jene Hayden.

PUBLIC COMMENT

None

COMMUNICATIONS

General Manager

General Manager Abercrombie congratulated Tim Ranstrom, Information Technology Director, on his upcoming retirement and recognized Aaron Kennedy as the incoming Information Technology Director.

Clerk to the Board

None

Board of Directors

Director Dwyer commented on the District's Fire Hydrant Maintenance Program in the Logtown area, stating that he received positive feedback from the residents for the staff's efforts.

Director Veerkamp reported that the September El Dorado Local Agency Formation Commission board meeting was canceled. He thanked the staff for the resolution of a recent customer concern. Director Veerkamp also reported on his attendance at a congressional field hearing held in Yosemite National Park.

APPROVE CONSENT CALENDAR

ACTION: Consent Calendar was approved.

MOTION PASSED
Ayes: Directors Dwyer, Osborne, Veerkamp, Anzini and Day

CONSENT CALENDAR

1. **Clerk to the Board (Sullivan)**
   Consider approving the minutes of the July 24, 2023 regular meeting of the Board of Directors.

   ACTION: Option 1: Approved as submitted.

   MOTION PASSED
   Ayes: Directors Dwyer, Osborne, Veerkamp, Anzini and Day

2. **Office of the General Counsel (Sarge)**
   Consider adopting a resolution quitclaiming an unused easement to the landowner of Assessor Parcel No. 317-250-034.

   ACTION: Option 1: Adopted Resolution No. 2023-016, quitclaiming an unused easement to the landowner of Assessor Parcel No. 317-250-034.

   MOTION PASSED
   Ayes: Directors Dwyer, Osborne, Veerkamp, Anzini and Day

3. **Finance (Bandy)**
   Consider receiving and filing the District's Investment Report for the quarter ending June 30, 2023.

   ACTION: Option 1: Received and filed the District's Investment Report for the quarter ending June 30, 2023.

   MOTION PASSED
   Ayes: Directors Dwyer, Osborne, Veerkamp, Anzini and Day

4. **Operations/Finance/Engineering (Wilson/Downey/Mueller)**
   Consider approving payments to Regional Water Authority in the not-to-exceed amounts of $81,692 for general membership and $40,551 for water efficiency program membership dues for a total payment of $122,243 for Regional Water Authority membership dues for fiscal year 2023-2024.

   ACTION: Option 1: Approved payments to Regional Water Authority in the not-to-exceed amounts of $81,692 for general membership and $40,551 for water efficiency program membership dues for a total payment of $122,243 for Regional Water Authority membership dues for fiscal year 2023-2024.

   MOTION PASSED
   Ayes: Directors Dwyer, Osborne, Veerkamp, Anzini and Day

5. **Finance (Royal)**
   Consider awarding a contract to RoofConnect National Roofing Services in the not-to-exceed amount of $293,310 for recoating the headquarters facility roof and authorize additional funding of $29,331 in contingency for a total funding request of $322,641 for the Headquarters Facility Improvements Project, Project No. 23027.

   ACTION: Option 1: Awarded a contract to RoofConnect National Roofing Services in the not-to-exceed amount of $293,310 for recoating the headquarters facility roof and authorized additional funding in the amount of $29,331 in contingency for a total funding request of $322,641 for the Headquarters Facility Improvements project, Project No. 23027.

   MOTION PASSED
   Ayes: Directors Dwyer, Osborne, Veerkamp, Anzini and Day

6. **Finance (Lane/Bandy)**
   Consider adopting five resolutions authorizing District staff to perform specified cash management and investment activities on behalf of the District.

   ACTION: Option 1: Adopted Resolution Nos. 2023-017, 2023-018, 2023-019, 2023-020 and 2023-021, authorizing District staff to perform specified cash management and investment activities on behalf of the District.

   MOTION PASSED
   Ayes: Directors Dwyer, Osborne, Veerkamp, Anzini and Day

7. **Operations (Wilson)**
   Consider approving a contract amendment to Joe Vicini, Inc. in the not-to-exceed amount of $155,000.50 for asphalt patch paving and associated pavement restoration work.

   ACTION: Option 1: Approved a contract amendment to Joe Vicini, Inc. in the not-to-exceed amount of $155,000.50 for asphalt patch paving and associated pavement restoration work.

   MOTION PASSED
   Ayes: Directors Dwyer, Osborne, Veerkamp, Anzini and Day

END OF CONSENT CALENDAR

WORKSHOP ITEMS

8. **Finance (Bandy)**
   Cost of Service Rate Study Workshop.

   Public Comment: Paul Penn, Diamond Springs

   ACTION: None – Information only.

ACTION ITEMS

9. Finance (Bandy)

Consider ratifying EID General Warrant Registers for the periods ending July 18, July 25 and August 1, 2023, and Employee Expense Reimbursements for these periods.

ACTION: Option 1: Ratified the EID General Warrant Registers and Employee Expense Reimbursements as submitted.

MOTION PASSED

Ayes: Directors Osborne, Day, Dwyer, Veerkamp and Anzini

10. Operations (Wilson)

Consider approving a contract amendment to G3 Engineering Inc. in the not-to-exceed amount of $77,000 for the purchase of a clear well water pump at the El Dorado Hills Water Treatment Plant and authorize additional funding of $3,000 for crane services and $3,000 in capitalized labor for a total funding request of $83,000 for the El Dorado Hills Water Treatment Plant Clear Well Pump Replacement Project, Project No. 23017.01, which staff has determined is exempt from the California Environmental Quality Act.

ACTION: Option 1: Approved a contract amendment to G3 Engineering Inc. in the not-to-exceed amount of $77,000 for the purchase of a clear well water pump at the El Dorado Hills Water Treatment Plant and authorized additional funding of $3,000 for crane services and $3,000 in capitalized labor for a total funding request of $83,000 for the El Dorado Hills Water Treatment Plant Clear Well Pump Replacement Project, Project No. 23017.01, which staff has determined is exempt from the California Environmental Quality Act.

MOTION PASSED

Ayes: Directors Dwyer, Anzini, Osborne, Veerkamp and Day

11. Engineering (Carrington)

Consider awarding contracts to Bay City Electric in the not-to-exceed amount of $678,465 and Big Valley Electric in the not-to-exceed amount of $263,000 for the purchase of 15 emergency backup generators for a total funding request of $941,465 for the Emergency Backup Generator Upgrades Project, Project Nos. 21040.01 and 21041.01.

ACTION: Option 1: Awarded contracts to Bay City Electric in the not-to-exceed amount of $678,465 and Big Valley Electric in the not-to-exceed amount of $263,000 for the purchase of 15 emergency backup generators for a total funding request of $941,465 for the Emergency Backup Generator Upgrades Project, Project Nos. 21040.01 and 21041.01.

MOTION PASSED

Ayes: Directors Anzini, Dwyer, Osborne, Veerkamp and Day

REVIEW OF ASSIGNMENTS

Director Osborne requested staff present the feasibility and costs to restructure the District's utility billing and meter reading schedules.

ADJOURNMENT

President Veerkamp adjourned the meeting at 10:42 A.M.

Brian K. Veerkamp
Board President
EL DORADO IRRIGATION DISTRICT

ATTEST

Jennifer Sullivan
Clerk to the Board
EL DORADO IRRIGATION DISTRICT

Approved: _____

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider adopting a resolution declaring Assessor Parcel No. 105-210-021 (Hidden Lake) to be surplus to District needs.

PREVIOUS BOARD ACTION

October 11, 2011 – Board adopted Resolution No. 2011-018 declaring certain District real property to be surplus and authorized staff to formulate and implement a disposition strategy.

July 24, 2023 – Board postponed adopting a resolution declaring Assessor Parcel No. 105-210-021 (Hidden Lake) to be surplus to District needs.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

Water Code Section 22500
Water Code Section 22502

SUMMARY OF ISSUE

The District recently reacquired Assessor Parcel Number 105-210-021 (Parcel) from the Four Corners Land Owners' Association (FCLOA). Staff has determined this Parcel has no current or anticipated future use for District purposes. Therefore, staff requests that the Board declare this Parcel surplus to District needs.

BACKGROUND/DISCUSSION

The subject Parcel is a 5-acre property encompassing half of Hidden Lake in the Luneman area of Placerville. The Parcel and adjacent District-owned parcel, which includes the other half of Hidden Lake and declared surplus in 2011, were initially acquired by the District in the early 1970s for the recreational benefit of surrounding homeowners. Hidden Lake is not connected to the District's water distribution system, and there do not appear to be any known historical ditches that fed or conveyed water from the lake. In 1996, the District inadvertently transferred ownership of the Parcel to FCLOA as part of a separate transaction, and in 2022 FCLOA transferred the Parcel back to the District. Since the Parcel is used solely for recreation and provides no operational purpose for the District, disposition of the Parcel would eliminate potential liability and other expenses the District could incur in the future.

During the July 24, 2023, Board meeting, the Board received public comment from a resident of the Hidden Lake area who expressed concern regarding a discrepancy in the parcel description. The resident requested staff conduct further research into the parcel description as the parcel description of the 2022 quitclaim deed did not match the parcel description of the 1996 quitclaim deed. Staff has confirmed that the parcel descriptions are the same, except the 1996 parcel description also included a description of a non-exclusive easement. In 2022, the El Dorado County Assessor's Office provided District staff with the most current parcel description for the subject Parcel.

The resident also requested that staff research a boundary line adjustment performed in 2001 and confirm which of the two Hidden Lake parcels was adjusted. In 2000, after a property survey, an adjacent property owner discovered that a portion of the Hidden Lake Dam extended onto their

parcel. Due to the fear of liability, the homeowner requested a boundary line adjustment exchanging a portion of their property for an equal portion of District property, to which the District agreed. The boundary line adjustment applied to APN 105-210-030, which was declared surplus in 2011, not the subject Parcel.

Staff seeks Board adoption of a resolution declaring this Parcel surplus to District needs. If the Parcel is declared surplus, staff will follow the procedures of the Surplus Lands Act. Staff will present proposed terms of any potential sale or transfer of the Parcel for Board consideration.

BOARD OPTIONS

Option 1: Adopt a resolution declaring Assessor Parcel No. 105-210-021 (Hidden Lake) to be surplus to District needs.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: Proposed resolution
Attachment B: Assessor parcel map

Brian Poulsen
General Counsel

Dan Corcoran
Operations Director

Jim Abercrombie
General Manager

Resolution No. 2023-

**RESOLUTION OF THE BOARD OF DIRECTORS OF
EL DORADO IRRIGATION DISTRICT
DECLARING CERTAIN DISTRICT REAL PROPERTY TO BE SURPLUS
(APN 105-210-021)**

WHEREAS, El Dorado Irrigation District ("District") owns certain real property described as El Dorado County Assessor's Parcel Number ("APN") 105-210-021; and

WHEREAS, APN 105-210-021 has been identified as surplus to District needs; and

WHEREAS, APN 105-210-021 was acquired by the District for the recreational benefit of surrounding property owners; and

WHEREAS, APN 105-210-021 serves no operational purpose for the District; and

WHEREAS, disposition of APN 105-210-021 would eliminate potential liability and other expenses District could possibly incur in the future; and

WHEREAS, District staff recommend that APN 105-210-021 be declared surplus to the needs of the District and sold or otherwise disposed of in a manner that serves the District's best interests; and

WHEREAS, Water Code section 22500 states that when a Board determines by resolution entered upon the minutes that any property of the District is no longer necessary for District purposes, the District may for valuable consideration sell or lease the property upon terms that appear to the Board to be in the best interests of the District.

NOW, THEREFORE, BE IT HEREBY RESOLVED by the Board of Directors of the EL DORADO IRRIGATION DISTRICT that this Board declares APN 105-210-021 surplus to the needs of the District and eligible to be sold or otherwise disposed of at the direction of the Board.

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The foregoing Resolution was introduced at a regular meeting of the Board of Directors of the EL DORADO IRRIGATION DISTRICT, held on the 28th day of August 2023, by Director who moved its adoption. The motion was seconded by Director and a poll vote taken which stood as follows:

AYES:

NOES:

ABSENT:

ABSTAIN:

The motion having a majority of votes "Aye", the resolution was declared to have been adopted, and it was so ordered.

_____
Brian K. Veerkamp, President
Board of Directors
EL DORADO IRRIGATION DISTRICT

ATTEST:

_____
Jennifer Sullivan
Clerk to the Board
EL DORADO IRRIGATION DISTRICT

(SEAL)

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I, the undersigned, Clerk to the Board of the EL DORADO IRRIGATION DISTRICT hereby certify that the foregoing resolution is a full, true and correct copy of a Resolution of the Board of Directors of the EL DORADO IRRIGATION DISTRICT entered into and adopted at a regular meeting of the Board of Directors held on the 28th day of August 2023.

_____

Jennifer Sullivan
Clerk to the Board
EL DORADO IRRIGATION DISTRICT

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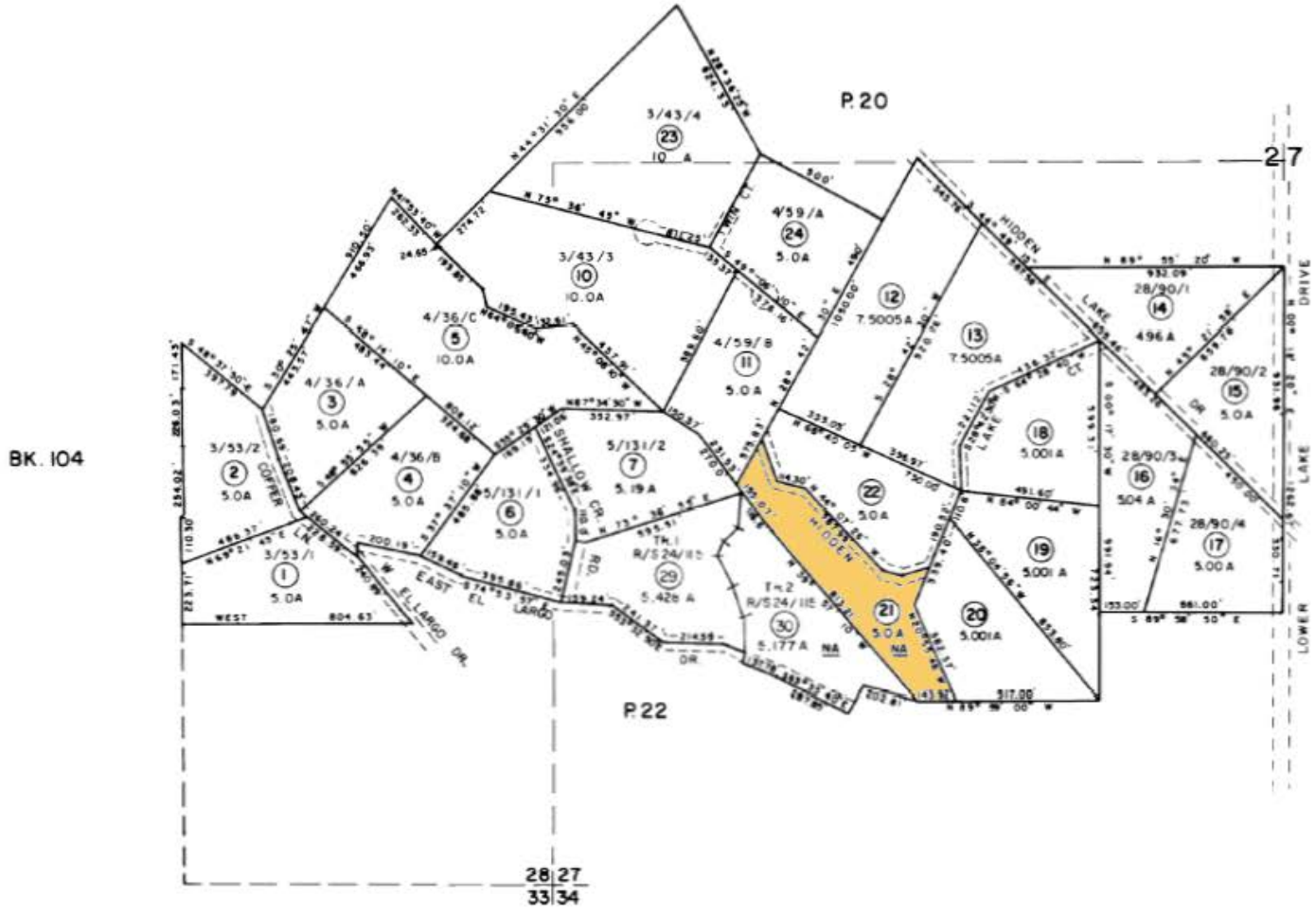
Attachment B

POR. W.1/2 SEC.27& POR.E.1/2 SEC.28 T.11 N.R.9E.M.D.M.

Tax Area Code 105:21



NOTE – Assessor's Block Numbers Shown in Ellipses
Assessor's Parcel Numbers Shown in Circles

Assessor's Map Bk. 105 – Pg. 21
County of El Dorado, California
5-7-2001

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider authorizing additional funding in the amount of $16,000 for a hydrologic modeling services contract amendment and $30,000 for capitalized labor for a total funding request of $46,000 for the Permit 21112 Change in Point of Diversion Project, Project No. 16003.

PREVIOUS BOARD ACTION

August 10, 2020 – Board awarded a contract to Zanjero in the not-to-exceed amount of $395,890 to perform hydrologic modeling and authorized additional funding of $50,000 for capitalized labor and $25,000 for additional special water rights counsel services for a total funding request of $470,890 for Permit 21112 Change in Point of Diversion, Project No. 16003.

February 28, 2022 – Board awarded a contract change order to Zanjero, Inc. in the not-to-exceed amount of $124,840 for hydrologic modeling services and authorized additional funding of $7,925 for on-call engineering services and $20,000 for capitalized labor for a total funding request of $152,765 for the Permit 21112 Change in Point of Diversion, Project No. 16003.

November 14, 2022 – Board adopted the 2023-2027 Capital Improvement Plan (CIP), subject to available funding.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 3010 Budget

SUMMARY OF ISSUE

Board approval is required to authorize CIP funding before staff commences project work.

BACKGROUND/DISCUSSION

Staff requests funding for the CIP project identified in Table 1. The expenditures to date, the amount of new funding requested, and the funding source are listed.

Table 1
CIP Funding Request

	Project Name and Number	2023-2027 CIP Plan[1]	Funded to Date	Actual Costs to date[2]	Amount Requested	Funding Source
1.	Permit 21112 Change in Point of Diversion 16003	$2,406,796	$1,534,439	$1,521,796	$46,000	100% FCCs
	TOTAL FUNDING REQUEST				$46,000	

[1] Includes all existing costs plus any expected costs in the 5-year CIP.
[2] Actual costs include encumbrances.

The following section contains a brief breakdown and description of the project in the table.

CIP Funding Request

Project No.	16003	**Board Date**	8/28/2022
Project Name	Permit 21112 Change in Point of Diversion		
Project Manager	Leeper		

Budget Status	**$**	**%**
Funded to date	$ 1,534,439	--
Spent to date	$ 1,521,796	99%
Current Remaining	$ 12,643	1%

Funding Request Breakdown	**$**
Capitalized labor	$ 30,000
Consultant services	$ 16,000
Total	$ 46,000

Funding Source
100% Water FCCs

Description

The proposed project involves a water right change petition to add an additional authorized upstream point of diversion to more effectively and efficiently manage water in the District's system and help meet future water demands within El Dorado County. The additional point of diversion is located at the District's existing El Dorado Diversion Dam near Kyburz. In addition, the proposed project would add Jenkinson Lake as an authorized place of storage and to add a point of re-diversion to storage at Sly Park Dam (which forms Jenkinson Lake) to allow for storage of Water Right Permit 21112 water in Jenkinson Lake.

The District is currently conducting hydrologic modeling to support the change petition and preparation of an Environmental Impact Report (EIR) for the project. The EIR will address the full range of potentially significant environmental effects of the proposed project and feasible alternatives to the proposed project to meet California Environmental Quality Act (CEQA) requirements. The project requires an extensive modeling analysis to evaluate potential impacts to water temperature and Folsom Reservoir's coldwater pool, which is managed for the protection of salmon and steelhead fisheries in the Lower American River. While this analysis is included in the scope of the existing hydrologic modeling contract for the project, it became necessary for the District's consultant to subcontract with another firm to gain access to the modeling tool necessary to perform the analysis. The sub-consultant cost estimate to perform the temperature modeling exceeds the current budget within the existing contract. Therefore, staff requests funding for a contract amendment to cover the additional costs associated with the hydrologic modeling to evaluate potential impacts on water temperature and Folsom Reservoir's coldwater pool. Additionally, funding is necessary for capitalized labor to cover staff time to support the ongoing modeling efforts and development of the change petition and EIR.

BOARD OPTIONS

Option 1: Authorize additional funding in the amount of $16,000 for a hydrologic modeling services contract amendment and $30,000 for capitalized labor for a total funding request of $46,000 for the Permit 21112 Change in Point of Diversion Project, Project No. 16003.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: CIP summary

Elizabeth Leeper
Senior Deputy General Counsel

Brian Deason
Environmental Resources Supervisor

Jamie Bandy
Finance Director

Brian Poulsen
General Counsel

Jim Abercrombie
General Manager

2023 CAPITAL IMPROVEMENT PLAN Program: Water

Project Number: 16003

Project Name: Permit 21112 Change in Point of Diversion

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Leeper **Board Approval:** 11/14/22

Project Description:

The District's existing Water Right Permit 21112 allows for water diversion at Folsom Reservoir for consumptives uses. Long-term water supply planning forecasts indicate that a portion of the Permit 21112 water supply will be necessary to serve areas of the District that are east of El Dorado Hills and at a higher elevation. The District seeks to modify Permit 21112 to add an authorized point of diversion and re-diversion to more effectively and efficiently meet the future water demands. The District seeks to add a point of diversion that allows both direct diversion from the South Fork of the American River, as well as re-diversion of water previously stored in Caples, Aloha and Silver Lakes. The additional point of diversion/re-diversion is proposed at the District's existing El Dorado Diversion Dam near Kyburz. In addition, the District's seeks to add Jenkinson Lake as an authorized point of re-diversion and an authorized place of storage for Permit 21112 water. Water diverted or re-diverted at the El Dorado Diversion Dam can be conveyed to Jenkinson Lake via the Hazel Creek Tunnel. To take all or any portion of Permit 21112 water upstream of Folsom Reservoir at a new diversion location, EID must successfully petition the State Water Resources Control Board (SWRCB) for water right permit changes to add points of diversion and rediversion. This project requires extensive hydrologic modeling to support the petition process and environmental review. The SWRCB Change Petition process encompasses preparation of the Petition (including preliminary engineering, hydrologic, and biological analyses, mapping, legal review, and preliminary meetings with SWRCB staff, California Department of Fish & Wildlife staff, and other stakeholders); California Environmental Quality Act (CEQA) compliance through preparation of an environmental impact report; processing of the Petition and any protests by the SWRCB; and potentially evidentiary hearings before the SWRCB if protests are filed against the Petition and cannot be resolved through stakeholder negotiations. The planned annual expenditures reflect a timeline for CEQA compliance and Petition processing in 2022-2025. The estimated expenditures related to the Petition processing and potential SWRCB hearing proceedings are estimates only, and actual expenditures will be highly dependent on the technical and legal support necessary to advance the Petition. Any post-SWRCB hearing proceedings, including potential administrative appeals and/or litigation would require additional funding.

Basis for Priority:

This project provides measurable progress toward achieving the District's goals, including helping to meet future water demand as identified in long-term water supply planning efforts, reducing the cost of water conveyance and delivery through gravity flow, increasing flexibility and reliability in water delivery systems to benefit the District's entire service area, improving drought resiliency, maintaining compliance with regulatory and legal obligations regarding water operations, and optimizing existing water rights.

Project Financial Summary:			
Funded to Date:	$ 1,330,339	Expenditures through end of year:	$ 1,006,088
Spent to Date:	$ 866,088	2023 - 2027 Planned Expenditures:	$ 885,000
Cash flow through end of year:	$140,000	Total Project Estimate:	$ 1,891,088
Project Balance	$ 324,251	Additional Funding Required	$ 560,749

Description of Work	Estimated Annual Expenditures					
	2023	2024	2025	2026	2027	Total
Petition Prep/Modeling	$ 180,000					$ 180,000
CEQA/Environmental	$ 305,000					$ 305,000
Petition Processing		$ 100,000	$ 100,000			$ 200,000
SWRCB Hearing		$ 100,000	$ 100,000			$ 200,000
TOTAL	$ 485,000	$ 200,000	$ 200,000	$ -	$ -	$ 885,000

Estimated Funding Sources	Percentage	2023	Amount
Water FCCs	100%		$160,749
Total	100%		$160,749

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider awarding a contract to Intech Mechanical Company Inc. in the not-to-exceed amount of $119,429 for the replacement of the heating, ventilation and air conditioning control system and installation of 32 global plasma solution filtration systems and authorize additional funding of $11,943 in contingency for a total funding request of $131,372 for the Headquarters Facility Improvements Project, Project No. 23030.

PREVIOUS BOARD ACTION

November 14, 2022 – Board adopted the 2023-2027 Capital Improvement Plan (CIP), subject to available funding.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR), AND BOARD AUTHORITY

BP 3060 Contracts and Procurement
AR 3061 Procurement and Contract Authority

SUMMARY OF ISSUE

The 17-year-old Heating, Ventilation and Air Conditioning Control (HVAC) system currently operating at District Headquarters has aged out and become unreliable. Replacement control parts are now obsolete. An entirely new or upgraded system is necessary to maintain adequate working conditions.

BACKGROUND/DISCUSSION

The HVAC system is outdated and not efficient. The system has had many failed sensors and control boards over the last few years. The District kept stock of replacement parts but has since used all the inventory on hand, and replacement controls are obsolete. The current system uses Alerton ibex controls, a proprietary control system that must be computer software updated and serviced by Alerton trained technicians only. This system is extremely dated and not user-friendly. During poor air quality events like wildfires, this system has to be manually shut down compared to the newly updated controls linked to the El Dorado Air Quality Management system.

Staff recommends replacing the outdated HVAC system with a new Pelican wireless system. The new system will report and automatically shut down the economizers when air quality reaches a certain level. It is also user-friendly with smart controls and non-proprietary so that parts can be sourced from anyone, including local stores. The Pelican system is a well-known and commonly used system allowing the District to contract with multiple HVAC companies for service, keeping costs down. The new Pelican system will also eliminate all “temperature averaging” where some offices run hotter or colder than others with no ability to adjust individual areas. The new system will separate controls for each office and conference room, allowing occupants to control the temperature in their occupied space. Additionally, we are adding 32 global plasma solution self-cleaning needlepoint bipolar ionization filtration systems into every rooftop unit to help “super clean” the air before entering the building. This will reduce the amount of smoke and other particulates entering and support a cleaner and healthier indoor environment throughout the building.

In response to a request for bids, the District received the following bids:

Intech Mechanical Company Inc.	$ 119,429
L&H Airco	$ 129,015
Leed Mechanical	$ 139,050
Air Systems Service And Construction	$ 175,724

Staff reviewed the bids and determined that Intech Mechanical Company is responsive to the District's request for bid. Therefore, staff recommends an award to Intech Mechanical Company, Inc.

FUNDING

The 2023-2027 CIP includes funding for this project. The funding source is 60% water rates and 40% wastewater rates. Staff requests a 10% contingency for potential changes in the scope of work.

Intech Mechanical Company Inc. Services	$119,429
Contingency (10%)	$ 11,943
Total Funding Request	**$131,372**

BOARD OPTIONS

Option 1: Award a contract to Intech Mechanical Company Inc. in the not-to-exceed amount of $119,429 for the replacement of the heating, ventilation, and air conditioning control system and installation of 32 global plasma solution filtration systems and authorize additional funding of $11,943 in contingency for a total funding request of $131,372 for the Headquarters Facility Improvements Project, Project No. 23030.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: Bid from Intech Mechanical Company Inc.
Attachment B: CIP summary

Greg Royal
Fleet Maintenance Supervisor

Jamie Bandy
Finance Director

Brian Poulsen
General Counsel

Jim Abercrombie
General Manager

SECTION 00400

BID FORM

DUE AUGUST 14, 2023

TO THE HONORABLE BOARD OF DIRECTORS OF THE EL DORADO IRRIGATION DISTRICT

THIS BID IS SUBMITTED BY:

Intech Mechanical Company Inc.

(Firm/Company Name)

Re: HVAC CONTROL SYSTEM - HEADQUARTERS
RFB NO. P23-008-RD

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the El Dorado Irrigation District ("District") in the form included in the Contract Documents, SECTION 00520 (Agreement), to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Sum and within the Contract Time indicated in this Bid and in accordance with all other terms and conditions of the Contract Documents.

2. Bidder accepts all of the terms and conditions of the Contract Documents, SECTION 00100 (Advertisement for Bids), and SECTION 00200 (Instructions to Bidders), including, without limitation, those dealing with the disposition of Bid Security. This Bid will remain subject to acceptance for 90 calendar Days after the day of Bid opening.

3. In submitting this Bid, Bidder represents:

   (a) Bidder has examined all of the Contract Documents and the following Addenda (receipt of all of which is hereby acknowledged).

Addendum No.	Addendum Date	Signature of Bidder
1	8-11-2023	

   (b) Bidder has visited the Site and performed tasks, reviews, examinations, and analysis and given notices, regarding the Project and the Site, as set forth in SECTION 00520 (Agreement), Article 5.

   (c) Bidder has received and examined District scope of work as defined in contract documents.

(d) Bidder has given District prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and as-built drawings and actual conditions and the written resolution thereof through Addenda issued by District is acceptable to Contractor.

4. Based on the foregoing, Bidder proposes and agrees to fully perform the Work within the time stated and in strict accordance with the Contract Documents for the following sums of money listed in the following List of Bid Prices:

SCHEDULE OF BID PRICES

All Bid items, including lump sums, unit prices and alternates, must be filled in completely. The District reserves the right to award all or part of this RFB. Each item shall be quoted separately and shall be awarded only if District elects in writing. If pricing is quoted as a package and individual items cannot be separated bidder must state clearly in writing.

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL
1.	Bonds and Insurance	N/A	Lump Sum	N/A	$ 1,790.00
2.	Total Price for Installation	N/A	Lump Sum	N/A	$ 116,719.00
3.	Total Price for On-site District Staff Training	N/A	Lump Sum	N/A	$ 920.00

Total Bid Price: $ 119,429.00

One Hundred Nineteen Thousand Four Hundred Twenty Nine Dollars

(Words)

5. The undersigned acknowledges that District reserves the right to accept Alternate(s) within 10 calendar Days after the District signs the Agreement, or other period stated. Following any such acceptance, the undersigned will accept and execute any change order confirming the acceptance. The amount of any change order shall be solely the amount identified above for the Alternate(s) accepted, without any additional overhead, profit, markup or other adjustment. Similarly, the exact amounts payable with respect any Unit Price Items will be confirmed by change order, and the amount of any change order shall be solely the amount identified above for the applicable Unit Prices times the final quantities, without any additional overhead, profit, markup or other adjustment. Finally, the exact amount payable with respect to any allowance item will be determined as otherwise provided in the Contract Documents.

6. Selection of Apparent Low Bidder The undersigned acknowledges that the Apparent Low Bidder will be the Bidder submitting the lowest combination of Bid Items **1 through 3** based on the assumptions (if any) set forth in the Schedule of Bid Prices.

7. The undersigned Bidder understands that District reserves the right to reject this Bid.

8. If written notice of the acceptance of this Bid, hereinafter referred to as Notice of Award, is mailed or delivered to the undersigned Bidder within the time described in paragraph 2 of this SECTION 00400 or at any other time thereafter before it is withdrawn, the undersigned Bidder will execute and deliver the documents required by SECTION 00200 (Instructions to Bidders) within the times specified therein. These documents include, but are not limited to, SECTION 00520 (Agreement), SECTION 00610 (Construction Performance Bond), and SECTION 00620 (Construction Labor and Material Payment Bond).

9. Notice of Award or request for additional information may be addressed to the undersigned Bidder at the address set forth below.

10. The undersigned Bidder herewith encloses cash, a cashier's check, or certified check of or on a responsible bank in the United States, or a corporate surety bond furnished by a surety authorized to do a surety business in the State of California, in form specified in SECTION 00200 (Instructions to Bidders), in the amount of ten percent (10%) of the Total Bid Price set forth above and made payable to "El Dorado Irrigation District".

11. The undersigned Bidder agrees to commence Work under the Contract Documents on the date established in SECTION 00700 (General Conditions) and to complete all work within the time specified in SECTION 00520 (Agreement). The undersigned Bidder acknowledges that District has reserved the right to delay or modify the commencement date. The undersigned Bidder further acknowledges District has reserved the right to perform independent work at the Site, the extent of such work may not be determined until after the opening of the Bids, and that the undersigned Bidder will be required to cooperate with such other work in accordance with the requirements of the Contract Documents.

12. The undersigned Bidder agrees that, in accordance with SECTION 00700 (General Conditions), liquidated damages for failure to complete all Work in the Contract within the time specified in SECTION 00520 (Agreement) shall be as set forth in SECTION 00520 (Agreement).

13. The names of all persons interested in the foregoing Bid as principals are:

LIST BY NAME: RICK CHOWDRY

(IMPORTANT NOTICE: If Bidder or other interested person is a corporation, give the legal name of corporation, state where incorporated, and names of president and secretary thereof; if a partnership, give name of the firm and names of all individual co-partners composing the firm; if Bidder or other interested person is an individual, give first and last names in full).

NAME OF BIDDER: Intech Mechanical Company Inc.

licensed in accordance with an act for the registration of Contractors, and with C-20 HVAC license number: 1078245

Expiration: 7-31-2025.

Where incorporated, if applicable

Rick Chowdry - President/Owner
Principals

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

Signature of Bidder

NOTE: If Bidder is a corporation, set forth the legal name of the corporation together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

Business Address: 7501 Galilee Road
Roseville, CA 95678

Officers authorized to sign contracts: Rickie Chowdry

Telephone Number(s): 714-768-2382

Fax Number(s): 916-797-6910

E-Mail address: rmchowdry@intech-automation.com

CA Public Works Contractor (PWC) DIR No.: 1000010572

Federal ID Number: 68-0371094

Date of Bid: 8-14-2023

END OF SECTION

SECTION 00411

BOND ACCOMPANYING BID

KNOW ALL BY THESE PRESENTS:

That the undersigned Intech Mechanical Company, LLC as Principal and the undersigned as Surety are held and firmly bound unto the EL DORADO IRRIGATION DISTRICT ("District"), as obligee, in the penal sum of Ten Percent (10%) of the Total Amount of the Bid Dollars ($ --10%--) lawful money of the United States of America, being at least ten percent (10%) of the aggregate amount of said Principal's "Total Bid Price" indicated in SECTION 00400 (Bid Form), for the payment of which, well and truly to be made, we bind ourselves, our successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal is submitting a Bid for:

HVAC CONTROL SYSTEM - HEADQUARTERS
RFB NO. P23-008-RD

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Bid submitted by the said Principal be accepted and the Contract be awarded to said Principal and said Principal shall within the required periods enter into the Contract so awarded and provide the required Construction Performance Bond, Construction Labor and Material Payment Bond, insurance certificates, and all other endorsements, forms, and documents required under SECTION 00200 (Instructions to Bidders), then this obligation shall be void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument this 1st day of August 2023.

(Corporate Seal)

Intech Mechanical Company, LLC

By

Principal

Western Surety Company

Surety

(Corporate Seal)

By

Julie A. Shiroma, Attorney in Fact

END OF SECTION

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Placer)

On August 1, 2023 before me, K. Hanley, Notary Public
(insert name and title of the officer)

personally appeared Julie A. Shiroma,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature K Hanley (Seal)

K. HANLEY
Notary Public - California
Placer County
Commission # 2384942
My Comm. Expires Nov 30, 2025

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Jana B Pilgard, Kathy Rangel, Robert D Laux, Dona Lisa Buschmann, Edward D Johnson, Julie A Shiroma, Stephen D Bender, Alexis Estrada, Lisa Bracero, Maggie Bender Johnson, Individually

of Roseville, CA, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 18th day of January, 2022.

WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota
County of Minnehaha } ss

On this 18th day of January, 2022, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

March 2, 2026

M. BENT
NOTARY PUBLIC
SOUTH DAKOTA

M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 1st day of August, 2023.

WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4280-7-2012

Go to www.cnasurety.com > Owner / Obligee Services > Validate Bond Coverage, if you want to verify bond authenticity.

SECTION 00420

BIDDER REGISTRATION AND SAFETY EXPERIENCE FORM

INSTRUCTIONS

In order to register to undertake work for the El Dorado Irrigation District Bidder must provide the following:

Fill out this registration form completely; do not leave blanks.

INDEPENDENT CONTRACTOR REGISTRATION

Contractor's License #: 1078245

Date: 8-14-2023 Fed I.D. # 68-0371094

Full Corporate Name of Company: Intech Mechanical Company Inc.

Street Address: 7501 Galilee Road - Roseville, CA 95678

Mailing Address: SAME

Phone: 916-797-6900 Fax: 916-797-6910

Name of Principal Contact: Rickie Chowdry

Type of Business:

_____Sole Proprietor _____Partnership

_____Non-Profit 501 C3 _X_Corporation

_____Other

(please explain _____)

SAFETY EXPERIENCE

The following statements as to safety experience of Bidder are submitted with Bid, as part thereof, and Bidder guarantees the truthfulness and accuracy of the information.

1. List Bidder's Interstate Experience Modification Rate for the last three years.

   2020: 74
   2021: 65
   2022: 68

2. Use Bidder's last year's Cal/OSHA 300 and 300A log to fill in the following:

   a. Number of lost workday cases 0

   b. Number of medical treatment cases 4

   c. Number of fatalities 0

3. Employee hours worked last year 292445

4. State the name of Bidder's safety engineer/manager or Site Safety Officer:

   Scott Martello - Director of Safety and Training

Attach a resume or outline of this individual's safety and health qualifications and experience.

BIDDER CERTIFIES, UNDER PENALTY OF PERJURY, THAT THE FOREGOING INFORMATION IS CURRENT AND ACCURATE AND AUTHORIZES THE DISTRICT AND ITS AGENTS AND REPRESENTATIVES TO OBTAIN A CREDIT REPORT AND/OR VERIFY ANY OF THE ABOVE INFORMATION.

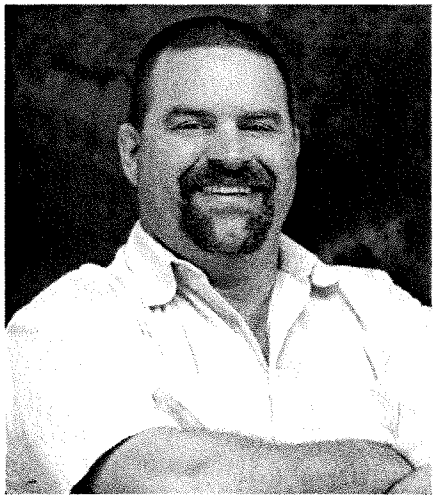
SIGNATURE

8/14/23
DATE

END OF SECTION

RESUME

INTECH MECHANICAL



Scott Martello

Safety Manager &
Training Development

INDUSTRY
EXPERIENCE: 35+ Years

PROJECT ROLE AND RESPONSIBILITIES:

Scott oversees all safety requirements for all jobs. He tracks workplace activities to ensure that workers comply with company policies and safety regulations. In addition, Scott conducts regularly scheduled safety inspections, safety trainings, and ensures compliance with OSHA, while providing reports to our management team. Should corrections need made, Scott monitors the situation and ensures compliance is maintained. Intech's motto of "Performance through Planning" is greatly dependent on prioritizing safety, and these combined efforts sustain Intech's safety standards, both in our shop and on our job sites.

BACKGROUND:

Scott's versatility over his career has given him countless insights and skills to thrive as Intech's safety manager.

- Scott has been with Intech Mechanical since 2010 and started as Warehouse Foreman and Fleet Manger. His position has evolved over the years to include all facility maintenance and managing the material coordinators. Scott was promoted to Safety Manager in 2015.

- Scott spent 12 Years with Payless Cashways Inc. (Lumberjack Building Materials). 10 of those years managing staff, sales, loss prevention, and inventory with this company in the building materials industry as the Lumber Sales Manager.

- Scott spent 10 years in the position of Production Manager with Motivational Systems Inc. He managed all shop staff including drivers, installers, production artists, purchasing, and estimating. Scott also managed production sales, inventory control, product quality, scheduling, division margins and financial goals. He won the company award for lowest COG's three years consecutive out of 11 divisions.

- Scott also has 3 years of project coordination experience with Air Systems.

SECTION 00450

STATEMENT OF QUALIFICATIONS

For purposes of evaluating Bidder's qualifications, Bidder shall provide the following information:

Intech Automation employees a skilled team of Controls Engineers, Programmers, Controls Installars and Project Managers - Main Office Roseville CA

California Contractors License #1078245 Includes HVAC C-20

Dan Hellen Programmer - 10yr Experience Tridium N4 Certified
Rickie Chowdry PM - 5yr Experience
Brandon Tabor Installation Superintendent - 10yr Experience

Safety - OSHA Trained on Electrical, Ladders, Fall Protection, Confined Spaces - Weekly Job Site Topics

Customer Reference#1 Rocklin Unified School District 2615 Sierra Meadows Drive, Rocklin, CA 95677 (Chris Barnett Operations Manager 916-663-7012) EMS Support and Installations above 40K

Customer Reference #2 Auburn Faith Hospital 11815 Education street Auburn, CA 95602 (Alan Paschal Facilities Manager 916-293-1935) EMS Support, Service and Upgrades Above 40K

8-14-2023

Bidder hereby declares under penalty of perjury that all the information provided in response to this Document 00450 is true and correct.

SIGNATURE

08/14/2023
Date

Rickie Chowdry - Project Manager
TITLE

END OF DOCUMENT

SECTION 00481

NON-COLLUSION DECLARATION
PUBLIC CONTRACT CODE §7106

NON-COLLUSION DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the Project Manager of Intech Mechanical Inc, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on 8-14-2023 [date], at Roseville [city], California [state].

Rickie Chowdry - Intech Mechanical Company Inc.

(Name of Bidder)

(Signature)

Project Manager

(Title)

(If Bidder is a partnership or a joint venture, this declaration must be signed by every member of the partnership or venture. Print as many forms as needed and submit.)

(If Bidder [including any partner or venturer of a partnership or joint venture] is a corporation, this declaration must be signed by the Chairman, President, or Vice President and by the Secretary, Assistant Secretary, Chief Financial Officer, or Assistant Treasurer. Print as many forms as needed and submit.)

END OF SECTION

SECTION 00482

BIDDER CERTIFICATIONS
TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID

The undersigned Bidder certifies to the El Dorado Irrigation District ("District"), as set forth in sections in this document.

1. PREVIOUS DISQUALIFICATIONS

By my signature hereunder, I hereby swear, under penalty of perjury, that the below indicated Bidder, any officer of such Bidder, or any employee of such Bidder who has a proprietary interest in such Bidder, has never been disqualified, removed or otherwise prevented from bidding on, or completing a Federal, State, or local government project because of a violation of law or a safety regulation except as indicated on the separate sheet attached hereto entitled "Previous Disqualifications." If such exceptions are attached, please explain the circumstances.

2. CERTIFICATION OF WORKER'S COMPENSATION INSURANCE

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract.

3. CERTIFICATION OF PREVAILING WAGE RATES AND RECORDS

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 1773 of the Labor Code, which requires the payment of prevailing wage on public projects. Also, that the Contractor and any subcontractors under the Contractor shall comply with Section 1776, regarding wage records, and with Section 1777.5, regarding the employment and training of apprentices, of the Labor Code. It is the Contractor's responsibility to ensure compliance by any and all subcontractors performing work under this Contract.

-Continued on next page-

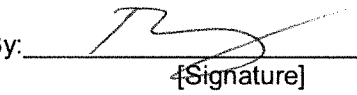
4. CERTIFICATION OF ADEQUACY OF CONTRACT AMOUNT

By my signature hereunder, as the Contractor, pursuant to Labor Code Section 2810(a), I certify that, if awarded the Contract based on the undersigned's Bid, the Contract will include funds sufficient to allow the Contractor to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided. I understand that the District will be relying on this certification if it awards the Contract to the undersigned.

5. CERTIFICATION OF COMPLIANCE WITH TRUCK AND BUS REGULATION

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of the Truck and Bus Regulation (Title 13, California Code of Regulations, Section 2025), which regulates certain vehicles that operate in California. I certify that, as the Contractor, the vehicle fleet that would be used for performance of the work of this Contract is in compliance with the Truck and Bus Regulation. If requested by the District, I will provide information to demonstrate compliance with the Truck and Bus Regulation, such as certificates of compliance or relevant vehicle fleet information. I understand that it is the Contractor's responsibility to ensure compliance with the Truck and Bus Regulation by any and all subcontractors performing work under this Contract.

Bidder: Intech Mechanical Company Inc.
[Name of Bidder]

By: 
[Signature]

Name: Rickie Chowdry
[Printed Name]

Its: Project Manager
[Title]

Dated: 8-14-2023

END OF SECTION

2023 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: PLANNED

Project Name: Headquarter Facility Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Royal **Board Approval:** 11/14/22

Project Description:

The following building upgrade projects are planned for 2023 - 2027
2023: Reapply the membrane roof system with new energy efficent, fluid applied ASTEC roofing coating system. Install (30) new iWave air purifiers into existing units to controll fire smoke and other air quality issues. Upgrade Alerton control system to match the existing newer legacy Alerton IBEX EMS controls and sensoring system for the HVAC controls.
2024: Convert remaining indoor lighting to LED, upgrade fire alarm system pannel to new upgraded pannel, backup power supply for upper fleet yard to support fleet operations and warehouse operations.
2025: Walkway accessibility to H/Q building improvement.
2026: Covered parking improvement for upper parking lot. Parking and road improvement for construction and fleet yard.

Basis for Priority:

The Headquarters building and surrounding areas are in major need of improvements and updating for new reliable efficient systems and to maintain and enhance this large district asset.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2023 - 2027 Planned Expenditures:**	$ 680,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 680,000
Project Balance	$ -	**Additional Funding Required**	$ 680,000

Description of Work	**Estimated Annual Expenditures**					
	2023	**2024**	**2025**	**2026**	**2027**	**Total**
Study/Planning						$ -
Design						$ -
Construction	$ 480,000	$ 200,000	$ -	$ -	$ -	$ 680,000
TOTAL	$ 480,000	$ 200,000	$ -	$ -	$ -	$ 680,000

Funding Sources	**Percentage**	**2023**	**Amount**
Water Rates	60%		$288,000
Wastewater Rates	40%		$192,000
Total	**100%**		**$480,000**

Funding Comments:

EL DORADO IRRIGATION DISTRICT

SUBJECT: Review of water treatment plant condition assessments and preliminary improvement recommendations.

PREVIOUS BOARD ACTION

June 24, 2019 – Board awarded a contract to Carollo Engineers in the amount of $299,863 for Phase 1 of the Water Treatment Plant (WTP) Assessments project.

April 26, 2021 – Board awarded a contract to Carollo Engineers in the amount of $566,629 for Phase 2 Water Treatment Plant Conditions Assessment and authorized additional funding of $50,000 for capitalized labor, for a total funding request of $616,629 for the Water Treatment Plant Assessments, Project Nos. STUDY 03.01 – 3.04.

November 14, 2022 – Board adopted the 2023–2027 Capital Improvement Plan (CIP), subject to available funding.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 3010 Budget
BP 3060 Contracts and Procurement

SUMMARY OF ISSUE

The District has completed a Draft Water Treatment Plant Asset Management Plan (WTP AMP). The WTP AMP provides cost-effective solutions to address aging assets, improve operational efficiency, and maintain regulatory compliance. Staff will present key outcomes and preliminary improvement recommendations to guide the replacement and renewal of the treatment plant assets over the next 20 or more years.

BACKGROUND/DISCUSSION

As existing water and wastewater infrastructure ages, the District focuses on asset rehabilitation and replacement. Like many utilities, the District had not analyzed the condition of its aging WTP assets holistically before initiating this Project in 2019. Carollo Engineers has now completed Phases 1 and 2 of the WTP AMP. The Phase 1 evaluation includes a preliminary condition assessment and remaining useful life analysis. Phase 2 includes more comprehensive evaluations and assessments of those recommended in Phase 1. They include project prioritization and timing, long-range WTP master planning, cost estimate development for recommended projects, and incorporating Phase 1 and 2 work to provide comprehensive guidance for future WTP renewal, rehabilitation, replacement, and master plan improvements.

The District owns and operates five water treatment plants, including the El Dorado Hills Water Treatment Plant (EDHWTP), Reservoir 1 Water Treatment Plant (Res 1 WTP), Reservoir A Water Treatment Plant (Res A WTP), Strawberry Water Treatment Plant (SWTP), and the Outingdale Water Treatment Plant (OWTP). Most components of the OWTP are relatively new through past upgrades and in overall good operating condition. Therefore, Corollo did not evaluate the OWTP in this analysis. The other four WTPs provide water to 99% of the District's 42,000 water connections and are considered the District's most critical water infrastructure.

ASSET MANAGEMENT PLANNING FRAMEWORK

The objectives of the WTP AMP are to provide a recommended 20-year CIP that consists of a prioritized list of improvement projects with their associated budget estimates and implementation schedules. Carollo developed the WTP AMP by answering the following five core asset management questions, which closely align with industry-standard American Water Works Association asset management guidance.

1. What is the current state of assets?
2. What is the required level of service?
3. What are the business risks?
4. What are the best operations and capital investment strategies?
5. What is the best long-term funding strategy?

Current State of Assets

To determine the condition of the WTP assets, the initial Phase 1 evaluation included a preliminary (visual) condition assessment and Remaining Useful Life (RUL) analysis, a detailed corrosion evaluation, and independent treatment process evaluations for each site. An asset is defined as anything with a value greater than $5000 and an expected life of one year or more. Phase 2 included additional process and structural evaluations to inform the RUL analysis further. Each WTP comprises hundreds of assets (pipes, pumps, filters, valves, tanks, etc.). The Phase 1 and 2 evaluations analyzed 1,703 distinct assets at the four WTPs.

Using the District's inventory of WTP assets, Carollo established each asset's estimated useful life (EUL), which is the reasonable period that an asset is expected to perform satisfactorily under normal and routine operation and maintenance practices. The EUL is the starting point for asset replacement planning and is adjusted based on conditions outside normal operations. For example, the EUL of a pump may be adjusted up or down if that asset has an unusually high or low number of start and stop cycles. Conversely, an older asset performing optimally may have its EUL extended. EUL may also be adjusted if capacity has been exceeded, parts are no longer available, or if the cost of rehabilitation approaches the cost of replacement.

The next step is to determine the asset's RUL. The RUL is the time remaining until an asset ceases to provide its required use in design, physical service, and economic life. Unlike EUL, the RUL is adjusted based on observed conditions. The RUL may be lowered when an asset is observed to be degraded or performs outside of an acceptable baseline condition during annual performance tests.

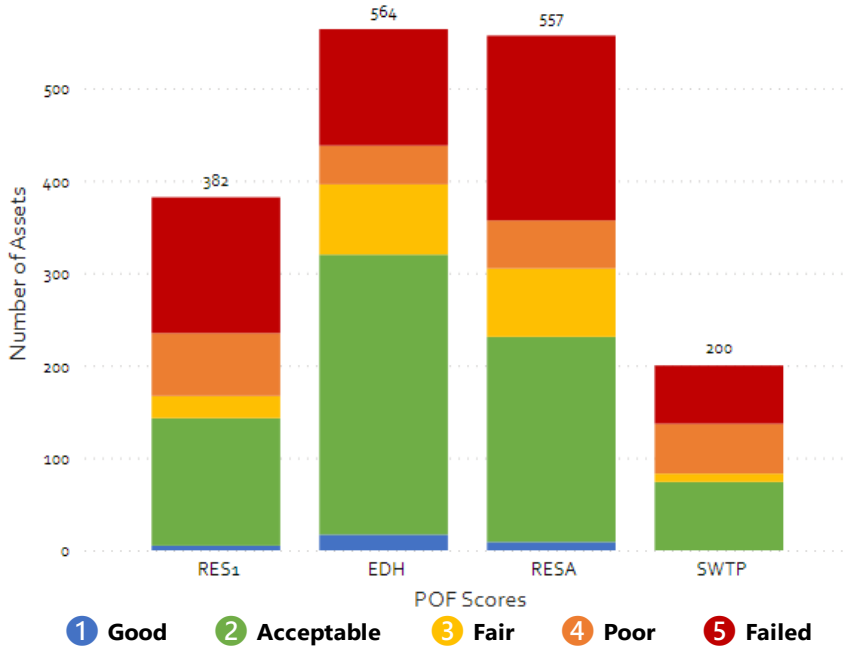
Using the condition assessments, the RUL evaluation used a probability of failure (POF) model. The POF model measures the likelihood of an asset failing or degrading to a point where it no longer meets its required level of service. In addition to the asset's physical condition, the POF model considers other performance-related issues such as operations and maintenance, reliability, redundancy, obsolescence, and estimated remaining life. The POF model calculates the percent of asset life consumed, which helps determine RUL. Carollo used this information to develop preliminary plans to maintain, repair, and replace assets and determine reinvestment timing.

The overall POF is based on the condition-based score when available, or if not, the age-based score. Of the 1,703 assets, Carollo assessed 927 in the field and scored the remainder based on age. The POF scores are based on the following criteria.

5 (Failed) – Substantial deterioration that requires immediate rehabilitation or replacement.
4 (Poor) – Significant deterioration that requires renewal or upgrades.
3 (Fair) – Moderate deterioration that requires maintenance activities but is less likely to need rehabilitation or replacement in the near future.
2 (Acceptable) – Minor defects.
1 (Good) – Good condition with no identified defects.

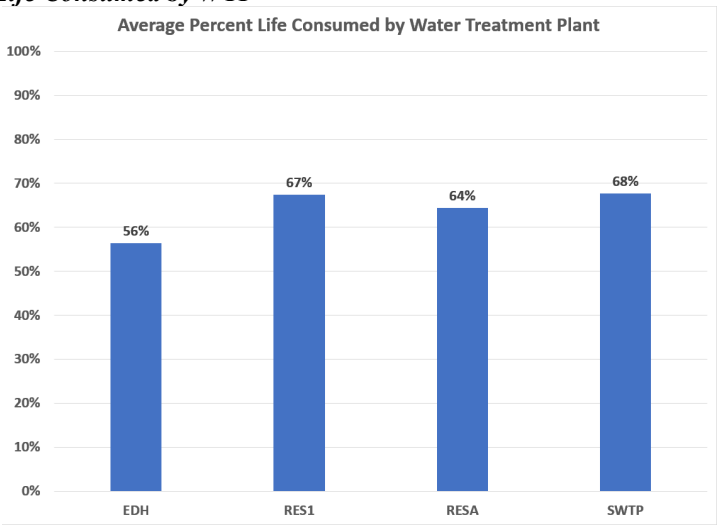
Figure 1 summarizes the condition assessment results of 1,703 assets at the four WTPs. Res 1 WTP has the highest percentage of assets that require rehabilitation or replacement of the three large plants.

Figure 1 – Distribution of POF Scores by WTP



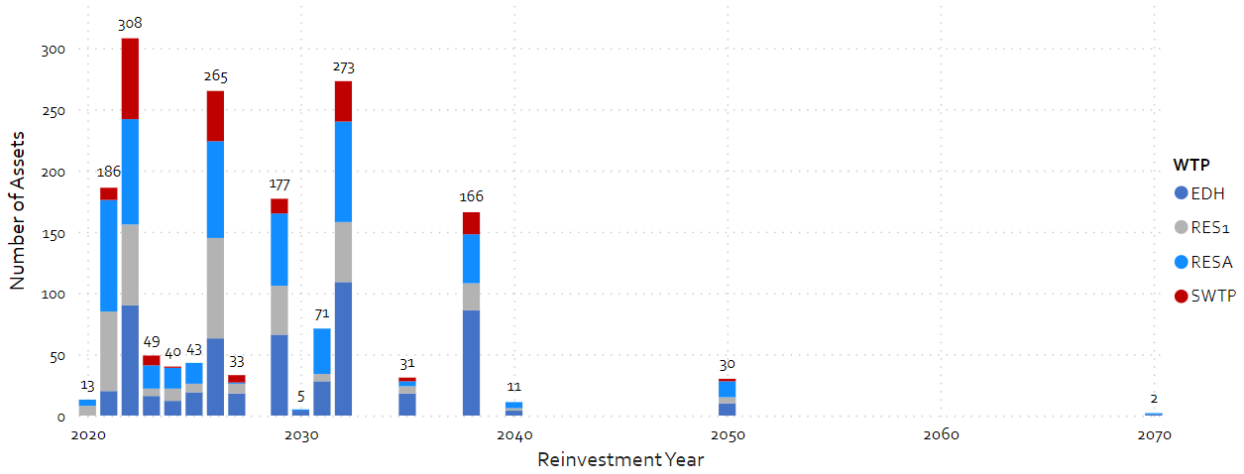
The conditions-based POF score adjusts the EUL up or down to determine the life consumed and resulting RUL, which predicts how long an asset will operate before it needs to be rehabilitated or replaced. Using the projected RUL for each asset based on its age or current condition, the assets are assigned to reinvestment years. Figure 2 shows the average percent life consumed by each plant. Res1 WTP has the highest life consumed of the three large plants.

Figure 2 - Percent Life Consumed by WTP



In summary, all four WTPs have a high percentage of life consumed. This indicates that many WTP components are approaching or have reached the end of their useful life and require attention to continue safely and reliably providing drinking water supplies. The condition assessments, POF analysis, and resulting RUL have identified the magnitude and timing of future capital needs to replace these assets, as shown in Figure 3. Note that assets assigned for rehabilitation or replacement in 2020 through 2023 have mostly been deferred awaiting the completion of this WTP AMP and determining how they can be incorporated financially into current CIP plans.

Figure 3 Reinvestment Timing Based on Condition and RUL



The condition assessments have resulted in the following two main categories of facility improvement projects. A third category of projects discussed later in this agenda item includes plant upgrades driven by the EDHWTP and Res 1 WTP master plans.

1. *Capital Project Needs*: Includes treatment process and condition-driven upgrades at each WTP that would likely be accomplished through the District hiring outside forces.
2. *District Work Tasks:* Includes facility needs that WTP staff could reasonably accomplish pending sufficient staffing resources or would otherwise be funded through contracted services within the annual operating budget of the respective facility.

Level of Service

The District's Guiding Principles of 100% safety, Respect for the Individual, Excellent Customer Service, and Fiscal Responsibility and Key Performance Indicators were used to develop project prioritization criteria and a scoring approach for ranking the capital project needs identified through the RUL analysis.

The key inputs to the prioritization are lifecycle cost impact (guiding principle: fiscal responsibility), increased resilience (guiding principle: customer satisfaction), and risk mitigation (guiding principle: 100 percent safety). The priority score was used to sequence projects within each year of the 20-year planning horizon.

Business Risk Evaluation

Consequence of Failure (COF) represents the relative impact on the facility if an asset were to fail or cause a treatment process area to be out of service. COF is scored on a scale of 1 (very low consequence) to 5 (very high consequence), with individual scores developed for financial, social, and environmental consequences representing the industry-standard triple-bottom-line approach. Once POF and COF scores were calculated for each asset, the assets were assigned to

a risk category in the risk matrix shown in Figure 4. As such, assets in higher-risk categories are candidates for close monitoring and prioritization for corrective or preventative action.

Figure 4 – Risk Matrix

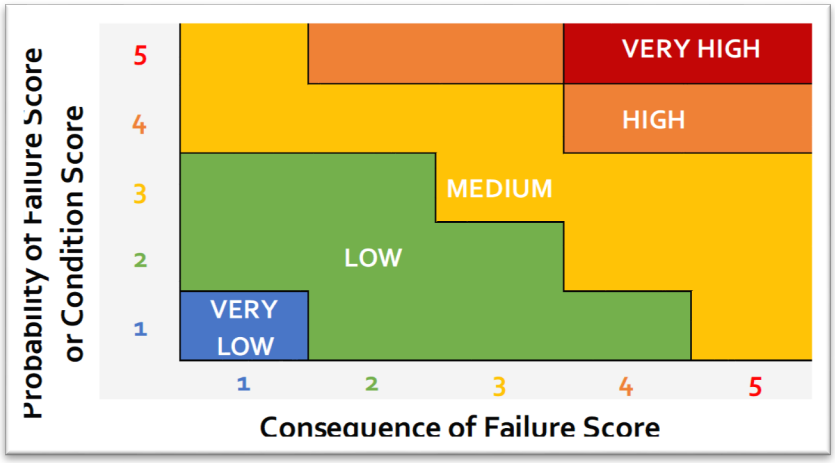
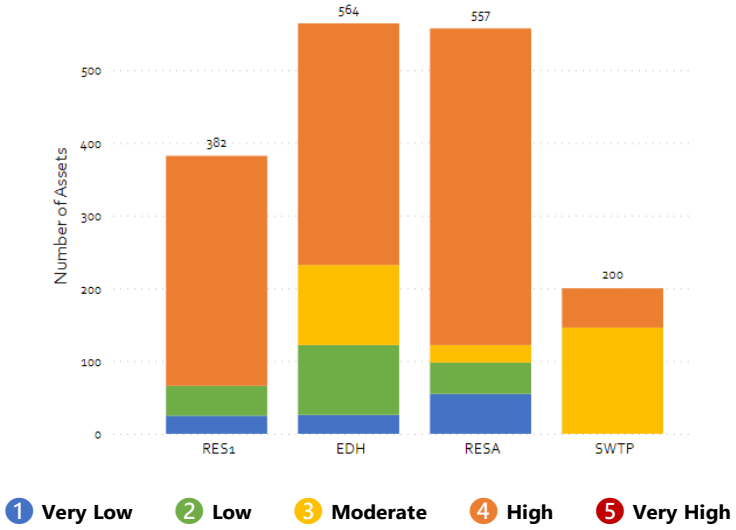


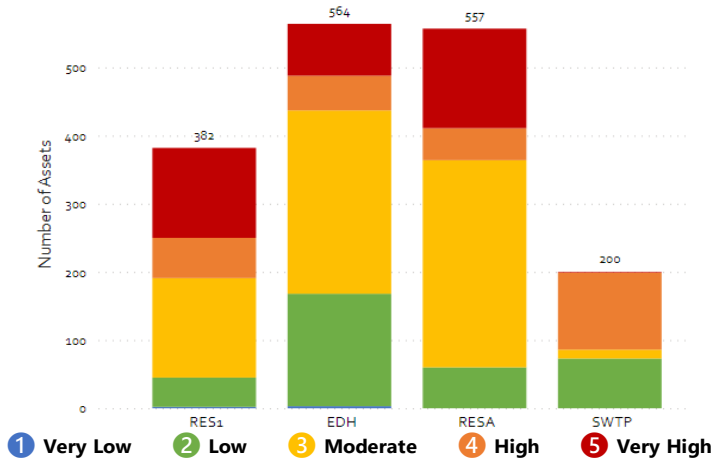
Figure 5 presents the resulting distribution of COF scores assigned to the assets. The Res 1 WTP has the highest percentage of COF scores in the High-risk range.

Figure 5 – Distribution of COF Scores by WTP



Using the POF and COF scores, each asset has been assigned to a risk category using the risk matrix (Figure 4). Figure 6 shows the distribution of risk for each plant. The Res1 WTP has the highest percentage of assets in the High or Very-High risk category of the three large plants.

Figure 6 – Distribution of Risk Category by WTP

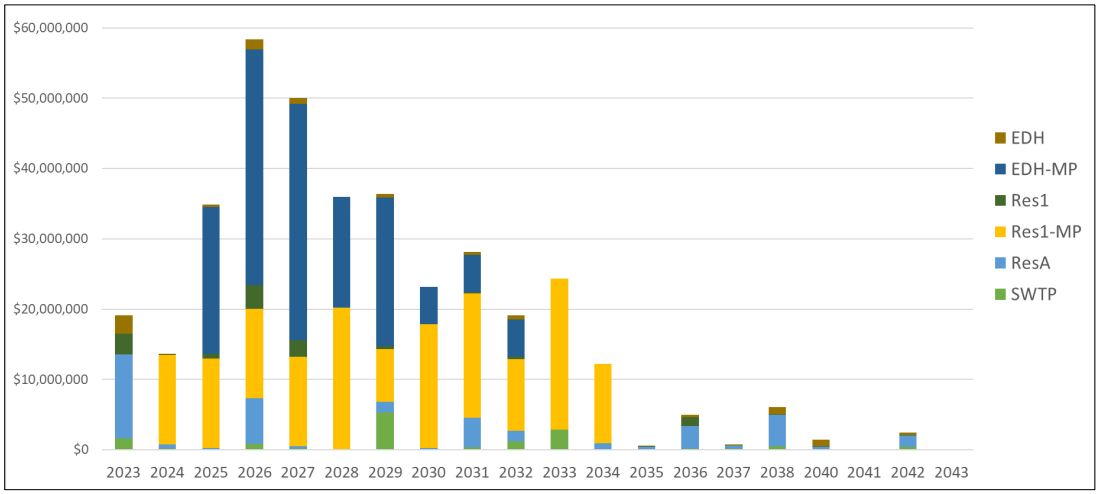


Operations and Capital Investment Strategies

As part of Phase 2, the District and Carollo developed master plans for the EDHWTP and Res 1 WTP that addressed facility needs that could supersede longer-term (5 years) condition or process-driven facility improvement recommendations. These needs include improvements that fundamentally change treatment processes and/or the need for comprehensive plant layout changes to accommodate increased capacity or to realize current capacity compromised by changing regulations, source water changes, or original design deficiencies. Master plans were not prepared for Res A WTP and Strawberry WTP, as anticipated upgrades at these plants are less constrained by phased modifications to plant layout and are more straightforward to implement within the proposed 20-year planning horizon.

The condition assessments, process evaluations, age-based replacement analysis, and master plan recommendations have been combined to develop a preliminary capital improvement program (CIP) to address O&M concerns and capital improvement needs. Figure 7 presents project costs for the four WTPs by assigned start year.

Figure 7 - Preliminary Capital Improvement Plan Costs by Start Year



Note, Figure 7 is based solely on the outcomes of the conditions assessment, process evaluations, RUL analysis, and overlying master plans. With the ongoing Cost of Service Analysis and 2024-2028 CIP update this fall, staff understands these expenditures within this timeframe are not feasible. However, deferral of necessary capital reinvestments in aging assets increases risk, and recent failures highlight this concern. Fortunately, to date, the failures have not resulted in service outages of a WTP, but the risk continues to grow as the number of failures continues to increase.

Staff are reviewing this preliminary 20-yr CIP and will adjust it after reconciling this plan with a separate system-wide Water Master Plan effort that also considers the water transmission and storage needs of the water system. Specifically, the implementation timing of the Res 1 WTP and EDHWTP Master Plans, which include high capital expenditures in the early years of the planning horizon, will likely change based on: 1) higher growth rates in EDH relative to other parts of the District; 2) relative cost of increasing transmission capacity east to west where water is needed most; 3) overall system reliability; 4) water quality and regulatory requirements, and 5) other implementation strategies that would delay or make annual expenditures more uniform over the 20 year CIP planning horizon.

While capital reinvestments at EDHWTP may be prioritized overall for initial return on investment, some reinvestments at Res 1 WTP will be necessary to maintain the reliability of the facility, improve seasonal treatment strategies to avoid disinfection byproduct formation and realize the benefits of the proposed new Sly Park Intertie (SPI). Reinvestments at Res 1 WTP, together with the SPI will also allow the District to take Res A WTP offline for extended periods during low demand for maintenance, which is currently not possible.

Long-term Funding Strategy

The WTP process evaluations and two master plans considered the District's long-term regulatory compliance needs and other process improvement projects, condition assessment results, and master plan alternative or age-based renewal project triggers. The Draft WTP AMP consolidates the results of these efforts and is based on answers to the questions that established this asset management framework. The total identified capital need over the next twenty years is $371,535,000 (an average of $18.6 million per year) in today's dollars. As mentioned, implementation timing needs to be refined based on broader master planning and cash flow considerations and will be reflected in the Final WTP AMP.

Relationship to Cost of Service Analysis

In coordination with the ongoing Cost of Service Analysis, staff incorporated phased expenditures of approximately $89M for the EDHWTP into the 5-year financial plans. These expenditures would be funded by one or both of the anticipated new bond issuances in 2024 and 2027. Staff prioritized EDHWTP expenditures over Res 1 WTP given the near-term need to expand the EDHWTP beyond 19.5 mgd to keep pace with current and projected increasing demands in El Dorado Hills, coupled with the condition of the EDHWTP assets. However, even with the upgrades to EDHWTP, there is still a significant need to invest in the Res 1 WTP. There is a high probability and consequence of asset failure at Res 1 WTP. It also plays an essential role in realizing the District-wide system reliability benefits the new SPI provides. The District will need to concurrently address the Res 1 WTP and EDHWTP to meet both growing demands in El Dorado Hills, and customer needs throughout the upper portions of the service area.

NEXT STEPS

To finalize the WTP AMP and begin implementation, staff will:

- Complete system-wide Water Master Plan reconciliation with Draft WTP AMP preliminary 20-Year CIP;
- Explore strategies and minimum funding needs to address Res 1 WTP aging infrastructure and long-term master planning needs within current fiscal constraints; and
- Incorporate capital and rehabilitation/replacement needs into the 2024-2028 CIP and financial plans.

BOARD OPTIONS

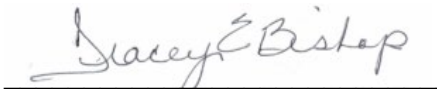
None – Information only.

RECOMMENDATION

None – Information only.

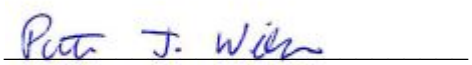
ATTACHMENTS

None

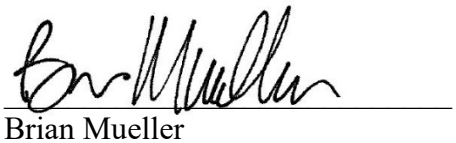


Tracey Eden-Bishop
Senior Civil Engineer

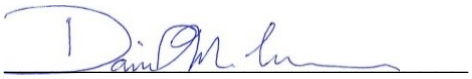
Jon Money
Engineering Manager



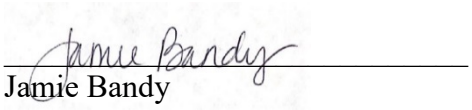
Patrick Wilson
Drinking Water Manager



Brian Mueller
Engineering Director

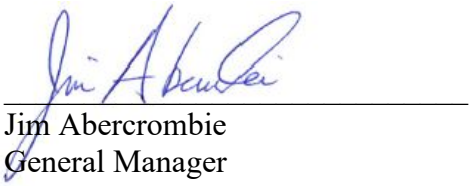


Dan Corcoran
Operations Director



Jamie Bandy
Finance Director

Brian Poulsen
General Counsel



Jim Abercrombie
General Manager

El Dorado Irrigation District

Review of Water Treatment Plant Condition Assessments and Preliminary Improvement Recommendations

CIP Study 3.01 - 3.04

August 28, 2023

Previous Board Actions

- June 24, 2019 – Board awarded a contract to Carollo Engineers in the amount of $299,863 for Phase 1 of the Water Treatment Plant (WTP) Assessments project.

- April 26, 2021 - Board awarded a contract to Carollo Engineers amount of $566,629 for Phase 2 Water Treatment Plant Conditions Assessment and authorized additional funding of $50,000 for capitalized labor, for a total funding request of $616,629 for the Water Treatment Plant Assessments, Project Nos. STUDY 03.01 – 3.04.

- November 14, 2022 – Board adopted the 2023–2027 Capital Improvement Plan (CIP), subject to available funding.

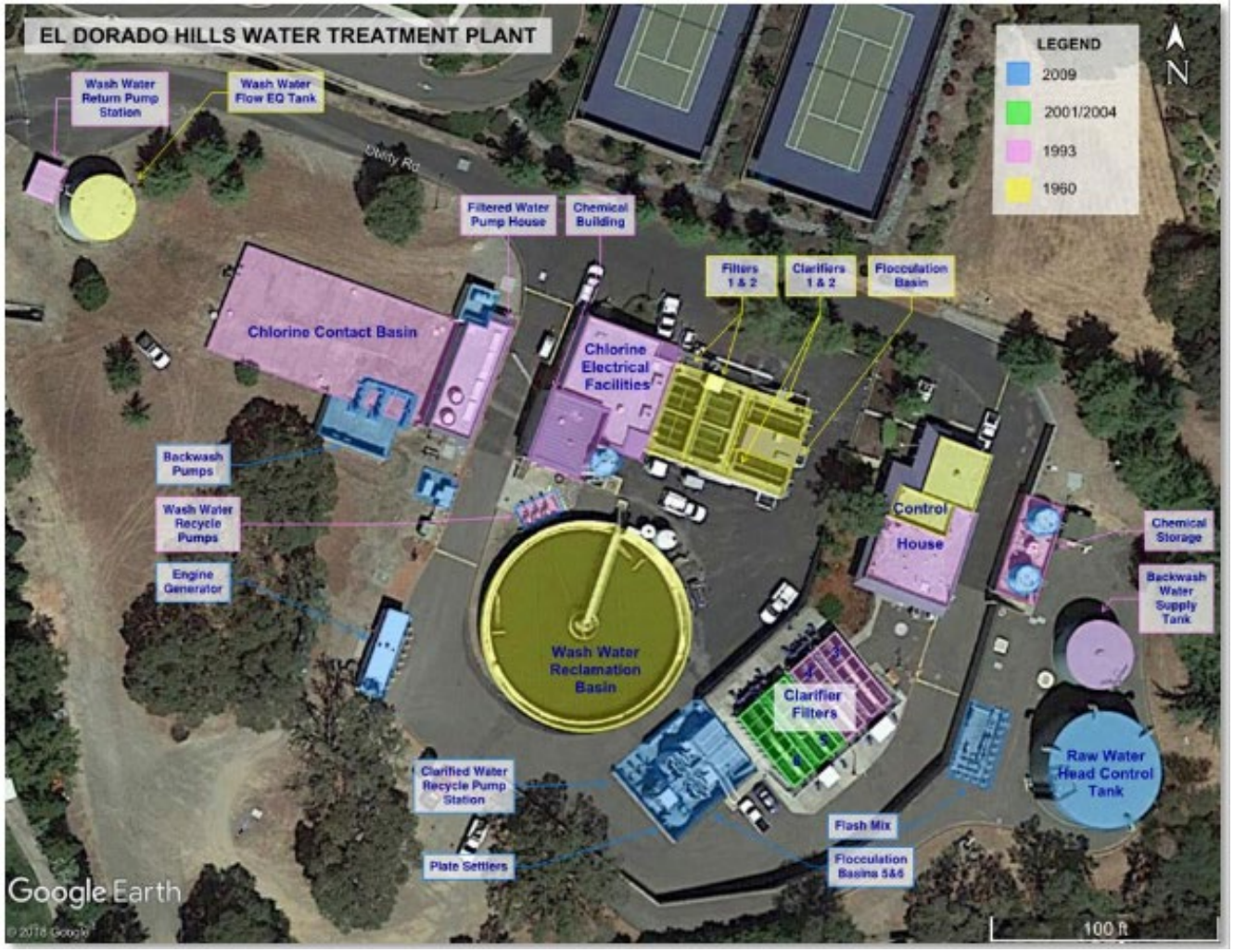
Summary of Issues

- Draft Water Treatment Plant Asset Management Plan (WTP AMP) completed
  - Address aging assets
  - Improve operational efficiency
  - Maintain regulatory compliance
- WTP AMP will guide replacement and renewal of the treatment plant assets over the next 20 or more years
- Key outcomes and preliminary improvements will be presented

Background

- Aging infrastructure is focusing attention on asset rehabilitation and replacement
- Infrastructure condition not analyzed in holistic way before initiating project in 2019
- Evaluation and asset management planning necessary to predict timing and capital expenditure magnitude

Background



El Dorado Irrigation District

Background

- Phase 1 - Condition Assessments
  - Preliminary (visual) condition assessment
  - Detailed corrosion evaluation
  - Treatment process evaluations
  - Remaining useful life (RUL) analysis


EDHWTP Corrosion Evaluation

- Phase 2 – Condition Assessments and Master Planning
  - Comprehensive evaluations/assessments
  - Long-range WTP master planning
  - Project prioritization and timing
  - Project cost estimates
  - WTP AMP


Res 1 WTP Filter Process Evaluation

Background

- District owns and operates 5 WTPs
  - El Dorado Hills Water Treatment Plant (EDHWTP)
  - Reservoir 1 Water Treatment Plant (Res 1 WTP)
  - Reservoir A Water Treatment Plant (Res A WTP)
  - Strawberry Water Treatment Plant (SWTP)
  - Outingdale Water Treatment Plant (OWTP)
- 4 of 5 WTPs assessed
  - OWTP not assessed
- 1703 asset analyzed
  - 927 assessed in field

Asset Management Plan Framework

1. What is the current state of assets?
2. What is the required level of service?
3. What are the business risks?
4. What are the best operations and capital investment strategies?
5. What is the best long-term funding strategy?

Primary Benefits: Efficient use of capital to extend infrastructure life to reduce overall capital expenditures over time and phase work to avoid failures.

Asset Management Plan Framework

1. CURRENT STATE OF ASSETS

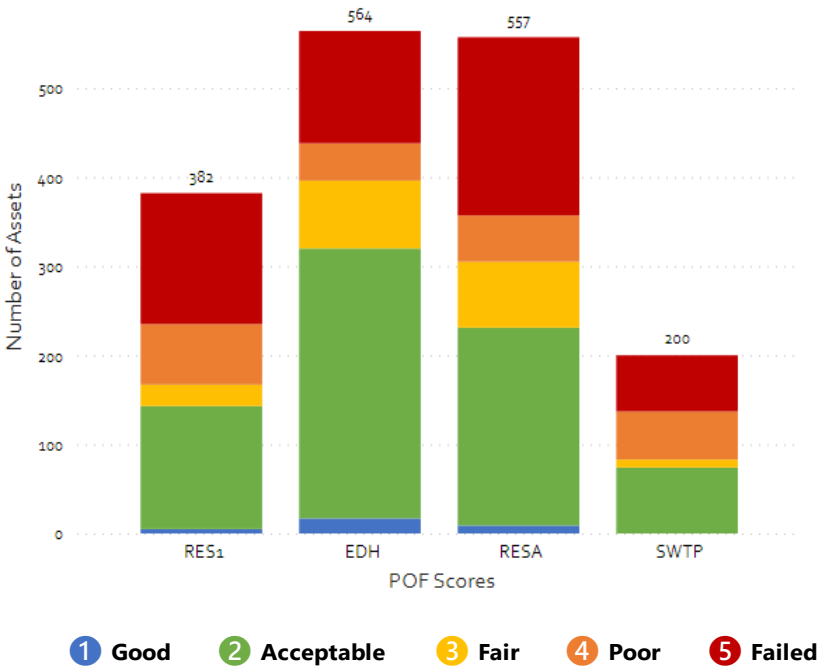
- Estimated Use Life (EUL)
  - Reasonable time period asset is expected to satisfactorily perform under normal operating conditions
- Remaining Useful Life (RUL) Analysis
  - Time remaining until asset ceases to provide required use
  - Probability of Failure (POF) Model
    - Measures likelihood of asset failing to point where it no longer meets required level of service

Asset Management Plan Framework

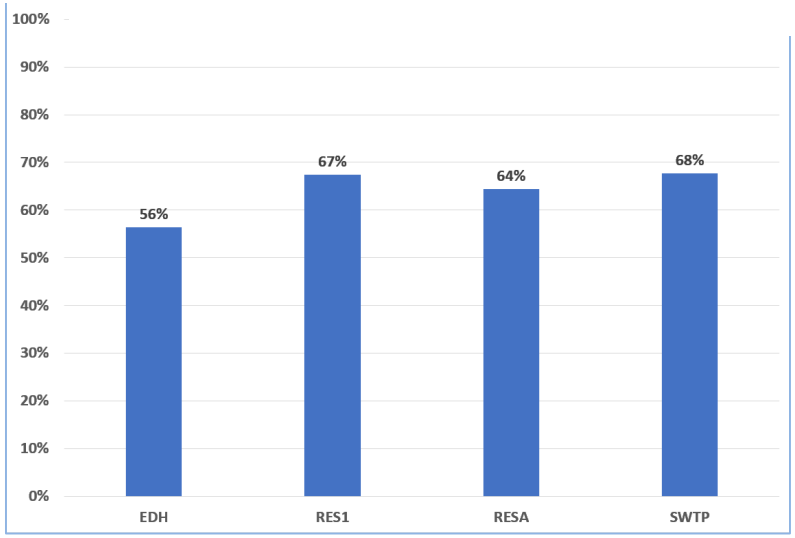
Remaining Useful Life Analysis

Probability of Failure Score Distribution by WTP

(1703 assets analyzed)



Average Percent Life Consumed by WTP



Note: *Res 1 WTP has highest percentage Poor and Failed POF scores and life consumed percentage of the 3 large plants*

Asset Management Plan Framework

2. LEVEL OF SERVICE

- Guiding Principles (GP)
  - Fiscal responsibility
  - 100% safety
  - Excellent customer service
  - Respect for the individual
- Key inputs to project prioritization
  - Lifecycle cost impact (GP: Fiscal Responsibility)
  - Increased resilience (GP: Customer Satisfaction)
  - Risk mitigated (GP: 100 % safety)
- Sequences projects within each year of planning horizon

Asset Management Plan Framework

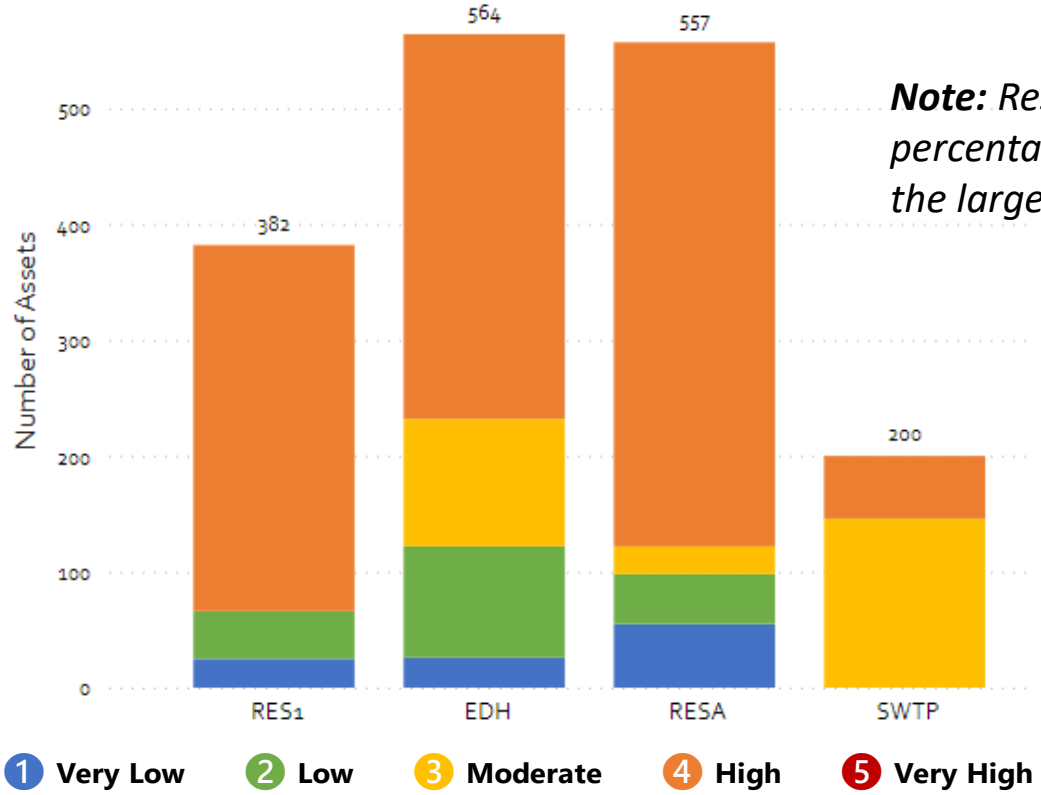
3. BUSINESS RISK EVALUATION

- Consequence of failure (COF)
  - Relative impact to facility if asset failed or caused treatment process area to be out of service
  - Individual scores developed for
    - Financial
    - Social
    - Environmental
- Risk Category assigned
  - POF versus COF scores

Asset Management Plan Framework

Consequence of Failure Analysis

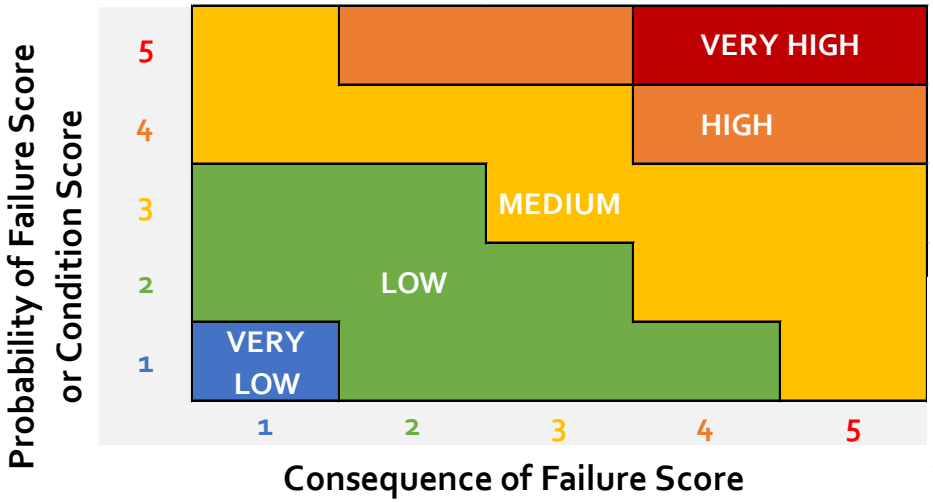
Consequence of Failure Score Distribution by WTP
(1703 assets analyzed)



Note: *Res 1 WTP has highest percentage High COF Scores of 3 the large plants*

Asset Management Plan Framework

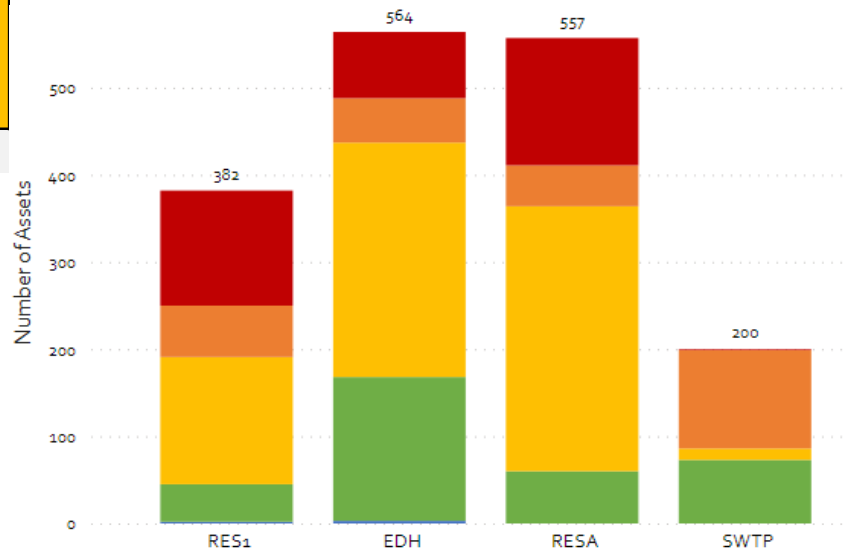
Risk Matrix



Note: *Res 1 WTP has the highest percentage of assets in the High and Very-High Risk Category of 3 the large plants*

Risk Category by WTP

(1703 assets analyzed)



Asset Management Plan Framework

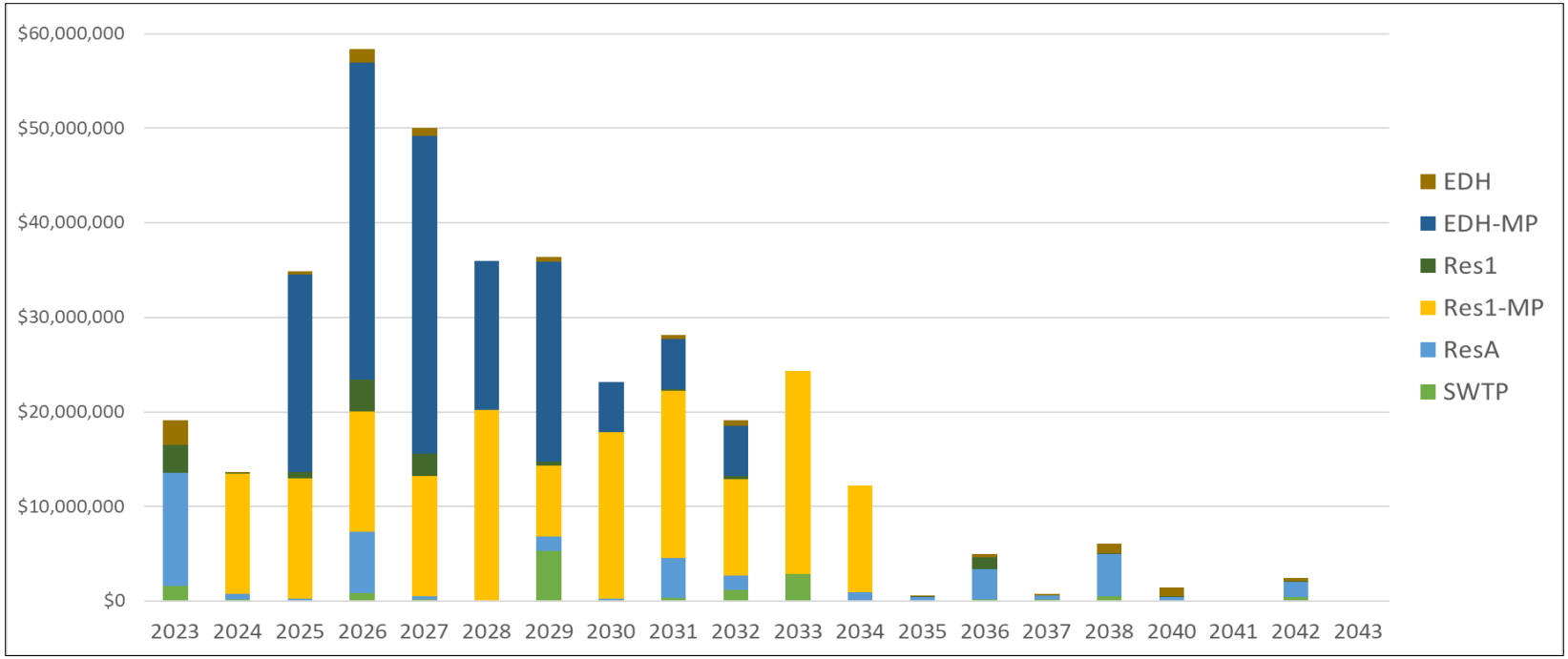
4. OPERATIONS AND CAPITAL INVESTMENT STRATEGIES

- EDHWTP and Res 1 WTP Master Planning
  - Address long-term facility needs that could supersede condition or process driven facility improvements
  - Fundamentally change treatment processes
  - Comprehensive plant layout changes
- Master plans not prepared for Res A WTP or Strawberry WTP

Asset Management Plan Framework

4. OPERATIONS AND CAPITAL INVESTMENT STRATEGIES

Preliminary Capital Improvement Plan Cost by Start Year

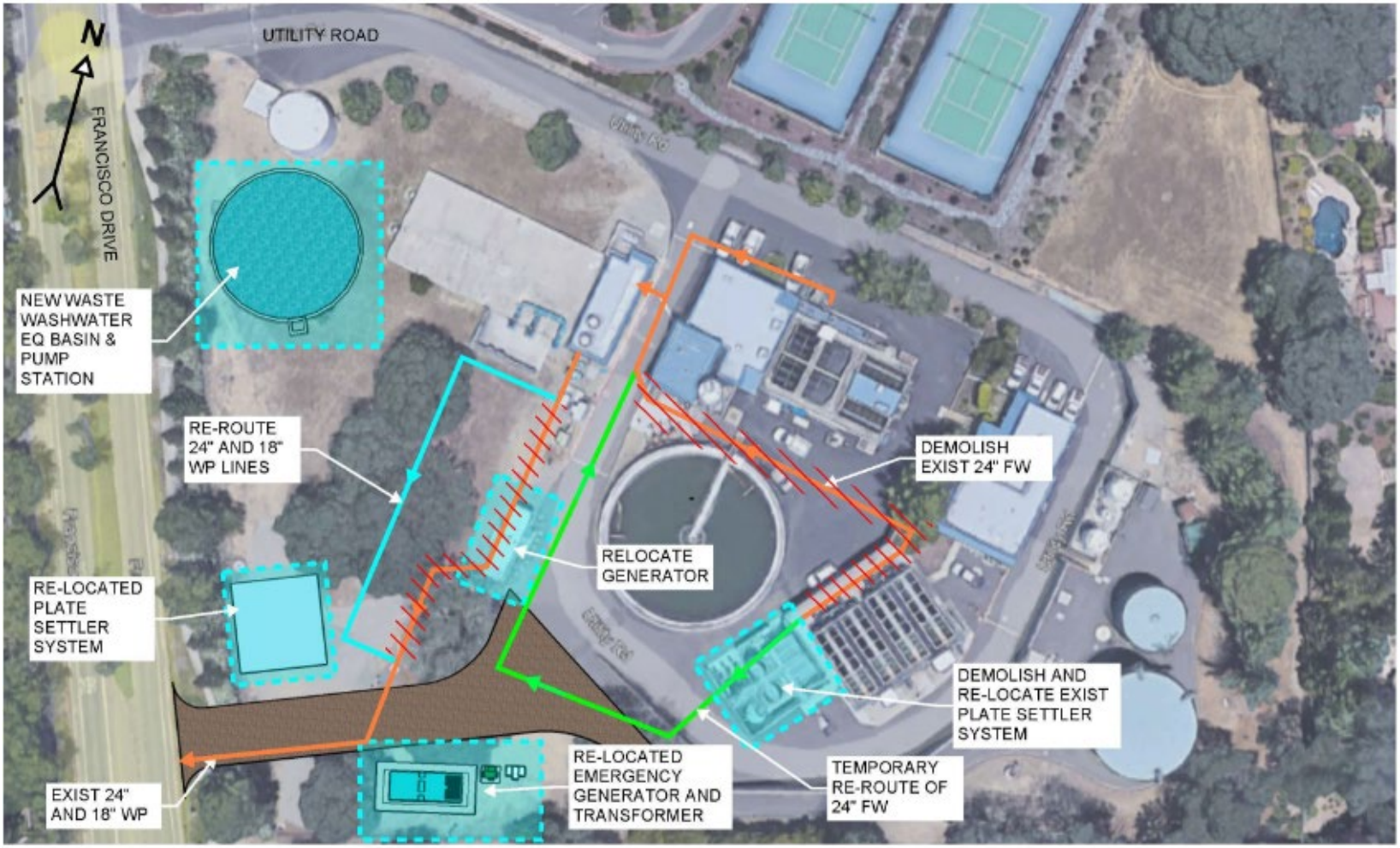


Note: Based solely on outcomes of conditions assessment, process evaluations, RUL analysis and overlying master plans

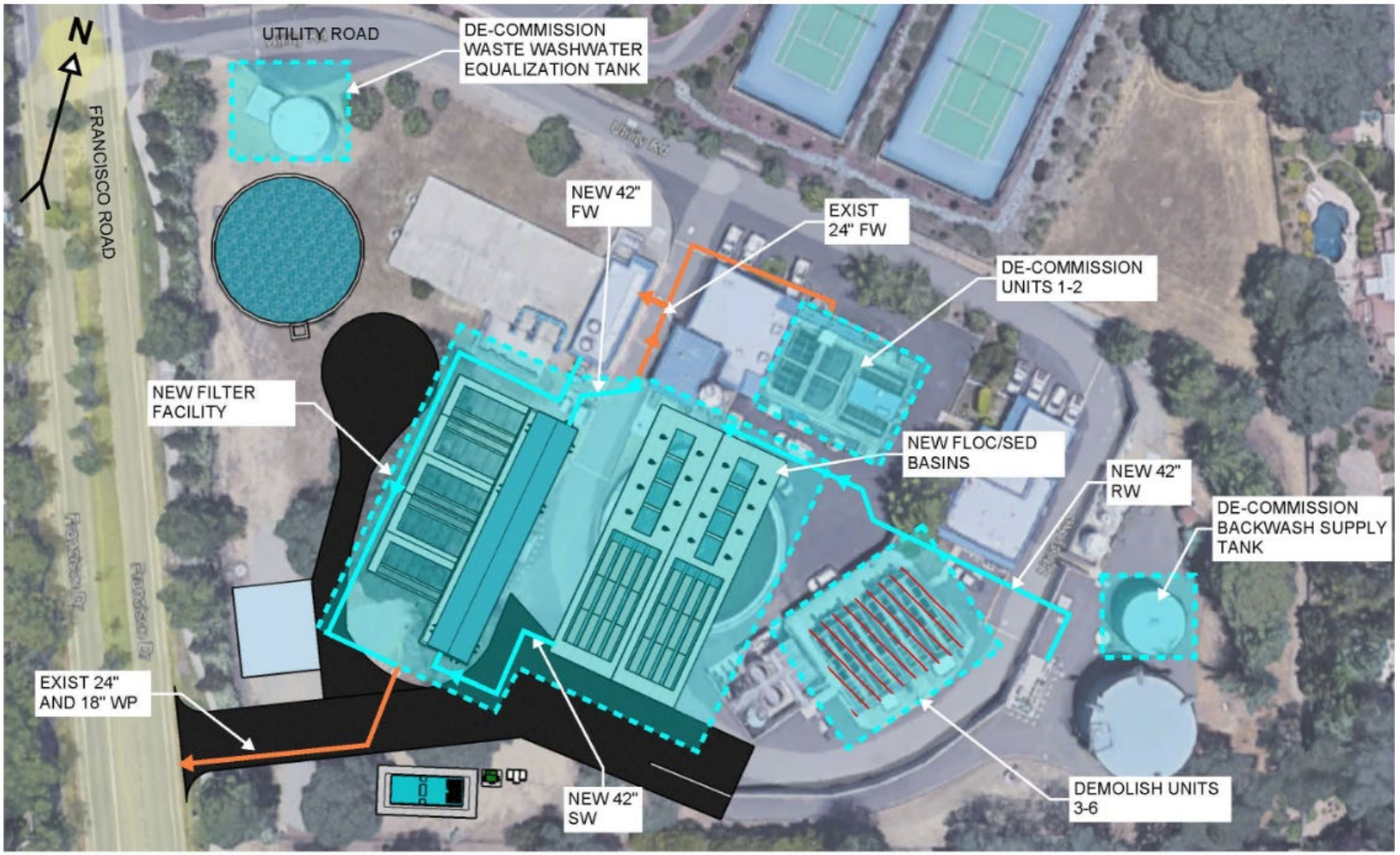
Asset Management Plan Framework

4. OPERATIONS AND CAPITAL INVESTMENT STRATEGIES

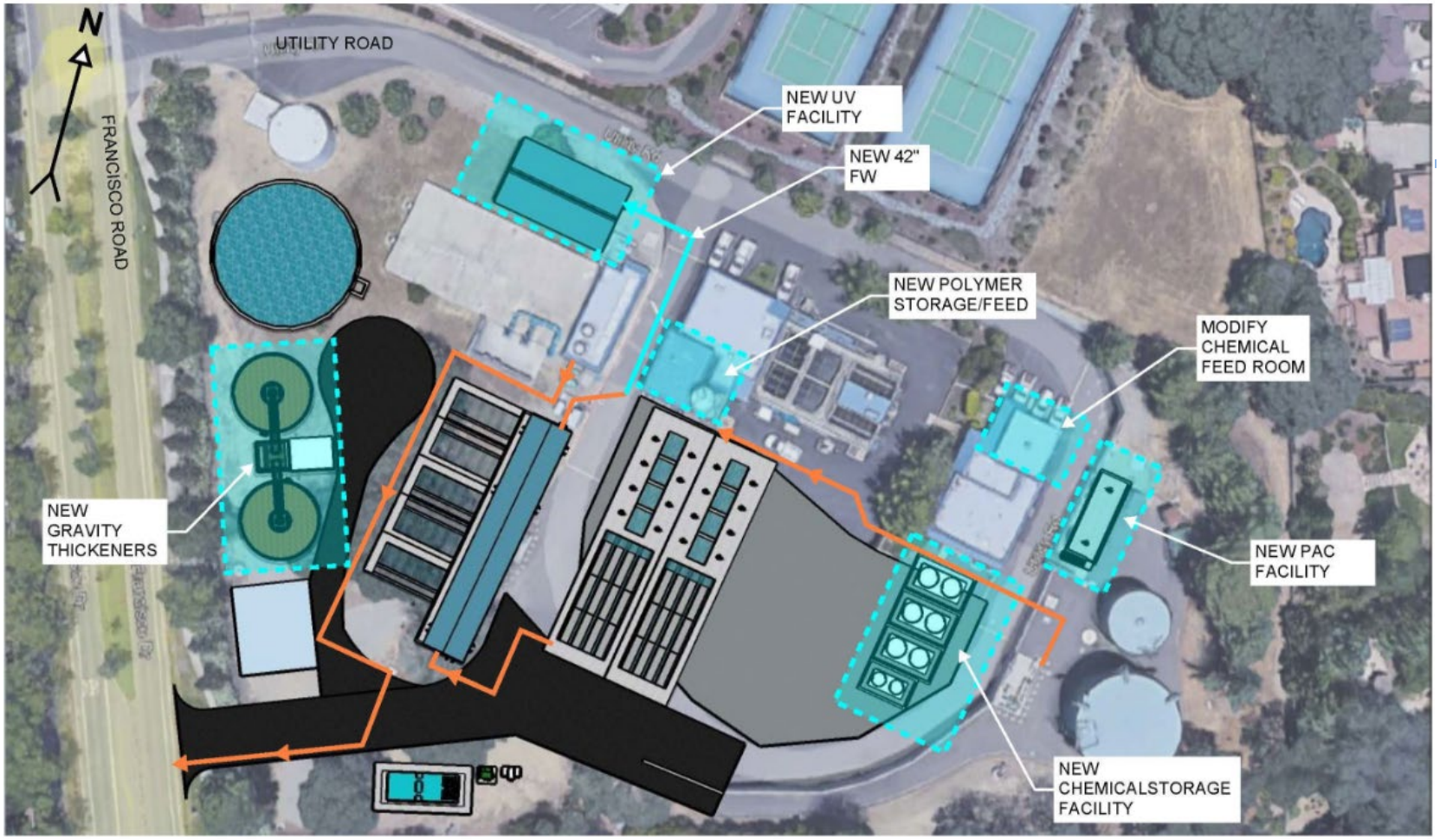
- System-wide Water Master Plan reconciliation
  - Higher growth rates in EDH relative to other areas
  - Relative cost of increasing transmission capacity east to west where water is needed most
  - Overall system reliability
- EDHWTP should be prioritized ahead of Reservoir 1 WTP
  - Near-term need for EDHWTP expansion beyond 19.5 mgd
  - Age and condition of EDHWTP assets



EDHWTP Phase 1 Improvements
Cost: $15.3 M
Construction: 2025



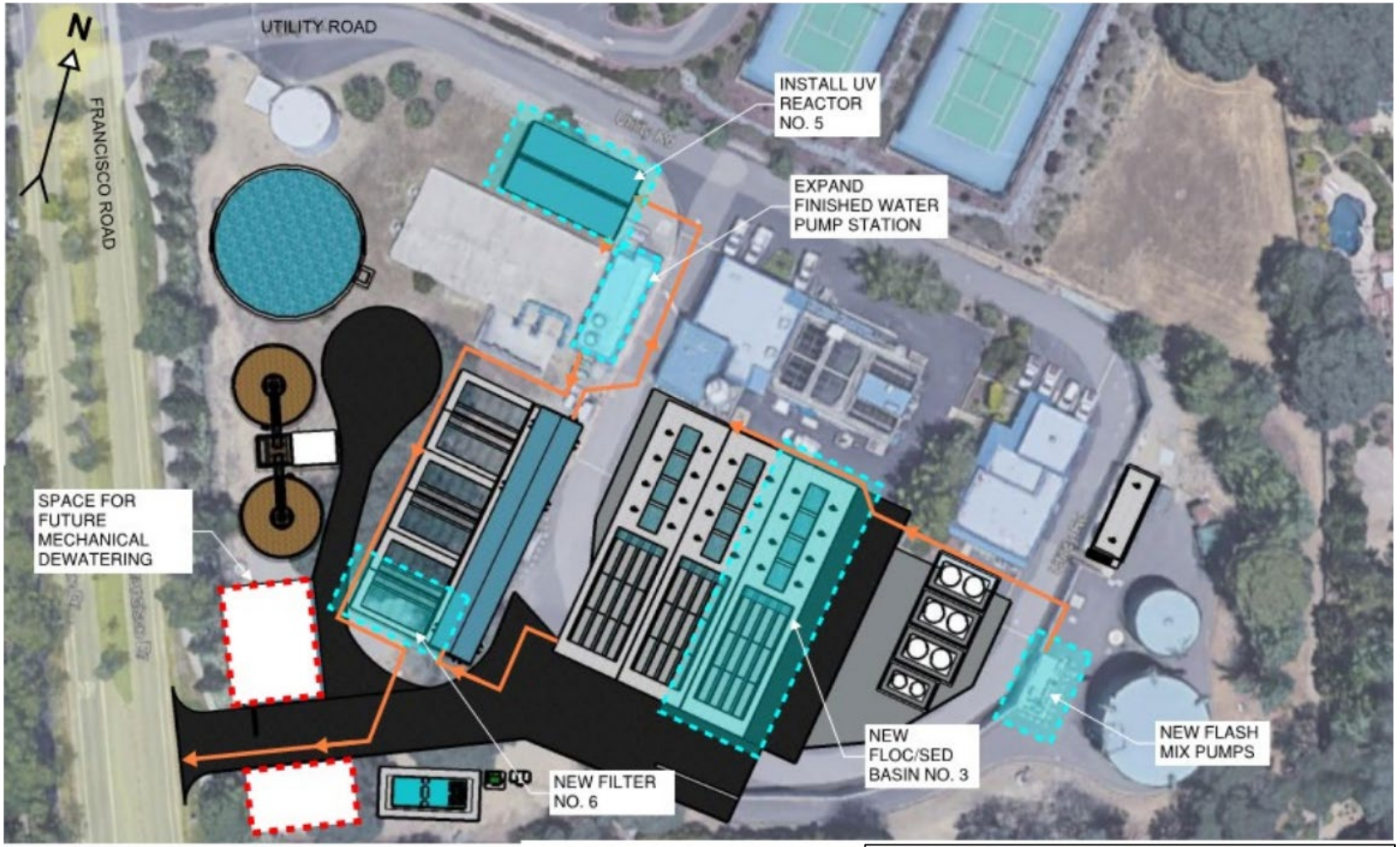
EDHWTP Phase 2 Improvements
Cost: $55 M
Construction: 2026-2028



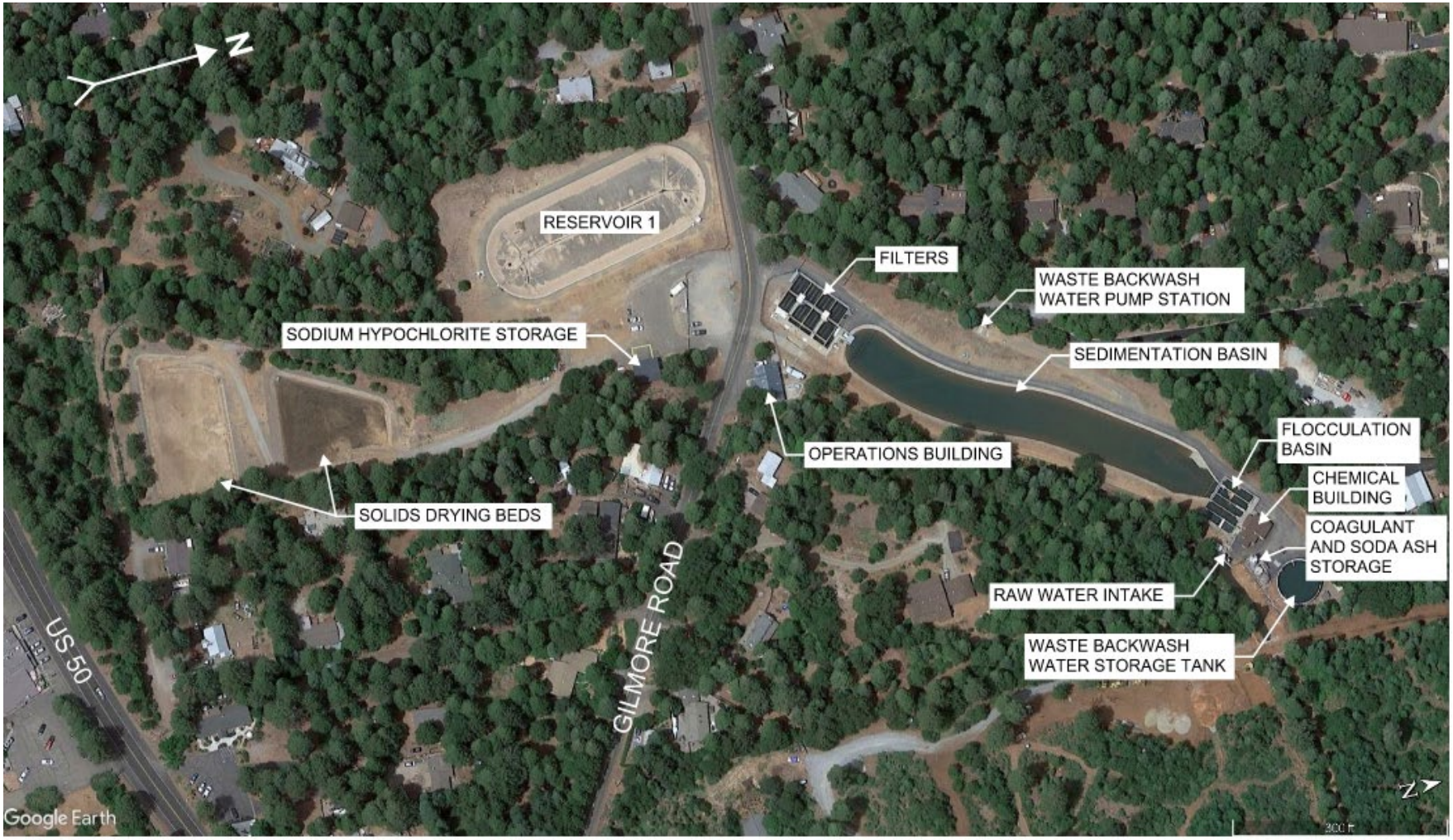
LEGEND:

- EXISTING/PREVIOUSLY INSTALLED PIPING
- NEW PIPING
- CURRENT PHASE

EDHWTP Phase 3 Improvements
Cost: $25.9 M
Construction: 2028-2029

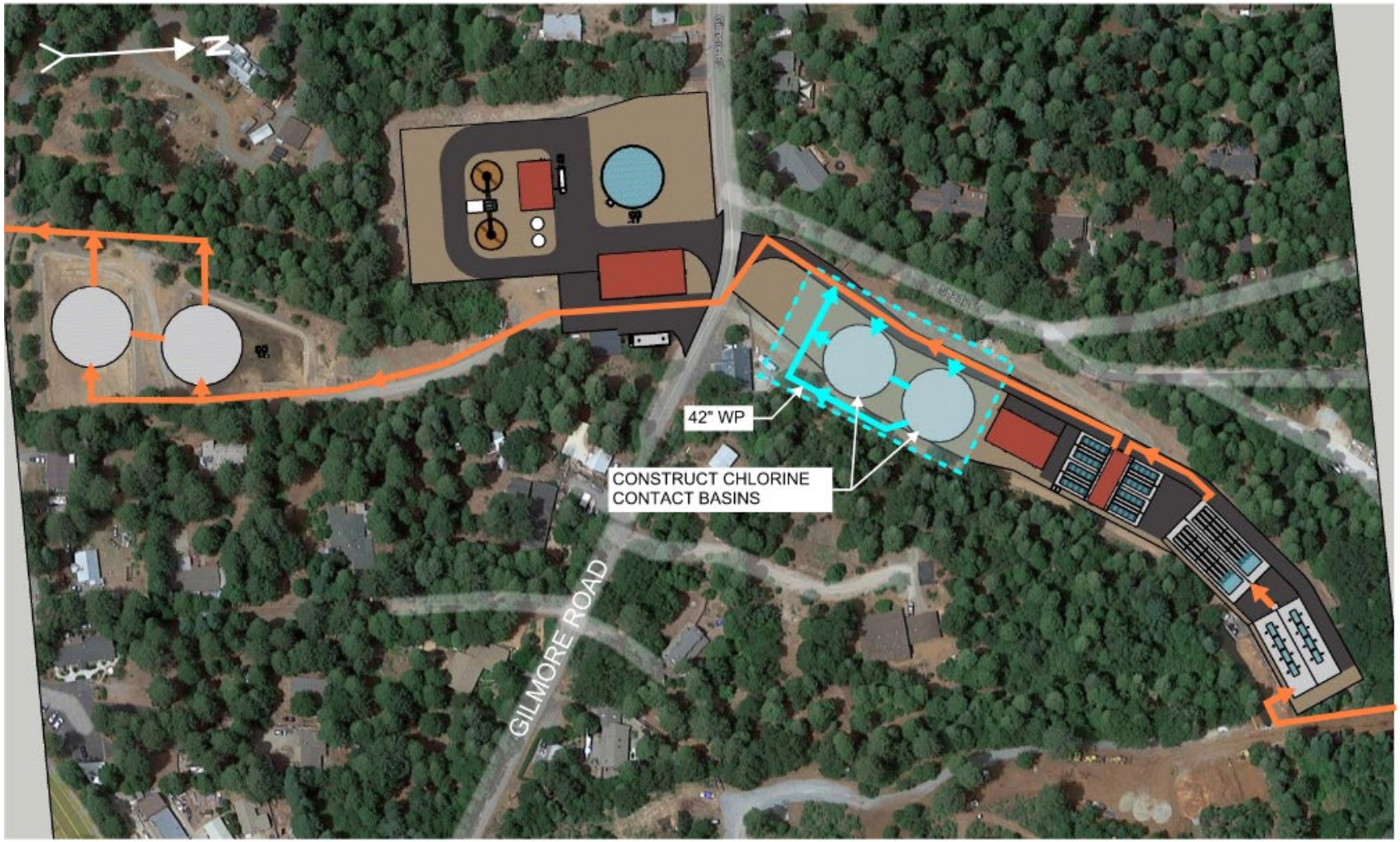


EDHWTP Phase 4 Improvements
Capacity: 30 MGD
Cost: $24.6 M
Construction: 2029-2033



Res 1 WTP Existing Site Layout
Capacity: 26 MGD

EL DORADO IRRIGATION DISTRICT
RESERVOIR 1 WTP MASTER PLAN



LEGEND:

- EXISTING/PREVIOUSLY INSTALLED PIPING
- NEW PIPING
- CURRENT PHASE

Res 1 WTP Improvements
Capacity: 26 MGD
Cost: $145M
Construction: TBD

Asset Management Plan Framework

5. LONG-TERM FUNDING STRATEGY

- Draft WTP AMP
  - Considers
    - Long-term regulatory compliance needs
    - Process improvement projects
    - Condition assessment
    - Age-based project triggers
    - Master plan alternatives
  - Identifies capital needs of $372M ($18.6M/year)
  - Implementation timing with some proposed changes

Asset Management Plan Framework

5. LONG-TERM FUNDING STRATEGY

- Cost of Service Study
  - $89M in phased expenditures for EDHWTP included in financial plans
  - Funded by one or both anticipated 2024 and 2027 bond issuances
    - Sly Park Intertie - $22M
    - Flume 45 Section 3 - $13M
    - Silver Lake Dam - $36M
    - EDHWTP - $89M

} $160M

Next Steps

- Complete Water Master Plan reconciliation with Draft WTP AMP preliminary CIP
- Explore strategies to address Res 1 WTP aging infrastructure and long-term master planning needs within current fiscal constraints
- Incorporate capital and rehabilitation/replacement needs into 2024-2028 CIP

Questions/Comments

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider ratifying EID General Warrant Registers for the periods ending August 8 and August 15, 2023, and Board and Employee Expense Reimbursements for these periods.

PREVIOUS BOARD ACTION

The Board ratifies the District's General Warrant Registers at each regular meeting of the Board.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

Section 24600 of the Water Code provides that no claim shall be paid unless allowed by the Board.

SUMMARY OF ISSUE

District staff notifies the Board of proposed payments via email and requests ratification of the warrant registers at the subsequent regular meeting of the Board. Copies of the Warrant Registers are sent to the Board on the Friday preceding the Warrant Register's date. If no comment or request to withhold payment is received from any Director prior to the following Tuesday morning, the warrants are mailed out and formal ratification of said warrants is agendized on the next regular Board agenda.

BACKGROUND/DISCUSSION

Current Warrant Register Information

Warrants are prepared by Accounts Payable; reviewed and approved by the Finance and Accounting Manager, Director of Finance and General Manager or their designee.

Register Date	Check Numbers	Amount
August 8, 2023	705404 – 705518	$779,004.07
August 15, 2023	705519 – 705651	$2,002,600.54

Current Employee Expense Reimbursements

Employee Expenses and Reimbursements have been reviewed and approved by the Finance and Accounting Manager and General Manager prior to the warrants being released. These expenses and reimbursements are for activities performed in the interest of the District in accordance with Board Policy 12065 and Resolution No. 2007-059.

Additional information regarding Board and employee expense reimbursements is available for copying or public inspection at District headquarters in compliance with Government Code Section 53065.5.

BOARD OPTIONS

Option 1: Ratify the EID General Warrant Register and Board and Employee Expense Reimbursements as submitted.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: Executive Summaries
Attachment B: Employee Expense Reimbursements totaling $100 or more
Attachment C: Board Expense Reimbursements

Rebecca Lane
Finance and Accounting Manager

Jamie Bandy
Finance Director

Jennifer Sullivan
Clerk to the Board

Jim Abercrombie
General Manager

Attachment A

August 3, 2023

To: Jim Abercrombie, General Manager

From: Rebecca Lane, Finance Manager

Via: Jamie Bandy, Director of Finance

RE: Warrant Register Executive Summary Approval

Attached is the summary for August 8, 2023 for your review and approval.

Executive Summary for August 8, 2023 -- $779,004.07:

This summary highlights significant disbursements made by major business activity:

Development Services (Fund 105) – none to report

General District Operations (Fund 110)

- $62,952—Association of California Water Agencies/JPIA for April - June 2023 workers' compensation insurance
- $4,207—C & H Motor Parts, Inc. for miscellaneous vehicle maintenance supplies
- $33,384—Ferguson Enterprises, LLC for copper tubing, elbows and tees
- $19,238—Hunt & Sons, Inc. for card lock fuel
- $6,149—Sensus USA, Inc. for software license and spectrum lease agreement
- $8,960—Smith System Driver Improvement Institute, Inc. for small vehicle driving training
- $3,959—Teichert Construction for a credit balance refund on customer account

Engineering Operations (Fund 210)

- $4,058—CLS Labs for regulatory lab testing

Water Operations (Fund 310)

- $8,567—BSK Associates for regulatory lab testing
- $12,544—Costa Fencing, Inc. for the installation of an automatic gate opener at Reservoir A
- $8,945—EAN Services, LLC for rental vehicles
- $6,723—Grainger for a breaker hammer, pipe wrenches, valves and other miscellaneous tools and operating supplies
- $3,381—Hach Company for four digital PH sensors
- $56,825—Joe Vicini, Inc. for asphalt patch paving services

Wastewater Operations (Fund 410)

- $52,570—Synagro West, LLC for sludge hauling and disposal at EDHWWTP and DCWWTP
- $4,697—Two Brothers Cathodic Services, Inc. for annual cathodic inspection, cleaning and cell replacement for multiple tanks at EDHWWTP

Recycled Water Operations (Fund 510) – none to report

Hydroelectric Operations (Fund 610)

- $7,829—J.M. Equipment, Inc. for a sideloader forklift rental
- $10,650—Wilbur-Ellis Company, LLC for herbicide and other spray chemicals

Recreation Operations (Fund 710)

- $19,832—Talmo & Associates, Inc. for temporary labor at Sly Park Recreation

Capital Improvement Projects (Construction Funds 140, 340, 440, 540, 640 and 740)

- $14,520—Core & Main, LP for couplings, gaskets, pipe and a valve – 18" Valve Upgrade (Project #23025.01)
- $34,106—DXP Enterprises, Inc. for a screw centrifugal pump – EDHWWTP Digester Pump Replacement (Project #23021.01)
- $10,240—ERS Industrial Services, Inc. for emergency repair services and parts to repair failed filter clarifier – EDHWTP Clarifier 1 & 2 Rehabilitation (Project #23023.01)
- $60,276—GEI Consultants, Inc. for engineering services – Silver Lake Dam Rehabilitation (Project #19031.01)
- $7,838—Hastie's Capitol Sand and Gravel Co. for rock deliveries – Water Service Line Replacement (Project #23002.01)
- $4,693—Herc Rentals, Inc. for a ride-on roller rental – 47C Access Road (Project #20039.01)
- $8,051—Holt of California for a motor grader rental – 47C Access Road (Project #20039.01)
- $26,362—Joe Vicini, Inc. for asphalt patch paving services – Water Service Line Replacement (Project #23002.01)
- $13,338—Kleinfelder, Inc. for hydroelectric compliance monitoring services – FERC: C46 thru C49 Recreation Resource Management (Project #06098H.01)
- $20,964—RFI Communications and Security Systems for security assessment services – Districtwide Security System Assessment (Project #STUDY25.01)
- $39,580—Taber Drilling for exploratory boring and sediment depth probing services – Silver Lake Dam Rehabilitation (Project #19031.01)
- $145,013—Water Works Engineers, LLC for engineering design services – Sly Park Intertie Improvements (Project #21079.01)

August 10, 2023

To: Jim Abercrombie, General Manager

From: Rebecca Lane, Finance Manager

Via: Jamie Bandy, Director of Finance

RE: Warrant Register Executive Summary Approval

Attached is the summary for August 15, 2023 for your review and approval.

Executive Summary for August 15, 2023 -- $2,002,600.54:

This summary highlights significant disbursements made by major business activity:

Development Services (Fund 105)

- $21,798—RCP Construction, Inc. for a refund on a deposit payment

General District Operations (Fund 110)

- $4,998—ABM Janitorial Services for janitorial services
- $282,451—Association of California Water Agencies/JPIA for property insurance
- $9,746—AT&T for phone service
- $15,619—CA Employment Development Department for 2023 second quarter unemployment insurance benefits
- $3,981—Dell Marketing, LP for a laptop
- $22,886—Granite Construction for credit balance refunds on multiple customer accounts
- $32,776—Hunt & Sons, Inc. for fuel deliveries at various locations
- $7,564—Liebert Cassidy Whitmore for legal services
- $4,947—Powerplan for hydraulic cylinders, spacers, pins, fittings and other miscellaneous vehicle repair and maintenance supplies
- $13,814—Terry or Jacqueline Pohler for a credit balance refund on customer account
- $48,582—Underground Service Alert for unique billable tickets and annual membership fee
- $3,607—Verizon Wireless for cell phone service and equipment

Engineering Operations (Fund 210) – none to report

Water Operations (Fund 310)

- $5,359—Aecom Technical Services, Inc. for cultural resources support
- $5,890—BSK Associates for regulatory lab testing
- $3,509—Eclipse Mapping and GIS, LLC for a handheld receiver kit
- $3,631—McMaster-Carr Supply Company for two wide-span cable ramps, strut channels, clamps and other miscellaneous operating supplies
- $37,351—Ryan Process, Inc. for a lab analyzer and probe for Reservoir 1 and Reservoir A
- $149,164—Sterling Water Technologies for orthophosphate and flocculant as Reservoir A and EDHWTP
- $15,869—Univar Solutions USA, Inc. for sodium hypochlorite and sodium hydroxide at Reservoir 1 and Reservoir A
- $5,682—USA Bluebook for a hydrant and gate valve exerciser and gate valve key for hydrant buddy
- $6,671—Verizon Wireless for cell phone service and equipment

Debt Service (Fund 367)

- $3,000—Moody's Investors Service for bond rating services

Wastewater Operations (Fund 410)

- $4,678—Aqua-Aerobic Systems, Inc. for an aerator and monitor for CHWWTP pond #3
- $7,161—CLS Labs for regulatory lab testing
- $3,392—Hunt & Sons, Inc. for a 240 gallon fuel tank
- $4,533—Sierra Rock, LLC for limestone aggregate base
- $6,589—Univar Solutions USA, Inc. for sodium hydroxide at DCWWTP
- $4,754—Vega Americas, Inc. for two pressure transmitters, cable, a valve, a sensor and control unit with display at EDHWWTP
- $4,917—Verizon Wireless for cell phone service and equipment

Recycled Water Operations (Fund 510)

- $9,815—Univar Solutions USA, Inc. for sodium hydroxide at EDHWWTP

Hydroelectric Operations (Fund 610)

- $155,102—Association of California Water Agencies/JPIA for property insurance
- $3,751—Verizon Wireless for cell phone service and equipment

Recreation Operations (Fund 710)

- $12,326—El Dorado Disposal Service, Inc. for trash disposal

Capital Improvement Projects (Construction Funds 140, 340, 440, 540, 640 and 740)

- $3,682—Apex Underground Supply for pipe splitting tools and expanders – Water Service Line Replacement (Project #23002.01)
- $4,101—Carollo Engineers, Inc. for engineering services – Water Treatment Plant Assessments-Reservoir 1 (Project #STUDY03.01)
- $8,859—Concrete Science, Inc. for petrographic analysis – Flume 45 Abutment Replacement (Project #17025.01)
- $288,623—Doug Veerkamp General Engineering, Inc. for construction services:
  >Project #18040.01 – Forebay Road Waterline Replacement ($271,206). Retention held $13,560
  >Project #20030.01 – Drop Off Road Waterline Extension ($32,607). Retention held $1,630
- $3,475—Dudek for aquatic resources delineation – Motherlode Force Main Replacement Program (Project #21081.01)
- $20,360—Frank A. Olsen Company for two aeration valve actuators – EDHWWTP Primary Clarifier Valve Replacement (Project #23013.01)
- $38,809—Green Dream International, LLC for crushed aggregate – 47C Access Road (Project #20039.01)
- $7,547—Herwit Engineering for construction engineering services:
  >Project #22035.01 – DCWWTP Blower Replacement ($470)
  >Project #18035.01 – EDHWWTP WAS DAFT Rehabilitation ($3,317)
  >Project #19033.01 – Reservoir A PLC Replacement ($3,760)
- $43,076—ICM Group, Inc. for construction management and inspection services:
  >Project #18035.01 – EDHWWTP WAS DAFT Rehabilitation ($580)
  >Project #21081.01 – Motherlode Force Main Replacement Program ($38,016)
  >Project #17034.01 – Wastewater Collection Facility Relocation ($4,480)
- $22,101—MCS Inspection for construction inspection services – Bass Lake Tank #2 Rafter Replacement and Roof Rehabilitation (Project #23020.01)
- $4,510—Robertson-Bryan, Inc. for regulatory permitting services:
  >Project #STUDY23.01 – DCWWTP NPDES Study ($2,054)
  >Project #STUDY22.01 – EDHWWTP NPDES Study ($2,456)
- $511,260—Teichert Construction for construction services ($538,168) – Motherlode Force Main Replacement Program (Project #21081.01). Retention held $26,908
- $12,170—Verizon Wireless for 17 iPads – Hansen 7 Software Replacement (Project #18055.01)
- $4,680—Youngdahl Consulting Group, Inc. for geotechnical services – Water Service Line Replacement (Project #23002.01)
- $23,825—Zanjero for strategic support and technical assistance – Permit 21112 Change in Point of Diversion (Project #16003.01)

Attachment B

Employee Expense Reimbursements
Warrant Registers dated 08/08/23 - 08/15/23

EMPLOYEE	DESCRIPTION	AMOUNT
Dan Stevenson	Travel Expenses to Attend Cisco Conference	$199.73
Douglas Venable	NPHA Section 106 Training Expense	$462.00
Kristen Vinton	SHRM Certificate, Frame, Wallet Card	$107.65
Raymond Salerno	Utility Leadership Program	$146.55
Aaron Dinsdale	Environmental Awareness Class	$265.00
Jan Wolf	Travel Expense to Attend ESRI Conference	$954.45
Joseph Price	DMV Fees for Commercial Drivers License	$130.87
Lee Notaro	Continuing Education to obtain GIS Certificate	$243.75
Seth Borba	Online Disribution Exam Preparation	$300.00
		$2,810.00

Attachment C

Board Expense Reimbursements
Warrant Registers dated 08/08/23 - 08/15/23

DESCRIPTION	Lori Anzini	Alan Day	Pat Dwyer	Brian Veerkamp	George Osborne	Total
Personal Vehicle Expense					$33.41	$33.41
Hotel						$0.00
Meals or Incidentals Allowance						$0.00
Airfare, Car Rental, Misc Travel						$0.00
Fax, Cell or Internet Service						$0.00
Meeting or Conference Registration						$0.00
Meals with Others						$0.00
Membership Fees/Dues						$0.00
Office Supplies						$0.00
Reimburse prepaid expenses						$0.00
Miscellaneous Reimbursements						$0.00
	$0.00	$0.00	$0.00	$0.00	$33.41	$33.41

EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider awarding a contract to Doug Veerkamp General Engineering, Inc. in the not-to-exceed amount of $286,990 for construction of the Sly Park Day Use Area Stabilization Project, and authorize additional funding of $8,000 for construction engineering services, $2,900 for specialty inspection, $54,000 for capitalized labor, and $35,189 in contingencies for a total funding request of $387,079 for the Sly Park Day Use Area Stabilization, Project No. 21037.02, which staff has determined is exempt from the California Environmental Quality Act.

PREVIOUS BOARD ACTION

May 23, 2022 – Board approved additional funding in the amount of $35,000 for capitalized labor for the Sly Park Day Use Area Stabilization Project, No. 21037.01.

November 14, 2022 – Board adopted the 2023 – 2027 Capital Improvement Plan (CIP), which included this project, subject to available funding.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 3010 Budget
BP 3060 Contracts and Procurement

SUMMARY OF ISSUE

The day-use area near the Jenkinson Lake main boat ramp in Sly Park has advanced erosion threatening the banks' stability. Over many years, this erosion has been caused by wave action from boating traffic and high winds. The shoreline requires bank stabilization and protection to prevent further erosion and mitigate any existing fall hazard to the public using the day-use facilities. Improvements include installing 300 feet of riprap along the shoreline to prevent further erosion, protect water quality, and ensure continued use of the day-use area.

BACKGROUND/DISCUSSION

The Sly Park Recreation Area in Pollock Pines has experienced heavy recreation use, leading to erosion and slope stability problems in several locations along the banks throughout the park. During wetter years, boat-induced wave action impacts the banks when the lake is at or near maximum elevation throughout the summer. Heavy winds during winter storms when the lake is full also impact the banks, leading to sloughing and failure of nearby trees into the reservoir.

In 2021, staff identified several areas that require slope and shoreline stability. The 2023-2027 CIP includes three slope stabilization projects throughout the park. Due to its advanced state of erosion, staff prioritized the Sly Park Day Use Area Stabilization Project (Project) for 2023.

Scope of Work

The scope of work for this Project consists of slope and shoreline stabilization, including clearing trees and shrubs at risk of failure, minor grading, and placement of geo-fabric and rock slope protection along approximately 300 feet of shoreline.

Request for Proposals
The District advertised a request for proposals (RFP) in July 2023 and held a pre-bid meeting for the Project on July 21, 2023. Seven contractors attended the pre-bid meeting, and two submitted bids on August 8, 2023, as summarized below:

Table 1 - Summary of Bids

	Bidder	**Total Bid Price**
1	Doug Veerkamp General Engineering, Inc.	$286,990
2	The Design Build, Inc.	(see note)

Note: The District deemed bidder non-responsive and non-responsible. Additional information is included in Attachment A.

The engineer's estimate for the Project was $291,000. The District disqualified Design Build, Inc.'s bid as non-responsive and non-responsible based on several factors. The bid from Doug Veerkamp General Engineering, Inc. is the lowest responsible and responsive bid. Staff recommends award of the Project to Doug Veerkamp General Engineering.

Schedule
The Project includes work below the ordinary high water mark of Jenkinson Lake. Therefore, the District must complete the work after the lake level drops in the fall. The lake should drop to sufficient levels to allow for construction in September 2023, with completion in October before the onset of seasonal weather. Table 2 provides the anticipated schedule for the work:

Table 2 - Anticipated Schedule

Event	**Date**
Board Award	August 28, 2023
Project Submittals	September 2023
Construction	September – October 2023

Environmental Review
The District, acting as the Lead Agency, must comply with California Environmental Quality Act (CEQA) requirements for the Project. Pursuant to the District's CEQA procedures, District staff is responsible for conducting reviews to determine whether a project is exempt from CEQA. However, a recent appellate court decision determined that where "a local agency at a regular meeting approves a project that is subject to a staff determination of a CEQA exemption, it must give notice of the CEQA exemption on its agenda." G.I. Industries v. City of Thousand Oaks (2022) 84 Cal.App.5th 814. Therefore, the agenda item description for this Board item includes language indicating staff's determination of a CEQA exemption.

Staff reviewed the activities associated with implementing the proposed project and determined that the Project qualifies for a Class 1 CEQA Categorical Exemption as the maintenance and repair of existing facilities involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination (CEQA Guidelines §15301). None of the applicable exceptions to this exemption, as identified under CCR, Title 14 section 15300.2, apply to the Project, including an area of critical concern, cumulative impact, significant effect due to unusual circumstances, scenic highways, hazardous waste sites, and historical resources. Staff filed a Notice of Exemption (NOE) from CEQA with the El Dorado County Recorder-Clerk's office on December 17, 2021, and posted the NOE on the District's website.

Regulatory permits are required for the Project because construction activities and placement of fill would occur below the ordinary high water mark of Jenkinson Lake. The District received permits from the United States Army Corps of Engineers, the Regional Water Quality Control Board and the California Department of Fish and Wildlife, which were incorporated into the bid documents for the Project.

FUNDING
The 2023-2027 CIP identified $400,000 in funding for the Project. The funding source is 100% water rates.

Table 3 – Funding Requirements

Construction Contract – Doug Veerkamp General Engineering	$286,990
Construction Engineering Services	$8,000
On-Call Specialty Inspection Services	$2,900
Capitalized labor – project management, environmental compliance, inspection	$54,000
Project contingency (10%)	$35,189
TOTAL	**$387,079**

BOARD OPTIONS

Option 1: Award a contract to Doug Veerkamp General Engineering, Inc. in the not-to-exceed amount of $286,990 for construction of the Sly Park Day Use Area Stabilization Project, and authorize additional funding of $8,000 for construction engineering services, $2,900 for specialty inspection, $54,000 for capitalized labor, and $35,189 in contingencies for a total funding request of $387,079 for the Sly Park Day Use Area Stabilization, Project No. 21037.02, which staff has determined is exempt from the California Environmental Quality Act.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION
Option 1

ATTACHMENTS
Attachment A: Construction bid summary
Attachment B: CIP summary

Madeline Kelsch
Associate Civil Engineer

Brian Deason
Environmental Resources Supervisor

Carl Certiberi
Parks and Recreation Manager

Jon Money
Engineering Manager

Brian Mueller
Engineering Director

Dan Corcoran
Operations Director

Jamie Bandy
Finance Director

Brian Poulsen
General Counsel

Jim Abercrombie
General Manager

EL DORADO IRRIGATION DISTRICT

SLY PARK DAY-USE AREA STABILIZATION

PROJECT NO. 21037.02; CONTRACT NO. E23-11

Bid Opening: August 8, 2023 @ 3:01 p.m.

SUMMARY OF BIDS RECEIVED

ITEM NO.	WORK OR MATERIAL	QUANTITY	UNIT	Doug Veerkamp Gen. Engineering, Inc. Cameron Park, CA Bid env. A received via hand delivery at 12:32 p.m. 8/08/2023 Bid env. B received via hand delivery at 12:32 p.m. 8/08/2023 *"Footnote A"* UNIT PRICE (FIGURES)	Doug Veerkamp Gen. Engineering, Inc. Cameron Park, CA Bid env. A received via hand delivery at 12:32 p.m. 8/08/2023 Bid env. B received via hand delivery at 12:32 p.m. 8/08/2023 *"Footnote A"* AMOUNT (FIGURES)	The Design Build, Inc. Sacramento, CA Bid env. A received via hand delivery at 2:51 p.m. 8/08/2023 Bid env. B received via hand delivery at 2:52 p.m. 8/08/2023 *"Footnote B"* UNIT PRICE (FIGURES)	The Design Build, Inc. Sacramento, CA Bid env. A received via hand delivery at 2:51 p.m. 8/08/2023 Bid env. B received via hand delivery at 2:52 p.m. 8/08/2023 *"Footnote B"* AMOUNT (FIGURES)
1	Bonds and Insurance	1	LS	2,710.00	$ 2,710.00	See Footnote B	
2	Safety Plan and Programs	1	LS	330.00	330.00		
3	Mobilization/Demobilization	1	LS	11,500.00	11,500.00		
4	Water Pollution Control Plan (WPCP) Implementation	1	LS	5,360.00	5,360.00		
5	Tree Removal	12	EA	1,090.00	13,080.00		
6	Clearing and Grubbing	1	LS	10,880.00	10,880.00		
7	Excavation	1	LS	27,600.00	27,600.00		
8	Rock Slope Protection (60 lb., Class II, Method B)	1	LS	66,500.00	66,500.00		
9	Rock Slope Protection (1/2 T, Class VII, Method B)	1	LS	140,000.00	140,000.00		
10	Rock Slope Protection (Class 8)	1	LS	8,470.00	8,470.00		
11	Salvage Park Furniture	1	LS	560.00	560.00		
	TOTAL BID PRICE:				$ 286,990.00 ***A***		

Footnotes:

A The apparent low bidder is determined by the total sum of bid items 1-11.

B District deemed bidder to be non-responsive and non-responsible for the following reasons:

1-Bidder failed to provided reviewed or audited financial statements.

2-Bidder failed to provide sufficient SOQ submission documentation:

-Completed Questionnaire - Part C: Experience of Prime Contractors

-Completed Questionnaire - Part E: Financial Information.

-Resumes of Proposed Key Personnel

3-Bidder failed to provide applicable EMR rating.

THIS TABULATION REPRESENTS A TRUE AND COMPLETE SUMMARY OF BIDS RECEIVED BY EL DORADO IRRIGATION DISTRICT

PROJECT NO. 21037.02; CONTRACT NO. E23-11

PREPARED BY: Lori Bazinet
District Contract Management

SUBMITTED BY:

Madeline Kelsch, P.E., Associate Civil Engineer

2023 CAPITAL IMPROVEMENT PLAN **Program:** **Recreation**

Project Number: 21037

Project Name: Lakewood Dr. Stabilization/Mormon Immigrant Trail Shoulder Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Money **Board Approval:** 11/14/22

Project Description:

This project was identified in the "Planned Recreation Facility Replacement Program". There are two projects associated with this CIP:
1 - Stabilization of the bank at the boat ramp near the day use area
2 - Stabilization of the shoreline between Chimney and Hazel Campgrounds

In 2023, funding will be used for construction to stabilize the shoreline to protect water quality, roadways and day use areas. The area north of the Main Boat Launch has experienced extensive wave action erosion that requires stabilization to preserve a day use area. The improvements will include backfilling eroded areas and the placement of riprap.

In 2024, stabilization consists of extending the existing riprap installed in 2006 along the shoreline between Chimney and Hazel Campgrounds. This area has experienced ground movement over the last three winters, and preventative measures, including riprap, are needed to be placed to ensure Lakewood Drive does not slide into Jenkinson Lake as it did in 2006.

Basis for Priority:2

The project maintains and enhances an existing asset by stabilizing the shoreline and road shoulder, and improving access by installing a stairway and fencing to guide pedestrians to improved access points to the lake.

Project Financial Summary:			
Funded to Date:	**$ 135,000**	**Expenditures through end of year:**	**$ 94,515**
Spent to Date:	**$ 94,515**	**2023 - 2027 Planned Expenditures:**	**$ 400,000**
Cash flow through end of year:		**Total Project Estimate:**	**$ 494,515**
Project Balance	**$ 40,485**	**Additional Funding Required**	**$ 359,515**

Description of Work	**Estimated Annual Expenditures**					
	2023	**2024**	**2025**	**2026**	**2027**	**Total**
Capitalized Labor (construction management)	**$ 10,000**					**$ 10,000**
Construction Inspection	**$ 15,000**					**$ 15,000**
Design Services during Construction	**$ 25,000**					**$ 25,000**
Construction	**$ 350,000**					**$ 350,000**
						$ -
TOTAL	**$ 400,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 400,000**

Funding Sources	**Percentage**	**2023 Amount**
Water Rates	100%	$359,515
		$0
		$0
Total	**100%**	**$359,515**

Funding Comments:

Sly Park Day Use Area Stabilization Project

Construction Contract and Project Funding

Project No. 21037.02

August 28, 2023

Previous Board Actions

- May 23, 2022 – Board approved additional funding in amount of $35,000 for capitalized labor for the Sly Park Day Use Area Stabilization Project , No. 21037.01.

- November 14, 2022 – Board adopted the 2023 – 2027 Capital Improvement Plan (CIP) which included the Sly Park Day Use Area Stabilization Project 21037.01.

Summary of Issue

- The day use area near the Jenkinson Lake main boat ramp in Sly Park has experienced erosion, threatening the stability of the banks

- Installation of rock slope protection along the shoreline is required to prevent further erosion from occurring

Background


Sly Park Campground
Project Area
Black Oak
Equestrian Camp
Sly Park Event Center

Background

Background

Background

- Installation of geotextile and riprap along the shoreline will help dissipate waves and prevent further erosion of the shoreline

Scope of Work

300 feet of slope and shoreline stabilization, including:

- Clearing trees and shrubs
- Grading
- Placement of rock slope protection:
  - Geotextile
  - Riprap

Request for Proposals

Bidder	Total Bid Price
Doug Veerkamp General Engineering, Inc.	$286,990.00
The Design Build, Inc	(see note)

The Design Build, Inc bid was determined to be non-responsive and non-responsible based on several factors.

The engineers estimate for the project was $291,000. The bid from Doug Veerkamp General Engineering, Inc. (Veerkamp) was the lowest responsible and responsive bid. Therefore, staff is recommending award of the construction contract to Veerkamp.

Anticipated Schedule

Event	Date
Board Award	August 28, 2023
Project Submittals	September 2023
Construction	*September – October 2023

**The project includes work within the ordinary high water mark of Jenkinson Lake and therefore can only be completed after lake levels drop in the fall.*

Environmental Review

- Project is exempt from California Environmental Quality Act (CEQA)
    - Repair of existing facilities
- Staff filed a Notice of Exemption (NOE) from CEQA on December 17, 2021

Funding

Item	Cost
Construction Contract – Doug Veerkamp General Engineering	$286,990
Construction Engineering Services	$8,000
On-Call Specialty Inspection Services	$2,900
Capitalized labor – project management, environmental compliance, inspection	$54,000
Project contingency (10%)	$35,189
TOTAL	**$387,079**

Board Options

- Option 1: Award a contract to Doug Veerkamp General Engineering, Inc. in the not-to-exceed amount of $286,990 for construction of the Sly Park Day Use Area Stabilization Project; and authorize additional funding of $8,000 for construction engineering services, 2,900 for specialty inspection, $54,000 for capitalized labor and $35,189 in contingencies a total funding request of $387,079 for the Sly Park Day Use Area Stabilization, Project No. 21037.02, which staff has determined is exempt from the California Environmental Quality Act.

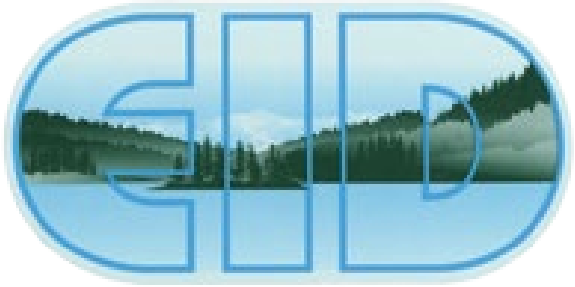
- Option 2: Take other action as directed by the Board.

- Option 3: Take no action.

Recommendation

- Option 1

Questions/Comments



EL DORADO IRRIGATION DISTRICT

SUBJECT: Consider awarding a contract to Carollo Engineers in the not-to-exceed amount of $146,425 to prepare a Basis of Design Report and authorize additional funding of $45,000 for capitalized labor and $20,000 in contingencies for a total funding request of $211,425 for the Reservoir 1 and Pollock Pines Reservoir Replacement Project, Project No. 23009.01.

PREVIOUS BOARD ACTION

November 14, 2022 – Board adopted the 2023-2027 Capital Improvement Plan (CIP), subject to available funding.

February 13, 2023 – Board received an overview regarding the condition of District storage reservoirs and tanks.

BOARD POLICIES (BP), ADMINISTRATIVE REGULATIONS (AR) AND BOARD AUTHORITY

BP 0010 District Mission Statement
BP 3060 Contracts and Procurement
BP 5010 Water Supply Management

SUMMARY OF ISSUE

The District owns and operates seven floating membrane (hypalon) covered reservoirs in its drinking water system. Hypalon covers have a life expectancy of 20-30 years depending on material selection and environmental factors, including ultraviolet light (UV) exposure from sunlight and contamination and wear from organic debris such as pine needles. The District's hypalon covers have exceeded their useful life and need replacement. Additionally, hypalon covers are vulnerable to wildfire, as demonstrated by the loss of several hypalon covers during the 2018 Camp Fire near the town of Paradise. Due to these vulnerabilities, the District is pursuing the replacement of the Reservoir 1 and Pollock Pines Reservoir hypalon covers.

BACKGROUND/DISCUSSION

The District's hypalon-covered reservoirs have exceeded their useful lives and pose significant maintenance efforts and water quality risks to the District. The District's permit to operate its public water system requires the exterior surface of each of its seven floating cover storage facilities to be cleaned no less than two times per year or as directed by the State Division of Drinking Water. All cleaning and repairs of the hypalon covers must be performed while the reservoir is online due to the limited ability to bypass these reservoirs and no system redundancy. On average, the District conducts ten repairs to the hypalon covers each year at an annual cost of approximately $200,000. As the age of these covers continues to increase, staff anticipates that the number of repairs and repair costs will continue to increase.

In 2021, staff advertised and awarded a contract to perform a storage analysis of the reservoirs associated with water provided from the Reservoir 1 Water Treatment Plant (R1WTP), including Reservoir 1, Pollock Pines, and Moose Hall Reservoirs. The resulting storage analysis recommended replacing the hypalon-lined and covered reservoirs with two concrete tanks to provide operational flexibility and redundancy moving forward. Staff originally planned to replace only the Reservoir 1 cover. However, when a grant opportunity became available, staff chose to pursue replacing two of the three reservoirs included in the study.

Reservoir 1
The R1WTP was built by the United States Bureau of Reclamation (USBR) in 1961. As originally constructed, R1WTP included an uncovered and unlined in-ground reservoir. The District added a hypalon liner and cover to Reservoir 1 in 1989. In its current configuration, Reservoir 1 serves as both the chlorine contact (clear well) reservoir for the plant and diurnal storage for the Pollock Pines and Camino service area. As part of the water treatment plant condition assessments, a corresponding R1WTP master plan was developed that indicates the chlorine contact and storage functions should be separated to adequately address the contact time challenges currently experienced by the plant during cold water flows as well as high-demand periods. Replacing the reservoir with two concrete tanks, one of them baffled, will resolve these issues.

Pollock Pines Reservoir
The Pollock Pines Reservoir is an in-ground hypalon-lined and covered reservoir. It was constructed as an unlined and uncovered reservoir in 1962, with a hypalon liner and cover added in 1990. The liner currently has a substantial leak of approximately 10 gallons per minute that is collected and discharged through the underdrain system for the liner. Staff previously contracted with diving companies to locate and repair the leak, during which multiple leaks in the lining were located and repaired. Unfortunately, these repairs have had minimal effect on the flow from the ongoing leak. Additionally, the reservoir is surrounded by dense coniferous forest, making it highly vulnerable during a wildfire, including the Caldor fire, which required continuous monitoring for flying embers from the nearby fire with the potential to ignite the cover.

Basis of Design Report
The basis of the design report (BODR) will include an alternatives analysis for siting and constructing replacement tanks at both locations. This will include performing a hydraulic analysis, a geotechnical analysis, and topographic surveys at both sites. In addition, the location of the tanks at R1WTP needs to be coordinated with the master plan for the buildout of the treatment plant to ensure the tank locations will not adversely affect future replacement, rehabilitation, or buildout projects. The BODR will also define constructability parameters, including temporary storage volumes needed, laydown and staging areas, number and location of temporary pumps required, etc., for a 10% level of design. The final BODR will be used to develop final designs for both sites under a separate contract at a later date.

Request for Proposals
In July, staff released a request for proposals (RFP) for the BODR and held a mandatory job walk attended by three consultants. On August 8, the District received three proposals summarized in the table below.

Table 1: Summary of Proposal Received

Consultant	Total Cost
Water Works Engineers, LLC	$ 120,432
Carollo Engineers	$ 146,425
Peterson Brustad Inc.	$ 180,797

Staff evaluated proposals based on criteria established in the RFP, including experience and expertise, demonstrated understanding of site constraints, project approach, past performance record, references, and cost.

After reviewing the proposals, staff recommends an award to Carollo Engineers (Carollo). Staff evaluated proposed staff hours and billing rates from Carollo and Water Works Engineers, LLC, and determined that approximately half of the hours Carollo submitted are designated for

senior-level staff. This shows that Carollo will assign their more experienced staff to the project at a competitive rate. In addition, Carollo is familiar with the project sites, as they are currently working on the District's water master plan, and previously completed the R1WTP master plan. Carollo demonstrated a thorough understanding of the project, including developing potential project layouts and reservoir options within their proposal. Additionally, Carollo's proposal included several team members that uniquely benefit the project, including constructability and cost estimating experts. In summary, staff recommends awarding the contract to Carollo due to their experienced team, appropriate staffing and billing rates, and relevant project experience.

Federal Emergency Management Agency - Hazard Mitigation Grant Program

In August, staff applied for potential grant funding with the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program to replace hypalon covers at Reservoir 1 and Pollock Pines Reservoirs with fire-resilient concrete tanks. If FEMA selects the grant, it will include reimbursement for design and construction.

The Reservoir 1 and Pollock Pines projects directly benefit the Pollock Pines Service Area, a socially vulnerable community. Due to this designation, the project is eligible for 75% to 100% reimbursement. The District anticipates the total project cost for both sites, including design, to be between $17–$20 million. The BODR will further define the project scope to assist in the final stages of the FEMA application.

Project Schedule

The BODR should be completed by the beginning of next year. The District will contract design next year. Construction is contingent on the outcome of the District's grant application; however, it is tentatively scheduled for 2026. The schedule is based on staff's understanding of FEMA's review timeline and will ensure design and construction costs are eligible for reimbursement. Below is the anticipated schedule for the project through construction.

Table 2: Anticipated Project Schedule

Event	**Date**
Basis of Design Report	*September 2023 – February 2024*
Design Contracting	*March 2024 – July 2024*
Project Design	*August 2024 – June 2025*
Construction Bidding	*July 2025 – December 2025*
Construction	*2026*

FUNDING

The 2023-2027 CIP includes a Storage Tank Replacement and Rehabilitation Program, which anticipated the design and replacement of Reservoir 1 with a concrete tank. The 2024-2028 CIP will also be updated to include Pollock Pines Reservoir and potential grant funding.

Currently, staff requests funding to move forward with a BODR for Reservoir 1 and Pollock Pines Reservoirs. The costs for the BODR will not be reimbursable if a future grant award materializes. Funding is from 100% Water FCCs. The following is a breakdown of the requested funding for the project.

Table 3: Funding Requirements

Basis of design report contract – Carollo Engineers	$ 146,425
Capitalized labor (operations staff coordination, project management, and environmental review)	$ 45,000
10% contingency	$ 20,000
TOTAL	**$ 211,425**

BOARD OPTIONS

Option 1: Award a contract to Carollo Engineers in the not-to-exceed amount of $146,425 to prepare a Basis of Design Report and authorize additional funding of $45,000 for capitalized labor and $20,000 in contingencies for a total funding request of $211,425 for the Reservoir 1 and Pollock Pines Reservoir Replacement Project, Project No. 23009.01.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

RECOMMENDATION

Option 1

ATTACHMENTS

Attachment A: Carollo Engineers proposal
Attachment B: CIP summary

Kailee Delongchamp
Associate Engineer

Jon Money
Engineering Manager

Brian Mueller
Engineering Director

Patrick Wilson
Drinking Water Operations Manager

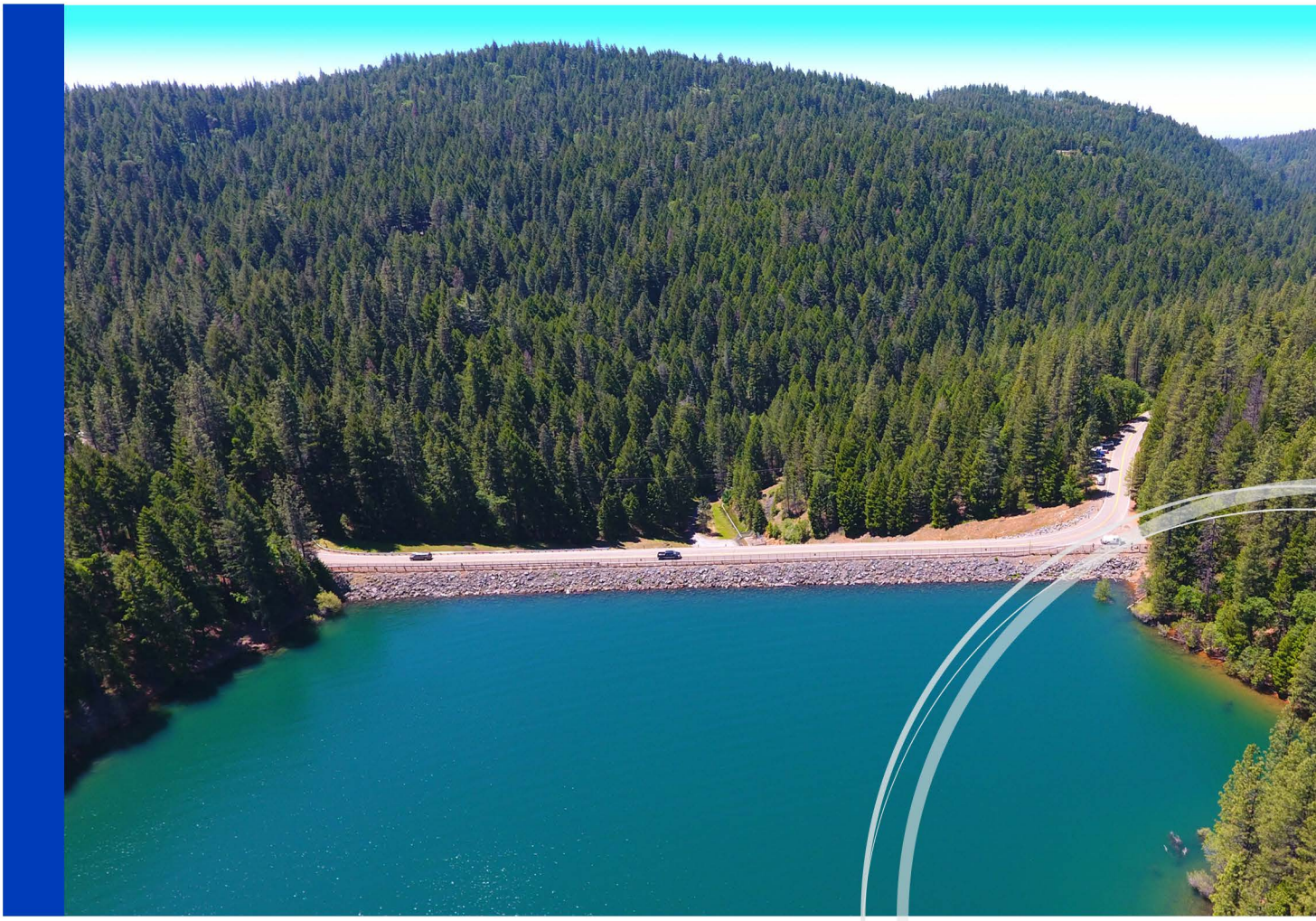
Jamie Bandy
Finance Director

Brian Poulsen
General Counsel

Jim Abercrombie
General Manager

Attachment A

PREPARED FOR EL DORADO IRRIGATION DISTRICT



PROPOSAL

Engineering Professional Services

Reservoir 1 and Pollock Pines Reservoir Replacement Project Basis of Design Report

RFP23-04 / August 2023

carollo 90 YEARS

2880 Gateway Oaks Drive, Suite 300
Sacramento, California 95833
916-565-4888
carollo.com

August 8, 2023

Kailee Delongchamp, Project Manager
El Dorado Irrigation District
2890 Mosquito Rd.
Placerville, CA 95667

Subject: Proposal for RFP23-04 Reservoir 1 and Pollock Pines Reservoir Replacement Project
Basis of Design Report

Dear Ms. Delongchamp:

Reservoir 1 and the Pollock Pines Reservoir are vital components of El Dorado Irrigation District's (District) drinking water infrastructure. Reservoir 1 provides chlorine contact time as a finishing step in the Reservoir 1 Water Treatment Plant (WTP) process train while also functioning as a distribution reservoir for multiple downstream system branches. The Pollock Pines Reservoir similarly serves a critical role in maintaining operational storage and system head upstream of the Pollock Pines community. Both reservoirs require replacement to remain reliable assets to the District and its customers.

Based on our understanding of the District's drinking water systems and your specific project needs, we have assembled a team of experts that will engage collaboratively with your staff to develop a Basis of Design Report (BODR) identifying the most cost-effective and reliable long-term solution for both reservoir sites.

- Our team knows your system and specializes in hydraulic analyses and the evaluation and design of water treatment plants and water storage reservoirs. **Principal-in-Charge Beverly Hann** has worked with the District on diverse projects and understands the District's overarching goals. Our **Project Manager, Justin Peterson**, has been involved in the planning, design, and construction of more than 10 water storage reservoir projects in the last five years. Carollo's **Chief Structural Engineer, James Doering**, will oversee the execution of our Quality Management Program and work closely with **Structural Engineer Mike Dadik** to identify key structural challenges and potential resolutions.
- **WTP Design Subject Matter Expert Chris Cleveland** recently completed the Reservoir 1 WTP Master Plan and has been involved with the planning, design, and construction of dozens of treatment plant projects. Chris will provide valuable insight into Reservoir 1 WTP operations so that our team can identify practical solutions to Reservoir 1 replacement, including temporary storage siting and design criteria, to minimize any impacts on WTP operations during project implementation.
- Accurate construction estimates and life-cycle cost analyses will be crucial to making the right decision for each site. **Jason Rozgony, a former contractor** with 28 years of estimating experience, will prepare our estimates and account for all construction cost variables. By providing both initial and long-term costs for each alternative, we can assist the District in making the best business case decision for this project.

We look forward to discussing our ideas and approach with you in greater detail. Please contact me at jpeterson@carollo.com or Beverly at bhann@carollo.com if you have any questions regarding our proposal.

Sincerely,
CAROLLO ENGINEERS, INC.

Justin Peterson, PE
Associate Vice President/Project Manager

Beverly Hann, PE, PMP
Vice President/Principal-in-Charge

Beverly Hann

Table of Contents

Scope of Work

Based on our relevant experience with similar projects and an understanding of the District's needs, we have identified key tasks, meetings, and assumptions for a comprehensive analysis of the Reservoir 1 and Pollock Pines Reservoir replacement options. Our **Project Manager, Justin Peterson,** recently completed the Bridlewood Tank Alternatives Analysis and has been involved in the planning, design, and construction of more than **10 water storage reservoirs throughout California in the last 5 years.** We welcome the opportunity to further discuss our approach with your staff and refine our scope of services to best meet the District's needs.

Task 1 – Project Management

This task includes project meetings, site visits, quality assurance/quality control (QA/QC), and oversight of project scope, schedule, and budget necessary to complete all project tasks within the defined timeframe. Deliverables under this task will include regular schedule updates, monthly progress reports, meeting agendas, meeting minutes, and maintenance of the project Decision/Action Log.

Task 1.1 – Prepare and Update Project Schedule

Carollo will prepare a detailed critical path schedule in Microsoft Project indicating all major tasks, deliverables, review durations, and other key milestones. The project schedule will be updated and submitted to the District following each deliverable and review workshop.

Task 1.2 – Project Meetings

This task includes a project kickoff meeting and BODR review workshop to be held at District offices and attended by key team members. Monthly progress calls for the duration of the BODR phase are included under this task.

Task 1.3 – Project Progress Reports

Carollo will prepare a progress report to be included with each monthly billing. The progress report will identify work completed in the preceding month, work planned for the next month, identification of key action items or team decisions, and identification of any project issues along with proposed resolutions.

Task 2 – Basis of Design Report

This task includes the preparation of the project BODR, including support tasks and field investigations. Deliverables include the geotechnical report, survey CAD files, draft BODR, final BODR, and formalized responses to District comments.

Task 2.1 – Review of As-Built Information and Hydraulic Model Data

Our team will review available as-built information from the District. This task also includes a detailed review of current hydraulic modeling studies under preparation by Carollo's hydraulic modeling group.

A detailed hydraulics analysis will be prepared to determine any system pressure impacts on downstream customers for all reservoir siting options, including changes to minimum and maximum HGLs. Our hydraulic modeling team is currently working with the District to evaluate its main potable water system, which includes the Reservoir 1 and Pollock Pines sites. Justin Peterson and Andrew Coulter work closely with our hydraulic modeling group on many projects and have already reviewed available model data. Our team will leverage its detailed understanding of the District's main system to identify and address potentially adverse hydraulic impacts.

Task 2.2 – Geotechnical Investigation and Analysis

Youngdahl Consulting Group, Inc. will conduct an investigation of both reservoir sites and provide a geotechnical report with foundation design recommendations to be considered in developing project alternatives and related costs. Subsurface exploration will include up to four borings at each location at depths of up to 20 feet to determine geotechnical parameters.

Task 2.3 – Site Topographic Survey

Area West Engineers will conduct a topographic and preliminary boundary survey at each site, including areas that may be used for temporary storage tanks. An AutoCAD Civil3D surface map will be prepared for each site to determine earthwork volumes to be used in preparing cost estimates.

Task 2.4 – Tank Material Analysis

Carollo will perform a cost-benefit analysis of different tank materials and configurations. The analysis will consider non-cost factors such as fire resistance and include capital and long-term maintenance costs for AWWA D100 welded steel tanks, AWWA D110 prestressed concrete tanks, and conventional concrete structures as applicable. Cost analyses will account for varying tank diameters, heights, geometries, anchorage, corrosion mitigation, and piping flexibility requirements based on seismic design criteria established under Task 2.2. AWWA D110 costs will be developed for both column-supported flat-slab roofs and domed roofs, along with a detailed summary of the advantages and disadvantages of each roof type. An analysis of temporary tank options will also be prepared, including AWWA D103 bolted steel tanks and modular steel. Preliminary findings of this task will be shared with District staff on the regular monthly project calls (Task 1.2) to solicit feedback prior to incorporation into the draft BODR.

Task 2.5 – Draft Basis of Design Report

Carollo will prepare a draft BODR summarizing the findings of the geotechnical investigation, tank material analysis, and hydraulic analysis for multiple project alternatives at each site. See pages 3 and 4 for preliminary project options and considerations. **Water Treatment Expert Chris Cleveland** will provide detailed insight for each project alternative with respect to potential impacts on the WTP and solutions to minimize operational disruptions. Initial capital costs (AACE Class 4 estimate) and life cycle costs for each feasible alternative will be prepared. The BODR will identify regulatory permitting requirements and likely environmental constraints, including site-specific surveys to be completed during the detailed design phase. Ten percent design level layouts will be developed for each alternative. A BODR review workshop will be conducted under Task 1.2.

Task 2.6 – Final Basis of Design Report

Following the BODR review workshop and receipt of all District comments, Carollo will prepare formal responses to District comments and incorporate changes to the final BODR. Construction costs, project alternative descriptions, and 10% design level site layouts will be refined prior to recommendation of a final project alternative.

Optional Task 3 – FEMA Grant Proposal Preparation

On District request, Carollo can prepare a detailed scope of work for FEMA grant proposal preparation. Our **Grant Support Engineer, Madison Rasmus,** has firsthand experience with FEMA BRIC grants and is available to assist the District with grant opportunity identification, application, and compliance.

Optional Task 4 – Additional Services

These are optional services that could be completed in conjunction with Task 2.2 or postponed until a future project phase at the District's option.

Task 4.1 – Geophysical Survey

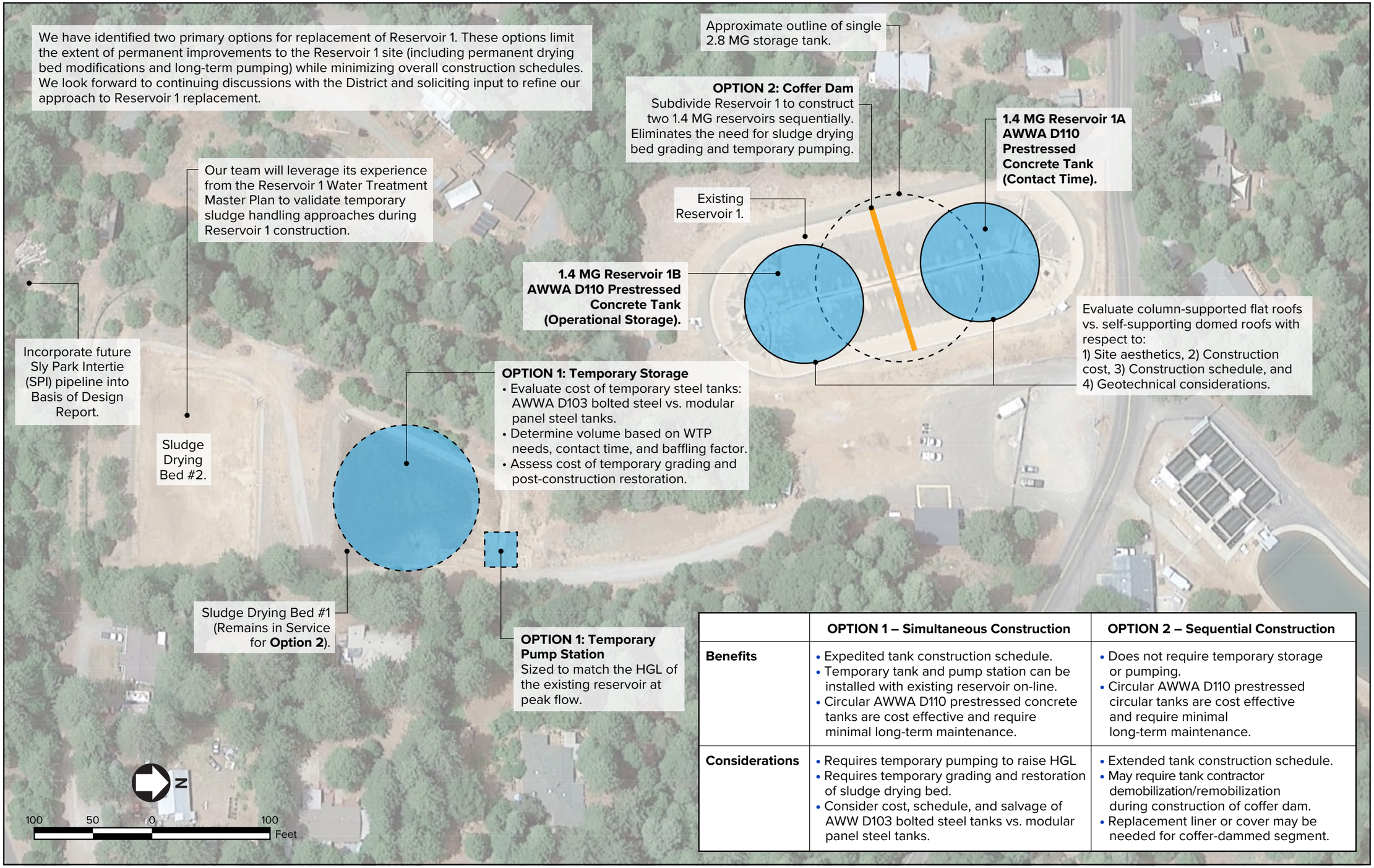
Youngdahl will coordinate with Gasch Geophysical to perform seismic studies, including subsurface refraction and multi-channel analysis of surface waves (MASW) at each proposed reservoir site. This investigation will provide additional subsurface data and establish the seismic site classification, which will be a key factor in determining structural design parameters for the new reservoirs.

Task 4.2 – Site-Specific Ground Motion Hazard Analysis

Youngdahl will coordinate with a subcontractor to provide a deterministic site-specific ground motion hazard analysis (SSGMHA) for each site. The SSGMHA will refine seismic design parameters for the new reservoirs, which will be critical in calculating sloshing wave heights. This information will be important in establishing the minimum required freeboard, which must be considered in the final reservoir sizing and structural design.

Both the geophysical survey and site-specific ground motion hazard analysis are important in gaining a thorough understanding of all relevant geotechnical conditions at each reservoir site. At the District's option, these additional investigations could be included in the BODR investigation or postponed until the detailed design phase. If these investigations are postponed, our team will use a conservative approach in determining seismic site classification and seismic design parameters for the BODR. All seismic design values would then be re-evaluated and refined during the detailed design phase once the investigations are complete.

Reservoir 1 Replacement Options and Considerations



	OPTION 1 – Simultaneous Construction	OPTION 2 – Sequential Construction
Benefits	• Expedited tank construction schedule. • Temporary tank and pump station can be installed with existing reservoir on-line. • Circular AWWA D110 prestressed concrete tanks are cost effective and require minimal long-term maintenance.	• Does not require temporary storage or pumping. • Circular AWWA D110 prestressed circular tanks are cost effective and require minimal long-term maintenance.
Considerations	• Requires temporary pumping to raise HGL • Requires temporary grading and restoration of sludge drying bed. • Consider cost, schedule, and salvage of AWW D103 bolted steel tanks vs. modular panel steel tanks.	• Extended tank construction schedule. • May require tank contractor demobilization/remobilization during construction of coffer dam. • Replacement liner or cover may be needed for coffer-dammed segment.

Pollock Pines Replacement Options and Considerations

The primary Pollock Pines Reservoir replacement option shown here includes installation of temporary storage and pumping facilities in the abandoned reservoir footprint. Key considerations for this option include:

1. Consider fire resistance, capital costs, and long-term maintenance requirements in material selection.
2. Evaluate column-supported flat roofs vs. self-supporting domed roofs (concrete tanks only) with respect to site aesthetics, construction cost, construction schedule, and geotechnical considerations.
3. Review tank geometry with respect to existing reservoir minimum and maximum HGL. Confirm that the Sportsmens Pump Station can meet the increased maximum HGL (higher maximum reservoir level due to reduced footprint).
4. Complete site-specific ground motion hazard analysis to confirm sloshing wave height and required freeboard.
5. Develop tank overflow and drain configuration in accordance with California Drinking Water Statutes and Regulations.

Electrical service to active tank mixer.

2.6 MG Pollock Pines Reservoir AWWA D110 Prestressed Concrete Tank.

OPTION 1: Temporary Storage
- Evaluate cost of temporary steel tanks: AWWA D103 bolted steel vs. modular panel steel tanks.
- Determine volume based on Pollock Pines operational storage needs.
- Assess cost of temporary grading and post-construction restoration.

Existing Pollock Pines Reservoir.

OPTION 2: Construct Permanent Tank in Abandoned Reservoir Footprint
This option will be evaluated to consider all options, though it is not expected to be the most cost effective due to the likely need for permanent pumping to match the existing reservoir HGL and serve Pollock Pines residents.

OPTION 1: Temporary Pump Station
Sized to match the HGL of the existing reservoir at peak flow.

N

100 50 0 100 Feet

Relevant Experience and Expertise

Firm Background

Carollo has been fortunate to work with the District on numerous projects for nearly 20 years, including the recent Bridlewood Tank Alternatives Analysis and the Reservoirs and Water Treatment Plants Phase 2 Condition Assessment project. As a result, we bring firsthand knowledge of your facilities and strong working relationships with your staff. Our team of reservoir and water treatment plant design experts and our FEMA funding specialist will leverage the experience they have gained delivering similar projects for numerous clients, such as the cities of Modesto, Turlock, and Tulare in California and the City of Alexandria in Virginia, to work with you to achieve your goals for the project.

Water Storage Facilities Expertise

Carollo's team of planners, designers, and engineers are experts in modeling, evaluating, designing, and constructing water storage facilities. With that understanding, we can help formulate cost-effective strategies and high-quality designs.

Carollo has designed more than **150 water reservoirs** throughout the western U.S., ranging in size from 0.25 MG to 120 MG, to help utilities meet their needs for raw water, recycled water, and potable water storage. Our experience includes a variety of reservoir types, materials, coating systems, and construction methods.

Representative Client Experience

Carollo has provided services similar to those requested by the District for numerous clients, including the ones listed in the table below.

Client/Location	Public (P) Private-Sector (PS)	Size (Sq. Miles)	Population Served	Reservoirs/Tanks	Treatment Facility	Pump Stations
El Dorado Irrigation District, CA	PS	220	174,000	■	■	■
City of Modesto, CA	P	44.8	218,464	■	■	■
City of Turlock, CA	P	16.9	73,630	■	■	■
City of Tulare, CA	P	20.5	59,278	■	■	■
City of Sanger, CA	P	5.8	24,270	■	■	■

DEPARTMENT OF INDUSTRIAL RELATIONS

Firm	Service	DIR No.
Carollo Engineers, Inc.	Design	1000007174
Youngdahl Consulting Group, Inc.	Geotechnical	1000008342
Area West Engineers, Inc.	Surveying	1000032188

Strategic Grant Funding

Carollo offers state and federal funding assistance, including funding identification, low-interest loan and grant development, and grant management support projects. Over the past 10 years, Carollo has secured over $1B in low-interest loans and grants from federal and state funding programs, including FEMA, USBR, DWR, SWRCB, EPA, OES, and other agencies.

We have proposed Madison Rasmus for this team based on her direct experience with FEMA grants. If this optional task is executed, Madison will coordinate with **Katie Menzer** (currently working under a separate funding support task order for the District) on FEMA grant opportunities.

Waterfront Implementation Fema Grant Funding/ City Of Alexandria, Virginia

The $200 million project provides infrastructure improvements to mitigate frequent flooding in Old Town Alexandria. Our proposed grant writer, **Madison Rasmus**, developed the $50 million **FEMA Building Resilient Infrastructure Communities (BRIC)** application, which entailed coordination with the design engineers, City, and FEMA staff to develop a comprehensive application. The application included detailed project design alternatives, a detailed cost-benefit analysis, City letters of support, historical documentation, and the latest project design work.

Team Qualifications

Key Team Members With The Expertise To Deliver Your Project

Our team members bring years of experience in all the critical elements of your project.

Justin Peterson, PE / Project Manager

Justin has 15 years of experience managing water and wastewater infrastructure projects. He has worked on 10 California tank/reservoir projects in the past 5 years, including the District's Bridlewood Tank Alternatives Analysis.

James Doering, PE, SE / Concrete Tank Design Subject Matter Expert

James is Carollo's Chief Structural Engineer. He has 30 years of experience in structural design, seismic assessment, rehabilitation, and assessment of water infrastructure facilities, including dozens of tank projects in the past 10 years.

Justin and James have worked together on the following concrete tank projects within the last seven years. References are provided.

- **Surface Water Distribution System, City of Turlock, CA:** Stephen Fremming, Project Manager, 209-668-5417, sfremming@turlock.ca.us (Justin-Project Engineer, James-Quality Reviewer).
- **Industrial Tank 13 and Booster Pump Station, City of Modesto, CA:** Robert Davalos, Community Infrastructure Engineering Manager, San Joaquin County Department of Public Works, 209-468-3697, rdavalos@sjgov.org / Former Senior Civil Engineer, City of Modesto (Justin-Project Engineer, James-Structural Engineer).
- **J Street/Alpine Vista Water Storage Tank Improvements, City of Tulare, CA:** Trisha Whitfield, Public Works Director, 559-684-4319, twhitfield@ci.tulare.ca.us (Justin-Project Engineer, James-Structural Engineer).

Chris Cleveland, PE / WTP Design Subject Matter Expert

Chris has 28 years of experience planning, designing, and constructing WTP projects with a combined treatment capacity of over 1 billion gallons per day. References for three projects are provided on the right, including the Orinda WTP project, which is currently under construction. Chris also brings valuable knowledge and insight as project manager for the District's WTPs Master Plan.

- **Project Manager, Orinda WTP Disinfection Improvements, EBMUD, CA:** Jeff Bandy, Associate Project Engineer, 510-287-1846, jeff.bandy@ebmud.com.
- **Prinicpal-in-Charge/Project Manager, Water Treatment Plants Rehabilitation, City of Sacramento, CA:** Michelle Carrey, Water Supervising Engineer, 916-337-3614, mcarrey@cityofsacramento.org.
- **Project Manager, Water Treatment Plants Master Plan, El Dorado Irrigation District, CA:** Tracey Eden-Bishop, Project Manager, 530-621-5392, tedenbishop@eid.org.

Madison Rasmus, PE / FEMA Grant Support

Madison has six years of experience in water and wastewater grant writing, planning, design, and construction. As a grant support engineer, she helps clients develop projects for funding, identifies state and federal funding sources, and manages the grant application process. References for her work preparing FEMA BRIC and other grants/loans are provided on the right.

- **Grant Writer, Waterfront Implementation Project FEMA BRIC Grant, City of Alexandria, VA:** Matthew Landis, Division Chief, 703-476-4122, matthew.landis@alexandria.gov.
- **Project Engineer, Prop 1 Storm Water Grant, City of Salinas, CA:** Brian Frus, Senior Engineer, 831-682-6485, brianf@ci.salinas.ca.us.
- **Grant Writer, On-Call Engineering Services for the Water System CIP, City of Santa Fe, NM:** William Schneider, Water Resources and Conservation Manager, 505-955-4203, whschneider@santafenm.gov.

Tank Experience Matching With Your Principal Project Elements

Our team has completed dozens of reservoir/tank projects with similar scope and complexity as your project. A shortlist of these projects is presented below. Expanded information on the highlighted projects is available on the following pages, including the design of three concrete tank projects for Turlock, Modesto, and Tulare completed in the past seven years. References for these projects are included in Section 7 - Client References.

California Water Storage Facility Experience	Capacity (MG)	Concrete (C) Steel (S)	Seismic Study/Design	Planning	Design	Construction
El Dorado Irrigation District Bridlewood Tank Alternatives Analysis	4.0	S, C		✓		
City of Turlock Surface Water Distribution Improvements	2.3	C		✓	✓	✓
City of Modesto Industrial Tank 13 and Booster Pump Station	4.0	C	✓	✓	✓	✓
City of Tulare J Street and Alpine Vista Water Storage Tank Improvements	2@2.0	C	✓	✓	✓	✓
City of Sanger Water Storage Tank No. 3	0.75	S		✓	✓	✓
Contra Costa Water District Taylor Reservoir	7.5	C	✓	✓	✓	✓
Dublin San Ramon Services District Reservoirs 1B and 300B	3.0, 1.7	C, S		✓	✓	✓
City of Escondido Reed Reservoir	5	C, C			✓	
City of Pittsburgh Oakhills Zone II and IV Reservoir, Pump Stations, and Water Main	2.0, 1.75	C			✓	✓
San Bernardino Municipal Water Department 2100 Meyers Canyon Reservoir	2.0	C			✓	✓
Santa Barbara Sheffield Water Quality Project Permanent Reservoirs	2 @ 2.65	C			✓	✓

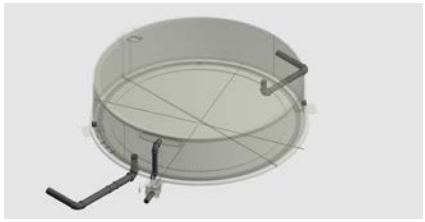
PROJECT DATES
Final report submitted: July 2023

TEAM MEMBERS
Justin Peterson, Project Manager
Mike Dadik, Structural Engineer
Andrew Coulter, Design Engineer

Bridlewood Tank / El Dorado Irrigation District, CA

Reservoir Type: Welded steel (existing) with evaluation of prestressed concrete (AWWA D110) replacement options

El Dorado Irrigation District's Bridlewood Tank is critical to its recycled water distribution network. The 4.0-MG welded steel tank requires structural repairs and recoating but cannot be taken offline for rehabilitation without impacting the District's ability to deliver recycled water. Carollo prepared a detailed alternatives analysis with a parallel update to the District's recycled water hydraulic model (also led by Carollo) to identify the most cost-effective solution to rehabilitate the existing tank while maintaining recycled water service commitments. The following alternatives were identified: (1) construction of a new prestressed concrete storage tank, (2) installation of a temporary tank and pumping facilities, and (3) temporary supplementation with potable water to maintain recycled water system pressure. Detailed construction cost estimates and net present value analyses were performed for each option, accounting for future steel tank rehabilitation cycles. Benefits, such as enhanced storage reliability, and considerations, such as land use restrictions, were factored into the project recommendations.



PROJECT DATES
Design completed: 2021
Construction completed: 2023 (estimate)

TEAM MEMBERS
Justin Peterson, Project Engineer
James Doehring, Quality Reviewer
Mike Dadik, Technical Reviewer
Andrew Coulter, Design Engineer

Surface Water Distribution System / City of Turlock, CA

Reservoir Type: Prestressed concrete (AWWA D110)

Carollo provided preliminary planning, hydraulic modeling, alternatives analyses, final design, and engineering services during construction (ESDC). Carollo first evaluated tank materials (AWWA D100 welded steel vs. AWWA D110 prestressed concrete), roof options (self-supporting dome or column-supported flat slab), site constraints, and site-specific seismic parameters to determine the optimal project layout. Final system improvements include approximately 9,000 feet of 24- to 42-inch-diameter transmission main, a 2.3-MG concrete storage reservoir, a 14.3-mgd (expandable to 35-mgd) booster pump station, and associated SCADA and other ancillary facilities. The project will primarily be constructed in a developed urban area. Public outreach, aesthetics of above-ground elements, utility coordination, and traffic control during construction were all key project considerations.

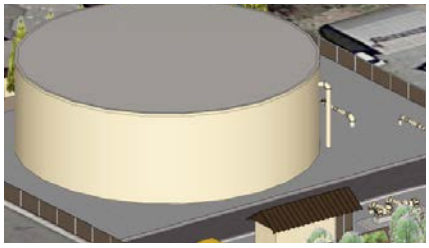
PROJECT DATES
Design completed: 2016
Construction completed: 2019

TEAM MEMBERS
Justin Peterson, Project Engineer/ ESDC Project Manager
James Doering, Structural Engineer

Industrial Tank 13 and Booster Pump Station / City of Modesto, CA

Reservoir Type: Prestressed concrete (AWWA D110)

Carollo provided structural and mechanical design for the project, which includes a water storage tank and booster pump station to serve the industrial southeast portion of the City. The 5.3 acres incorporate a 4.0-MG prestressed concrete tank, 12.0-mgd booster pump station, and 1.0-MG retention basin. A 24-inch transmission main conveys water from a Modesto Irrigation District turnout structure on the north side of Yosemite Boulevard to the Tank 13 site. A new 24-inch diameter pipe returns water from the new pump station to an existing City transmission main in Yosemite Boulevard. The project includes provisions for the future construction of an additional water storage tank, production well, and pump station.



PROJECT DATES
Design completed: 2017
Construction completed: 2019

TEAM MEMBERS
Justin Peterson, Project Engineer
James Doering, Structural Engineer

J Street/Alpine Vista Water Storage Tank Improvements / City of Tulare, CA

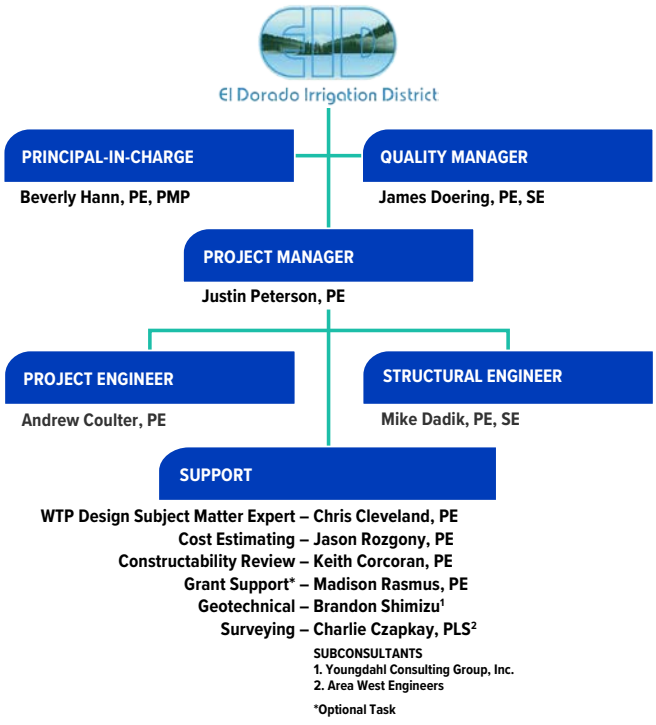
Reservoir Type: Prestressed concrete (AWWA D110)

Carollo provided planning, final design, and ESDC for storage tanks and wells at three sites in the City: J Street, Alpine Vista, and Cartmill. Services included hydraulic modeling analyses of the distribution system to optimize tank sizing and pump station capacity and structural engineering for two 2.0-MG prestressed concrete tanks and related improvements. The project began with an evaluation of tank materials, including welded steel and prestressed concrete. Based on the analysis completed by Carollo, the City selected prestressed concrete. The design of ancillary facilities at each site included a booster pump station equipped with split-case centrifugal pumps, an electrical building, a sodium hypochlorite feed facility, and a standby generator. Carollo was subsequently awarded two additional contracts: on-call services to design wells at several locations, including the J Street and Alpine Vista sites, and the design of the Cartmill tank, which provides an additional 1.5-MG of storage.

The Team We've Built Specifically for Your Project

Carollo offers the District a highly committed team led by **Project Manager Justin Peterson**, who has 15 years of water infrastructure experience, which he will use to plan and execute your reservoir replacement project successfully. He will be assisted by **James Doering, Carollo's Chief Structural Engineer** with 38 years of experience and an expert in tank/reservoir structural design, and **Mike Dadik**, a seasoned structural engineer with 31 years of experience and Carollo's coatings specialist. Justin, James, and Mike have worked together before to successfully deliver projects of similar scope and complexity for numerous clients, including the cities of Turlock, Modesto, and Tulare and the District's Bridlewood Tank Alternatives Analysis.

Chris Cleveland brings 28 years of local and national experience in WTP planning, design, and construction for clients such as the East Bay Municipal Utility District and the City of Sacramento. Chris worked on the District's WTPs Master Plan and will bring his knowledge of your facility to help our team evaluate the impact of alternatives on your WTP. Construction Manager **Keith Corcoran** will provide valuable input on constructability to identify potential issues to be addressed in the BODR. We have also added **Madison Rasmus**, our grant support engineer, to our team to assist, upon request, with a FEMA BRIC or other grant/loan application development.



BS Civil Engineering,
University of the Pacific

Meets Section 3 Requirements
Project Manager

Justin Peterson, PE

PROJECT MANAGER

Justin is a proven project manager with over 15 years of experience planning, designing, and constructing water and wastewater infrastructure, Including 10 California tank projects in the past 5 years.

RELEVANT PROJECTS

- Project Manager, Bridlewood Tank Alternatives Analysis, El Dorado Irrigation District, CA.
- Project Manager/Project Engineer, Industrial Tank 13 and Booster Pump Station, City of Modesto, CA.
- Project Engineer, Surface Water Distribution System Improvements, City of Turlock, CA.

MS Environmental Engineering,
University of California, Davis

BS Civil Engineering,
California State University, Chico

Beverly Hann, PE, PMP

PRINCIPAL-IN-CHARGE

Beverly has 20 years of experience designing, permitting, and constructing water and wastewater treatment and infrastructure facilities. She brings a keen focus on project delivery, client service, and leveraging technical expertise to get your project done right.

RELEVANT PROJECTS

- Principal-in-Charge, WTPs Master Plan, El Dorado Irrigation District, CA.
- Project Engineer, WTP Condition Assessments, El Dorado Irrigation District, CA.
- Project Manager, Wastewater Collection System Radio Path Design, El Dorado Irrigation District, CA.

Proposed Team Members

MS Civil Engineering, University of California, Berkeley

BS Civil Engineering, University of California, Irvine

James Doering, PE, SE

QUALITY MANAGER

James is Carollo's Chief Structural Engineer and has 30 years of experience in structural analysis and design, seismic retrofit, and rehabilitation of water and wastewater infrastructure projects.

RELEVANT PROJECTS

- Structural Engineer, Industrial Tank 13 and Booster Pump Station, City of Modesto, CA.
- Structural Engineer, J Street And Alpine Vista Water Storage Tank Improvements, City of Tulare, CA.

Meets Section 3 Requirements
Concrete Tank Design
Subject Matter Expert

BS Environmental Engineering, San Diego University

Andrew Coulter, PE

PROJECT ENGINEER

Andrew has seven years of experience planning, designing, and constructing water, wastewater, and recycled water infrastructure projects, including similar reservoir projects for the Marin Municipal Water District and the Elsinore Valley Municipal Water District.

RELEVANT PROJECTS

- Project Engineer, Bridlewood Tank Alternatives Analysis, El Dorado Irrigation District, CA.
- Staff Engineer/ESDC Lead, Surface Water Distribution Improvements, City of Turlock, CA.
- Project Engineer, Meadowbrook No. 1 Reservoir Improvements, Elsinore Valley Municipal Water District, CA.

BS Civil Engineering, Arizona State University

Mike Dadik, PE, SE

STRUCTURAL ENGINEER

Mike has 31 years of experience in structural design and seismic vulnerability assessments and retrofits for water and wastewater facilities and infrastructure, including similar tank rehabilitation and replacement projects for the City of West Sacramento and the Contra Costa Water District.

RELEVANT PROJECTS

- Structural Engineer, Bridlewood Tank Alternatives Analysis, El Dorado Irrigation District, CA.
- Technical Reviewer, Surface Water Distribution Improvements, City of Turlock, CA.

MS Civil and Environmental Engineering, Clarkson University

BS Civil Engineering, Clarkson University

Chris Cleveland, PE

WTP DESIGN SUBJECT MATTER EXPERT

Chris has 28 years of experience taking WTP projects from planning through design and construction. He brings valuable knowledge and insight as project manager for the District's WTPs Master Plan.

RELEVANT PROJECTS

- Project Manager, Orinda WTP Disinfection Improvements, EBMUD, CA.
- Project Manager, WTPs Rehabilitation, City of Sacramento, CA.
- Project Manager, WTP Master Plan, El Dorado Irrigation District, CA.

Meets Section 3 Requirements
WTP Design Subject
Matter Expert

BS Civil Engineering, South Dakota School of Mines and Technology

Jason Rozgony, PE

COST ESTIMATING

Jason is a former contractor with 28 years of water and wastewater experience, primarily as a full-time cost estimator. He has prepared bids and estimates for over 400 projects. He uses the same estimating approach and tools as water/wastewater contractors, giving you the confidence that accurate costs will be used to analyze the costs for your project.

RELEVANT PROJECTS

- Estimator, $270 million Orinda Water Treatment Plan Disinfection Enhancements, East Bay Municipal Utility District, CA.
- Estimator, $50 million Water Pollution Control Plant Secondary Treatment and Dewatering Facilities Design, City of Sunnyvale, CA.

BS Environmental Engineering, California Polytechnic State University, San Luis Obispo

Keith Corcoran, PE

CONSTRUCTABILITY REVIEW

Keith has 18 years of experience in the design and construction of water and wastewater facilities and infrastructure. He will use his expertise working on similar tank design and construction projects for the cities of Modesto and Turlock to perform constructability reviews of tank alternatives.

RELEVANT PROJECTS

- Design Engineer, Tank 13 and Pump Station, City of Modesto, CA.
- Design Engineer, Fulkerth Tank and Pump Station, City of Turlock, CA.

Proposed Team Members

MS Environmental and Water Resources Engineering, University of Texas at Austin

BS Civil Engineering, University of California, Davis

Madison Rasmus, PE

GRANT SUPPORT

Madison has six years of experience in water and wastewater grant writing, planning, design, and construction. As a grant support engineer, she works with clients to prioritize projects for funding, identifies sources of state and federal grants and loans, and develops grant/loan application packages.

RELEVANT PROJECTS

- Grant Writer, Waterfront Implementation Project FEMA BRIC Grant, City of Alexandria, VA.
- Project Engineer, Prop 1 Storm Water Grant Service, City of Salinas, CA.

Meets Section 3 Requirements
FEMA Grant Support

Subconsultants

Youngdahl Consulting Group, Inc. / Geotechnical

Youngdahl Consulting Group, Inc. is a full-service geotechnical engineering firm. Over the last 23 years, Youngdahl has performed hundreds of projects for the District and maintains an on-call contract for geotechnical engineering and material testing services. They have provided services on dozens of tanks and reservoirs, several water and wastewater treatment facilities, and miles of pipelines and pump stations, including the Reservoir 3 Tank, Southpointe Lift Station Upgrade, and Carson Creek 2 Lift Station.

Area West Engineers, Inc. / Surveying

Area West Engineers provides surveying services, including topographic mapping, construction surveys, aerial surveys, easement acquisitions, and as-built survey maps. The firm has been an on-call surveyor for the District since 2017 and has completed multiple District survey projects, including the Bridlewood Tank Alternatives Analysis Project, EMD#1/EMD#2 Intertie at Reservoir 3, Outingdale Bathymetric Survey, EDLS Topographical Survey, and Silver Lake Campground Survey.

Quality Assurance and Control: Conflicts

SECTION 5

A Commitment to Quality

A rigorous quality assurance program is foundational to every Carollo project. In support of our commitment to quality, we have developed Quality Central, a suite of internal tools, to guide the QA/QC process. Before any project begins, all Carollo project managers must develop a detailed quality review schedule, identifying senior technical engineers for all applicable disciplines to conduct reviews and allow for the incorporation of QA/QC before every deliverable. Specific to this project, our quality management program will include:

Pre-Kickoff Planning. Project Manager Justin Peterson will develop a resource-loaded schedule for project completion and identify internal deliverable milestones for quality review. Client deliverables will only be submitted once the internal quality review has been completed and all comments have been incorporated to the satisfaction of the reviewer and project manager.

Hydraulic Analysis. Our BODR team will work closely with the same hydraulic modeling group evaluating the District's potable water system and leverage their detailed knowledge and data set to determine potential hydraulic impacts and resolutions.

Special WTP Requirements. This project includes work in and around an active treatment plant. We will engage treatment expert Chris Cleveland early on to identify essential sequencing, shutdown, or process bypass provisions necessary to plan the work with minimal plant disruptions.

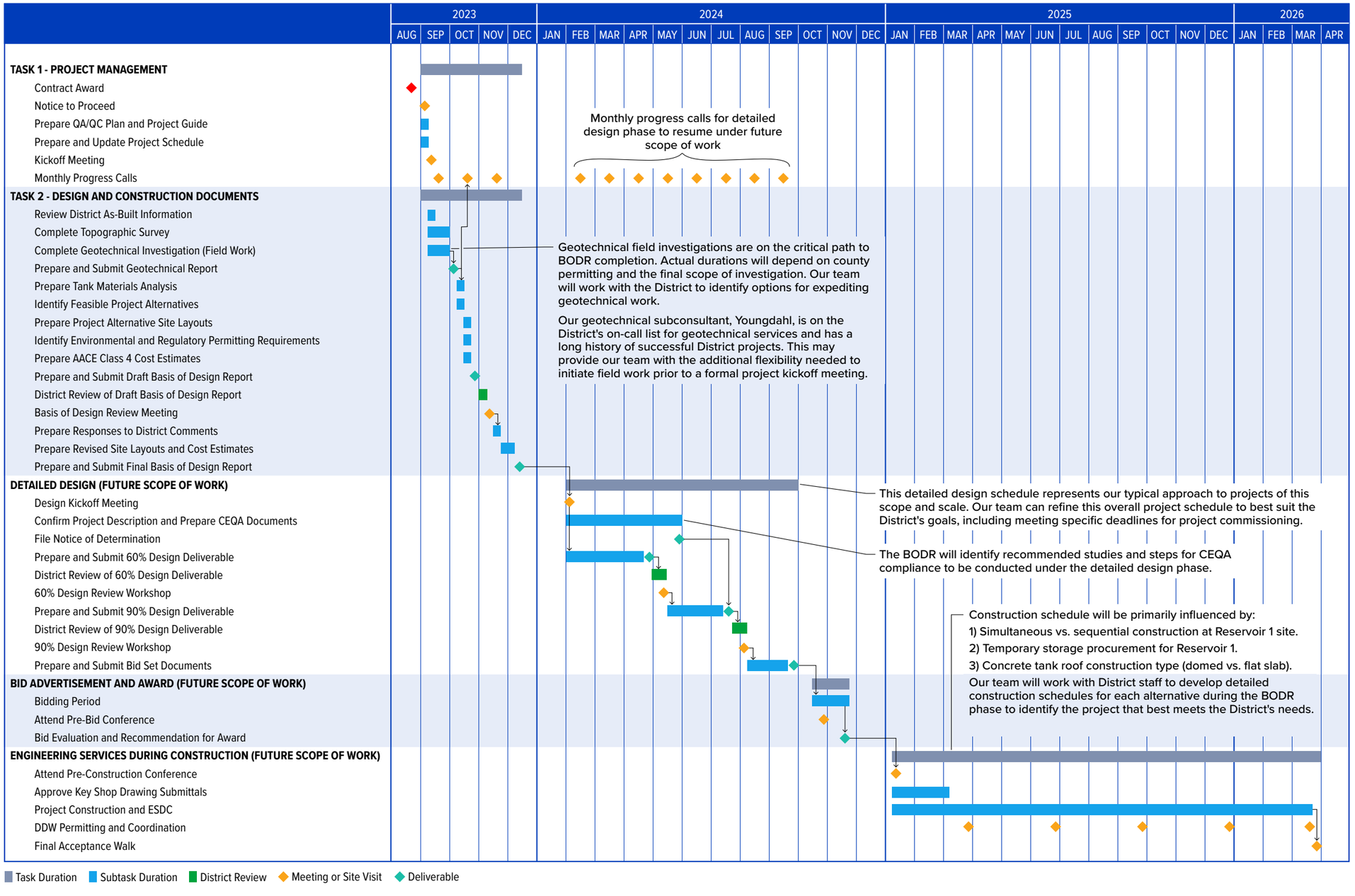
Independent Estimating Expertise. Accurate construction cost estimates will be critical to determining the best project alternative. Because of this, our quality management program applies equally to cost-estimating practices. All estimates will be prepared and reviewed by former contractors with real-world estimating expertise and a thorough understanding of direct and indirect cost factors.

Conflict of Interest

Carollo is familiar with applicable conflict of interest laws and requirements. Neither our firm nor its employees involved in this project know of any conflict of interest that would preclude working on it. Carollo, at all times, conducts its professional activities in a manner to prohibit conflict of interest on the part of the firm and its employees. We foresee no circumstances in which a conflict could arise.

Schedule

This preliminary project schedule represents our best approximation of the durations required for each major task. A District review period of two weeks is assumed following each deliverable, with a review workshop planned at the end of each review period. We look forward to discussing proposed milestone dates with District staff and refining this schedule to best meet the District's needs.



Client References

SECTION 7

Carollo prides itself on the longstanding relationships we have developed with our clients. The references below are for three projects summarized in Section 3 - Team Qualifications. We invite you to contact these individuals, who will attest to the client service and the quality of the engineering services we provided on their projects.

Client	Project	Reference
City of Turlock, CA	Surface Water Distribution System	Stephen Fremming, Project Manager 209-668-5417 sfremming@turlock.ca.us
City of Modesto, CA	Industrial Tank 13 and Booster Pump Station	Robert Davalos, Community Infrastructure Engineering Manager 209-468-3697 rdavalos@sjgov.org (Formerly Senior Civil Engineer - City of Modesto)
City of Tulare, CA	J Street and Alpine Vista Water Storage Tank Improvements	Trish Whitfield, Public Works Director 559-684-4319 twhitfield@ci.tulare.ca.us

Contract and Insurance Requirements

SECTION 8

Contract

In accordance with the requirements of the RFP, Carollo has reviewed the Professional Services Agreement Sample (RFP Exhibit E). Suggested modifications/additions are provided in Appendix B - Contract Comments.

Insurance

In accordance with the requirements of the RFP, Carollo has reviewed the insurance requirements (RFP Exhibit E, Appendix C). Carollo has continuously maintained errors and omissions insurance since mid-1960 and currently has errors and omissions insurance in excess of $5,000,000 with an A-rated American insurance company. Carollo will furnish a certificate of insurance to clients upon request. Carollo also carries a comprehensive general business liability insurance policy covering bodily injury, property damage, and vehicular liability.

Addenda

SECTION 9

Carollo acknowledges receipt of the following addenda:

- Addendum No. 1 issued on July 13, 2023
- Addendum No. 2 issued on July 24, 2023

Appendix A
Cost of Services

EL DORADO IRRIGATION DISTRICT
RESERVOIR 1 AND POLLOCK PINES RESERVOIR REPLACEMENT BASIS OF DESIGN REPORT (RFP23-04)
COST OF SERVICES

		Carollo Engineers, Inc. [1]													Subconsultants			
		Principal-In-Charge	Project Manager	Quality Management	WTP Expert	Project Engineer	Structural Engineer	Cost Estimating	Construct. Review	FEMA Grant Suppt.	CAD Tech.	Doc. Proc.	Total Hours	Labor Cost	Youngdahl Consulting	Area West Eng.	Sub. Markup[2]	PROJECT TOTAL
		Beverly Hann	Justin Peterson	James Doering	Chris Cleveland	Andrew Coulter	Mike Dadik	Jason Rozgony	Keith Corcoran	Madison Rasmus					Geotech.	Survey		
Task	Task Description	$344	$325	$344	$344	$228	$344	$325	$277	$228	$238	$157						
1	**Project Management**																	
1.1	Prepare and Update Project Schedule	-	4	-	-	-	-	-	-	-	-	-	4	$ 1,300	$ -	$ -	$ -	$ 1,300
1.2	Project Meetings	10	16	-	-	16	-	-	-	-	-	-	42	$ 12,288	$ -	$ -	$ -	$ 12,288
1.3	Project Progress Report	-	4	-	-	-	-	-	-	-	-	-	4	$ 1,300	$ -	$ -	$ -	$ 1,300
	TASK 1 TOTAL	**10**	**24**	**-**	**-**	**16**	**-**	**-**	**-**	**-**	**-**	**-**	**50**	**$ 14,888**	**$ -**	**$ -**	**$ -**	**$ 14,888**
2	**Basis of Design Report**																	
2.1	Review of As-Built Information and Hydraulic Model Data	-	-	-	4	24	8	-	-	-	-	-	36	$ 9,600	$ -	$ -	$ -	$ 9,600
2.2	Geotechnical Investigation and Analysis	-	2	-	-	4	-	-	-	-	-	-	6	$ 1,562	$ 27,100	$ -	$ 1,355	$ 30,017
2.3	Site Topogrpahic Survey	-	2	-	-	4	-	-	-	-	-	-	6	$ 1,562	$ -	$ 14,956	$ 748	$ 17,266
2.4	Tank Material Analysis	-	2	2	-	16	8	-	-	-	-	-	28	$ 7,738	$ -	$ -	$ -	$ 7,738
2.5	Draft Basis of Design Report	2	12	6	4	48	12	24	8	-	24	8	148	$ 40,084	$ -	$ -	$ -	$ 40,084
2.6	Final Basis of Design Report	2	8	4	4	32	8	16	4	-	16	4	98	$ 26,832	$ -	$ -	$ -	$ 26,832
	TASK 2 TOTAL	**4**	**26**	**12**	**12**	**128**	**36**	**40**	**12**	**-**	**40**	**12**	**322**	**$ 87,378**	**$ 27,100**	**$ 14,956**	**$ 2,103**	**$ 131,537**
Project Total (Base Scope)		**14**	**50**	**12**	**12**	**144**	**36**	**40**	**12**	**-**	**40**	**12**	**372**	**$ 102,266**	**$ 27,100**	**$ 14,956**	**$ 2,103**	**$ 146,425**
3	**Grant Proposal Preparation (Optional)**																	
3.1	Grant Support	-	TBD[3]	-	-	-	-	-	-	TBD[3]	-	-	-	$ -	$ -	$ -	$ -	$ -
	OPTIONAL TASK 3 TOTAL	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
4	**Additional Services (Optional)**																	
4.1	Geophysical Survey	-	4	2	-	-	4	-	-	-	-	-	10	$ 3,364	$ 25,900	$ -	$ 1,295	$ 30,559
4.2	Site Specific Ground Motion Hazard Analysis	-	4	2	-	-	8	-	-	-	-	-	14	$ 4,740	$ 15,500	$ -	$ 775	$ 21,015
	OPTIONAL TASK 4 TOTAL	**-**	**8**	**4**	**-**	**-**	**12**	**-**	**-**	**-**	**-**	**-**	**24**	**$ 8,104**	**$ 41,400**	**$ -**	**$ 2,070**	**$ 51,574**
Project Total (Incl. Optional Tasks)		**14**	**58**	**16**	**12**	**144**	**48**	**40**	**12**	**TBD[3]**	**40**	**12**	**396**	**$ 110,370**	**$ 68,500**	**$ 14,956**	**$ 4,173**	**$ 197,999**

Notes:
(1) Rates are based on Carollo Engineers, Inc., Fee Schedule as of Jan 1, 2023 for California.
(2) Includes Subconsultant markup of 5%.
(3) Level of effort for Optional Grant Proposal Preparation/Grant Support Task to be determined following coordination with District staff.

Appendix B
Contract Comments

Contract Comments

APPENDIX B

In accordance with the requirements of the RFP, Carollo Engineers has reviewed the Professional Services Agreement (Exhibit B to the RFP) and requests the following modifications/additions. These changes have been incorporated into recent contracts executed with the District.

Modifications

Section 3

Add the following sentence to the end of the paragraph:

- Consultant shall perform the services required hereunder in accordance with the prevailing standard of care by exercising the skill and ability ordinarily required of consultants performing the same or similar services, under the same or similar circumstances, in the State of California.

Section 15

- Replace “District” with “either party.”

New Sections

Add the following new sections:

Section 6.6

District shall furnish Consultant available studies, reports and other data pertinent to Consultant's Services; obtain or authorize Consultant to obtain or provide additional reports and data as required; furnish to Consultant services of others required for the performance of Consultant's Services hereunder, and Consultant shall be entitled to use and rely upon all such information and services provided by the District or others in performing Consultant's Services under this Agreement.

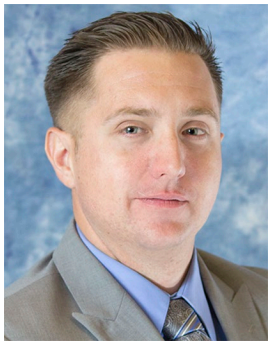
Section 6.7

In providing opinions of cost, financial analyses, economic feasibility projections, schedules, and quantity and/or quality estimates for potential projects. Consultant has no control over cost or price of labor and material; unknown or latent conditions of existing equipment or structures that may affect operation and maintenance costs; competitive bidding procedures and market conditions; time or quality of performance of third parties; quality, type, management or direction of operating personnel; the incoming wastewater quality and/or quantity; the way District; s plant(s) and/or associated processes are operated and/or maintained; and other economic and operational factors that may materially affect the ultimate project elements, including, but not limited to, cost or schedule. Therefore, Consultant makes no warranty that the District's actual project costs, financial aspects, economic feasibility, schedules, and/or quantities or quality realized will not vary from Consultant's opinions, analyses, projections, or estimates.

Section 6.8

Consultant is not responsible for damage or delay in performance caused by events beyond the reasonable control of Consultant. In the event Consultant's services are suspended, delayed or interrupted for the convenience of the District or delays occur beyond the reasonable control of Consultant, an equitable adjustment in Consultant's time of performance and cost of Consultant's personnel and subcontractors may be made.”

Appendix C
Resumes



Education

BS Civil Engineering, University of the Pacific, 2008

Licenses

Professional Engineer, California

Certifications

NASSCO Pipeline Assessment and Certification Program

NASSCO Manhole Assessment and Certification Program

NASSCO Lateral Assessment and Certification Program

Green Building Certification Institute, LEED Accredited Professional

Professional Affiliations

American Society of Civil Engineers

California Water Environment Association, Northern San Joaquin Section (Vice President)

Justin Peterson, PE

Justin Peterson specializes in planning, design, and construction of drinking and recycled water storage tanks, pump stations, and pipelines; wastewater collection and conveyance systems; water supply and distribution, and storm water conveyance.

Previous Experience

→ Project manager for the El Dorado Irrigation District, California, Bridlewood Tank. The Bridlewood Tank is a critical component of EID's recycled water distribution network. The 4.0-MG welded steel tank needs structural repairs and recoating but cannot be taken offline for rehabilitation without impacting the District's ability to deliver recycled water. Responsibilities included preparation of a detailed alternatives analysis to identify the most cost-effective solution to rehabilitate the existing tank while maintaining recycled water service commitments.

→ Project engineer for the City of Turlock, California, Surface Water Distribution System Improvements, which integrates surface water into the potable water distribution system. The project includes 9,000 feet of 24- to 42-inch transmission main, 2.3-MG prestressed concrete storage reservoir, 14.3-mgd (expandable to 35 mgd) booster pump station, and associated SCADA and other ancillary facilities. Carollo is providing all mechanical and EI&C design for the project. Project elements will be primarily constructed in a developed urban area. Public outreach, aesthetics of aboveground elements, utility coordination, and traffic control during construction area all key project considerations.

→ Project manager for the City of Modesto, California, Del Rio Tank No. 14, Well No. 68, and Pump Station. The project involved design of a granular activated carbon adsorption treatment system for DBCP and TCP removal from a new 1,000-gpm well, 0.25-MG welded steel water storage tank, 3,400-gpm booster pump station, hydropneumatic surge control system, and 1.4-acre-foot retention basin. The pump station building included three horizontal split-case pumps, deep well turbine pump, pressure sustaining valve, surge tank, monorail crane system, and provisions for future pumping capacity expansion.

→ Project engineer for the City of Tulare, California, Water Storage Tank Improvements. The project involved design of two separate tank sites, each with a 2.0-MG partially buried prestressed concrete reservoir and a 4,200-gpm booster pump station, as well as drilling and equipping of two 1,200-gpm production wells. The project also included installation of an 18-inch storm drain pipeline via horizontal drilling to an existing drainage basin on an adjacent property.

→ Project engineer for the City of Sanger, California, Tank No. 3. The project involved planning and design of a 0.75-MG welded steel storage tank and 4,200-gpm booster pump station. Project constraints included a site layout requiring space for a future tank within a constrained site and consideration of impacts to the surrounding residential neighborhood. The project also included a blending station and connection from an adjacent well site.

→ Project engineer for the City of Modesto, California, Industrial Tank 13 and Pump Station. The project included a 4.2-MG prestressed concrete reservoir (AWWA D110 Type I), 12-mgd pump station, and 1.2-MG detention basin. The pump station building housed four horizontal split-case pumps, reservoir control valve, monorail crane system, engine generator room, electrical room, and hypochlorite room. The project also involved reconnection to an inactive on-site well and installation of new blending piping and controls.

→ Project engineer for the Tejon Mountain Village, a 5,000-acre residential development within the Tejon Ranch tract of Kern County in Lebec, California. The project involved an integrated water master plan and facility planning efforts. Tasks included written verification of water supply assessment (SB221); development of demand, generation, and loading rates for potable water, wastewater, and recycled water infrastructure; preliminary design of the raw water

transmission system; and infrastructure needs assessment for 17 phases of development and 6 individual tract maps. Hydraulic modeling for the potable water, wastewater, and recycled water distribution and collection systems consisted of extended-period simulations using Innovyze InfoWater and InfoSewer platforms. Challenges included highly variable topography and high seasonal peaking factors. The proposed system consists of 8 potable water storage tanks, 4 raw water storage tanks, 12 booster pump stations, and more than 20 individual pressure zones.

→ Project engineer for the Farmington Water Company, California, Water Supply Project. The project involved improvements to a community water system and consisted of three phases: test well and production well development, well equipping with storage tanks, and distribution system piping. Designed and provided construction oversight for two new wells. Each well site included a storage tank, hydropneumatic tank, booster pump station, emergency generator, and associated electrical systems and controls. The project also replaced 9,000 feet of waterlines, provided new service laterals and meters to the individual properties, and provided a truck filling station at the local fire station.

→ Project engineer for the Sierra Linda Mutual Water Company, California, Water System Improvements, which included well equipping, 4,000 feet of waterlines, and replacement of a water storage tank. Prepared plans and specifications for preliminary design.

→ Project engineer for the North Kaweah Mutual Water Company, California, Water Supply and Consolidation. Water supply system improvements included 8,000 feet of replacement waterlines with service connections, modifications to treatment plant piping, new treatment trains, two new GUDI wells, 120,000-gallon bolted steel storage tank, and pressure reducing facilities. The project involved consolidation with a neighboring water system.

→ Project engineer for the Erskine Creek Water Company Consolidation in Lake Isabella, California. The project linked two neighboring water systems and included 3,000 feet of replacement waterlines with service connections, modifications to existing treatment plant piping, two canal crossings, hydropneumatic tank, and 200,000-gallon bolted steel storage tank.

→ Staff engineer for the Cuyama Community Services District, California, Water Storage Project. Responsible for planning and design of a new 300,000-gallon, bolted steel treated water storage tank and 11,500-gallon backwash water tank.

→ Previous Experience: Project engineer for the City of Manteca, California, Atherton Drive Water Storage and Booster Pump Station. This fast-tracked, $5.3 million design-build project included a 3.6-MG welded steel water storage tank, dedicated booster pump station with five 150-hp pumps, piping, standby on-site electrical generation, and site improvements, along with water distribution system improvements necessary to complete the tank and booster pump station. The project layout was designed to facilitate a future well and wellhead treatment system.

→ Previous Experience: Project engineer for the Tahoe City Public Utility District, California, Bunker Tank Replacement. Responsible for design of a 1.2-MG welded steel water storage tank to replace an aging storage tank. The project involved update and calibration of the Main Zone hydraulic model to determine the optimal location and elevation for the replacement storage tank with a focus on minimizing capital costs and reducing excessive pressures in the distribution system while meeting minimum service pressure requirements. Preliminary design included consideration of various sizes, heights, and materials of construction for the replacement tank and potential reuse of the existing tank site.

Education

MS Environmental Engineering, University of California, Davis, 2005

BS Civil Engineering, California State University, Chico, 2003

Licenses

Civil Engineer, California

Certification

Project Management Professional, Project Management Institute, California, 4/8/2017

Competent Person Training, Safety Center Incorporated, California, 4/19/2007

CPR/First Aid, Safety Center Incorporated, California, 4/17/2007

10-Hour Construction Safety and Health, Occupational Safety and Health Administration, California, 6/1/2007

Professional Affiliations

California Water Environment Association

California Association of Sanitation Agencies Regulatory Group (formerly Tri-TAC) Water Committee

Water Environment Federation

California League of Food Processors

Manufacturer's Council of the Central Valley

Beverly J. Hann, PE, PMP

Beverly Hann, a vice president with Carollo Engineers, has experience in permitting, design, and construction of water and wastewater treatment facilities. She has completed a diverse list of projects – everything from headworks for municipal wastewater treatment plants to industrial water recycling facilities. This experience has allowed her to focus on project delivery and client service as her main career goals – she knows how to best leverage technical expertise within the company to get projects done right.

Relevant Experience

→ Principal-in-charge for the El Dorado Irrigation District, California, Folsom Lake Intake Improvements Construction Management and Inspection Services. The project involves rehabilitation of aging pump station infrastructure and electrical systems on Folsom Lake. Responsible for contract implementation and coordination with the engineering team to provide the District as-needed support.

→ Project manager for the El Dorado Irrigation District, California, Southpointe Lift Station Pump Blow-By Evaluation. This fast-tracked effort involved inspection of a newly constructed pump station, review of related design documents and calculations, and coordination with the pump supplier, construction contractor, and the District to develop likely causes and recommended actions related to observed pump deficiencies during commissioning of the pump station.

→ Project manager for the El Dorado Irrigation District, California, Wastewater Collection System Radio Path Design. This project includes development of system-wide improvements aimed at refining the District's current network configuration to allow for greater reach, volume, and reliability during data transfer from the collection system remote sites to the District's SCADA communication system. The work will include Pathloss modeling and field path verification of the proposed network reconfiguration, evaluation of communication technology improvement options, and development of a phased implementation plan.

→ Project engineer for the El Dorado Irrigation District, California, Water Treatment Plant Condition Assessments. The project involves a detailed asset inventory review, field condition assessment of four treatment facilities, and treatment process evaluation. A risk-based asset management framework will be developed to prioritize capital improvement projects and operations and maintenance improvement strategies. Results will be aligned with the District's Infor® maintenance management system.

→ Principal-in-charge for the City of Martinez, California, Webster Drive Pump Station Improvements. The project involved predesign, design, and bid-phase services for replacement of the Webster Drive Pump Station for distribution of potable water to upstream customers. Work included replacement of hydropneumatic tanks and pumps, associated piping to and from the service main, electrical and control facilities, and pump station housing, as well as addition of a standby generator. Efforts also included preliminary design activities (surveying and geotechnical), coordination with the City's hydraulic modeler, air quality permit assistance, and design of a portable trailer pump skid for use in bypass pumping during facility shutdown for construction (and for future City use with existing City-Contra Costa Water District interties).

→ Project manager for the South Tahoe Public Utility District, California, Pressure Reducing Valve (PRV) Upgrades. The project involved identification of feasible water system efficiency upgrades (through collection/use of flow and pressure data) at 19 of the 25 existing PRV stations located throughout the District's service area. Improvements for the first PRV upgrade site (Pine Valley) included new PRV and piping (due to condition) in the existing vault, pressure transmitters upstream and downstream of the existing PRV, valve controller (with position indicator) for flow monitoring, hydroelectric generator and associated electronics as the sole means of power supply, cellular modem, above-grade control panel,

Beverly J. Hann, PE, PMP

Awards

Feather River Branch Professional Award, American Society of Civil Engineers, 2003.

Civil Engineering Alumni Recognition Award, California State University, Chico, 2003

and temporary bypass pumping during construction.

→ Principal-in-charge for the City of Roseville, Aquifer Storage and Recovery (ASR) Well and Pump Station design. The project involves design, permitting, and construction of six new ASR wells injecting treated water from Folsom Lake. The project goal is to provide water supply resiliency during drought when the Folsom Lake supply may not provide the desired reliability.

→ Principle-in-charge for the City of Roseville, California, Barton Road Water Treatment Plant Condition Assessment. The project involves conducting visual assessments of treatment plant assets (Phase 1) followed by more detailed, invasive inspection of facilities. Assessment results will be incorporated into an asset management framework to prioritize rehabilitation and replacement needs. Asset management results are integrated with the City's Maximo® maintenance management system.

→ Project engineer for the City of Martinez, California, Tank Safety Evaluation. Responsible for site inspection at six of the City's ten drinking water storage reservoirs to evaluate existing conditions with regards to the Occupational Safety and Health Administration's safety requirements for operator access. A technical memorandum was prepared detailing the observations of current conditions and including suggested safety improvements for each location.

→ Project manager for the South Tahoe Public Utility District, California, Communication Study. The project involved development of a new network communication configuration for the District's 116 water, sewer, and stormwater facilities spread across the District's service boundaries, with goals for improved system reach, data transfer volume, and communication reliability. System modeling was conducted using Pathloss, and modeled signal strength was field verified (in separate efforts testing possible calm and inclement weather interferences). Final study recommendations included implementation a 5-GHz communication backbone configured in a ring network with independent links from each of three relay towers to the main control system location, and four remote site groupings that will communicate over the existing 173-MHz signal to the assigned relay tower. Additional system improvements included modified antenna tower heights, modified data polling configuration, and communication options for sites that are currently not on the power grid. Recommended improvements are being implemented in a programmatic fashion based on the study's prioritization of system improvements.

→ Project manager for the City of Roseville, California, Tertiary Filter Replacement. The project includes an assessment of options for replacing the continuous backwash filter units at the City's Pleasant Grove Wastewater Treatment Plant and predesign of the selected replacement project.

→ Project manager for the South Tahoe Public Utility District, California, SCADA Needs Assessment. The project involved an investigation of the District's existing SCADA communication system and preparation of recommended system upgrades needed to accommodate the receipt of additional data expected as the remote site communication improvements from the Water System Monitoring and SCADA Communications Upgrades project are implemented over time by the District.

→ Process design engineer and engineering services during construction for the $8.0 million South Tahoe Public Utility District, California, Headworks Replacement. Responsible for design of a new headworks facility, including screening, grit removal, odor control, and septage and vector waste input. During construction, responsible for submittal reviews, responses to requests for information, and operations interface.

→ Project manager for the South Tahoe Public Utility District, California, Water Efficiency Upgrades. Completed a Basis of Design Report (BODR) for water efficiency improvements at seven of the District's drinking water production and distribution facilities. The BODR provides a framework for the intended direction in completion of the various efficiency improvement projects for each site.

Education

MS Civil Engineering, University of California, Berkeley, 1994

BS Civil Engineering, University of California, Irvine, 1993

Licenses

Structural Engineer, California, Oregon, Utah, Washington

Civil/Structural Engineer, South Dakota

Civil Engineer, California, Colorado

Professional Affiliations

American Concrete Institute

American Institute of Steel Construction

James A. Doering, PE, SE

James Doering, a registered structural and civil engineer, is Carollo's structural lead engineer in Southern California. He manages structural design and evaluations for large and small projects. He has 30 years of experience in structural analysis, design, seismic retrofit, rehabilitation, review, and assessment for a variety of structures, such as wastewater and water treatment facilities, pump stations, reservoirs, tanks, clarifiers, large pipe supports, retaining walls, operations and maintenance facilities, office buildings, parking structures, post tensioned concrete structures, retail shopping centers, and warehouses.

Relevant Experience

→ Quality reviewer for the City of Turlock, California, Surface Water Distribution System Improvements, which integrates surface water into the potable water distribution system. The project includes 9,000 feet of 24- to 42-inch transmission main, 2.3-MG storage reservoir, 14.3-mgd (expandable to 35 mgd) booster pump station, and associated SCADA and other ancillary facilities. Carollo is providing all mechanical and EI&C design for the project. Project elements will be primarily constructed in a developed urban area. Public outreach, aesthetics of aboveground elements, utility coordination, and traffic control during construction area all key project considerations.

→ Structural engineer for the City of Modesto, California, Industrial Tank 13 and Booster Pump Station. The project involved the design of a pump station and a 4.2-MG prestressed concrete reservoir with a flat roof. Performance specifications and drawings were prepared for AWWA D110 Type I and Type III prestressed concrete tanks.

→ Structural engineer for the City of Tulare, California, J Street and Alpine Vista Water Storage Tank Improvements. The project involved planning, preliminary and final design, and engineering services during construction of two 2-MG concrete potable water storage tanks and two wells. The storage tanks are designed to supply the flow needed between the peak day and peak hour demand to mitigate low pressure issues.

→ Structural engineer for the Del Rio Water Storage Tank, Booster Pump Station, and Well Project for the City of Modesto, California. The project involved the design of a pump station and a 0.3-MG welded steel tank. Performance specifications and drawings were prepared for an AWWA D100 tank.

→ Structural engineer for the City of Sanger, California, Water Storage Tank No. 3. Carollo provided preliminary and final design and engineering support during construction services for a 0.75 MG welded steel water storage tank, booster pump station, and water quality blending station. The site was developed to include the addition of a future water storage tank to accommodate City growth.

→ Structural engineer for the Fulkerth Tank and Pump Station Project for the City of Turlock, California. The project involved the design of a pump station and a 1-million-gallon prestressed concrete reservoir. Performance specifications and drawings were prepared for AWWA D110 Type I and Type III prestressed concrete tanks to introduce competition for construction of the tank. Challenges included configuration of the floor and drainage to allow efficient cleaning operations.

→ Structural engineer for the Seismic Evaluation of Sunset Reservoir No. 1 for Pasadena Water and Power, California. The project involved the seismic/structural evaluation of a 5.6 million gallon, elliptical-shaped reservoir with a hopper bottom and wood-framed roof originally constructed in 1888. Operational strategies, rehabilitation/retrofit, and replacement alternatives were considered. Findings and recommendations were presented in a report with conceptual level cost estimates.

→ Structural engineer for the 2016 Water Master Plan for Cucamonga Valley Water District in Rancho Cucamonga, California. Completed assessments of 10 steel water storage tanks and numerous pump stations

"Without a doubt James Doering added a tremendous value to the Carollo team and was absolutely a contributing factor to the overall success of these critical projects at the EWPCF."

- James Kearns, Capital Projects Manager, Encina Wastewater Authority, referring to the EWPCF Influent Junction Structure Rehab and Ocean Outfall-Landfall Inspection projects

James A. Doering, PE, SE

and wells. Vulnerabilities were identified by conducting both site visits and performing cursory structural analyses. Recommendations and cost estimates for mitigation were included in a report.

→ Structural engineer for the 2014 Waterworks Facilities Assessment for the City of Simi Valley, California. Completed assessments of more than 50 steel water storage tanks and numerous pump stations. Vulnerabilities were identified by conducting both site visits and performing cursory structural analyses. Recommendations and cost estimates for mitigation were included in a report.

→ Structural engineer for the Structural Evaluation of Smith Reservoir for Serrano Water District in Villa Park, California. The project involved the seismic/structural evaluation of a 6.0-MG, rectangular cast-in-place concrete reservoir that was originally constructed in 1970. Operational strategies, rehabilitation, and replacement alternatives were considered. Findings and recommendations were presented in a report with conceptual level cost estimates.

→ Structural engineer for the Structural Evaluation of Peters Canyon Reservoir for East Orange County Water District in Orange, California. The project involved the structural evaluation of a 6.0-MG, rectangular hopper-bottom cast-in-place concrete reservoir with a wood-framed roof that was originally constructed in 1963. Operational strategies, rehabilitation, and replacement alternatives were considered. Construction drawings were then prepared to address roof framing vulnerabilities and corrosion.

→ Lead structural engineer for the City of San Diego Point Loma Reservoir Seismic Evaluation. This study evaluated the adequacy of the existing roof framing system for the Point Loma Reservoir, a rectangular 10 MG hopper-bottom reservoir originally built in 1942. The study presented findings, mitigation alternatives, and provided a feasibility analysis of previously planned structural modifications to the reservoir.

→ Structural engineer for the Baffle Curtain Support Evaluation for the Product Water Tank at the Claude "Bud" Lewis Carlsbad Desalination Plant for Poseidon Water, California. Failed baffle supports and the potential for short-circuiting within the 2.5-mg product water tank prompted an evaluation. The investigation involved computational fluid dynamic modeling (CFD), use of load cells, review of design calculations, and additional structural/fatigue analysis. Findings and recommendations were summarized in a report and repairs were subsequently made.

→ Structural engineer for the Reservoirs Assessment Project for the City of Redlands, California. The project involved the visual assessment and structural evaluation of four of the City's largest buried and partially buried concrete reservoirs. Finite element analysis was used to help determine the cause of significant concrete spalling and cracking of the roof structure, which was attributed to thermal expansion and contraction.

→ Structural engineer for the Walteria and Ben Haggot Water Reservoirs Rehabilitation for the City of Torrance, California. The project included concrete crack repair, waterproofing the bottom slab and walls with a crystalline-cementitious coating, and design of pipe supports for new steel piping.

→ Structural engineer for the River Mountain Tank, a 55-million-gallon buried concrete reservoir, for the Southern Nevada Water Authority in Clark County, Nevada. His responsibilities included structural design, calculations, and drawing preparation.

→ Structural engineer for the Grand Teton Reservoir for the Southern Nevada Water Authority, Nevada. The 10-million-gallon buried reservoir is constructed of conventionally reinforced concrete, with two 5-million-gallon bays that have a central inlet channel that serves as a surge control tank. A surge tank with a capacity of 480,000 gallons was also part of the design. The project included a 480,000-gallon capacity cell in the center of the reservoir as part of the inlet system. This eliminated the need for an aboveground surge tank. The reservoir is equipped with level monitoring equipment, and piping for adding sodium hypochlorite to maintain a residual disinfectant and for reservoir washdown and maintenance.

Education

BS Environmental Engineering, San Diego University, 2016

Licenses

Civil Engineer, California

Professional Affiliations

American Water Works Association

Northern California Pipe Users Group

Andrew A. Coulter, PE

Andrew Coulter is a project engineer with more than seven years of experience in the planning, design and construction of water, wastewater, and recycled water infrastructure projects.

Relevant Experience

→ Project engineer for the El Dorado Irrigation District, California, Bridlewood Tank. The Bridlewood Tank is a critical component of EID's recycled water distribution network. The 4.0-MG welded steel tank needs structural repairs and recoating but cannot be taken offline for rehabilitation without impacting the District's ability to deliver recycled water. Responsibilities included preparation of a detailed alternatives analysis to identify the most cost-effective solution to rehabilitate the existing tank while maintaining recycled water service commitments.

→ Project engineer for the City of Turlock, California, Surface Water Distribution System Improvements, which integrate surface water into the City's existing potable water distribution system. The project includes approximately 10,000 feet of 16- to 54-inch-diameter transmission main, 2.3-MG storage reservoir, 14.3-mgd (expandable to 35 mgd) booster pump station, and associated SCADA and other ancillary facilities. Project elements will be primarily constructed in a developed urban area. Public outreach, aesthetics of aboveground elements, utility coordination, and traffic control during construction are all key project considerations. Responsible for preliminary design, final design, bid services and engineering services during construction.

→ Project engineer for the Marin Municipal Water District, California, Emergency Intertie. Responsible for preliminary evaluation of system hydraulics and preparation of a Basis of Design Report and 30% design documents for the project, which consisted of two 12.5-mgd pre-packaged pump stations, two 1.0-MG bolted steel tanks, 9+ miles of 24-inch welded steel pipe, and two pressure reducing stations. Also assisted with pre-procurement of materials, including pre-packaged pump stations, welded steel pipe, and bolted steel tanks in order to meet the project's accelerated schedule requirements.

→ Project engineer for the Ramona Municipal Water District, California, Reservoir Rehabilitation. Responsible for checking and verifying construction submittal conformance to the District's basic requirements and project technical specifications. The project involved rehabilitation of four water tanks, which included improvements to tank shells, introduction of stairways for all tanks, and tank recoating.

→ Project engineer for the Elsinore Valley Municipal Water District, California, Meadowbrook No. 1 Reservoir Improvements. Responsible for developing a technical memorandum that evaluated mechanical, structural, and cathodic protection improvements required for rehabilitation of the Meadowbrook No. 1 Reservoir and Booster Pump Station.

→ Project engineer for the Zone 7 Water Agency, California, Concentrate Conditioning Facility. Responsible for preparation of a preliminary design report and final design for a new sulfuric acid storage facility at the Mocho Groundwater Demineralization Plant. The project included a new sulfuric acid storage room, storage tank, and site grading and yard piping modifications.

→ Staff engineer for the Metropolitan Water District of Southern California (MWDSC), California, Casa Loma Siphon Barrel No. 1 Replacement. MWDSC initiated the project to improve seismic resilience at the Casa Loma Fault crossing. The Casa Loma Siphon Barrel No. 1, a part of the Colorado River Aqueduct, is a 148-inch-diameter pipeline that's critical to MWDSC's raw water delivery. The existing 148-inch-diameter pipeline is vulnerable to the Casa Loma Fault displacement, which was estimated by the project team as 12.8 feet during a seismic event. The project replaced the existing pipeline with two 104-inch-diameter earthquake resistant ductile iron pipelines, which are manufactured by the Kubota Corporation in Japan. Responsible for engineering services during construction.

Andrew A. Coulter, PE

→ Project engineer for the Zone 7 Water Agency, California, Concentrate Pipeline Batch Cleaning. Responsible for preparation of design documents, cost estimation, and engineering services during construction for the project, which involved chemical cleaning of approximately 6,000 feet of pipeline. Chemical cleaning was required to remove calcium carbonate scale that had accumulated in a 12-inch brine pipeline. The project also included addition of access vaults and mechanical piping improvements to facilitate future chemical batch cleaning.

→ Staff engineer for the San Luis Obispo County, California, Salinas River Sliplining. Responsible for preparation of preliminary drawings and cost estimation for the project, which involved sliplining approximately 1,200 feet of 30-inch steel raw water pipeline that crossed underneath the Salinas River, as well as associated mechanical improvements to facilitate connections.

→ Project engineer for the Mountain House Community Services District, California, Old River Pump Station. Responsible for bid assistance and engineering services during construction through request for information responses and submittal review and coordination for the 2.6-mgd wastewater pump station that will service the new development.

→ Staff engineer for the $11 million City of Hercules, California, Sycamore Avenue Trunk Sewer Replacement. The project included preliminary and final design for rehabilitation/replacement of approximately 5,400 feet of 24-inch trunk sewer. Auger boring, microtunneling, sliplining, and cured-in-place pipe lining were all used for rehabilitation/replacement of the existing sewer. The project also required extensive coordination with permitting agencies. Responsible for preliminary design, evaluation of alignment alternatives, and preparation of design documents.

→ Staff engineer for the City of Ventura, California, Concentrate Outfall and Desalination Intake Feasibility Study. The focus of the study was to evaluate potential alternatives for an ocean concentrate outfall pipeline and intake facilities for a future desalination plant. Responsible for evaluation of potential alternatives and preparation of a report summarizing the findings.

→ Staff engineer for design of the Marina Coast Water District, California, $10 million Regional Urban Water Augmentation Project. The project included design of 28,000 feet of 8-inch through 16-inch recycled water pipe and twelve pressure reducing stations. Responsible for preparation of design documents, cost estimation, and engineering services during construction through request for information responses and submittal review and coordination.

→ Staff engineer for the City of Turlock, California, North Valley Regional Recycled Water Program Pipeline Design. Responsible for engineering services during construction for the project, which consisted of 7+ miles of 42-inch, welded steel pipe; three trenchless microtunneled crossings, flow control facility, and ancillary facilities. Total construction cost for the project was approximately $28 million.

Education

BS Civil Engineering, Arizona State University, 1996

Licenses

Civil Engineer, California

Structural Engineer, California, Nevada, Hawaii

Civil/Structural Engineer, Washington, Oregon

Professional Affiliations

American Society of Civil Engineers

Chi Epsilon (National Civil Engineering Honor Society)

Engineers Without Borders, Technical Advisory Committee

Structural Engineers Association of Northern California

Tau Beta Pi (National Engineering Honor Society)

NACE International

Society for Protective Coatings, Northern California Chapter Steering Committee

Governor's Office of Emergency Services, ATC-20 Trained Responder

Michael E. Dadik, PE, SE

Mike Dadik, a principal structural engineer and vice president with Carollo, has 31 years of experience in structural design of water, wastewater, transportation, and civil engineering projects. Since joining Carollo, he has overseen the structural design of numerous projects ranging from water and wastewater treatment plant construction and expansion to pump station seismic retrofits. Mike has extensive experience in rehabilitation and seismic vulnerability assessments. He also has extensive experience in coating and corrosion control and is Carollo's coating specialist responsible for maintenance of our coatings and finishes specifications.

Relevant Experience

→ Structural engineer for the El Dorado Irrigation District, California, Bridlewood Tank. The Bridlewood Tank is a critical component of EID's recycled water distribution network. The 4.0-MG welded steel tank needs structural repairs and recoating but cannot be taken offline for rehabilitation without impacting the District's ability to deliver recycled water.

→ Technical reviewer for the City of Turlock, California, Surface Water Distribution System Improvements, which integrates the surface water into the existing potable water distribution system. The project includes approximately 9,000 feet of 24- to 42-inch-diameter transmission main, 2.3-MG storage reservoir, 14.3-mgd (expandable to 35 mgd) booster pump station, and associated SCADA and other ancillary facilities. Carollo is providing all mechanical and EI&C design for the project. Project elements will be primarily constructed in a developed urban area. Public outreach, aesthetics of aboveground elements, utility coordination, and traffic control during construction are all key project considerations.

→ Structural engineer for the City of Cotati assessment of the City's existing 1-MG storage tank. The structural assessment included conducting a visual and code-based evaluation of the structural integrity and confirming compliance with AWWA and structural code requirements. Carollo developed recommendations based on seismic code requirements with cost estimates for the proposed improvements and integrated the projects with the City's comprehensive CIP.

→ Project manager for Alameda County Water District, California, Vineyard Heights Tank Seismic Upgrade. Following evaluation of retrofit and replacement alternatives, a retrofit was selected for this 0.5-MG steel tank. Construction involved replacing the tank lower shell course and anchoring the tank to a new foundation. The tank is the only water storage in the pressure zone requiring temporary backup power and pumping to maintain reliable service. The aggressive schedule of this $1 million project was 12 months from preliminary design notice to proceed to end of construction.

→ Project manager for Alameda County Water District, California, Appian Tank Upgrade. Project elements include replacement of the steel 0.75-MG steel tank and 3500 feet of transmission pipeline, and access road upgrades traversing upland grass habitat. The tank is the only water storage in the pressure zone requiring temporary backup power and pumping to maintain reliable service.

→ Structural engineer for the City of West Sacramento, California, Bridge District Pump Station, Reservoir, and Park. Work included design of a 3-MG water storage tank, 3,000-gpm booster pump station and a municipal park to serve the new Bridge District development. This required coordinating aesthetic treatment of the tank and pump station to compliment the neighboring subdivision.

→ Structural engineer for design of the 1.5-MG prestressed concrete Blackhorse Recycled Water Reservoir for the Marina Coast Water District, California, Regional Water Augmentation Project.

→ Structural engineer for design of the 1.8-MG prestressed concrete Reservoir 300B for the Dublin San Ramon Services District, California.

Michael E. Dadik, PE, SE

→ Structural engineer for design of the 3-MG prestressed concrete Reservoir 10B for the Dublin San Ramon Services District, California.

→ Structural engineer for the Contra Costa Water District, California, Treated Water Facilities Improvements. Work included seismic evaluation of the Lime Ridge Reservoir, a 4-MG buried cast-in-place concrete reservoir.

→ Structural engineer for the Contra Costa Water District, California, Raw Water Improvements. Work included seismic evaluation and recommendations, cathodic protection system upgrade, and construction documents for the District's Elderwood Reservoir, a 1.7-MG welded steel reservoir.

→ Technical advisor for Shea Homes/Western Summit Constructors' Mountain House, California, Tank Design. The project involved a new 6.2-MG steel tank and conversion of a 4-MG tank to finished water service.

→ Structural engineer for the seismic retrofit of the Contra Costa Water District, California, Treatment Water Facilities Improvement Program. Work included condition assessment and seismic evaluation of a buried concrete reservoir, an above-ground steel reservoir, two pump stations, and associated electric and equipment buildings. Following the seismic evaluation, recommendations were made for retrofit strategies satisfying the client's budget and performance goals.

→ Structural engineer for the City of Millbrae, California, Water System Master Plan. Carollo was contracted by the City to complete a water master plan that provided a capital improvement program to help mitigate storage deficiencies and hydraulic constraints caused by the separation of their four pressure zones. Performed seismic screening risk assessment evaluations and site assessments for the City's water storage tanks.

→ Project manager for Mountain House Developers Water Treatment Plant Raw Water Storage Tank Conversion. Carollo prepared a site planning study for buildout of the Mountain House Water Treatment Plant site. Services included planning for additional finished water storage. Carollo evaluated the feasibility of adding a new 6.2-MG steel water tank and conversion of an existing raw water tank to potable use to meet growing demands for emergency, operational, and fire flow demands. Carollo was then retained to convert the existing 4.0-MG raw water storage tank into a potable water reservoir that could be operated in series or in parallel with the previously constructed 4.0-MG potable water storage tank. This work included added a roof to the converted tank, strengthening the tank's lower shell plate, and improvements to meet CDPH requirements. The coating system was evaluated for each tank and a cathodic protection system was designed to corrosion under the tank floor plates.

→ Structural engineer for the City of Shasta Lake, California, 2010 and 2015 Urban Water Management Plans. The City's water supply system includes surface water from Shasta Lake through a combination of a long-term (40 years) contract with the USBR and long- and short-term agreements with surrounding agencies and water suppliers. Structural engineering included seismic risk evaluation of the City's ten water storage tanks.

→ Lead structural engineer for the City of Martinez, California, Water Treatment Plant (WTP) Master Plan. The project is developing cost-effective, short- and long-term capital improvements to preserve treatment plant reliability. Major areas of evaluation at the plant include the electrical system, structural/seismic issues, and process performance. Concerns were identified, recommendations were made, and an overall strategy for implementing the renewal projects was developed for a 15-year outlook.

→ Structural engineer for the seismic retrofit of the Santa Clara Valley Water District (valley Water), California, Penitencia Water Treatment Plant sedimentation basin. Work included analysis and design of a Vierendeel truss to support the basin walls during a seismic event. Special considerations at this site included the potential for lateral spreading of the soil beneath the basin resulting from a landslide.

Education

MS Civil and Environmental Engineering, Clarkson University, 1999

BS Civil Engineering, Clarkson University, 1994

Licenses

Civil Engineer, California, Delaware

Professional Engineer, Pennsylvania, Tennessee (pending)

Professional Affiliations

American Water Works Association – National Disinfection Committee, Biological Treatment Committee

Christopher T. Cleveland, PE

Chris Cleveland, a senior vice president with Carollo Engineers, has more than 28 years of experience planning, designing, and delivering water infrastructure and treatment projects throughout the United States.

Relevant Experience

→ Project manager for the El Dorado Irrigation District, California, Water Treatment Plants Master Plan. The District owns and operates four treatment plants with capacities up to 60 mgd each. The project involved comprehensive plant assessments for condition and treatment efficacy and resulted in development of a prioritized 30-year Water Treatment Plants Capital Improvement Plan.

→ Project manager for the City of Modesto, California, Industrial Tank 13 and Booster Pump Station, which involved mechanical, architectural, and structural design for a tank and pump station to serve the industrial southeast portion of the City. The 5.3-acre site includes a 4.0-MG tank, 12.0-mgd pump station, and 1.0-MG retention basin. A 24-inch transmission main conveys water from a Modesto Irrigation District turnout structure on the north side of Yosemite Boulevard to the Tank 13 site. A new 24-inch diameter pipe returns water from the new pump station to an existing City transmission main in Yosemite Boulevard. A new pump building houses electrical equipment, pumps, standby generator, restroom, and a sodium hypochlorite room. The project site also allows for the following potential future improvements: a second water storage tank, additional potable water well, and second pump station.

→ Project manager for the East Bay Municipal Utility District, California, Orinda Water Treatment Plant Disinfection Enhancements. The project provides design services for the District's 200-mgd Orinda Water Treatment Plant. The project includes new low-pressure UV disinfection facilities, chlorine contact basin, electrical building and standby generator, and filter effluent and electrical modifications, and will allow significant reduction of disinfection byproduct formation to continue producing high-quality potable water.

→ Project engineer for the City of Sacramento, California, 110-mgd Fairbairn Water Treatment Plant Expansion to the existing 90-mgd conventional plant. The new process included four-stage flocculation basins, sedimentation basins with mechanical sludge collection, dual media granular filters, 7-MG CT basin and clearwell, and 100 mgd of additional high service pump station capacity. The project also added a new chemical storage and feed building, new two-story maintenance and control building, and solids handling facilities. Special considerations were made in the design for future implementation of UV disinfection facilities. This $53-million project bid below the engineer's estimate. Unique project challenges included habitat requirements for endangered species and large pipeline construction in the City's flood control levee. The project also required coordination with an expanded and upgraded intake structure on the American River.

→ Project manager for the City of Sacramento, California, Department of Utilities Water Treatment Plants Rehabilitation. The project objective was to rehabilitate and replace facilities at the 100-year-old Sacramento River Water Treatment Plant (SRWTP) to maintain its 160 mgd capacity and provide new mechanical residuals handling systems for it and the 200-mgd E.A. Fairbairn Water Treatment Plant (EAFWTP) to improve and increase the solids handling capacity. Key components at SRWTP included 80 mgd of flocculation/sedimentation; high-rate granular media filters; 7,000-hp high-service pump station; spent backwash handling and mechanical dewatering-based solids handling systems; disinfection system expansion; new plant electrical substation and electrical system improvements; large-diameter piping; and clearwell improvements. Key components at EAFWTP included spent backwash handling facilities and new mechanical dewatering-based solids handling systems.

Christopher T. Cleveland, PE

→ Principal-in-charge/project manager for the City of Sacramento, California, Long-Term Water Treatment Capacity Evaluation (WTPs Master Plan). The City currently operates two surface water treatment plants. The E.A. Fairbairn Water Treatment Plant (EAFWTP) is located on the American River and is rated at 200 mgd. To meet the projected future demand of 410 mgd, the City will need to develop 150 mgd of additional treatment capacity. This study evaluated the costs and challenges associated with alternatives for increasing capacity, including pumping back to EAFWTP (150 mgd), expanding the Sacramento River Water Treatment Plant (150 mgd of additional capacity), building a new water treatment plant in North Natomas on the Sacramento River (150 mgd), and a combination of these alternatives.

→ Project engineer for mechanical design of an 80-mgd expansion for the City of Sacramento, California, Sacramento River Water Treatment Plant to an overall capacity of 160 mgd. Responsibilities included mechanical design of the grit basin/flash mix/flow split structure, flocculation basins, CT basin/clearwell, and filter waste washwater and sludge handling lagoons. Unique aspects of the project include one of the largest grit basins of its kind, flow split into three separate treatment trains, and design of plant facilities to account for a 100-year flood. The project included construction of raw water pipelines that connected to a new 160-mgd intake structure on the Sacramento River.

→ Project manager for the City of West Sacramento, California, Bridge District Pump Station, Reservoir, and Park, a dual-purpose water storage facility and neighborhood park that provides essential infrastructure for the Ironworks neighborhood and future development in the Bridge District. The project includes design of a 3-MG water storage tank; 3,000-gpm booster pump station; and a municipal park, as well as security features such as CCTVs, hardened perimeter, and intrusion alarm systems. The project also involved public outreach and coordination with utilities and various agencies. The final design incorporated several innovative features. Since it would not be possible to conceal the tank from view, the decision was made to celebrate the tank and make it stand out as part of the surrounding park. Architectural relief using steel piping and exterior lighting were incorporated into the design as part of a community water theme. The Bridge District Water Storage Facility won the American Public Works Association's 2014 Project of the Year (Small Agency Division) and 2015 National Project of the Year (Small Cities/Rural Communities).

→ Principal-in-charge for a 15-month biodenitrification pilot study for the Cucamonga Valley Water District, California. The project involved confirming anticipated design criteria for nitrate removal, attaining California Division of Drinking Water conditional approval for biottta®-based dibromochloropropane treatment, demonstrating the stability of the system under forced system disturbances, and familiarizing District staff with the system.

→ Principal-in-charge and design manager for a three-year wellhead treatment project with the City of Delano, California. During the project, a nine-month pilot study was performed to confirm anticipated design criteria for a two-stage, fixed-bed biotreatment system. The results of the pilot study were used to design, construct, and perform an approximately 12-month demonstration of a full-scale biological nitrate treatment facility.

→ Principal-in-charge and design manager for a West Valley Water District, California and Department of Defense project focused on implementing fixed-bed biotreatment (FXB). The objective of this work is to evaluate the efficacy of using FXB biological treatment and post-treatment to remove perchlorate from groundwater and produce water that meets all drinking water standards. Using over 19 years of bench and pilot-scale experience as a foundation, Carollo is providing a 950-gpm demonstration of FXB biological treatment for removing perchlorate from the District's Well No. 11 and the City of Rialto's Well No. 6 under a design-build delivery model.

Education

BS Civil Engineering, South Dakota School of Mines and Technology, 1995

Licenses

Professional Engineer, Colorado

S. Jason Rozgony, PE

Jason Rozgony has 26 years of experience in the water and wastewater industry, the majority of which has been full-time cost estimating for engineering projects and at-risk, CMAR, design-build, and hard-bid projects. He has been responsible for development of corporate estimating standards and has managed estimating staff across the United States. Jason has prepared discipline-level estimates and has led complete estimates for more than 400 design and fixed-price construction projects requiring collaboration with design engineers, vendors, and subcontractors from preliminary through final design.

Relevant Experience

→ Estimator for the East Bay Municipal Utility District, California, $270 million Orinda Water Treatment Plan Disinfection Enhancement project.

→ Estimator for the City of Sunnyvale, California, $50 million Water Pollution Control Plant Secondary Treatment and Dewatering Facilities Design. The project included expanding the secondary treatment process to a conventional activated sludge (CAS) process, adding dewatering and thickening facilities for sludge handling, and adding sidestream ammonia treatment. The CAS process will remove nitrogen in anticipation of upcoming nutrient regulations in the San Francisco Bay.

→ Estimator for the City of Richmond, California, $34 million Veolia Wastewater Treatment Plant Critical Improvements. Car-ollo provided design and engineering ser-vices during construction for Veolia Water's Critical Improvements. The project included grit removal, fine screen, and odor control system upgrades at the headworks; aeration basin diffuser improvements; secondary effluent splitter box modifications; new blower building; and secondary clarifier mechanism replacement for early imple-mentation of critical facility components.

→ Estimator for the San Francisco Public Utilities Commission, California, Treasure Island Wastewater Treatment Plant
Task Order 3.

→ Estimator for the Inland Empire Utilities Agency, California, IEU RP-1 Liquid Solids Capacity Recovery project.

→ Estimator for the County Sanitation Districts of Los Angeles County, California, $120 million Lancaster Water Reclamation Plant Expansion Phase I.

→ Estimator for the San Francisco Public Utilities Commission, California, $1.1 billion Southeast Treatment Plant Biosolids Improvements.

→ Estimator for the City of Aurora, Colora-do, $19 million Wemlinger Water Purifica-tion Plant CT Chamber Design. The project involved design of a 2.5-MG buried con-crete disinfection chamber with a serpentine channel and a baffling factor of 0.80 outside of the treated water reservoir.

→ Estimator for the Tualatin Valley Water District, Oregon, Willamette Water Supply Project. This regional water supply program will be planned, designed, and constructed so that it is fully operational by 2026. The program includes an expanded intake, pump station, 20-MG reservoir, approxi-mately 30 miles of 66-inch-diameter steel transmission pipelines, and a new, seismical-ly resilient water treatment plant that will initially produce up to 60 mgd with a future buildout of 120 mgd.

→ Estimator for the Seattle Public Utilities, Washington, $66 million West Seattle and Maple Leaf Reservoirs.

→ Estimator for the Peace River Manasota Regional Water Supply Authority, Florida, Peace River Reservoir Expansion. This $45-million project included the construction of an earthen reservoir.

→ Estimator for the City of Las Vegas, Nevada, $20 million Filtration Building Improvements.

→ Cost estimator for the City of Westminster, Colorado, North Huron Interceptor. Responsible for cost estimating consistent with

design level submittals for the detailed design and routing of the under-capacity sections of sewer interceptor, resulting in approximately 7,400 linear feet of new interceptor piping. $14 million.

→ Estimator for the City of Odessa, Texas,$154 million Water Quality Improvements Phase III. This 55-mgd surface water treat-ment project included a new 20-mgd high-rate flocculation/sedimentation facility that replaced existing facilities. The project in-cluded water treatment plant rehabilitation and miscellaneous upgrades in which Carol-lo conducted a process evaluation to im-prove the water quality, which has high lev-els of hardness and total dissolved solids. The improvements include structural reha-bilitation, new chemical and electrical facili-ties with advanced water treatment in mind, city-wide SCADA upgrades, and construc-tion of new plate settlers in lieu of aging flocculation and sedimentation basins.

→ Estimator for the City of North Miami Beach, Florida, $30 million Northwood Water Treatment Plant Phase II Improvements.

→ Estimator for the South Adams County Water and Sanitation District, Colorado, $42 million Pellet Softening, Disinfection, and Facility Improvements. The project involves adding a 14-mgd softening treatment system consisting of pellet reactors, recirculation pumping, seed washing, seed and pellet transfer pumping, pellet storage, stabilization basins, filters, and multiple new chemical treatment systems to integrate with the existing plant.

→ Estimator for the North Texas Municipal Water District, Texas, $31 million South Mesquite Regional Wastewater Treatment Plant Solids Handling Improvements. The project involved providing a new solids de-watering facility to process solids for the current 33-mgd plant capacity, including consideration for future equipment to pro-cess solids for the 41-mgd plant capacity.

→ Estimator for the Eagle River Water and Sanitation District, Colorado, $50 million Avon Wastewater Treatment Facility Nutrient Upgrades. This project included improvements to the Avon Wastewater Treatment Facility secondary treatment process to meet Regulation 85 nutrient limits. The recommended process configuration included an Anaerobic/Anoxic/Oxic (A2O) process with flexibility to operate in the 5-Stage Bardenpho configuration. Design elements included expanded and modified aeration basins, secondary pumping, a new secondary clarifier, and condition assessment improvements to screening, grit removal, primary sedimentation, and equalization basins. The project was delivered via a CMAR delivery model to include construction sequence and constructability approach in the design process.

→ Estimator for the City of Kansas City, Missouri, $155 million Blue River Wastewater Treatment Plant Biosolids Upgrades. This project includes the preliminary and conceptual design of a new THP system and necessary improvements for processing biosolids from three of the City's wastewater treatment facilities. Project included providing assistance to the City for procurement strategy development, packaging evaluations, development of preliminary design of the THP system, comprehensive evaluation of proposal submittals, and negotiation of a long-term service contract.

→ Estimator for the City of Houston, Texas, Owner's Advisor Northeast Water Purification Plant Expansion. Carollo is providing a complete range of owner's advisory construction quality monitoring services, such as field inspection and document and scheduling review.

→ Cost estimator for the City of Salem, Oregon, $39 million Geren Island Water Treatment Plant Improvements. Carollo developed, vetted, and deployed near-term mitigation strategies in less than three weeks. This included design of temporary treatment systems, installed without plant shutdown during this high-water demand period. Provided cost estimating for the project delivered through a CM/GC method to construct a new ozone facility.

Education

BS Environmental Engineering, California Polytechnic State University, San Luis Obispo, 2005

Licenses

Civil Engineer, California

Certification

10-Hour Construction Safety and Health, Occupational Safety and Health Administration, California, 10/18/2007

Certificate, C2 Fall Protection, ClickSafety, 2013

Certificate, C2 Confined Spaces, ClickSafety, 2013

Certificate, C2 Excavation Safety R2, ClickSafety, 2013

Professional Affiliations

American Public Works Association

California Water Environment Association

Water Environment Federation

Keith T. Corcoran, PE

Keith Corcoran has 18 years of engineering experience. He has served as design engineer, resident engineer, and construction manager for water and wastewater facilities and infrastructure, including heavy civil, large-diameter pipelines, screening facilities, pumping stations, treatment facilities, and water mains.

Relevant Experience

→ Design engineer for the City of Modesto, California, Industrial Tank 13 and Pump Station, which involved design of a 4.2-MG concrete reservoir and 12-mgd pump station. The project included four horizontal split case pumps, altitude sustaining valve, piping, HVAC, monorail, and an AWWA D110 Type I tank.

→ Design engineer for the City of Turlock, California, Fulkerth Tank and Pump Station, which involved design of a 1-MG concrete reservoir and 7.75-mgd pump station. Responsible for tank material evaluation, site layout, and pump station design, which included horizontal split case pumps, altitude sustaining valve, piping, HVAC, and monorail.

→ Engineering services during construction for the City of Turlock, California, Fulkerth Tank and Pump Station, which involved construction of an AWWA D110 prestressed concrete water tank and booster pump station. Responsible for submittal review, responses to requests for information, and preparation of design clarifications.

→ Design engineer for the Santa Cruz County Sanitation District, California, Noble Gulch Sewer Improvements. The project included more than 2,400 feet of 8-inch gravity sewer, 6,700 feet of 15-inch gravity trunk sewer, and 2,000 feet of 8-inch sliplining. Construction methods included traditional open cut, sliplining, and microtunneling trenchless technology. Responsible for design, specifications, and cost estimate.

→ Project engineer for the City of Oroville, California, Corridor Study for Oroville Dam Boulevard Relief Sewer. The project evaluated two alternative sewer alignments that included Caltrans right of way, Union Pacific right of way, and coordination with other utility providers.

→ Design engineer for the Santa Cruz County Sanitation District, California, Brommer/Hidden Beach Pump Station Rehabilitation. The project involved replacement of three pumps at each lift station and appropriate piping while maintaining lift station operations. Responsible for developing project plans and specifications.

→ Design engineer for the California American Water Small Main/Backyard Main Replacement Program for the Lincoln Oaks Water System. Prepared a Basis of Design Report; contacted local city and county officials for encroachment requirements; coordinated the layout of approximately 15,000 feet of water main within existing utility corridors; prepared cost estimates, drawings, and specifications; and designed and coordinated with Caltrans for 350 feet of bore and jack trenchless construction under Interstate 80.

→ Support engineer for the California Department of Corrections and Rehabilitation Mule Creek State Prison Wastewater Treatment Plant. Prepared a waste discharge report and water conservation measure report, assembled an operations and maintenance manual for the entire treatment plant, and evaluated dam seepage through site visits and water samples.

→ Support engineer for the California Department of Corrections and Rehabilitation Corcoran State Prison Wastewater Treatment Plant. Quantified the total flow into the treatment plant and investigated the potential infiltration and inflow (I/I). Site evaluations of the prison's machinery and equipment that discharge wastewater and flow monitoring data were used to complete the I/I report.

→ Design engineer for the California Department of Corrections and Rehabilitation California Men's Colony replacement of degraded sewer laterals. Responsible for gath-

ering necessary permits and easement documentation, providing alternatives for rehabilitation methods, designing sewer replacements, and developing a cost estimate.

→ Support engineer for the City of Redding, California, Mary Street Lift Station. Evaluated alternatives to relieve an elevated gravity sewer, coordinated with local utilities to collect the necessary easements documentation, developed cost estimates for each alternative, and composed a technical memorandum to summarize findings and recommendations.

→ Support engineer for the City of Folsom, California, Zone 2, Zone 3 Cimmaron, and Zone 3 Foothills Pump Stations. Responsible for reviewing shop drawings, responding to requests for information, and developing cost estimates.

→ Support engineer for the California Department of Corrections and Rehabilitation California Men's Colony Infiltration and Inflow (I/I) study. Analyzed the existing sewer collection system, provided alternatives for rehabilitation methods, developed a cost estimate for the alternatives, and composed an I/I report of the findings.

→ Support engineer for the Sacramento County Sanitation District 1, California, Random Lane/Arden Creek Pump Station. Coordinated with other local utilities to collect necessary easement documentation and designed an alternative to relieve surcharging during extreme storm events.

→ Staff engineer for the City of Sacramento, California, Department of Utilities Water Treatment Plants Rehabilitation. The project involved improvements needed to rehabilitate the Sacramento River Water Treatment Plant (SRWTP) to 160 mgd and to upgrade and increase solids handling capacity for the 200-mgd E.A. Fairbairn Water Treatment Plant (EAFWTP). Key SRWTP components included flocculation/sedimentation basin, filters, high-service pump station, mechanical dewatering-based solids handling systems, electrical system improvements, piping, and clearwells. Key EAFWTP components included new dewatering-based solids handling systems. Responsible for civil/site work and serving as lead engineer for specifications to coordinate work between the various engineering disciplines and subconsultants.

→ Support engineer for the Sacramento Regional County Sanitation District, California, EchoWater Project Flow Equalization Project (FEQ). The $130 million FEQ involved addition of 110 MG of storage capacity for the facility and flexibility in operations to handle peak wastewater and/or off-spec treated effluent. Features included concrete lined basins, spillways and interconnections structures, 84-inch-diameter final effluent distribution pipeline, underdrain pump station, basin washdown system, and effluent junction structure. The effluent junction structure involved connecting the two existing 102-inch-diameter effluent pipes using 84-inch and 102-inch welded steel pipe and two 84-inch and two 102-inch butterfly valves.

→ Project manager and lead design engineer for the City of Pismo Beach, California, Wastewater Treatment Plant Sludge Dewatering Improvements. Responsible for evaluating and designing a new waste activated sludge thickening and dewatering process with associated pumping and yard piping required for the new equipment.

→ Lead civil engineer for the City of Everett, Washington, Water Pollution Control Facility Phase C1 Expansion. The project included improvements to the liquid stream process (trickling filters, solids contact process, and effluent pumping), which required pile supports due to poor soil conditions. Responsible for design of yard piping in poor soils, paving and grading, and meter vault.

→ Design engineer for the City of Red Bluff, California, Wastewater Reclamation Plant Treatment Reliability Project. Responsible for design of a secondary clarifier, return activated sludge pump station, and site civil.

Education

MS Environmental and Water Resources Engineering, University of Texas at Austin, 2019

BS Civil Engineering, University of California, Davis, 2015

Licenses

Professional Engineer, California

Professional Affiliations

American Water Works Association

PE Review Chair, American Society of Civil Engineers San Diego Section Younger Member Forum, August 2016-August 2017

Madison Rasmus, PE

Madison Rasmus has six years of experience on a wide range of projects in southern and northern California. Her experience to date includes grant writing, planning, design, and construction work.

Relevant Experience

→ Grant writer for the City of Alexandria, Virginia, Waterfront Implementation (WFI) project (2021). Currently in design, the WFI project is anticipated to cost nearly $200 million in total project cost and provides a series of infrastructure and nature-based improvements to mitigate frequent instances of flooding within historic Old Town Alexandria, Virginia. Primarily responsible for pulling together the FEMA BRIC application for this project in 2021. The 2021 BRIC application requested the maximum $50 million amount to allow the City greater financial flexibility in pursuing the best possible flooding solutions to better the Alexandria community and provide additional recreational amenities as a part of the project elements. Compiling the BRIC application entailed coordination with the project design engineers, City staff, and FEMA staff as well as compilation of a comprehensive BRIC application and 24 application attachments. The complete application detailed project design alternatives, a detailed cost-benefit analysis, City letters or support, historic documentation, and available project design work to date.

→ Grant writer for the City of Salinas, California, Proposition 1 Storm Water Grant Service. The City took the lead in preparing a grant application for Proposition 1, Round 2 Storm Water Program Grant, administered by the State Water Resources Control Board. The City wanted to identify and develop potential new storm water elements for inclusion in the grant package. Carollo was tasked with project management and administration, research and data collection and review, development of a viable storm water project list, development of draft and final grant packages, and submittal of the final grant package.

→ Grant writer for the City of Santa Fe, New Mexico, On Call Engineering Services for the Water System Capital Improvements Program (2022). In addition to regular engineering support for the City, Carollo was tasked with prioritizing City infrastructure projects for funding and completing funding applications. Responsibilities included coordination with City staff on project prioritization, completion of multiple Congressionally Directed Spending Requests (CDSs) and coordination with New Mexico congress office staff, completion of funding applications for the Water Resources Development Act of 2022 (WRDA) program, and completion of a Water Trust Board Fund application (New Mexico-specific program)

→ Project engineer for the One Water Plan, Palo Alto, California (2022-Ongoing). Developing a 20-year adaptable roadmap for the implementation of prioritized water supply and conservation portfolio alternatives. The Plan will address how the City can mitigate impacts of future uncertainties, such as severe multi-year droughts, changes in climate, water demand, and regulations through integrated water resources supply planning. Maddi is supporting the effort to develop water supply and conservation options, define evaluation criteria, and create a model of Palo Alto's water supply system to test current and potential future water supplies for reliability and other identified criteria.

→ Project engineer for the City of Salinas, California, Industrial Wastewater Treatment Feasibility Study, and Project Implementation Support (2021-Ongoing). The City is home to numerous fruit and vegetable processing industries, which discharge wastewater to the Industrial Wastewater Treatment Facility (IWTF). This has been a multiyear endeavor starting with a feasibility study to assess the current performance of IWTF and collection system as well as improvements needed to accommodate new industrial users coming online. The study also included a rate study as industrial user rates had not been updated since 2012. The resulting report included a capacity analysis,

project recommendations, costs, and updated rates and connection fees that are currently in the Prop 218 approval process. The project recommendations for upgrading the IWTF are currently in design, Carollo has remained engaged to review design documents and provide general project support.

→ Project engineer for South Tahoe Public Utility District, California, Recycled Water Strategic Plan (2022-Ongoing). This ongoing project is evaluating alternatives for wastewater effluent treated in the Tahoe Basin. Over 20 alternatives were developed in coordination with the District, Carollo technical experts, and key stakeholders. Responsibilities to date have included, development of fact sheets for the alternatives and drafting of a technical memorandum describing and qualitatively evaluating each alternative.

→ Project engineer for the City of Mountain View, California, recycled water feasibility study, which was funded by grants from the State Water Resources Control Board and the U.S. Bureau of Reclamation (Title XVI) (2020). The project considered opportunities to expand the system to serve the growing Silicon Valley area, including redevelopment of Moffat Field. Responsible for compilation of the final report, authorship of chapter portions, and team coordination.

→ Project engineer for the East Bay Municipal Utility District, California, Integrated Wastewater Master Plan (2020-2021). Publicly owned treatment works in the San Francisco Bay Area are faced with numerous challenges, including population growth, potential new regulations, biosolids reuse, air emissions, changing influent characteristics from water conservation and climate change, site constraints, aging infrastructure, and more. These challenges presented the need for the District to implement upgrades and rehabilitation at wastewater treatment facilities. With Carollo, the District embarked on the development of a comprehensive master plan to set forth direction for the needed upgrades and improvements. The master plan provided a 30-year roadmap with project implementation triggers and off-ramps; a prioritized, near-term capital improvement plan that allowed no-regret project implementation; and a plan to maximize revenues while meeting regulations. Responsibilities included report compilation and updates and development of conceptual site layouts.

→ Engineer of the City of Montecito, California, Recycled Water Feasibility Study. Performed an alternatives analysis for the treatment upgrades at the City's wastewater treatment plant. The project evaluated the implementation of a new membrane bioreactor (MBR) either by retrofitting existing tanks or constructing a greenfield site. Tasks included development of site layouts, sizing and costing a flow equalization basin, coordinating with technical experts on treatment design parameters for the MBR system, capital and O&M cost comparisons of both alternatives, and authoring a technical memorandum summarizing findings.

→ Project engineer for the City of Ventura, California, Wastewater Facility Master Plan (2021-2022). Led the development of a facility master plan encompassing the City's water reclamation facility (VWRF) and associated collection system. Responsible for performing flow and loading analysis for the VWRF, assisting in Biowin modeling to assess the VWRF's current and projected capacity, developing and costing CIP recommendations, coordinating with other project team members (such as the collection system team and technical experts), and authoring a majority of the master plan chapters and compiling the final report.

→ Project engineer for the City of Ventura, California, Secondary and Tertiary Treatment Alternatives Analysis (2022). A recent condition assessment indicated that several secondary treatment processes at the VWRF were in need of replacement. This alternatives evaluation compared rehabilitating existing processes with nutrient removal enhancements versus replacing the secondary and tertiary treatment processes with a new MBR and ultraviolet (UV) disinfection system. Responsibilities included site layout development, coordinating with technical experts on treatment design parameters, capital and O&M cost comparisons of both alternatives, and authoring a technical memorandum summarizing findings

Brandon K. Shimizu, P.E., G.E.

Education
B.S., Civil Engineering, California State University, Sacramento 1998

Registrations
Professional Engineer, License #61780
Professional Geotechnical Engineer, License #2712

Experience
Reservoir A, El Dorado Irrigation District
Performed a foundation engineering study for the project site located on the west side of Sly Park Road in Pollock Pines. The purpose of this study was to explore and evaluate the surface and subsurface conditions at the site and to develop geotechnical information and design criteria for the proposed project.

Reservoirs 2 and 2A, El Dorado Irrigation District
Performed a foundation engineering study for the project site located on the west side of Snows Road in Camino. The study was to explore and evaluate the surface and subsurface conditions at the site and to develop geotechnical information and design criteria for the proposed project.

Raw Water Pipeline, SMUD, Folsom
Earthwork consultation, observation, and materials testing for 60-inch-diameter raw water pipeline from Folsom Dam to the water treatment plant.

Oak Avenue Parkway Lift Station, Folsom
Project engineer for geotechnical design, as well as special inspection and materials testing for a temporary lift station to serve the Empire Ranch development.

Valley View Sewer Lift Station, El Dorado Hills
Project engineer for geotechnical design, as well as special inspection and materials testing for a lift station to serve the Valley View (Blackstone) development.

Valley View Water Tanks, El Dorado Hills
Project engineer for geotechnical design as well as special inspection and materials testing for three new water tanks in El Dorado Hills.

Various Lift Station Upgrades, El Dorado Hills
Provided technical oversight for the geotechnical investigations for the upgrades to the Yates, Timberline and EDH Business Park Lift Stations.

CPP Raw Water Treatment Facility, SMUD, Sacramento County
Provided geotechnical oversight of in-house engineers regarding design and construction of pile foundations for the proposed raw water treatment facility.

Folsom Plan Area Zone 5 Water Tank and Zone 6 Pump Station, Folsom
Project engineer for geotechnical design, as well as special inspection and materials testing for potable water distribution system to serve the Folsom Ranch development.

Folsom Plan Area Zone 4 and 5 Booster Pump Station, Folsom
Project engineer for geotechnical design, as well as special inspection and materials testing for potable water distribution system to serve the Folsom Ranch development.

Folsom Plan Area Alder Creek Parkway Sewer Lift Station and Force Main, Folsom
Project engineer for geotechnical design, as well as special inspection and materials testing for sewer force main system to serve the Folsom Ranch development.

Folsom Plan Area Folsom Ranch Sewer Project, Folsom
Project engineer for geotechnical design, as well as special inspection and materials testing for gravity sewer system to serve the Folsom Ranch development.

Expertise
- Foundation and Pavement Design
- Slope Stability Analysis
- Geologic Hazard Assessments
- Seismic Design Criteria
- Construction QA
- Soils Remediation
- Mechanically Stabilized Earth Design
- Segmental Retaining Wall Design

Career Background
Youngdahl Consulting Group, Inc.,
Senior Geotechnical Engineer
1998 – Present

YOUNGDAHL CONSULTING GROUP, INC.
ESTABLISHED 1984

Charlie Czapkay, PLS #8297

Mr. Czapkay has 20+ years experience in land surveying. Through his direct involvement in multiple aspects of the surveying process, Mr. Czapkay has gained experience in a wide array of land surveying projects, including residential, commercial, institutional, and industrial developments. Mr. Czapkay is also proficient in AutoCAD and LDD.

Mr. Czapkay has experience in the following areas:

- Project management and supervision of survey staff
- Topographic surveys
- Boundary surveys
- ALTA/ACSM Land Title Survey
- Preparing legal descriptions and exhibit plats
- Construction staking
- Settlement monitoring
- Utility surveys
- FEMA elevation certifications
- Control for aerial photography/aerial mapping
- Coordination with governmental agencies
- Abandonment Maps and Descriptions
- Acquisition Maps and Descriptions
- Appraisal Maps
- Cadastral Surveys
- Final Subdivision and Parcel Maps and Records of Survey Maps
- GPS Surveys
- Hydrologic Surveys
- Lot Line Adjustment and Lot Merger Maps and Descriptions
- Right of Way Maps and Descriptions
- Tentative Subdivision and Parcel Maps
- Quit Claim Maps and Descriptions

Professional Resume:

- 2001 – Present
  Land Surveyor, Area West Engineers, Inc.

Education:

- 2007 – California Professional Land Surveyor, PLS 8297
- 2001 – A.S. Surveying Santa Rosa Junior College, Santa Rosa, CA

carollo.com

2023 CAPITAL IMPROVEMENT PLAN Program: Water

Project Number: PLANNED

Project Name: Storage Tank Replacement & Rehabilitation Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Delongchamp **Board Approval:** 11/14/22

Project Description:

This program consists of targeted replacement and rehabilitation of drinking water storage tanks and reservoirs within the distribution system. The District operates 36 steel storage tanks, ranging in age from 8 to 58 years of age, most of which were constructed in the last 18 years as part of the District line and cover program. Additionally, the District operates 7 floating cover drinking water reservoirs ranging in age from 26 to 33 years of age. This program is to identify specific tanks and reservoirs to rehabilitate, replace, or upgrade to maintain service reliability throughout the District. Program management expenditures identified include prioritizing and designing each tank and reservoir improvement project. Actual replacement costs for each individual tank and reservoir will be brought to the Board for specific approval.

Basis for Priority:

Life cycle replacement of District assets due to age and degradation.

Project Financial Summary:			
Funded to Date:		**Expenditures through end of year:**	**$ -**
Spent to Date:		**2023 - 2027 Planned Expenditures:**	**$ 9,025,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 9,025,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 9,025,000**

Description of Work	**Estimated Annual Expenditures**					
	2023	**2024**	**2025**	**2026**	**2027**	**Total**
Design/Planning	**$ 75,000**	**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ 475,000**
Construction		**$ 650,000**	**$ 4,600,000**	**$ 300,000**	**$ 3,000,000**	**$ 8,550,000**
TOTAL	**$ 75,000**	**$ 750,000**	**$ 4,700,000**	**$ 400,000**	**$ 3,100,000**	**$ 9,025,000**

Estimated Funding Sources	**Percentage**	**2023**	**Amount**
Water FCCs	100%		$75,000
Total	**100%**		**$75,000**

Funding Comments:

Reservoir 1 and Pollock Pines Reservoir Replacement Project Project No. 23009.01

Basis of Design Report Contract

August 28, 2023

Previous Board Actions

- November 14, 2022 – Board adopted the 2023-2027 Capital Improvement Plan (CIP), subject to available funding.

- February 13, 2023 – Board received an overview regarding the condition of District storage reservoirs and tanks.

Summary of Issue

- Seven floating membrane (Hypalon) covered reservoirs in the system
  - 20-30 year life expectancy, all of the District's Hypalon covers have exceeded their useful life and need replacement
  - $200,000 / year spent on leak repair, approximately 10 repairs each year
  - Hypalon covers are vulnerable to wildfire

Project Background

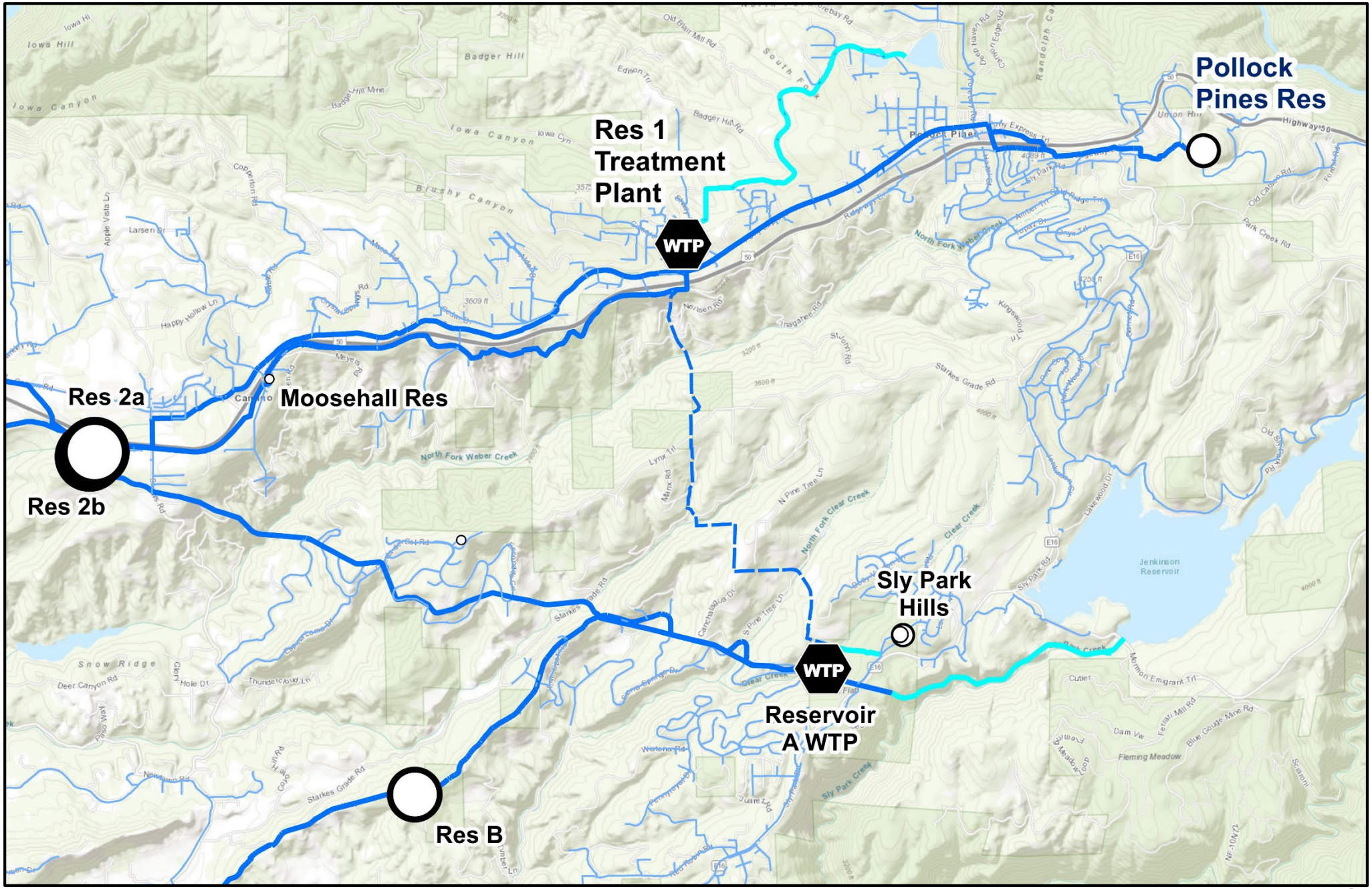
Reservoir 1

- 2.8 million gallon
- Built in 1961, un-lined & un-covered
- Hypalon liner & cover added in 1988/1989

Pollock Pines Reservoir

- 2.6 million gallon
- Built in 1962, un-lined & un-covered
- Hypalon liner & cover added in 1990
- 10 gal/min leak


FOREBAY
RESERVOIR
RESERVOIR 1
HIGHWAY 50
POLLOCK
PINES
RESERVOIR


Pollock Pines Res
Res 1 Treatment Plant
WTP
Moosehall Res
Res 2a
Res 2b
Sly Park Hills
WTP
Reservoir A WTP
Res B


Reservoir 1


Pollock Pines Reservoir


Reservoir A


Reservoir 12

Basis of Design Report

- Location Alternatives Analysis
- Hydraulics Analysis
- Geotechnical Analysis
- Topographic Survey
- Define Constructability Parameters
  - Temporary Storage
  - Laydown and Staging
  - Temporary Pumps
- 10% level of design site plan

Request for Proposals

Consultant	Total Cost
Water Works Engineers, LLC	$ 120,432
Carollo Engineers	$ 146,425
Peterson Brustad Inc.	$ 180,797

Staff recommends award to Carollo Engineers due to their experienced team, appropriate staffing and billing rates, and relevant project experience.

Federal Emergency Management Agency (FEMA) – Hazard Mitigation Grant Program

- Grant application submitted in August
- May be eligible for 75%-100% reimbursement
  - Design
  - Construction

Anticipated Project Schedule

Event	**Date**
BODR	September 2023 – February 2024
Design Contracting	March 2024 – July 2024
Project Design	August 2024 – June 2025
Construction Bidding	July 2025 – December 2025
Construction	2026

Funding Requirements

BODR Contract – Carollo Engineers	$ 146,425
Capitalized Labor (operations staff coordination, project management, and environmental review)	$ 45,000
10% contingency	$ 20,000
TOTAL	**$ 211,425**

Board Options

Option 1: Award a contract to Carollo Engineers in the not-to-exceed amount of $146,425 to prepare a Basis of Design Report and authorize additional funding of $45,000 for capitalized labor and $20,000 in contingencies, for a total funding request of $211,425 for the Reservoir 1 and Pollock Pines Reservoir Replacement Project, Project No. 23009.01.

Option 2: Take other action as directed by the Board.

Option 3: Take no action.

Recommendation

Option 1

Questions?