NOTICE OF REGULAR MEETING
OF THE
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
ENGINEERING COMMITTEE

June 13, 2024
8:30 a.m.

NOTICE IS HEREBY GIVEN that a Regular Meeting of the South Orange County Wastewater Authority (SOCWA) Engineering Committee was called to be held on **June 13, 2024, at 8:30 a.m.** SOCWA staff will be present and conducting the meeting at the SOCWA Administrative Office located at 34156 Del Obispo Street, Dana Point, California.

THE SOCWA MEETING ROOM IS WHEELCHAIR ACCESSIBLE. IF YOU REQUIRE ANY SPECIAL DISABILITY RELATED ACCOMMODATIONS, PLEASE CONTACT THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY SECRETARY'S OFFICE AT (949) 234-5452 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO THE SCHEDULED MEETING TO REQUEST SUCH ACCOMMODATIONS. THIS AGENDA CAN BE OBTAINED IN ALTERNATE FORMAT UPON REQUEST TO THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY'S SECRETARY AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO THE SCHEDULED MEETING. MEMBERS OF THE PUBLIC HAVE THE OPTION TO PARTICIPATE IN AND MAY JOIN THE MEETING REMOTELY VIA VIDEO CONFERENCE FOR VISUAL INFORMATION ONLY (USE ZOOM LINK BELOW) AND BY TELECONFERENCE FOR AUDIO PARTICIPATION (USE PHONE NUMBERS BELOW). THIS IS A PHONE-CALL MEETING AND NOT A WEB-CAST MEETING, SO PLEASE REFER TO AGENDA MATERIALS AS POSTED ON THE WEBSITE AT WWW.SOCWA.COM. ON YOUR REQUEST, EVERY EFFORT WILL BE MADE TO ACCOMMODATE PARTICIPATION. FOR PARTIES PARTICIPATING REMOTELY, PUBLIC COMMENTS WILL BE TAKEN DURING THE MEETING FOR ORAL COMMUNICATION IN ADDITION TO PUBLIC COMMENTS RECEIVED BY PARTIES PARTICIPATING IN PERSON. COMMENTS MAY BE SUBMITTED PRIOR TO THE MEETING VIA EMAIL TO ASSISTANT SECRETARY DANITA HIRSH AT DHIRSH@SOCWA.COM WITH THE SUBJECT LINE "REQUEST TO PROVIDE PUBLIC COMMENT." IN THE EMAIL, PLEASE INCLUDE YOUR NAME, THE ITEM YOU WISH TO SPEAK ABOUT, AND THE TELEPHONE NUMBER YOU WILL BE CALLING FROM SO THAT THE COORDINATOR CAN UN-MUTE YOUR LINE WHEN YOU ARE CALLED UPON TO SPEAK. THOSE MAKING PUBLIC COMMENT REQUESTS REMOTELY VIA TELEPHONE IN REAL-TIME WILL BE ASKED TO PROVIDE YOUR NAME, THE ITEM YOU WISH TO SPEAK ABOUT, AND THE TELEPHONE NUMBER THAT YOU ARE CALLING FROM SO THE COORDINATOR CAN UN-MUTE YOUR LINE WHEN YOU ARE CALLED UPON TO SPEAK. ONCE THE MEETING HAS COMMENCED, THE CHAIR WILL INVITE YOU TO SPEAK AND ASK THE COORDINATOR TO UN-MUTE YOUR LINE AT THE APPROPRIATE TIME.

AGENDA ATTACHMENTS AND OTHER WRITINGS THAT ARE DISCLOSABLE PUBLIC RECORDS DISTRIBUTED TO ALL, OR A MAJORITY OF, THE MEMBERS OF THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY ENGINEERING COMMITTEE IN CONNECTION WITH A MATTER SUBJECT FOR DISCUSSION OR CONSIDERATION AT AN OPEN MEETING OF THE ENGINEERING COMMITTEE ARE AVAILABLE FOR PUBLIC INSPECTION IN THE AUTHORITY ADMINISTRATIVE OFFICE LOCATED AT 34156 DEL OBISPO STREET, DANA POINT, CA ("AUTHORITY OFFICE") OR BY PHONE REQUEST MADE TO THE AUTHORITY OFFICE AT 949-234-5452. IF SUCH WRITINGS ARE DISTRIBUTED TO MEMBERS OF THE ENGINEERING COMMITTEE LESS THAN SEVENTY-TWO (72) HOURS PRIOR TO THE MEETING, THEY WILL BE AVAILABLE IN THE RECEPTION AREA OF THE AUTHORITY OFFICE AT THE SAME TIME AS THEY ARE DISTRIBUTED TO THE ENGINEERING COMMITTEE AND SENT TO ANY REMOTE PARTICIPANTS REQUESTING EMAIL DELIVERY OR POSTED ON SOCWA'S WEBSITE. IF SUCH WRITINGS ARE DISTRIBUTED IMMEDIATELY PRIOR TO, OR DURING, THE MEETING, THEY WILL BE AVAILABLE IN THE MEETING ROOM OR IMMEDIATELY UPON VERBAL REQUEST TO BE DELIVERED VIA EMAIL TO REQUESTING PARTIES PARTICIPATING REMOTELY.

THE PUBLIC MAY PARTICIPATE REMOTELY BY VIRTUAL MEANS. FOR AUDIO OF MEETING USE THE CALL IN PHONE NUMBERS BELOW AND FOR VIDEO USE THE ZOOM LINK BELOW.

Join Zoom Meeting
https://socwa.zoom.us/

Meeting ID: 899 2424 7188
Passcode: 153190

Dial by your location:
+1 669 900 6833 US (San Jose) +1 253 215 8782 US (Tacoma)
+1 346 248 7799 US (Houston) +1 312 626 6799 US (Chicago)
Find your local number: https://socwa.zoom.us/u/kczh9PMTa3

AGENDA

1. Call Meeting to Order

2. Public Comments

THOSE WISHING TO ADDRESS THE ENGINEERING COMMITTEE ON ANY ITEM LISTED ON THE AGENDA WILL BE REQUESTED TO IDENTIFY AT THE OPENING OF THE MEETING AND PRIOR TO THE CLOSE OF THE MEETING. THE AUTHORITY REQUESTS THAT YOU STATE YOUR NAME WHEN MAKING THE REQUEST IN ORDER THAT YOUR NAME MAY BE CALLED TO SPEAK ON THE ITEM OF INTEREST. THE CHAIR OF THE MEETING WILL RECOGNIZE SPEAKERS FOR COMMENT AND GENERAL MEETING DECORUM SHOULD BE OBSERVED IN ORDER THAT SPEAKERS ARE NOT TALKING OVER EACH OTHER DURING THE CALL.

PAGE NO.

3. Approval of Minutes 1

- Engineering Committee Minutes of April 11, 2024

Recommended Action: Staff requests that the Engineering Committee approve the subject Minutes as submitted.

4. Operations Report 5

Recommended Action: Information Item.

5. Capital Improvement Construction Projects Progress and Change Order Report (June) [Project Committees 2 and 15] 6

Recommended Action: Information Item.

6. Laboratory Feasibility Study Proposal Review Update 9

Recommended Action: Staff recommends that the Engineering Committee recommend that the Board of Directors i) approve the contract to Austin Company for a total of $83,800 for the Laboratory Feasibility Study, ii) approve a contract contingency of $15,000 for unknown issues discovered during design, iii) approve a project allocation method (Method 4) that follows the O&M costs for the operation of the Laboratory.

7. Regional Treatment Plant (RTP) Motor Control Centers (MCC) A, C, G, and H Replacement Design [Project Committee 17] 90

Recommended Action: Staff recommends that the Engineering Committee recommend that the PC 17 Board of Directors i) approve a contract with Carollo Engineers for a total of $492,503 for the RTP MCC A, C, G, and H Replacement Design, and ii) approve a contract contingency of $20,000 for unknown issues discovered during design.

8. J.B. Latham Treatment Plant (JBL) Effluent Pump Station and Energy Building Design Contract [Project Committee 2] 157

   Recommended Action: Staff recommends that the Engineering Committee recommend that the PC 2 Board approve the contract to Carollo Engineers for a total of $175,516 for the JBL Effluent Pump Station and Energy Building improvements.

9. Contract Award for Effluent Transmission Reaches D and E Main Valves Bidding and Engineering Services During Construction [Project Committee 21] 164

   Recommended Action: Staff recommends that the Engineering Committee recommend that the PC 21 Board of Directors approve the contract to Tetra Tech in the amount of $47,500 for the bidding and ESDC services for the ETM Reaches D and E Air Valve Replacement project.

10. Coastal Treatment Plant (CTP) Funding Plan Implementation [Project Committee 15] 171

    Recommended Action: Committee Discussion/Direction and Action.

11. Contract Award for Coastal Treatment Plant (CTP) West Primary and Secondary Scum Skimmer System Pre-Procurement [Project Committee 15] 182

    Recommended Action: Staff recommends that the Engineering Committee recommend that the PC 15 Board of Directors i) approve a contract with Brentwood Polychem, represented by Coombs Hopkins, for a total of $930,960 for the Coastal Treatment Plant West Primary and Secondary Scum Skimming Systems, and. ii) approve a contract contingency of 10% in the amount of $93,096 to cover delivery and unloading charges.

Adjournment

I hereby certify that the foregoing Notice was personally emailed or mailed to each member of the SOCWA Engineering Committee at least 72 hours prior to the scheduled time of the Regular Meeting referred to above.

I hereby certify that the foregoing Notice was posted at least 72 hours prior to the time of the above-referenced Engineering Committee meeting at the usual agenda posting location of the South Orange County Wastewater Authority and at www.socwa.com.

Dated this 6th day of June 2024.

Danita Hirsh

Danita Hirsh, Assistant Secretary
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Agenda Item 3

Engineering Committee Meeting

Meeting Date: June 13, 2024

TO: Engineering Committee

FROM: Roni Grant, Associate Engineer

SUBJECT: Approval of Minutes

Overview

Minutes from the following meeting are included for review and approval by the Engineering Committee:

- April 11, 2024

Recommended Action: Staff recommends that the Engineering Committee approve the Minutes as submitted.

MINUTES OF REGULAR MEETING
OF THE
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Engineering Committee

DRAFT

April 11, 2024

The Regular Meeting of the South Orange County Wastewater Authority (SOCWA) Engineering Committee Meeting was held on April 11, 2024, at 8:30 a.m. in-person and via teleconferencing from the Administrative Offices located at 34156 Del Obispo Street, Dana Point, California. The following members of the Engineering Committee were present:

HANNAH FORD	El Toro Water District
MARK McAVOY	City of Laguna Beach
ROD WOODS	Moulton Niguel Water District
DON BUNTS	Santa Margarita Water District
MARC SERNA	South Coast Water District

Absent:

DAVE REBENSDORF	City of San Clemente
MIKE DUNBAR	Emerald Bay Service District

Staff Present:

JIM BURROR	Acting General Manager/Director of Operations
AMBER BOONE	Director of Environmental Compliance
RONI GRANT	Associate Engineer
JEANETTE COTINOLA	Procurement/Contracts Manager
MARY CAREY	Finance Controller
KONSTANTIN SHILKOV	Senior Accountant
ANNA SUTHERLAND	Accounts Payable
JACK BECK	Staff Accountant
MATT CLARKE	IT Administrator
DANITA HIRSH	Executive Assistant

Also Present:

KEVIN DAVIS	Procopio Law
TARYN KJOLSING	South Coast Water District
ROGER BUTOW	Clean Water Now (CWN)
SAUNDRA JACOBS	Santa Margarita Water District
SHERRY WANNINGER	Moulton Niguel Water District

1. Call Meeting to Order

   Ms. Roni Grant, Associate Engineer, called the meeting to order at 8:30 a.m.

2. Public Comments

   None.

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3. Approval of Minutes

- Engineering Committee Minutes of March 14, 2024.

ACTION TAKEN
A motion was made by Mr. Woods and seconded by Ms. Ford to approve the Engineering Committee Minutes for March 14, 2024, as corrected.

Motion carried:	Aye 4, Nay 0, Abstained 1, Absent 2	
	Mr. McAvoy	Abstain
	Ms. Ford	Aye
	Mr. Dunbar	Absent
	Mr. Woods	Aye
	Mr. Bunts	Aye
	Mr. Serna	Aye
	Mr. Rebensdorf	Absent

4. Operations Report

Mr. Jim Burror, Acting General Manager/Director of Operations, reported that staff continues working on budgets. He noted the sewage coming into the plant is currently more septic than it was in the past. There are high levels of filaments in the treatment plants, and bleach is required to manage treatment. An open discussion ensued.

This was an information item; no action was taken.

5. Draft Salt and Nutrient Management Plan [Project Committee 12]

Ms. Amber Boone, Director of Environmental Compliance, provided an update on the Salt and Nutrient Management Plan's (SNMP's) development plan and permitting and monitoring requirements. An open discussion ensued.

Public Speaker: Roger Butow, Clean Water Now (CWN)

This was an information item; no action was taken.

6. Capital Improvement Construction Projects Progress and Change Order Report (April) [Project Committees 2, 5, 15 and 24]

Ms. Grant provided an update on the JBL Centrate Line Upgrades, CTP Diffusers Replacement, and the Aliso Creek and San Juan Creek Ocean Outfalls Ballast Maintenance. An open discussion ensued.

This was an information item; no action was taken.

7. Contract Award for Regional Treatment Plant (RTP) Flare System Upgrades [Project Committee 17]

The PC 17 Engineering Committee members suggested increasing the contingency from 10% to 20% to account for any possible unknowns.

ACTION TAKEN
A motion was made by Mr. McAvoy and seconded by Ms. Ford to recommend that the PC 17 Board i) approve a contract to SCS/RMC for a total not to exceed $74,470 and ii) approve a 20% contingency of $14,894 for the RTP Flare System Upgrades Project.

Motion carried:	Aye 4, Nay 0, Abstained 0, Absent 1	
	Mr. McAvoy	Aye
	Ms. Ford	Aye
	Mr. Dunbar	Absent
	Mr. Woods	Aye
	Mr. Serna	Aye

8. J.B. Latham Treatment Plant (JBL) Package B Update [Project Committee 2]

Mr. Burror reported that the PC 2 Board met in Closed Session on April 10; however, there was nothing to report. Ms. Grant noted that the staff is working with Butier Engineering to close out this project. An open discussion ensued.

This was an information item; no action was taken.

9. Capital Improvement Program (CIP) Budget Update

Mr. Burror provided an update on the Capital Improvement Program (CIP), including all comments and feedback from member agencies. An open discussion ensued.

This was an information item; no action was taken.

Adjournment

There being no further business, Ms. Grant adjourned the meeting at 9:12 a.m.

I HEREBY CERTIFY that the foregoing Minutes are a true and accurate copy of the Minutes of the Regular Meeting of the South Orange County Wastewater Authority Engineering Committee of April 11, 2024, and approved by the Engineering Committee and received and filed by the Board of Directors of the South Orange County Wastewater Authority.

_____
Danita Hirsh, Assistant Board Secretary
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Agenda Item 4

Engineering Committee Meeting

Meeting Date: June 13, 2024

TO: Engineering Committee

FROM: Jim Burror, Acting General Manager/Director of Operations

SUBJECT: Operations Report

Overview

Verbal update on operations and maintenance activities.

Recommended Action: Information Item.

Agenda Item 5

Engineering Committee

Meeting Date: June 13, 2024

TO: Engineering Committee

FROM: Roni Grant, Associate Engineer

SUBJECT: Capital Improvement Construction Projects Progress and Change Order Report (June) [Project Committees 2 and 15]

Overview

This agenda item provides an update on projects in construction, including any change orders. Attached are the updated CIP reports.

Project Updates

JBL Centrate Line Upgrades
The notice to proceed (NTP) has been issued to SS Mechanical. The contractor mobilized onsite in mid-May, and started the work associated with the first two centrifuges.

JBL MCC M & G Repalcement Project Update
The PC2 Board conducted a tour of the JBL Plant in May. SOCWA staff has also requested an updated quote from the MCC vendor for a potential pre-purchase due to extended lead times. SOCWA will discuss options to move the project forward at the June 13th meeting.

CTP Diffusers Replacement
The contractor completed the installation of fine-bubble diffusers in the first basin.

CTP Sludge Export Environmental Mitigation Project
SOCWA received the monitoring report for the second year of environmental monitoring for the area along the pipeline alignment. The report shows that the riparian and non-native upland areas have successfully met the performance criteria for restoration. However, the native upland habitat areas did not meet the performance criteria for native cover. The reason these areas fell short is due to multiple factors, but most notably, the result of prolific weed growth sitewide. Two years of heavy rains, OC Parks regulations preventing herbicide use along public trails, and issues with site access.

Therefore, an additional year of maintenance and monitoring is needed to meet all the performance criteria. SOCWA staff has requested a fee proposal from Dudek to perform a third year of maintenance and monitoring services.

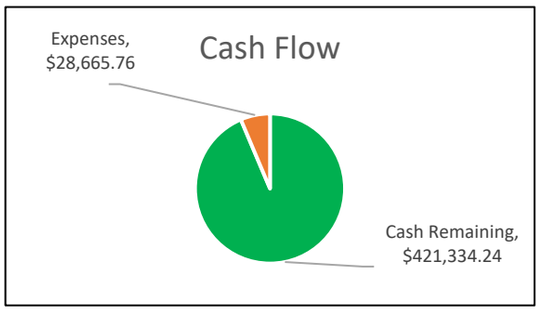
Recommended Action: Information Item.

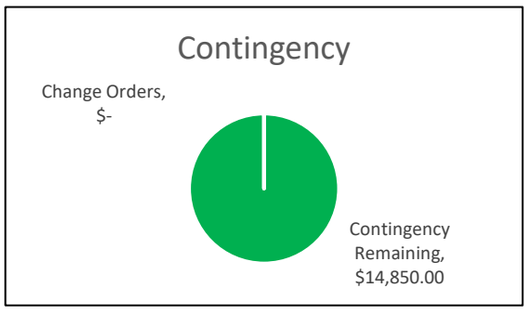
Project Financial Status

Project Committee	2
Project Name	Centrate Line Upgrades - 3234
Project Description	Removal and replacement of centrate drain piping, non-potable water piping in the Solids Dewatering Building

Data Last Updated

June 5, 2024





Cash Flow

Collected	$ 450,000.00
Expenses	$ 28,665.76

Project Completion

Schedule	20%
Budget	13%

Contracts

Company	PO No.	Original	Change Orders*	Total	Costs to Date
S&S Mechanical	19635	$ 148,455.00		$ 148,455.00	
Kleinfelder	14234	$ 71,374.00	$ -	$ 71,374.00	$ 6,486.25
SOCWA Staff Time	3234	$ -	$ -	$ -	$ 22,179.51
		$ 219,829.00	**$ -**	**$ 219,829.00**	**$ 28,665.76**

**Values include change orders to be reviewed by Engineering Committee*

Contingency

Area	Project Code	Amount	Change Orders*	Total Remaining	Percent Used
Solids	3234	$ 14,850.00		$ 14,850.00	0.0%
		$ 14,850.00	**$ -**	**$ 14,850.00**	**0.0%**

**Values include change orders to be reviewed by Engineering Committee*

Change Orders

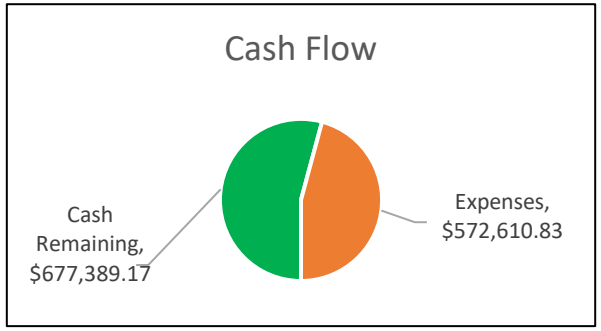
Change Order No.	Vendor Name	Project ID	Description	Status Date	Days	Amount
						$ -

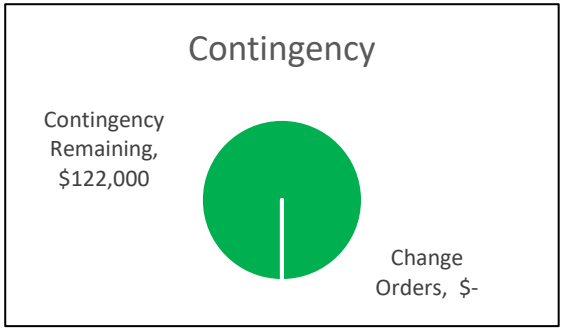
Project Financial Status

Project Committee	15
Project Name	CTP Diffusers
Project Description	Replacement of diffusers in the aeration basins

Data Last Updated

June 5, 2024





Cash Flow

Collected	$	1,250,000.00
Expenses	$	572,610.83

Project Completion

Schedule	51%
Budget	42%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
Filanc	19640	$ 1,022,250.00			$ 1,022,250.00	$ 278,849.00
EDI	16620	$ 250,490.00			$ 250,490.00	$ 250,490.00
Hazen	17256/19641	$ 93,578.00			$ 93,578.00	$ 13,982.50
SOCWA Staff Time	35228L				$ -	$ 29,289.33
		$ 1,366,318.00	**$ -**	**$ -**	**$ 1,366,318.00**	**$ 572,610.83**

**Values include change orders to be reviewed by Engineering Committee and deductive change orders*

Construction Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	35228L	$ 122,000.00		$ 122,000.00	0.0%
		$ 122,000.00	**$ -**	**$ 122,000.00**	**0.0%**

Change Order No.	Vendor Name	Project ID	Description	Status Date	Days	Amount
1	Filanc	35228L	Contract Extension	4/4/2024	273	$ -
						$ -

Agenda Item 6

Engineering Committee Meeting

Meeting Date: June 13, 2024

TO: Engineering Committee Members

STAFF CONTACT: Amber Boone, Director of Environmental Compliance

SUBJECT: Laboratory Feasibility Study Proposal Review Update

Summary

SOCWA staff met with member agencies regarding the follow-up from the May 9, 2024, Engineering Committee meeting. Member agencies provided direction to focus on Options 1 and 2 and defer assessments on Options 3 and 4 for this laboratory feasibility study. SOCWA staff returned to the original proposers and requested updates to their proposals as part of the best and final offer (BAFO) process. SOCWA staff adjusted the ratings for the new proposals and allocated the proposal costs using an allocation method based on the current allocation of laboratory operating and maintenance expenses (Method 4), as discussed at the May 9, 2024, Engineering Committee meeting.

Discussion and Background

On April 24, 2024, SOCWA staff met with interested parties about the laboratory request for proposal review. The design criteria were discussed, and the cost of performing the work by member agency and design criteria were also addressed.

SOCWA received three bids for a feasibility study based on the following criteria:

- Laboratory as Is (Option 1)
- Drinking Water Laboratory Separate Space (Option 2)
- Regional Laboratory Consolidation (Option 3)
- Incorporating an Indirect/Direct Potable Reuse and Desal Lab (Option 4)

Based on direction from member agencies, SOCWA staff contacted the three firms that bid on the project and requested that the scopes be revised to remove options 3 and 4. The cost portion of the scoring represents 60% of the scoring criteria. SOCWA staff updated the scoring criteria based on the new proposals, as shown in Table 1.

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Table 1: Original and updated rating scores and pricing

Criteria	MWA Architect (MWA)	The Austin Company	The IDS Group (IDS)
Total Ratings	202	180	129
Cost	$176,488.00	$197,200.00	$192,351.00
Updated Ratings	191	201	128
Updated Proposal	$ 146,788.00	$ 83,800.00	$ 140,914.00

The Austin Company and MWA Architect both have strong records for this type of laboratory rehabilitation work. Both companies also have proposed teams with extensive experience performing laboratory rehabilitation work. The SOCWA staff and the Engineering Committee reviewed the initial proposals and requested that SOCWA staff reduce the scope of work to only Options 1 and 2. This is because Option 1 (rehabilitation as is) and Option 2 (rehabilitate as is and add separate potable water and molecular analysis) best meet the member agencies at this time. SOCWA staff requested a best and final offer (BAFO) to remove two (2) of the four (4) Options and resubmit proposals. SOCWA staff evaluated the revised proposals and updated the ratings. The primary change was a reduced level of effort, and cost, for the Austin Company to perform the work. This increased their overall rating above MWA Architect.

SOCWA staff also received a recommendation to update the allocation method from PC17 Common to Method 4, which was presented at the May 9, 2024, Engineering Committee Meeting. Method 4 provided the allocations based on the current allocation of laboratory operating and maintenance expenses. Tables 2 through 4 provide updated costs per member agency for revised proposal fees.

Table 2: MWA updated costs using allocation Method 4

PC/Agency	PC2	PC5	PC15	PC17	PC24	Total
CLB	$0	$0	$7,754	$2,362	$3,392	$13,508
CSC	$0	$5,543	$0	$0	$0	$5,543
EBSD	$0	$0	$395	$113	$245	$753
ETWD	$0	$0	$0	$3,127	$4,995	$8,122
IRWD (c/ETWD)	$0	$0	$0	$0	$4,842	$4,842
MNWD	$6,016	$5,176	$1,580	$25,431	$13,421	$51,625
SCWD	$6,074	$4,174	$11,101	$2,082	$3,769	$27,199
SMWD	$16,695	$18,500	$0	$0	$0	$35,196
Total	$28,785	$33,394	$20,829	$33,115	$30,664	$146,788

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Table 3: The Austin Company updated costs using allocation Method 4

PC/Agency	PC2	PC5	PC15	PC17	PC24	Total
CLB	$0	$0	$4,427	$1,349	$1,937	$7,712
CSC	$0	$3,165	$0	$0	$0	$3,165
EBSD	$0	$0	$225	$65	$140	$430
ETWD	$0	$0	$0	$1,785	$2,851	$4,637
IRWD (c/ETWD)	$0	$0	$0	$0	$2,764	$2,764
MNWD	$3,435	$2,955	$902	$14,518	$7,662	$29,472
SCWD	$3,467	$2,383	$6,337	$1,188	$2,152	$15,528
SMWD	$9,531	$10,562	$0	$0	$0	$20,093
Total	$16,433	$19,065	$11,891	$18,905	$17,506	$83,800

Table 4: IDS updated costs using allocation Method 4

PC/Agency	PC2	PC5	PC15	PC17	PC24	Total
CLB	$0	$0	$7,444	$2,268	$3,256	$12,968
CSC	$0	$5,322	$0	$0	$0	$5,322
EBSD	$0	$0	$379	$109	$235	$723
ETWD	$0	$0	$0	$3,002	$4,795	$7,797
IRWD (c/ETWD)	$0	$0	$0	$0	$4,648	$4,648
MNWD	$5,775	$4,969	$1,517	$24,413	$12,884	$49,559
SCWD	$5,831	$4,007	$10,656	$1,998	$3,618	$26,111
SMWD	$16,027	$17,760	$0	$0	$0	$33,787
Total	$27,633	$32,058	$19,996	$31,790	$29,437	$140,914

Due to the Austin Company's higher overall score, SOCWA staff recommends the Austin Company with cost allocation distribution provided in Table 3.

The Laboratory facilities are located at RTP (PC17). Method 4 proposes an allocation distribution to all SOCWA member agencies, not just the PC17 member agencies. Therefore, the project allocation would require unanimous consent from all the SOCWA member agencies.

Staff also requests a contingency of $15,000 for unknown issues discovered during the project's implementation.

Recommendation: Staff recommends that the Engineering Committee recommend that the Board of Directors i) approve the contract to Austin Company for a total of $83,800 for the Laboratory Feasibility Study, ii) approve a contract contingency of $15,000 for unknown issues discovered during design, iii) approve a project allocation method (Method 4) that follows the O&M costs for the operation of the Laboratory as follows:

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Method 4 Allocations Table:

Agency	Project Allocation %
CLB	9.20%
CSC	3.78%
EBSD	0.51%
ETWD	5.53%
IRWD (c/ETWD)	3.30%
MNWD	35.17%
SCWD	18.53%
SMWD	23.98%
Total	100.00%

Attachments:
Three (3) updated proposals

IDS GROUP

Request for Proposal

Laboratory Upgrades

Feasibility Study

South Orange County Wastewater Authority

34156 Del Obispo Street
Dana Point, California 92629

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Cover Letter

March 12, 2024

Ms. Jeanette Cotinola
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629

SUBJECT: Request for Proposal - Laboratory Upgrades Feasibility Study

Dear Ms. Cotinola and Members of the South Orange County Wastewater Authority Selection Committee,

IDS Group, Inc. (IDS) understands that the South Orange County Wastewater Authority (SOCWA) is soliciting proposals from firms to provide a feasibility study for the RTP Laboratory Upgrades (Project). IDS has a capable team to demonstrate solutions that fit the unique challenges of the project that were presented at the pre-proposal meeting on February 13th, 2024. IDS will take a thoughtful approach to address the challenges presented currently at the building and site in partnership with SOCWA and its stakeholders.

With more than 60 years' experience providing architecture and engineering expertise to a vast number of public agencies throughout Southern California, IDS specializes in the discovery process for land planning opportunities which bring best value design to each of our clients.

IDS' Value to the South Orange County Wastewater Authority:

Local Knowledge and Understanding of Expectations from Public Water and Utility Agencies

- The IDS team is thoroughly familiar with the application of various codes and guidelines as it pertains to utility agencies, including California Code of Regulations (CCR), Title 24, NPDES, WSSC, California Public Utility Codes, and EPA requirements. The following work examples highlight IDS' successful collaboration with various utility agency in Southern California to ensure their projects get completed within time, budget, and schedule.

Expertise with Feasibility Studies for Public Agency Operational Needs and Requirements

- IDS brings programming, concept design, and phase expertise thanks to our recent work for the Orange County Health Care Agency (OCHCA). For OCHCA, IDS completed program development, concept design, and development of a phased construction plan for the agency's existing headquarters.
- In addition, the IDS project team provided existing facility evaluation, programming for building expansion, concept design, cost estimation, and development of project timelines for the following public agencies: West Basin Municipal Water District, City of Commerce, City of Maywood, County of Orange, City of Irvine, Riverside County Sheriff's Department, Department of General Services, Sweetwater Union High School District, and the Los Angeles Community College District.

Economy of Scale Approach

- Clients benefit from working with IDS as one company all under one roof where the cost savings are realized through an efficient, well-coordinated team and a single point-of-contact to service SOCWA. IDS is ready to work on this project with a local, multi-discipline architectural-engineering team available to meet SOCWA's needs from onset of the project.

IDS looks forward to speaking with you further regarding our services, expertise, and experience and how we can best assist South Orange County Wastewater Authority. Mr. Joseph MacDonald, RA, NCARB, will be the point-of-contact for the project. He can be reached at 949. 387-8500 ext. 157 or joseph.macdonald@idsgi.com. Mr. Said Hilmy, Principal of IDS Group, hereby acknowledges that he will be the contract administrator for South Orange County Wastewater Authority and will negotiate and contractually bind the firm regarding matters pertaining to this Proposal. If you require further information, please contact him directly at 949.387.8500 ext. 116 or said.hilmy@idsgi.com.

IDS makes the following statements:

- IDS is not aware of any actual or potential conflict of interest that exists or may arise by executing the contract or performing the work that is the subject of this RFP.
- IDS is willing and able to obtain all insurance required.
- IDS has conducted a reasonable and diligent inquiry concerning the minimum and/or prevailing wages required to be paid in connection with the performance of the work that is the subject of this RFP and certifies that the proposed pricing includes funds sufficient to allow IDS to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided.
- IDS acknowledges and agrees with all terms and conditions stated in the RFP.
- All information provided in connection with its proposal is true, complete, and correct.
- IDS acknowledges Addendum #1 dated February 1, 2024.
- IDS acknowledges Addendum #2 dated February 13, 2024.

Thank you.

Sincerely,

IDS Group

Joseph MacDonald, RA, NCARB
Associate Principal Architect

Said Hilmy, Ph.D., SE, LEED AP
Principal and Contract Administrator

1. Identification of Responder

Multi-discipline Architecture-Engineering Consulting Firm

IDS is a multi-discipline architecture-engineering (A/E) consulting firm providing design solutions for community focused facilities that maximize value, efficiency, and resiliency.

"IDS" stands for Integrated Design Services, as our service delivery model. We bring a broad architectural and engineering understanding, inherent curiosity, and sound technical expertise, and then apply these skills to each project's unique set of circumstances.

With a staff of 80 located in offices throughout Southern California, IDS provides integrated design services through our in-house specialized divisions including architecture, landscape architecture civil, structural, mechanical, plumbing, and electrical engineering, and cost estimation services. Our full-array of technical disciplines provides a seamless team as well as innovative solutions to achieve project goals and objectives.

IDS Group, Inc. Business Information	
Company Ownership	IDS is a California Corporation
Owners	Said Hilmy, President Rami Elhassan, Secretary
Office Work Locations	**Corporate Office** 1 Peters Canyon Road, Suite 130 Irvine, California 92606 T: 949.387.8500 **Inland Empire Office** 980 Montecito, Suite 205 Corona, CA 92879 T: 951.631.8550 **San Diego Office** 336 Encinitas Boulevard, Suite 110 Encinitas, CA 92024 T: 619.768.6784
Number of Local Employees	80

IDS Group, Inc. (IDS) is a multidisciplinary architectural and engineering consulting firm with roots spanning over 60 years. With a staff of approximately 80 professionals, our integrated design team provides added value through our specialized divisions – architecture and structural, civil, mechanical, plumbing, and electrical engineering, as well as cost estimating services, maximizing service efficiency. IDS is committed to project excellence, providing turnkey design solutions to the building and infrastructure industries.

IDS incorporates sustainable, energy-efficient, and environmentally conscious designs as a significant component of each project. We are recognized for our use of water-efficient plant materials, recycled materials, and water-efficient irrigation systems. IDS is a member of the Green Building Council, on design teams for LEED-certified building projects, and employs numerous full-time LEED Accredited Professionals.

IDS is headquartered in Irvine, CA with offices in Los Angeles, Corona, and San Diego, ensuring local knowledge and providing our clients with quick response time. As a multi-disciplinary engineering and architectural firm, IDS has the practical knowledge, insight, and resources to offer comprehensive services and specialized solutions to our clients.

In-House Engineering and Architectural Services

"IDS" stands for Integrated Design Services, as our service delivery model. We bring a broad architectural and engineering understanding, inherent curiosity, and sound technical expertise, and then apply these skills to each project's unique set of circumstances.

IDS' In-House Technical Capabilities

Architecture

IDS' architectural division provides design, planning, programming, project management, and renovation services to public and private clients throughout California. Our architectural services involve building assessments, alterations, and modifications, accessibility studies, ADA compliance studies and design, ZNE, LEED, fire and life safety assessment and design, code review, space planning, remodeling, repair of damaged and deteriorated structures, and expansions and additions to existing facilities.

Our architectural services involve building assessments, alterations, and modifications, accessibility studies, ADA compliance studies and design, fire and life safety assessment and design, code review, space planning, remodeling, repair of damaged and deteriorated structures, and expansions and additions to existing facilities. Project experience of IDS staff encompasses new construction, renovation, re-adaptation, and tenant improvements to a variety of building types.

Landscape Architecture

Solutions through integrated design

IDS has an award-winning and dedicated team that specializes in building healthy places for communities through the practices of landscape architecture, community engagement and ecological restoration. The team focuses on the relationship between land and people because where we believe that a community is are only as healthy as our surroundings. Most of the team's work lies in municipalities, counties and other California agencies working closely with clients and stakeholder groups to design and build healthy communities and improve quality of life. The projects the IDS team designs:

- Draw from and respect the natural and cultural environment.
- Interpret the histories of the land and people through materials and sometimes art and improve the natural ecological systems.
- Specialized expertise includes historic preservation, adaptive re-use, cultural landscapes, cultural and natural history interpretation, ecological restoration, sustainable design, drought tolerant planting, low water irrigation systems, and context-integrated design.

Civil Engineering: IDS has an in-house team specialized civil engineering design, planning and entitlement, surveying and mapping, construction survey, LEED, sustainable design, construction administration, and traffic engineering services to public agencies, owners, and developers of retail, commercial, office, industrial, institutional, and residential projects throughout the United States.

Mechanical and Plumbing Engineering: The mechanical engineering division of IDS is comprised of experienced professional engineers (30+ years) and designers who are experts in the fields of heating, ventilating, air conditioning (HVAC), plumbing, piping, and fire protection. Our services included the renovation and replacement of air conditioning and mechanical/electrical systems for existing buildings.

We provide site investigations, calculations, and analysis to determine the most appropriate and cost-effective replacement systems. We have expertise in applying all applicable codes and guidelines, and routinely participates in code committees. Our project managers have completed feasibility studies, economic analysis, conceptual and detailed designs for the heating, ventilating, air conditioning (HVAC), plumbing and piping systems.

Electrical Engineering: The electrical engineering division of IDS (formerly DGM & Associates) was established in 1992. With extensive experience in the preparation of engineering studies and analyses, plan review, drawings, and specifications for new construction projects adhering to electrical code compliance, conducting electrical power consumption studies and field investigations, and providing construction cost estimates, concept studies and reports, and post-construction support for electrical engineering projects.

Structural Engineering: Our structural engineering division is a recognized leader in the design, assessment, review, and retrofit of buildings. The team is at the forefront of new building designs utilizing steel, concrete, and masonry. Services also include the assessment and retrofit of different building types and sizes, the evaluation and repair of distressed structures, peer and plan review, constructability review, and forensic engineering. Our team has been honored by the Structural Engineers Association of Southern California (SEAOSC) with over twenty (20) "Excellence in Structural Engineering" awards for innovative and outstanding design.

Cost Estimating: Our in-house cost estimator is experienced in supporting both new construction and complex renovation projects and possess extensive knowledge of a variety of tenant improvement types. Utilizing the latest in cost control methods, IDS ensures clients' projects are well planned and expertly executed. In the delivery of its cost services, IDS provides reliable, accurate estimates while meeting its client's most critical deadlines.

Experience with Value Engineering, Life Cycle Cost Analysis, and Bid Alternate Designation: By doing cost estimating in house IDS can identify opportunities for alternate bids that will provide flexibility for our clients as they strike the balance between scope of the construction and the cost of construction. The first path to value engineering savings is constructability. Our construction cost estimator also provides an internal constructability review, and this allows IDS to weed out designs that will later prove impractical to build and hence more expensive to build. The second path to value engineering is the search for alternates that provide nearly equal performance at less initial cost. When considering these initial cost saving IDS provides a life cycle cost analysis of the alternatives so that our clients can make informed choices.

A recent example includes the City of Rancho Santa Margarita Community Center. Construction

County of Orange Brea Library

defects have permitted storm water to intrude into and to damage the center. IDS reviewed documents provided by the city, conducted a visual inspection of the site, developed a move management plan, and a "pros-and-cons" assessment for installation of different building systems. Our analysis included a detailed baseline Architect's Estimate of Probable Construction Cost (AEPCC). In the event that the baseline AEPCC exceeded the construction budget to a significant degree IDS included an additional architectural services budget with the AEPCC so that the city can make a decision regarding budget with "all the cards face up on the table.

Sustainable Engineering

The firm's project approach begins with a complete assessment of project requirements to achieve a LEED certification or provide a sustainable design without certification. To meet the project requirements our team will investigate all sustainability options including photovoltaic solar system, commercial and residential fuel cell systems, geothermal ground source heat pump systems, low energy LED lighting products, water conservation design solutions, day lighting harvesting, low-flow plumbing fixtures and high SEER air conditioning equipment.

Zero Net Energy (ZNE)

IDS' professional mechanical, electrical, and plumbing engineers are experienced in Net Zero Engineering. Our team seeks ways to improve the efficiency of HVAC and electrical systems in buildings and apply smart net-zero energy design and strategies.

ADA Access Compliance

Our expert ADA (Americans with Disabilities Act) team offers detailed ADA facility surveys and preparation of Transitional Plans, plan reviews, training, and product consulting on a regular basis to healthcare facilities, large corporations, and federal, state, and local government clients.

Knowledge of the Locality

IDS has provided architectural and engineering services on multiple projects within the County of Orange, County of Los Angeles County of Riverside, and the County of San Diego, and has established a pattern of working successfully in the geographic area.

IDS Group is headquartered in Irvine, California with offices located in Corona, San Diego, and Los Angeles.

Bidding and Construction Administration Support

IDS has significant experience with providing practical, cost effective, fast/efficient solutions and high-quality construction documents and drawings and significant experience in construction support and on-site construction administration services for public projects.

Building Information Modeling (BIM)

Building on decades of hands-on experience in Building Information Modeling (BIM), IDS is committed to creating value for our clients through innovative and fully integrated design solutions. IDS' BIM platform helps our multi-discipline design and construction teams improve project efficiency by optimizing performance and response-time of visualizations and simulations to create unprecedented data rich models.

Our clients are experiencing the benefits of BIM that extend long past the completion of a project - including improved constructability, better-performing buildings and more efficient project delivery. They have also included Construction cost savings, Schedule compression and Energy reductions.

CalOptima A/E Tenant Improvements
Orange, CA

Working with Public Water and Utility Agencies

The IDS team is thoroughly familiar with the application of various codes and guidelines as it pertains to utility agencies, including California Code of Regulations (CCR), Title 24, NPDES, WSSC, California Public Utility Codes, and EPA requirements. The following work examples highlight IDS' successful collaboration with various utility agency in Southern California to ensure their projects get completed within time, budget, and schedule.

Metropolitan Water District of Southern California, Structural Engineering Services of Several Water Structures, Southern California

Since 2004, IDS has provided continuous structural engineering services to the Metropolitan Water District of Southern California (MWD). A variety of our work included the evaluation of the structural and seismic integrity of several essential service facilities to determine their capacity to withstand the most recent building code design for earthquakes.

- CUF Chlorine Unloading Dock (ID No. R20)
- CUF Wood Frame / Stucco Office Bldg. (ID No. R19)
- Perris Control Structure (ID No. R69)
- Venice Pressure Control Structure (ID No. LA13)
- Lake Mathews Building 3 (ID No. R38)
- Mills Bldg. 5, Electrical Building No. 1 (ID No. R10)
- Mills Bldg. 8, Electrical Building No. 2 (ID No. R14)
- Mills Bldg. 9, Dry Polymer Mixing Bldg. (ID No. R15)
- Lake Mathews Hazardous Materials Waste Building (ID No. R31)
- Lake Mathews Building 6 (ID No. R32)
- Lake Mathews Building 7 (ID No. R33)
- Mills Building 7 (ID No. R13)
- Garvey Reservoir Building (ID No. LA6)

Municipal Water District of Southern California, Buildings 30, 40, & 50, La Verne, CA

Preliminary Design Report (PDR) recommending broad seismic retrofit measures to prevent major structural damage and business interruption. The seismic analysis work for the PDR considered input from recent geotechnical studies, and maintained the seismic input data from the prior study.

Municipal Water District of Orange County Administration Office Building Tenant Improvements, Fountain Valley, CA

The Municipal Water District of Orange County (MWDOC) requested architectural and engineering services from IDS to design and renovate a portion of its one-story administration building. Built in 1972, the unique torus shaped facility was in need of a refresh for improved operational efficiencies, storage needs, and current and future employee growth. The IDS team re-imagined the office environment to enhance productivity and meet MWDOC resiliency needs to create an Emergency Operations Center hub for communications, response, and resources.

The MWDOC Administration Office is an existing 3,000 sf area that will be modernized to improve operational efficiencies, office workflow, and meet the agency's needs of current and future staff.

Inland Empire Utility Agency, RP-1 Primary Clarifier, Rancho Cucamonga, CA

Inland Empire Utility Agency decided to install a new scum pipe system in the Primary Clarifier at RP-1. This required the removal of the five raised vaults with their access cover. The raised walls of the vaults needed to be demolished. A new steel platform was needed to fill the vault opening so that the staff can assess the vertical actuators. IDS Group performed the Electrical and Structural Engineering design work on this project.

Inland Empire Utility Agency, RP-1 Primary Clarifier

Inland Empire Utility Agency, New Chlorine Injection Facility Regional Recycling Water Plant No. 4 (RP-4), Rancho Cucamonga, CA

New design for the relocation/replacement of the sodium hypochlorite storage and distribution system and provide a central location for the plant (with consideration of future build out). Building improvements include office space for operations and maintenance personnel, additional workstations, an enlarged locker room, kitchen, and break room. The new facility was designed to provide for the capacity required currently for (14 MGD) with a potential expansion to a capacity needed in the future of (21 MGD).

Inland Empire Utility Agency, New Chlorine Injection Facility

Inland Empire Utility Agency 1630 W. Recycled Water Pipeline Segment C-Pipe Supports at Flood Control Channel Crossing at Baseline Road and Alta Cuesta Drive

IDS provided construction drawings for the 30” recycled pipe crossing for the 1630 West Recycled Water Project Segment C in the City of Rancho Cucamonga. This project involved adding a new 8” and 6” water pipe. IDS evaluated the crossing, developed drawings and prepared the necessary calculations for the pipeline crossing at the San Bernardino Flood Control Channel in the City of Rancho Cucamonga.

Inland Empire Utility Agency, Recycled Water Pipeline Segment at C-Pipe Supports

Inland Empire Utilities Agency, Regional Composting Facility, Rancho Cucamonga, CA

IDS Group was retained by Inland Empire Utility Agency (IEUA) for the retrofit of a new oversized roll-up door at the IEUA Regional Composting Facility. IEUA had recently modified their vehicle path inside the structure for their 18-wheel semi-trailer trucks. As a result, several times their trucks have hit the jamb of the existing truck access doors, and repairs to the old doors have become expensive. With a new roll-up door location, large trucks would have a very direct route inside the facility and would no longer need to shift into reverse and maneuver when exiting.

Inland Empire Utilities Agency, Philadelphia Pump Station Redundant PLC, Southern California

IDS was selected by the Inland Empire Utilities Agency to replace their existing Allen Bradley 1746 SLC 5/05 and MicroLogix 1100 PLCs with a redundant Ethernet ControlLogix PLC. Field device (starters, sensors, etc.) remain. New radar level detectors were installed in the wet well. Additional aspects of the project included upgrade of Ferric Chloride control system, upgrade of VFD controllers to provide Ethernet connections, addition of power monitors to switchgear and motors, and air conditioning of panels and VFD cabinets.

Inland Empire Utility Agency, Pump Station Redundant PLC

Inland Empire Utilities Agency, Jurupa Pump Station HVAC Improvements, Southern California

The project includes the complete Design and Construction services including the evaluation, design, supply, and installation of a 10-ton air conditioning system. Project delivery method was design build.

Eastern Municipal Water District Diamond III Booster Plant Pump Electrification, Perris, CA

Replacement of two existing natural gas pump engines with two new electric driven pump engines. Remove the existing drives and control panels and replace with new VFD drives and controllers. Demolition of existing exhaust systems, patch and repair existing exterior walls. Design of new cable tray to house new power and control cables.

Eastern Municipal Water District Diamond III Booster Plant Pump Electrification, Perris, CA

Orange County Community Resources, Irrigation Pump Control System Upgrade, Santa Ana, CA

Replacement of an existing MCC and a single variable frequency drive that serves two 40 HP pumps with two new variable frequency drives. A local web-based controller is integrated to the VFD's via local Ethernet and provides access for VFD set up and monitoring of pressures and VFD operating values.

Orange County Public Works, Emergency Generators Replacement Project, Various Locations in Orange County, CA

IDS prepared electrical design and engineering construction documents for the replacement of existing generators at the following sites: Dana Point Harbor Patrol, Sunset Beach Harbor Patrol, Manchester Office Building and Orange Library Parking Structure.

Orange County Public Works Emergency Generators Replacement, Manchester Building - Orange, CA

City of Azusa Light and Water Department Customer Service Lobby Area, Azusa, CA

The City of Azusa Light & Water (L&W) retained IDS to provide engineering services for the remodeling for its Customer Service Lobby area. IDS' team reconfigured the existing storage room into a Call Center with four workstations. The IDS researched and reviewed the as-built drawings and discovered a way to divert the original cooling capacity away for the Data Center into the Call Center by just adjusting existing dampers. Our team relocated the existing thermostat into the Call Center thereby providing independent, enhanced cooling of the Call Center at minimal cost.

City of Azusa Light and Water Department Customer Service Lobby Area

City of Long Beach Gas & Oil Building 560, Long Beach, CA

IDS provided architectural and engineering design services for the renovation and modernization of the Beach Gas & Oil Department's (LBGO) Building 560. The structure's design provides limited accessibility to general areas the building. As such, it is currently is out of compliance with the ADA. Project scope will address the ADA deficiencies as it regards site path of travel access compliance, accessible parking, building access throughout the ground floor, and ADA compliance restroom.

City of Long Beach Gas & Oil Building 560

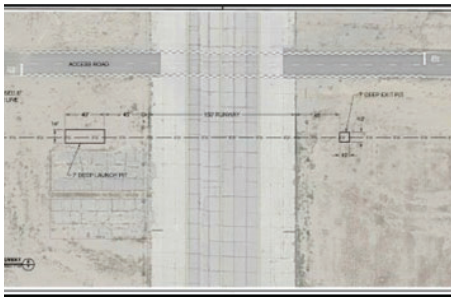
City of Orange, Carver Pump Station, Orange, CA

IDS was responsible for design oversight, bid evaluation support, constructability review, construction management, and value engineering of the plans and specifications for the 7,500 square foot permanent facility and the relocation of an existing City Water Division major pump station. The pump station project included a new pump station building, site improvements, and underground utility upgrade. Operations of the existing pump station ran concurrently while construction of the new facility thus ensuring proper transfer of water service.

City of Orange Carver Pump Station during construction

Edwards Air Force Base, Plant 42, Antelope Valley, CA

IDS Group was retained by Noreas, a general construction contractor, to assist in the Army Corps effort with the improvement of the water facilities located nearby Edwards Air Force Base. IDS was responsible for generating technical documents and specifications for the construction of approximately 11,000 linear feet of six-inch water main to replace the dilapidated system. IDS' scope of work included utility locating, topographic surveying and mapping, alignment studies, water system engineering, hydraulic modeling, drawings for construction and specifications.



Edwards Air Force Base - Plant 42 Antelope Valley, CA

2. Approach to Work

Project Understanding

IDS understands the significance of the feasibility study being requested by the South Orange County Wastewater Authority (SOCWA). The construction of the laboratory at the Laguna Niguel regional treatment plant was completed in 1982, 10 years after the US Clean Water Act of 1972. Since its initial operation, this laboratory has been instrumental in ensuring the residents and businesses served by the SOCWA are provided with equitable clean water service.

However, the forty-plus years since the start of operations has brought pressures upon the laboratory in terms of space and staff allocation limitations, as well as an awareness of providing new testing needs from addressing recently passed Assembly Bill 2106 for regulating stormwater to proposed inceptions of desalinizing ocean water for public consumption and use.

The SOCWA sees the Laguna Niguel laboratory as a 'flagship' in its continued service to its customer base. Because of this, its preservation, continued operation, and feasible expansion are view as essential. Should it be awarded the opportunity to explore these possibilities, IDS Group and its project teaming partner, Criterion, propose to complete the requested feasibility study in the following manner:

A. IDS strives to identify design and existing conditions issues before they become costly change orders during future construction. Our team also evaluates intangible issues that may not be part of the expected project scope. IDS' Feasibility Study will be compromised of the following primary components:

1. **Investigation (Duration: 6 Weeks)** - Conduct a thorough review of the existing laboratory, remaining facility, and surrounding areas. IDS will focus on the following elements:

   a. Conduct a thorough review of the existing laboratory, rest of facility, and surrounding areas. Focus will be upon the following elements:

      - Fume hoods and analyzer equipment.
      - Other laboratory equipment and furnishings.
      - Vacuum pump system.
      - Chemical Storage Area.
      - Bench and counter space/ staff work areas.
      - Filtration system.
      - General storage.
      - Dedicated storage for clean or sterile items.
      - Perishable storage (refrigerators/freezers).
      - Staff and operations flow.

   b. Conduct interviews with key laboratory members to understand daily operations, inefficiencies/ constraints in performing necessary tasks, needs/desires to be accommodated, and 'vision' of what the future laboratory should be in equipment, layout, and area.

c. Compile initial site observation findings and interviews into a narrative for a meeting discussion with key laboratory members and other required SOCWA staff.

d. From the site observation/interview meeting, develop approaches to the four scenarios requested for exploration by SOCWA.

2. **Exploration (Duration: 6 Weeks)** - With IDS' laboratory design consultant Criterion, the following elements will be explored:

a. Fume Hoods

- Evaluate and upgrade existing fume hoods for improved airflow and safety features.
- Install fume hood alarms and monitors.
- Utilization of a fume hood for waste storage purposes to be located near an exit/entry door advisable for efficiency.

b. Vacuum Pump System

- Replace or upgrade the vacuum pumps to ensure reliability and efficiency as current system at end of life.
- Consideration of installing a backup vacuum pump for redundancy.

c. Bottle/Glass Cleaning System

- Investment in a high-capacity glassware washer for efficient cleaning and sterilization, that ensures compatibility with laboratory glassware.
- Co-locate glassware cleaning system with dishwasher for employee efficiency.

d. Bench Space

- Evaluate the lab layout and allocate bench space for specific tasks or instruments.
- Optimize bench space to improve workflow and safety.
- Additional space for research/intern requested for special projects.

e. Filtration System - Enhance the safety of the filtration system by enclosing it within a dedicated space.

f. Refrigerator and Freezer Area

- Upgrade refrigeration and freezer units for sample storage.
- Implement temperature monitoring and backup systems.

g. Nanopure System - Maintain and upgrade the Nanopure system for ultrapure water needs; ensure regular servicing and water quality monitoring.

h. Point of Use (POU) Technology

- Implement modern analytical instruments at the point of use for real-time data acquisition.
- Include POU workstations to improve efficiency.

i. Modern Inventory Management

- Implement a digital inventory management system for chemicals and supplies into the chemical and storage improvements.

- Use barcoding and tracking software to improve inventory control with associated dedicated spaces for implementation of inventory management.
- Upgrade sample receiving areas with proper sample handling and tracking systems.
- Implement secure sample storage and data recording with refrigerators to store samples.

IDS Architectural will also explore the following concerns and requests:

j. Waste Storage Area

- Currently, no area exists for waste storage alone.
- Explore the installation of dedicated waste storage areas with proper ventilation and waste containment systems and ensure compliance with hazardous waste disposal regulations.

k. Chemical Storage Area

- Improve ventilation in the chemical storage area to reduce chemical exposure risks and consider the use of chemical cabinets with built-in ventilation.
- Ensure that separate chemical classes have adequate space, separation, and organization.

l. Lab Office Area

- Expansion/improved technician office area to facilitate future growth.
- Area designed to promote communication between technicians.

m. Sample Receiving - improve efficiency and segregation of samples.

n. Aesthetics

- Provide interior vision glazing as feasible.
- Provide new casework with glazing.
- Improve ergonomics at work areas and storage of chemicals.

Exploration will be performed through additional meetings with SOCWA laboratory staff to develop equipment and furnishing schedules for desired changes to existing spaces and addition of new spaces.

3. **Evaluation (Duration: 12 weeks)** - IDS will evaluate the following two (2) feasibility design scenarios given below, with evaluations of advantages and disadvantages of each scenario, following the Investigation and Exploration Phases:

   a. Scenario #1- Laboratory as-is

   SOCWA RFP comments:

   Feasibility: This option is feasible if the current laboratory meets all regulatory requirements and research needs. It's the simplest and most cost-effective option if the lab is already well-equipped and functional.

   Pros: Minimal costs, minimal disruption, and continuity of ongoing research.

   Cons: May not address potential future needs or regulatory changes. Limited scalability. Laboratory is also very space limited making additional projects potentially unfeasible.

IDS initial thoughts

Cons: In agreement with SOCWA 'cons'; additionally, renovation of the existing laboratory will require either temporary mobile laboratory or distribution of services to other SOCWA labs during demolition/ renovation of existing laboratory.

Pros: To be determined.

Feasibility: Laboratory 'as is' will be challenging, given the existing conditions issues.

- Potential relocation of a new laboratory within another wing of the existing building, followed by demolition of the old laboratory for new purposes, may be an approach to explore so the current laboratory can continue operating.
- Staff and operations displaced by the new laboratory construction may be housed in temporary trailers. These can be removed once laboratory relocation and displaced operations construction are completed.

b. Scenario #2- Drinking Water Laboratory Separate Space

SOCWA RFP Comments

Feasibility: Creating a separate space for a drinking water laboratory is feasible if there's a clear need for specialized testing and regulatory compliance.

Pros: Ensures dedicated focus on drinking water quality, regulatory compliance, and public health. May attract specialized staff.

Cons: Costs associated with setting up a new lab space, equipment, and hiring trained personnel. Ongoing operating expenses.

IDS initial thoughts

Cons: Finding the appropriate square footage in a building that is already spatially challenged; new mechanical, electrical, and plumbing services to run dedicated laboratory; supplemental costs for building accessibility upgrades and additional toilet facilities for additional staff.

Pros: To be determined

Feasibility: Additional laboratory space can be installed within the existing building, but likely at the expense of existing office or administrative areas.

- Relocation or removal of displaced occupancy uses will need to be discussed thoroughly with the SOCWA team.
- It is expected that some of the desired "laboratory as is" renovations will also occur in conjunction with this. IDS and Criterion will confirm the extent of these renovations.

For the evaluation, IDS will provide the following:

- Proposed equipment schedules for each scenario.
- 'Test fit' equipment and layout plan options for each scenario.
- Impacts/ additions to MEP infrastructure to implement each scenario.
- Civil/structural impacts to implement building expansion or new building if needed.
- Draft technical memorandum documenting the findings of the four identified scenarios.
- High level cost estimates for each of the four scenarios.
  - The cost estimates will include markups, general conditions, construction, contingency, design fee, engineering services during construction fee, and an estimate for construction management if applicable.
  - IDS will work with the appropriate SOCWA personnel to also develop Owner 'soft costs' for move management, temporary staff and operations relocations, owner-furnished equipment and installation, and anticipated contractor utilities.

B. Following completion of the aforementioned items, IDS and Criterion will conduct a workshop either at the RTP or virtually to present their findings. (1 day)

C. After completion of the workshop, IDS will submit all draft reports and estimates to SOCWA for review and comment. (Est. 3 weeks for SOCWA receipt and comments)

D. Following SOCWA review and comment, IDS and Criterion will make revisions requested to any reports and/ or estimates. (Est. 1-2 weeks)

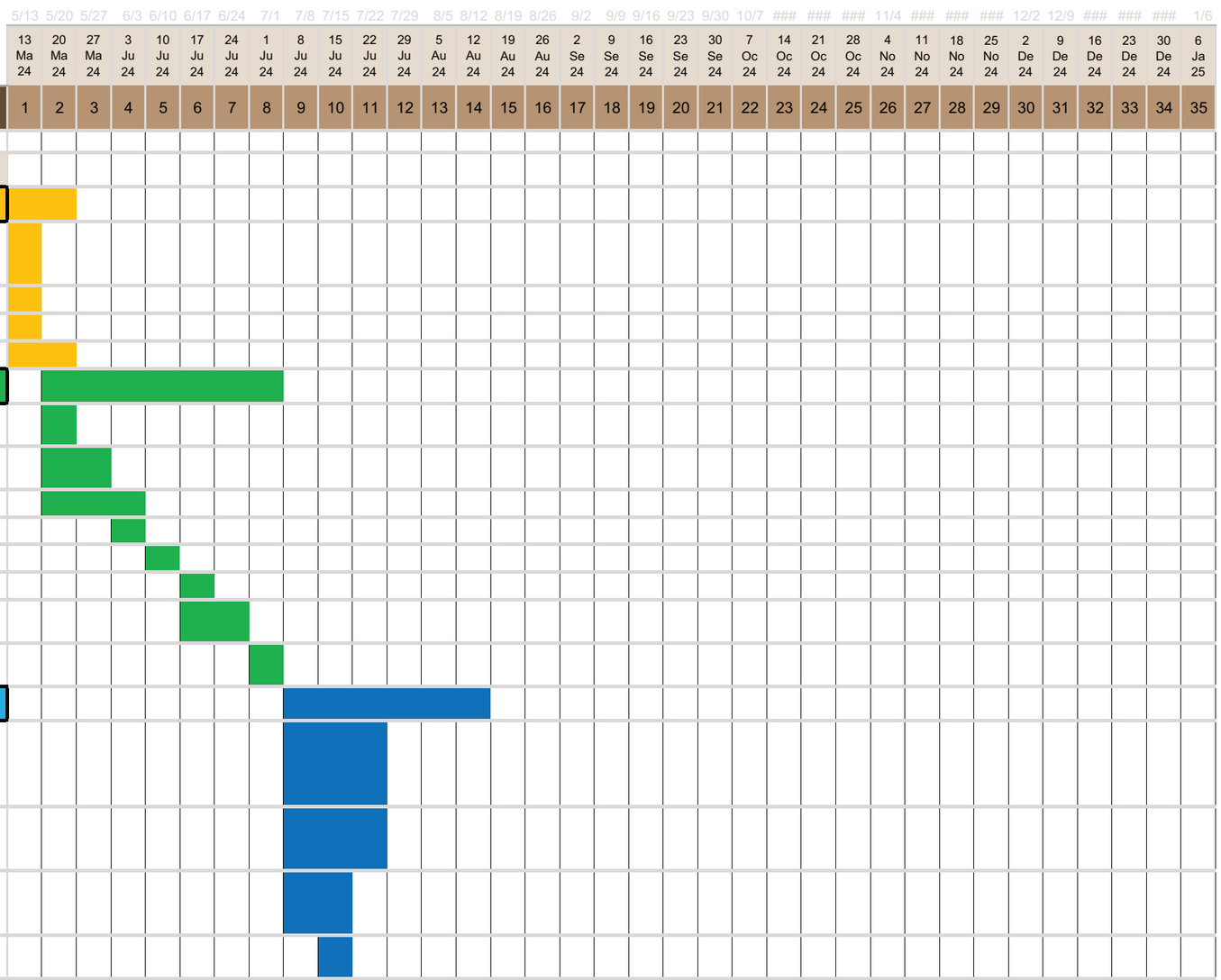
E. Revised reports and estimates will be sent to SOCWA for final acceptance.

See the work schedule on the following page, in coordination with the activities and services previously noted.

Project Schedule (page 1 of 2)

Show Week: 1

TASK DESCRIPTION	PHASE START	WORK DAYS	PHASE END
Task 1: Project Initiation	**5/13/2024**	**6**	**5/21/2024**
Hold Kick Off meeting with SOCWA's designated project manager and key staff to confirm project background, goals, schedules, needs and requirements.	5/13/2024	1	5/14/2024
Obtain and review available drawings and other pertinent records.	5/15/2024	1	5/16/2024
Prepare equipment schedules/checklists (Criterion).	5/15/2024	2	5/17/2024
Develop survey questionnaires for SOCWA staff	5/15/2024	4	5/21/2024
Task 2: Investigation	**5/22/2024**	**30**	**7/3/2024**
Conduct field assessment of existing laboratory and surrounding grounds- all IDS disciplines	5/22/2024	2	5/24/2024
Conduct field assessment of existing laboratory equipment and furnishings- IDS & Criterion	5/22/2024	6	5/30/2024
Submit questionnaires to staff for review and response	5/22/2024	9	6/4/2024
Conduct interviews with key staff following questionnaire completion	6/5/2024	2	6/7/2024
Compile initial site observation findings and interviews into a narrative	6/10/2024	4	6/14/2024
Meeting with SOCWA to review site observations/ interviews narrative	6/17/2024	2	6/19/2024
Develop preliminary approaches to the four scenarios requested for exploration by SOCWA	6/20/2024	6	6/28/2024
Compile final Investigation narrative to SOCWA with preliminary approaches to the RFP four scenarios	7/1/2024	2	7/3/2024
Task 3: Exploration	**7/8/2024**	**29**	**8/16/2024**
Evaluate upgrades, relocation, replacement, and additions to: fume hoods, vacuum pump system, bottle glass cleaning system, bench space, filtration system, refrigerator/freezer area, Nanopure system, POU & IM technology.	7/8/2024	10	7/22/2024
Explore upgrades, expansion, insertion, and relocation of waste storage, chemical storage, lab offices, sample receiving, and other key spatial element designated by SOCWA.	7/8/2024	10	7/22/2024
Review existing building's interior architecture; assess ability to address SOCWA aesthetic requests- glazing, casework, ergonomic furniture	7/8/2024	5	7/15/2024
Compile drafts of initial assessments for new and relocated equipment, spatial upgrades, and aesthetic enhancements	7/16/2024	3	7/19/2024



Project Schedule (page 2 of 2)

TASK DESCRIPTION	PHASE START	WORK DAYS	PHASE END
Meetings with SOCWA to review initial assessments; discuss items and elements to be added, revised, or deleted	7/22/2024	2	7/24/2024
Revise initial assessments per SOCWA comments; begin preliminary assignment of items into each of the four RFP scenarios for further evaluation.	7/25/2024	6	8/2/2024
Develop preliminary equipment and furnishing schedules for further evaluation with each of the four RFP scenarios	7/25/2024	10	8/8/2024
Compile final assessments and schedules; submit to SOCWA for review	8/9/2024	5	8/16/2024
Task 4: Evaluation	**8/19/2024**	**58**	**11/7/2024**
Meeting with SOCWA to review final assessments and schedules; outline/confirm goals and objectives for evaluation of the four RFP scenarios	8/19/2024	2	8/21/2024
Evaluate "Laboratory As Is" scenario- 'test fit' of equipment, proposed spatial reconfiguration, impacts to existing MEP	8/22/2024	6	8/30/2024
Evaluate "Drinking Water Laboratory Separate Space" in coordination with "Laboratory As Is" scenario- 'test fit' of equipment, proposed spatial reconfiguration, impacts to existing MEP, accessibility and amenity needs	9/3/2024	6	9/11/2024
Evaluate "Regional Laboratory Consolidation"	9/12/2024	8	9/24/2024
Meeting with SOCWA to confirm proposed labs/services to consolidate to the Laguna Niguel campus	9/12/2024	1	9/13/2024
In coordination with "Laboratory As Is" scenario- 'test fit' of equipment, proposed spatial reconfiguration, impacts to existing MEP, accessibility and amenity needs, civil and structural requirements	9/16/2024	6	9/24/2024
Evaluate "Incorporating an Indirect/Direct Potable Reuse & Desal Lab"	9/25/2024	10	10/9/2024
Meeting with SOCWA to confirm proposed labs/services to consolidate to the Laguna Niguel campus	9/25/2024	1	9/26/2024
In coordination with "Laboratory As Is" scenario- 'test fit' of equipment, proposed spatial reconfiguration, impacts to existing MEP, accessibility and amenity needs	9/27/2024	8	10/9/2024
Meeting with SOCWA to review initial scenario developments	10/10/2024	1	10/11/2024
Revise initial scenario developments per SOCWA comments; develop ROM estimates for each scenario	10/14/2024	14	11/1/2024
Compile scenario developments and ROM estimates.	11/4/2024	3	11/7/2024
Task 5: Presentation/Review/Completion	**11/8/2024**	**26**	**12/16/2024**
IDS & Criterion workshop with SOCWA	11/8/2024	3	11/13/2024
Submit scenario developments and ROM estimates to SOCWA for review	11/14/2024	16	12/6/2024
Receive SOCWA comments; make final revisions to scenario developments and ROM estimates	12/9/2024	4	12/13/2024
Final assessment sent to SOCWA	12/16/2024	0	12/16/2024
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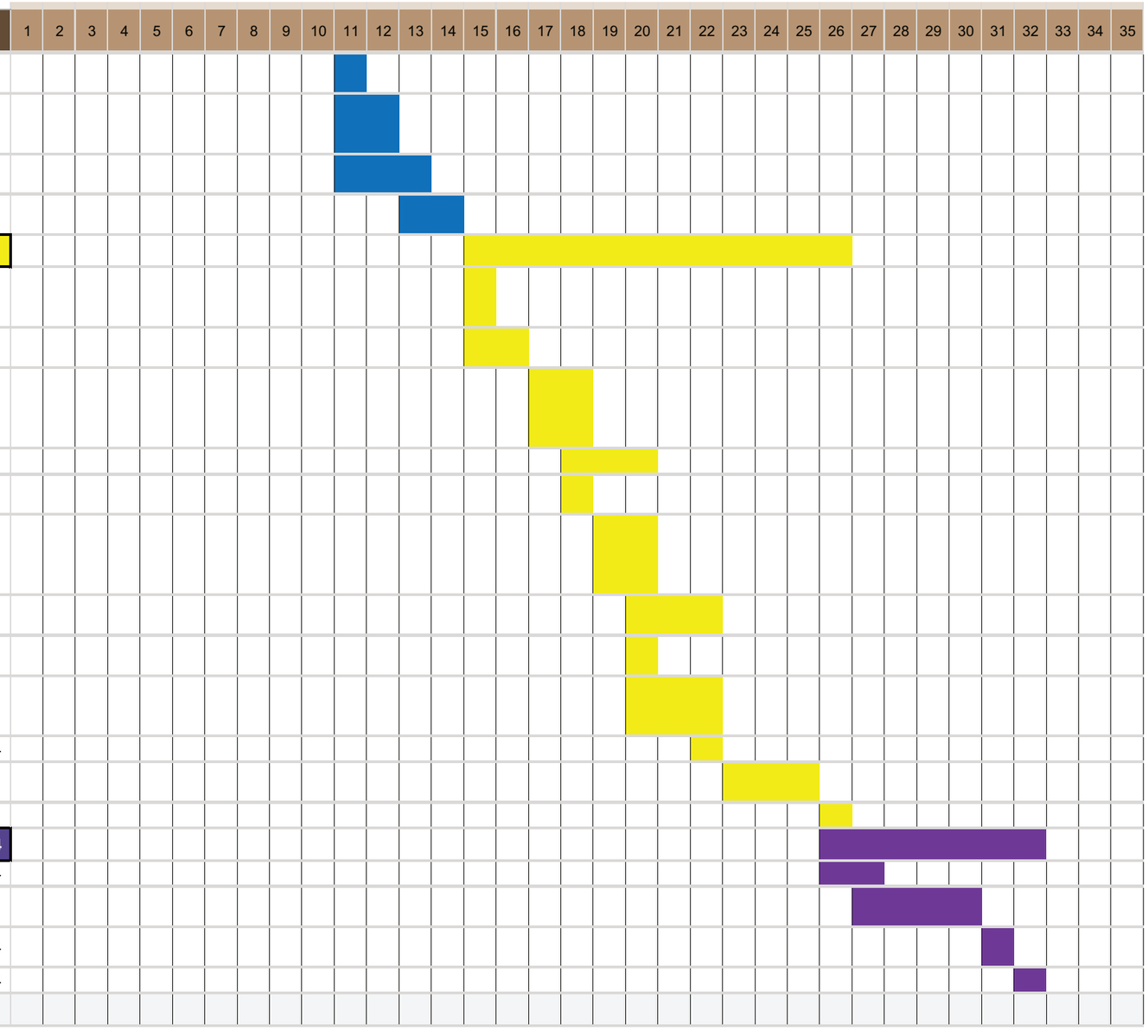
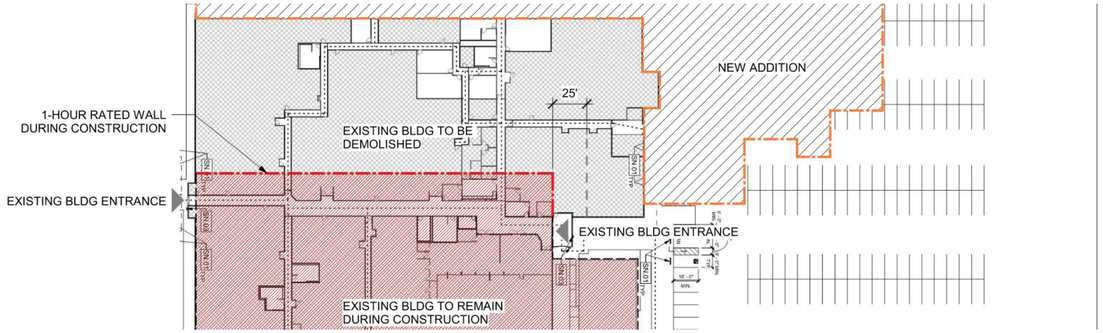


County of Orange Department of Public Works 17th Street Feasibility Study and Concept Design for Bio Safety Laboratory, Facilities, and Parking | *Santa Ana, CA*



Project Dates: May 2021 - December 2021

Owner: Public Entity

Orange County Facilities Design and Construction / A&E Project Management
Matt Durbin, Senior Project Manager
714.667.1626, Matthew.Durbin@ocpw.ocgov.com

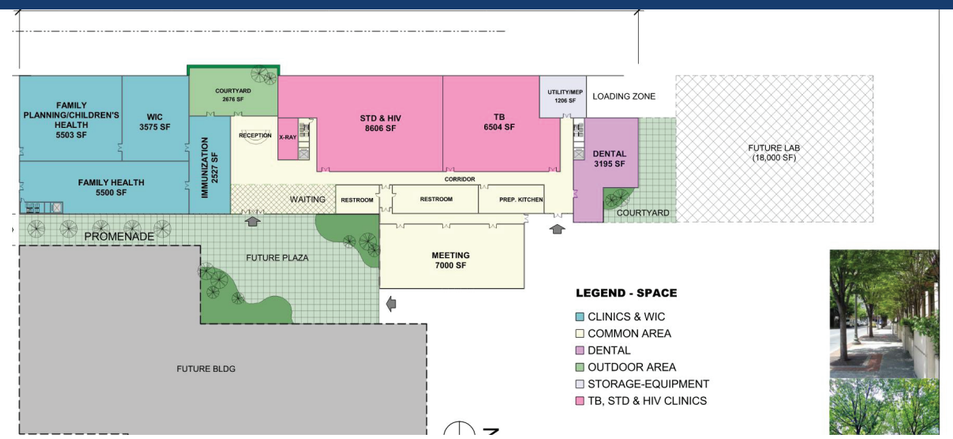
Role & Responsibilities:

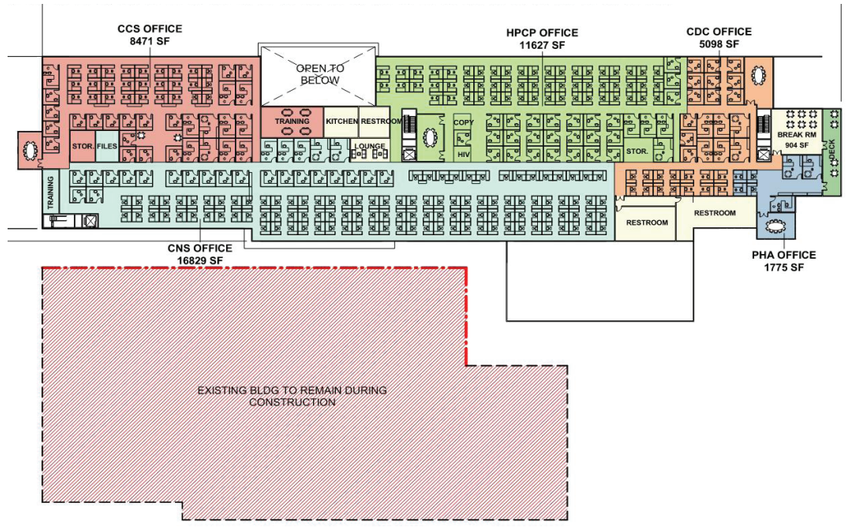
The County of Orange retained IDS Group to develop an overall master plan, which included the new Clinic building, the existing Bio Safety Laboratory (BSL), the Peripheral buildings, and surface parking areas. IDS developed block diagrams of the new buildings to reflect the programming needs and efficient site utilization, and construction requirements. The work progressed through the duration of this study including several brainstorming sessions. IDS provided several options with cost estimates, and presentation to stakeholders.

IDS' A/E team conducted a site visit to verify existing conditions and provided a list of deficiencies of elements conflicting with the project objectives with remedy recommendations.

Scope includes the replacement of the existing AHU, fans, and Tridium controls (or equal) serving the BSL with one larger AHU with controls to maintain proper pressurization of each laboratory space. Each isolation lab shall include new supply and exhaust ductwork and diffusers. The existing laboratory exhaust fans will be replaced with units selected for variable-flow operation. Each exhaust fan shall be selected to be VFD driven and shall incorporate HEPA filters. One of the recommendations was to have the doors for each isolation lab replaced with fully-gasketed solid doors. An alarm within the controls system will annunciate pressurization loss and re-establish an adequate amount of air pressure in a few seconds. This will permit people to move in and out of the spaces without setting off the alarms.

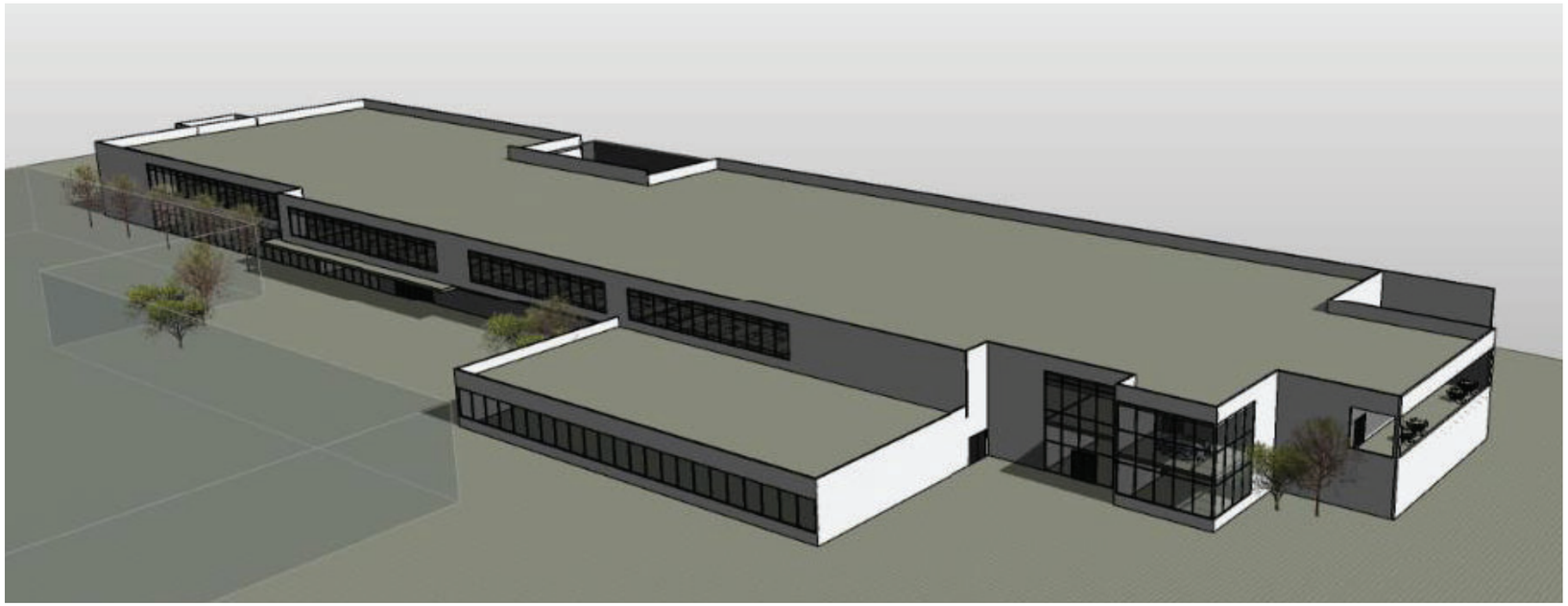
One of the most important requirements of this project is maintaining operation of both the Clinic building and the Bio Lab during new construction. The new facilities were expected to be located at the space/ parking lot area between the two existing buildings. Once constructed, the existing clinic building will be demolished. Careful attention to minimize the demolition's impact to the new facility and the bio lab operations will be addressed. IDS was tasked to with a study for the operation/ parking needs, future site utilization of the demolished areas, and constructability concerns.





IDS Staff & Project Roles

John Silber, RA | Principal Architect / Project Manager
Shelley Sivak, RA, LEED AP | Project Architect
Song Brandner, RA, LEED GA | Project Architect
Jaime Rosenbach, PE, SE | Structural Engineer
Victor Mercado, PE, SE | Structural Engineer
Darren Smith, PE | Mechanical Engineer
Bob Kramer | Electrical Project Manager
Michael Reed | Lighting Design
Faisal Dakhil | Cost Estimator
Rami Elhassan, PhD, PE, SE | QA/QC
Said Hilmy, PhD, SE, LEED AP | Principal/Contract Administrator



West Basin Municipal Water District Headquarters Relocation Feasibility Study and Concept Design | *Carson, CA*

Project Dates: March 2023 - June 2023

Owner: Public Entity

West Basin Municipal Water District
Wendell E. Johnson, PE, Manager of Engineering
310.660.6259, WendellJ@westbasin.org

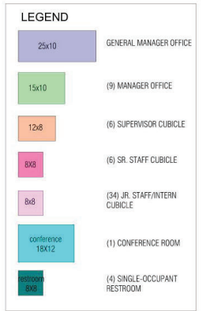
Role & Responsibilities:

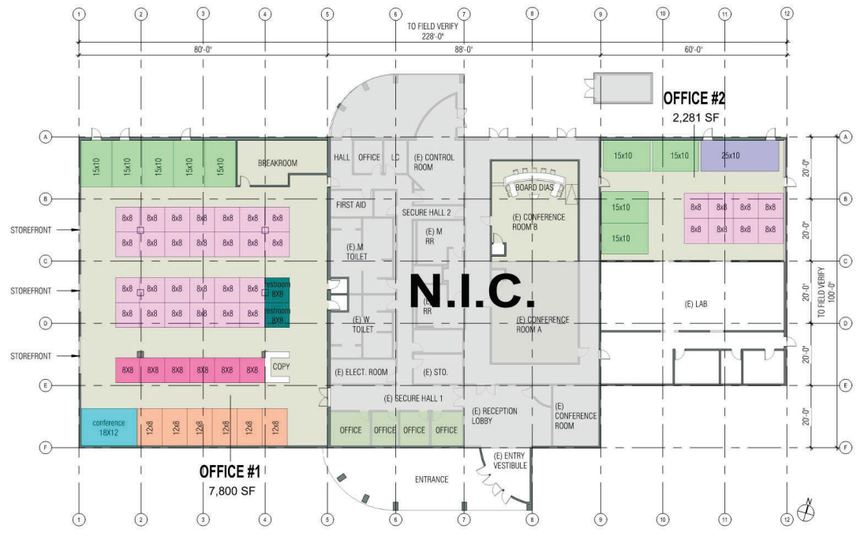
Office relocation of the West Basin Municipal Water District (WBMWD) office headquarters from the Donald L. Dear (DLD) Building located in the city of Carson to the agency's main water recycling facility, the Edward C. Little Water Recycling Facility (ECLWRF) in the City of El Segundo. IDS collaborated with WBMWD on the architectural and engineering feasibility study and concept design options for this project.

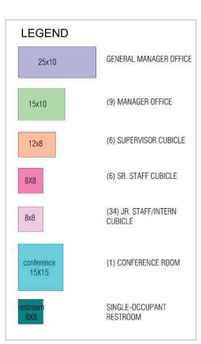
The West Basin Board of Directors were presented with four options on the future DLD Building-based staff and operational activities. The Board decided to have the IDS team analyze and evaluate an option of moving fifty DLD staff to ECLWRF.

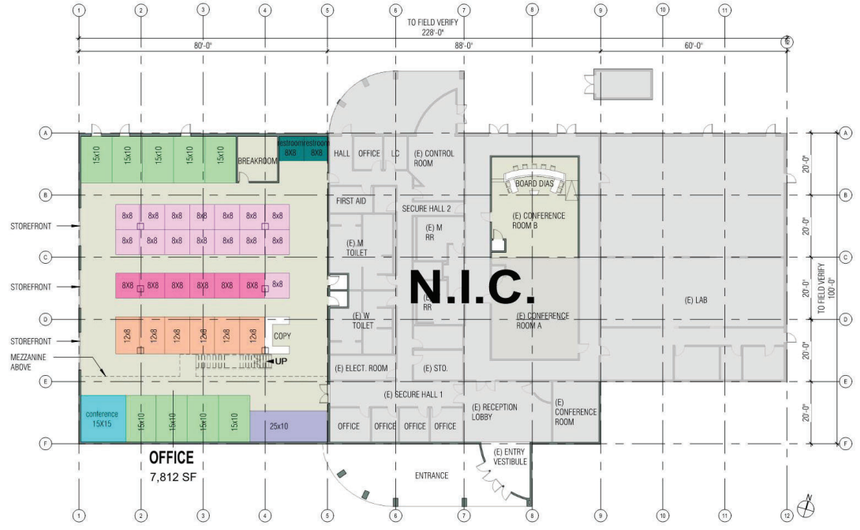
Project Key Elements

- Evaluate existing areas for re-purpose.
- Test-fit for workstations while minimizing impact to space planning.
- Re-purpose existing lab as an office space.
- Illustrative plan view of the building's site, workspaces, and operational areas.
- Building system requirements for HVAC, plumbing, electrical, fire sprinkler and alarm
- Project timeline
- Rough Order of Magnitude (ROM) of Project Costs









IDS Staff & Project Roles

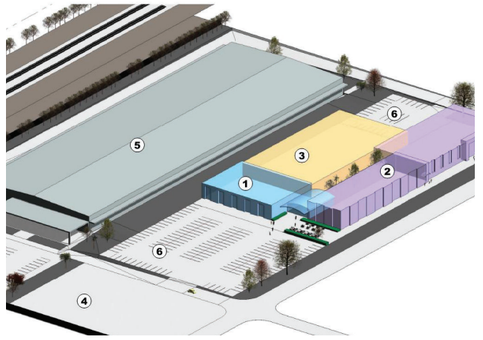
John Silber, RA | Principal Architect
Quentin Montrie | Project Manager
Song Brandner, RA, LEED GA | Project Architect
Mohsen Kargahi, PhD, PE | Structural Project Manager
Chris Corbett, Assoc. AIA | Sr. Project Lead
Eduardo Fabros | Project Designer
Daniel Park | Project Designer
Andrew Bussey, PE | Mechanical Engineer
Faisal Dakhil | Cost Estimator
Said Hilmy, PhD, SE, LEED AP | Principal/Contract Admin


Google Earth


Drag the slider or click the buttons to zoom in or out
Edward C. Little Water Recycling Facility


EDWARD C. LITTLE
WATER RECYCLING FACILITY

County of Orange Emergency Medical Services Operational Facility Concept Design | *Irvine, CA*



Project Dates: May 2021 - December 2021

Owner: Public Entity

Orange County Facilities Design and Construction / A&E Project Management
Matt Durbin, Senior Project Manager
714.667.1626, Matthew.Durbin@ocpw.ocgov.com

Role & Responsibilities:

IDS Group collaborated with the County of Orange to develop site utilization and master plan for the proposed new Emergency Medical Services (EMS) Operating Facilities. The new facility will be built on an unoccupied 10-acre site owned by the County located south of the county facilities at 8014 Marine Way, Irvine, CA 92618. This empty lot was part of the decommissioned El Toro Marine Base. The proposed program is an ambitious step towards integrating the administration and operation of the OCEMS/HCA into one facility. The project vision is to house a 100,000 sq. ft. state-of the-art bio medical laboratory, health and wellness, and life-saving facilities.

Multiple agency stakeholder user groups participated in the project along with the County. The City of Irvine, County of Orange Fire Authority, and the department of the Navy were involved and provided valuable insight to the IDS team. IDS' scope of work for the master plan included: 1. Site investigation of existing conditions, 2. Development of an overall site master plan, 3. Block diagrams for new buildings renderings, 3. Conduct brainstorming sessions with user groups and project stakeholders, and 4. Cost Estimates. IDS provided programming consultation working with the county representatives and the various user groups and jurisdictions.

The County will have IDS involved in the bridging documents for the design-build procurement with continued oversight of the full design and construction in support with the County.

IDS Staff & Project Roles

John Silber, RA | Principal Architect / Project Manager
Shelley Sivak, RA, LEED AP | Project Architect / Interior Design
Song Brandner, RA, LEED GA | Project Architect
Jaime Rosenbach, PE, SE | Lead Structural Engineer
Victor Mercado, PE, SE | Structural Engineer
Darren Smith, PE | Electrical Engineer
Bob Kramer | Electrical Project Lead
Michael Reed | Lighting Design
Faisal Dakhil | Cost Estimator
Said Hilmy, PhD, SE, LEED AP | Principal/Contract Admin


OCHCA


OCHCA

4. Key Personnel & Sub-Consultants | Project Organizational Chart

*Key Staff

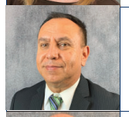
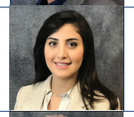
Said Hilmy, PhD, SE, LEED AP*
Principal in Charge / Contract Administrator

SOCWA
South Orange County Wastewater Authority

John Silber, RA*
Principal Architect / QA-QC

Joseph MacDonald, RA, NCARB*
Associate Principal
Project Manager

ARCHITECTURAL-ENGINEERING TEAM

	**Shelley Sivak**, RA, LEED AP* Architect		**Song Brandner**, RA, LEED GA* Architect		**Matthew Miller**, AIA, LEED AP Architect		**Bradley Mansfield**, RA Senior Architect
	**Dion Vasquez** Job Captain		**Mahsa Javaherian** Project Designer		**Paniz Farshchiha** Project Designer		**Marilou Francisco** Project Designer
	**Adrian Anderson**, PE* Lead Civil Engineer		**Darren Smith**, PE, BEAP* Lead Mechanical Engineer		**Steven Collins**, PE, LEED AP* Lead Electrical Engineer		**Steve Uthoff**, PE, SE* Lead Structural Engineer

	**Juan Acuna** Job Captain		**Faisal Dakhil**, PE* Cost Estimator		**Joy Lyndes**, PLA, FASLA Lead Landscape Architect

IN-HOUSE ENGINEERING SERVICES SUPPORT

STRUCTURAL ENGINEERING	CIVIL ENGINEERING	MECHANICAL/PLUMBING ENGINEERING	ELECTRICAL ENGINEERING	LANDSCAPE ARCHITECTURE
Victor Mercado, PE, SE	Jason Wetterich, PE	Anthony Zanotti, PE	Bob Kramer	Kristin Gros, ASLA, LEED AP ND
Ellen Wu, PhD, PE	Harry Nguyen	Andrew Bussey, PE	Michelle Huynh, PE	Cisy Cao
C.K. Mak, PE	Gill Iradukunda	Ming (Mike) Lin, PE	Jesus Soriano	
Ghazaleh, Laleh, PhD	Wen Zhang	Kevin Barnes	Stuart McKnight	
Yali Ykeda		Ronaldo Magno	Narges Ghazi	

TEAMING PARTNER

Criterion
Laboratory Planning

Key Personnel Resumes

Joseph MacDonald, RA, NCARB

Associate Principal, Project Manager

Education: Master of Architecture, Boston Architectural College, Boston, MA

Professional Credentials: Architect: California (#C-34131); NCARB Certification

Mr. MacDonald is a highly skilled licensed professional with over 20 years of experience in healthcare design. His projects include a wide range of facilities for numerous healthcare systems. He has extensive experience with projects requiring review and approval of the California Office of Statewide Health Planning and Development (OSHPD) and experience in programming and master planning. He is also recognized for his ability to manage projects to their specific fees, programs and schedules, ability to manage multiple projects simultaneously, and to lead project teams and work closely with owners.

Relevant Project Experience:

- City of Hope Medical Center Conditions Assessment | Duarte, CA
- Scripps Mercy Hospital Chula Vista Sterile Processing Department Air Handler Unit Replacement | Chula Vista, CA
- San Bernardino County Arrowhead Regional Medical Center X-Ray Replacements | Colton, CA
- University of Southern California (USC) Air Handler Unit-1 Replacement at Healthcare Center 4 (HC4) |
- Los Angeles, CA
- Hoag Hospital, Renovation of Various Projects | Irvine, CA

Shelley Sivak, RA, LEED AP

Architect

Education

Master of Architecture, California State Polytechnic University, Pomona

Professional Credential

Architect: CA #C33767; LEED Accredited Professional

Ms. Sivak is a forward-thinking architect who brings form to interior space and new life to both urban and suburban settings, to create a strong sense of place. She takes a holistic approach and considers key capacity to recognize the specific demands of a particular location and tailors the design process to be efficient and productive.

Relevant Project Experience:

- West Basin Municipal Water District Office Headquarters Relocation Feasibility Study and Concept Design | Carson, CA
- Municipal Water District of Orange County Administration Office Building Tenant Improvements | Fountain Valley, CA
- County of Orange Health Care Agency 17th Street Feasibility Study and Concept Design | Santa Ana, CA
- County of Orange Emergency Medical Services Operational Facility and Concept Design | Irvine, CA

John Silber, AIA

Principal Architect - Quality Assurance / Quality Control

Education

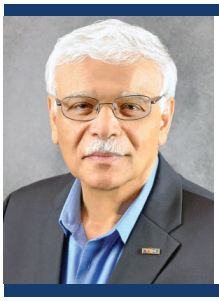
M Arch, Southern California Institute of Architecture

Professional Credential: Architect: California (#15573)

Mr. Silber has been an active member of the architecture and urban design of Southern California for more than 30 years. His work has covered a broad range of urban projects, including a number in areas of special interest, such as the link public education creates between culture and economic vitality. He has mastered the interface between community design expectations, urban in-fill architecture and modern code standards for fire/life safety, energy, and accessibility.

Relevant Project Experience:

- West Basin Municipal Water District Office Headquarters Relocation Feasibility Study and Concept Design | Carson, CA
- City of Azusa Light and Water Department Customer Service Lobby Area | Azusa, CA
- City of Long Beach Gas & Oil Building 560 | Long Beach, CA
- County of Orange Health Care Agency 17th Street Feasibility Study and Concept Design | Santa Ana, CA
- County of Orange Emergency Medical Services Operational Facility and Concept Design | Irvine, CA



Said Hilmy, PhD, PE, SE, LEED AP

Principal / Contract Administrator

Education: Doctorate, Structural Engineering, Cornell University; MS, Structural Engineering, Cornell University

Professional Credentials: Professional Structural Engineer: CA #S3680; Professional Civil Engineer: CA C43988; LEED Accredited Professional

Dr. Hilmy has over 30 years of experience in structural engineering design and analysis and project management. Mr. Hilmy specialties are related to providing organizational leadership with a focus on quality control in the delivery of construction documents as well as excellent customer service.

Dr. Hilmy will be the Principal and will oversee the project progress, proper interface between the County management and the project team and contractually bind the firm.

Relevant Project Experience:

- West Basin Municipal Water District Office Headquarters Relocation Feasibility Study and Concept Design | Carson, CA
- City of Azusa Light and Water Department Customer Service Lobby Area | Azusa, CA
- City of Long Beach Gas & Oil Building 560 | Long Beach, CA
- County of Orange Health Care Agency 17th Street Feasibility Study and Concept Design | Santa Ana, CA
- County of Orange Emergency Medical Services Operational Facility and Concept Design | Irvine, CA

Darren Smith, PE, BEAP

Lead Mechanical Plumbing Engineer

Education: BS, Mechanical Engineering Technology, California Polytechnic University, Pomona

Professional Credentials: Professional Mechanical Engineer: California #M30841; ASHRAE (Building Energy Auditing Professional)

Darren Smith is a registered mechanical engineer with over 25 years of experience in design bid build and design-build projects. As a design engineer or project manager, Darren's role will be flexible for project task order assignments. With extensive experience in designing and managing numerous construction projects, Darren brings cross-communication at various levels of project ownership. Darren will supervise the mechanical/ plumbing engineering team.

Relevant Project Experience:

- Sweetwater Union High School District Development of the L Street Facility | Chula Vista, CA
- West Basin Municipal Water District Office Headquarters Relocation Feasibility Study and Concept Design | Carson, CA
- City of Glendora Corporate Yard Concept Design | Glendora, CA
- County of Orange Health Care Agency 17th Street Feasibility Study and Concept Design | Santa Ana, CA
- County of Orange Emergency Medical Services Operational Facility and Concept Design | Irvine, CA
- County of Orange Yale Homeless Shelter Adaptive Reuse | Santa Ana, CA

Steve Uthoff, PE, SE

Structural Engineer

Education: MS, Structural Engineering, The University of Texas at Austin

Professional Credentials: Professional Structural Engineer, CA #S3733; Professional Civil Engineer, CA #C48618

Mr. Uthoff has over 25 years of structural engineering experience in building design and review, including essential service facilities, hospitals, office buildings, parking garages, schools, airports, theme parks, churches, shopping centers, industrial buildings and military structures, and blast analysis. His technical expertise includes structural steel and light-gage steel design, reinforced concrete design (including post-tensioned and precast concrete), masonry design, and wood design, foundation design (including underpinning and strengthening of existing foundations), Seismic Zone 4 analysis (response spectrum and time history, seismic retrofits, base isolation), working knowledge of current building codes.

Relevant Project Experience:

- West Basin Municipal Water District Office Headquarters Relocation Feasibility Study and Concept Design | Carson, CA
- City of Glendora Corporate Yard Concept Design | Glendora, CA
- County of Orange Health Care Agency 17th Street Feasibility Study and Concept Design | Santa Ana, CA
- County of Orange Emergency Medical Services Operational Facility and Concept Design | Irvine, CA

Steven Collins, PE, LEED AP

Lead Electrical Engineer

Education: MS, Electrical Engineering, Rensselaer Polytechnic Institute

Professional Credentials: Professional Electrical Engineer: California #E22805; LEED Accredited Professional

Mr. Collins brings over 20 years of experience in Electrical Engineering for Building Systems and has expertise in municipal, education, commercial, and healthcare markets. His experience includes field investigation, design, and specifications for electrical service entrance equipment, standard and emergency distribution systems, lighting systems, controls, power-to-utilization equipment and devices, fire alarm systems, and telecommunication and low-voltage raceway systems.

Relevant Project Experience:

- Orange County Sheriff's Department, Central Men's Jail Lighting Retrofit | Orange, CA
- City of Newport Beach, Central Library Elevator, Fire Alarm and Security System Modernization | Newport Beach, CA
- Department of Veteran's Administration, Air Handler Unit Replacement | Barstow, CA
- The Aerospace Corporation Lighting Replacement | Los Angeles, CA
- City of Lancaster, El Dorado Park Revitalization | Lancaster, CA

Adrian Anderson, PE

Lead Civil Engineer

Education: BS, Civil Engineering, CSU, Long Beach, CA

Professional Credential: Professional Civil Engineer: California #C6095

Mr. Anderson has over 25 years of experience and is well versed in managing public agency projects for street rehabilitation projects, street widening and new street/highway projects, drainage improvement projects, right of way projects, development project plan checks for various agencies, urban trail projects, and bike trails and other active transportation facilities.

Adrian will supervise the civil engineering team. He will oversee bid preparation and project proposals, overseeing CAD staff, and completing projects from design through construction.

Relevant Project Experience:

- Sweetwater Union High School District Development of the L Street Facility | Chula Vista, CA
- Riverside County Sheriff Dept., Coroner Facility Parking Lot Improvements, Drainage, and Water Quality | Perris, CA
- Los Angeles World Airports, Roadways, Utilities & Enabling (RUE), Century Blvd & LAX Street Rehabilitation Los Angeles, CA
- City of Lancaster, El Dorado Park Revitalization | Lancaster, CA

Joy Lyndes, PLA, FASLA

Lead Landscape Architect

Education: Master of Landscape Architecture, University of Arizona

Professional Credential: Landscape Architect: CA #4183

Ms. Lyndes brings a broad range of municipal, local and state agency expertise specializing in transportation and facilities planning, design and construction oversight of complete streets, facilities programming and smart growth. Her practice focuses on health and wellbeing as one of the key priorities of our community regeneration framework, fostering long-term health outcomes in our neighborhoods and public spaces.

Relevant Project Experience:

- Sweetwater Union High School District Development of the L Street Facility | Chula Vista, CA
- City of Lancaster, El Dorado Park Revitalization | Lancaster, CA
- County of Orange Yale Homeless Shelter Adaptive Reuse | Santa Ana, CA
- City of Corona City Hall Veteran's Memorial Enhancement | Corona, CA
- Placentia Library District Outdoor Library and Loading Dock Expansion | Placentia, CA

Faisal Dakhil

Cost Estimator

Education: MS, Civil Engineering, University of Southern California;
BS, Civil Engineering, University of Southern California

Mr. Dakhil has over 30 years of pre-construction, construction management, and estimating experience in a broad spectrum of projects ranging in value from $1 million to more than $250 million. Faisal has a long track record of successful jobs coming in under budget and on time, resulting in substantial client savings.

Relevant Project Experience:

- West Basin Municipal Water District Office Headquarters Relocation Feasibility Study and Concept Design | Carson, CA
- City of Glendora Corporate Yard Concept Design | Glendora, CA
- County of Orange Health Care Agency 17th Street Feasibility Study and Concept Design | Santa Ana, CA
- County of Orange Emergency Medical Services Operational Facility and Concept Design | Irvine, CA
- County of Orange Yale Homeless Shelter Adaptive Reuse | Santa Ana, CA

Laboratory Planning Teaming Partner

Criterion

criterion

Located in Capistrano Beach, Criterion is a design consulting team of planners and professionals who offer a shared passion for improving the lives of others through their work. Founded in 1977, and more than four decades later, Criterion continues to propel advancements in the planning process that positively impact public entities, projects and communities for years to come.

Heather Porto

Principal, Senior Lab Equipment Planner

EDUCATION BACHELOR OF SCIENCE IN BIOLOGY - UNIVERSITY OF CALIFORNIA, SAN DIEGO

Heather launched her career in the early 2000s as a lab planner, completing hundreds of projects in the medical, academic, research and biomedical fields both nationally and internationally. Since joining Criterion in 2016, she has applied her sophisticated blend of expertise and technical skills toward the delivery of countless more high-profile healthcare projects. Heather is responsible for the overall guidance of Criterion, including oversight of company-wide operations, setting and meeting goals, establishing standards, building new business and maintaining existing client relationships. She is also closely involved in strategic partnership decision-making and considering new business opportunities.

- Orange County Water District, New Lab Building - Fountain Valley, CA***
- UCLA Health, Center for Health Sciences Wet and Dry Lab Renovation - Los Angeles, CA
- UCLA Health, Research & Education Institute of Harbor - Torrance, CA***
- UCSF Health, New Hospital at Parnassus Heights Clinical Lab - San Francisco, CA
- UC Merced, Lab Relocation - Merced, CA
- UC San Diego, Altman Clinical and Translational Research Institute - San Diego, CA***
- Cedars-Sinai, Lab Inventory and Re-Use Planning - Los Angeles, CA
- County of Los Angeles Department of Public Works, Martin Luther King, Jr. (MLK) Clinical Lab - Los Angeles, CA
- Santa Clara Valley Medical Center, Microbiology Lab Expansion - San Jose, CA
- Santa Clara Valley Medical Center, Serology, HIV and Flow Cytometry Lab - San Jose, CA
- City of Hope, Rivergrade Lab Relocation - Irwindale, CA
- Veterans Affairs, Fresno Lab Expansion and Renovation - Fresno, CA
- California Institute of Technology, Church Vivarium Renovation - Pasadena, CA***
- Rancho Santiago Community College District, Santa Ana College, Health Sciences Building - Santa Ana, CA
- California State University, Dominguez Hills, New Center for Science and Innovation - Dominguez Hills, CA
- University of Arizona, Biosciences Research Lab - Tucson, AZ***
- University of Arizona, Medical Research Building - Tucson, AZ***
- University of Arizona, Institute of Biomedical Science and Biotechnology - Tucson, AZ***
- University of Southern California, Dr. Valeri Fokin Lab Remodel - Los Angeles, CA***
- University of Southern California, Eli and Edythe Broad CIRM Center for Regenerative Medicine - Los Angeles, CA***
- University of Southern California, Sealy G. Mudd – 2nd Floor Chemistry Renovation - Los Angeles, CA***
- Lawrence Berkeley National Lab, New Research Building - San Francisco, CA***
- Oregon Health Sciences University, Bio-Medical Research Building - Portland, OR***
- J. Craig Venter Institute, Research Building - La Jolla, CA***
- J. David Gladstone Institutes at the Mission Bay Campus, New Lab Building - San Francisco, CA***
- Prometheus Laboratories, New Lab Building - San Diego, CA***
- Riverside Community College, New Lab Building - Riverside, CA***
- University of San Francisco, 10th Floor Immunology Lab Remodel - San Francisco, CA***
- University of Hawaii, Pacific Health Research Lab Cancer - Honolulu, HI***
- Arizona State University, BioDesign C Research Building - Tempe, AZ***
- University of Alaska, Fairbanks, Lab Remodel - Fairbanks, AK***
- U. S. Department of Agriculture, Forage Animal Production Research Lab - Lexington, KY***
- U. S. Department of Agriculture, Animal Waste Management Research Lab* - Bowling Green, KY***
- U. S. Department of Agriculture, National Center for Animal Health Phase II Lab - Ames, IA***

***Denotes experience with a previous firm

Staff Allocations per Discipline:	TOTAL		Architecture					Structural					Electrical/ Low Voltage					Mechanical/Plumbing					Civil					Estimation				Laboratory Design Consulting			
Role/Classifications:	Hours	Fees	Assoc. Prin	Proj. Arc	Job Capt.	Subtotal		Prin. SEOR	Sr. Eng.	Eng. Des.	Subtotal		Assoc. Prin	Proj. Eng.	Eng. Des.	Subtotal		Assoc. Prin	Proj. Eng.	Eng. Des.	Subtotal		Assoc. Prin	Sr. Eng.	Eng. Des.	Subtotal		Prin Est.	Jr Est.	Subtotal		Sr. Planner	Jr. Planner	Subtotal	
Hourly Rate:			$ 220	$ 175	$ 132	Hrs	Fees	$ 234	$ 185	$ 132	Hrs	Fees	$ 220	$ 175	$ 132	Hrs	Fees	$ 220	$ 175	$ 132	Hrs	Fees	$ 220	$ 185	$ 132	Hrs	Fees	$ 175	$ 139	Hrs	Fees	$ 175	$125	Hrs	Fees
Task 1: Project Initiation (1 week)	**52**	**$9,264**				**12**	**$2,190**				**5**	**$1,159**				**8**	**$1,445**				**8**	**$1,445**				**5**	**$925**			**0**	**$0**			**14**	**$2,100**
Hold Kick Off meeting with SOCWA's designated project manager and key staff to confirm project background, goals, schedules, needs and requirements.	10	$2,089	1	1		*2*	*$395*	1	1		*1*	*$419*	1	1		*2*	*$395*	1	1		*2*	*$395*		1		*1*	*$185*			*0*	*$0*	1	1	*2*	*$300*
Obtain and review available drawings and other pertinent records.	20	$3,580		4		*4*	*$700*		4		*4*	*$740*		4		*4*	*$700*		4		*4*	*$700*		4		*4*	*$740*			*0*	*$0*			*0*	*$0*
Prepare equipment schedules/checklists (Criterion).	10	$1,595	1	1		*2*	*$395*				*0*	*$0*				*0*	*$0*				*0*	*$0*				*0*	*$0*			*0*	*$0*	4	4	*8*	*$1,200*
Develop survey questionnaires for SOCWA staff.	12	$2,000		4		*4*	*$700*				*0*	*$0*		2		*2*	*$350*		2		*2*	*$350*				*0*	*$0*			*0*	*$0*	2	2	*4*	*$600*
Task 2: Data Gathering & Client Coordination (6 weeks)	**205**	**$36,197**				**65**	**$11,096**				**17**	**$4,081**				**25**	**$4,555**				**25**	**$4,555**				**33**	**$5,910**			**0**	**$0**			**40**	**$6,000**
Conduct field assessment of existing laboratory and surrounding grounds- all IDS disciplines.	40	$6,822		6	6	*12*	*$1,842*		6		*6*	*$1,110*		6		*6*	*$1,050*		6		*6*	*$1,050*		6		*10*	*$1,770*			*0*	*$0*			*0*	*$0*
Conduct field assessment of existing laboratory equipment and furnishings- IDS & Criterion.	16	$2,428		4	4	*8*	*$1,228*				*0*	*$0*				*0*	*$0*				*0*	*$0*				*0*	*$0*			*0*	*$0*	4	4	*8*	*$1,200*
Submit questionnaires to staff for review and response.	4	$695	1	1		*2*	*$395*				*0*	*$0*				*0*	*$0*				*0*	*$0*				*0*	*$0*			*0*	*$0*	1	1	*2*	*$300*
Conduct interviews with key staff following questionnaire completion.	24	$3,980	4	4		*8*	*$1,580*				*0*	*$0*				*0*	*$0*				*0*	*$0*				*0*	*$0*			*0*	*$0*	8	8	*16*	*$2,400*
Compile initial site observation findings and interviews into a narrative.	36	$6,482	1	4	4	*9*	*$1,448*	1	4		*4*	*$974*	1	4		*5*	*$920*	1	4		*5*	*$920*	1	4		*9*	*$1,620*			*0*	*$0*	2	2	*4*	*$600*
Meeting with SOCWA to review site observations/ interviews narrative.	11	$2,254	1	1		*2*	*$395*	1	1		*1*	*$419*	1	1		*2*	*$395*	1	1		*2*	*$395*		1		*2*	*$350*			*0*	*$0*	1	1	*2*	*$300*
Develop preliminary approaches to the two scenarios requested for exploration by SOCWA.	43	$7,904	2	12		*14*	*$2,540*	1	4		*4*	*$974*	1	6		*7*	*$1,270*	1	6		*7*	*$1,270*	1	2		*7*	*$1,250*			*0*	*$0*	2	2	*4*	*$600*
Compile final Investigation narrative to SOCWA with preliminary approaches to the RFP two scenarios.	31	$5,632	2	4	4	*10*	*$1,668*	1	2		*2*	*$604*	1	4		*5*	*$920*	1	4		*5*	*$920*	1	2		*5*	*$920*			*0*	*$0*	2	2	*4*	*$600*
Task 3: Exploration (6 weeks)	**214**	**$36,280**				**85**	**$14,033**				**10**	**$2,552**				**32**	**$5,735**				**32**	**$5,735**				**0**	**$0**			**0**	**$0**			**55**	**$8,225**
Evaluate upgrades, relocation, replacement, and additions to: fume hoods, vacuum pump system, bottle glass cleaning system, bench space, filtration system, refrigerator/freezer area, Nanopure system, POU & IM technology.	70	$11,636	2	16	8	*26*	*$4,296*		4		*4*	*$740*		12		*12*	*$2,100*		12		*12*	*$2,100*				*0*	*$0*			*0*	*$0*	8	8	*16*	*$2,400*
Explore upgrades, expansion, insertion, and relocation of waste storage, chemical storage, lab offices, sample receiving, and other key spatial element designated by SOCWA.	58	$9,496	2	16	8	*26*	*$4,296*				*0*	*$0*		8		*8*	*$1,400*		8		*8*	*$1,400*				*0*	*$0*			*0*	*$0*	8	8	*16*	*$2,400*
Review existing building's interior architecture; assess ability to address SOCWA aesthetic requests- glazing, casework, ergonomic furniture.	13	$2,062	1	6	6	*13*	*$2,062*				*0*	*$0*				*0*	*$0*				*0*	*$0*				*0*	*$0*			*0*	*$0*			*0*	*$0*
Compile drafts of initial assessments for new and relocated equipment, spatial upgrades, and aesthetic enhancements.	29	$5,092	1	4	4	*9*	*$1,448*	1	2		*2*	*$604*	1	4		*5*	*$920*	1	4		*5*	*$920*				*0*	*$0*			*0*	*$0*	4	4	*8*	*$1,200*
Meetings with SOCWA to review initial assessments; discuss items and elements to be added, revised, or deleted.	9	$1,904	1	1		*2*	*$395*	1	1		*1*	*$419*	1	1		*2*	*$395*	1	1		*2*	*$395*				*0*	*$0*			*0*	*$0*	1	1	*2*	*$300*
Revise initial assessments per SOCWA comments; begin preliminary assignment of items into each of the two RFP scenarios for further evaluation.	17	$2,811	1	2	3	*6*	*$966*		2		*2*	*$370*		3		*3*	*$525*		3		*3*	*$525*				*0*	*$0*			*0*	*$0*	1	2	*3*	*$425*
Develop preliminary equipment and furnishing schedules for further evaluation with each of the two RFP scenarios.	8	$1,200				*0*	*$0*				*0*	*$0*				*0*	*$0*				*0*	*$0*				*0*	*$0*			*0*	*$0*	4	4	*8*	*$1,200*
Compile final assessments and schedules; submit to SOCWA for review.	10	$2,079	1	2		*3*	*$570*	1	1		*1*	*$419*	1	1		*2*	*$395*	1	1		*2*	*$395*				*0*	*$0*			*0*	*$0*	1	1	*2*	*$300*

Staff Allocations per Discipline:	TOTAL		Architecture					Structural					Electrical/ Low Voltage					Mechanical/Plumbing					Civil					Estimation				Laboratory Design Consulting			
Role/Classifications:	Hours	Fees	Assoc. Prin	Proj. Arc	Job Capt.	Subtotal		Prin. SEOR	Sr. Eng.	Eng. Des.	Subtotal		Assoc. Prin	Proj. Eng.	Eng. Des.	Subtotal		Assoc. Prin	Proj. Eng.	Eng. Des.	Subtotal		Assoc. Prin	Sr. Eng.	Eng. Des.	Subtotal		Prin Est.	Jr Est.	Subtotal		Sr. Planner	Jr. Planner	Subtotal	
Hourly Rate:			$ 220	$ 175	$ 132	Hrs	Fees	$ 234	$ 185	$ 132	Hrs	Fees	$ 220	$ 175	$ 132	Hrs	Fees	$ 220	$ 175	$ 132	Hrs	Fees	$ 220	$ 185	$ 132	Hrs	Fees	$ 175	$ 139	Hrs	Fees	$ 175	$125	Hrs	Fees
Task 4: Evaluation (16 weeks)	**233**	**$39,965**				**52**	**$8,643**				**14**	**$3,835**				**33**	**$5,873**				**33**	**$5,873**				**11**	**$1,893**			**60**	**$9,348**			**30**	**$4,500**
Meeting with SOCWA to review final assessments and schedules; outline/confirm goals and objectives for evaluation of the two RFP scenarios.	11	$2,221	1	1	1	*3*	*$527*	1	1		*1*	*$419*	1	1		*2*	*$395*	1	1		*2*	*$395*		1		*1*	*$185*			*0*	*$0*	1	1	*2*	*$300*
Evaluate "Laboratory As Is" scenario- 'test fit' of equipment, proposed spatial reconfiguration, impacts to existing MEP.	52	$9,010	2	12	8	*22*	*$3,596*	1	4		*4*	*$974*	1	8		*9*	*$1,620*	1	8		*9*	*$1,620*				*0*	*$0*			*0*	*$0*	4	4	*8*	*$1,200*
Evaluate "Drinking Water Laboratory Separate Space" in coordination with "Laboratory As Is" scenario- 'test fit' of equipment, proposed spatial reconfiguration, impacts to existing MEP, accessibility and amenity needs.	45	$7,720	1	8	8	*17*	*$2,676*	1	2		*2*	*$604*	1	8		*9*	*$1,620*	1	8		*9*	*$1,620*				*0*	*$0*			*0*	*$0*	4	4	*8*	*$1,200*
Meeting with SOCWA to review initial scenario developments	11	$2,221	1	1		*2*	*$395*	1	1	1	*2*	*$551*	1	1		*2*	*$395*	1	1		*2*	*$395*		1		*1*	*$185*			*0*	*$0*	1	1	*2*	*$300*
Revise initial scenario developments per SOCWA comments.	43	$7,136	2	2	2	*6*	*$1,054*	1	2	2	*4*	*$868*	1	4	4	*9*	*$1,448*	1	4	4	*9*	*$1,448*	1	2	4	*7*	*$1,118*			*0*	*$0*	4	4	*8*	*$1,200*
Develop ROM estimates for each scenario (2)	60	$9,348				*0*	*$0*				*0*	*$0*				*0*	*$0*				*0*	*$0*				*0*	*$0*	28	32	*60*	*$9,348*			*0*	*$0*
Compile scenario developments and ROM estimates.	11	$2,309	1	1		*2*	*$395*	1	1		*1*	*$419*	1	1		*2*	*$395*	1	1		*2*	*$395*	1	1		*2*	*$405*			*0*	*$0*	1	1	*2*	*$300*
Task 5: Presentation/Review/Completion (6 weeks)	**115**	**$19,208**				**32**	**$5,530**				**12**	**$2,242**				**13**	**$2,148**				**13**	**$2,148**				**13**	**$2,228**			**16**	**$2,512**			**16**	**$2,400**
IDS & Criterion workshop with SOCWA.	32	$5,660	4	4		*8*	*$1,580*		4		*4*	*$740*		4		*4*	*$700*		4		*4*	*$700*		4		*4*	*$740*			*0*	*$0*	4	4	*8*	*$1,200*
Submit scenario developments and ROM estimates to SOCWA for review.	1	$220	1			*1*	*$220*				*0*	*$0*				*0*	*$0*				*0*	*$0*				*0*	*$0*			*0*	*$0*			*0*	*$0*
Receive SOCWA comments; make final revisions to scenario developments and ROM estimates.	77	$12,494	2	8	8	*18*	*$2,896*	1	4	4	*8*	*$1,502*	1	4	4	*9*	*$1,448*	1	4	4	*9*	*$1,448*	1	4	4	*9*	*$1,488*	8	8	*16*	*$2,512*	4	4	*8*	*$1,200*
Final assessment sent to SOCWA.	5	$834	1	2	2	*5*	*$834*				*0*	*$0*				*0*	*$0*				*0*	*$0*				*0*	*$0*			*0*	*$0*			*0*	*$0*
TOTAL - Fees/Hours	***819***	***$140,914***	***38***	***132***	***76***	***246***	***$41,492***	***15***	***51***	***7***	***58***	***$13,869***	***15***	***88***	***8***	***111***	***$19,756***	***15***	***88***	***8***	***111***	***$19,756***	***6***	***33***	***8***	***62***	***$10,956***	***36***	***40***	***76***	***$11,860***	***77***	***78***	***155***	***$23,225***

Hourly Fee Schedule

Title – Association	Hourly Rate
Principal	$234
Associate Principal	$220
Senior Project Manager | Associate	$211
Senior Planner	$211
QA/QC Manager	$211
Registered Architect or Engineer	$197
Project Manager	$197
Senior Architect or Engineer	$185
Senior Cost Estimator	$175
Project Architect or Engineer	$175
Senior Designer	$170
Designer Architect or Engineer	$160
Spec Writer	$160
Engineering Designer - BIM	$139
Architectural Job Captain | Designer	$132
CAD Drafting Engineer | Architect	$118
Office Administration	$73

Expenses such as, but not limited to, plan check fees, permits, inspections, testing services, title company fees, special delivery charges, plotting/ presentation boards, maps, aerial photographs, and reprographics/ illustrations that may be required for community or other stakeholder presentation, shall be billed to the owner at Consultant's direct cost plus 10%.

6. Non-Collusion Affidavit

AFFIDAVIT CERTIFYING NO CONFLICTS OF INTEREST

The undersigned declares:

I am the Principal of IDS Group, Inc. ("Proposer"), the party making the foregoing bid.

As a California public agency, SOCWA is subject to conflicts of interest rules under the Political Reform Act ("PRA") and California Government Code Section 1090 ("Section 1090").

The PRA prohibits a public official at any level of state or local government from making, participate in making, or in any way attempt to use their official position to influence a governmental decision in which the official has a financial interest. A public official has a financial interest in a decision if it is reasonably foreseeable that the decision will have a material financial effect on the public official, a member of the public official's immediate family, or on: (a) a business in which the public official has a direct or indirect investment worth $2,000 or more; (b) real property in which the public official has a direct or indirect interest worth $2,000 or more; (c) any source of income of $500 or more received within 12 months prior to the time when the decision is made; (d) a business in which the public official is a director, officer, partner, trustee, employee, or has a management position; or (e) the donor of a gift to the public official of $250 within 12 months prior to the time when the decision is made.

Section 1090 provides that public officials and public employees may not be "financially interested" in "any contract made by them in their official capacity."

By signing below, Bidder acknowledges that it (i) has considered persons with whom it has business relationships as to the potential for such persons to have a conflict of interest, (ii) has considered the requirements and provisions of the PRA and Section 1090, (iii) certifies that it does not know of any facts which constitute a violation, or should be further investigated to prevent a violation of those provisions, and (iv) agrees that Bidder will immediately notify SOCWA if it becomes aware of any such fact at a later date.

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 ___[date], at Irvine [city], California [state]. March 12, 2024

Signature: _____
Said Hilmy

Title: Principal

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

ADDENDUM No.1

LABORATORY UPGRADES FEASIBILITY STUDY

THE BIDDER SHALL EXECUTE THE CERTIFICATION AT THE END OF THE ADDENDUM AND SHALL ATTACH THE ADDENDUM TO THE DOCUMENTS SUBMITTED WITH THE PROPOSAL.

The following additions, modifications, corrections, deletions and clarifications are hereby made to the RFP of the subject project:

Attachment A attached to this Addendum No. 1 supersedes Attachment A in the RFP.

DATED: February 1, 2024

Amber Baylor

Amber Baylor, Director of Environmental Compliance

BIDDER'S CERTIFICATION

I acknowledge receipt of the foregoing Addendum No. 1 and accept all conditions contained herein.

DATED: March12, 2024

BIDDER: IDS Group, Inc.

BY: _____

Said Hilmy, Principal

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

ADDENDUM No. 2

LABORATORY UPGRADES FEASIBILITY STUDY

THE BIDDER SHALL EXECUTE THE CERTIFICATION AT THE END OF THE ADDENDUM AND SHALL ATTACH THE ADDENDUM TO THE DOCUMENTS SUBMITTED WITH THE PROPOSAL.

The following additions, modifications, corrections, deletions and clarifications are hereby made to the RFP of the subject project:

Floor plan for the entire RTP Administrative Building.

DATED: 2/13/24

Jeanette Cotinola

Jeanette Cotinola, CPCM
Procurement/Contracts Manager

BIDDER'S CERTIFICATION

I acknowledge receipt of the foregoing Addendum No. 2 and accept all conditions contained herein.

DATED: March 12, 2024

BIDDER: IDS Group, Inc.

BY: Said Hilmy

Said Hilmy, Principal

SOCWA
South Orange County Wastewater Authority







IDS GROUP

1 Peters Canyon Road, Suite 130 | Irvine, California 92606 | T: (949) 387-8500 | www.idsgi.com

Request for Proposal

Laboratory Upgrades Feasibility Study - Updated

JUNE 3, 2024

mwa architects

Revised Fee Schedule for MWA

ORIGINAL PROPOSAL DATED MARCH 12, 2024

TASK DESCRIPTION	MWA ARCHITECTS					INTERFACE ENGINEERING			WAYPOINT	MACK5	TOTAL HOURS	LABOR COSTS	OTHER DIRECT COSTS	TOTALS
	PIC/Lab Planner $275	Project Manager $175	Lab Technical $140	Senior Architect QA $185	Tech Writer $130	Mechanical/ Plumbing $230	Electrical $210	Plumbing/Fire Protection	Structural Engineer $225	Cost Engineer $211				
TASK 1: Progress Meetings	**22**	**32**	**52**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**106**	**$18,930**	**$3,500**	**$22,430.00**
Workshops - allow 3 at SOCWA + prep	16	20	40	0	0	0	0	0	0	0			$3,500	
Monthly Progress Meetings - allow 6	6	12	12	0	0	0	0	0	0	0				
TASK 2: Document Review	**0**	**24**	**8**	**8**	**4**	**24**	**5**	**0**	**0**	**0**	**73**	**$13,890**	**$3,000**	**$16,890.00**
On-site field dimensions + MEP survey	0	8	8	0	0	16	0	0	0	0			$3,000	
Narrative Arch + Eng. consults	0	16	0	8	4	8	5	0	0	0				
TASK 3: Two feasibility Design Scenarios	**37**	**38**	**116**	**0**	**0**	**0**	**0**	**0**	**0**	**73**	**264**	**$48,468**	**$200**	**$48,668.00**
1. Lab - interior renovation only														
2 day programming workshop + prep	16	16	24	0	0	0	0	0	0	0				
Notes, follow-up items	0	8	0	0	0	0	0	0	0	0				
Workflow diagrams - Scenario 1	0	0	12	0	0	0	0	0	0	0			$100	
Design work 2 floor plan options	8	0	24	0	0	0	0	0	0	0				
2. Separate DW lab														
Assemble lab examples, templates for selective lab spaces	2	0	8	0	0	0	0	0	0	0				
Coordination with SOCWA on site selection	0	8	8	0	0	0	0	0	0	0				
Workflow diagrams - Scenario 2	1	0	16	0	0	0	0	0	0	0			$100	
Design work, 2 options	8	2	24	0	0	0	0	0	0	0				
3. Cost Engineer - Mack 5														
2 options - Scenarios 1-2	0	0	0	0	0	0	0	0	0	65				
Arch. Coordination	2	4	0	0	0	0	0	0	0	8				
TASK 4: Consultant Coordination - Modern Inventory Management System	**14**	**34**	**10**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**64**	**$11,980**		**$11,980.00**
Facilitate virtual meetings with LIMS/Inventory consultant – allow 2 meetings	6	12	0	0	0	0	0	0	0	0				
Vet findings with SOCWA lab staff	4	4	2	0	0	0	0	0	0	0				
Add a pros/cons matrix for this item - Consult. Hours	2	4	8	0	0	0	0	0	0	0				
Include our findings and suggest a preferred alternative in TM	2	12	0	0	4	0	0	0	0	0				
Add budgets for software and training within the Draft and Final cost estimate TM.	0	2	0	0	4	0	0	0	0	0				
TASK 5: Feasibility Study Memorandum and Workshop	**26**	**56**	**40**	**28**	**8**	**49**	**13**	**0**	**16**	**0**	**236**	**$46,370**	**$450**	**$46,820.00**
1. Draft TM	16	32	16	8	8	32	8	0	8	0			$250	
2. Draft 02 TM with comments addressed	2	8	16	8	0	4	0	0	2	0				
3. Final TM	8	16	8	12	0	13	5	0	6	0			$200	
Total Hours/ Total Fees	**99**	**184**	**226**	**36**	**18**	**73**	**18**	**0**	**16**	**73**	**743**	**$139,638**	**$7,150**	**$146,788.00**

SOCWA

South Orange County Wastewater Authority

RESPONSE TO REQUEST FOR PROPOSAL

LABORATORY UPGRADES FEASIBILITY STUDY REV.1

THE AUSTIN COMPANY

 | **theaustin.com**

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SECTION 1.2.5 **PRICING**

ATTACHMENT B **NON-COLLUSION AFFIDAVIT**

THE AUSTIN COMPANY

6410 Oak Canyon
Suite 150
Irvine, California 92618

theaustin.com

P 949.451.9000 F 949.451.9011

~~March 12, 2024~~ Rev. June 3, 2024

Jeanette Cotinola
Procurement/Contracts Manager
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629

RE: Request for Proposals
SOCWA Laboratory Upgrades Feasibility Study

Dear Ms. Cotinola,

The Austin Company is pleased to submit our proposal for the Laboratory Upgrades Feasibility Study. We are enthusiastic about the opportunity to collaborate with SOCWA on this project and look forward to developing an ongoing working relationship with your organization.

Our design, engineering, and project management experience includes projects throughout Orange County and Southern California for clients such as the Orange County Sanitation District (OC San), Orange County Water District, Inland Empire Utilities Agency, Disneyland Resort, and Southern California Edison, as a few examples.

As a continuation of over 17 years of near continuous service to OC San, we are currently developing OCSAN's CAD & Design Standards Manual, which includes analyzing current best practices, reviewing projects, and writing new 3D and BIM standards to enable robust quality control practices. Prior projects have included Plant 1 Laboratory Refurbishment Study, Title 24 Access Compliance and Related Improvements Project, which involved a complex, multi-year design and phased implementation, and strategic Administrative Facilities Planning, among other project assignments.

After reviewing the solicitation documents, we firmly believe that The Austin Company possesses the necessary experience, knowledge, and resources to provide a study that meets needs of the SOCWA Laboratory Feasibility Upgrade. Our highly experienced team has a proven track record of successfully delivering similar projects, as detailed in our enclosed proposal for engineering consulting services.

The Austin Company certifies that it is not aware of any actual or potential conflict of interest that exists or may arise by executing the contract or performing the work that is the subject of this RFP. The Austin Company also certifies that it is willing and able to obtain all required insurance. Furthermore, The Austin Company has conducted a reasonable and diligent inquiry concerning the minimum and/or prevailing wages required to be paid in connection with the performance of the work that is the subject of this RFP and certifies that the proposed pricing includes funds sufficient to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided.

THE AUSTIN COMPANY

6410 Oak Canyon
Suite 150
Irvine, California 92618

theaustin.com

P **949.451.9000** F **949.451.9011**

The Austin Company acknowledges and agrees with all terms and conditions stated in the RFP and certifies that all information provided in connection with its proposal is true, complete, and correct.

Thank you again for considering The Austin Company for this opportunity. Should you have any questions or require further information, please feel free to contact me directly via email at ken.stone@theaustin.com or by phone at 714-329-5286 (mobile). We look forward to a positive response from your team.

Sincerely,

Kenric B. Stone
Vice President
The Austin Company

THE AUSTIN COMPANY

SECTION 1.2.1
IDENTIFICATION OF THE RESPONDER

THE AUSTIN COMPANY

As a fully-integrated project management, architectural, engineering, and construction services firm, The Austin Company regularly builds what it designs. Austin architects and engineers have hands-on field experience beyond the usual architectural/engineering firm's exposure to field observation. Austin's design professionals actually spend a portion of their careers as full-time field engineers, giving them firsthand experience under actual field conditions. That depth of expertise is reflected in the design work that is produced.

Under the direction of President and CEO Mike Pierce, Austin continues its tradition of providing in-house design-build services including master planning (site and facility), architectural design, interior design, engineering (civil, structural, mechanical, electrical), design-build, construction management and project management services. In addition to these complete services for the built environment, we offer a variety of strategic consulting services including site location, plant layout, etc.

With the resources of Austin's parent company, Kajima USA, and the worldwide Kajima organization, Austin has expanded the breadth and depth of its solutions to a global market.

Austin's legal name is Austin Building and Design, Inc. (dba The Austin Company), a Delaware Corporation.

The Austin Company headquarters, and principal place of business is located at:

6095 Parkland Blvd #100, Cleveland, OH

Austin serves the Southern California region from it's Orange County office located at:

6410 Oak Canyon, Suite 150, Irvine, CA 92618

Kenric B. Stone
Vice President
C. 714.329.5286
ken.stone@theaustin.com

Jim E. Cathcart
General Manager
C. 714.293.8321
jim.cathcart@theaustin.com

CLIENT SATISFACTION

Perhaps one of the greatest measures of an organization's performance and overall client satisfaction is repeat business. The aviation industry has come to rely on Austin's commitment to on time performance. **We are honored to enjoy a high level of continuing and repeat business with over 80% of our annual business from continuing and repeat clients.**

THE AUSTIN COMPANY

SECTION 1.2.2
APPROACH TO THE WORK

1.2.2 APPROACH TO THE WORK

PROJECT UNDERSTANDING

Upon selection, The Austin Company will undertake a comprehensive feasibility study on RTP Laboratory upgrades for the South Orange County Wastewater Authority (SOCWA). SOCWA, a Joint Powers Authority, is responsible for managing wastewater treatment, effluent and biosolids disposal, and water recycling in the southern region of Orange County, with participation from seven member agencies: the City of Laguna Beach, the City of San Clemente, El Toro Water District, Emerald Bay Service District, Moulton Niguel Water District, Santa Margarita Water District, and South Coast Water District.

The SOCWA Laboratory plays a crucial role in providing process control and compliance support for SOCWA member agencies across three wastewater treatment plants. It ensures compliance with regulatory requirements such as NPDES Order No. R9-2022-0005, R9-2022-0006, Master Recycled Water Order 97-52, Safe Drinking Water Act standards, and air quality permits for the facilities. Additionally, the SOCWA Laboratory conducts research to facilitate method development for member agencies and regulatory bodies.

Austin will evaluate two distinct feasibility design scenarios for the RTP Laboratory upgrades:

1. Laboratory as Is.
2. Drinking Water Laboratory Separate Space.

Upon completion of the analysis, Austin will present a draft technical memorandum outlining the findings for each scenario, inclusive of high-level cost estimates and evaluations of their respective advantages and disadvantages. Austin will organize a workshop to present the findings, offering the option of an on-site or virtual presentation. The cost estimates provided will encompass markups, construction costs, contingency, design fees, engineering services during construction fees, and an estimate for construction management if deemed necessary.

APPROACH TO THE WORK

KICKOFF AND FACILITY ASSESSMENT

The Austin Company will coordinate a kick-off meeting to establish lines of communication, confirm project objectives, and define roles and responsibilities. If feasible, Austin will also conduct a site survey the day of the kick-off meeting to visually observe existing conditions of the facility with regard to code compliance, operational conditions, and confirm as-built conditions. Digital photographs will be required with pending prior approval.

PHASE 1: PROGRAMMING AND ASSESSMENT

The purpose of the requirements programming process is to evaluate and conceptually define SOCWA's process and operations for each of the four scenarios.

By means of site tours, and interviews with stake holders, Austin will review and understand the requirements of the following areas and aspects of SOCWA's operation:

1. Existing laboratory functions and needs
    - Define functions and processes that occur in the laboratory.
    - Quantity of personnel
    - Equipment type, quantity, and size

- Fume hood type, quantity and size
- Workspace/bench requirements – linear feet
- Storage requirements – types of items stored, means of storage, square footage required for each, environmental requirements (i.e. ventilation, refrigeration, temp/humidity), segregation requirements, etc.
- Sample Receiving and Inventory Management
- Chemical inventory
- Point of Use technology
- Windows for views and daylighting
- Equipment and parts cleaning systems
- Lighting Requirements
- Utility and emergency power requirements including water purification requirements.
- Accessory areas – office, mechanical/equipment, etc. and adjacencies to main lab spaces.
- Future expansion potential

2. Drinking Water Laboratory as a separate space (same programming items as above)

PHASE 2: CONCEPTUAL DESIGN

Austin will develop discipline specific conceptual layouts and systems narratives to describe the scope of work for each of the four scenarios, which will include architectural, structural, mechanical, plumbing, and electrical divisions of work. Conceptual drawings will identify existing conditions, proposed improvements/ upgrades, new and existing equipment, and utility requirements. Systems narratives will describe materials, systems, and components to further define the level of quality required for the project.

CONCEPTUAL LAYOUT

- Develop 2 to 3 architectural design concepts for each of the four scenarios based on the programming requirements defined in the phase above.
- Review concepts with owner for selection of preferred layouts.
- Further develop the selected concept for each scenario.

CONCEPTUAL SYSTEMS NARRATIVES

- Develop systems narratives to include quantity/ quality of design elements with basis of design make and model for equipment and materials, where applicable.
- The conceptual layouts and narratives will be used to develop the budgetary cost estimate.

PHASE 3: BUDGETARY COST ESTIMATE

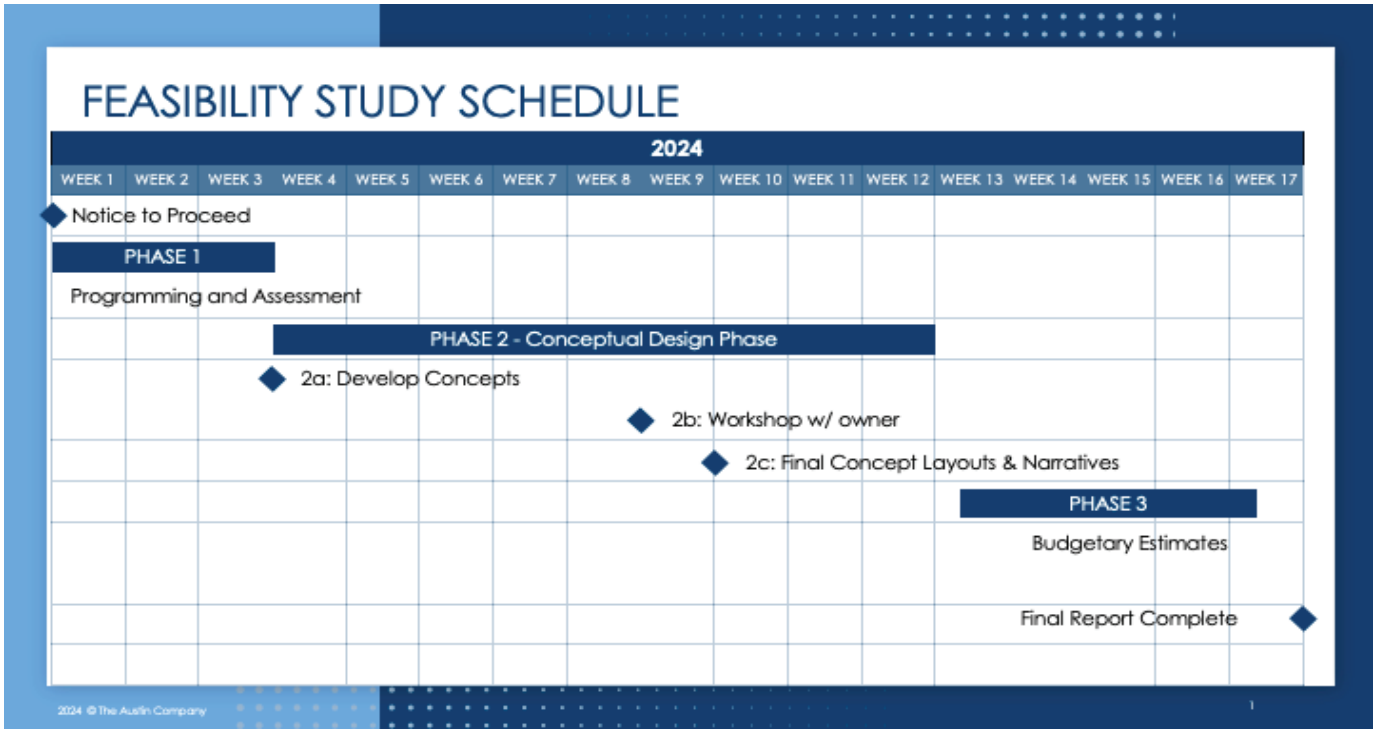
Austin's preconstruction estimating team will utilize the selected conceptual layouts and systems narratives to develop budgetary cost estimates for each of the four scenarios. Budgetary estimates will include, construction costs, design costs, contingency, and markups.

1.2.2 APPROACH TO THE WORK

ITEMS REQUIRED FROM OWNER (BY PROJECT KICKOFF):

- Record Drawings of existing laboratory building (Scenario #1 and #2).
- Utility information for each facility, or if not available, assumptions for each.
- Utility usage of existing operation
- Utility capacity (i.e. utility bills, incoming services, etc.)
- Equipment list for each scenario including dimensions, weights, and utility requirements for each piece of equipment.

WORK SCHEDULE



THE AUSTIN COMPANY

SECTION 1.2.3
EXPERIENCE & TECHNICAL COMPETENCE

INLAND EMPIRE UTILITIES AGENCY
NEW MAIN LABORATORY

LOCATION: Chino, CA **SIZE:** 17,000 SF

The Inland Empire Utilities Agency faced significant challenges with its existing laboratory facilities, including issues such as overcrowding, inadequate ventilation, and structural deficiencies. Recognizing the need for improvement, The Austin Company was engaged to lead a comprehensive project to revamp and expand the facilities. This project encompassed the construction of the New Water Quality Laboratory and the expansion of the Central Chiller Plant, both crucial components for enhancing the Agency's operations.

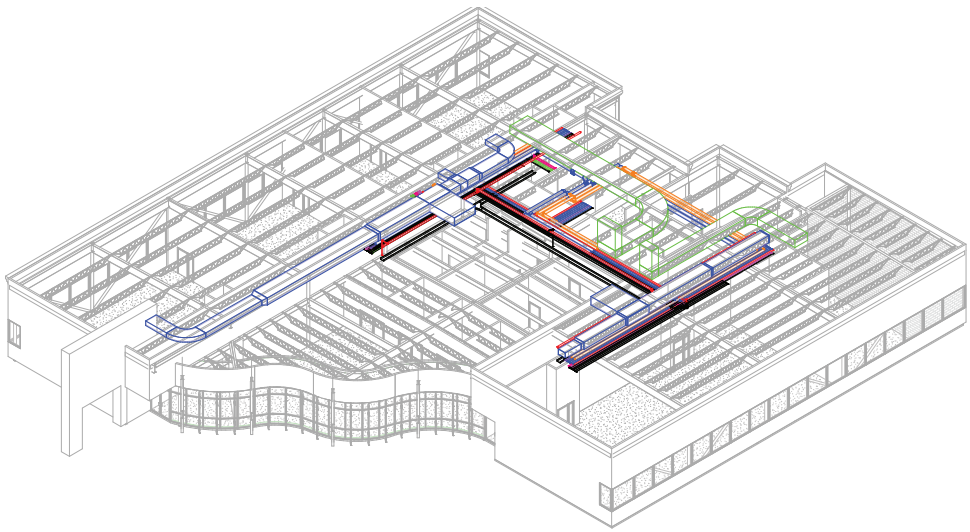
The scope of work undertaken by Austin was extensive and included various tasks such as updating designs to meet current building codes and LEED requirements, conducting thorough field investigations, providing construction administration support, and ensuring the successful completion of control system design. These efforts were aimed at addressing the existing challenges and creating a modern, efficient, and sustainable laboratory environment for the Inland Empire Utilities Agency. One of the key aspects of the project was the design and layout of the new Main Laboratory, which was carefully planned to accommodate Organic, Inorganic, and Water Quality laboratories, along with offices and support spaces.

The layout was structured around a central corridor system to optimize workflow and facilitate the transfer of samples throughout the building. Furthermore, the design prioritized flexibility to allow for future adaptations and expansions as needed.

The water quality laboratory, a significant component of the project, was designed not only to meet technical requirements but also to serve as an educational hub. Featuring a visitor's center, the laboratory is open for tours and aims to educate visitors on various aspects of water quality, pollution prevention, water conservation, and the benefits of recycled water.

This educational focus aligns with the Agency's commitment to environmental stewardship and complements the educational initiatives at the Chino Creek Wetlands and Educational Park.

Beyond its educational role, the new laboratory facility plays a critical operational role, providing analytical support to the Agency's recycling facilities and the Ground Water Recharge Program. By achieving LEED® Gold Certification, the project underscores the commitment to sustainability and environmental responsibility. Overall, the project represents a significant investment in modernizing and enhancing the capabilities of the Inland Empire Utilities Agency, positioning it for continued success in its mission to serve the community and protect the environment.



IEUA Main Laboratory Isometric

IEUA NEW MAIN LABORATORY			
Date Initiated	Design Start 2015		
Date Completed	Design Finish 2017, Construction Complete 2019		
Name of Organization	Inland Empire Utility Agency		
Client Contact	Jamal Zughbi, Senior Engineer, Project Manager		
Phone number	909.993. 1698	Email	jzughbi@ieua.org

ORANGE COUNTY SANITATION DISTRICT
FACILITY UPGRADE PLANT NO. 1

LOCATION: Fountain Valley, CA **SIZE:** 36,000 SF

The Austin Company was selected to provide engineering services for the preparation of a feasibility study and cost estimate for the refurbishment of OCSD's Laboratory at Plant No. 1 in Fountain Valley, California.

The primary objective of the project for the Plant No. 1 Laboratory Building was to refurbish the facility to enhance testing capabilities, operational functionality, and accommodate the increased workload from the Orange County Water District (OCWD) and the Ground Water Replenishment System. A significant concern was that the Laboratory Building was constructed without obtaining an occupancy permit. Although OCSD was not under the City's jurisdiction during the construction, an agreement was later established in 1992 that specified which structures would require permits. The feasibility study needed to address the historical permit issue and ensure compliance with current regulations.

The study evaluated the feasibility of upgrading the Laboratory Building to meet all relevant building codes and acquire the necessary permits. It included a cost/benefit assessment and offered recommendations to OCSD regarding the feasibility of complying with regulations. This encompassed ensuring adherence to CCR Title 24, ADA, HVAC, plumbing, fire protection, electrical code, seismic requirements for Zone 4 earthquakes, and soil loading for liquefaction with the appropriate geotechnical reports. The feasibility study identified the necessary corrective actions to achieve these goals, resulting in an enhanced laboratory with improved capabilities that meet the required standards.

The study ensured that the proposed upgrades and modifications aligned with the agreements and specific plans established between OCSD and the City of Fountain Valley. This involved taking into account any pertinent terms from the 1992 agreement and the Specific Plan approved in 1994. Austin provided a detailed cost estimate for the recommended upgrades and modifications outlined in the previous reports. This cost estimate assisted OCSD in budgeting and planning the refurbishment project.

Lastly, the study played a crucial role in planning, designing, and implementing electrical upgrades for OCSD's Laboratory facility upgrade at Plant No. 1. Deliverables included a Load List, Single-Line Diagram, Electrical Room Plans, Detailed Compliance Report, Electrical Cost Estimates for Design and Engineering, Construction, and Code Upgrades.

OCSAN FACILITY UPGRADE PLANT NO. 1			
Date Initiated	Design Start 2016		
Date Completed	Construction Complete 2020		
Name of Organization	Orange County Sanitation District		
Client Contact	Marianne Kleine, Design Supervisor		
Phone number		Email	mkleine@ocsan.gov

OCSAN LEGACY

Austin has been serving OCSAN on a near-continuous basis for over 17 years, beginning in 2006. We have provided planning, architectural design, engineering, and project management services for various projects. Some notable examples include the P1 Laboratory Refurbishment Study J-97, which began in 2006, and the P1-115 Title 24 Access Compliance and Related Improvements project, which started in 2011 and involved a complex, multi-year design and phased implementation. Additionally, we have been involved in the Administrative Facilities Planning SP-194 and 195 since 2014, among other project assignments.

Currently, Austin is charged with working on updating OCSAN's CAD & Design Standards Manual. This entails analyzing and updating current best practices, reviewing past projects, and developing new 3D and BIM standards to be included in the manual. As always, Austin prioritizes interaction and productivity, creating long-term value at a reasonable cost, while minimizing construction disruptions.

OCSAN CAD & DESIGN STANDARDS UPDATE & MANUAL			
Date Initiated	Design Start 2016		
Date Completed	Construction Complete 2020		
Name of Organization	Jacobs		
Client Contact	Donna DeMarco, Global Technology Lead – Plant Information Modeling		
Phone number	541.760.9251	Email	Donna.DeMarco@jacobs.com

ORANGE COUNTY WATER DISTRICT
LABORATORY BUILDING FEASIBILITY STUDY

LOCATION: Fountain Valley, CA **SIZE:** 41,000 SF

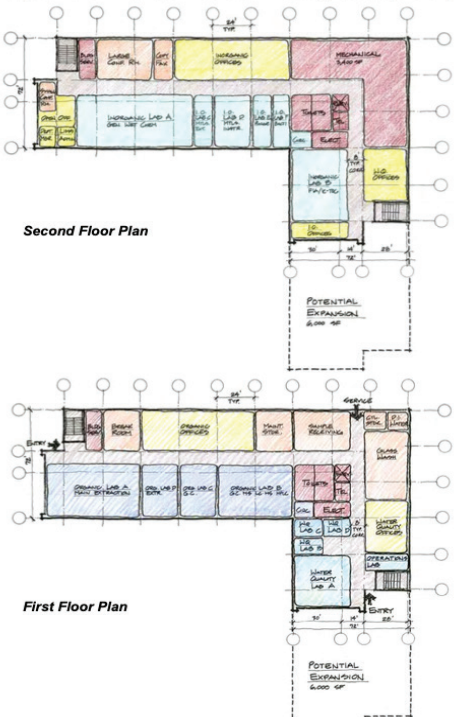
Established in 1933 by the California State Legislature, The Orange County Water District (OCWD) aims to safeguard Orange County's water rights in the Santa Ana River and manage the groundwater basin, which has seen a significant increase in its annual yield since inception. Ensuring the protection, safety, and improvement of groundwater remains OCWD's top priority. With an advanced groundwater protection program, OCWD oversees approximately 650 wells with over 1,400 sampling points and monitors water reclamation plants and the Santa Ana River for recharge purposes.

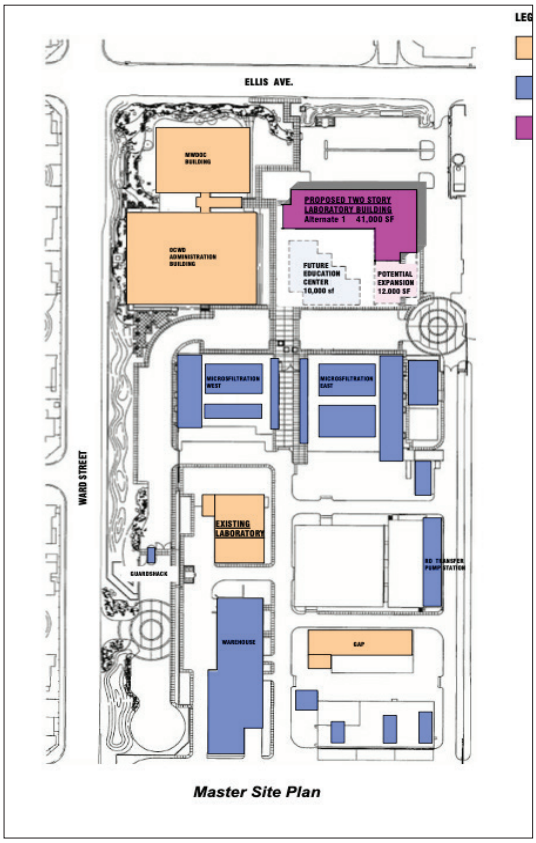
The OCWD Laboratory, certified in nine testing fields by the Department of Health Services, is known for meeting regulatory standards. To maintain its certification, stay ahead in the industry, and meet future demands until 2020 and beyond, OCWD recognized the need to expand its laboratory facilities.

The Orange County Water District (OCWD) enlisted The Austin Company to conduct a feasibility study on four options for upgrading the OCWD Laboratory. The project objectives for upgrading the OCWD laboratory were to expand and modernize the main facility to future-proof its operations, maintain certifications and an industry-leading status, and accommodate an expected increase in service demand.

Austin conducted a space utilization study to forecast the Laboratory Department's future space needs, ensuring that by 2020, the laboratory could handle the expected demand, fully utilizing the 41,000 SF area. Several concepts for expanding the laboratory facilities were developed and evaluated to determine which option would best meet OCWD's needs, considering cost, design, space utilization, and future flexibility.

Conceptual Plans – Alternate 1: Construct Two Story Laboratory Building





Master Site Plan

The evaluation process involved a multidisciplinary approach, including assessments of the architectural, structural, mechanical, and electrical systems of the existing building. By analyzing these critical components, Austin identified areas that needed improvement or upgrading to meet the future laboratory requirements of OCWD.

The deliverables to OCWD included detailed conceptual plans for each alternative, outlining the proposed design, layout, and functionality of the laboratory buildings. Austin also developed specific design criteria for each concept to align with OCWD's requirements and industry standards. The feasibility study addressed regulatory requirements, construction issues, probable cost estimates, project schedules, and recommendations based on the evaluation of the alternatives.

After a thorough evaluation, Austin recommended constructing a new two-story building to house the entire laboratory program. The proposed location for the new building was east of the existing OCWD administration building, chosen for its integration with the current campus layout and facilities.

A collaborative effort between OCWD, Austin, and other project stakeholders was crucial to navigate challenges and complete the comprehensive planning, risk assessments, and adaptive management strategies essential for the success of the new laboratory building expansion project.

OCWD FACILITY UPGRADE PLANT NO. 1			
Name of Organization	Orange County Water District		
Client Contact	Chuck Steinbergs, Principal Engineer		
Phone number	714.378.3229	Email	steinbergs@ocwd.com

LABORATORY EXPERIENCE

LABORATORIES

The Austin Company provides planning, design, engineering, and construction services for a wide variety of laboratory and research & development facilities, satisfying challenging requirements for leading advanced technology companies, including municipal and bio-pharmaceutical clients, nationwide.

Facilities and equipment must be located, designed, constructed, adapted, and maintained to suit the operations to be carried out. Their layout and design should aim to minimize the risk of errors and enable effective cleaning and maintenance in order to prevent cross-contamination, the build-up of dust and dirt, mix-ups, and, in general, any adverse effect on the quality of products. Beyond this requirement to ensure product quality stands the equally important necessity to minimize all risks associated with health and safety, as well as environmental protection.

Certain factors in design are common to all facility types:

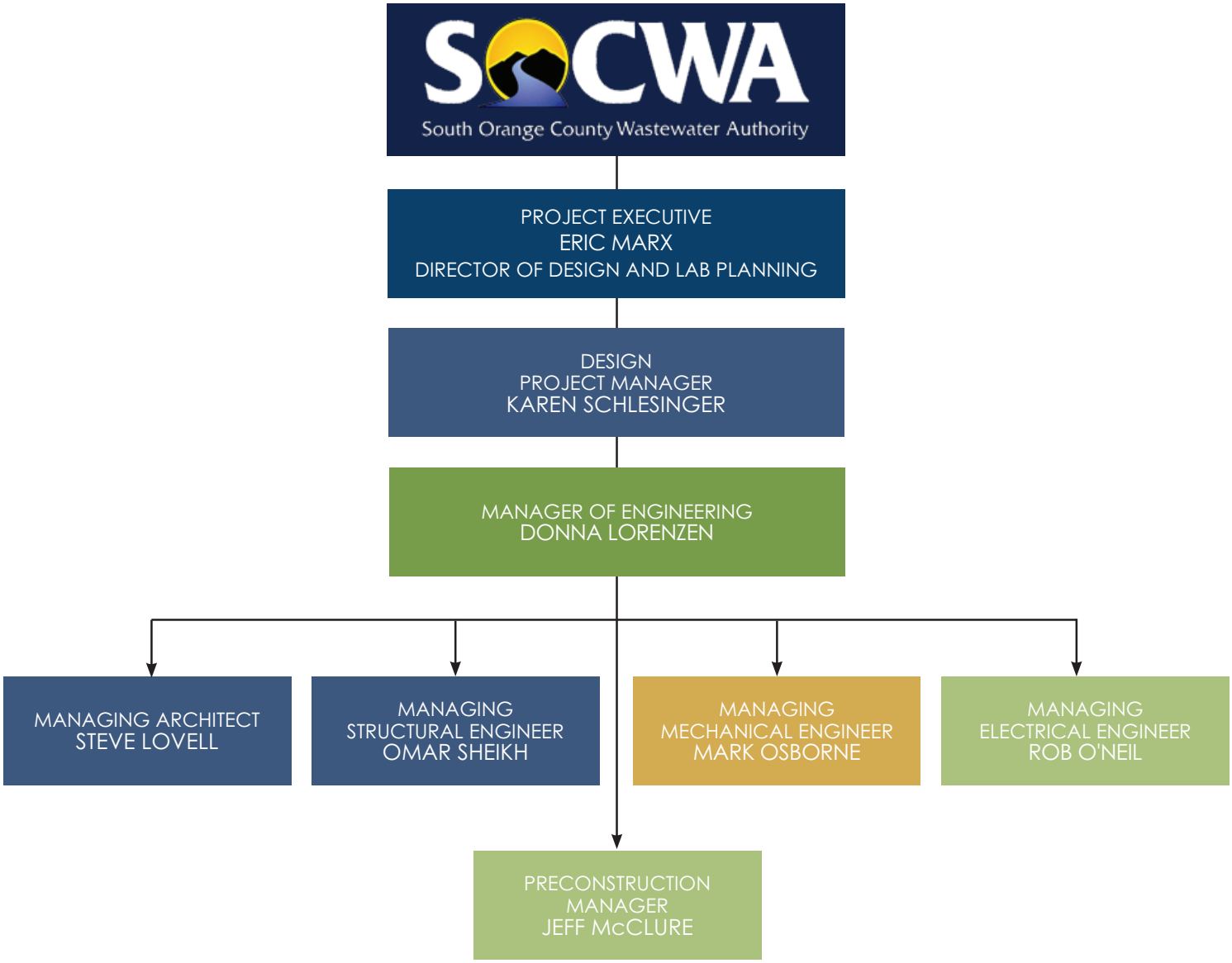
- Cleanliness
- Logical workflow
- Logical people flow
- Adequate space
- Utilities
- Proper separation of processes and functions

RECENT LABORATORY | RESEARCH & DEVELOPEMNT EXPERIENCE				
CLIENT NAME	PROJECT NAME	ISO CLASS	LOCATION	YEAR
Northrop Grumman	Space Craft Assembly Center	ISO 7,8	Redondo Beach, CA	2021-2022
B | Braun	Duplex Expansion	ISO 5,6,7,8	Irvine, CA	2019-2022
General Atomics	Building B95 Tenant Improvements	ISO 7	Rancho Bernardo, CA	2020-2021
Aerojet Rocketdyne	Canoga Park Campus Upgrades	ISO 8	Chatsworth, CA	2019-2021
AP Tech	Electronics Mfg. Building Expansion	ISO 5,6	Napa, CA	2019-2020
Northrop Grumman	B M4 ATL Upgrades	ISO 8	Redondo Beach, CA	2017
Northrop Grumman	B M2 Modernization	ISO 7,8	Redondo Beach, CA	2017-2019
Northrop Grumman	AC-19 Replacement	ISO 7,8	Redondo Beach, CA	2016-2017
B | Braun	PAB Expansion	ISO 7,8	Irvine, CA	2018-2019
B | Braun	CFM 4	ISO 5,7,8	Irvine, CA	2018
B | Braun	Injection Molding	ISO 5,6,7,8	Irvine, CA	2017
Wakunaga of America	Protein Powders	ISO 7,8	Mira Loma, CA	2016-2017
Hitachi High-Tech	Biotech and Medical Products	ISO 8	Chatsworth, CA	2018
Bachem	Peptide Chemistry Lab	ISO 8	San Diego, CA	2018
EMD Millipore	R&D Labs, Pilot Plant	ISO 7	Temecula, CA	2016

THE AUSTIN COMPANY

SECTION 1.2.4
KEY PERSONNEL

PROJECT TEAM ORGANIZATION CHART



ERIC MARX, AIA, NCARB
PROJECT EXECUTIVE
DIRECTOR OF PLANNING & DESIGN

Eric, as Project Executive and Director of Planning and Design, leads the technical planning of laboratories and architectural design initiatives at The Austin Company. His role involves overseeing all architectural design efforts from planning to design development, through construction document phases. Eric directly manages architectural and technical design quality assurance and facilitates seamless interdisciplinary project coordination. Throughout the construction phase, he reviews and approves submittals for architectural work, conducts field observations, provides architectural design support for construction activities, and develops and signs off on architectural-related project punch lists.

Eric has extensive experience in the planning and design of laboratory and research & development facilities that meet challenging requirements for leading advanced technology companies, as well as municipal and biopharmaceutical clients, across the nation.

YEARS IN PROFESSION

16

YEARS WITH AUSTIN

16

EDUCATION

Bachelor of Architecture

California Polytechnic State University
San Luis Obispo, CA

LICENSES & CERTIFICATIONS

Registered Architect (multiple states)

•

National Council of Architectural Registration Boards

THE AUSTIN COMPANY

RELATED PROJECT EXPERIENCE

- **Inland Empire Utilities Agency (IEUA)** | New Main Laboratory | 17,000 SF Chino, CA
- **Orange County Sanitation District (OCSAN)** | Facility Upgrade Plant No. 1 36,000 SF | Fountain Valley, CA
- **B|Braun Medical Inc.** | Multiple Bio-Pharmacy Laboratory Projects Irvine, CA
- **EMD Millipore** | R&D Laboratory Projects | 22,000 SF | Temecula, CA
- **Lockheed Martin Aeronautics** | Multiple R&D Laboratory and Cleanroom Projects | Palmdale, CA
- **Northrop Grumman Aerospace Systems** (NGAS) | Multiple R&D Laboratory and Cleanroom Projects | Nationwide
- **Northrop Grumman Space Technology (NGST)** | Multiple R&D Laboratory and Cleanroom Projects | Redondo Beach, Manhattan Beach, and El Segundo, CA
- **Northrop Integrated Systems (NGIS)** | Multiple R&D Laboratory and Cleanroom Projects | El Segundo and San Diego, CA
- **L3Harris LEO Aerospace** | 60,000 SF | R&D and Cleanrooms | Florida
- **L3Harris SAMT Aerospac**e | New Microelectronics Manufacturing R&D and Cleanrooms | 60,000 SF | Florida

KAREN SCHLESINGER, RA, LEED AP
DESIGN PROJECT MANAGER

YEARS IN PROFESSION

23

YEARS WITH AUSTIN

22

EDUCATION

Bachelor of Science
Architecture

California Polytechnic
State University
San Luis Obispo, CA

LICENSES & CERTIFICATIONS

Registered Architect
California

•

LEED® Accredited
Professional

THE AUSTIN COMPANY

As the Design Project Manager, Karen plays a critical role in overseeing the development of architectural working drawings and collaborating with various internal teams, including architectural, structural, electrical, and mechanical disciplines. Her extensive expertise encompasses a wide range of tasks such as planning, design, hand rendering, program analysis, schematic site study and design, design development, construction drawings, presentation preparation, and construction administration.

In her role, Karen leads efforts in engineering coordination, acts as the primary liaison with clients, establishes project scopes, and effectively communicates requirements to Austin's team to ensure seamless project execution. With an impressive 23 years of professional experience, 22 of which have been with Austin, Karen has been deeply engaged in all aspects of design and engineering, from initial design concepts to overseeing the creation of construction documents and managing construction activities.

In her role, Karen serves as the primary daily contact for SOCWA, is responsible for enabling efficient communication and managing the project between SOCWA and Austin. Karen is a registered architect in the state of California and holds a LEED Accredited Professional certification, specializing in Building Design and Construction. She earned her Bachelor of Architecture degree with a minor in Construction Management from California Polytechnic University, San Luis Obispo.

RELATED PROJECT EXPERIENCE

- **Inland Empire Utilities Agency (IEUA)** | New Main Laboratory | 17,000 SF Chino, CA
- **Orange County Sanitation District (OCSAN)** | Facility Upgrade Plant No. 1 36,000 SF | Fountain Valley, CA
- **Orange County Water District (OCWD)** | Laboratory Building Feasibility Study 41,000 SF | Fountain Valley, CA
- **B|Braun Medical Inc.** | Multiple Bio-Pharmacy Laboratory Projects Irvine, CA
- **EMD Millipore** | R&D Laboratory Projects | 22,000 SF | Temecula, CA
- **Avid Bioservices, Inc.** | Manufacturing Laboratory and Clean Room 6,000 SF | Torrance, CA
- **Bachem** | Regulatory Compliance Systems Engineering | Water process supply and sanitary | Industrial waster water discharge, on-site chemicals, hazardous matierials | Oxidation platform foundation design | Vista, CA

STEVE LOVELL, NCARB, LEED AP
MANAGING ARCHITECT

YEARS IN PROFESSION

40

YEARS WITH AUSTIN

33

EDUCATION

Bachelor of Science Architecture

California Polytechnic State University San Luis Obispo, CA

LICENSES & CERTIFICATIONS

Registered Architect (multiple states)

•

NCARB Certificate Holder

•

LEED® Accredited Professional

THE AUSTIN COMPANY

As Managing Architect, Steve brings substantial experience in the design and engineering of laboratory facilities. With over 40 years of professional experience, including 33 years at The Austin Company, he is an expert in the design and engineering of multiple research & development facilities that meet demanding requirements for top advanced technology companies, as well as municipal and biopharmaceutical clients.

Steve's responsibilities encompass quality assurance, monitoring project activities in relation to schedules, and coordinating interdisciplinary projects. He directs all facets of architectural design and development, from initial design stages through the preparation of contract documents and construction administration.

RELATED PROJECT EXPERIENCE

- **Inland Empire Utilities Agency (IEUA)** | New Main Laboratory | 17,000 SF Chino, CA
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- **Northrop Grumman Space Technology (NGST)** | Multiple R&D Laboratory and Cleanroom Projects | Redondo Beach, Manhattan Beach, and El Segundo, CA
- **Northrop Integrated Systems (NGIS)** | Multiple R&D Laboratory and Cleanroom Projects | El Segundo and San Diego, CA

DONNA LORENZEN, PE
MANAGER OF ENGINEERING

YEARS IN PROFESSION

31

YEARS WITH AUSTIN

28

EDUCATION

Bachelor of Science
Mechanical Engineering
Concentration in
HVAC and Solar

California Polytechnic
State University
San Luis Obispo, CA

LICENSES & CERTIFICATIONS

Registered
Professional Engineer
(multiple states)

•

LEED® Accredited
Professional

THE AUSTIN COMPANY

Donna holds the position of Manager of Engineering and Design at The Austin Company. Her responsibilities involve supervising and providing daily guidance for all design and engineering activities, from the initial planning and design development phase to the preparation of construction documents and offering support throughout the construction process.

With over 30 years of experience in engineering design and construction, Donna has held project engineering roles for various Austin clients across Southern California. Notable clients include Orange County Sanitation District, Boeing, B. Braun Medical, Inland Empire Utilities District, Lockheed Martin, Northrop Grumman, Southern California Edison, and the University of California.

Recognized for her dedication to quality and excellence, Donna has received several accolades, such as being honored as an Outstanding Engineer by the Orange County Chapter of the Engineering Council. Additionally, she has been praised by the United States Department of Energy for her achievements in sustainable design practices

RELATED PROJECT EXPERIENCE

- **Inland Empire Utilities Agency (IEUA)** | New Main Laboratory | 17,000 SF Chino, CA
- **Orange County Sanitation District (OCSAN)** | Facility Upgrade Plant No. 1 36,000 SF | Fountain Valley, CA
- **Orange County Water District (OCWD)** | Laboratory Building Feasibility Study 41,000 SF | Fountain Valley, CA
- **B|Braun Medical Inc.** | Multiple Bio-Pharmacy Laboratory Projects Irvine, CA
- **EMD Millipore** | R&D Laboratory Projects | 22,000 SF | Temecula, CA
- **Lockheed Martin Aeronautics** | Multiple R&D Laboratory and Cleanroom Projects | Palmdale, CA
- **Northrop Grumman Aerospace Systems** (NGAS) | Multiple R&D Laboratory and Cleanroom Projects | Nationwide
- **Northrop Grumman Space Technology (NGST)** | Multiple R&D Laboratory and Cleanroom Projects | Redondo Beach, Manhattan Beach, and El Segundo, CA
- **Northrop Integrated Systems (NGIS)** | Multiple R&D Laboratory and Cleanroom Projects | El Segundo and San Diego, CA
- **L3Harris LEO Aerospace** | 60,000 SF | R&D and Cleanrooms | Florida
- **L3Harris SAMT Aerospace** | New Microelectronics Manufacturing R&D and Cleanrooms | 60,000 SF | Florida

OMAR SHEIK, SE, PE
MANAGING STRUCTURAL ENGINEER

YEARS IN PROFESSION

15

YEARS WITH AUSTIN

15

EDUCATION

Bachelor of Science
Civil Engineering

University of
Southern California
Los Angeles , CA

LICENSES & CERTIFICATIONS

Registered
Structural Engineer
(multiple states)

•

Registered
Professional Engineer
Civil
(multiple states)

THE AUSTIN COMPANY

In his capacity as Managing Structural Engineer, Omar provides technical design and engineering expertise, overseeing all structural engineering design activities from the initial planning stages to the design development and construction document phases. He holds direct responsibility for managing structural design quality assurance and facilitating interdisciplinary project coordination. Throughout the construction phase, Omar collaborates closely with the design team to review and approve submittals related to structural work. He conducts field observations, offers expert structural engineering support for construction activities, and actively contributes to the development and final approval of structural-related project punch lists.

Omar brings extensive experience in the planning and design of laboratory and research & development facilities that meet stringent requirements for leading advanced technology companies, as well as municipal and biopharmaceutical clients across the nation.

RELATED PROJECT EXPERIENCE

- **Inland Empire Utilities Agency (IEUA)** | New Main Laboratory | 17,000 SF Chino, CA
- **Orange County Sanitation District (OCSAN)** | Facility Upgrade Plant No. 1 36,000 SF | Fountain Valley, CA
- **Orange County Water District (OCWD)** | Laboratory Building Feasibility Study 41,000 SF | Fountain Valley, CA
- **B|Braun Medical Inc.** | Multiple Bio-Pharmacy Laboratory Projects Irvine, CA
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- **Lockheed Martin Aeronautics** | Multiple R&D Laboratory and Cleanroom Projects | Palmdale, CA
- **Northrop Grumman Aerospace Systems** (NGAS) | Multiple R&D Laboratory and Cleanroom Projects | Nationwide
- **Northrop Grumman Space Technology (NGST)** | Multiple R&D Laboratory and Cleanroom Projects | Redondo Beach, Manhattan Beach, and El Segundo, CA
- **Northrop Integrated Systems (NGIS)** | Multiple R&D Laboratory and Cleanroom Projects | El Segundo and San Diego, CA
- **L3Harris LEO Aerospace** | 60,000 SF | R&D and Cleanrooms | Florida
- **L3Harris SAMT Aerospac**e | New Microelectronics Manufacturing R&D and Cleanrooms | 60,000 SF | Florida

MARK OSBORNE, PE, LEED BD+C
MANAGING MECHANICAL ENGINEER

YEARS IN PROFESSION

21

YEARS WITH AUSTIN

10

EDUCATION

Bachelor of Science
Mechanical Engineering
Montana State
University
Missoula, MO

LICENSES & CERTIFICATIONS

Registered
Professional Engineer
Mechanical

•

LEED Accredited
Professional

AFFILIATIONS

American Society of
Heating, Refrigerating
and Air Conditioning
Engineers (ASHRAE)

THE AUSTIN COMPANY

In his role as the Managing Mechanical Engineer, Mark is responsible for overseeing and executing the design and engineering of all mechanical systems throughout the project's lifespan. He supervises and executes every aspect of mechanical design and engineering, starting from the initial planning phases and continuing through design development and construction documentation. Mark conducts on-site assessments, offers expert mechanical engineering guidance for construction operations, and actively participates in the development and final approval of project punch lists. He ensures that stringent quality standards are upheld by proactively managing the mechanical design quality assurance process and fosters collaboration across various disciplines to ensure a unified and cohesive approach.

Drawing on over 20 years of experience in designing mechanical systems, particularly in the aerospace and defense sectors during his ten years at Austin, Mark brings invaluable expertise in the planning and design of laboratory and research & development facilities that meet the rigorous demands of top-tier technology companies, as well as biopharmaceutical clients across the country.

RELATED PROJECT EXPERIENCE

- **Inland Empire Utilities Agency (IEUA)** | New Main Laboratory | 17,000 SF Chino, CA
- **Orange County Sanitation District (OCSAN)** | Facility Upgrade Plant No. 1 36,000 SF | Fountain Valley, CA
- **Orange County Water District (OCWD)** | Laboratory Building Feasibility Study 41,000 SF | Fountain Valley, CA
- **B|Braun Medical Inc.** | Multiple Bio-Pharmacy Laboratory Projects Irvine, CA
- **Lockheed Martin Aeronautics** | Multiple R&D Laboratory and Cleanroom Projects | Palmdale, CA
- **Northrop Grumman Aerospace Systems** (NGAS) | Multiple R&D Laboratory and Cleanroom Projects | Nationwide
- **Northrop Grumman Space Technology (NGST)** | Multiple R&D Laboratory and Cleanroom Projects | Redondo Beach, Manhattan Beach, and El Segundo, CA
- **Northrop Integrated Systems (NGIS)** | Multiple R&D Laboratory and Cleanroom Projects | El Segundo and San Diego, CA
- **L3Harris LEO Aerospace** | 60,000 SF | R&D and Cleanrooms | Florida
- **L3Harris SAMT Aerospace** | New Microelectronics Manufacturing R&D and Cleanrooms | 60,000 SF | Florida

ROB O'NEIL, PE, LEED AP
MANAGING ELECTRICAL ENGINEER

YEARS IN PROFESSION

35

YEARS WITH AUSTIN

3

EDUCATION

Santa Barbara College
Santa Barbara, CA

LICENSES & CERTIFICATIONS

Registered Professional Engineer Electrical (multiple states)

•

CET
Ontario, Canada

•

AFFLIATIONS

Illuminating Engineering Society
Orange County, CA

As the Managing Electrical Engineer, Rob oversees the technical design and electrical engineering aspects of the project. With a remarkable professional background spanning over 35 years in electrical design and engineering, Rob brings extensive experience in designing facilities for municipalities, public agencies, manufacturing, and specialized expertise in planning and designing laboratory and research & development facilities for advanced technology companies, as well as municipal and biopharmaceutical clients.

Rob's primary responsibilities include providing guidance for all electrical engineering design efforts, from initial planning to construction document phases. He actively manages the quality assurance of electrical engineering design, ensuring adherence to high standards. Rob also supports interdisciplinary project coordination to foster collaboration among different teams and disciplines.

During the construction phase, Rob and his team conduct thorough reviews and approvals of electrical systems work submittals. He conducts field observations, offers expert support for construction activities, and plays a crucial role in developing and finalizing electrical systems-related project punch lists to ensure project requirements are met.

Rob's meticulous attention to detail is instrumental in achieving excellence across all project aspects.

RELATED PROJECT EXPERIENCE

- **Lockheed Martin Aeronautics** | R&D Laboratory and Cleanroom Project Palmdale, CA
- **L3Harris LEO Aerospace** | 60,000 SF | R&D and Cleanrooms | Florida
- **L3Harris SAMT Aerospac**e | New Microelectronics Manufacturing | R&D and Cleanrooms | 60,000 SF | Florida

1.2.4 AVAILABILITY OF KEY PERSONNEL

KEY PERSONNEL AVAILABILITY OVER THE DURATION OF WORK				
Eric Marx, AIA, NCARB	Project Exectuive, Director of Design	Austin	Irvine, CA	Available and committed throughout the duration of the project.
Steve Lovell, NCARB, LEED AP	Lead Architect	Austin	Irvine, CA	Available and committed throughout the duration of the project.
Karen Schlesinger, RA, LEED AP	Design Project Manager	Austin	Irvine, CA	Available and committed throughout the duration of the project.
Donna Lorenzen, PE, LEED AP	Manager of Engineering	Austin	Irvine, CA	Available and committed throughout the duration of the project.
Omar Sheikh, PE, SE	Lead Structural Engineer	Austin	Irvine, CA	Available and committed throughout the duration of the project.
Mark Osborne, PE, LEED AP BD+C	Lead Mechanical Engineer	Austin	Irvine, CA	Available and committed throughout the duration of the project.
Rob O'Neil, PE, LEED AP	Lead Electrical Engineer	Austin	Irvine, CA	Available and committed throughout the duration of the project.
Mark Osborne, PE, LEED AP BD+C	Sustainability	Austin	Irvine, CA	Available and committed throughout the duration of the project.
Jeff McClure	Estimating Manager	Austin	Irvine, CA	Available and committed throughout the duration of the project.

The Austin Company confirms the availability of key personnel over the duration of the project. This ensures that the team members have the necessary time commitment to complete the work for SOCWA successfully. During the feasibility study phase, Austin will not utilize any subconsultants for this project, at this time.

THE AUSTIN COMPANY

SECTION 1.2.5
PRICING

1.2.5 PRICING & HOURLY RATE SCHEDULE

Design Services Cost Summary - Scenario #1			
Description	Feasibility Study		
	Hours	Billing Rate $/Hr	Total ($)
Sr. Principal	2	233	$466
Principal, SME, PX	4	218	$872
Sr. Project Manager	24	198	$4,752
BIM Manager	6	139	$834
Managing Architect	8	198	$1,584
Lead Architect	44	185	$8,140
Arch. Designer/Drafter	22	102	$2,244
Managing Struct. Eng.		206	$0
Lead Struct. Engineer		185	$0
Struct. Designer/Drafter		104	$0
Managing Mech. Eng.	2	206	$412
Lead Mech. Engineer	10	185	$1,850
Mech. Designer/Drafter	4	104	$416
Managing Plumb Eng.	2	206	$412
Lead Plumbing Engineer	10	185	$1,850
Plumb. Designer/Drafter	4	104	$416
Managing Elect. Eng.	4	206	$824
Lead Electrical Engineer	14	185	$2,590
Elect. Designer/Drafter	6	104	$624
Estimating	16	198	$3,168
Clerical/ Reprographics	8	83	$664
Accounting	4	98	$392
Total Hours:	**194**		
Reimbursables/ Travel			$90
Total Cost			**$32,600**

1.2.5 PRICING & HOURLY RATE SCHEDULE

Design Services Cost Summary - Scenario #2			
Description	Feasibility Study		
	Hours	Billing Rate $/Hr	Total ($)
Sr. Principal	2	233	$466
Principal, SME, PX	4	218	$872
Sr. Project Manager	32	198	$6,336
BIM Manager	6	139	$834
Managing Architect	8	198	$1,584
Lead Architect	46	185	$8,510
Arch. Designer/Drafter	24	102	$2,448
Managing Struct. Eng.	4	206	$824
Lead Struct. Engineer	26	185	$4,810
Struct. Designer/Drafter	10	104	$1,040
Managing Mech. Eng.	4	206	$824
Lead Mech. Engineer	26	185	$4,810
Mech. Designer/Drafter	10	104	$1,040
Managing Plumb Eng.	2	206	$412
Lead Plumbing Engineer	16	185	$2,960
Plumb. Designer/Drafter	6	104	$624
Managing Elect. Eng.	4	206	$824
Lead Electrical Engineer	26	185	$4,810
Elect. Designer/Drafter	10	104	$1,040
Estimating	24	198	$4,752
Clerical/ Reprographics	10	83	$830
Accounting	4	98	$392
Total Hours:	**304**		
Reimbursables/ Travel			$158
Total Cost			**$51,200**

1.2.5 PRICING & HOURLY RATE SCHEDULE

PRICE PROPOSAL			
Feasibility Study	SCENARIO #1		$32,600
Feasibility Study	SCENARIO #2		$51,200
		TOTAL	**$83,800**

2024 HOURLY RATE SCHEDULE

ARCHITECTURAL, ENGINEERING, AND PROJECT MANAGEMENT SERVICES

The hourly rates for each billing classification are listed below.

MANAGEMENT	
Senior Principal	233.00
Principal, SME, PX	218.00
Senior Project Manager	198.00
Project Manager	187.00
BIM Manager	139.00
Project Coordinator	146.00
ARCHITECTURAL	
Managing Architect	198.00
Lead Architect	185.00
Senior Architect	158.00
Architect / Lead Designer	129.00
Designer / Drafter	102.00
ENGINEERING	
Managing Engineer	206.00
Lead Engineer	185.00
Senior Engineer	158.00
Engineer / Lead Designer	131.00
Designer / Drafter	104.00
TECHNICAL/SUPPORT	
Estimtator	152.00
Administrative	98.00
Clerical / Reprographics	83.00

THE
AUSTIN COMPANY

ATTACHMENT B
NON-COLLUSION AFFIDAVIT

AFFIDAVIT CERTIFYING NO CONFLICTS OF INTEREST

The undersigned declares:

I am the Vice President of The Austin Company ("Proposer"), the party making the foregoing bid.

As a California public agency, SOCWA is subject to conflicts of interest rules under the Political Reform Act ("PRA") and California Government Code Section 1090 ("Section 1090").

The PRA prohibits a public official at any level of state or local government from making, participate in making, or in any way attempt to use their official position to influence a governmental decision in which the official has a financial interest. A public official has a financial interest in a decision if it is reasonably foreseeable that the decision will have a material financial effect on the public official, a member of the public official's immediate family, or on: (a) a business in which the public official has a direct or indirect investment worth $2,000 or more; (b) real property in which the public official has a direct or indirect interest worth $2,000 or more; (c) any source of income of $500 or more received within 12 months prior to the time when the decision is made; (d) a business in which the public official is a director, officer, partner, trustee, employee, or has a management position; or (e) the donor of a gift to the public official of $250 within 12 months prior to the time when the decision is made.

Section 1090 provides that public officials and public employees may not be "financially interested" in "any contract made by them in their official capacity."

By signing below, Bidder acknowledges that it (i) has considered persons with whom it has business relationships as to the potential for such persons to have a conflict of interest, (ii) has considered the requirements and provisions of the PRA and Section 1090, (iii) certifies that it does not know of any facts which constitute a violation, or should be further investigated to prevent a violation of those provisions, and (iv) agrees that Bidder will immediately notify SOCWA if it becomes aware of any such fact at a later date.

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 March 12, 2024, at Irvine, Californrnia.

Signature: 

Title: Vice President, The Austin Company


THE
AUSTIN COMPANY

Agenda Item 7

Engineering Committee Meeting

Meeting Date: June 13, 2024

TO: Engineering Committee

FROM: Roni Grant, Associate Engineer

SUBJECT: Regional Treatment Plant (RTP) Motor Control Centers (MCC) A, C, G, and H Replacement Design [Project Committee 17]

Overview

Five (5) motor control centers (MCCs) were installed within the Energy Building during the original construction of the Regional Treatment Plant (RTP) in 1984. One (1) MCC was replaced as part of the Switchgear and Co-Generation System Upgrade in 2017. The remaining four (4) MCCs are original to the plant. The MCC's power the primary treatment equipment and a large portion of the solids processing treatment equipment.

Lee & Ro performed various assessments of MCCs A, C, G, and H, including a condition assessment, a safety assessment, and a cost analysis of buckets. Lee & Ro recommended the replacement of the MCC's due to safety concerns related to the following:

a) Inadequate short circuit capacity of the bus bars.
b) Lack of internal protective barriers to stop arc flash from occurring or propagating.

Lee & Ro reached the 35% design level. However, the project was put on hold pending an analysis to install standby generation at the plant due to increasing power outages. Carollo Engineers completed the standby study in July 2023. The recommendation for this project was to install permanent connect points for temporary generators around the RTP. Unfortunately, Lee & Ro's project manager passed away during that time, and Lee & Ro was unable to complete the design with existing staffing.

The project elements include the following:

- MCCs A, C, G, and H replacement
- Determine portable generator connections to support the desired MCCs, including, but not limited to: Sizes, spatial requirements, and feasibility.
- Portable generator connections to support the existing blower system.

Proposals

SOCWA solicited proposals through PlanetBids on April 5, 2024. Six firms were contacted during this process:

- Black and Veatch

- CDM Smith
- Carollo Engineers
- Hazen and Sawyer
- Tetra Tech
- Lee & Ro

Only Carollo and Hazen submitted proposals. Staff reached out to the firms that did not propose. The firms indicated that this work did not fit into their current workloads.

A summary of proposals and SOCWA's staff ratings are in Table 1.

Table 1 – Summary of Proposals

Firm	**Carollo**	**Hazen**
Project Manager	Jeff Weishaar	Alan Mlakar
Total Labor Hours	2,093	3,318
Total Fee	$492,503	$793,470
SOCWA Staff Rating (80 max)	77	62

Staff recommends Carollo due to the following:

- The Project Manager is the most familiar with the RTP facilities and its electrical systems.
- The project team is the most familiar with the RTP electrical facilities.
- The firm has the most realistic project understanding and approach.
- The project team and manager have recently completed similar work.

For cost allocation, MCC A is associated with Liquids, MCC's C and G are associated with Solids, and MCC H is associated with Common.

Table 2 shows the allocation of costs by member agency, if Carollo is recommended.

Table 2 – Carollo Cost Allocation by Member Agency

Agency	**MCCs Liquids 3722AL (25%)**	**MCCs Solids 37236S (50%)**	**MCCs Common 3746 (25%)**	**Total**
City of Laguna Beach		$27,629.42	$7,719.98	$35,349.40
Emerald Bay Service District		$1,452.88	$406.31	$1,859.20
El Toro Water District		$50,259.93	$12,632.70	$62,892.63
Moulton Niguel Water District	$123,125.75	$144,845.13	$96,197.08	$364,167.96
South Coast Water District			$6,169.67	$28,233.80
Total	$123,125.75	$246,251.50	$123,125.75	$492,503.00

Table 3 shows the allocation of costs by member agency, if Hazen is recommended.

Table 3 – Hazen Cost Allocation by Member Agency

Agency	MCCs Liquids 3722AL (25%)	MCCs Solids 37236S (50%)	MCCs Common 3746 (25%)	Total
City of Laguna Beach		$44,513.67	$12,437.64	$56,951.31
Emerald Bay Service District		$2,340.74	$654.61	$2,995.35
El Toro Water District		$80,973.61	$20,352.51	$101,326.12
Moulton Niguel Water District	$198,367.50	$233,369.53	$154,982.81	$586,709.83
South Coast Water District		$35,547.46	$9,939.93	$45,487.39
Total	$198,367.50	$396,735.00	$198,367.50	$793,470.00

The proposals were distributed to the evaluation committee (PC 17 Engineering Committee members and SOCWA staff) on May 30, 2024. Committee members were requested to provide their rating sheets at or before the June Engineering Committee meeting for discussion.

Staff also requests a contingency of $20,000 for unknown issues discovered during design.

Budget

The MCCs Liquids (3722AL) has a project budget of $1,747,631; The MCCs Solid (37236S) has a project budget of $921,369; The MCCs Common (3746) has a project budget of $401,830.

Recommended Action: Staff recommends that the Engineering Committee recommend that the PC 17 Board of Directors i) approve a contract with Carollo Engineers for a total of $492,503 for the RTP MCC A, C, G, and H Replacement Design, and ii) approve a contract contingency of $20,000 for unknown issues discovered during design.

EVALUATION COMMITTEE SCORE

Proposer: Carollo

Overall Qualifications and Experience of Firm: (20 Points)		Notes:	
Record of like projects: (10 points)		Notes:	
Realistic level of effort: (20 points)		Notes:	
Ability to Deliver Timely: (10 points)		Notes:	
Responsibility & Responsiveness:	Yes	Notes:	
Cost Competitive: (20 Points)		Notes:	
Total: (80 possible)		Notes:	

Other Notes:

Committee Member:

Member Agency Staff:

Pricing

Task Description	Principal-in-Charge	Tech Advisor / QA/QC	Project Manager	Lead Engineer	Staff Engineer	Senior Technician	Technician	Doc Processing / Clerical	Total Hours	Labor Fee	PECE	ODCs	Total Project Fee
Hourly Rates	*$310*	*$310*	*$310*	*$274*	*$180*	*$205*	*$172*	*$149*			*$15.00*		
Task 1 - Project Management & Progress Meetings	2	0	29	14	28	0	0	0	73	$18,486	$1,095	$1,200	$20,781
Task 2 - Data Collection and Document Review	0	0	4	24	24	0	0	0	52	$12,136	$780	$0	$12,916
Task 3 - Preliminary Design	4	12	20	56	104	40	24	8	268	$58,744	$4,020	$4,800	$67,564
Task 4 - 30% Submittal	2	24	14	80	124	48	70	4	366	$79,116	$5,490	$0	$84,606
Task 5 - 75% Submittal	2	24	16	72	124	48	70	4	360	$77,544	$5,400	$0	$82,944
Task 6 - 100% Submittal	2	60	24	120	220	90	160	2	684	$145,408	$10,260	$0	$155,668
Task 7 - Bid Set	2	0	4	20	24	24	16	2	92	$19,630	$1,380	$0	$21,010
Task 8 - Technical Specifications	2	0	8	48	56	0	0	32	146	$31,100	$2,190	$0	$33,290
Task 9 - Construction Sequencing	2	10	4	16	20	0	0	0	52	$12,944	$780	$0	$13,724
TOTAL	**18**	**130**	**123**	**450**	**724**	**250**	**340**	**52**	**2,093**	**$455,108**	**$31,395**	**$6,000**	**$492,503**
Task 10 - Detailed Data Collection (OPTIONAL TASK)	0	0	20	60	120	0	0	0	200	$44,240	$1,600	$3,600	$49,440

Notes:

1. P&IDs and control descriptions for MCC-A PLC are not included.
2. Existing shop drawing schematics are available for MCC-A, MCC-C, MCC-H, MCC-G, MCC-A PLC, and Load Shedding Relays.
3. Assumes new conduit will be required for all MCC loads.

3150 Bristol Street, Suite 500
Costa Mesa, California 92626
714-593-5100
carollo.com

May 30, 2024

Ms. Jeanette Cotinola,
Procurement/Contracts Manager
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629

Subject: Proposal for Regional Treatment Plant MCCs and Generator Upgrades

Dear Ms. Cotinola:

The South Orange County Wastewater Authority (SOCWA) has carefully planned replacement of aging electrical equipment and is committed to improving reliability through generator connections. Carollo will partner with SOCWA to lead field investigations and workshops to develop options. Through these, we will combine what we learn from you with our expertise to develop the best value option to replace motor control centers (MCCs) and add generators and/or generator connections.

The design is only part of the project. To deliver, we need to strategically determine how the equipment will be procured and installed. Many of our team members have extensive experience replacing existing electrical equipment. Combined with our treatment process expertise we know how to develop sequencing approaches to install equipment with minimal process downtime.

IDENTIFICATION OF RESPONDER

Firm Overview

Throughout our 91-year history, Carollo has earned a reputation for applying sound, proven engineering principles to advance the application of drinking water, wastewater, recycled water, and stormwater technologies and engineering excellence. For SOCWA, this means expertise and experience that deliver enhanced performance, increased reliability, minimized risk, and value-added improvements—helping you stay ahead of potential issues.

As a result, we are known to provide outstanding “nuts and bolts” designs that deliver robust, cost-effective, and easy to operate and maintain facilities. We currently maintain 50+ offices in North America and our staff numbers exceed 1,400 employees, which includes more than 850 registered engineers and specialists.

CAROLLO ENGINEERS CORPORATE ADDRESS

2795 Mitchell Drive
Walnut Creek, California 94598

ADDRESS OF PRINCIPAL PLACE OF BUSINESS

3150 Bristol Street, Suite 500
Costa Mesa, California 92626

FORM OF COMPANY

Corporation

PARENT COMPANIES

N/A

CONTACT PERSON

Jeff Weishaar, PE
Vice President/Project Manager
Ph: 858-245-6081
Email: jweishaar@carollo.com

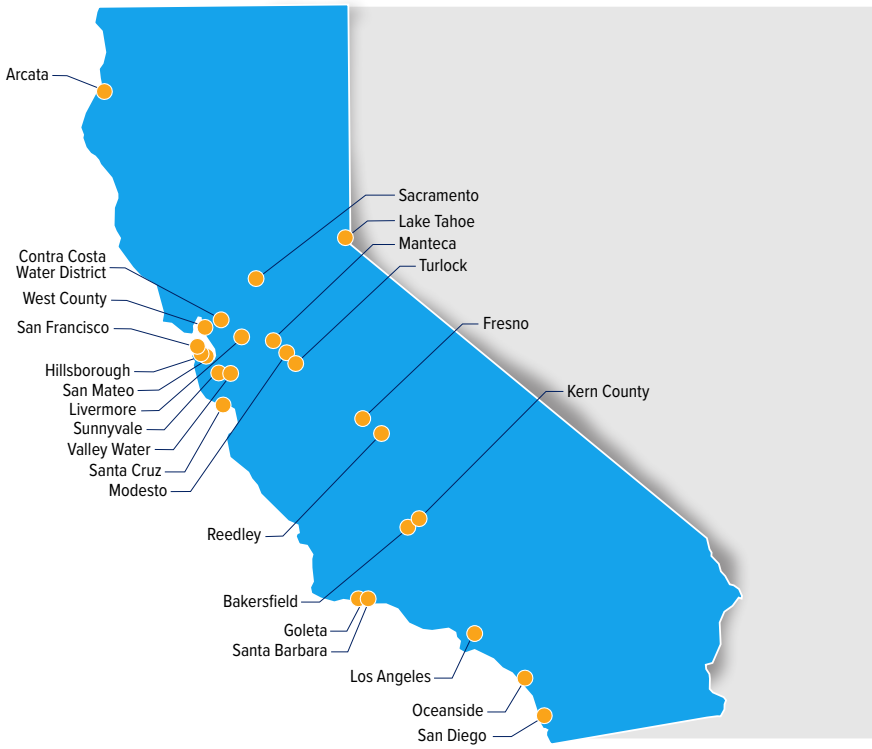
The Right Experience to Deliver Your Project

Carollo has one of the largest EI&C groups in the United States dedicated solely to the design of electrical and process control and instrumentation systems for water and wastewater facilities. Having designed EI&C systems for hundreds of water and wastewater treatment plants—including upgrades to MCCs and generators,—Carollo will bring best-in-class solutions to support your staff on this project.

Leaders in EI&C Services

We're an industry leader in the planning, design, and implementation of EI&C and computerized SCADA/telemetry systems for water and wastewater agencies. As a water-focused process treatment consulting firm we know how facilities operate and understand how to integrate the design of a new electrical system into treatment processes. Our clients range from small municipalities to some of the largest utilities in the country with treatment plants that range in size from under 1 mgd to more than 600 mgd. Carollo offers a full suite of design services focused on electrical engineering, including planning and analysis, design, and implementation.

When it comes to electrical system safety, planning, design, replacement, constructibility, and start up services for electrical distribution systems, experience matters. Our team of experts, in conjunction with our systematic process and collaborative approach, will help you achieve your goals for this project.



Carollo has delivered electrical-related projects for multiple clients throughout California. ***Our electrical, programming, instrumentation, and control services (EPIC®) engineers*** *work with these clients to provide planning, studies, designs, and construction services on their water-related projects.*

CAROLLO / BY THE NUMBERS

91
years in business

2,500+
electrical projects in last 10 years

120+
EI&C experts nationwide

15+
CA Licensed Electrical and Control System Engineers

APPROACH TO THE WORK

Project Understanding

As identified in the request for proposals (RFP), this project has two main goals:

- Replace MCCs A, C, G, and H, which are reaching end of useful life.
- Provide the ability to connect all plant priority loads, including the blowers to standby generators.

Replacement of the MCCs is particularly challenging given the limited space in the existing electrical room and the inability to take loads out of service for extended shutdowns. Similarly, there is very little room on-site for generators and a large amount of options, which includes choosing between portable and permanent generators, as well as figuring out where to connect and finding the space to locate the generators. The following discusses our approach to working with SOCWA via workshops to achieve a work sequence that fits the facilities shutdown constraints for the MCC replacement and the best value option for providing connection to standby generators for priority loads.

Project Approach

Given the complexities of the issues, Carollo recommends four workshops:

1. Initial MCC Workshop.
2. Final MCC Workshop.
3. Initial Generator Workshop.
4. Final Generator Workshop.

The initial workshops will be focused on brainstorming and option development. This will allow SOCWA and Carollo to collaboratively build the best options. Carollo will then take the options and provide associated costs, as well as advantages/disadvantages. The the final workshops will be held to make the best value selection.

MCC Replacements

Due to existing conditions and the limited space available in the Electrical Room of the Energy Building, replacement of the existing MCCs A, C, G, and H proposes various challenges. A process needs to be developed to select the most feasible sequencing. An initial workshop with SOCWA will help develop feasible sequencing for the MCC Replacements. The initial workshop will be conducted in the energy building with the MCCs where data will be collected and potential options will be developed. Each MCC will need to be evaluated to determine whether it should be replaced in kind or in a new location. The following challenges will be evaluated to determine the best replacement option for each MCC:

1. Understanding Operational Constraints

Carollo will leverage our project manager's process knowledge to work with the SOCWA staff to determine durations on how long each load or type of load can be taken out of service. These constraints will then be included in the Construction Sequencing and Implementation Plan. As identified in the RFP, the Construction Sequencing and Implementation Plan will serve as the basis for developing the plans and specifications. Carollo's Master Electrician, Brian Ream, will be integral in developing a plan that minimizes constructability issues.

2. Temporary Power

Minimizing temporary power, especially as renting/installing/removing significant amounts of temporary equipment and conduit/wire is very costly.

Replacement in-kind: This method is recommended when the existing conduit can be re-used. Carollo will coordinate with SOCWA to determine the existing conduit type and experience with re-using existing conduits at the facility to determine if the conduits can be re-used. Significant conduit replacement will result in increased construction cost. When replacing in-kind, it is recommended that only a few sections be replaced at a time. Loads can be temporarily repowered from either other spares or have their buckets relocated to other in service sections and the wire be temporarily spliced to the new locations while the section of the MCC is being replaced.

Replacement in new location: Where the conduits cannot be re-used, then installing the new MCCs in a new location while keeping the existing MCC operational will allow for the loads to be easily transferred from one MCC to another with minimal downtime. With minimal downtime and the ability to transfer each load individually, temporary power will likely not be needed. This will simplify the Construction Sequencing and Implementation Plan and reduce temporary power costs.

3. Development of Schematics

In older MCC installations, existing shop drawings are either unavailable or the wiring has been field modified without documentation. This can make developing accurate schematics difficult. Where these situations exists at SOCWA, Carollo recommends a detailed data collection be performed in conjunction with the SOCWA staff for each MCC bucket utilizing Carollo data collection templates in Microsoft OneNote™. Carollo will set up the application to collect the following for each MCC bucket:

- Existing conduit condition.
- Existing conduit type.
- Existing conduit sizes.
- Quantity of control wires.
- Quantity of control relays.
- Pilot devices (either on the MCC bucket or in the field).
- Associated instrumentation.
- Equipment nameplates.
- Detailed MCC elevation photos.

The Microsoft OneNote™ provides the ability to quickly take and store complete equipment photos and easily enter equipment cable/conduit information. In Microsoft OneNote™ all equipment will have its own tab that links to a dedicated page. This tool easily organizes, stores, references, and shares collected data, creating a living document of the actual field conditions for each piece of electrical equipment. Since we use non-proprietary software, this information can be shared with SOCWA and ultimately the contractor. This method of data collection will allow the existing schematics to be verified with the actual field conditions. It will also eliminate the need for the contractor to conduct additional field verification, saving time and cost during construction.

As part of the detailed data collection, Carollo will also review the operation of each piece of equipment with the SOCWA staff in the field to ensure the new schematics provides the desired functionality.

4. MCC-A PLC and Load Shedding Relays

Carollo also recommends the OneNote™ data collection approach be utilized for documenting the existing MCC-A PLC and load shedding relays. Additionally, an I/O extraction from the existing MCC-A PLC will need to be completed to to make sure all I/O is accounted for.

Once the initial workshop and data collection is complete, Carollo will develop a feasible sequencing approach based on the data collection and discussions with plant staff. A final workshop will then be conducted to review the sequencing to confirm the sequencing and finalize the shutdown constraints.

Standby Power and Portable Generator Connection to Blowers

The number of options available for standby power at the RTP is significant and similar to the MCC Replacement Approach, a two workshop approach will be utilized to select the best value option. Carollo will build on the Standby Generation Study Technical Memorandum completed by Carollo in July 2023 to help develop feasible options and selection criteria for standby power during an initial workshop. The initial workshop will consider the following challenges:

- **Space for generators –** There is very little room available around the facility to locate generators

Based on the amount of spares and loads out of service, MCC-C will be able to have up to four sections replaced at a time with minimal temporary power and downtime. Temporary power can be provided by relocating buckets and splicing the wire to the new location. Downtime will be one piece of equipment at a time with short duration to swap power source locations.

1. Temporarily refeed MCC by directly connecting to the bus.
2. Identify loads that are not currently in service.
3. Relocate loads that are in service.
4. Replace the first four sections of the MCCs.

therefore minimizing the number of generators needed will be essential to developing feasible options.

- **Portable generators –** Portable generators will require more space than permanent generators, as not only do they need parking space, they also need room to be maneuvered. Limiting the size of the portable generators is also important to avoid the need for a semi-truck to move the generators. Multiple small generators will also require more space than a single large generator.
- **Portable generator connection for blowers –** There isn't a feasibly sized portable generator available.

Once the initial workshop is complete, Carollo will develop cost estimates for the feasible options and score them based on the selection criteria. A final workshop will then be conducted to review the cost and scoring criteria of each feasible option to allow SOCWA to select the best value option. Carollo views the portable generator connection for the blowers as an integral part of the standby power system and recommends the developed options take this provision into consideration rather than treating this connection as a separate project element.

Based on the challenges identified, Carollo has developed three initial options for providing standby power:

Option 1: Centralized Permanent Generators

In this approach, one or two generators would be permanently located near MSG-1 or SSG-1. From backup perspective, tying into switchgear MSG-1 or SSG-1 does not make any difference. However, if we take into account the length of new cable required for the generator and the new construction feasibility, installing a new generator close to the existing MSG-1 electrical building and tying into MSG-1 appears to be the most viable option.

This would require a new breaker in MSG-1 and the addition of an automatic transfer system to control the breakers in MSG-1 and SSG-1 to automatically transfer to generator. Design of interlocks between the utility, generator, and existing cogen breakers will be included so that either proper open transition or closed transition is performed.

Option 2: Centralized Portable Generators

Similar to Option 1, a centralized portable generator connection and parking area will be located near MSG-1. Modern generators provide on-board paralleling controls that will allow multiple portable generators to be used in parallel or even a large portable rental generator could be utilized.

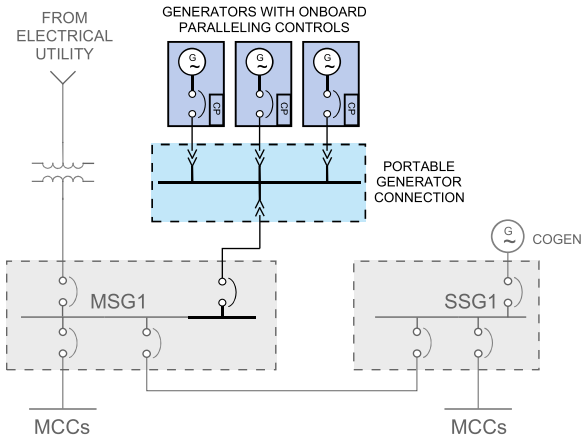
This would also require a new breaker in MSG-1 and the design of a portable generator connection that could support the portable generator(s). The transfer controls could either be automatic (similar to Option 1) or manual via kirk keys.

Option 3: Distributed Portable Generators

Three to four locations within the electrical distribution system will be identified to locate small portable generators that will serve groups of MCCs to allow these 3-4 connections to serve all the loads that require standby power. The feasibility of this option is contingent on the upgrades to the blowers as it will allow for 350-kW generators or smaller to be utilized.

Portable Generator Connections

If Option 1 or Option 2 is selected, then portable generator connections at each MCC can still be provided. Portable generator connections provide flexibility, especially during partial failure of the facility's main distribution gear or in the feeder cables, portable generators can be located at the downstream equipment to provide temporary power while the partial failure is resolved. If portable generators are desired in addition to the permanent generator in Option 1, SOCWA may want to consider purchasing a 350-kW portable generator, as it can support any of the individual generator connections (contingent on the upgrades to the blowers). For



For Options 1 and 2, a centralized generation could be accomplished by adding a breaker to MSG-1 and providing either a portable generator connection (as shown) or permanent generators at this location. The portable generator connection could use either rental generators or SOCWA-owned generators, which could be designed to connect to one large portable or multiple smaller portable generators.

Option 2, the generators can either be centrally located or utilized at individual MCCs during partial failures.

The initial workshop will allow Carollo to partner with SOCWA to refine these options and eliminate, add, or expand the options into additional options as needed.

Plan for Organizing the Work

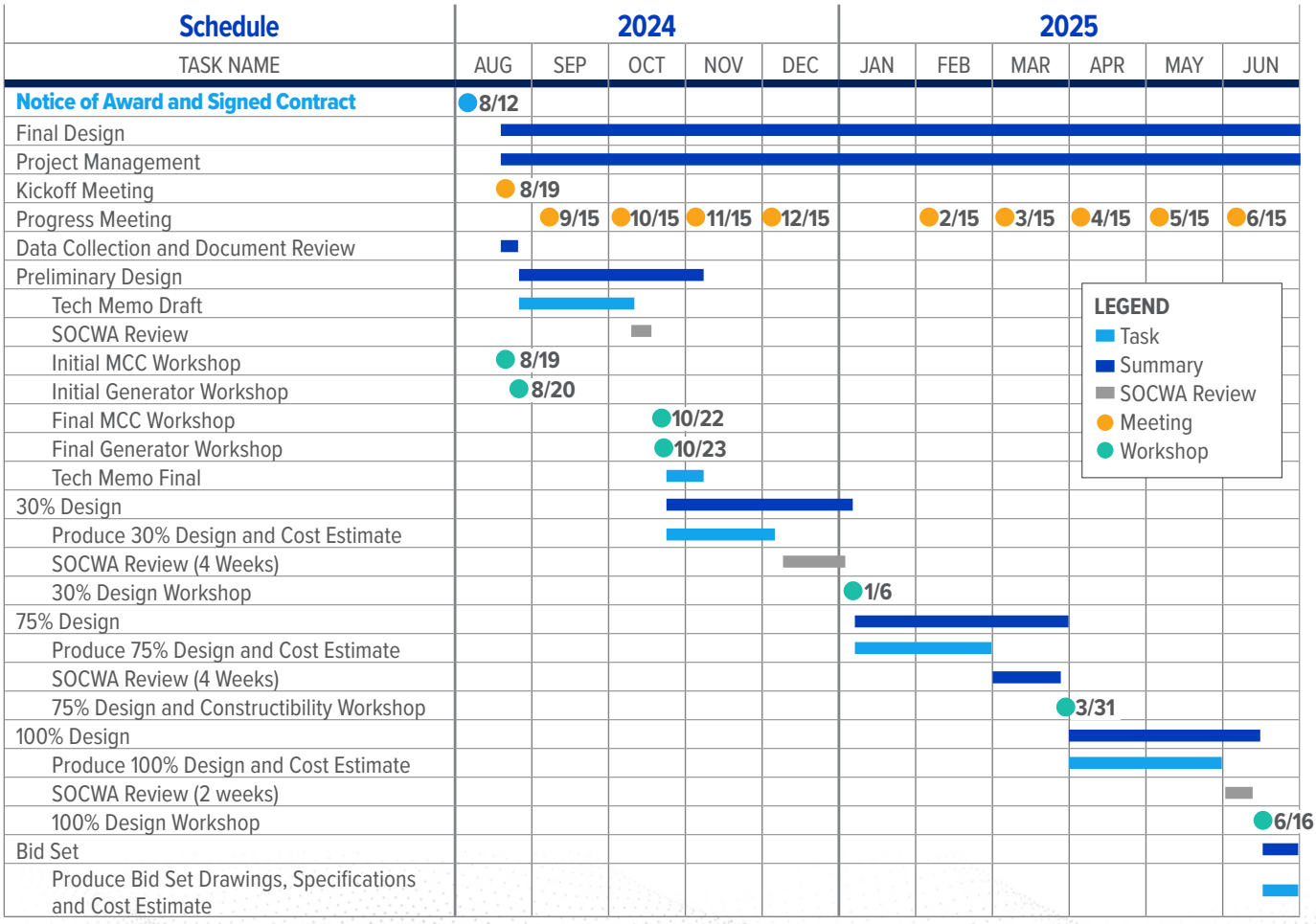
The key feature of our approach is to involve all the stakeholders in the decision-making process. We recommend that the stakeholders include O&M staff. They are the actual "client" in the process, and the success of the project will be judged with respect to ease of O&M during and after the work. We can build on past and current communications with staff to add this work with the most efficient use of your time.

The goal of each meeting is a list of decisions and action items to guide our team's work in preparation of the final design. Decisions and action items will be recorded in conference memoranda and issued within one week of the meeting.

Stakeholder Meetings

We will conduct stakeholder meetings to facilitate efficient and effective stakeholder input and involvement. Each meeting will be held at crucial milestones:

- **Meeting No. 1 -** Kickoff Meeting
- **Meeting No. 2 -** Initial MCC Workshop
- **Meeting No. 3 -** Initial Generator Workshop
- **Meeting No. 4 -** Final MCC Workshop
- **Meeting No. 5 -** Final Generator Workshop
- **Meeting No. 6 -** Review of 30% design
- **Meeting No. 7 -** Review of 75% design
- **Meeting No. 8 -** Review of 100% design



EXPERIENCE AND TECHNICAL COMPETENCE

CONTACT INFORMATION
Roni Young Grant
P: 949-234-5410

PROJECT DATES
2017 - 2023

J.B. Latham Facility Plan Improvements, Phase 2 Biosolids Upgrade

South Orange County Wastewater Authority, California

Carollo provided planning, design, and ESDC for Package "B" of SOCWA's J.B. Latham Treatment Plant (JBLTP) Facilities Improvements project. Carollo worked with SOCWA to assess and improve the digestion and biogas utilization systems at the JBLTP. Improvements included rehabilitation of primary and secondary sedimentation basins, dissolved air flotation thickeners, thickened sludge pumping, digester mixing, digester heating, effluent pump station and valves, and associated electrical and controls systems. The electrical upgrades included improvements to the existing motor control centers, replacing/upgrading new motor control centers, and new distribution systems to accommodate process upgrade needs.

CONTACT INFORMATION
Andrea Long
P: 720-859-4346

PROJECT DATES
2020 - 2024

Sand Creek WRF (SCWRF) Rehabilitation and Improvements

City of Aurora, Colorado

The project included the design improvements to the facility's existing aeration blowers, secondary clarifiers, and mixed liquor recycle (MLR) pump in the east biological nutrient removal (BNR) reactor. The project also included the design and relocation of an unused 500-kW generator from the Wemlinger Water Purification Facility (WPF) and connection to the SCWRF electrical system to provide emergency backup power. The relocated 500-kW generator is connected to the main switchgear at SCWRF with breaker-based transfer control provided by CUMMINS on board transfer controller.

CONTACT INFORMATION
Janice Gainey
P: 916-223-7860

PROJECT DATES
2020 - 2023

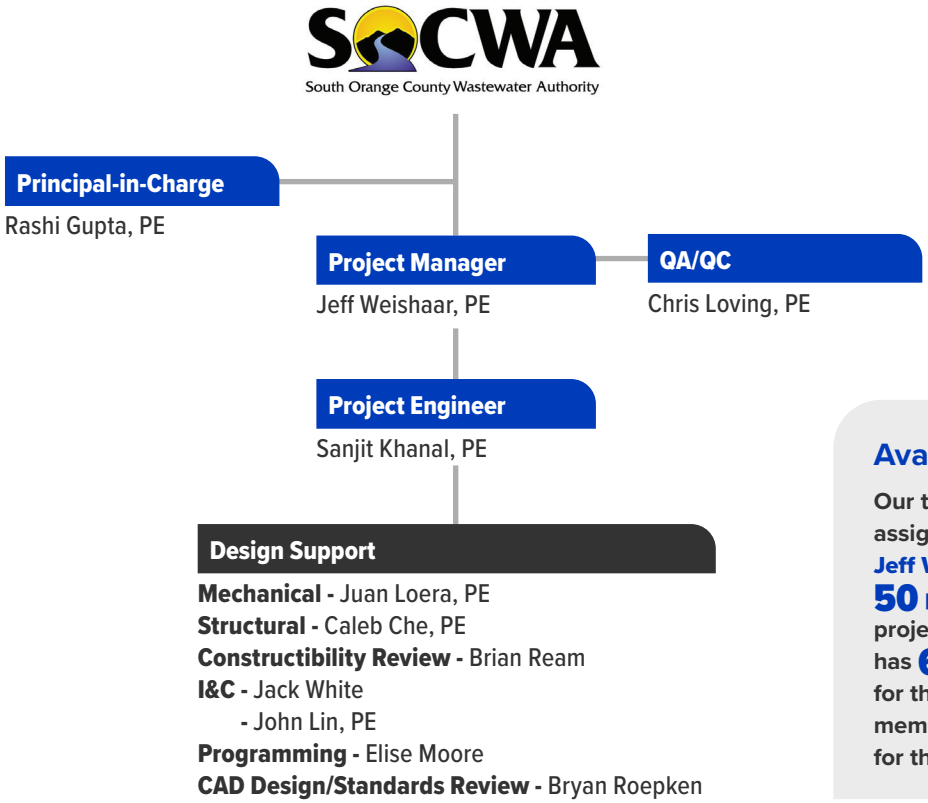
Aquifer Storage and Recovery (ASR) Well and Pump Station

City of Roseville, California

The City of Roseville's Aquifer Storage and Recover (ASR) Well and Pump Station project involves preliminary design of six new ASR wells injecting treated water from Folsom Lake, as well as final design and engineering services during construction for two of the ASR wells. Key components at each site include construction of new service entrance switchboards, motor control centers, variable frequency drives, instrumentation and controls, and PLC cabinet. The sites also included portable generator connections with manual transfer switches.

KEY PERSONNEL AND SUBCONSULTANTS

The Carollo team was hand-selected to provide you with a team of experts who know and understand the needs of this project. We do not anticipate the use of subconsultants to complete this work.



Availability

Our team is available for this assignment. Our project manager Jeff Weishaar's availability is 50 percent for this project. Our project engineer, Sanjit Khanal, has 60 percent availability for this project. The other team members are available as-needed for the duration of the project.

Proposed Key Team Members

Jeff Weishaar, PE

PROJECT MANAGER

Jeff is a proven project manager and a senior wastewater treatment planning and design engineer with 20 years of experience. He has held a leadership role in projects involving nearly all aspects of wastewater treatment processes and facilities. Jeff is very familiar with SOCWA having worked on the JBL Facility Plan Improvements, the JBL Digester 3 Repairs, and the Regional Treatment Plant Headworks Upgrade projects. As project manager, he will be responsible for resourcing, supporting the activities of the team, will be available to assist with meetings and any scope/budget discussions, and will serve as your primary point of contact throughout the project.

Rashi Gupta, PE

PRINCIPAL-IN-CHARGE

Rashi has dedicated her career to finding and implementing solutions that address the specific goals of each client—from reducing operating costs through system optimization to reducing capital expenditure by tailoring processes to fully leverage existing infrastructure. She has more than 20 years of experience specializing in the delivery of sustainable solutions and serves as Carollo's Wastewater Practice Director. Rashi has worked closely with SOCWA on a variety of wastewater treatment projects. Rashi will provide project oversight, continuity with other SOCWA projects, and commit the necessary resources for a successful project.

Chris Loving, PE

QA/QC

Chris is a lead electrical engineer and is Carollo's Community of Practice leader for electrical system studies. He has 17 years of experience in electrical and instrumentation design and construction management for both water and wastewater treatment facilities. His experience includes high, medium, and low voltage power distribution and generation system design, process and motor controls, and SCADA and PLC network design. His projects typically involve extensive coordination with other disciplines, understanding and incorporating plant operator input, and wide-ranging integration with existing facilities.

Sanjit Khanal, PE

PROJECT ENGINEER

Sanjit is an electrical engineer with seven years of experience in the electrical engineering field. His previous experience includes designing industrial induction heating systems. At Carollo, he has worked on multiple projects designing electrical systems for water and wastewater treatment plants. Sanjit has worked on similar MCC replacement projects with both Jeff and Chris, including SOCWA's JBL Facility Plan Improvements. Sanjit will be responsible for maintaining the overall schedule of the project.

Constructibility Reviews

We understand the constructibility challenges of replacing existing electrical equipment. We have worked with multiple manufacturer's to develop equipment layouts that fit existing locations and allow existing equipment, such as conduit and wire, to be reused. Our **Master Electrician, Brian Ream**, has worked with multiple teams to help determine the constructibility of designs and to inspect the work when it is installed. He carefully reviews each deliverable to identify constructibility issues during design to avoid costly conflicts or delays during construction.

CERTIFICATIONS

1. Carollo certifies that it is not aware of any actual or potential conflict of interest that exists or may arise by executing the contract or performing the work that is the subject of this RFP.

2. Carollo certifies that it is willing and able to obtain all insurance required by the form contract included as Attachment C of this RFP.

3. Carollo certifies that it has conducted a reasonable and diligent inquiry concerning the minimum and/or prevailing wages required to be paid in connection with the performance of the work that is the subject of this RFP and certifies that the proposed pricing includes funds sufficient to allow respondent to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided.

4. Carollo acknowledges and agrees with all terms and conditions stated in the RFP.

5. Carollo certifies that all information provided in connection with its proposal is true, complete and correct.

PRICING

We have provided a table of estimated hours below. Although not indicated in the RFP, the PlanetBids site requires a separate cost attachment to be uploaded. As such, we have provided our pricing information separately.

Task Description	Principal-in-Charge	Tech Advisor / QA/QC	Project Manager	Lead Engineer	Staff Engineer	Senior Technician	Technician	Doc Processing / Clerical	Total Hours
Task 1 - Project Management & Progress Meetings	2	0	29	14	28	0	0	0	73
Task 2 - Data Collection and Document Review	0	0	4	24	24	0	0	0	52
Task 3 - Preliminary Design	4	12	20	56	104	40	24	8	268
Task 4 - 30% Submittal	2	24	14	80	124	48	70	4	366
Task 5 - 75% Submittal	2	24	16	72	124	48	70	4	360
Task 6 - 100% Submittal	2	60	24	120	220	90	160	2	684
Task 7 - Bid Set	2	0	4	20	24	24	16	2	92
Task 8 - Technical Specifications	2	0	8	48	56	0	0	32	146
Task 9 - Construction Sequencing	2	10	4	16	20	0	0	0	52
TOTAL	**18**	**130**	**123**	**450**	**724**	**250**	**340**	**52**	**2,093**
Task 10 - Detailed Data Collection (OPTIONAL TASK)	0	0	20	60	120	0	0	0	200

Notes:

1. P&IDs and control descriptions for MCC-A PLC are not included.
2. Existing shop drawing schematics are available for MCC-A, MCC-C, MCC-H, MCC-G, MCC-A PLC, and Load Shedding Relays.
3. Assumes new conduit will be required for all MCC loads.

Closing

As your project manager for this MCC and Generator Upgrade project at the Regional Treatment Plant, please contact me at any time at 858-245-6081 or jweishaar@carollo.com if you have any questions regarding this proposal or if you need any additional information. This proposal will remain valid for 120 days after the date submitted.

Sincerely,

CAROLLO ENGINEERS, INC.

Jeffrey A. Weishaar, PE
Project Manager/Vice President

JAW:alh

Enclosures: Resumes
Forms (Attachments B and D; Signed Addenda)
Contract Comments

Appendix
Resumes

Education

MS Environmental Engineering, University of Missouri, Rolla, 2006

BS Civil Engineering, University of Missouri, Rolla, 2004

Licenses

Civil Engineer, California

Professional Affiliations

American Society of Civil Engineers

Society of American Military Engineers

Water Environment Federation

Jeffrey A. Weishaar, PE

Jeff Weishaar is a senior wastewater treatment planning and design engineer with 20 years of experience encompassing all phases of wastewater design for upgrade and expansion projects. He has had a leadership role in the design of projects involving nearly all aspects of wastewater treatment processes and facilities.

Relevant Experience

→ Project engineer for the Regional Treatment Plant Headworks Upgrade for the South Orange County Wastewater Authority (SOCWA), California. The project involved production of drawings and contract documents for replacement of the headworks building roof; rehabilitation of the existing mechanical bar screens; installation of new conveyors, screenings dewatering equipment, level measurement equipment in the existing channels for bar screen controls, and gas analyzers; channel concrete repair; odor control; and electrical and instrumentation modifications and upgrades. Roof replacement also incorporated a temporary odor control system with focus on the contractor's responsibility in capturing odors. He provided construction management services, submittal review, and responses to contractor requests for information.

→ Project engineer for the Digester Gas Alternative Uses Evaluation for SOCWA, California. Two treatment plants currently use engine generators to provide beneficial use of digester gas. This project evaluated existing and new technologies that would allow the plants to continue to utilize biogas under new, more stringent air quality emissions standards. The project recommended installation of new low emissions engine generators.

→ Project manager for the Coastal Treatment Plant Export Sludge Equalization Basin Design-Build Project for SOCWA, California. The project included preliminary design of a sludge holding tank, export pumping station, and electrical building for storage and pumping of the Coastal Plant's primary and thickened sludges. The sludges are pumped approximately 4 miles to a nearby facility for processing. Preparation of the design-build procurement package included development of plans and specifications to a 60-percent completion level, preparation of the design-build agreement, agreement forms, and the request for proposals. Bids were received and evaluated from multiple design-build teams. Carollo is currently operating as the Owner's representative in overseeing the final design and construction and providing inspection services.

→ Project engineer for the City of Barstow, California. Wastewater Treatment Plant Improvements Phase 1 Project. This project covered multiple subtasks including condition assessment of the wastewater treatment plant, project development and ranking, process modeling, preliminary design and final design. The Phase 1 construction project includes rehabilitation of the aeration basins, secondary clarifiers, and gravity thickener, as well as SCADA upgrades, a new dewatering facility and new standby generator and additional miscellaneous site piping, electrical and instrumentation upgrades. The Phase 2 construction project will include upgrades to the primary clarifiers and aerobic digesters as well as a new influent pump station, a new electrical control building and additional SCADA, electrical, and instrumentation upgrades.

→ Project engineer for the Coastal Treatment Plant Return Activated Sludge Flow Control Analysis for SOCWA, California. The plant operates two sets of aeration basins, with different depths and no automatic control for adjusting the flow split and flow rate of return activated sludge (RAS). The analysis evaluated methods of improving the existing RAS system. The project also included recommendations for six improvement projects with various degrees of cost and difficulty. The client approved three of these for design.

→ Project engineer for the Coastal Treatment Plant Return Activated Sludge (RAS) System and Headworks Upgrades for SOCWA, California. Preliminary design included identification of reliable rotary drum screen manufacturers for raw wastewater screening including customer surveys, site

visits, cost estimating, and detailed review of manufacturer specifications. Plans and specifications were prepared for replacement of the existing drum screens, replacement of the headworks influent force main knife gate valves, and other minor modifications to the headworks building. The plans and specifications also included design improvements to the return activated sludge system as previously identified in the RAS Flow Control Analysis. He provided construction management services, submittal review, and responses to contractor requests for information.

→ Project engineer for the Coastal Treatment Plant Aeration Blower Capacity Analysis for SOCWA, California. The plant operates two sets of aeration basins with different depths, air demands, and blower discharge pressures. The study involved analysis of the existing blowers, plant flows, aeration basin loading, and dissolved oxygen levels to determine the air demands for the various configurations of aeration basin operation. Blower upgrade alternatives were developed and analyzed for life-cycle costs based on capital and annual costs for power and cooling water consumption. Installation of turbine blowers was recommended to allow better control of air delivery to the aeration basins.

→ Project engineer for the J.B. Latham Wastewater Treatment Plant Digester 3 Repairs for SOCWA, California. The project included delivery of a preliminary design report analyzing the necessary repairs to the digester's mechanical appurtenances and instrumentation to improve safety and operations reliability. Drawings and specifications were prepared for concrete repair and recoating, piping and valve modifications, and instrumentation upgrades.

→ Project engineer for the J.B. Latham Wastewater Treatment Plant Digester Capacity Evaluation for SOCWA, California. The project included analysis of digester performance and operations to determine digester capacity for select goals. These included Class B biosolids, gas production for cogeneration, process stability, and emergency storage.

→ Project engineer for the J.B. Latham Treatment Plant Facility Plan for SOCWA, California. The Facility Plan provided a 20-year planning window for liquid and solids treatment, flow analysis, odor control, energy management, site planning, and regulatory issues. Project duties included flow and plant capacity analysis, solids treatment analysis for thickening and digestion, site planning, cost estimating, and report preparation.

→ Condition assessment task leader for the City of Oceanside, California, 2013 Integrated Master Plan update. The task entailed condition assessment of the City's 32 sewer lift stations. Replacement and rehabilitation projects were identified and prioritized for use in the City's CIP.

→ Staff engineer for the Wastewater Treatment Plant Upgrade for the City of Santa Maria, California. Detailed cost estimates were updated for the addition and replacement of multiple processes within the treatment plant. Construction of a new digester and trickling filter were estimated along with replacement of the existing sludge drying beds. An estimate for new percolation ponds was developed including size and location of the ponds and grading of the existing land.

→ Project engineer for the Sweetwater Authority, California, Robert A. Perdue Water Treatment Plant Facilities Master Plan Update. Carollo completed a detailed condition assessment plan and investigation to create an overall asset list for installed equipment at the plant, including structural, mechanical, electrical, and instrumentation assets. The project also includes process improvement evaluations to explore safer use of chemicals on site; replaces the aging clearwell facility; improves chemical handling, conveyance, and mixing; upgrades the intake structure to reduce manpower needed for operational tasks; and assesses potential regulatory requirements that could alter the treatment process at the plant.

Education

MS Environmental and Water Resources Engineering, University of Texas, Austin, 2001

BS Civil and Environmental Engineering, University of California, Davis, 1999

Licenses

Civil Engineer, California

Professional Engineer, Kentucky

Professional Affiliations

California Water Environment Association (CWEA)

Santa Ana River Basin Section of CWEA (SARBS):

- Past-President, Board of Directors

Southern California Alliance of Publicly Owned Treatment Works

Water Environment Federation

- Member, Residuals and Biosolids Committee
- Past Chair, Solids Separation Sub-Committee
- Member, Bioenergy Sub-Committee

Rashi Gupta, PE

Rashi Gupta, a vice president and project manager with Carollo Engineers, has specialized in delivering sustainable solutions for biosolids management and wastewater treatment throughout her career. Ms. Gupta is Carollo's Wastewater Practice Director, which allows her to remain current on leading wastewater technologies including changes within the biosolids management field. Her responsibilities as project manager and process specialist on solids-related projects across the country have taken her from the initial planning phase through design to start-up after construction. She also leads applied research projects for solids processes to assess the best ways to integrate innovation into facilities. From this experience, Ms. Gupta has become a national expert in all things related to solids – from thickening and dewatering to digestion and subsequent practices to beneficially use biogas and biosolids. A summary of her experience includes:

Relevant Experience

→ Project manager for the South Orange County Wastewater Authority (SOCWA), California, JB Latham Facility Improvements Package "B". Planning, design, and engineering services during construction (ESDC) for various plant upgrades and basin rehabilitation. The planning of this project used process and hydraulic modeling to assess the plant's capacity under a variety of operating scenarios, assessed various effluent management options, evaluated the condition of existing infrastructure onsite, and made recommendations for facility improvements to address capacity and condition-related constraints. Those recommended improvements were then designed and implemented in the design and ESDC project phases. Improvements included rehabilitation of primary and secondary sedimentation basins, dissolved air flotation thickeners, thickened sludge pumping, digester mixing, digester heating, effluent pump station and valves, and associated electrical and controls systems.

→ Project manager for the Blower Building Condition Assessment at the JB Latham Treatment Plant for SOCWA, California. This project included condition assessment of the building, mechanical, and electrical systems, and performance assessments of the plant's existing blowers, primary influent pumps, RAS pumps, WAS pumps, and primary sludge pumps.

→ Principal-in-charge for the TDS Study at the JB Latham Treatment Plant for SOCWA, California. This project included an evaluation of expected impact of increased TDS in the plant influent on the plants' liquid and solids treatment systems. The plant's processes were modeled and calibrated against bench scale bioreactors to assess treatment impacts. Impacts to solids digestion and dewatering were also considered to allow the agency to relay increased operating costs to a developer seeking to send high-TDS groundwater dewatering flows to the plant.

→ Project manager for the Flare Study at the JB Latham Treatment Plant for SOCWA, California. This project included an evaluation of expected SCAQMD permitting requirements and recent code requirements on new flares and digester gas storage systems that SOCWA may need to install at the JBLTP.

→ Technical advisor for the Innovative Biosolids Technologies project for SOCWA, California. The project included identification of promising innovations in biosolids management, development of an RFP for related solutions providers, and evaluation of proposals received relative to criteria important to SOCWA.

→ Project manager for the Dewatering and Digester System Assessment Project at the JB Latham Treatment Plant for SOCWA, California. This project includes capacity and condition assessment of the existing digester heating and dewatering processes.

→ Project manager for the JB Latham Treatment Plant Blower Building 1 Crack Repair Design project for SOCWA, California. Managed project which included inspection of structural cracks and deficiencies within

Rashi Gupta, PE

Awards

Induction into Select Society of Sanitary Sludge Shovelers (5S) by the California Water Environment Association

Spotlight Volunteer Award from the Santa Ana River Basin Section of CWEA

Other Accomplishments

National Science Foundation Fellow - University of Texas, Austin

Regents Scholar - University of California, Davis

Recipient of University of California, Davis M.S. Ghausi Medal for the College of Engineering

existing building and fast-tracked repair details, drawings, and specifications necessary for emergency repairs.

→ Project manager for the Hydraulic Study at the JB Latham Treatment Plant for SOCWA, California. This project includes the development and calibration of a full plant hydraulic model, and hydraulic modeling to assess plant capacity under varying hydraulic scenarios.

→ Project manager for the JB Latham Treatment Plant Consolidated Headworks Feasibility Study project for SOCWA, California. Managed project which included preliminary sizing, layouts, and cost estimates for a new headworks facility at the plant to assess the feasibility of such a system at this very constrained site.

→ Design engineer and construction support for the Perris Valley Regional Water Reclamation Facility Plant 3 Facilities Expansion to 22 mgd for the Eastern Municipal Water District, California. This project included the addition of a new liquid treatment train and completely new anaerobic digestion systems to handle solids from both liquid trains. A new centrifuge, associated polymer, and electrical systems were installed in the existing dewatering facility to increase dewatering capacity and improve performance. Ms. Gupta was a lead engineer for the solids processes and set the design criteria for those systems. Her design responsibilities also included new primary sludge and scum pump stations, a waste activated sludge thickening facility with rotary drum thickeners, two return activated sludge/waste activated sludge pump stations, a digested sludge transfer pump station, and tertiary filter backwash and centrate return water pump stations. She also provided construction support services through submittal review and responses to contractor requests for information.

→ Technical advisor for the Sludge Thickening and Dewatering Building projects at the 285 mgd Central District WWTP and 112.5 mgd South District WWTP operated by the Miami-Dade Water and Sewer Department, Florida. She worked with the team to develop facility layouts/design concepts and continued through project duration, provided technical reviews and checks for the design of the thickening and dewatering facilities polymer, cake conveyance and truck loading for both treatment plants. Each treatment plant will get new thickening and dewatering buildings with four 30-inch bowl dewatering centrifuges, dry polymer make-down, cake pumping systems and truck loading silos. The Central District WWTP will include thickening with eight gravity belt thickeners whereas the South District WWTP will include six 30-inch bowl thickening centrifuges. Each facility will also include new odor control, centrate management, electrical and controls systems.

→ Project manager for the Union Sanitary District's WAS Thickener Replacement Project at the Alvarado Wastewater Treatment Plant in Union City, California. The project includes evaluation of thickening technologies, and preliminary and final design for a retrofitted thickening facility with new polymer, thickened sludge conveyance, HVAC, electrical and other ancillary systems.

→ Process specialist for the City of Burlingame, California, Digester Equipment Building and Digester No. 2 preliminary design. The preliminary design includes a new 55-ft diameter digester, rehabilitation of an existing pump mixing systems for both digesters, and a new digester equipment building to house new sludge recirculation and heating systems and a new electrical room.

→ Process specialist for the Solids Handling Improvement Project at the Bend Water Reclamation Facility for the City of Bend, Oregon. The project includes the rehabilitation of existing thickening and dewatering facilities to install new equipment for increased capacity and reliability. Preliminary design included an assessment of dewaterability through external sludge testing, investigation of potential optimization measures to improve process efficiency, and an evaluation of screw presses, centrifuges, and belt filter presses for installation in an existing solids handling building. Final design was based on the results of that evaluation and includes centrifuges and upgrades to the polymer, ventilation, cake load-out, automation, and electrical facilities.

Education

MS Electrical Engineering, Colorado School of Mines, 2011

BS Electrical Engineering, Colorado School of Mines, 2007

Licenses

Professional Engineer, Colorado, Mississippi, Illinois, Virginia, Maryland

Electrical Engineer, Arizona, California, Nevada

Christopher L. Loving, PE

Chris Loving is a principal electrical engineer and is Carollo's Community of Practice leader for electrical system studies. He has extensive experience in electrical and instrumentation design and construction management for both water and wastewater treatment facilities. He also has in-depth knowledge of short circuit studies, protective device coordination and arc flash studies and can perform electrical system studies in ETAP, SKM, and EasyPower. His projects typically have involved extensive coordination with other disciplines, understanding and incorporating plant operator input, and wide-ranging integration with existing facilities. Many projects have included detailed and complex construction sequencing plans to minimize plant downtime.

Relevant Experience

→ Electrical and instrumentation engineer for the design and construction support of a 650-kW cogeneration system for the South Orange County Wastewater Authority Latham treatment plant, California. Project included extensive coordination with two other consultants performing work on the same construction documents including the service entrance gear being designed by others. Project included utilizing custom standards for the I&C design documents.

→ Electrical and instrumentation engineer for the design of an 846-kW cogeneration system for the South Orange County Wastewater Authority Regional treatment plant, California. Project includes extensive utility coordination and developing California Rule 21 documentation and assistance with the utility interconnection agreement. The design includes all new switchgear and several other pieces of distribution gear. Extensive integration with the existing electrical distribution system was required and a detailed temporary power plan/construction sequence was developed as a part of this project.

→ Electrical and I&C engineer for the Hi-Desert Water District, Yucca Valley, California, Collection System Phase 1. Carollo provided design and construction support for the complete collection system of the $95 million Phase I Wastewater Reclamation Project. Phase 1 included 77 miles of collection system piping ranging from 6 to 24 inches in diameter, three lift stations, ten separate jack-and-bore installations across Caltrans right of way at SR 62 and 247, and replacement of more than 78 miles of roadway.

→ Electrical and instrumentation engineer for the design and construction support of a 1.1-MW cogeneration system for the City of Hayward, California, Wastewater Treatment Facility. Project consisted of developing construction documents for a 1.1-MW digester gas-fueled reciprocating-engine-based cogeneration system. System included installation of a single engine with space for a second unit, all appurtenant equipment, fuel treatment equipment, emission control equipment, and all electrical interconnection equipment.

→ Lead electrical engineer and project engineer for a series of electrical upgrade project at the City of Simi Valley, California that includes pre-design, design, and engineering services during construction associated with the replacement of 480-volt switchgear and motor control centers that comprise the power distribution system at the City of Simi Valley's Water Quality Control Plant. Design included a detailed construction sequence plan to minimize disruptions to plant operation as existing electrical equipment was taken out of service and ensures that all plant loads are supported by at least two sources of power derived from the utility service and either the plant standby diesel engine generator or a temporary standby engine generator provided by the contractor. Project involved understanding the Owner's needs and including a variety of process, HVAC, SCADA, fiber, and other upgrades.

→ Electrical and instrumentation design of Panther Creek Wastewater Treatment Plant for North Texas Municipal Water District. The project included addition of a primary and secondary clarifier, aeration basins, odor control, sludge pumping, and a UV

system. Design included one-lines, motor control center elevations, standby power generation studies, conduit routing, and switchgear.

→ Electrical and instrumentation design engineer for the New UV Facility at Floyd Branch for North Texas Municipal Water District. Project consisted of three UV channels rated at 5 mgd with two banks each. Design of the UV equipment was specifically engineered to be open to multiple manufacturers with horizontal or vertical systems with alternative bids for other types. A 50KW standby generator was designed to supply the UV equipment in case of plant power failure.

→ Electrical engineer for the City of Prescott, Arizona, Airport Water Reclamation Facility Expansion. Carollo assisted in approximately 65% of the design. This Phase 1 was 3.75 mgd capacity, with the phased expansion of the facility planned for an ultimate capacity of 15 mgd. Because this Phase 1 expansion included a process change (from the existing oxidation ditches to activated sludge BNR) this project was essentially designing the first phase of a new treatment facility.

→ Construction management during construction of PAR 942 North Secondary Improvements for the Metro Wastewater Reclamation District, Denver, Colorado. The project included renovation of the secondary aeration basins, secondary clarifiers, new CaRRB basins, and electrical switchgear structures. Construction responsibilities included submittal reviews, design changes, and as-built drawings.

→ Various electrical system studies for the City of Aurora, Colorado, including the Binney Water Treatment Plant and a multi-site electrical system study for the rest of their over 30 pump stations, water treatment plants, and wastewater plant. Study included all field investigation, model construction, arc flash philosophy meetings, and training of City personnel. Construction management during construction of PAR 942 North Secondary Improvements for the Metro Wastewater Reclamation District, Denver, Colorado. The project included renovation of the secondary aeration basins, secondary clarifiers, new CaRRB basins, and electrical switchgear structures. Construction responsibilities included submittal reviews, design changes, and as-built drawings.

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→ Lead electrical design engineer for the Hancock County Utility Authority, Mississippi, Northern Regional Wastewater Treatment Plant design project. The plant consisted of multiple electrical rooms to support the septage receiving station, influent/effluent pumping stations, closed vessel UV disinfection, in-line post aeration, and solids processing.

→ Lead electrical engineer for the City of Las Vegas, Nevada, WPCF Filtration Building Miscellaneous Improvements. The project involved preparation of design documents to upgrade the Filtration Building at the WPCF facility. Improvements included a ultrasonic level sensors, pump VFDs, filter level transmitters, flowmeters, butterfly valves, pressure switches, flow transmitters, hoists on the propeller flowmeters, roof modifications, filter control panels, and general filter building paint and window improvements.

→ Electrical engineer for a sludge pump station project at Duck Creek in Garland, Texas. Project included extensive investigation of existing facilities to re-feed power to existing pump station as well as new pump station as well as integration of new distributed control system in plant's existing network.

→ Project manager for the Denver Water, Colorado, Green Mountain PS Electrical System project.

→ Electrical design for Helix Water District, California, Fletcher Hills Pump Station replacement project.

Education

MS Electrical Engineering, Youngstown State University, 2017

BS Electrical Engineering, Tribhuvan University, Nepal, 2013

Licenses

Professional Engineer, California

Certification

Engineer Electrical A Category, Nepal Engineering Council, 2015

Sanjit Khanal, PE

Sanjit Khanal is an electrical engineer with experience in electrical manufacturing. His previous experience includes designing industrial induction heating systems. At Carollo, he has worked on multiple projects designing electrical systems for water and wastewater treatment plants.

Relevant Experience

→ Electrical staff professional providing construction support for the South Orange County Wastewater Authority, California, JB Latham Facility Plan Improvements – Phase 2 Biosolids Upgrades. Project included upgrading existing DAF thickeners and improvements to the existing digesters and energy recovery building. Electrical upgrades included improvements to the existing motor control centers, adding new motor control centers, and new distribution systems to accommodate process upgrade needs.

→ Electrical design and ESDC engineer for the Aquifer Storage and Recovery (ASR) Well and Pump Station project for the City of Roseville, California. Carollo is providing design and CM of six new ASR wells injecting treated water from Folsom Lake. Key components at each site include construction of new service entrance switchboards, motor control centers, variable frequency drives, instrumentation and controls, and PLC cabinet. The sites also included portable generator connections with manual transfer switches.

→ Electrical design engineer for the 2023 Motor Control Center Replacements for South Platte Renew, Colorado. This project involves replacing four MCCs (two in the DAFT and 2 in the digester). Carollo is also conducting an electrical system study for the areas associated with the project.

→ Electrical design engineer for the City of Aurora, Colorado, Sand Creek Water Reuse Facility (SCWRF) Rehabilitation and Improvements. Project includes the design improvements to the facility's existing aeration blowers, secondary clarifiers, and mixed liquor recycle (MLR) pump in the east biological nutrient removal (BNR) reactor. Additionally on the Electrical side, the project also includes the design of relocation of an unused generator from the Wemlinger Water Purification Facility (WPF) and connection to the SCWRF electrical system to provide emergency backup power.

→ Electrical design engineer for the City of Greeley, Colorado, Nitrification Phase II Project. This CMAR project included addition of two new selector basins and one new aeration basin to increase plant capacity. The existing RAS pump station was upgraded from 70 to 115HP and the addition of a new MLR pumping station, 200HP was included. Other project elements included designing a new centrate treatment facility and upgrading the chemical storage facility. For the electrical distribution system for added load to the plant, a new electrical building was designed to be powered from a new 750KVA transformer.

→ Electrical staff professional providing construction support for the Denver Water, Colorado, 75-mgd North Water Treatment Plant. This greenfield project involves electrical, instrumentation and controls, security, and communications preliminary design for the new advanced water filtration facility in Denver, Colorado. The plant will initially treat 10-150 mgd with expansion capabilities of up to 250 mgd. The design includes integration of new technologies and design approaches to streamline future design projects for Denver Water and has accommodation for future unit processes such as ozonation, ultraviolet (UV) disinfection, and granular activated carbon (GAC) absorption.

→ Electrical design engineer for the Pasco County, Florida, Southeast WWTP Expansion. Project includes upgrading the entire facility, increasing the plant treatment capacity from 3 mgd to 6 mgd. Work includes extensive utility coordination to upgrade the existing service entrance transformer to incorporate added loads in the plant, adding new main switchgear, adding new backup generator 1000KW size, upgrading and adding new load distribution systems over entire plant as per new process upgrades.

Sanjit Khanal, PE

→ Electrical staff professional providing construction support for South Platte Renew, Colorado, Electrical Improvements Design and Construction. The scope of the electrical portion of the project included two low-voltage switchgear upgrades and replacements, and switchboards in Headworks Building, power and communication centrate valve vault, and a new pump station control panel.

→ Electrical engineer for the East Canyon Water Reclamation Facility Expansion Design Phase 1 for Snyderville Basin Water Reclamation District, Utah. Carollo provided planning and design for the expansion of the East Canyon Water Reclamation Facility. The project included a new bioreactor for biological nitrogen removal and chemical phosphorus removal facilities, including flash mix, two-stage flocculation and cloth disk filters, followed by UV disinfection. This upgrade will continue to help the Facility meet an effluent TP concentration of less than 0.10 mg/L but at higher flow capacities.

→ Electrical engineer for electrical upgrades at the City of Aurora, Colorado, Griswold Water Purification Facility. The project included the design of a new service entrance medium-voltage switchgear, replacement of the existing faulty Automatic Transfer Controller, and generator breaker trip unit modification to reduce arc flash incident energy.

Education

IECRM Electrical Trade Career College, 1998

Trimble Accubid Estimating Software Training

OSHA 30

Licenses

Master Electrician, Colorado

Certification

International Code Council Certification, Colorado

Professional Affiliations

International Association of Electrical Inspectors

Brian J. Ream

Brian Ream has 29 years of experience in the electrical industry for water and wastewater facilities. His recent experience includes project site inspections, constructability review, engineer cost estimates, and electrical, instrumentation and control designs. Prior to joining Carollo, Mr. Ream managed the field operations for an electrical contractor. His experience includes business planning, staff development, master planning, design reviews, estimating, proposals, contracts, budgeting, schedules, electrical/ instrumentation, SCADA procurement and installations, commissioning, start-ups and client trainings.

Relevant Experience

→ Electrical constructability reviewer, field advisor and inspector for the construction of new medium voltage underground electrical distribution infrastructure for the City of Tacoma, Washington, Central Treatment Plant (CTP). This project included construction of a new switchgear building and replacement of CTP's main 15 kilovolt service entrance switchgear. It also involved the replacement of other aging electrical assets at the plant

→ Electrical constructability review and electrical cost estimator Denver Water, Colorado, North System Renewal WTP Design Package 3. The project entailed preliminary design development for the electrical and instrumentation design of a greenfield 150-mgd advanced water filtration plant. The design included integration of new technologies and design approaches to streamline future design projects for Denver Water.

→ Electrical constructability reviewer for the City of Bend, Oregon, Solids Handling Improvements Dewatering Project.

→ Electrical constructability review for the Albuquerque Bernalillo County Water Utility, New Mexico, Southwest Water Reclamation Plant (SWRP) Electrical System Priority Planning.

→ Electrical designer for the City of Oceanside's Major Plant Automation Upgrades, Oceanside, California. Provided design assistance, software standards template development, control strategy review, and cost estimating assistance.

→ Electrical designer for the City of Aurora, Colorado, Arc Flash Reduction Design. Project included electrical system study and design of new service entrance equipment at eleven remote sites.

→ Electrical engineer cost estimator for the City of Tacoma, Washington, Owner's Representative Treatment Plant System Upgrade. Services included upgrade/replacement of control system for the City's Central Treatment Plant (CTP) and North End Treatment Plant (NETP). The core of the existing control system comprises an ABB System Six distributed control system (DCS) with six Distributed Control Units (DCUs) located at the CTP and a single DCU located at the NETP. Auxiliary control systems included twelve PLCs that are interconnected to the DCUs, eleven PLC's that are stand-alone systems, and approximately nineteen remote IO cabinets.

→ Electrical designer for the City of Aurora, Colorado, System Wide UPS Replacement project. Tasks included field investigations, workshops with client, and design of 43 remote pump station site UPS systems.

→ Electrical designer for the City of Aurora, Colorado, Sand Creek Water Reclamation Facility (WRF) Arc Flash Design. Project included electrical system study and design of new electrical distribution equipment at four locations at the Sand Creek WRF.

→ Instrumentation and controls designer and on-site inspector for the Metro Water Recovery, Colorado, PAR 1225 South Headworks and Grease Process Improvements. This work involved extensive modifications to the existing screening, grit removal, and grease processing facilities for the 100-mgd South plant.

→ Instrumentation designer for the City of Aurora, Colorado, Second Creek Interceptor Segment 1E Design. Project included a new wastewater vault with flow metering and communication equipment.

Brian J. Ream

→ Electrical designer, cost estimator, and engineer field inspector for the City of Aurora, Colorado, Griswold Flow Control Center. Provided design assistance for work stations and a SCADA event monitoring center.

→ Electrical engineer cost estimator for the City of Fort Collins, Colorado, Electrical Master Plan.

→ Electrical engineer cost estimator for the City of Fresno, California, Water Treatment Design.

→ Electrical engineer cost estimator for the City of San Mateo, California, Wastewater Treatment Plant PCS Design.

→ Electrical engineer cost estimator for the City of Salem's Willow Lake Water Pollution Control Facility Gravity Thickeners/Sludge Degritting Improvements, Salem, Oregon.

→ Electrical engineer cost estimator for the City of Longmont, Colorado, Sludge Control Building Modifications.

→ Electrical engineer cost estimator for the Albuquerque Bernalillo County Water Utility, New Mexico, SWRP MCC and Switchgear Replacement.

→ Electrical engineer cost estimator for the City of Yuma, Arizona, Figueroa Ave WPCF Electrical Upgrade.

→ Electrical engineer cost estimator for the City of Oak Harbor's Wastewater Treatment Plant Preliminary and Final Design, Oak Harbor, Washington.

→ Electrical, instrumentation and controls inspector for the Metro Water Recovery, Colorado, PAR 1247 Electrical Transformer Replacement Project and PAR 1259 Digester Complex Rehabilitation Project. Project included replacement of two 4.16 kV to 13.2 kV substation transformers with low resistance and zig-zag transformer grounding, two 13.2 kV to 480 V substation transformers with high resistance grounding, and a 480 V load center.

→ Electrical, instrumentation and controls inspector for the City of Aurora, Colorado, Wemlinger Water Purification Facility (WPF) CT Chamber. The project consists of construction of a new buried concrete water disinfection contact chamber.

→ I&C quality management reviewer for the City of Omaha, Nebraska, Riverview Lift Station Final Design.

→ Electrical, instrumentation and controls construction coordinator for the City of Aurora, Colorado, Cherry Creek Well Field Controls Rehabilitation.

→ Electrical, instrumentation and controls inspector for Metro Water Recovery, Colorado, PAR 1085 South Secondary Improvements Construction Services. Project included modifying and upgrading the South Secondary Treatment Facilities to treat 114 million gallons of wastewater per day. Project included design of electrical, instrumentation, and control elements for successful integration into facility SCADA system.

→ Electrical, instrumentation and controls inspector for the City of Longmont, Colorado, Gravity Thickening & Digester Gas Modifications Construction Services. Project included preliminary and final design documents for replacement of two thickened sludge pump stations and siting of a new waste gas burner.

→ Electrical, instrumentation, and controls auditor for the Metro Water Recovery, Colorado, Owner's Advisor PAR 1088 Northern Treatment Plant Program Construction Services. The Owner's Advisor assisted the District in the management of the 7-year Program for all planning, procurement, construction, and start-up services for the implementation of a 24-mgd advanced treatment facility, a 7-mile interceptor, and the 11-mile effluent pump back system. The Owner's Advisor was co-located with District staff for the delivery of the $475-million Program. The Program includes the largest, constructed PDB project to date in the U.S. water/wastewater industry, and has been referenced by the Water Design-Build Council and Design-Build Institute of America as an example for best value, qualifications-based procurement.

Education

BS Mechanical Engineering, University of California, Irvine, 1998

Licenses

Mechanical Engineer, California

Professional Affiliations

American Society of Mechanical Engineers

Juan R. Loera, PE

Juan Loera is a principal mechanical engineer with Carollo with more than 24 years of experience designing mechanical systems for municipal wastewater treatment facilities. He has worked on a number of different wastewater projects in various aspects of analysis, design, and construction of digester gas system projects. Juan has extensive knowledge in the design of large blowers, compressors, and pumping systems associated with water and wastewater treatment facilities and the HVAC systems necessary for process and electrical buildings. He has evaluated, analyzed, and developed approaches for combining existing digester gas systems with new plant expansions; combined multiple blower facilities to operate as a common system; and designed new digester gas piping systems to replace old poorly performing corroded piping systems. A summary of his relevant experience follows:

Relevant Experience

→ Mechanical engineer for the 15-mgd RP-5 project for the Inland Empire Utilities Agency, California. The design included a complete 15-mgd Title 22 facility that was designed to treat wastewater using a mixed liquor suspended solids (MLSS) concentration of 5,000 mg/L and a solids retention time (SRT) of 45 days. The design also included retrofit of the solids handling facilities at the RP-2 facility. Solids handling included gravity thickening, anaerobic digestion, and belt press dewatering for primary sludge, and dissolved air flotation (DAF) thickening, aerobic digestion, and belt press dewatering for secondary sludge. His responsibilities included designing the piping for the aeration air distribution system and blower size selection.

→ Mechanical engineer for design of the Temecula Valley Regional Water Reclamation Facility Expansion to 12 mgd for the Eastern Municipal Water District, California. The expansion included construction of a new 32-mgd headworks, 4-mgd primary/secondary treatment, and increased tertiary facility and solids handling (thickening and anaerobic digestion) capacity. His responsibilities included designing piping for the aeration air distribution system.

→ Mechanical discipline lead for design of the Central Plant South Secondary Treatment Facilities Phase 2 for the Clark County Water Reclamation District, Nevada. The project included design for a 40-mgd advanced secondary treatment expansion designed for biological nutrient removal. Facilities included aeration basins, secondary clarifiers, return-activated sludge/waste-activated sludge (RAS/WAS) pump station, blower building, electrical building, chemical feed facilities, yard facilities, miscellaneous piping, and HVAC systems.

→ Design engineer for a high-speed turbo-blower system design engineer for the Post Point Wastewater Treatment Plant Expansion project for the City of Bellingham, Washington. The project increased the plant capacity from 25,000 pounds per day influent biochemical oxygen demand (BOD) to 40,000 pounds per day and 22 mgd. The project included the addition of chemically enhanced primary treatment, primary effluent pump station modifications, an anaerobic selector basin, new aeration basins, and rehabilitation and conversion of existing aeration basins from high-purity oxygen to diffused air, new blower building with standby generator, secondary clarifier, return activated sludge (RAS)/waste activated sludge (WAS) pump station and plant water pump station modifications. His responsibilities included evaluating various high-speed single-stage turbo blowers and designing a mixed-sized high-speed turbo blower system; automated blower controls; an intake air system; and a heating, ventilation, and air conditioning (HVAC) system.

→ Design engineer for the final design of the South Secondary Improvements project for the Metro Wastewater Reclamation District, Colorado. The project incorporated a two-year effort in design of a new 110-mgd biological nutrient removal (BNR) activated sludge secondary complex with an anticipated construction cost of $225 million. The facility included complete nitrification and denitrification and phosphorus removal. The

Awards

OCSD Plant No. 2 Headworks Replacement Project, P2-66

- Engineering Research Achievement Award, California Water Environment Association, 2005
- Engineering Research Achievement Award, Santa Ana River Basin Section of the California Water Environment Association, 2005

design featured six parallel-activated sludge aeration basins, each with a capacity of nearly 20 mgd. The treatment complex included a common mechanical building featuring a 269-mgd primary effluent pump station and an aeration blower building housing five 2,000-hp blowers. The plant will be constructed on a new area of the existing site and incorporate centrate treatment facilities using a unique Centrate and Return Activated Sludge Re-aeration Basin (CaRRB) process. The new facility featured an extensive network of piping and equipment galleries surrounding the complex to contain all piping pumping equipment and electrical cabling inside and protected from inclement weather. The project included planning to maintain plant operations while approximately $90 million of rehabilitation occurs in and adjacent to the operating facilities. The project incorporated over 2,500 drawing sheets and 10 volumes of bid documents. His responsibilities included design of the Blower Building. The blower system design included five single-stage centrifugal blowers with 2,000-hp motors and 29,260-scfm capacity, a completely automated blower and dissolved oxygen (DO) control system, an intake air filtration system, suction and discharge silencers, a 10-ton overhead bridge crane system, an HVAC system, and acoustical treatment.

→ Project engineer for the $138 million Orange County Sanitation District, Headworks Rehabilitation and Expansion at Plant 1 (P1-105). This project will expand the capacity at Plant 1 from 280 mgd to 320-mgd. The project includes comprehensive rehabilitation and expansion of influent flow metering and diversion; bar screens; screenings handling; influent pumping; grit handling; primary flow splitting and metering; odor scrubbers; and electrical buildings. Construction sequencing to maintain headworks in service during construction.

→ Construction management services during construction of the $35 million Secondary Treatment Expansion at Plant No. 1 for the Orange County Sanitation District, California. The project included new high-efficiency blowers, retrofit of 10 existing aeration basins, 10 new secondary clarifiers, 3 new dissolved air flotation (DAF) units, rehabilitation of existing DAF units, and rehabilitation of the return activated sludge/waste activated sludge (RAS/WAS) pumping plants. The project also included programmable logic controllers (PLCs) and monitoring of the above treatment processes.

→ Project engineer for the Orange County Sanitation District, California, 2017 Facilities Master Plan. This Master Plan develops a 20-year capital improvement plan for OC San's treatment plant and collection system sewers and pump stations. Over the 20-year planning period, numerous OC San treatment facilities and collection system sewers and pumping facilities will need rehabilitation or replacement, with a total capital expenditure of approximately $5 billion. This Master Plan identifies the rehabilitation/replacement needs and develops a preliminary Scope of Work and planning level cost estimate for each project.

Design engineer for design of the San Jacinto Valley Regional Water Reclamation Facility Plant 2 Facilities and Title 22 Tertiary Treatment Upgrade for the Eastern Municipal Water District, California. The project included planning, preliminary design, final design, and construction services for a comprehensive plant expansion to 14 mgd. In addition to solids handling facilities, the project included a new headworks; primary, secondary, and tertiary treatment; and effluent pumping. Solids processes included a new waste-activated sludge (WAS) thickening building, two new anaerobic digesters with provisions for two-phase digestion, a sludge storage tank, digester gas storage and compression facilities, evaluation of cogeneration, and dewatered sludge truck loading hopper. Responsibilities included designing the new 18-mgd headworks facility, aeration blowers, digester gas handling system, and utility water and effluent pump stations; designing the HVAC and odor control systems and leading the design of the tertiary effluent storage ponds; and designing a new aeration air system with high-speed single-stage turbo blowers and incorporating the existing engine-driven multi-stage blowers into one common system.

Education

BS Civil Engineering, University of California, Berkeley, 2002

Licenses

Civil Engineer, California

Hipom (Caleb) Che, PE

Caleb Che is a structural engineer with 22 years of experience in civil engineering. He has been responsible for designing water and wastewater treatment facility structures in accordance with current standards of building codes and responsible for providing structural specifications for the project. He has reviewed structural shop drawings and responded to requests for information (RFIs) in regard to construction issues. His experience includes:

Relevant Experience

→ Project engineer (structural) for the AWT No. 2 Filter Assessment Project at the Regional Treatment Plant for the South Orange County Wastewater Authority, California. This project includes capacity and condition assessment of the existing AWT filter process.

→ Project engineer (structural) for the Package B Improvements Planning project at the JB Latham Treatment Plant for the South Orange County Wastewater Authority, California. This project included capacity and condition assessment of the existing liquid treatment trains, evaluation of effluent management options, cost modeling, process modeling, hydraulic modeling, and capacity analyses of solids thickening and digestion processes.

→ Project engineer (structural) for the Blower Building 1 Crack Repair Project at the JB Latham Treatment Plant for the South Orange County Wastewater Authority, California. This project includes emergency concrete crack repair of the existing blower building.

→ Project engineer (structural) for the Dewatering and Digester System Assessment Project at the JB Latham Treatment Plant for the South Orange County Wastewater Authority, California. This project includes capacity and condition assessment of the existing digester heating and dewatering processes.

→ Structural engineer for the Clean Water Services Rock Creek Wastewater Treatment Plant, Oregon. Tasks include performance of an ASCE 41-13, Tier 1 and Tier 2 seismic evaluations for the existing dewatering building for the development of seismic retrofit.

→ Structural engineer for the PS15-06 Seismic Study at Plant No. 1 and 2 for the Orange County Sanitation District, California. Tasks include performance of an ASCE 41-13, Tier 1 and Tier 2 seismic evaluations for the various existing structures.

→ Structural engineer for the P1-105 Headworks Rehabilitation and Expansion at Plant No. 1 Project for the Orange County Sanitation District, California. Tasks include performance of an ASCE 41-13, Tier 1 and Tier 2 seismic evaluations for the various existing structures for future long-range facility planning and the development of seismic retrofit strategies.

→ Project engineer for the Post Point Resource Recovery Plant's Primary Sludge Tank Replacement Design for the City of Bellingham, Washington. The existing primary sludge tank plays an important role in the solids handling process. However, this tank is reaching the end of its useful life and needs to be replaced. Carollo is leading the design to replace this individual tank with a pair of 40,000- to 50,000-gallon tanks for a total minimum sludge storage capacity of 80,000 gallons. Installation of the new tanks at the proposed location will require piping and pumping transport revisions for sludge handling to and from the new tanks. The design responsibilities include preparation of structural calculations, plans and details, and specifications for new reinforced concrete sludge tanks and modifications of existing scrubber building.

→ Project engineer for the Hilo Wastewater Treatment Plant Rehabilitation and Replacement Project Phase 1 for the City of Hilo, Hawaii. The project includes septage receiving facility, headworks facility, headworks electrical building, sludge blending system with odor control, solids handling building, digester tanks and associated digester control buildings, and modifications of existing influent channel, primary gallery, and primary sedimentation tanks. The

Hipom (Caleb) Che, PE

Awards

Outstanding Private Sector Civil Engineering Project - Honorable Mention, American Society of Civil Engineers, Los Angeles Section, 2013, City of Santa Barbara El Estero Wastewater Treatment Plant Headworks Screening Replacement

Project of the Year, American Society of Civil Engineers, Santa Barbara/Ventura Branch, 2012, City of Santa Barbara El Estero Wastewater Treatment Plant Head-works Screening Replacement Project

responsibilities include preparation of calculations, plans and details, and specification for structural design of multi-story concrete shear wall buildings with flexible roof and rigid floor diaphragms, masonry shear wall buildings with concrete basement and flexible roof diaphragm, 50-ft diameter by 35-ft tall concrete digester tanks with steel dome cover, and outdoor concrete foundations for support of large heavy industrial size mechanical and process equipment tanks. The design also included extensive construction sequencing requirements to minimize disruption of existing plant operations.

→ Project engineer for the P1-105 Headworks Rehabilitation and Expansion at Plant No. 1 Project for the Orange County Sanitation District, California. The project includes rehabilitation and upgrade of the Plant No. 1 Headworks facilities with construction budget of $223 million. Facilities to be rehabilitated include metering and diversion structure, bar screen building, bin loading building, influent pump station, grit basins, primary influent channels, grit handling building, headworks odor control scrubbers, and power buildings. The project also includes demolitions of the original Headworks No. 1 facilities and the unused chlorine building pumps. The design responsibilities include preparation of structural calculations, plans and details, and specification for modifications of existing facilities and added new structures. The new structures consist of steel roofs, reinforcing concrete walls, reinforced masonry walls, reinforced concrete slabs, steel moment frames, steel framed canopies, and precast deep foundation driven piles.

→ Project engineer for the Southeast Water Pollution Control Plant SEP 020 Headworks Replacement Project for the City of San Francisco, California. The replacement headworks design has a capacity of 250-mgd. The headworks facility is about 375 feet long, supported on deep foundation comprised of 3-ft diameter by 125-ft long drilled concrete piers, and includes influent junction, headworks electrical, fine screen, screening handling, grit tanks, primary influent, and multi-story grit handling building. The design responsibilities include preparation of structural calculations, plans and details, and specification for a new multi-story headworks facility. The facility consists of steel and concrete roofs, elevated concrete slabs, and concrete shear walls.

→ Project engineer for engineering services during construction in association with the Plant No. 2 Headworks Replacement (P2-66) for the Orange County Sanitation District, California. The replacement headworks design has a capacity of 340 mgd and includes influent flow metering and diversion, bar screens, screenings handling, influent pumping, grit basins, grit handling, primary influent flow splitting and metering, odor control scrubbers, chemical facilities, and an electrical building. The four chemical facilities include computational fluid dynamic (CFD) and physical modeling of various hydraulic structures was performed for improved hydraulics. The process and equipment selection process included staff workshops, site visits to other plants, and equipment pilot testing. The design included a control system, which provides full automation of equipment for unattended operation and integration with the existing plant-wide Process Control System. The design also included extensive construction sequencing requirements/constraints and a detailed testing, start-up, and commissioning plan. The construction sequence and commissioning process was started early in the design phase to identify and address impacts on the project. This project received the Engineering Research of the Year – 2005 award from the California Water Environment Association.

→ Project engineer for the Southeast Surface Water Treatment Facility for the City of Fresno, California. The project included a new 80-mgd surface water treatment plant. The design responsibilities include a single-story chemical building, single-story electrical building, filters, single-story maintenance building, two-story operations and control building, ozone contact basins with a generator building on the roof level, pretreatment basins with inclined plate settlers, and pump stations.

Jack White, EIT

Jack White has been with Carollo since 2021, specializing in instrumentation and controls (I&C). He develops P&IDs, control narratives, control panel elevations, and schematics. He is proficient in Python 3, MATLAB, and C++ and has delivered multiple projects involving SCADA systems and industrial automation. He also has experience simulating circuits and systems in Multisim and Simulink.

Education

BS, Electrical Engineering, California State University, Fresno, 2022

Licenses

Engineer-in-Training, California

Certification

Certified, OSHA 30-hour Construction Safety and Health Program

Professional Affiliations

Member of IEEE-HKN
Awards: 2022 Undergraduate Deans' Medalist Nominee at CSU Fresno

Relevant Experience

→ I&C support for the Goleta Water District, California, PDB SCADA Upgrade. Carollo is currently leading the design of this progressive design build project. The District's current SCADA system monitors and controls the operation of three different systems: Goleta West Conduit (treated but not filtered), the recycled water system, and the potable water system. The project encompasses the water treatment plant, reclaimed water system, booster pump stations, chlorination facilities, reservoirs, and wells. The objective is to unify operations across the District's multiple current and planned facilities with a single, operator-friendly system. The SCADA system includes all new servers, software, networks, fiber optic ring, telemetry, and cybersecurity. Each site will receive new control panels, new control programming, and adequate backup power. Additional upgrades include programming standard, high performance graphics, process improvements, new control room, rounds management, and automated reporting.

→ I&C support for the Leo Vander Lans Advanced Water Treatment Facility SCADA Upgrade project for the Water Replenishment District of Southern California. Carollo provided design services to replace aging PLCs, improve reliability of the PLC communications, improve the UPS backup power for the control system during power outages, improve cooling and temperature monitoring of all critical control panels, implement retagging of all assets and field equipment, and coordinate with propriety Trojan UV and Pall MF systems to upgrade their control panels in parallel with plant improvements.

→ I&C support for the Cogeneration Equipment Replacement project (PAR 1395) for the Metro Water Recovery, Colorado. Carollo was selected to be the design engineer for this project. The project replaces aged cogeneration infrastructure with biogas processing equipment to remove hydrogen sulfide, separate methane from other constituents, and compress the biogas into Xcel Energy's natural gas pipeline. The scope involves technology evaluations for both hydrogen sulfide removal and biogas upgrading equipment, construction sequencing to minimize impacts to the operating cogeneration facility, as well as significant hot water system modifications, EI&C upgrades, and integration work.

→ I&C support for the Milwaukee Metropolitan Sewerage District, Wisconsin, SCADA and I&C Systems Master Plan. Jack developed the Long-Term Visioning Survey for operations and management input and feedback. He also developed technical memoranda outlines and preliminary content and workshop presentation outlines and agendas. He was also responsible for recording and documenting workshop action items and decisions.

→ I&C support for the Polk County, Florida, SCADA Master Plan Upgrade. The project updated the County's existing SCADA master plan by reviewing the current SCADA system against new technologies to provide new recommendations and assess the SCADA system's risk to cybersecurity threats. Jack developed the Long-Term Visioning Survey for operations and management input and feedback. He was also responsible for recording and documenting workshop action items and decisions.

→ I&C support for the City of Burlingame, California, Digester Improvements. This project included preliminary design of a new digester with pump mixing, a new sludge storage tank, and a new digester equipment building that included an electrical room to house new MCCs and PLCs, and a mechanical room to house new sludge circulating pumps and heat exchangers. Jack worked

Jack White, EIT

with the I&C lead to develop P&IDs for digesters, mixing and recirculation pumps, and hot water loop; control strategies for new process loops; control panel elevations for new control panel; and control schematics for new pumps and existing equipment. He also assisted in network change design to add the new control panel to the plant network.

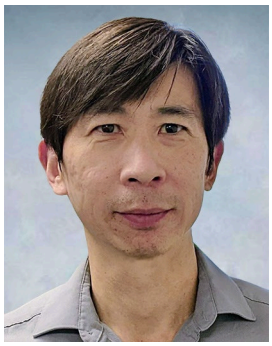
→ Electrical, Instrumentation, and control (EI&C) support for the City of San Diego, California, North City Pure Water Facility and Pump Station Engineering Services During Construction. The Carollo-designed 34-mgd North City Pure Water Facility treats and purifies wastewater to supplement the City's drinking water supply. This potable water reuse advanced water treatment plant (AWTP) uses a proven five-step water purification process of ozonation, BAC filters, membrane filtration, RO, and UV disinfection with sodium hypochlorite advanced oxidation. The design of the facility included multiple layers of physical and operational security tied into the City's access control and video management systems. Jack was responsible for the review of technical submittals related to electrical, instrumentation, and control equipment and systems. He also collaborated with EI&C Leads to respond to Requests for Information (RFIs) from the contractor and incorporate design changes. Jack regularly performed site walks to observe construction progress in the field and participated in witness factory acceptance tests for electrical and instrumentation equipment.

→ I&C support for the Portland Water Bureau, Oregon, Bull Run Filtration Facility Design. The new greenfield 145-mgd filtration facility includes design of conventional treatment process facilities and the instrumentation and controls. Jack worked with the I&C lead engineer to develop control strategies for all process loops in the filtration facility including the filtration system and backwash; incorporate client comments on I&C deliverables at every stage of the design; and create presentation slides for internal design workshops and workshops with the client.

→ I&C support for the East Bay Municipal Utility District (EBMUD), California, Orinda Water Treatment Plant Disinfection Improvements Project Engineering Services During Construction. The design for this 200-mgd inline facility includes new UV and a chlorine contact basin processes. During construction, Jack was responsible for the review of technical submittals related to instrumentation and control equipment and systems. He also collaborated with I&C Lead to respond to Requests for Information (RFIs) from the contractor.

→ I&C support for the Wastewater Treatment Plan Upgrade for the City of King City, California. Carollo has provided the City with engineering services dating back to the original pond plant construction, with numerous upgrades and expansion projects over the past five decades. Design elements include new operations/administration and maintenance buildings; preliminary treatment; secondary treatment including oxidation ditch bioreactors with anoxic zones, mixed liquor splitter box, secondary clarifiers, a new RAS/WAS pump station and electrical building; tertiary treatment utilizing cloth disc filters and UV disinfection; recycled water distribution facilities; solids storage facilities and a screw press dewatering building; and site improvements including a new 1.3 mile all weather access road, conversion of existing treatment lagoons to percolation basins, rehabilitation of an existing irrigation pump station, and reconfiguration/expansion of solar facilities.

→ Project engineer intern for Helix Electric in Elk Grove, California. While employed by Helix, Jack worked on the Sacramento Regional County Sanitation District, California, EchoWater Tertiary Treatment Facilities Project. Jack examined drawings for discrepancies and submitted requests for design clarifications; prepared material submittals and performed quantity takeoffs with Bluebeam Revu; participated in worksite safety inspections and daily activity reports; and drafted a submittal log for the Joseph Jensen Water Treatment Plant Stage 2 Electrical Upgrades Project based on the project's design specifications.



Education

BS Electrical Engineering, University of California Irvine, 1989

Licenses

Control System Engineer, California

Professional Affiliations

International Society of Automation (ISA)

John Lin, PE

John Lin has more than 30 years of experience in the field of instrumentation and control systems. He has expertise in preparing designs and specifications in instrumentation and control systems, coordinating design and construction activities, and monitoring consultant designs for compliance with engineering standards. John also has skills in Taylor ProWorx Plus, Schneider Electric Control Expert, Modicon Quantum PLC, Unity M580 PLC, and Wonderware InTouch.

Relevant Experience

→ I&C reviewer for the Valencia Water Reclamation Plant Programming Services project for the County Sanitation Districts of Los Angeles, California. The Carollo team provided programming and integration services that included software coordination, SCADA hardware and software integration, PLC programming, SCADA configuration, trending creation, factory and field-testing, startup, training, and warranty period services. Carollo also provided programming services during the construction phase. The services included PLC and SCADA configuration services, various coordination meetings during construction, factory testing, field-testing, start-up services, commissioning, and O&M training.

→ I&C reviewer for the Goleta Water District, California, PDB SCADA Upgrade. Carollo is currently leading the design of this progressive design build project. The project encompasses the water treatment plant, reclaimed water system, booster pump stations, chlorination facilities, reservoirs, and wells. The objective is to unify operations across the District's multiple current and planned facilities with a single, operator-friendly system. The SCADA system includes all new servers, software, networks, fiber optic ring, telemetry, and cybersecurity. Each site will receive new control panels, new control programming, and adequate backup power. Additional upgrades include programming standard, high performance graphics, process improvements, new control room, rounds management, and automated reporting.

→ Instrumentation and control systems for the San Elijo JPA NdN Conversion & CCB Upgrades Final Design. Carollo will evaluate the electrical service needs within the context of current SEWC's electrical service capacity, equipment and configuration. The team will recommend electrical system upgrades and local MCC replacement suitable for the Project. Findings and recommendations will be summarized and incorporated into the Basis of Design Report (BODR).

→ I&C engineer for the North City Pure Water Facility Phase 1 project for the City of San Diego, California. Carollo provided EI&C and programming design services for the new facility. Designed a control system that included complex communication networks with extensive coordination among multiple vendor package control systems and the facility's Emerson Ovation distributed control system (DCS). Designed device level networks to incorporate field equipment, such as flow meters, water quality analyzers, valve actuators, and motor control center devices into the facility control system network. This will provide the owner with advanced diagnostics and performance data for field devices. Developed detailed process control strategies to describe complex individual process and overall plant control sequences for the DCS programmers.

→ Instrumentation and control systems for the El Dorado Irrigation District, California, Wastewater Collection System Radio Path Design. The project involved integration of 69 wastewater remote sites using licensed radio communication links back to the central wastewater SCADA/HMI system.

→ I&C engineer for the Sonoma Water, California SCADA Support Services project. The project included development of P&IDs and specific control descriptions for all water and wastewater facilities operated by Sonoma Water.

→ Instrumentation and control systems for the Comprehensive Energy and Sustainability Upgrades Project, West County Wastewater District, Richmond, California. District is undergoing an energy services

contract to design and construct new solids handling facilities. The facilities include two new digesters, solids thickening, thermal drying, digester gas treatment, cogeneration with a reciprocating engine, heat loop revisions, and a waste gas burner.

→ Instrumentation and controls engineer for the Phase 2 of the Hilo Wastewater Treatment Plant Secondary Process Upgrades and UV Disinfection, County of Hawaii, Hawaii. This project includes influent flow monitoring and sampling, two influent screens and one bypass channel, screenings handling system, two grit removal basins, grit pumping system, two duty and one standby grit washers/classifiers, grit loading system, flow conveyance to the existing sedimentation basins and primary influent splitter structure, two-stage biological/carbon odor control system, electrical/control building, two sludge blending tanks, two fixed-cover anaerobic digesters, demolition of existing facilities, and plant-wide instrumentation and controls (new PLCs and SCADA).

→ Instrumentation and control systems engineer for various wastewater and water treatment plant projects, Santa Ana, California, including the City of San Diego Point Loma Wastewater Treatment Plant Digester Upgrades and the Orange County Sanitation District's Plant 1 PL-36 PLC/HMI Programming Project. Responsibilities included programming wastewater treatment plant control operations using Modicon Quantum PLC. The systems being programmed included DAF, recycle pumps, TWAS pumps, and DAF polymer batching systems. John also programmed PLC I/O simulation software from SS technologies to test PLC programs. Performed point-to-point and functional testing of HMI/PLC programs and prepared design, specifications, P&ID, and cost estimates of instruments and data acquisition systems needed for the construction of wastewater treatment plants. Other tasks included oversight of contractor compliance to specifications, reviewing contractor's shop drawings, developing control strategies for operation of the wastewater treatment plant, and performing field equipment start-up and operator training.

→ Senior engineer for the Orange County Sanitation District, California. Projects included the P1-105 Headworks Rehab at Plant 1, P2-66 Plant 2 Headworks Replacement, P2-92 Sludge Dewatering and Odor Control at Plant 2, J-117B Ocean Outfall System Rehabilitation, P1-36-2 Secondary Treatment Improvement, and P1-76 Trickling Filter Rehabilitation. John's responsibilities on these projects included:

- Assisted in the pre-design phase by reviewing project proposals and consultant's technical memorandums and control philosophy. Also developed scope of work, staffing requirements, preliminary budget.
- Reviewed I/C design submittals, P&ID's, SCADA block diagrams, control strategies, PLC I/O lists, PLC I/O points loading, control panels and electrical schematics. John also attended project meetings and workshops and worked closely with consultants to ensure the design complied with District's Engineering Standards and met the need of operation.
- Assisted with construction by developing PLC/HMI programming according to control strategy, managing other programmer's progress to ensure quality work was completed on schedule, and providing technical advice to help resolve problems with the control strategy. In addition, he attended construction meetings and reviewed submittals for compliance with contract document.
- Reviewed/developed commissioning testing procedures and ensured a seamless transition between the new and existing SCADA system. John also conducted loop checks (ORT – Operational Readiness Test), Functional Acceptance Tests, and operator training.
- Responded to operation requests by adding an MSP restart button on HMI, adding/deleting equipment interlocks, evaluating alarms, and revising programming based on process changes.

Education

Coursework

- Sierra College
- Sacramento City College

Training

- Wonderware Intouch SCADA Part 1
- Wonderware System Platform 2020
- Rockwell Studio 5000
- Rockwell PlantPAx
- Ignition Core Components
- Schneider CitectSCADAGE iFIX, Fundamentals and Advanced

Certifications

Wonderware Intouch Certified Developer

Wonderware Historian Certified Developer

Trihedral VT SCADA Certified Programmer

Ignition Core Certified Developer

Elise N. Moore

Elise Moore is a dedicated and results-driven Project Manager with a diverse background in construction management and supervisory control and data acquisition (SCADA) programming. Over her 18-year career with Carollo, she has demonstrated exceptional skills in overseeing projects, managing resources, and ensuring successful project delivery. Her unique blend of field and technical experience makes her a valuable asset in leading and delivering complex initiatives.

Relevant Experience

→ Lead programmer for the County Sanitation Districts of Los Angeles County, California, Valencia Advanced Water Treatment Facility (AWTF). The $90 million, 6.5-mgd Valencia AWTF utilizes an innovative, all-membrane based process that targets chloride removal from tertiary effluent prior to discharge to the Santa Clara River. Key components of the project included development of drawings and process control strategies for the nanofiltration and microfiltration systems; process control system network design and integration with the existing plant network; factory acceptance testing and integration of two vendor systems; and PLC programming for two fully redundant ControlLogix PLCs and HMI graphics using the Districts' existing programming standards. Project software included FactoryTalk View SE/ME, Plant PAx, and RS Logix Studio Designer.

→ HMI Programmer for the City of Reedley, California, SCADA Master Plan and Wastewater Treatment Plant Expansion Programming. Carollo evaluated these facilities and prepared a SCADA Master Plan that provided the necessary information to design a functional and consolidated control system for the City's various utilities departments. The goal was to develop a control system master plan that would reduce current operating costs by replacing obsolete equipment, improving operational efficiency through utilization of innovative technologies, improving current operations staff efficiency, reducing total chemical use, and reducing total electrical power consumption. The wastewater treatment plant was expanded to include a new SCADA system, which serves as the central consolidation point as well as a foundation for the new city-wide SCADA system project. Carollo programmed the new wastewater treatment plant SCADA system, which uses a Wonderware InTouch HMI and Modicon Quantum PLCs.

→ HMI programmer for the Contra Costa Water District, California, Bollman Water Treatment Plant DCS Replacement Design-Build. The project replaced the plant's obsolete, proprietary Bailey Infi-90 DCS with a modern, open standards-based distributed PC/PLC system.

→ HMI programmer for the City of Oak Harbor, Washington, SCADA Integration and Programming. Elements of the project included development of PLC and SCADA standards in coordination with the client. Responsible for developing SCADA/HMI graphics, operator training, Historian configuration, operations and maintenance manual, and startup and testing activities. Project Manager for the South Placer Municipal Utility District, California, SCADA System Improvements Design. The project involved the design of replacing the existing radio hardware and proprietary Data Flow Systems RTUs and SCADA system with a new industry standard open platform SCADA system comprising of Ignition SCADA, GE Orbit MDS radios, and Flygt MultiSmart pump controllers. In addition to managing the project, Elise also served as the SCADA specialist to make recommendations and facilitate hardware and software selections made during the design.

→ Assistant project manager and project engineer for the North of River Sanitary District, California, SCADA Master Plan. The project involved developing a standard approach to optimize the SCADA system and take advantage of new technologies while identifying ways to minimize the overall cost of ownership, maintenance, and security risks to the project. Project goals included establishing the current condition of the SCADA system's components, identifying

operational requirements and information/control needs, defining communication standards, recommending SCADA system upgrades, and identifying system-wide hardware, software, and communication networks for future expansion of the treatment facility and conveyance systems.

→ Assistant project manager and project engineer for the El Dorado Irrigation District, California, Wastewater Collection System Radio Path Design. The project involved integration of 69 wastewater remote sites using licensed radio communication links back to the central wastewater SCADA/HMI system. Project manager for the Sonoma Water, California SCADA Support Services project. The project included development of P&IDs and specific control descriptions for all water and wastewater facilities operated by Sonoma Water. Elise managed all aspects of the preliminary and final design packages and facilitated review workshops with Sonoma Water.

→ Project manager the City of Turlock, California, SCADA Replacement Projects. This involved a series of projects scheduled to take place over the course of several years to replace the city-wide HSQ system with Trihedral VTScada and Allen-Bradley Control and Compact-Logix PLCs while also improving the City's telemetry network with new Ethernet-based radios and adding the use of cellular for redundancy. Responsible for overseeing the concurrent project schedules, coordinating with vendors and subconsultants, and facilitating the cutover from HSQ to the new non-proprietary SCADA system. In addition, served as the lead programmer on the projects and oversaw the HMI and PLC programming.

→ Programming quality manager for the Zone 7 Water Agency, California, Stoneridge PFAS Treatment Facility. This project involved programming of the PLC to support the PFAS treatment system and pump station.

→ Lead programmer for the City of Palm Springs, California, Palm Springs/Veolia Wastewater Treatment Plant Upgrade. Carollo provided design and engineering services during construction for a design-build project managed by Veolia Water for the City of Palm Springs. The project involved construction of several new replacement facilities at the wastewater treatment plant, including influent sewer, headworks, septage receiving station, influent pump station, primary clarifiers, scum pump station, primary sludge pump station, primary sludge degritting, gravity thickener cover, foul air treatment facility, and new electrical building. Responsible for converting the plant SCADA application from RSView32 to FactoryTalk View SE and adding new HMI screens for the headworks upgrades. Also provided operator training, startup and testing, and operations and maintenance manual/standards development.

→ Lead HMI programmer for the City of Aurora, Colorado, Wemlinger Water Purification Facility (WPF) PLC Upgrades. The project included design, procurement, and construction services to replace and consolidate the WPF's existing PLCs with new Allen Bradley ControlLogix PLCs. Responsible for managing the tag database and creating and implementing new SCADA graphics for the City using a hybrid approach to the high-performance HMI standard

→ Project manager and lead programmer for the City of Modesto, California, Ripon Power Generation Plant iFix Upgrade. The project involved replacing three redundant server/client nodes with a single redundant pair, upgrading from Fix32 to iFix 5.8, replacing a legacy Woodward input/output server with GE's IGS server, and migrating historical data. The upgrade was done in tandem with the City's existing SCADA system with zero interruption to the plant's operation. Carollo has maintained an ongoing support services contract since completing the upgrades in 2017.

→ SCADA software systems expert for the City of Manteca, California, SCADA Master Plan. Identified and planned improvements for the SCADA system at the Water Quality Control Facility, including hardware/software systems and application programming.

Education

AS Computer Drafting and Design, ITT Technical Institute, Colorado, 2008

Study of Fire Science, Fort Morgan Community College

Bryan P. Roepken

Bryan Roepken is a Senior BIM Designer as well as Carollo's EPIC® CAD Service Manager with 16 years of drafting experience working for data infrastructure and engineering firms in the development of drawings, schematics, and typical details. He is proficient in the use of AutoCAD, AutoCAD P&ID, Revit, Microstation, Bentley AECOsim Building Designer, AGi32 Lighting Analysis, Excel, and Access. He has assisted in the creation of company design standards and is well versed in adapting to client standards to ensure consistent completion of design work. He also manages the EPIC® CAD staff for the company, which includes more than 25 employees. Bryan oversees their daily activities helping to troubleshoot activates on several software programs. He is responsible for updates to the electrical and instrumentation CAD standards used within the company, as well as scheduling all of the EI&C CAD projects to the CAD staff and meeting deliverables in a timely manner.

Relevant Experience

→ CAD for the South Orange County Wastewater Authority, California, JB Latham Facility Plan Improvements – Phase 2 Biosolids Upgrades. Project included upgrading existing DAF thickeners and improvements to the existing digesters and energy recovery building. Electrical upgrades included improvements to the existing motor control centers, adding new motor control centers, and new distribution systems to accommodate process upgrade needs.

→ CAD for the Goleta Water District, California, PDB SCADA Upgrade. Carollo is currently leading the design of this progressive design build project. The District's current SCADA system monitors and controls the operation of three different systems. The objective is to unify operations across the District's multiple current and planned facilities with a single, operator-friendly system. The SCADA system includes all new servers, software, networks, fiber optic ring, telemetry, and cybersecurity. Each site will receive new control panels, new control programming, and adequate backup power. Additional upgrades include programming standard, high performance graphics, process improvements, new control room, rounds management, and automated reporting.

→ CAD for the Aquifer Storage and Recovery (ASR) Well and Pump Station project for the City of Roseville, California. Carollo is providing design and CM of six new ASR wells injecting treated water from Folsom Lake. Key components at each site include construction of new service entrance switchboards, motor control centers, variable frequency drives, instrumentation and controls, and PLC cabinet. The sites also included portable generator connections with manual transfer switches.

→ CAD Lead performing discipline oversight for the City of Oceanside's Major Plant Automation Upgrades project, Oceanside, California.

→ CAD Lead responsible for discipline oversight and applying specific standards to workflow for the Valencia Advanced Wastewater Treatment Facility in California. This project also consisted of designing LISP routines to convert Carollo standards into client standards.

→ CAD Lead for the City of San Mateo's PCS Upgrade project, California. Responsible for delivering design and instrumentation drawings. This project consisted of working directly with the client to produce the project drawings.

→ Assisted with the I&C design of the Salt River Fields Water Production Facility, Phoenix, Arizona. Tasks included developing P&IDs along with other I&C drawings. Also assisted in the developing of specifications for the project.

→ Developed and constructed P&IDs to client standards using AutoCAD P&ID for the Orange County Sanitation District in California.

→ CAD for the Cogeneration Equipment Replacement project (PAR 1395) for the Metro Water Recovery, Colorado. Carollo

was selected to be the design engineer for this project. The project replaces aged cogeneration infrastructure with biogas processing equipment to remove hydrogen sulfide, separate methane from other constituents, and compress the biogas into Xcel Energy's natural gas pipeline. The scope involves technology evaluations for both hydrogen sulfide removal and biogas upgrading equipment, construction sequencing to minimize impacts to the operating cogeneration facility, as well as significant hot water system modifications, EI&C upgrades, and integration work.

→ CAD for the Dry Creek Wastewater Treatment Plant Motor Control Center and Switchgear Replacements for the City of Roseville, California. This design-build project includes replacement of five motor control centers and one switchboard at the City's Dry Creek WWTP. Carollo is a subconsultant to the lead design-builder, Auburn Constructors, and will provide design and engineering services during construction.

→ CAD for the Sonoma Water, California SCADA Support Services project. The project included development of P&IDs and specific control descriptions for all water and wastewater facilities operated by Sonoma Water.

→ CAD for the East Canyon Water Reclamation Facility Expansion Design Phase 1 for Snyderville Basin Water Reclamation District, Utah. Carollo provided planning and design for the expansion of the East Canyon Water Reclamation Facility. The project included a new bioreactor for biological nitrogen removal and chemical phosphorus removal facilities, including flash mix, two-stage flocculation and cloth disk filters, followed by UV disinfection. This upgrade will continue to help the Facility meet an effluent TP concentration of less than 0.10 mg/L but at higher flow capacities.

→ CAD for the Marsh Landing Electrical WRF Upgrade Design for St. Johns County, Florida. This project includes a new air conditioned MCC building, new electrical equipment, and new conduits and conductors. The existing primary transformer is expected to remain in service.

→ CAD for the Wemlinger Water Purification Facility Electrical and Communications Improvements for the City of Aurora, Colorado. Carollo was selected for this design-bid-build project, which included $21.3 million of improvements to the existing 80-mgd Wemlinger WPF. A significant element of the project involved modifying structures to accommodate a new generator. This project included replacement of existing 12.47 kV service entrance gear with new 12.47 kV service entrance automatic transfer switchgear with standby diesel generators to provide back-up power to the entire facility. The Carollo team developed layouts and sequences to help transfer loads between the existing service entrance switchgear and the new service entrance switchgear, avoiding extended service interruptions and reliance on temporary diesel generators for extended periods of time.

→ CAD for the Water Treatment Plan Electrical, Switchgear, and Pump Motor Upgrade project for Bay County Utility Servies, Florida. The purpose of this project is to upgrade the existing electrical system, upgrade several existing transfer and high service pump motor sizes taking advantage of the fact that some of the existing gear is not being utilized to its full rating at present. Current overload conditions will be addressed by upgrading the incoming service from the power utility and redistributing selected loads across existing gear. Additionally, with the existing Transfer Pump upgrades, the existing transfer pump electrical building is expected to be expanded.

→ Prepared P&ID and electrical drawings using MicroStation and AGi32 for the City of Fresno Southeast Surface Water Treatment Facility, California. This project consisted of delivering lighting design for the entire facility and obtaining cost estimates from vendors as well as designing the lighting based on specific manufacturer data.

CAD for the 2023 Motor Control Center Replacements for South Platte Renew, Colorado. This project involves replacing four MCCs (two in the DAFT and 2 in the digester). Carollo is also conducting an electrical system study for the areas associated with the project.

EVALUATION COMMITTEE SCORE

Proposer: Carollo

Overall Qualifications and Experience of Firm: (20 Points)		Notes:	
Record of like projects: (10 points)		Notes:	
Realistic level of effort: (20 points)		Notes:	
Ability to Deliver Timely: (10 points)		Notes:	
Responsibility & Responsiveness:	Yes	Notes:	
Cost Competitive: (20 Points)		Notes:	
Total: (80 possible)		Notes:	

Other Notes:

Committee Member:

Member Agency Staff:

SOCWA RTP MCC and Generator Upgrades Proposal - Fee Estimate

Fee Estimate	VP Principal in Charge Miller $330	A Project Manager Mlakar $290	SA Technical Advisor Thunhorst $305	SA QA/QC Yao $305	A Electrical Gustafson $290	A I/C Mlakar $290	A Structural DuPuis $290	A Cost Estimating Portner $290	AEII E&IC Support $180	D CAD $155	Total Hours	Labor	Expenses	Total
TASK 1 - Project Management and Progress Meetings														
1.1 Project Management		90									**90**	$26,100		$26,100
1.2 Kickoff Meetings (In-person)	3	6			6		6				**21**	$6,210	$500	$6,710
1.3 Meetings (Assume 17 virtual progress meetings)		34			34						**68**	$19,720		$19,720
SUBTOTAL TASK 1	**3**	**130**	**0**	**0**	**40**	**0**	**6**	**0**	**0**	**0**	**179**	**$52,030**	**$500**	**$52,530**
TASK 2 - Data Collection and Document Review														
2.1 Record Drawing Review		12			20		12		40		**84**	$19,960		$19,960
2.2 Site Investigations (Assume 3 trips)		24			24				24		**72**	$18,240	$2,000	$20,240
SUBTOTAL TASK 2	**0**	**36**	**0**	**0**	**44**	**0**	**12**	**0**	**64**	**0**	**156**	**$38,200**	**$2,000**	**$40,200**
TASK 3 - Preliminary Design														
3.1 Preliminary Design Report	2	12	2	2	40		12				**70**	$20,440		$20,440
3.2 Preliminary Design Workshops and Preparation (Qty: 3)		24			24		12				**60**	$17,400		$17,400
SUBTOTAL TASK 3	**2**	**36**	**2**	**2**	**64**	**0**	**24**	**0**	**0**	**0**	**130**	**$37,840**	**$0**	**$37,840**
TASK 4 - 30% Design														
4.1 30% Design Drawings & List of Specifications		4		6	84	15		8	115	16	**248**	$57,200		$57,200
4.2 Preliminary MOPO Plan		4	8	2	12						**26**	$7,690		$7,690
SUBTOTAL TASK 4	**0**	**8**	**8**	**8**	**96**	**15**	**0**	**8**	**115**	**16**	**274**	**$64,890**	**$0**	**$64,890**
TASK 5 - 75% Design														
5.1 75% Design Drawings		20		20	602	15		6	699	120	**1482**	$336,990		$336,990
5.2 75% Technical Specifications		8		4	20	35			55		**122**	$29,390		$29,390
5.3 Construction Sequencing Plan		8	4	2	20		8				**42**	$12,270		$12,270
5.4 75% Design Review Workshop (In-Person)		8			8						**16**	$4,640	$500	$5,140
SUBTOTAL TASK 5	**0**	**44**	**4**	**26**	**650**	**50**	**8**	**6**	**754**	**120**	**1662**	**$383,290**	**$500**	**$383,790**
TASK 6 - 100% Design														
6.1 100% Design Drawings				12	238	7		6	320	20	**603**	$137,150		$137,150
6.2 100% Technical Specifications				2	7	15			22		**46**	$10,950		$10,950
SUBTOTAL TASK 6	**0**	**0**	**0**	**14**	**245**	**22**	**0**	**6**	**342**	**20**	**649**	**$148,100**	**$0**	**$148,100**
TASK 7 - Bid Set														
7.1 Bid Ready Drawings					60	6		6	80	12	**164**	$37,140		$37,140
7.2 Bid Ready Specifications					12	12			12		**36**	$9,120		$9,120
SUBTOTAL TASK 7	**0**	**0**	**0**	**0**	**72**	**18**	**0**	**6**	**92**	**12**	**200**	**$46,260**	**$0**	**$46,260**
TASK 8 - Front End Specifications														
8.1 Front End Specification Preparation	2	20									**22**	$6,460		$6,460
8.2 Spec Coordination Meeting (Virtual)		3			3						**6**	$1,740		$1,740
SUBTOTAL TASK 8	**2**	**23**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**28**	**$8,200**	**$0**	**$8,200**
TASK 9 - Construction Sequencing and Implementation Plan														
9.1 Construction Sequencing and Implementation Plan		8	4		20		8				**40**	$11,660		$11,660
SUBTOTAL TASK 9	**0**	**8**	**4**	**0**	**20**	**0**	**8**	**0**	**0**	**0**	**40**	**$11,660**	**$0**	**$11,660**
GRAND TOTAL TASKS 1-9	**7**	**285**	**18**	**50**	**1234**	**105**	**58**	**26**	**1367**	**168**	**3318**	**$790,470**	**$3,000**	**$793,470**

Hazen and Sawyer
7700 Irvine Center Drive, Suite 200
Irvine, CA 92618 • 949.557.8549

May 30, 2024

South Orange County Wastewater Authority
Attention: Jeanette Cotinola, Procurement/Contract Manager
Administration Building
34156 Del Obispo Street
Dana Point, CA 92629

Re: Regional Treatment Plant MCCs and Generator Upgrades

Dear Ms. Cotinola:

Hazen and Sawyer (Hazen) welcomes the opportunity to help SOCWA by providing engineering services to upgrade existing electrical equipment at the Regional Treatment Plant. It is noted that several MCC's within the Energy Building are from the original plant construction, 1982, have exceeded their rated useful life, and are no longer supported by the manufacturer, per the Condition Assessment prepared by Lee and Ro. Hazen understands the primary purpose of the Regional Treatment Plant MCC and Generator Upgrade Project is to:

- Improve reliability of the plant electrical distribution system
- Provide standby power capability
- Address inadequate equipment short circuit ratings
- Maintain plant operations during construction

Our proposal has been organized to provide the requested information and demonstrate the benefits our team offers to SOCWA in executing the requested actions.

A Proven Team with a Local, Committed, and Accessible Project Manager Who Produces Results. Our Team, led by Alan Mlakar, consists of the same core members who recently delivered on similar electrical improvement projects for Eastern Municipal Water District, Las Gallinas Valley Sanitation District, and past projects for SOCWA.

Integration of Operations & Maintenance. Hazen recognizes that the ultimate success of any engineered solution rests with the individuals who are responsible for the day-to-day operations and maintenance. That's why we inherently consider O&M concerns from the outset of a project. Our approach recognizes the need to work closely with engineering staff, while listening to and delivering on the needs of O&M staff.

A Team Familiar with the Regional Treatment Plant (RTP). Our Team is familiar with the MCC's located within the Energy Building through our experience with the RTP electrical system documentation project.

The local Hazen Team offers proven electrical engineering and design expertise, exceptional service, and attention to safety and operation that makes Hazen an outstanding choice for this assignment. We confirm that Hazen acknowledges the provided addenda in this RFP, can meet the required insurance levels, agree to the previously negotiated contract language, and that Cindy Miller has authority to negotiate and contractually bind Hazen. If you have any questions about this proposal, please do not hesitate to contact Alan Mlakar at amlakar@hazenandsawyer.com or 760-805-7989.

Sincerely,

Alan Mlakar, PE
Project Manager

Cindy Miller, PE
Vice President

1008-608

Section No. 1

Project Approach and Work Plan

Project Understanding

The Regional Treatment Plant (RTP) is a conventional activated sludge treatment plant with a secondary treatment design for 12 MGD that was constructed in 1982. Four (4) of five (5) low voltage motor control centers (MCC's) installed within the Energy Building were part of the original plant construction. Hazen understands that MCC-A, C, G, and H have exceeded their rated useful lives and will be replaced as part of the project to improve overall electrical system reliability and personnel safety. A portable generator connection will be installed at MCC-30310 to provide standby power to the existing blower system. Hazen will also evaluate the feasibility of installing a portable generator connection at each of the new MCC's to further improve plant reliability. Hazen has assembled a strong technical team to work with SOCWA's engineering and operations staff to provide an efficient, fully operational facility that will minimize safety risks and plant distruptions during construction.

Key Objectives

- Replacing Aging Equipment to Improve Reliability
- Integrating with Existing Controls
- Maintaining Plant Operations During Constructions
- Provide Standby Power Capability
- Address Inadequate Equipment Short Circuit Ratings

Project Approach

Replacing Aging and Obsolete Equipment

The primary goal of this project is to replace aging electrical infrastructure, maintain process controls, and improve plant reliability and personnel safety. Our experience has shown that electrical failures often result in significant disruptions to the treatment process. Hazen will work with SOCWA to specify major electrical equipment from reputable manufacturers with well-established support networks. Where possible, Hazen will design electrical equipment with space and capacity for potential future expansion.

As part of the project, Hazen will evaluate the feasibility to install a portable generator connection at each new MCC to provide SOCWA the ability to provide as-needed standby power to the plant loads during power outage and scheduled maintenance. Hazen will consider any space constraints as identified in the preliminary design phase and provide possible implementation solutions.

A majority of the existing MCC feeders were installed during the original plant construction. When the MCC's are being replaced, it is prudent to also replace the aging feeder conductors to maximize electrical system reliability. When performing feeder replacement on this project, Hazen will evaluate the replacement conductors based on new equipment size and existing load requirements. Our experience is that when new conductors are installed using existing conduits, it may be possible that the existing conduits become overfilled due to new conductors being larger in diameter or the existing conductors or conduits were undersized in the original design. Hazen will evaluate conductor and conduit sizing to conform with NEC requirements.

Although Hazen does not anticipate any dimensional differences between the new MCC's and the replacement MCC's, we will evaluate any working space deficiencies of existing equipment being replaced and provide appropriate remediation recommendations. Hazen will also evaluate the alternative to install the new MCC at a different location if it provides constructability benefits.

Integration with Existing Controls

One of the existing MCC's (MCC-A) has a PLC cabinet installed as part of the equipment lineup. The intent is to replace the PLC cabinet and its internal components together with the MCC. A new PLC system will be provided to seamlessly integrate with the new MCC and to maintain existing process control functionality.

Integrating new motor control into an existing control system can be a challenge when replacing existing MCC's. To ensure the new MCC's will seamlessly integrate with existing hardwired and software control logic and permissives, Hazen will thoroughly examine available record drawings and O&M documents and work closely with SOCWA staff to leverage institutional knowledge to fully understand the existing process control system.

Each of the existing MCC's to be replaced is fitted with a relay-based load shed system, although the system is currently non-functional per SOCWA staff's feedback. Hazen will review the system's current configuration, discuss the desired function and operation sequences with SOCWA staff, and reinstate the system in the new MCC's, as required.

Maintaining Plant Operation During Construction

Maintenance of Plant Operation (MOPO) will need to be carefully and thoroughly planned, since many of the existing MCC's being replaced are providing power to critical process areas of the plant. It is essential to minimize plant outages during the replacement of the MCC's. Hazen will work closely with SOCWA staff to understand the acceptable plant outage durations at each impacted process area and evaluate the requirement for temporary power during construction to maximize plant operation uptime.

Provide Standby Power Capability

The existing treatment plant currently has limited standby power capability, with only the five (5) Interstage Pumps and associated miscellaneous loads currently being backed up by a 250kW standby generator. Hazen will perform a combination of tasks to provide meaningful upgrades to the existing facility and recommend future standby system improvement options.

During the preliminary design of this project, Hazen will provide assessment of the standby load requirements, evaluate multiple standby generation options (centralized vs. localized; permanent vs. portable), and provide suitable recommendations for SOCWA to consider and implement in future projects. As part of this project, Hazen will provide a suitably sized portable generator connection to provide as-needed standby power to the existing blower system and at each replacement MCC provided there are no technical or physical space limitations.

Work Plan

Task 1 – Project Management and Progress Meetings

Hazen will coordinate project design work, attend meetings and design review workshops, prepare agenda, action item list, and decision log for each meeting, manage quality assurance and quality control (QA/QC), prepare deliverables, and provide monthly invoices as necessary to effectively manage this project. The project kickoff meeting will be conducted in person at the RTP, and progress meetings will be limited to fourteen (14) virtual meetings for the duration of the project.

Task 2 – Data Collection and Document Review

Hazen will work with SOCWA staff to collect the most current relevant project information available for the existing equipment. Hazen had previously helped prepare a set of single line diagrams with an overview of the plant wide power distribution system at the RTP. We believe that proper preparation before making a site visit can reduce time in the field and make best use of plant staff's time.

After organizing and reviewing the available information, our team will perform a site visit to verify existing conditions and major equipment nameplate ratings to compare the installed equipment with the record drawings.
Relevant project information to be provided by SOCWA will include, but is not limited to:

- Record drawings
- Control schematic diagrams for MCC's to be replaced
- Operations & Maintenance (O&M) Manual
- I/O list for MCC signals connecting to RTU/PLC
- Previous studies (including the Arc Flash Risk Assessment Study prepared by RJS Engineering)
- Previous preliminary design prepared by Lee & Ro

Task 3 – Preliminary Design

Hazen will prepare a Preliminary Design Report (PDR) to capture the project design approach and the following three (3) critical components of the project:

1. Evaluate MCC replacement-in-kind vs. new location and address constructability concerns.
2. Investigate plant standby power improvement options.
3. MCC sizing requirements to accommodate existing and future loads.

Hazen will conduct three (3) separate workshops to address each of these components, and the resulting design decisions will be captured in the final PDR. Viability of existing structural equipment pads will be evaluatated during preliminary design.

Task 4 – 30% Design

Based on the discussions and decisions made after the completion of the preliminary design, Hazen will prepare the 30% design package to include plans, list of applicable specifications, preliminary MOPO plan, and a Class 4 cost estimate. It is assumed existing structural equipment pads will be re-used. No effort for structural is included in detailed design. It is assumed a portable generator connection installed at each new MCC and at MCC-30310 will be the basis of the standby power design.

Task 5 – 75% Design

Hazen will prepare the 75% design package incorporating SOCWA comments from the 30% design. This submittal package will include plans, specifications, construction sequencing plan, and a Class 3 cost estimate.
Hazen will conduct a design review workshop to present the 75% design and constructability plan.

Task 6 – 100% Design

Hazen will prepare the 100% submittal package incorporating SOCWA comments from the 75% design and the design review workshop. This submittal package will include final plans, specifications, and a Class 2 cost estimate.

Task 7 – Bid Set

Hazen will incorporate SOCWA comments from the 100% design and prepare the bid set that will include final plans and specifications. The Class 2 cost estimate will also be revised to match the final design set.

Task 8 – Front End Specifications

Hazen will prepare applicable Division 1 specifications to supplement other standard specifications provided by SOCWA. Hazen will conduct a meeting with SOCWA to discuss coordination of specifications sections.

Task 9 – Construction Sequencing and Implementation Plan

Hazen will coordinate with SOCWA to prepare a detailed construction sequencing and implementation plan to demonstrate the methods during construction to maintain the plant in operation. The plan will address any temporary and standby power requirements during construction, and clearly define the construction sequencing requirements and equipment downtime constraints.

Section No. 2

Relevant Firm Experience

J.B. Latham Treatment Plant MCC-M Replacement

South Orange County Wastewater Authority (SOCWA)

Hazen conducted a site-wide electrical system evaluation which involved Preliminary Design of MCC-M and MCC-G as well as Standby Generator No. 1 Replacement. The project also included detailed design of replacement of MCC-M which feeds the non-potable water pump station and MCC-G, which feeds the Scum Pump station. Both motor control centers had exceeded their rated useful life and were located in corrosive atmospheres. A new motor control center, located in a climate-controlled electrical room, was provided to provide power to the existing facilities. This project also involved replacement of Standby Generator No. 1 and a portable generator connection enclosure connected at the top-end of the Plant 1 electrical distribution.

Date Initiated	Date Completed	Common Team Members	Reference Name	Reference Contact
December 2019	Ongoing (Bid Set Submitted)	Alan Mlakar Chris Thunhorst Jack Yao Sean Dupuis	Roni Young Grant, PMP Associate Engineer	(949)234-5410 rgrant@socwa.com

Moreno Valley RWRF - SH MCC Replacement

Eastern Municipal Water District (EMWD)

Several motor control centers in Plant 1 at EMWD's MVRWRF had reached the end of their useful life and required replacement in order to ensure reliability of the plant. Hazen designed the replacement of two motor control centers as well as one new 480V distribution panel.

Date Initiated	Date Completed	Common Team Members	Reference Name	Reference Contact
March 2019	June 2022	Alan Mlakar Chris Thunhorst	Abdiel Picazo Jr. Sr. Civil Engineer	(951)928-3777 ext.4567 picazoa@emwd.org

Digester Room MCC-2 Replacement

Las Gallinas Valley Sanitation District (LGVSD)

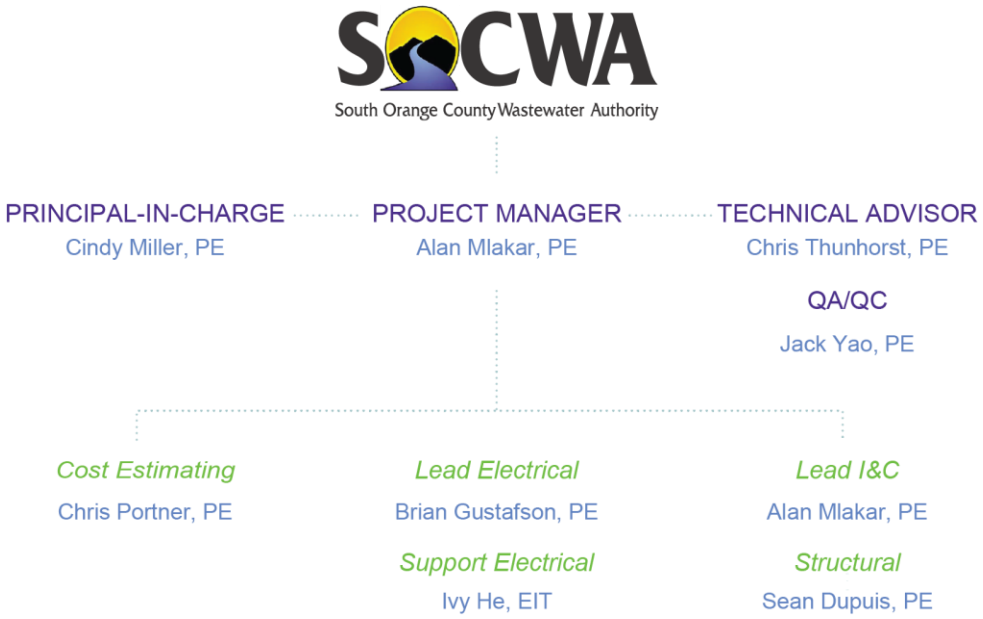
The scope of the project included replacing the 480V MCC-2 and relocating from the existing classified digester control room to an unclassified shop building. Power monitoring equipment and remote-control capabilities were also added to the new MCC. The existing digester control room was retrofitted with combustible gas detection system. All electrical equipment and installations were replaced suitable for a Class I Division 2 environment.

Date Initiated	Date Completed	Common Team Members	Reference Name	Reference Contact
April 2021	In Construction	Jack Yao Alan Mlakar	Irene Huang Associate Engineer	(415)526-1529 ihuang@lgvsd.org

Section No. 3

Project Team

To ensure the optimal outcome for this project, we have assembled a team of technical experts who have been selected especially for skills and experience that relate directly to the needs and requirements of this project.



Cindy Miller, PE

Principal-In-Charge

10% Availability

Ms. Miller serves as Hazen and Sawyer's Irvine Office Manager. She is an experienced Principal in Charge with a long resume of leading the most challenging projects to successful completion. This includes extensive experience in the planning, design and construction of water supply, treatment, storage and conveyance facilities. She has experience with different project delivery methods including design-bid-build, design-build and design-build-operate-finance.

Alan Mlakar, PE

Project Manager and Lead I&C

30% Availability

Mr. Mlakar has over 14 year in the Water/Wastewater industry specializing in electrical and instrumentation design with roles as project manager, project engineer, and lead E&IC engineer. Alan served as the Project Engineer and Lead Electrical for the J.B. Latham Treatment Plant MCC-M Replacement Project. This includes motor control center and programmable logic control (PLC) replacements and upgrades.In addition, he has extensive knowledge of electrical distribution systems and instrumentation and control systems related to water, wastewater and power projects.

Brian Gustafson, PE

Lead Electrical

30% Availability

Mr. Gustafson serves as Hazen and Sawyer's Los Angeles Office Electrical Lead. He has 20 years of experience in the field of electrical engineering and more recently became focused on projects in the water industry. He has experience working on all project phases from performing initial studies all the way through construction support and commissioning. Throughout his work experience he has gained a wide range of expertise in both power distribution, controls, and communication. He possesses knowledge of industry standards including NEC and IEEE.

Chris Thunhorst, PE

Technical Advisor

10% Availability

Mr. Thunhorst has over 18 years of experience in electrical engineering for building systems, water and wastewater treatment facilities, and pumping stations associated with water distribution and wastewater collection systems. Chris served as the Project Manager for the J.B. Latham Treatment Plant MCC-M Replacemet project, Regional Treatment Plant (RTP) Site Lighting Study, RTP Power Distribution Documentation Project and Lead Electrical for the Coastal Treatment Plant Miscellaneous Improvements Project for SOCWA. His experience includes design of medium and low voltage power distribution systems that include switchgear, motor control centers, panel boards, motor soft starters, VFDs, and UPS systems.

Jack Yao, PE

Quality Assurance/Quality Control

10% Availability

Jack is a Senior Associate in the Electrical Department located at the Irvine, CA office, currently serving as the Electrical and Instrumentation/Controls Discipline Group Leader for the West Region overseeing all E&I design projects. He has over 19 years of electrical (industrial power) engineering and disciplined leadership experience and has successfully lead dozens of design projects in Water & Wastewater industry and Oil & Gas industry. He is experienced in MV & LV power distribution system design and optimization, hazardous area classification, motor & generator applications, aboveground and underground installation design, grounding system, lighting design, power system automation, and etc.

Ivy He, EIT

Support Electrical

50% Availability

Ms. He serves as Hazen and Sawyer's Los Angeles Office, Assistant Engineer II. She has a combined total of 6 years' experience in electrical design for healthcare projects and the water/wastewater industry. She has worked in collaborative settings to provide drawing sets and design through all project phases and construction support for Electrical and Instrumentation. She has gained a wide range of experience in power distribution design, lighting design, and knowledge of industry and city standards including Title24 and NEC.

Sean Dupuis, PE

Structural

10% Availability

Mr. DuPuis is a civil engineer with over 14 years of expertise in structural assessments, analysis, design, and construction of facilities for municipal, federal, and private clients. Leads structural discipline and multi-discipline engineering and drafting project teams in development of construction documents including reports, calculations, drawings, and specifications. Performs technical structural and constructability reviews for water and wastewater design projects and provides services during construction including review of shop drawings and product data, answering requests for information, structural observation, and quality control management.

Chris Portner, PE, CEP

Cost Estimator

10% Availability

Mr. Portner is a certified cost estimator and currently responsible for all of Hazen's cost estimating in California. He has extensive experience in construction management and providing cost estimations for numerous water and wastewater design and planning projects including providing On Call Cost Estimating Services for SOCWA.

Drawing List

Motor Control Center Replacement	
G-01	Cover Sheet
G-02	Sheet Index and Notes
E-01	Electrical Legend and Symbols
E-02	Electrical General Notes and Abbreviations
E-03	Overall Electrical Site Plan
E-04	Partial Electrical Site Plan - 1
E-05	Partial Electrical Site Plan - 2
E-06	Duct Bank Schedule - 1
E-07	Duct Bank Schedule - 2
E-08	Energy Building Electrical Room Plan (Demo)
E-09	Energy Building Electrical Room Detail (Demo) - 1
E-10	Energy Building Electrical Room Detail (Demo) - 2
E-11	Energy Building Electrical Room Plan (Proposed)
E-12	Energy Building Electrical Room Detail (Proposed) - 1
E-13	Energy Building Electrical Room Detail (Proposed) - 2
E-14	Energy Building Power Plan - 1
E-15	Energy Building Power Plan - 2
E-16	Energy Building Power Plan - 3
E-17	Energy Building Power Plan - 4
E-18	Energy Building Power Plan - 5
E-19	Energy Building Power Plan - 6
E-20	Energy Building Power Plan - 7
E-21	Energy Building Power Plan - 8
E-22	Aeration Basin Power Plan - 1
E-23	Aeration Basin Power Plan - 2
E-24	Headworks Power Plan
E-25	Primary Gallery Power Plan - 1
E-26	Primary Gallery Power Plan - 2
E-27	Aeration Blower Building Electrical Plan
E-28	SSG-1 Single Line Diagram (Demo)
E-29	SSG-1 Single Line Diagram (Proposed)
E-30	MCC-A Single Line Diagram (Demo) - 1
E-31	MCC-A Single Line Diagram and Elevation (Proposed) - 1
E-32	MCC-A Single Line Diagram (Demo) – 2
E-34	MCC-C Single Line Diagram (Demo) - 1
E-35	MCC-C Single Line Diagram and Elevation (Proposed) - 1
E-36	MCC-C Single Line Diagram (Demo) - 2

Motor Control Center Replacement (Continued)	
E-37	MCC-C Single Line Diagram and Elevation (Proposed) - 2
E-38	MCC-G Single Line Diagram (Demo)
E-39	MCC-G Single Line Diagram and Elevation (Proposed)
E-42	MCC-30310 Single Line Diagram (Proposed)
E-43	MCC-A Control One Line Diagram
E-44	MCC-C Control One Line Diagram
E-45	MCC-G Control One Line Diagram
E-46	MCC-H Control One Line Diagram
E-47	Control Schematic Diagram - 1
E-48	Control Schematic Diagram - 2
E-49	Control Schematic Diagram - 3
E-50	Control Schematic Diagram - 4
E-61	Conduit and Wire Schedule - 3
E-62	Conduit and Wire Schedule - 4
E-63	Conduit and Wire Schedule - 5
E-64	Conduit and Wire Schedule - 6
E-65	Conduit and Wire Schedule - 7
E-66	Conduit and Wire Schedule - 8
E-67	Conduit and Wire Schedule - 9
E-68	Conduit and Wire Schedule - 10
E-69	Electrical Photos - 1
E-70	Electrical Photos - 2
E-71	Electrical Photos - 3
E-72	Electrical Photos - 4
E-73	Electrical Photos - 5
E-74	Electrical Photos - 6
E-75	Electrical Photos - 7
E-76	Electrical Installation Details - 1
E-77	Electrical Installation Details - 2
E-78	Electrical Installation Details - 3
I-1	Legend and Symbols
I-2	Network Architecture Drawing (Partial)
I-3	P&ID - Power Monitoring
Total Number of Sheets = 83	

Assumptions

1. Structural detailed design is excluded. MCC's are assumed to be replacement-in-kind utilizing the existing concrete pad. If a new concrete pad is required or any MCC is to be relocated to a new location, Structural drawings will need to be added.
2. Existing conduits are assumed to be in good condition and will be reused to install the new conductors from the new MCC to existing loads. If conduit replacement is required due to poor condition, as determined by visual assessment, or due to conduit being undersized, the impact will be assessed case-by case.
3. Standby generation capacity study was last completed in 2023 and is excluded from this project. Implementation of portable generator hookups at the new MCC's will be evaluated and implemented if viable.
4. Record drawing CAD files for the process areas that the replacement MCC's are feeding are assumed to be unavailable. Hazen will develop these CAD files based on record drawings to the level required for this project.
5. Existing I/O's from the replacement MCC's to the corresponding PLC will be replicated and no other I/O's will be included.
6. SOCWA will provide I/O list for the associated PLC that the MCC's are connected to.

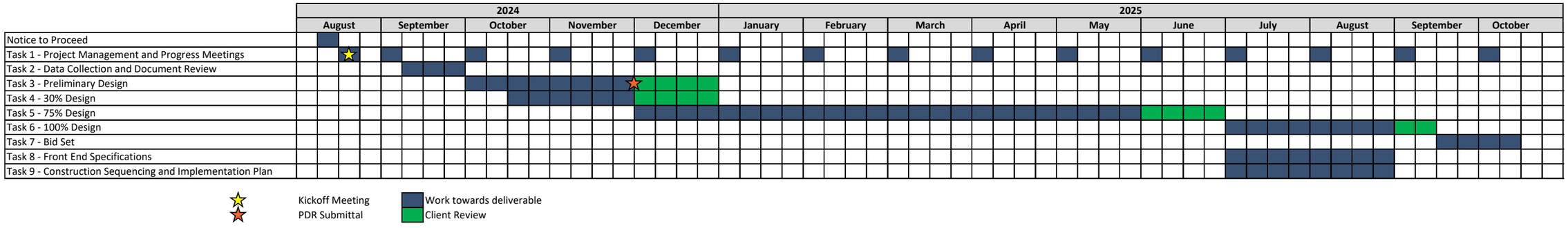
Table of Effort

TASK	VP Principal in Charge Miller	A Project Manager Mlakar	SA Technical Advisor Thunhorst	SA QA/QC Yao	A Electrical Gustafson	A I/C Mlakar	A Structural DuPuis	A Cost Estimating Portner	AEII E&IC Support He	D CAD	Total Hours
TASK 1 - Project Management and Progress Meetings											
1.1 Project Management		90									90
1.2 Kickoff Meetings (In-person)	3	6			6		6				21
1.3 Meetings (Assume 17 virtual progress meetings)		34			34						68
SUBTOTAL TASK 1	3	130	0	0	40	0	6	0	0	0	179
TASK 2 - Data Collection and Document Review											
2.1 Record Drawing Review		12			20		12		40		84
2.2 Site Investigations (Assume 3 trips)		24			24				24		72
SUBTOTAL TASK 2	0	36	0	0	44	0	12	0	64	0	156
TASK 3 - Preliminary Design											
3.1 Preliminary Design Report	2	12	2	2	40		12				70
3.2 Preliminary Design Workshops and Preparation (Qty: 3)		24			24		12				60
SUBTOTAL TASK 3	2	36	2	2	64	0	24	0	0	0	130
TASK 4 - 30% Design											
4.1 30% Design Drawings & List of Specifications		4		6	84	15		8	115	16	248
4.2 Preliminary MOPO Plan		4	8	2	12						26
SUBTOTAL TASK 4	0	8	8	8	96	15	0	8	115	16	274
TASK 5 - 75% Design											
5.1 75% Design Drawings		20		20	602	15		6	699	120	1482
5.2 75% Technical Specifications		8		4	20	35			55		122
5.3 Construction Sequencing Plan		8	4	2	20		8				42
5.4 75% Design Review Workshop (In-Person)		8			8						16
SUBTOTAL TASK 5	0	44	4	26	650	50	8	6	754	120	1662
TASK 6 - 100% Design											
6.1 100% Design Drawings				12	238	7		6	320	20	603
6.2 100% Technical Specifications				2	7	15			22		46
SUBTOTAL TASK 6	0	0	0	14	245	22	0	6	342	20	649
TASK 7 - Bid Set											
7.1 Bid Ready Drawings					60	6		6	80	12	164
7.2 Bid Ready Specifications					12	12			12		36
SUBTOTAL TASK 7	0	0	0	0	72	18	0	6	92	12	200
TASK 8 - Front End Specifications											
8.1 Front End Specification Preparation	2	20									22
8.2 Spec Coordination Meeting (Virtual)		3			3						6
SUBTOTAL TASK 8	2	23	0	0	3	0	0	0	0	0	28
TASK 9 - Construction Sequencing and Implementation Plan											
9.1 Construction Sequencing and Implementation Plan		8	4		20		8				40
SUBTOTAL TASK 9	0	8	4	0	20	0	8	0	0	0	40
GRAND TOTAL TASKS 1-9	7	285	18	50	1234	105	58	26	1367	168	3318

Hazen and Sawyer Labor Classifications
VP – Vice President
SA – Senior Associate
A – Associate
AE – Assistant Engineer
CAD – CAD Designer

Note: Hazen reserves the right to escalate hourly rates shown at a value not to exceed 5% annually, starting July 2026.

Project Schedule



Appendix A: Resumes

Cindy Miller, PE

Vice President

Ms. Miller is an experienced Principal in Charge with a long resume of leading the most challenging projects to successful completion. Her experience extends from planning, design, construction, and owner's agent services.

Education

B.S., Civil Engineering, University of California, Irvine

Certification/License

Professional Engineer

Areas of Expertise

- Pipeline Planning and Design
- Project Management
- Program Management
- Project Delivery
- Groundwater Supply
- Well Equipping Planning and Design
- Pump Station Planning and Design
- Reservoir Storage Planning and Design
- Drinking Water

Professional Activities

AWWA, ASCE, AMTA

CA-NV AWWA

CA Water Reuse Association

Her assignments have included providing Program Management services for a $150 million groundwater supply project, which includes wells, pipelines, pump stations, and an advanced treatment system for R.O. concentrate reduction; Project Manager for preliminary and final design of a 28 MGD microfiltration treatment facility, and Project Manager for a 10 MGD R.O./Ion Exchange groundwater treatment plant. Ms. Miller has also led numerous water storage and conveyance infrastructure projects, including design of over 100 miles of pipeline Ductile Iron, CML&C steel, PVC, and HDPE pipeline), design of steel, pre-stressed concrete, and cast-in-place concrete storage reservoirs, up to 10 million gallons, and numerous pump station facilities. She has led feasibility/planning studies, developed treatment process evaluations and life-cycle cost evaluations, participated in value engineering studies and operations evaluations. She has developed detailed designs of many systems and provided construction and startup services. She has experience with different project delivery methods including: design-bid-build, design-build and design-build-operate-finance.

Chino I Desalter VOC Treatment, Chino Basin Desalter Authority, CA
Project Manager. The project includes preliminary and final design of two (2) GAC treatment facilities (1.7 mgd and 3.4 mgd) at the Chino I Desalter Plant for the removal of TCE and 1,2,3-TCP, and evaluation of treatment requirements for 1,4-dioxanr, cis-1,2-DCE, 1,2-CDA, PFOA, and PFOS. The goal of this project is to provide groundwater treatment for all CDA bypass wells (CDA Wells I-1 through I-4), and several treated wells (CDA I-16 through 18), plus 10 new wells that will be installed by the County of San Bernardino as part of a Cleanup and Abatement Order issued by the Santa Ana Regional Water Quality Control Board (SARWQCB).

Chino Feasibility Study and Eastside Expansion for 1,2,3-TCP, Nitrate, and Perchlorate
Principal in charge for the City of Chino to identify a permanent solution to fully utilize all City groundwater wells by addressing water quality issues. Treatment and non-treatment options were evaluated for the City's twelve wells.

Monte Vista Water District Plant 30 Treatment for 1,2,3-TCP, Nitrate, and Perchlorate, Montclair, CA
Principal In Charge for engineering services to Monte Vista Water District (MVWD) for the design and construction of a 5.8 MGD water treatment facility (expandable to 8.7 MGD) for the removal of 1,2,3-TCP, nitrate, and perchlorate from the District's groundwater supply. The project includes raw water pipelines to convey multiple wells to the site, GAC+IX treatment facilities, and a waste brine pipeline all within a small site footprint. Hazen's engineering services include preparation of Basis of Design Report (BODR), field investigations, detailed design, CEQA, permitting, bidding services, and engineering services during construction.

Chino I Desalter Expansion and Chino II Desalter Projects, Inland Empire, CA
Provided engineering services to the Chino Basin Desalter Authority (CDA) for the multimillion-dollar Chino I De-salter Expansion and Chino II Desalter projects. The assignment involved design of a new desalter facility; expansion and upgrade of an existing desalter facility; design of water distribution facilities, including pump stations, pipelines, and well equipping. The project included expansion of an existing 9 MGD reverse-osmosis treatment plant to a 14 MGD plant by adding ion exchange treatment for nitrate removal and VOC treatment for removal of TCE. Other plant improvements included the upgrading of the existing disinfection system to 0.8 -percent solution sodium hy-pochlorite generated on site, expansion of the on-site product water pump station, and other miscellaneous up-grades to improve plant performance. In conjunction with increasing the Chino I Desalter's capacity, three new wells were added to increase the system's raw water supply. Delivery facilities from the Chino I Desalter were add-ed to enhance movement of treated water to the end-users. Delivery facilities included two new booster pump stations with capacities of 2,600 gpm and 1,400 gpm and approximately 14,000 linear feet of product water pipe-line, 12 inches to 24 inches in diameter. The project also included design of a new 10 MGD Chino II Desalter. This treatment plant was designed to target TDS and nitrate removal and using reverse-osmosis and ion exchange in parallel. The project included eight new groundwater wells; approximately 30,000 linear feet of raw water pipeline, 16 inches to 36 inches in diameter; approximately 24,000 linear feet of product water pipeline, 12 inches to 42 inches in diame-ter; and a new booster pump station with 3,000 gpm capacity. The new and expanded desalters, which include the Chino I Desalter and the Chino II Desalter, provide potable water to and strengthen the water supply reliability of cities and agencies in the southwesterly region of the Inland Empire, including Jurupa Community Services District, City of Chino, City of Chino Hills, City of Ontario, Santa Ana River Water Company, and the City of Norco.

La Brea Subarea Groundwater Supply Project – Wells, Transmission Main, and Treatment Facilities, City of Beverly Hills, CA
Ms. Miller is the Principal In Charge for the City of Beverly Hills La Brea Subarea Groundwater Supply Project. This is a $50 M project the City is implementing to expand their local water supply by developing groundwater in the La Brea Subarea of the Central Groundwater Basin. The project includes three (3) groundwater wells to be drilled and equipped, 4-miles of raw water transmission main through the City of Los Angeles and Beverly Hills, and upgrade of the City's existing reverse osmosis treatment plant. The first phase of the project which Hazen is leading is the drilling and equipping of the first groundwater well, and construction of the 4-mile transmission main.

Chino Basin Desalter Authority (CDA) Phase 3 Expansion, Chino, CA
Ms. Miller is providing Program Management services to the Chino Basin Desalter Authority (CDA) for their Phase 3 Expansion Project. Once completed, the Phase 3 Expansion will increase production capacity of the CDA's ground-water desalter Facilities to over 35,000 acre-ft per year of potable water capacity. The project includes construc-tion of new groundwater wells, pipelines, treatment facility to recover desalter concentrate (i.e. concentrate reduc-tion facility), product water pump station expansion and new product water pump stations. The construction cost of the Phase 3 expansion is estimated at $150 million and construction is expected to be completed early 2018.

Alan Mlakar, PE

Associate

Mr. Mlakar has over 13 years of experience in electrical and instrumentation design projects in the Water/Wastewater industry. This includes project management, MCC replacement, and PLC replacement projects.

Education

B.S., Electrical Engineering, California Polytechnic State University, California, CA

Certification/License

Professional Engineer

Areas of Expertise

- Project Management
- Electrical/Instrumentation and Control Systems
- Water and Waste Water Facility design
- Engineering services during construction

Professional Activities

IEEE

J.B. Latham Treatment Plant Electrical System Study, South Orange County Wastewater Authority, Dana Point, CA
Project Engineer and Lead Electrical. This project included developing consolidated up-to-date single line diagrams of the plants entire electrical distribution system based on field data, performing load calculations to determine potential size of new standby generators, and detailed condition assessment of 3 motor control centers. In addition, this project included replacement of a motor control center and natural gas-driven generator.

Moreno Valley RWRF Solids Handling MCC Replacement, EMWD, Riverside County, CA
Project Engineer and Lead Electrical Engineer for the replacement of two motor control centers that have exceeded their rated useful life. In ad-dition, the project included a condition assessment of the existing motor control centers which required a shutdown of the plant equipment during non-peak hours and also a detailed maintenance of plant operations plan to minimize plant distributions during construction.

Leo J Vander Lans AWTF (LVLAWTF) and Torrance Desalter Facility Power System Studies, Water Replenishment District of Southern California, Long Beach, CA
Mr. Mlakar served as the project manager and lead electrical. This proj-ect included performing short circuit calculations, arc flash hazard analysis, protective device coordination, and arc flash mitigation at two water treatment plant facilities. In addition, arc flash labels were installed at each facility and arc flash awareness trainings were conducted.

Gatewood Hills Pump Rehabilitation Project, City of San Diego, CA
Lead Electrical and I&C Engineer involved in the design of a pump rehabilitation project. The project involves the replacement of the existing pumps and motors with new pumps driven by variable frequency drives. The design includes a new motor control center, service entrance switchboard, manual transfer switch, and PLC cabinet.

Perris Valley Regional Water Resource Recovery Facility Solids Handling MCC Replacement East Municipal Water District, Riverside County, CA

Lead Electrical and I&C for the Biosolids Loadout Facility Improvements Design which includes the replacement of the existing biosolids hoper with a new stainless steel hopper designed to suit the existing support frame, installation of a weighbridge beneath the hopper, and replacement of electrical and controls components associated with the operation of the new hopper. Gatewood Hills Pump Rehabilitation Project, City of San Diego, CA Lead Electrical and I&C Engineer involved in the design of a pump rehabilitation project. The project involves the replacement of the existing pumps and motors with new pumps driven by variable frequency drives. The design includes a new motor control center, service entrance switchboard, manual transfer switch, and PLC cabinet.

Perris Valley and Temecula Valley Water Reclamation Sidestream Treatment Facilities, Eastern Municipal Water District, Perris, CA

Lead I&C Engineer. The project includes a new sidestream treatment facility to treat the dewatered centrate at two separate wastewater treatment plants. The project also includes the design of new Plant PLC's and integration of vendor PLC's with the District's existing SCADA system.

Adele Pump Station Arc Flash Study for the Los Angeles Depart-ment of Water and Power, Los Angeles, CA

Lead Electrical for the Adele Pump Station Arc Flash project. Performed load flow, short-circuit, protective device coordination, and arc flash analyses using ETAP electrical modeling software. Additionally, updat-ed record single line drawings based on field conditions.

Engineering Consulting Services for Biosolids Treatment and Disposal, Town of Windsor, CA

I&C Lead. The project includes assessment of current trends to achieve Class A Material without using anaerobic digestion and sludge drying beds. Drying technologies, including thermal drying and biodrying, are shortlisted and coupling of biodrying with pyrolysis process is evaluated. The project aims to provide materials to support upcoming design phase.

Biosolids and Energy Phase I: Preliminary Design, Goleta Sanitary District (GSD), Goleta, CA

I&C Lead. This project involved design of a new digester as well associated digester loads, and a combined power and heat (CHP) facility allowing GSD to generate power from digester gas. This project also involved a digester gas treatment system and gas booster blower replacement.

Enhanced Treatment Upgrade Project, Union City, CA

I&C Engineer for the preliminary Design of the Phase 1A AB Modifications and Project Management Team for the ETSU Program. The Union Sanitary District (District) has embarked on the $450M Enhanced Treatment and Site Upgrade (ETSU) Program which will result in increased plant capacity, replace aging infrastructure, future nutrient removal and provide flexibility for wet weather discharge to the San Francisco Bay. The project included extensive hardening of the electrical infrastructure to accommodate the future loads and provide electrical redundancy. In addition to design, Hazen is providing permitting, CEQA development, and financing application support for the multi-phase program.

Brian Gustafson, PE

Associate

Mr. Gustafson serves as Hazen and Sawyer's Los Angeles Office Electrical Lead. He has 20 years of experience in the field of electrical engineering and more recently became focused on projects in the water industry.

Education

B.S., Electrical Engineering, UC Irvine, CA

Certification/License

Professional Electrical Engineer:

CA (License # E24728 EXP: 09/30/25)

Areas of Expertise

- Power Distribution (Medium & Low Voltage)
- SCADA / Power System Automation
- Power System Studies (Arc Flash, Protective Device Coordination)

He has experience working on all project phases from performing initial studies all the way through construction support and commissioning. Throughout his work experience he has gained a wide range of expertise in both power distribution, controls, and communication. He possesses knowledge of industry standards including NEC and IEEE.

Arc Flash Mitigation Study, Eastern Municipal Water District, Temecula CA

Mr. Gustafson performed Arc Flash studies for half of the treatment facility using SKM due to a recent reconfiguration at the 12KV level. Work involved field data gathering, Power system model creation in SKM, arc flash report, recommended relay settings from TCC studies, and recommendations to reduce arc flash Incident Energy levels throughout the facility.

Arc Flash Study, Union Sanitation District, Union City CA

Mr. Gustafson performed Arc Flash studies for the entire USD treatment facility using SKM. Work involved field data gathering, Power system model creation in SKM which included over 100 buses in size, arc flash report and analysis.

Arc Flash Mitigation Project, Marathon, Texas, New Mexico, Utah (25+ Locations)

Mr. Gustafson Performed load flow, short circuit, arc flash & protective device coordination studies using ETAP power system analysis software. Responsible for gathering electrical equipment data, building models in ETAP, running the studies, writing reports, identifying system deficiencies, and proposing mitigation measures to the owner

Water Well Project, Marathon, Carson, CA

Mr. Gustafson performed engineering for the installation of 2 new water wells. Modified existing medium voltage MCCs to feed new Variable Speed Drives (VFDs), developed control schematics & specified material. Supported all electrical aspects of project from feasibly till construction.

Biosolids Treatment Project, Town of Windsor, Windsor, CA
Mr. Gustafson is currently leading the electrical system design for a new biosolids treatment unit at an existing water treatment facility. The electrical work involves tie-in to existing electrical infrastructure, power system analysis, utility coordination, electrical room design, VFDs, and emergency backup power. Start Date: 08/2022: Completion Date: In Progress

Cooling Tower Upgrade Project, Marathon, Wilmington, CA
Responsible engineer for project which provided new outdoor medium voltage motor controllers, MV induction motors, oil filled power transformers and low voltage switch-racks. Created single line diagrams, datasheets, material take off and requisitions.

Field Gas Compression, Aramco, Saudi Arabia
Performed role as communications lead for two simultaneous Aramco projects. Responsible to oversee work of 10 electrical/communication engineers. Performed leadership duties such as man hour estimates, progress reporting, performance reviews and weekly meetings with the client. Majority of work pertained to engineering of large-scale SCADA system which spans 9 different gas compression locations. The SCADA system design provided centralized monitoring, control, fault recording, sequence of event, alarm annunciation, HMI display and historical data logging capability for power systems. Developed overall SCADA network architecture based on IEC 61850 standards, and specified components such as automation computers, Network Switches, Firewalls, protocol converters, Modular I/O racks, GPS receivers, Intelligent Electronic Devices, Fiber Optic Cables, and Operator Workstations. Developed diagrams and specifications for the facility IP telephone/Data Network, CCTV, and paging/intercom systems.

The New Venture, Refining New Zealand, New Zealand
Created specifications, datasheets & requisitions for hazardous area junction boxes, remote control stations, UPS distribution panels and closed-circuit television. Performed outdoor lighting calculations for process unit using AGi32 software. Performed heating calculations for underground raceway cables using ETAP software. Responsible for creating and keeping up to date the single line diagrams, schematics, wiring diagrams and cable schedule. Performed the duties of Deputy Job Leader.

SAMREF Clean Fuels Project, Exxon Mobil, Saudi Arabia
Created specifications, architecture drawings, I/O lists, and wiring diagrams for new SCADA system. This system was used for power system monitoring and alarming of medium/low voltage switchgear, transformers, motor control centers, and various substation/facility equipment. Responsible for integrating existing brown field electrical equipment with new SCADA system. Modbus and DNP3 protocols used. Wrote test procedure for SCADA Factory acceptance test and oversaw testing and troubleshooting activities. Created configuration files to program communication settings for GE Multilin relays. Created specifications, diagrams, and requisition for closed circuit television system.

Christopher Thunhorst, PE

Senior Associate

Chris serves as Hazen's Electrical and Instrumentation Group Leader for the West Region. Chris has over 18 years of experience in electrical engineering for building systems, water and wastewater treatment facilities, and pumping stations associated with water distribution and wastewater collection systems.

Education

BS, Elictrical Engineering, North Carolina State University

AAS, Asheville-Buncombe Technical Community College

Certification/License

Professional Engineer: CA, AZ OH, KY, TN, IN, PA, UT

Areas of Expertise

- Medium and low voltage power distribution
- Standby power systems
- Control systems
- Process instrumentation
- SCADA systems

Experience

- 24 total years
- 17 years with Hazen

Professional Activities

Instrumentation, Systems, and Automation Society

International Association of Electrical Inspectors

Institute of Electrical and Electronics Engineers

Water Environment Association of Utah (WEAU)

American Water Works Association (AWWA)

Coastal Treatment Plant Facility Improvements, South Orange County Wastewater Authority, Dana Point, CA
Lead Electrical Engineer. The Coastal Treatment Plant facility improvements project includes replacement of the ferric chloride chemical storage and feed system, replacement of the secondary clarifier equipment (sludge and scum collection), new Drainage Pump Station, repair of damage to concrete structures throughout the plant and installation of fall protection (safety) features. The project also includes major upgrades to the electrical system: installation of a new electric utility service, new main distribution switchgear, new distribution system feeders and replacement of existing motor control centers.

J.B. Latham Treatment Plant Miscellaneous Improvements, South Orange County Wastewater Authority, Dana Point, CA
Project Manager/Lead Electrical Engineer. Improvements project that included preliminary design for the replacement of the Plant 1 Standby Generator, replacement of the Effluent Flow Meters, and replacement of the Plant Effluent Valves. The project also included detailed design of the rehabilitation of the Plant 1 Grit Basins.

J. B. Lathem Treatment Plant Electrical System Evaluation and Improvements Project, South Orange County Wastewater Authority, Dana Point, CA
Project Manager. Oversaw the electrical system evaluation which includes condition assessment and documentation of the existing electrical distribution system, development of a utility rate modeling tool, evaluation of combining multiple electric utility services into a single primary metered utility service, evaluation of a new 12kV electrical distribution system, and evaluation of a new standby power system. The project also includes detailed design of the replacement of motor control centers at the treatment plant.

Regional Treatment Plant Site Lighting Study, South Orange County Wastewater Authority, Dana Point, CA

Project Manager/Electrical Engineer. The Regional Treatment Site Lighting Study included a lighting survey, illumination survey with plant operations staff, and a technical memorandum to document findings, recommendations for improvements, and an opinion of probable cost broken down by area.

Regional Treatment Plant Power Distribution Documentation, South Orange County Wastewater Authority, Dana Point, CA

Project Manager/Electrical Engineer. Responsible for compiling single line diagrams for all major power distribution equipment, field verifying equipment loads identified on the single line diagrams and developing a plant wide power distribution system single line diagram.

Joint Regional Biosolids Study, Green River and Rock Springs, WY

Project Manager/Lead Electrical Engineer. The Cities of Rock Springs and Green River are interested in developing a regional solution for their biosolids. Rock Springs generates Class B aerobically digested and partially air-dried biosolids. The landfill is no longer accepting these bio- solids and the City does not have beneficial use alternatives or disposal. Green River is in the process of constructing a similar mechanical waste- water treatment plant that is expected to generate aerobically digested biosolids as well. Hazen is currently in the process of evaluating options utilizing Hazen's Multi-Parameter Analysis tool which simultaneously evaluates multiple solutions for the joint system.

Payson City WWTP Upgrade and Expansion, Payson UT

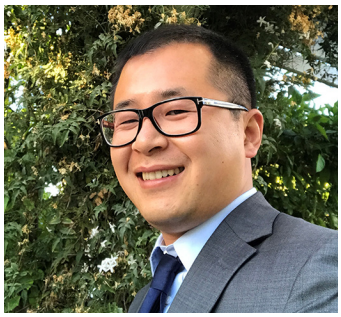
Project Manager/Lead Electrical Engineer. Oversaw the upgrade and expansion of the Payson WWTP to address increased flows and tightening discharge limits. Hazen teamed with Forsgren and Associates to design and oversee construction of the following improvements: new headworks facility including screening and grit removal, new influent pump station, new BNR oxidation ditch utilizing the Orbal process, ad- dition of two secondary clarifiers, conversion of tertiary sand filters to disk filters, new UV disinfection system, new reuse storage and pumping system, conversion of the digesters to aerated sludge holding, and a new dewatering building utilizing screw presses. Electrical improvements at the plant also include a new electric utility service, new site wide stand- by power generator, and a new electrical distribution system. The project is currently in the final stages of design. After improvements are com- pleted the plant capacity will be increased to 4-mgd with provisions to expand to 6-mgd.

Boat Harbor Pump Station, Timpanogos Special Service District, Utah County, UT

Lead Electrical/Instrumentation and Controls Engineer. Project includ- ed a new 57-mgd pump station with provisions to expand to 83-mgd in the future. The pump station design includes full screening, grit removal, and odor control. Electrical and control system design includes re- dundant 1,500 kW standby generators, low voltage distribution switch- gear, variable frequency drives with full bypass, SCADA system with redundant fiber optic, radio, and cellular communications.

West Napa Pump Station Project, Napa Sanitation District, Napa, CA

Electrical QA/QC. This project included a new submersible wet well, piping modifications, abandoning the existing North and South Wet Wells, demolition of the existing building, a new CMU electrical building, a new generator enclosure, a new odor control system, new canopy mounted solar panels, and electrical upgrades that included replacement of switchboards and MCC.



Jack Yao, PE

Senior Associate

Mr. Yao has extensive electrical (power) engineering and discipline leadership experience. He has successfully led dozens of design, bid, build projects nationally and internationally in water/wastewater and oil/gas industries.

Education

BS, Electrical Engineering, University of California, Los Angeles

Certification/License

Professional Engineer

Areas of Expertise

- MV & LV power distribution system (up to 35kV)
- Power Distribution Center (PDC) design

He is experienced in MV & LV power distribution system design, hazardous area classification, motor & generator applications, aboveground and underground installation design, grounding system, lighting design, and power system automation.

12kV Service Entrance Power Center Upgrade, Union Sanitary District, Union City, CA

Mr. Yao served as Lead Electrical Engineer responsible for designing a new 12kV pre-fabricated service entrance power center to replace an existing service entrance switchgear to expand the existing electrical capacity at the waste water treatment plant. The new power center includes a new 12kV secondary selective switchgear lineup, a new 480V switchboard, and other auxiliary equipment.

Enhanced Treatment & Site Upgrade (ETSU) Program - Phase 1B, Union Sanitary District, Union City, CA

Mr. Yao served as Lead Electrical Engineer responsible for designing a new 480V electrical distribution facility to provide power to new RAS/WAS Pump Station, Effluent Facility, and Reclaimed Water Pump Station. The new distribution facility includes new 480V switchboards, 480V MCC lineups, and other auxiliary equipment.

Design Services for Digester Room MCC-2 Upgrades, Las Gallinas Valley Sanitary District, San Rafael, CA

Mr. Yao served as Lead Electrical Engineer responsible for performing an NFPA 820 assessment to evaluate the existing electrical installation in the digester area and designing a new 480V MCC to replace an aging existing MCC feeding digester loads.

Engineering Consulting Services for Biosolids Treatment and Disposal, Town of Windsor, CA

Electrical QA/QC. The project includes assessment of current trends to achieve Class A Material without using anaerobic digestion and sludge drying beds. Drying technologies, including thermal drying and biodrying, are shortlisted and coupling of biodrying with pyrolysis process is evaluated. The project aims to provide materials to support upcoming design phase.

Hazen

Well 7A, City of Fullerton, CA
Lead Electrical Engineer. Hazen is providing engineering services for design of the City of Fullerton's Well 7A, which will replace the City's recently abandoned Well 7. Hazen teamed with Tom Harder and Associates to provide design services for the well drilling, well construction observation, and prepared a Basis of Design Report (BODR) for the well equipping. The BODR will be the roadmap that Hazen will utilize for efficiently executing the final design of the project.

Palmdale Well 36 Drilling and Equipping, Palmdale, CA
Mr. Yao served as Electrical QA/QC. Responsible for preparing preliminary design report, site layout design, and equipping of Well 17 located within the City of Palmdale. The well is designed to produce 2,000 gallons per minute and is driven by a constant speed 600 HP motor. Design services include a motor control center, RVSS drive for the well pump, building with separate electrical room, chlorine generation room, rolling building section enclosing the pump room, interior and exterior lighting, HVAC, and a pump-to-waste infiltration basin.

1,2,3-TCP Removal Treatment Plant, City of Chino Hills, CA
Mr. Yao served as Lead Electrical Engineer responsible for designing a new 480V electrical distribution system to feed the existing water booster pumps and a new water treatment plant. The new distribution system includes a new service entrance switchboard, a new 480V MCC lineup, and new 480V VFDs.

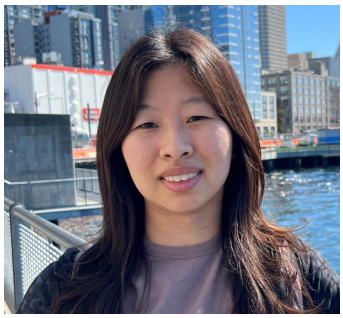
State Street Water Treatment Plant, City of Chino, CA
Mr. Yao served as Lead Electrical Engineer responsible for designing new 480V electrical distribution systems to feed the existing pump stations and a new standalone water treatment plant. The new distribution systems includes new service entrance switchboards, new 480V MCC line, and new 480V VFDs.

Biosolids & Energy Phase 1, Goleta Sanitary District, Goleta, CA
Mr. Yao served as Lead Electrical Engineer responsible for designing new Combined Heat & Power (CHP) unit to utilize digester gas to generate power to supplement plant power consumption, and a new 480V electrical distribution systems to feed new digester loads.

Substation 33/34 Switchrack Replacement Project, Chevron El Segundo Refinery, El Segundo, CA
Mr. Yao served as Lead Electrical Engineer responsible for designing six new 480V switchracks to replace existing 50-year-old units. The project involved replacing existing main incoming cables to each switchrack, design new switchrack components (bus boxes, breakers, motor starters, and distribution panelboards), and refeed all existing loads.

F-720/731 SCR Retrofit Project, Chevron El Segundo Refinery, El Segundo, CA
Mr. Yao served as Lead Electrical Engineer responsible for designing a new Power Distribution Center (PDC) to support new plant loads added to retrofit a new SCR system to the existing furnaces. The project involves adding new 15kV breakers sections at the refinery main substation and routing new 15kV feeders via pre-fabricated duct banks to new 15kV Load Interrupting Switches closed-coupled with 13.8-2.4kV and 13.8-0.48kV oil-filled transformers to provide power to the new PDC.

Refinery Wireless Project, Chevron El Segundo Refinery, El Segundo, CA
Mr. Yao served as Lead Electrical Engineer responsible for designing refinery-wide wireless system to allow plant operators to use mobile devices to communicate back to the main control room. The project involves collaborating with wireless equipment vendor, design wireless access points, and provide 120V UPS power to each access point enclosure.



Ivy He, EIT

Assistant Engineer II

Ivy has 6 years of experience in electrical design in both healthcare and water/wastewater industry projects.

Education

B.S., Electrical Engineering, California State University, Long Beach, CA

Certification/License

Professional Engineer: EIT

Areas of Expertise

- Power Distribution (Medium and Low Voltage)
- AutoCAD, Plant 3D, Revit, Visual Lighting, and SQL

Experience

- 6 total years
- 2 years with Hazen

She has worked in collaborative settings to provide drawing sets and design through all project phases and construction support for Electrical and Instrumentation. She has gained a wide range of experience in power distribution design, lighting design, and knowledge of industry and city standards including Title24 and NEC.

Enhanced Treatment & Site Upgrade (ETSU) Program - Phase 1B and 1C Project – Union City, CA

Project Assistant Engineer. The Union Sanitary District (District) has embarked on the $450M Enhanced Treatment and Site Upgrade (ETSU) Program which will result in increased plant capacity, replace aging infrastructure, future nutrient removal and provide flexibility for wet weather discharge to the San Francisco Bay. Supported lead engineer on the electrical design of the EDF, Effluent Storage, and Lift Station areas and their support spaces. Created plan drawings and designed ductbank and conduit routes to provide power to new spaces.

Clearwell Effluent Meter Replacement at the Robert A. Perdue Water Treatment Plant – Chula Vista, CA

Project Assistant Engineer. Supported lead electrical engineer on replacement of venturi meter upstream of the existing meter vault to improve meter accuracy. Created site plan to show power from existing PAC building to be routed underground to new space and designed control one line diagram and panel schedule to show added load.

Sweetwater Reservoir Aeration/Destratification System – Chula Vista, CA

Project Assistant Engineer. Supported lead electrical engineer on the implementation of an aeration/destratification system to improve water quality and increase the yield of treatable water from the reservoir. This project involved demo and replacement of the existing substation main breaker to accommodate new loads added. This upgrade allowed installation of the new system to be fed from the existing unit substation to the new air compressor area.

Geohydrologic and Engineering Design Services for the City of Banning Well C-8 – Banning, CA
Project Assistant Engineer. Supported lead electrical engineer on new buildout for large well pump. This project requires new service entrance power to new 480V switchboard and backup generator. Created single line, power plan, lighting plan and control one line diagram.

Clearwell Effluent Meter Replacement at the Robert A. Perdue Water Treatment Plant – Chula Vista, CA
Project Assistant Engineer. Supported lead instrumentation engineer on replacement of venturi meter upstream of the existing meter vault to improve meter accuracy. Created site plans, P&IDS and instrumentation details to show control and signal connections from existing building to feed replacement.

Sweetwater Reservoir Aeration/Destratification System – Chula Vista, CA
Project Assistant Engineer. Supported lead instrumentation engineer on the implementation of an aeration/destratification system to improve water quality and increase the yield of treatable water from the reservoir. Created site plans, P&IDs and instrumentation details.

Geohydrologic and Engineering Design Services for the City of Banning Well C-8 – Banning, CA
Project Assistant Engineer. Supported lead instrumentation engineer on new buildout for large well pump and associated instruments. Provided drawings to show instrument connections to new PLC and overall network connection to new site.

State Street WTP Design – Chino, CA
Project Assistant Engineer. Supported lead instrumentation engineer on new treatment to Well 12 and Well 14. This includes processes such as granulated activated carbon vessels, ion exchange, cartridge filters, and disinfection and storage in Reservoir 5. Provided design support for instrumentation details and document review of P&ID functions and controls.

Sean DuPuis, PE

Structural

Sean is a civil engineer with over 18 years of expertise instructural assessment, analysis, design, and construction of facilities for municipal, federal, and private clients.

Education

M.S., Civil Engineering, Arizona State University, Arizona

B.S., Civil Engineering, Arizona State University, Arizona

Certification/License

Professional Engineer

OSHA: 10-hour Construction; 8-hour Confined Space

Areas of Expertise

- Structural Assessment
- Structural Analysis
- Design and Construction
- Structural and Constructability Reviews of Water and Wastewater Design Projects
- Construction management and inspection
- Masonry
- Steel Tanks
- Structural and Environmental Concrete
- Structural Steel
- Seismic Assessment

Professional Activities

- American Society of Civil Engineers (ASCE)

Lead structural discipline and multi-discipline engineering and drafting project teams in development of construction documents including reports, calculations, drawings, and specifications. Perform technical structural and contractibility reviews for water and wastewater design projects and provides services during construction including review of shop drawings and product data, answering requests for information, structural observation, and quality control management.

Resource Recovery Facility Master Plan, Delta Diablo, Antioch, CA
Structural. The District owns and operates the 31-mgd RRF, which includes a 13-mgd recycled water facility and sewer conveyance (including flow equalization and pumping stations). The RRF is at a point in its life-cycle when significant capital expenditures are required to rehabilitate and replace aging infrastructure. To allow these investments to be made ho-listically and in consideration of future loads and regulatory requirements, the District selected Hazen to prepare a master plan for the RRF.

Enhanced Treatment & Site Upgrade Program, Union Sanitary District, Union City, CA
Structural Lead. The project involves the preliminary Design of the Phase 1A AB Modifications and Project Management Team for the ETSU Pro-gram. The Union Sanitary District (District) has embarked on the $450M Enhanced Treatment and Site Upgrade (ETSU) Program which will result in increased plant capacity, replace aging infrastructure, future nutrient removal and provide flexibility for wet weather discharge to the San Francisco Bay. The program includes aeration basin modifications to convert from carbon removal to biological nutrient removal, a new eighth aeration basin, new secondary clarifiers, new RAS/WAS pump station, new effluent facilities (chlorination, dechlorination, effluent pump station, wet weather discharge pump station, recycled water pump station and elutriation water pump station) new carbon odor scrubbers, new primary effluent equalization and a new administration building. The project included extensive hardening of the electrical infrastructure to accom-modate the future loads and provide electrical redundancy. In addition to design, Hazen is providing permitting, CEQA development, and fi-nancing application support for the multi-phase program.

Hazen

NapaSan Master Plan, Napa Sanitation District, Napa, CA
Structural Engineer. The District selected Hazen to develop the Soscol Water Recycling Facility (SWRF) to provide NapaSan with strategic planning guidance and in-depth analysis of key focus areas. NapaSan intends to produce an actionable and strategic master plan that supports decision making over the next five-to-ten years while maintaining a 20-year planning horizon. The Master Plan included key areas such as condition assessment, nutrients, biosolids, recycled water, capacity analysis. The Master Plan also includes an evaluation of vulnerabilities as well as susceptibility to climate change factors such as flood, wildfire risk and public safety power shutoffs.

GWTP Facility Master Plan Project, Long Beach Water Department, Long Beach, CA
Structural Lead. This project involves working on for ASCE 41 assessment includes assessment of water treatment concrete basins, steel canopies, masonry and concrete buildings. This project will be guide for planning, operating, maintaining, and renewing the GWTP's processes, systems, and infrastructure through year 2042.

Engineering Consulting Services for Biosolids Treatment and Disposal, Town of Windsor, CA
Structural Engineer. The project includes assessment of current trends to achieve Class A Material without using anaerobic digestion and sludge drying beds. Drying technologies, including thermal drying and biodrying, are shortlisted and coupling of biodrying with pyrsis process is evaluated. The project aims to provide materials to support upcoming design phase.

Biosolids Loadout Condition Assessment, Eastern Municipal Water District, Perris, CA
Structural Lead. The biosolids loadout facility at the PVRWRRF has experienced failure of several components including loadout gates and loadout measurement cells. These failures have necessitated greatly increased operator involvement to keep the facility functioning. Hazen was appointed to evaluate current condition of the facility to recommend improvements that would restore it to reliable operation. This project has conditioned through detailed design an is now under construction.

Biosolids and Energy Phase I: Preliminary Design, Goleta Sanitary District (GSD), Goleta, CA
Structural Lead. This project is developing a Preliminary Design Report that includes preliminary design of a new digester and CHP facility, develop cost estimate for these facilities, conduct regulatory and environmental assessment, and provide conceptual layout of all expected facilities for construction. This project has conditioned through detailed design an is now under construction.

La Brea Subarea Groundwater Supply Project – Wells, Transmission Main, and Treatment Facilities, City of Beverly Hills, CA
Structural Calculation Reviewer. This is a $50 M project the City is implementing to expand their local water supply by developing groundwater in the La Brea Subarea of the Central Groundwater Basin. The project in-cludes three (3) groundwater wells to be drilled and equipped, 4-miles of raw water transmission main through the City of Los Angeles and Beverly Hills, and upgrade of the City's existing reverse osmosis treatment plant. The first phase of the project which Hazen is leading is the drilling and equipping of the first groundwater well, and construction of the 4-mile transmission main. Structural tasks include design of a well building with special reinforced masonry shear walls supporting a flexible roof diaphragm. The building roof system consists of cold-formed steel trusses supporting metal decking with rigid insulation and metal tile roofing. The well building was designed with a section of removable roof and removable walls to facilitate removal of the well pump and piping for maintenance or replacement.

Christopher Portner, PE, CEP

Principal Engineer

Mr. Portner has provided cost estimating services from planning level through construction for both water and wastewater projects, including conveyance and treatment facilities. Mr. Portner is in AACEi Certified Estimating Professional.

Education

MS, Environmental Engineering, University of California at Berkeley, 2007

BS, Civil and Environmental Engineering, University of California at Berkeley, 2006

Certification/License

Professional Engineer: CA

Certified Estimating Professional (CEP)

Areas of Expertise

- Change order preparation and negotiation
- Cost estimating
- Construction management
- Scheduling
- Change order preparation and negotiation
- Design services during construction

Experience

- 17 total years
- 15 years with Hazen

Professional Activities

Water Environment Federation

American Association of Cost Engineers

California Water Environment Association

Moreno Valley RWRF TEPS MCC Replacement Project, Eastern Municipal Water District, CA
Cost Engineer for replacement of existing switchgears, motor control centers and ancillary equipment. Project included replacement of switchgear and motor control center hardwire as well as new ductbanks and conductors.

Moreno Valley RWRF Solids Handling MCC Replacement Project, Eastern Municipal Water District, CA
Cost Engineer for replacement of existing solids handling motor control centers and ancillary equipment. Project included replacement of switchgear and motor control center hardwire as well as new HVAC and conductors.

Central Treatment Plant Miscellaneous Improvements, South Orange County Wastewater Authority, Dana Point, CA
Cost Engineer for design of miscellaneous improvements at the Central WWTP. Improvements included rehabilitation of processes from primary treatment through disinfection, including headworks, aeration basins, secondary clarifiers, and associated electrical infrastructure. Project also included fall protection and other safety enhancements based upon a plant audit.

JB Latham Miscellaneous Improvements, South Orange County Wastewater Authority, Dana Point, CA
Cost Engineer for design of the miscellaneous improvements at the JB Latham WWTP. Improvements included rehabilitation of existing grit basins, including replacement of existing piping, covers and valves as well as structural modifications. Additionally replacement of the existing emergency generator and effluent flow meters and isolation valves were designed.

Disinfection Improvements at the Laguna Treatment Plant, City of Santa Rosa, Santa Rosa, CA
Cost Engineer for the design of disinfection improvements at the 67-mgd Laguna Treatment Plant. The scope of work includes upgrade of the existing ultraviolet disinfection system to treat the entire 67-mgd plant flow, addition of a sodium hypochlorite system for disinfection of a side effluent stream, construction of a 35-mgd diversion pump station and pipeline to return off-spec water to the head of the plant, and a new load center to provide power to the new processes.

Enhanced Treatment and Site Upgrade, Union Sanitary District, CA
Cost Engineer for design of secondary improvements at the District's wastewater treatment plant. Scope included alternative analysis between MBR and conventional treatment trains, retrofitting of existing aeration basins, installation of additional process blowers, construction of clarifiers, new effluent pumping and disinfection facilities, replacement of existing operations, laboratory, and administration buildings, new electrical distribution facilities, and associated mechanical, HVAC, structural, electrical and instrumentation work.

Ridgeline Booster Pump Station, Trabuco Canyon Water District, CA
Cost Engineer for upgrade to an existing booster pump station. Project included replacement of existing pumps and associated electrical, mechanical, instrumentation and HVAC equipment and replacement. Project also included structural modifications to the existing building to accommodate the new pump configuration.

Perris Valley Regional Water Reclamation Facility Sidestream Treatment Facility, Eastern Municipal Water District, CA
Cost Engineer for construction of a sidestream deammonification facility. The project included construction of a new centrate pump station, equalization tanks, reactors, blower building, and electrical facility, along with associated piping, electrical, site work, and controls work.

Temecula Valley Regional Water Reclamation Facility Sidestream Treatment Facility, Eastern Municipal Water District, CA
Cost Engineer for construction of a sidestream deammonification facility. The project included construction of a new centrate pump station, equalization tanks, reactors, blower building, and electrical facility, along with associated piping, electrical, site work, and controls work.

Skyfarm 'A' and Hansford Court Lift Station Project, Santa Rosa, CA
Cost Engineer for the reconstruction of the Skyfarm 'A' and Hansford Court lift stations. The lift stations were damaged during the Tubbs wildfire and required replacement of the existing structures, pumps, electrical equipment, piping and ancillary electrical, mechanical and instrumentation systems. Project was performed with FEMA funding, requiring adherence to federal regulations for reimbursement. Project also included design services during construction.

Agenda Item 8

Engineering Committee Meeting

Meeting Date: June 13, 2024

TO: Engineering Committee

FROM: Roni Grant, Associate Engineer

SUBJECT: J. B. Latham Treatment Plant (JBL) Effluent Pump Station and Energy Building Design Contract [Project Committee 2]

Overview

SOCWA staff removed the Effluent Pump Station and Energy Building Improvements from the Package B Improvements scope of work. The work was primarily removed due to contractor difficulties complying with the construction requirement to maintain the treatment plant systems' operability during the Package B construction.

The proposed Scope of Services includes the revision and repackaging of drawings and specifications. Carollo Engineers provided a proposal for engineering services to repackage these two scope items into a new, updated construction package. The updates include additional construction details to address constructability issues and construction noise (day and night) impacts on the new residences adjacent to the project site. It should be noted that the residential units next to JBL were not constructed when the original Package B project was bid in 2018.

Specifically, the revised construction materials will provide:

- Constructability details for isolating the ocean outfall system to allow for continued operations during the effluent pipe and valve replacement work.
- A Jib-crane instead of a monorail crane to avoid conflicts with existing ductwork.
- Constructability details for the existing foul air ductwork to allow for the seismic retrofit of the roof framing and wall anchorage connections.
- Constructability details, for the proposed safety upgrades, in the project to minimize disruption to existing operations and limiting noise impacts from operating equipment when roof hatches and skylights are removed for replacement.
- Noise reduction measures and mitigations for the outfall work near the plant perimeter.

Carollo's proposed a total fee of $175,516. This includes $66,710 for the Energy Building Roof improvements, $44,471 for the Jib-crane, and $64,335 for the Effluent Pump Station improvements.

This item was discussed at the January 18, 2024, Engineering Committee Meeting and the February 1, 2024, Board of Directors Meeting. The PC 2 Board requested additional information, including a tour at JBL, to better understand the ongoing projects. The tour was conducted by

SOCWA staff with the PC 2 Board members on May 15, 2024. The PC 2 Board members directed staff to bring this item back to the Engineering Committee for further direction and discussion.

Cost Allocation

The Effluent Pump Station Improvements are under Project 32226L, a Liquids allocation Project. Table 1 shows the allocation of costs by member agency.

Table 1 – Cost Allocation by Member Agency (32226L)(Liquids)

Agency	Cost
Moulton Niguel Water District	$14,849
Santa Margarita Water District	$30,932
South Coast Water District	$18,554
Total	$64,335

The Energy Building Roof improvements are under Project 32225S, a Solids allocation project. Table 2 shows the allocation of costs by member agency.

Table 2 – Cost Allocation by Member Agency (32225S)(Solids)

Agency	Cost
Moulton Niguel Water District	$14,423
Santa Margarita Water District	$38,945
South Coast Water District	$13,342
Total	$66,710

The hoist system is under Project 3216, a Common allocation project. Table 3 shows the allocation of costs by member agency.

Table 3 – Cost Allocation by Member Agency (3216)(Common)

Agency	Cost
Moulton Niguel Water District	$9,939
Santa Margarita Water District	$23,671
South Coast Water District	$10,861
Total	$44,471

Table 4 shows the total by member agency.

Agency	Cost
Moulton Niguel Water District	$39,211
Santa Margarita Water District	$93,548
South Coast Water District	$42,757
Total	$175,516

Recommended Action: Staff recommends that the Engineering Committee recommend that the PC 2 Board approve the contract to Carollo Engineers for a total of $175,516 for the JBL Effluent Pump Station and Energy Building improvements.

5355 Mira Sorrento Place, Suite 270
San Diego, California 92121
P 858-505-1020
carollo.com

December 6, 2023

Roni Young
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629

Subject: J.B. Latham Treatment Plant (JBLTP) Facility Effluent Pump Station & Energy Recovery Building Re-package

Dear Ms. Young:

Pursuant to your request, Carollo Engineers, Inc. (Carollo) has prepared this letter proposal for the South Orange County Wastewater Authority (SOCWA) to provide engineering services associated with re-packaging of the Effluent Pump Station and Energy Recovery Building improvements that were removed from the Package B Improvements at the J.B. Latham Treatment Plant. The scope of services related to a re-package effort are outlined below.

Scope of Services

The proposed Scope of Services includes the revision and re-package of drawings and specifications. References to work in other areas from the previous Package B Improvements Project will be removed from the drawings and specifications, and only reflect the work to the Effluent Pump Station and the Energy Recovery Building. These documents will be re-packaged for SOCWA approval and become a new bid package for the work. Work at the Energy Recovery Building will include the following new work:

- Jib-crane addition at the 2nd floor of the Energy Recovery Building.
- Seismic retrofit of the roof framing and wall anchorage connections at the Energy Recovery Building.
- Safety Upgrades at Energy Recover Building roof including guardrail, skylights, and other items identified as part of Package B project.

Carollo will evaluate a proposed location for the jib-crane and develop strengthening details as required at the Energy Recovery Building 2nd floor and supporting elements to accommodate the installation. The 2019 California Building Code will be used as the basis for design of the structural support and strengthening. The crane hoist will be electric however the boom rotation will be manual. It is assumed the crane will not have any monitoring or alarm status to SCADA.

Carollo shall perform an update to the seismic retrofit design so that it complies with the 2019 California Building Code. Significant changes are not anticipated, but some adjustments may be necessary. An alternative attachment detail will be needed where the foul air ducting interferes with access to the roof/wall interface.

Carollo will update/adapt the Energy Recovery Building safety improvement details that were prepared for the Package B project. Significant changes are not anticipated but some adjustments may be necessary to address differing existing conditions identified during the Package B project.

Carollo will prepare general and discipline drawings to support the design elements listed above. Carollo will prepare applicable administrative and technical specifications to support the design elements listed above. Carollo will develop a cost estimate at the draft submittal. The estimate will be updated at the final submittal milestone.

Carollo will also review the Contractor's "As-Built" drawings from the Package B Improvements Project construction for any design clarifications that may have occurred in the Effluent Pump Station area. These potential changes will be review with SOCWA to confirm the approach to the design documents.

Deliverables

Plans/Specifications packages in electronic format (PDF file of Plans and Microsoft® Word file of Specifications, with 11-inch by 17-inch pages and 8.5-inch by 11-inch pages, respectively) at the Draft and Final Submittal design stages.

Schedule

Assuming approval of this amendment by January 1, 2024, the schedule for the overall project will be revised as follows:

- Draft Submittal to SOCWA: 4/1/2024
- SOCWA Draft Review Time: 4/1/2024 – 4/16/2024
- Final Submittal to SOCWA: 6/1/2024

Budget

A table with the estimated level of effort and fee is appended as Exhibit B. The exhibit also includes a list of drawings that are anticipated to be required as new or modified sheets.

Please let us know if you have any questions.

Sincerely,
CAROLLO ENGINEERS, INC.

Jeff Weishaar, P.E.
Vice President

JW:bg

Enclosures: Fee Table

cc:

South Orange County Wastewater Authority

JB Latham WWTP
Effluent Pump Station Energy Recovery Building Design

Exhibit A - Proposed Fee

TASK	Project Manage	Project Enginee	Structural	Electrical	CAD	Admin	Total Hours	Total Labor	Other Direct Costs	Task Total
Energy Recovery Building										
Project Management & Meetings	8	16	8	6			38	$ 8,140	$ 532	$ 8,672
Site Visit	4	4	8	8			24	$ 5,020	$ 1,086	$ 6,106
Energy Recovery Building										
Draft Bid Documents	16	48	56	34	110	8	272	$ 51,430	$ 4,308	$ 55,738
Final Bid Documents	12	28	20	20	54	6	140	$ 26,840	$ 2,460	$ 29,300
Effluent Pump Station										
Draft Bid Documents	8	24	24	22	70	8	156	$ 29,070	$ 2,684	$ 31,754
Final Bid Documents	4	20	16	16	42	6	104	$ 19,260	$ 1,956	$ 21,216
Prebid Meeting	4	4	4				12	$ 2,740	$ 168	$ 2,908
Addendum (1 Total)	4	36	24	8	20	6	98	$ 18,450	$ 1,372	$ 19,822
HOURS TOTAL	60	180	160	114	296	34	844	$ 160,950	$ 14,566	$ 175,516
RATE	*$305*	*$190*	*$190*	*$190*	*$175*	*$135*				
COST TOTAL	**$ 18,300**	**$ 34,200**	**$ 30,400**	**$ 21,660**	**$ 51,800**	**$ 4,590**		**$ 160,950**	**$14,566**	**$ 175,516**

Agenda Item 9

Engineering Committee Meeting

Meeting Date: June 13, 2024

TO: Engineering Committee

FROM: Roni Grant, Associate Engineer

SUBJECT: Contract Award for Effluent Transmission Reaches D and E Main Air Valves Bidding and Engineering Services During Construction [Project Committee 21]

Overview

SOCWA retained Tetra Tech, Inc. to perform a condition assessment on the Effluent Transmission Main (ETM) Reaches D and E air valves in 2020. This is because the ETM air valves were installed in 1978 and were showing signs of deterioration.

The outcome of the condition assessment was a recommendation to replace a number of the air valves and some of the associated piping that was in poor condition. Tetra Tech, Inc. was subsequently awarded the design project to rehabilitate the air valves and has completed the final design. The project includes the replacement of four (4) air valves and appurtenances within Reach D, as well as five (5) air valves and appurtenances within Reach E.

The project is now entering the bidding and construction phase. SOCWA requested that Tetra Tech, Inc. provide a fee proposal for the bidding and engineering services during construction (ESDC).

Tetra Tech submitted the attached proposal for bidding and ESDC services. The proposed fee is $5,000 for the bidding support services and $42,500 for the ESDC services, totaling $47,500. The scope of work includes the following:

- Bidding Support Services: Respond to questions during bidding, attend pre-bid conference, and prepare addenda as needed.
- ESDC Services: Coordination, construction-related meetings, shop drawing reviews, Request for Information (RFI) responses, minor plan revisions, and record drawings preparation.

Cost Allocation

The Reach D Air Valve Replacement Construction will be funded by 3107 and has available funds of $213,000 for the 23/24 fiscal year. The Reach E Air Valve Replacement Construction will be funded by 3108 and has available funds of $162,000 for the 23/24 fiscal year.

Table 1 shows the project allocation, and Table 2 shows the allocation by member agency.

Table 1 – Project Allocation

Project	Bidding and ESDC Services
PC 21, Task 3107, Reach D Air Valve Replacement	$20,900
PC 21, Task 3108, Reach E Air Valve Replacement	$26,600
Total	$47,500

Table 2 – Allocation by Member Agency

Member Agency	PC 21, Task 3107	PC 21, Task 3108
El Toro Water District	$10,450	$6,195
Irvine Ranch Water District	$10,450	$6,195
Moulton Niguel Water District		$14,210
Total	$20,900	$26,600

Recommended Action: Staff recommends that the Engineering Committee recommend that the PC 21 Board of Directors approve the contract to Tetra Tech in the amount of $47,500 for the bidding and ESDC services for the ETM Reaches D and E Air Valve Replacement project.

TETRA TECH

May 22, 2024

Transmitted via E-mail: *rgrant@socwa.com*

Ms. Roni Young Grant, PMP
Associate Engineer
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629

Reference: **ETM Reaches D & E Air Valve Replacement**
Bidding and Construction Support Services Proposal

Dear Ms. Grant:

Since December 2020, Tetra Tech has worked on SOCWA's Effluent Transmission Main (ETM) Reach D & Reach E Air Valve Condition Assessment project, including preparation of a detailed technical memorandum and construction plans/specifications. The project is now at a stage where the final bid set is imminent and SOCWA has asked Tetra Tech to prepare a proposal for the bidding and construction support services during construction.

BACKGROUND

The air valves and air service piping between the ETM and air valve are original to the ETM facility. Given their age and as confirmed during the condition assessment stage, Tetra Tech recommended replacing the air valve service line and isolation valve located at the top of the ETM pipe per a typical air valve detail. The main advantage of this replacement alternative is that the buried butterfly valve will be replaced, and the air valve could once again be used for isolation during the annual air valve maintenance cycle.

The construction package includes the replacement work for nine (9) locations. Six (6) of the locations are within the Aliso Creek Critical Coastal Area and require a permit from the California Coastal Commission (CCC), which SOCWA will obtain before the start of construction.

SCOPE OF WORK

The following is our proposed scope and fee for the work effort.

1.0 Bidding Support Services

A. Tetra Tech will assist SOCWA in answering questions and providing clarifications to the plans and specifications during the bidding phase of the project. We have assumed eight (8) hours of engineering time for this task.

B. Tetra Tech will attend the pre-bid conference and prepare a Draft of the required addendum along with summary of questions and answers. SOCWA will be responsible for preparing the final addendum and distributing to the bidders. For this proposal, we have assumed one (1) addendum will be required.

2.0 Construction Support Services

A. Tetra Tech will provide construction support services to SOCWA for the construction phase of the work. Construction support services depend greatly on the Contractor's schedule, the adequacy of his submittals, and the amount of issues/conflicts that arise during the construction of the project. Tetra Tech does not control the amount of the submittals, RFIs or the issues that arise, or the adequacy of the submittals or the additional information requested by the Contractor. Tetra Tech will perform the construction support services on a time and material basis while not exceeding the approved budget for the anticipated level of service noted below.

1. ***SOCWA Coordination***: Tetra Tech will coordinate with SOCWA during the construction phase which includes responding to e-mails, phone correspondence, and overall project management. We have assumed a maximum on one hour per month for an eight (8) month construction duration.

2. ***Construction/Site Meetings****:* Tetra Tech will attend the pre-construction meeting and two (2) other site/visits or meetings during the construction phase.

3. ***Shop Drawing Review****:* Tetra Tech will review and respond to 20 shop drawings with half of them 10 requiring a second review.

4. ***RFI Responses****:* Tetra Tech will respond to six (6) Requests for Information (RFI). We have assumed that two (2) of these responses will require a corresponding sketch or exhibit.

5. ***Minor Plan Revisions****:* Tetra Tech will provide up to 12 hours of staff time for minor plan revisions to the construction drawings.

6. ***Record Drawings****:* Tetra Tech will prepare record drawings based on the Contractor's and SOCWA's mark-up drawings. One reduced (11"x17") plan set will be submitted for review by SOCWA. After SOCWA's review and approval, the record drawing set will be submitted which will include signed mylars and a CD containing the electronic drawing files.

Exclusions:

- Inspection Services

FEE

Tetra Tech is pleased to submit this proposal to provide the above scope of services for the following not-to-exceed amount.

Task No.	Description of Task	Budget Fee
1.0	Bidding Assistance	$ 5,000
2.0	Construction Support Services	$ 42,500
	Total Not-to-Exceed Fee	**$ 47,500**

We have also included the estimated person-hours and corresponding fee breakdown per subtask. Attached is our hourly rate schedule. If you have any questions or require additional information, please do not hesitate to call.

Ms. Roni Grant, PMP, Associate Engineer
May 22, 2024

Sincerely,

Tom Epperson, P.E.
Vice President

TLE/ng
Attachment

M:\Marketing\Proposals\FY 2024\SOCWA_ETM CM Services Proposal

Price Proposal

SOCWA ETM-Bidding and CM Services

SOCWA ETM Air Valves- Bid and Construction Phase Services

Submitted to: SOCWA (Attn: Roni Grant)

Contract Type: T&M NTE

Project Phases / Tasks	Total Labor Hrs	Project Manager (Tom Epperson)	Senior Project Manager (Neha Gajjar)	Project Engineer 2 (Erica Jenkins)	Sr Engineer 2 (Cory Heggtveit)	Engineer 2 (Justin Clark)	Labor	ODCs	Task Pricing Totals
Proj Area >		Civil	Civil	Civil	Civil	Civil			
Project Phases / Tasks	**255**	2	42	78	42	91	46,835	665	**47,500**
Task 1000: Bid & CM Support Services	**255**	**2**	**42**	**78**	**42**	**91**	**46,835**	**665**	**47,500**
1001- Bid Support Services	**28**	**-**	**4**	**4**	**6**	**14**	**4,810**	**190**	**5,000**
A. Respond to Questions/Provide Clarifications	8		2	2	2	2	1,620		1,620
B. Attend Pre-Bid/Prepare Addendum with Q&A Summary	20		2	2	4	12	3,190	190	3,380
1002- Construction Support Services	**227**	**2**	**38**	**74**	**36**	**77**	**42,025**	**475**	**42,500**
A. SOCWA Coordination (for 8 months total)	8		8				2,440		2,440
B. Construction/Site Meeting (3 total)	10		4	6			2,300	330	2,630
C. Shop Drawing Review (20/10 total)	75	2	8	20	30	15	14,765		14,765
D. RFI Responses (6 total)	18		2	4	6	6	3,280		3,280
E. Minor Plan Revisions (12 hours total)	12			4		8	1,640		1,640
F. Record Plans	104		16	40		48	17,600	145	17,745
Totals	**255**	**2**	**42**	**78**	**42**	**91**	**46,835**	**665**	**47,500**

Labor Plan

5 Resource

Price Summary / Totals

Task Pricing Totals	47,500
Specify Add'l Fees on Setup	0
Technology Use Fee	
Total Price	**47,500**

Pricing by Resource

TETRA TECH

Exhibit A

2024

HOURLY CHARGE RATE AND EXPENSE REIMBURSEMENT SCHEDULE

Project Management	
Project Manager 1	$220.00
Project Manager 2	$260.00
Sr Project Manager	$305.00
Program Manager	$340.00
Principal in Charge	$340.00
Engineers	
Engineering Technician	$65.00
Engineer 1	$105.00
Engineer 2	$115.00
Engineer 3	$130.00
Project Engineer 1	$150.00
Project Coordinator	$175.00
Project Engineer 2	$165.00
Sr Engineer 1	$175.00
Sr Engineer 2	$185.00
Sr Engineer 3	$210.00
Principal Engineer	$300.00
Planners	
Planner 1	$104.00
Planner 2	$115.00
Sr Planner 1	$125.00
Sr Planner 2	$151.00
Sr Planner 3	$175.00
Designers & Technicians	
CAD Technician 1	$65.00
CAD Technician 2	$75.00
CAD Technician 3	$90.00
CAD Designer	$105.00
Sr CAD Designer 1	$125.00
Sr CAD Designer 2	$150.00
CAD Director	$155.00
Survey Tech 1	$50.00
Health & Safety	
H&S Administrator	$95.00
Sr H&S Administrator	$115.00
H&S Manager	$145.00

Construction	
Construction Project Rep 1	$80.00
Construction Project Rep 2	$90.00
Sr Constr Project Rep 1	$110.00
Sr Constr Project Rep 2	$120.00
Construction Manager 1	$170.00
Construction Manager 2	$190.00
Construction Director	$235.00
General & Administrative	
Project Assistant 1	$67.00
Project Assistant 2	$75.00
Project Administrator	$95.00
Sr Project Administrator	$120.00
Graphic Artist	$130.00
Technical Writer 1	$97.00
Technical Writer 2	$124.00
Sr Technical Writer	$155.00
Information Technology	
Systems Analyst / Programmer 1	$77.00
Systems Analyst / Programmer 2	$115.00
Sr Sys Analyst / Programmer 1	$130.00
Sr Systems Analyst / Programmer 2	$196.00
Project Accounting	
Project Analyst 1	$90.00
Project Analyst 2	$114.00
Sr Project Analyst	$155.00

Reimbursable In-House Costs:	
Photo Copies (B&W 8.5”x11”)	$ 0.15/Each
Photo Copies (B&W 11”x17”)	$ 0.40/Each
Color Copies (up to 8.5"x11")	$ 2.00/Each
Color Copies (to 11"x17")	$ 3.00/Each
Compact Discs	$10/each
Large format copies	$0.40 S.F.
Mileage-Company Vehicle	$0.80/mile
Mileage-POV	$0.55/mile*

*current GSA POV mileage rate subject to change

All other direct costs, such as production, special photography, postage, delivery services, overnight mail, printing and any other services performed by subcontractor will be billed at cost plus 15%.

Agenda Item 10

Engineering Committee Meeting

Meeting Date: June 13, 2024

TO: Engineering Committee

FROM: Roni Grant, Associate Engineer

SUBJECT: Coastal Treatment Plant (CTP) Funding Plan Implementation
[Project Committee 15]

Overview

SOCWA has been working with Hazen to develop a CTP funding strategy and implementation plan. The final report and findings were presented at the February Engineering Committee Meeting and March Board Meeting. The Engineering Committee recommended obtaining a cost proposal from Hazen to identify specific funding sources and projects as the next step.

The Phase 2 Funding Strategy Plan implementation scope of work includes the following:

- Develop a funding implementation work plan.
- Develop and submit a US Bureau of Reclamation (Reclamation)WaterSmart Planning and Design Grant Application.
- Develop and submit a Water Infrastructure and Innovation Act (WIFIA) loan application.
- Develop and submit FEMA Building Resilient Infrastructure and Communities (BRIC) grant application.
- Develop and submit an Environmental Protection Agency (EPA) climate-resilient pollution reduction grant or Reclamation WaterSmart Grant.
- Funding Dashboard
- Project Management

Hazen's proposed fee for the implementation of the Phase 2 Funding Strategy Plan is $150,000.

SOCWA staff obtained a list of agencies that have implemented similar programs, and those agencies have been successful in attaining grant funding.

Recommended Action: Committee Discussion/Direction and Action.

Hazen

SOCWA
South Orange County Wastewater Authority

Coastal Treatment Plant Resiliency and Water Quality Improvements

Phase 2 Funding Strategy Plan Implementation

Hazen and Sawyer
800 W. 6th Street, Suite 400
Los Angeles, CA 90017 • 213.234.1080

April 24, 2024

South Orange County Wastewater Authority
Attn: Jim Burror
34156 Del Obispo Street
Dana Point, CA 92629

South Orange County Wastewater Authority Coastal Treatment Plant Resiliency and Water Quality Improvements – Phase 2 Funding Strategy Plan Implementation

Dear Jim,

Hazen is pleased to submit this proposal as the implementation phase of the South Orange County Wastewater Authority (SOCWA) Coastal Treatment Plant – Resiliency and Water Quality Improvement Funding Strategy (CTP Strategy). The CTP Strategy was submitted to SOCWA's Board of Directors (Board) on January 29, 2024, and approved by the Board on April 4, 2024. This second phase of the project will involve developing and submitting funding applications that SOCWA has the greatest chance of funding success and leverage both loans and grants to meet the funding goals for the design and construction of the CTP Resiliency and Water Quality Improvement project(s).

Hazen offers an experienced multidisciplinary team with extensive grant and loan funding success from state, local, and federal sources. We understand funding priorities and have decades of relationships with the agencies distributing those funds. We also bring financial analysis, environmental compliance, and project design engineers—the technical support required to develop a competitive loan or grant application.

The project will build off the approved funding strategy, focusing on applying for WIFIA funding, maximizing available grant funding, and setting a feasible and tangible path to garner funding aligned with SOCWA's design and construction timeline.

Our team is organized to efficiently meet your specific technical, schedule, and budget constraints, and we are prepared to initiate funding work immediately. Below are some of the benefits our team brings to SOCWA.

Funding Assistance Secured by Hazen over the Past 10 Years

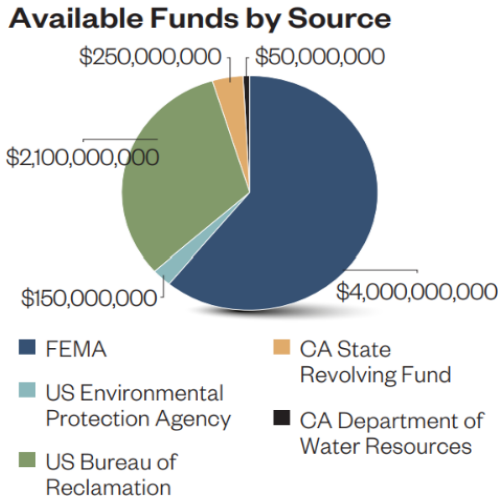
$1.6 Billion+
Grant Funding Amount

$2.5 Billion+
Loan Funding Amount

$4.1 Billion+
Total Funding Amount

Hazen

Experienced Project Manager & Funding Expert: Our Project Manager, Lisa Hulette, MBA, brings over 20 years of funding experience in the western United States. She has worked closely with state resource agencies to develop grant guidelines and has a remarkable success rate in securing grant awards. Lisa's expertise extends beyond her direct work, as she has been a key participant in federal public grant review committees for the past decade. Her deep understanding of funding, strategic grant insight, and full compliance knowledge make her a valuable asset to our team. President Joseph Biden announced one of her recent grant awards during a press conference, showcasing how an agency can creatively respond to a critical infrastructure issue following a natural disaster and then leverage federal funding to solve the problem.



Full-Service Team: Hazen's team includes Dave Jones, PE, who is widely recognized as an industry leader in water infrastructure planning design and familiarity with SOCWA; Mary Hambel, PE, brings additional local knowledge and funding expertise; and Trapa Barua, AICP, is fluent in all aspects of environmental compliance and permitting requirements that are part of all funding applications. Our team has a close working relationship with each other, which supports cohesive and responsive delivery. Depending on the complexity of the grant or loan application, Hazen may utilize the services of our in-house GIS team for grant-specific maps, an economist for any water monetization requirements of the future cost of water, and our construction cost estimator.

Hazen previously entered into a contract utilizing SOCWA's standard professional services contract. We understand SOCWA's processes and are confident that we can secure funding for this project and provide the high level of service Hazen is known for.

Please call if you have any questions about our proposal. We look forward to working with you.

Very sincerely yours,

Dave Jones, PE

Lisa Hulette

Hazen

Scope of Work

This scope of work has been developed as the implementation component of the SOCWA CTP Coastal Resiliency Funding Strategy Plan (Funding Plan). Our focus is on balancing grants and loans to implement the CTP Program.

Hazen will provide template letters of support, board resolutions, standard funding forms, and registrations for submission to funding agencies.

Task 1: Develop a Funding Implementation Workplan. Hazen, in collaboration with SOCWA, will develop a funding workplan that establishes when information will be needed from SOCWA (e.g., Data, Board Resolutions, Letters of Support, etc.), the funding goal for each opportunity, the impact of funding on rates, the timing of each deliverable, and the anticipated date of award.

- **Submittal Deadline:** Within 30 days of the Notice to Proceed

Task 2: Develop and submit a US Bureau of Reclamation (Reclamation) WaterSmart Planning & Design Grant Application. This task will run concurrently with task 1. The purpose of this grant opportunity is two-fold: to receive design funds and environmental compliance funding and to have a Reclamation-approved design that will meet all Reclamation requirements for a construction application.

- **Submittal Deadline to Reclamation:** May 21, 2024[1]

Task 3: Develop and Submit a Water Infrastructure and Innovation Act (WIFIA) Loan Application.

This task will begin on completion of the funding work plan. Hazen will work with SOCWA to develop a WIFIA loan application to bring money to launch the CTP Program and provide local cost-share for state and federal grant applications. This task includes coordination with EPA WIFIA staff, writing the Letter of Intent (LOI), and developing the WIFIA application. The application submittal date is an estimate based on the typical time for the EPA to approve the LOI.

- **LOI Submittal to EPA:** September 30, 2024
- **Application Submittal EPA:** January 5, 2025

[1] If the contract is not signed within two weeks of the Reclamation Planning Grant 2024 deadline, then other design grants may be considered

Task 4. Develop and Submit FEMA Building Resilient Infrastructure and Communities (BRIC) Grant Application.

CalOES is the primary grantee to FEMA's BRIC grant program. SOCWA will apply as a sub-applicant to CalOES. Hazen will work with SOCWA to develop a competitive two-phased BRIC grant Notice of Intent and subsequent application for submittal to CalOES. A two-phased grant allows SOCWA to utilize federal grant funding for design, environmental compliance, and construction. We will develop a strategic & competitive grant, which includes a benefit-cost analysis. The budget for the task consists of CalOES Requests for Information (RFI), a standard part of the application, but does not include any federal RFI's that may be required.

- **NOI Submittal:** August 30, 2024
- **Application Submittal:** December 31, 2024

Task 5. Develop and Submit Environmental Protection Agency (EPA) Climate Resilient Pollution Reduction Grant or US Bureau of Reclamation (Reclamation) WaterSmart Grant

Hazen will develop and submit either an EPA or USBR WaterSmart grant application. The decision on which application to submit will depend on the construction schedule, the timing of the funding need, and the release of the grant Notice of Funding Opportunity (NOFO).

- **Application Submittal:** Dependent on the timing of EPA or Reclamation NOFO release schedule and the construction timing established in Task 1.

Task 6. Funding Dashboard. The funding dashboard displays funding goals for the CTP Program identified in Task 1, including applications submitted from Tasks 2-5, new opportunities, and progress toward the goal.

- **Dashboard Completion:** Within 60 days of Notice to Proceed and 30 days after Task 1 is complete. The dashboard will be updated every other month throughout the project.

Task 7. Project Management. This task includes refining the scope and schedule, managing the project, documenting quality assurance reviews, and conducting monthly update meetings. It will run for the duration of the project.

Hazen

Potential Future Tasks

The following tasks are **not** included in this scope and fee but may be desired by SOCWA. If approved by SOCWA, Hazen will consist of the following additional tasks to the funding strategy.

- **Environmental Compliance Documentation.** Hazen has a full-service environmental compliance team and can prepare the required California Environmental Quality Act (CEQA) and/or a CEQA+ document that complies with both CEQA and the National Environmental Quality Act (NEPA) at SOCWA's request.

- **Additional Grant Opportunities.** New grant opportunities not in the Funding Plan will be shared with SOCWA at monthly update meetings.

Deliverables

Hazen will deliver the following items as part of this project:

- Funding work plan that aligns with the timing of the design and construction schedule
- Draft and Final version of the USBR WaterSmart Planning Grant
- Draft and Final version of FEMA BRIC Grant, including benefit-cost analysis
- Draft and Final version of EPA or USBR WaterSmart grant application, depending on the timing of construction and release of grant NOFO.
- Funding Dashboard

Hazen

Proposed Fee

The rate schedule is attached.

The total fee will not exceed $150,000 without further authorization. We will invoice each task on a lump sum basis based on the percent complete. Estimated fees for each task are summarized in Table 1. Due to the nature of competitive grants and the agency request for information process, costs for each task may fluctuate, but Hazen will confirm any changes with SOCWA before proceeding.

Table 1: SOCWA Funding Implementation

Estimated Fees

Task and Description	Estimated Fee
Task 1. Funding Workplan	$ 5,000
Task 2. Reclamation Planning & Design Grant	$20,000
Task 3. WIFIA Application	$30,000
Task 4. FEMA BRIC Application	$45,000
Task 5. EPA Climate Resiliency or Reclamation WaterSmart Grant	$30,000
Task 6. Funding Dashboard	$10,000
Task 7. Project Management and Quality Control	$10,000

Schedule

We will begin this project within 30 days of authorization to proceed and estimate completion within 12 months. This schedule may change depending on unexpected funding agency changes or the timing of SOCWA's design and/or construction schedule.

Attachment A
South Orange County Wastewater Authority
Funding Plan Implementation

Rate Schedule: The following staff are the primary staff that will work on this project. Other staff may be used for discrete tasks on grant application. The 2023-2024 Hazen rate schedule is shown below

Hazen Staff Name	Role	2024 Rate
Dave Jones, PE	Principal	$325
Marc Solomon, PE, BCEE	QA/QC Manager	$325
Lisa Hulette, MBA	Project Manager	$280
Trapa Barua, AICP	Funding Support	$175

Hazen and Sawyer July 2023 - June 2024 Rate Schedule

Classifications	Hourly Rates
Principal-in-Charge, Vice President, Associate Vice President	$265-360
Senior Project Manager, Senior Construction Manager, Technical Advisor, QA/QC Manager	$240 -345
Project Manager, CAD/BIM Manager	$185-270
Construction Manager, Resident Engineer	$155-290
Senior Associate, Associate	$220-315
Senior Project Engineer, Senior Principal Engineer, Senior Project Architect/Landscape Architect, Senior Land Surveyor	$165-275
Project Engineer, Principal Engineer, Project Architect/Landscape Architect, Project Land Surveyor	$155-215
Professional Engineer, Engineer, Land Surveyor, Architect/Landscape Architect	$145-205
Inspector	$150-235
Engineer-in-Training, Civil Engineering Designer	$130-180
CAD/BIM Designer/Technician, GIS Professional	$100-220
Engineering Assistant	$130-180
Administrative Assistant, Project Administrator/Coordinator	$100-170
Two-man Survey Crew (per Hour/Day)	--
Ground Penetrating Radar Utility Locating Crew (Per Hour/Day)	--

Hazen and Sawyer July 2023 - June 2024 Rate Schedule

Classifications	Hourly Rates
Principal-in-Charge, Vice President, Associate Vice President	$265-360
Senior Project Manager, Senior Construction Manager, Technical Advisor, QA/QC Manager	$240 -345

Project Manager, CAD/BIM Manager	$185-270
Construction Manager, Resident Engineer	$155-290
Senior Associate, Associate	$220-315
Senior Project Engineer, Senior Principal Engineer, Senior Project Architect/Landscape Architect, Senior Land Surveyor	$165-275
Project Engineer, Principal Engineer, Project Architect/Landscape Architect, Project Land Surveyor	$155-215
Professional Engineer, Engineer, Land Surveyor, Architect/Landscape Architect	$145-205
Inspector	$150-235
Engineer-in-Training, Civil Engineering Designer	$130-180
CAD/BIM Designer/Technician, GIS Professional	$100-220
Engineering Assistant	$130-180
Administrative Assistant, Project Administrator/Coordinator	$100-170
Two-man Survey Crew (per Hour/Day)	--
Ground Penetrating Radar Utility Locating Crew (Per Hour/Day)	--
Reimbursable Charges	**Rates**
Mileage	IRS Rate
Consumable Charge	$6/hour
Prints, Plots, Messenger Services and other direct expenses markup	Cost + 10%
Outside Consultant Services Markup	10%
Traffic Control	--
Other	Cost + 10%

Agenda Item 11

Engineering Committee Meeting

Meeting Date: June 13, 2024

TO: Engineering Committee

FROM: Roni Grant, Associate Engineer

SUBJECT: Contract Award for Coastal Treatment Plant (CTP) West Primary and Secondary Scum Skimming System Pre-Procurement [Project Committee 15]

Overview

The Coastal Treatment Plant (CTP) consists of three west primary sedimentation basins and three west secondary sedimentation basins as part of the original 1982 construction. The scum skimming system, including scum skimmers, troughs, and beaches, are severely corroded, are at the end of their useful lives, and in need of replacement. The existing equipment is also no longer supported by GMI, and parts are not available for repairs.

SOCWA staff determined that two vendors have equipment that can be installed in the existing basins that match the specifications of the existing equipment. This includes Brentwood Polychem, represented by Coombs Hopkins, and Jim Myers & Sons, represented by Misco Water.

The approximate procurement time is 20 to 36 weeks. Thus, SOCWA staff recommends pre-purchasing the scum skimming systems. Construction installation bidding to install the equipment would occur once the equipment is onsite to reduce the contractor's overhead costs associated with waiting for equipment delivery.

Table 1 shows the summary of the quotes staff requested from the two vendors.

Table 1 - Summary of Quotes

Equipment	Brentwood Polychem	Jim Myers & Sons
West Primary Scum Skimming System	$494,357	$764,280
West Secondary Scum Skimming System	$436,603	$764,280
Total	$930,960	$1,528,560

Cost Allocation

The lower-cost equipment is from Brentwood Polychem for $930,960. These quotes include sales tax, installation support, and training. Staff is requesting a 10% contingency in the amount of $93,096, totaling $1,024,056, to cover delivery and unloading charges. Table 2 shows the allocation of costs by member agency.

Table 2 – Cost Allocation by Member Agency (including 10% contingency)

Agency	Cost
City of Laguna Beach	$388,224
Emerald Bay Service District	$30,569
Moulton Niguel Water District	$299,575
South Coast Water District	$305,688
Total	$1,024,056

The FY 2024-25 budget for Project 35246L (West Primary Sludge Skimmers and Launders/Weirs) is $500,000. FY 2024-25 budget for Project 35239L (West Secondary Scum Skimmers) is $600,000. The current project budget of $1,100,000 is intended for pre-purchasing equipment.

Recommended Action: Staff recommends that the Engineering Committee recommend that the PC 15 Board of Directors i) approve a contract with Brentwood Polychem, represented by Coombs Hopkins, for a total of $930,960 for the Coastal Treatment Plant West Primary and Secondary Scum Skimming Systems, and. ii) approve a contract contingency of 10% in the amount of $93,096 to cover delivery and unloading charges.

PROPOSAL #WG07874_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST PRIMARY HELICAL SKIMMERS

May 29, 2024

ATTN: Roni Young Grant
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92011
USA
Phone: (949) 632-5256
Fax:
email: rgrant@socwa.com

Re: Laguna Niguel, CA - SOCWA Coastal TP - West Primary Helical Skimmers
Polychem™ Skimming System

BUDGETARY PROPOSAL

Brentwood Industries, Polychem Brand, proposes and offers to supply all materials and services as an Approved manufacturer and in general accordance with Brentwood's standard practices and specifications, clarifications, and information provided.

TECHNICAL SPECIFICATION(S): N/A

SECTION(S): N/A
ADDENDA RECEIVED: N/A

BRENTWOOD PROPOSES TO FURNISH POLYCHEM SCUM SKIMMING EQUIPMENT AS FOLLOWS:

Three (3) 304 SS Helical Skimmers, with Beach and Trough, Approximately 18-inch Diameter x 16 FT Long

BRENTWOOD PROPOSES TO FURNISH POLYCHEM FRP TROUGH EQUIPMENT AS FOLLOWS:

(9) FRP troughs, (3) in each tank, 12" width x 20" height, 15' long Including Hardware

PROPOSAL #WG07874_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST PRIMARY HELICAL SKIMMERS

***ITEMS INCLUDED:**

ITEM	DESCRIPTION / MATERIAL
HELICAL SKIMMER COMPONENTS	DESCRIPTION / MATERIAL
Helical Reel	304 SS
Wiper for Helical Reel	EPDM Rubber
Beach for Helical Skimmer	304 SS
Trough Gasket	Neoprene
Trough for Helical Skimmer	304 SS
Wall Bearings for Helical Skimmer	Cast Iron w/UHMW-PE Lining
Collar for Helical Skimmer	Cast Nylon 6 w/set screw
Drive Chain	NH78, Reinforced Nylon Resin w/ 303 SS Pins
Drive Sprocket Shear pin Assembly	11T Nylon Sprocket w/ Bronze Insert Mounted to 304 SS Shear Pin Hub
Chain Tightener(s) for Drive Chain	Nylon 6-6 7T Sprocket w/Cast Nylon-6 Arm and FRP Adjustable Mounting Bracket
Limit Switch	DPDT, Square D, Alum., NEMA 1,2,4,6,6P,12,13 / Class 1 Div 1 B/C/D, SS Arm
Overload Protection Device	11T Cast Nylon Sprocket on Stainless Steel Hub
Drive Unit Output Shaft	304 SS
Drive Unit(s) w/Motor and Reducer	SEW Eurodrive Helical-Bevel Gearmotor, 1/2HP, 3 Ph, 60 Hz, 230/460 V
Base Plate for Drive Unit(s)	304 SS
Chain Guard for Drive Chain	304 SS
Anchor System	316 SS
Seismic Anchor Calculations	As Specified
Adhesive for Anchors w/ Dispenser	Hilti

PROPOSAL #WG07874_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST PRIMARY HELICAL SKIMMERS

*ITEMS INCLUDED (Continued):

ITEM	DESCRIPTION / MATERIAL
FRP Troughs	As Required.
*	Above Item Descriptions/Materials may vary slightly after engineering and consultant review.

PROPOSAL #WG07874_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST PRIMARY HELICAL SKIMMERS

ITEMS SPECIFICALLY NOT INCLUDED

1	Control Panel(s)
2	Effluent Troughs, Weirs, Baffles
3	Spare Parts
4	Hold Down Rail, 304 SS
5	Tank Measurements
6	PE Stamp of Submittals

PROPOSAL #WG07874_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST PRIMARY HELICAL SKIMMERS

EXISTING CONCRETE STRUCTURE (IF APPLICABLE):

Pricing and schedule are based on limited structural information provided at the time of quotation and assume the necessary existing tank dimensions will be provided by purchaser in a timely manner to facilitate the start of submittals. In lieu of customer supplied tank dimensions, purchaser may elect to procure Brentwood's Tank Measurement services. Should the verified tank dimensions and equipment conditions differ from the information provided for quotation, and/or require special bracketry or supporting structures, Brentwood reserves the right to revise pricing and schedule accordingly. Delays associated with receipt of complete tank measurements, incomplete information from RFI's, and release and approval to manufacture may result in changes to the price and schedule.

TANK MEASUREMENTS:

Tank Measurements are NOT included in this price or proposal, but can be provided and billed per attached published field labor and expense rates. If measurement services are purchased, Brentwood will require the assistance of one (1) person while on site to support tank measurements, and tanks must be completely drained and cleaned before entrance. In addition, customer / contractor shall supply all necessary equipment to safely access tanks (ladders, lighting, etc.). Tank measurement services require a minimum 2 week notice and are based on technician availability.

SUBMITTALS:

Shop drawing and submittal preparation will be in accordance with Brentwood's standard submittal practices, and will be based on one submittal for all tanks at one time. Should separate submittals for each tank be required at separate intervals, Brentwood reserves the right to revise pricing accordingly.

TIME AND DELIVERY:

1. Brentwood will furnish initial submittal drawings approximately twelve to fourteen (12-14) weeks after receipt of executed purchase order and field verified structural dimensions and information. PE review, calculations and stamp (if required) may be sent at a later date under separate cover.
2. Estimated Submittal Review: Brentwood estimates a four (4) week review period by consultant or customer.
3. We further propose to furnish the equipment approximately eighteen (18) weeks after receipt of final engineering approval and returned submittal drawings and release to manufacturing.

FREIGHT:

Freight allowed, best way, point of manufacture to job site. Requests for specific methods of shipment will be at requestors' expense. On-site transportation, unloading, and storage costs by others.

WEIGHT AND VOLUME:

Estimated weight is 0,400 Lbs. Estimated volume is One (1) Truck(s).

TAXES:

Pricing does not include any States' sales tax if applicable, unless otherwise stated.

PROPOSAL #WG07874_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST PRIMARY HELICAL SKIMMERS

SCHEDULE OF VALUES & PAYMENT TERMS:

1. 15% with Shop drawing and submittal transmission; 35% with approved submittals and/or release to manufacture; 50% on material shipment. All payments 100% Net 30 days from invoice date. Payment terms subject to credit approval.
2. These terms are not contingent upon or in conjunction with any agreement purchaser has with other parties.
3. For Brentwood Water & Wastewater Standard Terms and Conditions visit: https://www.brentwoodindustries.com/terms/

ESCALATION:

The price(s) quoted are subject to adjustment to reflect increases in material cost(s), should these increases in price exceed 3% during the specified Schedule of Construction. Increases are based on price indexes for PVC (ChemData) and Stainless Steel (MEPS International), which can be provided upon request. It is understood and agreed that it will be Brentwood's option whether to invoke escalation, should the price exceed this amount.

BILL AND HOLD:

If Purchaser fails to take delivery on any scheduled delivery date based on the terms of the executed purchase Agreement, Brentwood reserves the right to reallocate any Product to other projects and reschedule production for the delayed Product. Purchaser will be required to accept any increase in price associated with the repurchase of material to fulfill the purchased Product requirements and the Product Delivery Date will be rescheduled in conjunction with current production schedules.

If the Purchaser requests that Brentwood holds Product in excess of an agreed upon delivery date and Brentwood agrees to hold the Product, Purchaser will provide written notification to Brentwood to store the Product at its facilities for a period of time prior to shipment ("Bill and Hold"). Brentwood will provide written confirmation of the Bill and Hold to Purchaser, including a Statement of Transfer of Title and invoice.

Payment for the Bill and Hold material is due in accordance with the agreed upon terms in the executed purchase Agreement except to the extent dates must be adjusted due to delivery rescheduling, in which case adjusted dates will be shown on the invoice. All payments will be made in accordance with the invoiced payment terms and instructions. For all Bill and Holds, Purchaser acknowledges that (i) they have made a fixed commitment to purchase the Product, (ii) risk of ownership for the Product passes to Purchaser upon signing Statement of Transfer, (iii) Purchaser has requested that the Product be on a Bill and Hold basis for legitimate business purposes, (iv) if no delivery date is determined at the time of invoicing and Statement of Transfer and Brentwood does not receive a request for delivery within two (2)months from the Bill and Hold invoice date, Brentwood has the right to release the shipment upon written notice to Purchaser any time following the two (2) month period from Bill and Hold invoice date. Brentwood shall be entitled to storage charges of 1 ½% per month of the purchase value of stored material beginning 30 days after Bill and Hold invoice date and continuing until the Product is picked up by Purchaser or shipped by Brentwood. Upon receipt of request from Purchaser to ship the stored Product, Brentwood shall use commercially reasonable efforts to ship the Product within two (2) to 4 (four) business weeks following confirmed receipt of such request.

PROPOSAL #WG07874_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST PRIMARY HELICAL SKIMMERS

VALIDITY:

This proposal is valid for a period not to exceed 120 days from latest date shown above unless extended by Brentwood in writing. Pricing on this project is based upon shipment schedule as shown above. Extensions to delivery timelines or requests for staged shipments may require renegotiation of pricing.

FIELD SERVICE STARTUP AND TRAINING:

The services of a qualified Brentwood field technician is included to assist in inspection of installed equipment, startup and field testing, certification, and operator training, if required by specification. Duration limited to One (1) trip(s) for Two (2) man-day(s) on site total. Non use of contractual field service days does not generate a credit on this project. Field service requires a minimum 2 week notice and is based on technician availability. Less notice may be accommodated with additional costs.

OPERATION AND MAINTENANCE MANUALS:

Unless otherwise specified, one (1) digital copy of our O&M manual and installation and layout drawings will be furnished on or before shipment of equipment. Digital copy can be downloaded from our FTP site or finished on a USB Flash drive. Digital copy of O&M shall be in Adobe pdf format and be locked and uneditable.

WARRANTY:

Brentwood warrants material supplied on this project to be free from defects in workmanship or materials for a period of twelve (12) months from date of certification by an authorized Brentwood representative or eighteen (18) months from date of shipment, whichever shall occur first. Warranty excludes labor to install or remove parts. Chain and flight system is designed for continuous operation, and intermittent operation is not recommended due to potential for excess sludge build up. Damage resulting from intermittent operation of chain and flight equipment is not covered under this warranty. Brentwood recommends limiting the the rotation of the scum pipe to no more than once every 4 hours to mantain the longevity of the equipment.

PAINTING AND COATINGS:

Stainless Steel and plastic equipment shall not be painted. Unless otherwise specified, all ferrous wetted components will be provided with a surface preparation of SSPC-SP10 Near White Metal and a shop primer 1 coat of Sherwin Williams Dura-Plate 235 Multi-Purpose Epoxy @ 4 Mils D.F.T. It is the responsibility of the contractor to ensure finish paint is compatible with specified primer. Any adhesion issues between coats are not the responsibility of Brentwood. The top coat must be applied within 6 months of the prime coat, otherwise the assembly surface will need to be abraded or the primer will need to be removed and surface preparation redone prior to application of the top coat, by others. OEM components above deck (drive units, bearings, actuators, etc.) shall be furnished with manufacturer's factory finish.

AMERICAN IRON AND STEEL ACT:

Per Implementation of American Iron and Steel provisions of P.L. 113-76, Consolidated Appropriations Act, 2014, Brentwood's Polychem brand clarifier System and accessories is considered a mechanical system and is not considered construction material or structural steel subject to AIS requirements.

PROPOSAL #WG07874_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST PRIMARY HELICAL SKIMMERS

GENERAL EXCLUSIONS*:

1. Contractor/customer shall be responsible for field verification of all dimensions.
2. Foundations, supports for Polychem equipment (diaphragm plates) or special mounting plates.
3. Bid, performance, supply, or maintenance bonds.
4. Installation of equipment and anchor systems, concrete, sealing compounds, shim stock or grout.
5. Grouting behind idler stub shafts, head shaft spindles, & return track wall brackets is not included, but is required for these systems.
6. Tools or spare parts (unless listed elsewhere in this Proposal).
7. All reducer oil, bearing grease, or other lubricants.
8. Field paint, touch-up, finish painting, or finish coatings.
9. Unloading, hauling, erection, and storage of equipment.
10. Grease line piping (unless listed elsewhere in this Proposal) or grease guns.
11. Any electrical components or controls not shown in items included section of this Proposal.
12. All control panels (unless listed elsewhere within this Proposal), unistrut supports / mounting for control panels, electrical conduit, wires, or wiring, wire fittings, or boxes.
13. Wall Sleeves for scum troughs, weirs, baffles, overflow weirs, effluent troughs.
14. Anchor pull out testing.
15. PI&D drawings
16. Conduit sizing or drawings.
17. Detailed specific storage plans or maintenance schedules for installed equipment outside of Brentwood's standard maintenance and preventative maintenance information.
18. Factory assembly of components.
19. Any component shown or described on a drawing and not included in the Items Included section of this Proposal, or any component or service not shown in this Proposal.

**unless above items are listed as included elsewhere in this Proposal, they are excluded.*

PROPOSAL #WG07874_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST PRIMARY HELICAL SKIMMERS

PRICING SUMMARY:

LUMP SUM BASE PRICE: $458,800.00

Proposal Submitted By:

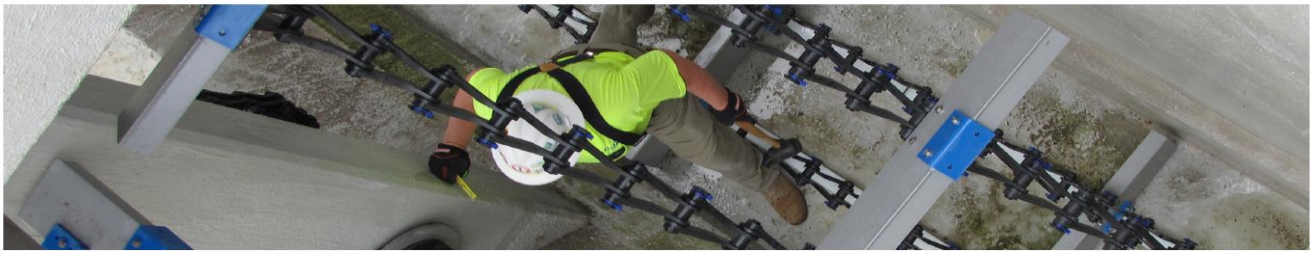
Jonah Graciani

Jonah Graciani, Sales Estimator
Brentwood Industries, Polychem Brand
email: jonah.graciani@brentwoodindustries.com

Polychem®

FIELD SERVICE RATES

EFFECTIVE
2022 - 2025



Domestic Daily Rates per 8 Hour Day

SERVICE SPECIALIST	2022	2023	2024	2025
Straight Time	$1,890.00	$2,003.00	$2,123.00	$2,250.00
OT and Saturday	$2,827.00	$2,996.00	$3,175.00	$3,365.00
Sunday and Holiday	$3,780.00	$4,006.00	$4,246.00	$4,500.00

International Daily Rates per 8 Hour Day

SERVICE SPECIALIST	2022	2023	2024	2025
Straight Time	$2,268.00	$2,404.00	$2,548.00	$2,701.00
OT and Saturday	$3,402.00	$3,606.00	$3,822.00	$4,051.00
Sunday and Holiday	$4,538.00	$4,810.00	$5,099.00	$5,404.00

Definition of Labor Rates

Straight time applies to first eight (8) hours worked and traveled Monday through Friday. Any time worked over 8 hours, up to four (4) hours worked and traveled past eight (8) on Monday through Friday, first twelve (12) hours worked on Saturday will be charged at overtime rate. Standby time will be charged at the applicable rate. In case of long-term assignments, Field Service personnel will be rotated at Buyer's expense.

Expenses

Meals, lodging, and incidental expenses will be billed at cost + 15%. Employee travel expenses will be charged at cost +15% for airfare, rental vehicles, taxis and freight. Mileage rate is $0.95 per mile. Rental of lifting or other special equipment, outside inspection services, additional sub contracted services, etc. will be cost +15%.

Notes:

1. This rate sheet supersedes all previously issued rate sheets.
2. All prices in US dollars.
3. Any "site-specific" training required will be billed as time worked.
4. Customer to furnish water, oils, solvents and will dispose of same. Customer will also furnish power and air, parts, ladders, access to job-site, overhead crane upon request, and all necessary work permits.
5. Rates are "Portal-to-Portal". Travel time, to and from the site, will be considered hours worked and billed at the applicable rate.
6. Stand-by time will be considered hours worked and billed at the applicable rates according to the following:
   a. Stand-by from home base – 8 hours per day.
   b. Stand-by while mobilized and in the field – 8 hours per day.
7. A 4-hour minimum will apply to all service work.
8. Rates quoted are subject to adjustment without notice to conform to Seller's published rates in effect at the time service is performed.
9. This offer is subject to Buyer's acceptance of the Conditions above.
10. This offer and any work performed as a result are exclusively governed by our Terms and Conditions attached. Any additional or conflicting terms contained in any document or purchase order issued authorizing work are expressly objected to in advance and shall not apply, except with the express written consent from Brentwood Industries.

Brentwood Water Group (Water & Wastewater) Standard Terms and Conditions of Sale

Applicability and Acceptance

These terms and conditions of sale ("Terms) are the only terms which govern the sale of product ("Product") by Brentwood Industries, Inc. ("Brentwood") to Purchaser ("Purchaser"). Brentwood and Purchaser together are the "Parties" and each a "Party" herein. Brentwood's accompanying quotation or proposal (collectively "Proposal") and these Terms (collectively this "Agreement"), comprise the entire agreement between the Parties and supersede all understandings, agreements, negotiations, representations, or communications. In the event of a conflict between these Terms and a Proposal, the terms and conditions in the Proposal prevail. Brentwood's commencement of work or service does not constitute acceptance of any Purchase Order. No Purchase Orders will be binding upon Brentwood without express written acceptance by an authorized Brentwood employee. These Terms will be the sole, controlling terms for Purchaser's Purchase Order ("Purchase Order") and no other terms and conditions will apply.

Pricing and Payment:

Payment to be 100% prepayment of goods before shipment unless a credit application has been completed and an extension of credit has been approved. Approved payment terms shall be due in full within thirty (30) days from invoice date. Pricing is in accordance with Brentwood's Proposal. Brentwood reserves the right to adjust the Proposal price at any future time due to raw material and/or labor cost fluctuations greater than +/- 3%.

Shipment and Title:

The shipment terms unless stated otherwise in Brentwood's Proposal will be EXWORKS. Risk of loss and title transfer at Brentwood's facility. Brentwood may, without liability or penalty, make partial shipments of Products to Purchaser.

Inspection and Claims:

Upon delivery of Product, Purchaser must inspect the Product for freight damage and must notify Brentwood in writing within five (5) days after delivery. Furthermore, Purchaser agrees to inspect and accept the Product within a reasonable timeframe. Brentwood may waive claims not made in accordance with the above terms in this section.

Default:

Purchaser's failure to make payment as agreed and according to invoices or Purchaser's failure to perform any of its other obligations under this Agreement constitutes a default. In the event of default, Brentwood will provide written Notice of the default (in accordance with the Notices section of this Agreement) to Purchaser. If Purchaser does not i) correct the default or ii) address how it plans to correct the default in writing to Brentwood within five (5) business days from receipt of Notice of default, Purchaser will remain in default and Brentwood may do any of the following, (i) exercise any and all other rights and remedies of a secured Party under Article 9 of the UCC or applicable law ; (ii) suspend any further Product deliveries or provision of services until Purchaser pays its obligations in full; iii) be excused from any of its performance obligations under this Agreement resulting from Purchaser's delays or inability to complete its obligations; iv) send Purchaser's past due invoice(s) to collections for nonpayment of obligations and report Purchaser's non-payment to appropriate credit agency.

Delays: :

Delays in project schedule beyond the expected ship date not caused by Brentwood which result in additional costs not included in quoted price may be invoiced by Brentwood to Purchaser.

Storage Fees:

Unless otherwise agreed upon by Brentwood and Purchaser, in the event Purchaser notifies Brentwood it cannot take delivery on the agreed upon delivery date on the face of Purchaser's Purchase Order, Brentwood will store the Product free of charge for up to thirty (30) days after the initially agreed delivery date. After the thirtieth (30th) day, Purchaser agrees to pay a monthly storage fee equal to one and one-half (1.5%) percent of the invoice price of the Product. The monthly storage fee will be due in full upon receipt of invoice for the storage fee regardless of whether Purchaser has been invoiced or has paid for the Product.

Contracted Shipment (weeks)	Elapsed Time – from date of Executed Purchase Order to date of Cancellation (weeks)															
	0 - 2	2.01 - 4	4.01 - 6	6.01 - 8	8.01 - 12	12.01 - 16	16.01 - 20	20.01 - 24	24.01 - 28	28.01 - 32	32.01 - 36	36.01 - 40	40.01 - 44	44.01 - 48	48.01 - 52	52.01 - 56
Up to 8	20	50	75	100												
8.01 - 12	15	40	60	80	100											
12.01 - 16	10	25	45	60	85	100										
16.01 - 20	10	15	25	45	65	85	100									
20.01 - 24	10	10	20	25	50	70	90	100								
24.01 - 28	10	10	15	20	25	50	70	90	100							
28.01 - 32	10	10	10	15	20	35	60	75	90	100						
32.01 - 36	10	10	10	15	20	25	50	60	85	95	100					
36.01 - 40	10	10	10	10	15	25	50	60	70	85	95	100				
40.01 - 44	10	10	10	10	15	25	45	55	65	80	90	95	100			
44.01 - 48	10	10	10	10	15	25	45	55	60	65	80	90	95	100		
48.01 - 52	10	10	10	10	15	20	40	50	55	60	70	85	90	95	100	
52.01 - 56	10	10	10	10	15	20	35	50	55	60	70	80	85	90	95	100

Changes:

Purchase Order changes are subject to Brentwood's written approval, and additional time and charges may apply. Brentwood will not be liable for any delays due to change order requests. Brentwood may make changes to its Product without obligation, apply or manufacture such changes in any Product manufactured prior thereto. Brentwood may make such changes to any ordered Product as does not, in Brentwood's reasonable judgment, interfere with the satisfactory operation of the Product.

Taxes:

All government charges upon the production, shipment or sale of the Product, including, without limitation, sales, use, occupation, export and import taxes, and any other impositions by any government whatsoever, direct or indirect, including those required to be collected by Brentwood, will be paid by Purchaser or, in lieu thereof, Purchaser will furnish Brentwood with an exemption certificate acceptable to the taxing authority. Brentwood reserves and Purchaser disclaims all rights to drawback of duties paid on materials used in the manufacture of the Product. Purchaser will supply Brentwood with proof of exportation and all other documents necessary and otherwise cooperate to obtain payment thereof.

Returns:

No Product may be returned for credit or otherwise unless Purchaser receives Brentwood's authorization. Product authorized for return or credit must be returned in good condition, in its original

Warranty:
Brentwood warrants against defects in materials and workmanship. Warranty coverage is contingent on proper storage, installation, use, operation, maintenance, and shutdown procedures, all occurring under ordinary conditions and in compliance with good industry standards, the approved design criteria, Brentwood's approved Submittal and Operation and Maintenance Manual. The Warranty period shall be limited to twelve (12) months from Product shipment. The terms of this Warranty shall be modified only through written agreement by an authorized Brentwood employee. The remedy for a covered defect during the Warranty period shall be limited, at Brentwood's option and control, to repair or replacement of defective Parts and Components, including shipping costs. The remedy excludes costs of labor, removal of non-conforming Products, and expenses related to installation of the replacement Products.
THE TERMS OF THIS WARRANTY ARE THE SOLE AND EXCLUSIVE OBLIGATION OF BRENTWOOD TO PURCHASER OR THIRD PARTY FOR CLAIMS RELATED TO THE PRODUCT. UNDER NO CIRCUMSTANCE SHALL BRENTWOOD BE LIABLE TO ANY PERSON OR ENTITY FOR ANY INCIDENTIAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES OR ANY OTHER LOSS, COST, OR EXPENSE OTHER THAN SPECIFICALLY STATED IN THIS WARRANTY. OTHER THAN THE EXPRESS LIMITED WARRANTIES MADE HEREIN, BRENTWOOD EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED BY LAW, WITH RESPECT TO ANY SERVICE OR DELIVERABLE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AS WELL AS ANY WARRANTIES WHICH MAY ARISE FROM PRIOR COURSE OF DEALING, CUSTOM, TRADE USAGE, PROVISION OF SAMPLES, PRODUCT LITERATURE OR WEBSITE CONTENT.

Limitation of Liability:
REGARDLESS OF THE FORM OF ACTION, BRENTWOOD'S LIABILITY RELATING TO THE PRODUCT OR THE MANUFACTURE, SHIPPING, SALE OR USE OF THE PRODUCT SHALL NOT EXCEED THE PRICE PAID BY PURCHASER FOR THE SPECIFIC PRODUCT GIVING RISE TO THE CAUSE OF ACTION. BRENTWOOD, ITS AFFILIATES, AND THEIR OFFICERS, DIRECTORS, EMPLOYEES AND AGENTS SHALL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, EXEMPLARY, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS, LOSS OF USE, DOWNTIME, FAILURE TO DETECT ANY FLAW IN ANY SUBJECT MATTER OF ANY TEST, LOSS OF GOODWILL, BUSINESS INTERRUPTION, DELAY IN PERFORMANCE, OR LOST OPPORTUNITIES. REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT PRODUCT LIABILITY OR OTHERWISE IN CONNECTION WITH THE SUPPLY OR SUBSEQUENT USE OR POSSIBILITY OF SUCH DAMAGES.

Indemnification:
Purchaser will at all times indemnify, defend and hold harmless Brentwood, its officers, directors, employees, agents, servants and representatives from and against any and all damages, liabilities, losses, claims, suits, penalties, fines, costs, and expenses, including attorneys' fees (collectively, "Claims") arising directly or indirectly out of or in connection with any (a) infringement or misappropriation of any patent, trademark, or other intellectual property right, including third Party rights, arising from Brentwood's adherence to Purchaser's Specifications; (b) use, operation or possession of Brentwood Product, except to the extent the Claim arises from the gross negligence or willful misconduct of Brentwood; or (c) breach by Purchaser of any provision of any Agreement with or obligation to Brentwood.

Brentwood will at all times indemnify, defend and hold harmless Purchaser from and against loss, injury, damage and liability arising directly in connection with bodily injury death, or destruction of tangible or real property, including loss of use directly resulting from or caused by Brentwood or Brentwood's product, its negligent act, error, omission or for damages arising from Brentwood's gross negligence or willful misconduct in performance of its obligations under this Agreement. Claims and damages are limited to Brentwood's proportionate percentage of negligence and/or fault.

Insurance:
Brentwood will maintain and carry insurance including, but not limited to Commercial General Liability in a sum of $1,000,000 per occurrence and Workers Compensation in amounts as required by applicable statute. Additional coverages may be available. Upon request, Brentwood will provide to Purchaser a certificate of insurance evidencing its coverages.

Confidential Information:
All non-public, confidential and proprietary information ("Confidential Information"), whether disclosed orally or reduced to writing, whether or not marked or otherwise designated or not identified as such. Confidential Information does not include information which: (i) is or becomes available to the public generally (other than as a result of a disclosure by the Purchaser in violation of this Agreement); (ii) is subject to public disclosure under any federal, state or local law, ordinance or regulation; (iii) becomes available to Purchaser on a non-confidential basis from a source other than Brentwood; or (iv) was known by or was available to Purchaser prior to or at the time Brentwood disclosed it.

Purchaser agrees to protect and safeguard all Confidential Information with at least the same degree of care as the Purchaser would protect its own Confidential Information, but in no event with less than a commercially reasonable degree of care. Purchaser shall hold all Confidential Information in confidence and shall disclose it only to its employees needing to use the Confidential Information for the limited purposes of this Agreement and said employees shall be bound to the confidentiality Terms of this Agreement. No other disclosure of Confidential Information is allowed unless written permission is granted by Brentwood. Purchaser agrees not to use Brentwood's Confidential Information for any purpose other than this Agreement. Purchaser agrees not to use the Confidential Information in any manner to Brentwood's detriment, including without limitation, to reverse engineer, disassemble, analyze, decompile, copy, modify, develop, or design.

Force Majeure:
Brentwood shall not be liable or responsible to Purchaser, nor be deemed to have defaulted under or breached this Agreement, for any failure or delay in fulfilling or performing any term of this Agreement to the extent Brentwood's failure or delay is caused by or results from a force majeure event, including, acts of God; flood, fire, earthquake, pandemics, disease outbreaks, explosions or other natural disasters; war, invasion, hostilities, terrorist acts, civil unrest; government orders or actions; embargoes or blockades in effect on or after the date of this Agreement; national emergency; strikes, labor stoppages or slowdowns, or other industrial disturbances; shortage of adequate raw materials, labor, power, or transportation facilities; and other similar events beyond the reasonable control of Brentwood.
Brentwood shall give notice within fourteen (14) days of the force majeure event or as soon as reasonably practicable to Brentwood, stating the period of time the occurrence is expected to continue. Brentwood shall use diligent efforts to end the failure or delay and ensure the effects of such are minimized. Brentwood shall resume the performance of its obligations as soon as reasonably practicable after the removal of the cause. In the event Brentwood remains unable to perform its obligations within ten (10) weeks from notice of force majeure event Purchaser may terminate the Agreement.

Governing Law and Jurisdiction:
This Agreement shall be construed under the laws of the Commonwealth of Pennsylvania without reference to conflicts of law principles. The Parties hereby agree that disputes hereunder shall be subject to the exclusive jurisdiction and venue of the courts of Berks County, Pennsylvania, in either the Pennsylvania Court of Common Pleas or the United States District Court for the Eastern District of Pennsylvania. The Purchaser waives any objections based on personal or subject matter jurisdiction or venue.

Export Control:
Purchaser will not use, distribute, transfer, or transmit any Product, components or technical information (even if incorporated into other products) provided in connection with this transaction except in compliance with U.S. export laws and regulations (the "Export Laws"). Purchaser will not, directly or indirectly export or re-export the following items to any country which is in the then-current list of prohibited countries specified in any applicable Export Laws: (a) the Product, components or technical data disclosed or provided to Purchaser by Brentwood; or (b) any improvements or variations of such Product, components or technical data. Purchaser agrees to promptly inform Brentwood in writing of any written authorization issued by the U.S. Department of Commerce office of export licensing to export or re-export any such items referenced in (a) or (b). The obligations stated above in this clause will survive the expiration, cancellation or termination of this Agreement.

Severability:
If any term or provision of this Agreement is invalid, illegal or unenforceable in any jurisdiction, such invalidity, illegality or unenforceability shall not affect any other term or provision of this Agreement or invalidate or render unenforceable such term or provision in any other jurisdiction.

Notices:
All notices, requests, consents, claims, demands, waivers and other communications hereunder (each, a "Notice") shall be in writing and addressed to the Parties at the addresses set forth on the face of the Proposal or to such other address that may be designated by the receiving Party in writing. All Notices shall be delivered by personal delivery, nationally recognized overnight courier (with all fees pre-paid or certified or registered mail (in each case, read receipt requested, postage prepaid). Except as otherwise provided in this Agreement, a Notice is effective only (a) upon receipt of the receiving Party, and (b) if the Party giving the Notice has complied with the requirements of this Section.

Authority:
The individual assenting to or executing any documents or orders, whether as a hard copy or, on behalf of Purchaser acknowledges, represents and warrants that he or she has read and understands these Terms and Conditions and has been duly authorized by the Purchaser to execute such on behalf of the Purchaser and bind the Purchaser to these Terms and Conditions.

Relationship of the Parties:
The relationship between the Parties is that of independent contractors. Nothing contained in this Agreement shall be construed as creating any agency, partnership, joint venture or other form of joint enterprise, employment or fiduciary relationship between the Parties, and neither Party shall have authority to contract for or bind the other Party in any manner whatsoever**.**

Survival:
Provisions of this Agreement which by their nature should apply beyond their terms will remain in force after any termination or expiration of this Agreement.

Amendment and Modification:
This Agreement may only be amended or modified in writing by Brentwood and executed by an authorized representative of each Party.

By signing below both Parties accept Brentwood Water Group (Water and Wastewater) Standard Terms and Conditions of Sale.

BRENTWOOD INDUSTRIES, INC.
By: _____
Print Name: _____
Title: _____
Brentwood Industries, Inc.

PURCHASER
By:_____
Print Name: _____
Title:_____
Company:_____

PROPOSAL #WG07856_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST SECONDARY HELICAL SKIMMERS

May 29, 2024

ATTN: Roni Young Grant
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92011
USA
Phone: (949) 632-5256
Fax:
email: rgrant@socwa.com

Re: Laguna Niguel, CA - SOCWA Coastal TP - West Secondary Helical Skimmers
Polychem™ Skimming System

BUDGETARY PROPOSAL

Brentwood Industries, Polychem Brand, proposes and offers to supply all materials and services as an Approved manufacturer and in general accordance with Brentwood's standard practices and specifications, clarifications, and information provided.

TECHNICAL SPECIFICATION(S): SCUM REMOVAL EQUIPMENT

SECTION(S): 11340 (PER TRACK CHANGES BY CSF)

ADDENDA RECEIVED: N/A

BRENTWOOD PROPOSES TO FURNISH POLYCHEM SCUM SKIMMING EQUIPMENT AS FOLLOWS:

Three (3) 304 SS Helical Skimmers, with Beach and Trough, Approximately 18-inch Diameter x 25 FT Long

PROPOSAL #WG07856_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST SECONDARY HELICAL SKIMMERS

***ITEMS INCLUDED:**

ITEM	DESCRIPTION / MATERIAL
Helical Reel	304 SS
Wiper for Helical Reel	EPDM Rubber
Beach for Helical Skimmer	304 SS
Trough Gasket	Neoprene
Trough for Helical Skimmer	304 SS
Wall Bearings for Helical Skimmer	Cast Iron w/UHMW-PE Lining
Collar for Helical Skimmer	Cast Nylon 6 w/set screw
Drive Chain	NH78, Reinforced Nylon Resin w/ 303 SS Pins
Drive Sprocket Shear pin Assembly	11T Nylon Sprocket w/ Bronze Insert Mounted to 304 SS Shear Pin Hub
Chain Tightener(s) for Drive Chain	Nylon 6-6 7T Sprocket w/Cast Nylon-6 Arm and FRP Adjustable Mounting Bracket
Limit Switch	DPDT, Cutler Hammer, Zinc Die Cast, NEMA 4X, SS Arm
Overload Protection Device	11T Cast Nylon Sprocket on Stainless Steel Hub
Drive Unit Output Shaft	304 SS
Drive Unit(s) w/Motor and Reducer	SEW Eurodrive Helical-Bevel Gearmotor, 1/2HP, 3 Ph, 60 Hz, 230/460 V
Base Plate for Drive Unit(s)	304 SS
Chain Guard for Drive Chain	304 SS
Anchor System	316 SS
Seismic Anchor Calculations	As Specified
Adhesive for Anchors w/ Dispenser	Hilti

PROPOSAL #WG07856_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST SECONDARY HELICAL SKIMMERS

***ITEMS INCLUDED (Continued):**

ITEM	DESCRIPTION / MATERIAL
*	Above Item Descriptions/Materials may vary slightly after engineering and consultant review.

PROPOSAL #WG07856_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST SECONDARY HELICAL SKIMMERS

EXISTING CONCRETE STRUCTURE (IF APPLICABLE):

Pricing and schedule are based on limited structural information provided at the time of quotation and assume the necessary existing tank dimensions will be provided by purchaser in a timely manner to facilitate the start of submittals. In lieu of customer supplied tank dimensions, purchaser may elect to procure Brentwood's Tank Measurement services. Should the verified tank dimensions and equipment conditions differ from the information provided for quotation, and/or require special bracketry or supporting structures, Brentwood reserves the right to revise pricing and schedule accordingly. Delays associated with receipt of complete tank measurements, incomplete information from RFI's, and release and approval to manufacture may result in changes to the price and schedule.

TANK MEASUREMENTS:

Tank Measurements are NOT included in this price or proposal, but can be provided and billed per attached published field labor and expense rates. If measurement services are purchased, Brentwood will require the assistance of one (1) person while on site to support tank measurements, and tanks must be completely drained and cleaned before entrance. In addition, customer / contractor shall supply all necessary equipment to safely access tanks (ladders, lighting, etc.). Tank measurement services require a minimum 2 week notice and are based on technician availability.

SUBMITTALS:

Shop drawing and submittal preparation will be in accordance with Brentwood's standard submittal practices, and will be based on one submittal for all tanks at one time. Should separate submittals for each tank be required at separate intervals, Brentwood reserves the right to revise pricing accordingly.

TIME AND DELIVERY:

1. Brentwood will furnish initial submittal drawings approximately twelve to fourteen (12-14) weeks after receipt of executed purchase order and field verified structural dimensions and information. PE review, calculations and stamp (if required) may be sent at a later date under separate cover.
2. Estimated Submittal Review: Brentwood estimates a four (4) week review period by consultant or customer.
3. We further propose to furnish the equipment approximately eighteen (18) weeks after receipt of final engineering approval and returned submittal drawings and release to manufacturing.

FREIGHT:

Freight allowed, best way, point of manufacture to job site. Requests for specific methods of shipment will be at requestors' expense. On-site transportation, unloading, and storage costs by others.

WEIGHT AND VOLUME:

Estimated weight is 0,400 Lbs. Estimated volume is One (1) Truck(s).

TAXES:

Pricing does not include any States' sales tax if applicable, unless otherwise stated.

PROPOSAL #WG07856_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST SECONDARY HELICAL SKIMMERS

SCHEDULE OF VALUES & PAYMENT TERMS:

1. 15% with Shop drawing and submittal transmission; 35% with approved submittals and/or release to manufacture; 50% on material shipment. All payments 100% Net 30 days from invoice date. Payment terms subject to credit approval.
2. These terms are not contingent upon or in conjunction with any agreement purchaser has with other parties.
3. For Brentwood Water & Wastewater Standard Terms and Conditions visit: https://www.brentwoodindustries.com/terms/

ESCALATION:

The price(s) quoted are subject to adjustment to reflect increases in material cost(s), should these increases in price exceed 3% during the specified Schedule of Construction. Increases are based on price indexes for PVC (ChemData) and Stainless Steel (MEPS International), which can be provided upon request. It is understood and agreed that it will be Brentwood's option whether to invoke escalation, should the price exceed this amount.

BILL AND HOLD:

If Purchaser fails to take delivery on any scheduled delivery date based on the terms of the executed purchase Agreement, Brentwood reserves the right to reallocate any Product to other projects and reschedule production for the delayed Product. Purchaser will be required to accept any increase in price associated with the repurchase of material to fulfill the purchased Product requirements and the Product Delivery Date will be rescheduled in conjunction with current production schedules.

If the Purchaser requests that Brentwood holds Product in excess of an agreed upon delivery date and Brentwood agrees to hold the Product, Purchaser will provide written notification to Brentwood to store the Product at its facilities for a period of time prior to shipment ("Bill and Hold"). Brentwood will provide written confirmation of the Bill and Hold to Purchaser, including a Statement of Transfer of Title and invoice.

Payment for the Bill and Hold material is due in accordance with the agreed upon terms in the executed purchase Agreement except to the extent dates must be adjusted due to delivery rescheduling, in which case adjusted dates will be shown on the invoice. All payments will be made in accordance with the invoiced payment terms and instructions. For all Bill and Holds, Purchaser acknowledges that (i) they have made a fixed commitment to purchase the Product, (ii) risk of ownership for the Product passes to Purchaser upon signing Statement of Transfer, (iii) Purchaser has requested that the Product be on a Bill and Hold basis for legitimate business purposes, (iv) if no delivery date is determined at the time of invoicing and Statement of Transfer and Brentwood does not receive a request for delivery within two (2)months from the Bill and Hold invoice date, Brentwood has the right to release the shipment upon written notice to Purchaser any time following the two (2) month period from Bill and Hold invoice date. Brentwood shall be entitled to storage charges of 1 ½% per month of the purchase value of stored material beginning 30 days after Bill and Hold invoice date and continuing until the Product is picked up by Purchaser or shipped by Brentwood. Upon receipt of request from Purchaser to ship the stored Product, Brentwood shall use commercially reasonable efforts to ship the Product within two (2) to 4 (four) business weeks following confirmed receipt of such request.

PROPOSAL #WG07856_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST SECONDARY HELICAL SKIMMERS

VALIDITY:

This proposal is valid for a period not to exceed 120 days from latest date shown above unless extended by Brentwood in writing. Pricing on this project is based upon shipment schedule as shown above. Extensions to delivery timelines or requests for staged shipments may require renegotiation of pricing.

FIELD SERVICE STARTUP AND TRAINING:

The services of a qualified Brentwood field technician is included to assist in inspection of installed equipment, startup and field testing, certification, and operator training, if required by specification. Duration limited to Three (3) trip(s) for Six (6) man-day(s) on site total. Non use of contractual field service days does not generate a credit on this project. Field service requires a minimum 2 week notice and is based on technician availability. Less notice may be accommodated with additional costs.

OPERATION AND MAINTENANCE MANUALS:

Unless otherwise specified, one (1) digital copy of our O&M manual and installation and layout drawings will be furnished on or before shipment of equipment. Digital copy can be downloaded from our FTP site or finished on a USB Flash drive. Digital copy of O&M shall be in Adobe pdf format and be locked and uneditable.

WARRANTY:

Brentwood warrants material supplied on this project to be free from defects in workmanship or materials for a period of twelve (12) months from date of certification by an authorized Brentwood representative or eighteen (18) months from date of shipment, whichever shall occur first. Warranty excludes labor to install or remove parts. Chain and flight system is designed for continuous operation, and intermittent operation is not recommended due to potential for excess sludge build up. Damage resulting from intermittent operation of chain and flight equipment is not covered under this warranty. Brentwood recommends limiting the the rotation of the scum pipe to no more than once every 4 hours to mantain the longevity of the equipment.

PAINTING AND COATINGS:

Stainless Steel and plastic equipment shall not be painted. Unless otherwise specified, all ferrous wetted components will be provided with a surface preparation of SSPC-SP10 Near White Metal and a shop primer 1 coat of Sherwin Williams Dura-Plate 235 Multi-Purpose Epoxy @ 4 Mils D.F.T. It is the responsibility of the contractor to ensure finish paint is compatible with specified primer. Any adhesion issues between coats are not the responsibility of Brentwood. The top coat must be applied within 6 months of the prime coat, otherwise the assembly surface will need to be abraded or the primer will need to be removed and surface preparation redone prior to application of the top coat, by others. OEM components above deck (drive units, bearings, actuators, etc.) shall be furnished with manufacturer's factory finish.

AMERICAN IRON AND STEEL ACT:

Per Implementation of American Iron and Steel provisions of P.L. 113-76, Consolidated Appropriations Act, 2014, Brentwood's Polychem brand clarifier System and accessories is considered a mechanical system and is not considered construction material or structural steel subject to AIS requirements.

PROPOSAL #WG07856_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST SECONDARY HELICAL SKIMMERS

GENERAL EXCLUSIONS*:

1. Contractor/customer shall be responsible for field verification of all dimensions.
2. Foundations, supports for Polychem equipment (diaphragm plates) or special mounting plates.
3. Bid, performance, supply, or maintenance bonds.
4. Installation of equipment and anchor systems, concrete, sealing compounds, shim stock or grout.
5. Grouting behind idler stub shafts, head shaft spindles, & return track wall brackets is not included, but is required for these systems.
6. Tools or spare parts (unless listed elsewhere in this Proposal).
7. All reducer oil, bearing grease, or other lubricants.
8. Field paint, touch-up, finish painting, or finish coatings.
9. Unloading, hauling, erection, and storage of equipment.
10. Grease line piping (unless listed elsewhere in this Proposal) or grease guns.
11. Any electrical components or controls not shown in items included section of this Proposal.
12. All control panels (unless listed elsewhere within this Proposal), unistrut supports / mounting for control panels, electrical conduit, wires, or wiring, wire fittings, or boxes.
13. Wall Sleeves for scum troughs, weirs, baffles, overflow weirs, effluent troughs.
14. Anchor pull out testing.
15. PI&D drawings
16. Conduit sizing or drawings.
17. Detailed specific storage plans or maintenance schedules for installed equipment outside of Brentwood's standard maintenance and preventative maintenance information.
18. Factory assembly of components.
19. Any component shown or described on a drawing and not included in the Items Included section of this Proposal, or any component or service not shown in this Proposal.

**unless above items are listed as included elsewhere in this Proposal, they are excluded.*

PROPOSAL #WG07856_R1	LAGUNA NIGUEL, CA - SOCWA COASTAL TP - WEST SECONDARY HELICAL SKIMMERS

PRICING SUMMARY:

LUMP SUM BUDGETARY BASE PRICE: $405,200.00

Proposal Submitted By:

Jonah Graciani

Jonah Graciani, Sales Estimator
Brentwood Industries, Polychem Brand
email: jonah.graciani@brentwoodindustries.com

Polychem®

FIELD SERVICE RATES

EFFECTIVE
2022 - 2025

DOMESTIC DAILY RATES PER 8 HOUR DAY

SERVICE SPECIALIST	2022	2023	2024	2025
Straight Time	$1,890.00	$2,003.00	$2,123.00	$2,250.00
OT and Saturday	$2,827.00	$2,996.00	$3,175.00	$3,365.00
Sunday and Holiday	$3,780.00	$4,006.00	$4,246.00	$4,500.00

INTERNATIONAL DAILY RATES PER 8 HOUR DAY

SERVICE SPECIALIST	2022	2023	2024	2025
Straight Time	$2,268.00	$2,404.00	$2,548.00	$2,701.00
OT and Saturday	$3,402.00	$3,606.00	$3,822.00	$4,051.00
Sunday and Holiday	$4,538.00	$4,810.00	$5,099.00	$5,404.00

Definition of Labor Rates

Straight time applies to first eight (8) hours worked and traveled Monday through Friday. Any time worked over 8 hours, up to four (4) hours worked and traveled past eight (8) on Monday through Friday, first twelve (12) hours worked on Saturday will be charged at overtime rate. Standby time will be charged at the applicable rate. In case of long-term assignments, Field Service personnel will be rotated at Buyer's expense.

Expenses

Meals, lodging, and incidental expenses will be billed at cost + 15%. Employee travel expenses will be charged at cost +15% for airfare, rental vehicles, taxis and freight. Mileage rate is $0.95 per mile. Rental of lifting or other special equipment, outside inspection services, additional sub contracted services, etc. will be cost +15%.

Notes:

1. This rate sheet supersedes all previously issued rate sheets.
2. All prices in US dollars.
3. Any "site-specific" training required will be billed as time worked.
4. Customer to furnish water, oils, solvents and will dispose of same. Customer will also furnish power and air, parts, ladders, access to job-site, overhead crane upon request, and all necessary work permits.
5. Rates are "Portal-to-Portal". Travel time, to and from the site, will be considered hours worked and billed at the applicable rate.
6. Stand-by time will be considered hours worked and billed at the applicable rates according to the following:
a. Stand-by from home base – 8 hours per day.
b. Stand-by while mobilized and in the field – 8 hours per day.
7. A 4-hour minimum will apply to all service work.
8. Rates quoted are subject to adjustment without notice to conform to Seller's published rates in effect at the time service is performed.
9. This offer is subject to Buyer's acceptance of the Conditions above.
10. This offer and any work performed as a result are exclusively governed by our Terms and Conditions attached. Any additional or conflicting terms contained in any document or purchase order issued authorizing work are expressly objected to in advance and shall not apply, except with the express written consent from Brentwood Industries.

Brentwood Water Group (Water & Wastewater) Standard Terms and Conditions of Sale

Applicability and Acceptance

These terms and conditions of sale ("Terms") are the only terms which govern the sale of product ("Product") by Brentwood Industries, Inc. ("Brentwood") to Purchaser ("Purchaser"). Brentwood and Purchaser together are the "Parties" and each a "Party" herein. Brentwood's accompanying quotation or proposal (collectively "Proposal") and these Terms (collectively this "Agreement"), comprise the entire agreement between the Parties and supersede all understandings, agreements, negotiations, representations, or communications. In the event of a conflict between these Terms and a Proposal, the terms and conditions in the Proposal prevail. Brentwood's commencement of work or service does not constitute acceptance of any Purchase Order. No Purchase Orders will be binding upon Brentwood without express written acceptance by an authorized Brentwood employee. These Terms will be the sole, controlling terms for Purchaser's Purchase Order ("Purchase Order") and no other terms and conditions will apply.

Pricing and Payment:

Payment to be 100% prepayment of goods before shipment unless a credit application has been completed and an extension of credit has been approved. Approved payment terms shall be due in full within thirty (30) days from invoice date. Pricing is in accordance with Brentwood's Proposal. Brentwood reserves the right to adjust the Proposal price at any future time due to raw material and/or labor cost fluctuations greater than +/- 3%.

Shipment and Title:

The shipment terms unless stated otherwise in Brentwood's Proposal will be EXWORKS. Risk of loss and title transfer at Brentwood's facility. Brentwood may, without liability or penalty, make partial shipments of Products to Purchaser.

Inspection and Claims:

Upon delivery of Product, Purchaser must inspect the Product for freight damage and must notify Brentwood in writing within five (5) days after delivery. Furthermore, Purchaser agrees to inspect and accept the Product within a reasonable timeframe. Brentwood may waive claims not made in accordance with the above terms in this section.

Default:

Purchaser's failure to make payment as agreed and according to invoices or Purchaser's failure to perform any of its other obligations under this Agreement constitutes a default. In the event of default, Brentwood will provide written Notice of the default (in accordance with the Notices section of this Agreement) to Purchaser. If Purchaser does not i) correct the default or ii) address how it plans to correct the default in writing to Brentwood within five (5) business days from receipt of Notice of default, Purchaser will remain in default and Brentwood may do any of the following, (i) exercise any and all other rights and remedies of a secured Party under Article 9 of the UCC or applicable law ; (ii) suspend any further Product deliveries or provision of services until Purchaser pays its obligations in full; iii) be excused from any of its performance obligations under this Agreement resulting from Purchaser's delays or inability to complete its obligations; iv) send Purchaser's past due invoice(s) to collections for nonpayment of obligations and report Purchaser's non-payment to appropriate credit agency.

Delays: :

Delays in project schedule beyond the expected ship date not caused by Brentwood which result in additional costs not included in quoted price may be invoiced by Brentwood to Purchaser.

Storage Fees:

Unless otherwise agreed upon by Brentwood and Purchaser, in the event Purchaser notifies Brentwood it cannot take delivery on the agreed upon delivery date on the face of Purchaser's Purchase Order, Brentwood will store the Product free of charge for up to thirty (30) days after the initially agreed delivery date. After the thirtieth (30th) day, Purchaser agrees to pay a monthly storage fee equal to one and one-half (1.5%) percent of the invoice price of the Product. The monthly storage fee will be due in full upon receipt of invoice for the storage fee regardless of whether Purchaser has been invoiced or has paid for the Product.

Termination:

Brentwood or Purchaser may terminate this Agreement if either Party defaults by materially breaching its obligations in this Agreement, provided the breaching Party does not commence correction of the breach within five (5) business days from receipt of written notice of default. The Parties will agree upon a reasonable amount of time to correct the breach. In the event the Party in default fails to correct the breach within the agreed upon time frame, the other Party may terminate the Agreement by providing written notification to the Party in default. In the event of termination, the Purchaser agrees to pay Brentwood cancellation charges in accordance with the table below based on the Purchase Order Value.

Contracted Shipment (weeks)	Elapsed Time – from date of Executed Purchase Order to date of Cancellation (weeks)															
	0 - 2	2.01 - 4	4.01 - 6	6.01 - 8	8.01 - 12	12.01 - 16	16.01 - 20	20.01 - 24	24.01 - 28	28.01 - 32	32.01 - 36	36.01 - 40	40.01 - 44	44.01 - 48	48.01 - 52	52.01 - 56
Up to 8	20	50	75	100												
8.01 - 12	15	40	60	80	100											
12.01 - 16	10	25	45	60	85	100										
16.01 - 20	10	15	25	45	65	85	100									
20.01 - 24	10	10	20	25	50	70	90	100								
24.01 - 28	10	10	15	20	25	50	70	90	100							
28.01 - 32	10	10	10	15	20	35	60	75	90	100						
32.01 - 36	10	10	10	15	20	25	50	60	85	95	100					
36.01 - 40	10	10	10	10	15	25	50	60	70	85	95	100				
40.01 - 44	10	10	10	10	15	25	45	55	65	80	90	95	100			
44.01 - 48	10	10	10	10	15	25	45	55	60	65	80	90	95	100		
48.01 - 52	10	10	10	10	15	20	40	50	55	60	70	85	90	95	100	
52.01 - 56	10	10	10	10	15	20	35	50	55	60	70	80	85	90	95	100

Changes:

Purchase Order changes are subject to Brentwood's written approval, and additional time and charges may apply. Brentwood will not be liable for any delays due to change order requests. Brentwood may make changes to its Product without obligation, apply or manufacture such changes in any Product manufactured prior thereto. Brentwood may make such changes to any ordered Product as does not, in Brentwood's reasonable judgment, interfere with the satisfactory operation of the Product.

Taxes:

All government charges upon the production, shipment or sale of the Product, including, without limitation, sales, use, occupation, export and import taxes, and any other impositions by any government whatsoever, direct or indirect, including those required to be collected by Brentwood, will be paid by Purchaser or, in lieu thereof, Purchaser will furnish Brentwood with an exemption certificate acceptable to the taxing authority. Brentwood reserves and Purchaser disclaims all rights to drawback of duties paid on materials used in the manufacture of the Product. Purchaser will supply Brentwood with proof of exportation and all other documents necessary and otherwise cooperate to obtain payment thereof.

Returns:

No Product may be returned for credit or otherwise unless Purchaser receives Brentwood's authorization. Product authorized for return or credit must be returned in good condition, in its original packaging with completed identification and with all supporting documentation detailing of any claimed defect as required by Brentwood. All shipping and freight charges shall be prepaid by the Purchaser. The returned Product may be subject to a restocking charge of 30%.

Warranty:
Brentwood warrants against defects in materials and workmanship. Warranty coverage is contingent on proper storage, installation, use, operation, maintenance, and shutdown procedures, all occurring under ordinary conditions and in compliance with good industry standards, the approved design criteria, Brentwood's approved Submittal and Operation and Maintenance Manual. The Warranty period shall be limited to twelve (12) months from Product shipment. The terms of this Warranty shall be modified only through written agreement by an authorized Brentwood employee. The remedy for a covered defect during the Warranty period shall be limited, at Brentwood's option and control, to repair or replacement of defective Parts and Components, including shipping costs. The remedy excludes costs of labor, removal of non-conforming Products, and expenses related to installation of the replacement Products.
THE TERMS OF THIS WARRANTY ARE THE SOLE AND EXCLUSIVE OBLIGATION OF BRENTWOOD TO PURCHASER OR THIRD PARTY FOR CLAIMS RELATED TO THE PRODUCT. UNDER NO CIRCUMSTANCE SHALL BRENTWOOD BE LIABLE TO ANY PERSON OR ENTITY FOR ANY INCIDENTIAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES OR ANY OTHER LOSS, COST, OR EXPENSE OTHER THAN SPECIFICALLY STATED IN THIS WARRANTY. OTHER THAN THE EXPRESS LIMITED WARRANTIES MADE HEREIN, BRENTWOOD EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED BY LAW, WITH RESPECT TO ANY SERVICE OR DELIVERABLE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AS WELL AS ANY WARRANTIES WHICH MAY ARISE FROM PRIOR COURSE OF DEALING, CUSTOM, TRADE USAGE, PROVISION OF SAMPLES, PRODUCT LITERATURE OR WEBSITE CONTENT.

Limitation of Liability:
REGARDLESS OF THE FORM OF ACTION, BRENTWOOD'S LIABILITY RELATING TO THE PRODUCT OR THE MANUFACTURE, SHIPPING, SALE OR USE OF THE PRODUCT SHALL NOT EXCEED THE PRICE PAID BY PURCHASER FOR THE SPECIFIC PRODUCT GIVING RISE TO THE CAUSE OF ACTION. BRENTWOOD, ITS AFFILIATES, AND THEIR OFFICERS, DIRECTORS, EMPLOYEES AND AGENTS SHALL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, EXEMPLARY, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS, LOSS OF USE, DOWNTIME, FAILURE TO DETECT ANY FLAW IN ANY SUBJECT MATTER OF ANY TEST, LOSS OF GOODWILL, BUSINESS INTERRUPTION, DELAY IN PERFORMANCE, OR LOST OPPORTUNITIES. REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT PRODUCT LIABILITY OR OTHERWISE IN CONNECTION WITH THE SUPPLY OR SUBSEQUENT USE OR POSSIBILITY OF SUCH DAMAGES.

Indemnification:
Purchaser will at all times indemnify, defend and hold harmless Brentwood, its officers, directors, employees, agents, servants and representatives from and against any and all damages, liabilities, losses, claims, suits, penalties, fines, costs, and expenses, including attorneys' fees (collectively, "Claims") arising directly or indirectly out of or in connection with any (a) infringement or misappropriation of any patent, trademark, or other intellectual property right, including third Party rights, arising from Brentwood's adherence to Purchaser's Specifications; (b) use, operation or possession of Brentwood Product, except to the extent the Claim arises from the gross negligence or willful misconduct of Brentwood; or (c) breach by Purchaser of any provision of any Agreement with or obligation to Brentwood.

Brentwood will at all times indemnify, defend and hold harmless Purchaser from and against loss, injury, damage and liability arising directly in connection with bodily injury death, or destruction of tangible or real property, including loss of use directly resulting from or caused by Brentwood or Brentwood's product, its negligent act, error, omission or for damages arising from Brentwood's gross negligence or willful misconduct in performance of its obligations under this Agreement. Claims and damages are limited to Brentwood's proportionate percentage of negligence and/or fault.

Insurance:
Brentwood will maintain and carry insurance including, but not limited to Commercial General Liability in a sum of $1,000,000 per occurrence and Workers Compensation in amounts as required by applicable statute. Additional coverages may be available. Upon request, Brentwood will provide to Purchaser a certificate of insurance evidencing its coverages.

Confidential Information:
All non-public, confidential and proprietary information ("Confidential Information"), whether disclosed orally or reduced to writing, whether or not marked or otherwise designated or not identified as such. Confidential Information does not include information which: (i) is or becomes available to the public generally (other than as a result of a disclosure by the Purchaser in violation of this Agreement); (ii) is subject to public disclosure under any federal, state or local law, ordinance or regulation; (iii) becomes available to Purchaser on a non-confidential basis from a source other than Brentwood; or (iv) was known by or was available to Purchaser prior to or at the time Brentwood disclosed it.

Purchaser agrees to protect and safeguard all Confidential Information with at least the same degree of care as the Purchaser would protect its own Confidential Information, but in no event with less than a commercially reasonable degree of care. Purchaser shall hold all Confidential Information in confidence and shall disclose it only to its employees needing to use the Confidential Information for the limited purposes of this Agreement and said employees shall be bound to the confidentiality Terms of this Agreement. No other disclosure of Confidential Information is allowed unless written permission is granted by Brentwood. Purchaser agrees not to use Brentwood's Confidential Information for any purpose other than this Agreement. Purchaser agrees not to use the Confidential Information in any manner to Brentwood's detriment, including without limitation, to reverse engineer, disassemble, analyze, decompile, copy, modify, develop, or design.

Force Majeure:
Brentwood shall not be liable or responsible to Purchaser, nor be deemed to have defaulted under or breached this Agreement, for any failure or delay in fulfilling or performing any term of this Agreement to the extent Brentwood's failure or delay is caused by or results from a force majeure event, including, acts of God; flood, fire, earthquake, pandemics, disease outbreaks, explosions or other natural disasters; war, invasion, hostilities, terrorist acts, civil unrest; government orders or actions; embargoes or blockades in effect on or after the date of this Agreement; national emergency; strikes, labor stoppages or slowdowns, or other industrial disturbances; shortage of adequate raw materials, labor, power, or transportation facilities; and other similar events beyond the reasonable control of Brentwood.
Brentwood shall give notice within fourteen (14) days of the force majeure event or as soon as reasonably practicable to Brentwood, stating the period of time the occurrence is expected to continue. Brentwood shall use diligent efforts to end the failure or delay and ensure the effects of such are minimized. Brentwood shall resume the performance of its obligations as soon as reasonably practicable after the removal of the cause. In the event Brentwood remains unable to perform its obligations within ten (10) weeks from notice of force majeure event Purchaser may terminate the Agreement.

Governing Law and Jurisdiction:
This Agreement shall be construed under the laws of the Commonwealth of Pennsylvania without reference to conflicts of law principles. The Parties hereby agree that disputes hereunder shall be subject to the exclusive jurisdiction and venue of the courts of Berks County, Pennsylvania, in either the Pennsylvania Court of Common Pleas or the United States District Court for the Eastern District of Pennsylvania. The Purchaser waives any objections based on personal or subject matter jurisdiction or venue.

Export Control:
Purchaser will not use, distribute, transfer, or transmit any Product, components or technical information (even if incorporated into other products) provided in connection with this transaction except in compliance with U.S. export laws and regulations (the "Export Laws"). Purchaser will not, directly or indirectly export or re-export the following items to any country which is in the then-current list of prohibited countries specified in any applicable Export Laws: (a) the Product, components or technical data disclosed or provided to Purchaser by Brentwood; or (b) any improvements or variations of such Product, components or technical data. Purchaser agrees to promptly inform Brentwood in writing of any written authorization issued by the U.S. Department of Commerce office of export licensing to export or re-export any such items referenced in (a) or (b). The obligations stated above in this clause will survive the expiration, cancellation or termination of this Agreement.

Translation:
This document may be translated into one or more languages; however, the English translation shall be the official version and shall prevail over other translations. All dollar amounts are United States currency unless specified otherwise. Purchaser shall abide by the United States Foreign Corrupt Practices Act of 1997, as amended.

Assignment:
Purchaser shall not assign or delegate its obligation hereunder without Brentwood's written consent, and any attempted assignment or delegation without such written consent shall be void.

Waiver:
No waiver by Brentwood of any of the provisions of this Agreement is effective unless explicitly set forth in writing and signed by Brentwood. No failure to exercise, or delay in exercising, any right, remedy, power or privilege arising from this Agreement operates, or may be construed, as a waiver thereof. No single or partial exercise of any right, remedy, power or privilege hereunder precludes any other or further exercise thereof or the exercise of any other right, remedy, power or privilege.

Severability:
If any term or provision of this Agreement is invalid, illegal or unenforceable in any jurisdiction, such invalidity, illegality or unenforceability shall not affect any other term or provision of this Agreement or invalidate or render unenforceable such term or provision in any other jurisdiction.

Notices:
All notices, requests, consents, claims, demands, waivers and other communications hereunder (each, a "Notice") shall be in writing and addressed to the Parties at the addresses set forth on the face of the Proposal or to such other address that may be designated by the receiving Party in writing. All Notices shall be delivered by personal delivery, nationally recognized overnight courier (with all fees pre-paid or certified or registered mail (in each case, read receipt requested, postage prepaid). Except as otherwise provided in this Agreement, a Notice is effective only (a) upon receipt of the receiving Party, and (b) if the Party giving the Notice has complied with the requirements of this Section.

Authority:
The individual assenting to or executing any documents or orders, whether as a hard copy or, on behalf of Purchaser acknowledges, represents and warrants that he or she has read and understands these Terms and Conditions and has been duly authorized by the Purchaser to execute such on behalf of the Purchaser and bind the Purchaser to these Terms and Conditions.

Relationship of the Parties:
The relationship between the Parties is that of independent contractors. Nothing contained in this Agreement shall be construed as creating any agency, partnership, joint venture or other form of joint enterprise, employment or fiduciary relationship between the Parties, and neither Party shall have authority to contract for or bind the other Party in any manner whatsoever**.**

Survival:
Provisions of this Agreement which by their nature should apply beyond their terms will remain in force after any termination or expiration of this Agreement.

Amendment and Modification:
This Agreement may only be amended or modified in writing by Brentwood and executed by an authorized representative of each Party.

By signing below both Parties accept Brentwood Water Group (Water and Wastewater) Standard Terms and Conditions of Sale.

BRENTWOOD INDUSTRIES, INC.
By: _____
Print Name: _____
Title: _____
Brentwood Industries, Inc.

PURCHASER
By:_____
Print Name: _____
Title:_____
Company:_____

JIM MYERS & SONS, INC.
P.O. Box 38778, Charlotte, North Carolina 28278
Phone: 704-554-8397, Fax: 704-554-9113, www.jmsequipment.com

April 10, 2024

TO: SOCWA

SUBJECT: Laguna Nigel, CA (SOCWA Coastal WWTP)
Proposal – JMS Helical Mega-SKIMMERS

Greetings:

Based on the information provided, we are pleased to quote as follows.

JMS Mega-SKIMMERS:

Our proposal includes a total of six (6) helical skimmers. Each helical skimmer will be driven by one (1) drive system.

Primary Tanks will have three 18" diameter x 16 ft long units complete with beach and collection trough.
Secondary Tanks will have three 18" diameter x 25 ft long units with beach. Existing concrete collection troughs will be reused.

The skimmer will consist of:

- 1 HP Close-coupled integral TEFC gearmotor
- Adjustable drive baseplate to control chain tension
- Drive sprocket with shear pin and UHMW-PE teeth
- Driven sprockets with UHMW-PE teeth
- Non-metallic drive chain
- T-304 stainless steel pipe shaft
- ¼" thick T-304 stainless steel skimmer flights (2 flights per shaft)
- 10-gauge thick T-304 stainless steel backer plate for flights
- Neoprene skimmer blades
- Bearings with UHMW-PE liner
- All required stainless steel bolts and anchors

The beach will consist of:

- 3/16" thick T-304 stainless steel sloped beach
- All required stainless steel anchors and supports

The trough (Primary Tanks Only) will consist of:

- 3/16" thick T-304 stainless steel trough
- All required stainless steel anchors and supports

Spare Parts:

- One set of neoprene skimmer blades.

Panels are not included but can be quoted if needed.

Total Price ……$ 1,418,616.00

(Pricing subject to the Terms and Conditions that follow)

If you have any questions concerning this proposal, please contact Misco at (949) 322-1551.

Thank you,

Adrian Scottorn
Technical Sales Manager
Jim Myers & Sons
http://www.jmsequipment.com

JIM MYERS AND SONS, INC.'S SPECIAL PROJECT CONDITIONS

Jim Myers and Sons, Inc.'s ("Seller" or "JMS") Special Project Conditions and Terms and Conditions of Sale of Goods, Materials, and Equipment (the "Agreement") attached hereto apply to the sale of the equipment as set forth in the Project Scope and are attached and made part of the applicable Purchase Order ("PO") issued by the Buyer or Customer. The sale of the equipment is expressly conditional on the acceptance of these Special Conditions and the attached Terms and Conditions. No order for goods or services shall be binding upon Seller until acknowledged in writing by Seller. Any PO, offer, or counter-offer made by Buyer or Customer before or after Seller's written acknowledgement is rejected and all documents exchanged prior to Seller's written acknowledgement are merely preliminary negotiations and not part of any agreement between the parties. For example, orders submitted on Buyer or Customer's own purchase order forms modifying, adding to, contrary to, or inconsistent with these Special Conditions and Terms and Conditions are expressly rejected and of no force or effect and acceptance is expressly made conditional upon assent to these terms. No other terms or conditions or modification of these terms shall be binding upon Seller unless specifically accepted in writing.

1. **PRICING:** Product pricing is subject to this Agreement, including delivery schedule, as defined in this document. Seller reserves the right to modify pricing to accommodate other situations and requests. Pricing is subject to the Exclusions noted in Section 7. Price is valid for 30 days.

2. **PAYMENT TERMS:** JMS payment terms are defined as follows:
    a. 5% upon fully executed purchase order
    b. 10% upon delivery of submittals (prorated per equipment category)
    c. 10% upon approval of submittals (prorated per equipment category)
    d. 30% upon raw material purchase (material will be ordered per equipment type as necessary to meet production schedule)
    e. 40% upon offer to deliver equipment (prorated per equipment category)
    f. 5% upon field service startup, beneficial use, whichever is earliest (prorated per 5 visits), not to exceed 90 days from installation (prorated per equipment category)
    g. If Buyer or Customer fail to make payment when due as outlined in the Payment Terms, Seller shall have the right, but not obligation, to stop delivery and/or work and terminate any agreement between the parties.
    h. Past due payments will bear interest at the rate of 1.5% per month of the invoiced amount.
    i. At any time prior to or after commencement of delivery or work on an agreement between the parties, Seller may request that Buyer or Customer provide reasonable documentation demonstrating that Buyer or Customer has the ability to perform all payment obligations specified in.

3. **SUBMITTAL/EQUIPMENT DELIVERY:** Pricing is quoted DAP (Delivery at Place) which includes shipping to the job site.
    a. Approval submittal timing to be mutually agreed upon prior to PO execution. Submittal timing is currently estimated between 10-12 weeks from fully executed PO. Submittal approval must occur within 60 calendar days from the initial submittal date or lead time may change based on manufacturer's production schedule. Seller may modify pricing if the submittal approval is in excess of 60 calendar days through no fault of Seller. Additionally, submittals outside the agreed upon schedule or beyond two re-submittals will require a change order, not to include resubmittals solely due to Seller's errors and omissions. Any delay in submittal approval that is not solely due to the Seller's omissions and errors shall not be a basis for delay damages. Seller expressly reserves the right to increase costs and charge for costs relating to any delays not solely attributable for the

Seller in the submittal process.

b. Delivery of equipment will require approximately 26-30 weeks after receipt of fully approved submittals. The projected shipment dates are approximate and subject to change. Seller shall not be liable for any damage as a result of any non-delivery or delay, including, without limitation, an act of God; act of Buyer or Customer; embargo; other government act, regulation or request; fire; accident; strike; war; boycott; slowdown; riot; or delay in transportation or inability to obtain necessary labor, materials, or manufacturing facilities. Under no circumstances shall Seller be liable for any direct, or indirect, consequential, incidental, liquidated, or other damages for delay in delivery.
c. Large quantities of equipment (i.e. multiple phases or basins) may require staged shipments with the first shipment arriving as noted above and subsequent shipments staged to accommodate the project installation schedule as JMS manufacturing will allow. Staged shipment schedules must be agreed upon before execution of the PO.
d. Seller reserves the right to substitute suitable alternative materials and components where necessary.
e. If delivery is delayed or deferred by Buyer or Customer beyond the scheduled date, payment shall be due in full when Seller is prepared to ship the goods or perform the services. The goods may thereafter, at Seller's option, be stored at the risk and expense of Buyer or Customer.
f. For any delays or postponement of the delivery date, which are not the fault or responsibility of Seller, a finance charge of 1.5% per month of the contract value will be assessed to the Purchase Price.

4. ACCEPTANCE OF GOODS.

a. All equipment and components delivered to the receiving location shall be immediately inspected by Buyer or Customer. Any visible damages must be noted and Buyer must deliver a full and complete inspection report to Seller within ten (10) days from delivery date. If a written report is not received by Seller within this period it shall be conclusively assumed that the equipment was received in good condition, meets the specifications of the PO and/or equipment, constitutes unqualified acceptance by the Buyer or Customer, and Buyer or Customer waives any rights to rejection or remediation of delivered equipment.
b. Buyer or Customer may not unreasonably refuse delivery of goods or withhold acceptance of goods. Under no circumstances shall Seller be liable for any direct, or indirect, consequential, incidental, liquidated, or other damages for delay in delivery. For any unreasonable refusal by Buyer, a finance charge of 1.5% per month of the contract value will be assessed to the Purchase Price.

5. FIELD SERVICE:

a. When services are to be performed on a certain premises, Buyer or Customer agrees to provide Seller with such access, machine downtime, utilities, and equipment as Seller shall reasonably require on a timely basis in order to perform the services efficiently and in accordance with the Agreement. If Buyer or Customer fails to perform its obligations or shall fail to perform them in a timely manner, Seller acknowledges and agrees that Seller shall be entitled to delay performance of services, without penalty or liability of any kind, until such time as Buyer or Customer has complied in all respects with its obligations stated in the Agreement. Buyer or Customer further agrees to increase the price for services to reflect any increased cost to Seller caused by Buyer or Customer's failure to perform or Buyer's late performance.
b. Five (5) trips, fifteen (15) 8-hour days total included for installation inspection, equipment startup, operator/maintenance staff training, and travel (JMS Field Service).
c. Buyer or Customer shall compensate Seller for any additional visits caused by site delays and that result in Seller's inability to complete services and/or start-up services during scheduled site visits.

d. No contractual warranty or indemnity relating to any field service is extended to Seller, nor are its field service representatives authorized to bind Seller with any oral representations or statements in conflict with this Agreement.

6. **SPARE PARTS:** No spare parts are included.

7. **WARRANTY:** Seller guarantees all equipment/ materials, manufactured or supplied by JMS, to be free from defects in material and workmanship at the time of start-up/beneficial use of each basin for a period of one (1) year, not to exceed eighteen (18) months from date of shipment. Seller will furnish without charge, but will not install, replacements for such parts/materials as we find to be defective.

   This guarantee shall not apply to any equipment which has been improperly handled or stored, improperly lubricated, subjected to misuse or neglect, misapplied with reference to the engineer's specifications, altered or tampered with, or damaged by corrective work performed without our specific written consent. No allowances will be made for such corrective work done without such consent. Deterioration by chemical action, improper maintenance, or normal wear does not constitute defects and are therefore not covered by this warranty. Consumable items are not covered by this warranty. All warranty claims must be submitted within ten (10) calendar days of discovery of defects, or it shall be deemed waived. The foregoing is in lieu of all other warranties, whether expressed or implied.

8. **EXCLUSIONS:**
   a. Site offloading, installation, measurements, storage, field assembly and/or paint touch up.
   b. Any calculations on anything not in JMS's scope of supply.
   c. Control panels, junction boxes, conduit, or any electrical devices not specifically detailed above.
   d. Any items required for system completion not listed on the Scope of Supply are considered exclusions.
   e. All taxes including sales, use, gross receipts, or similar taxes imposed by federal, state, or local authorities.

ACKNOWLEDGMENT

Each party acknowledges that they have read this Agreement, understand the terms of this Agreement, have had the opportunity to consult with independent legal counsel in connection with this Agreement, and have signed this Agreement voluntarily.

BUYER OR CUSTOMER	**SELLER**
_____	_____
Authorized Signature	Authorized Signature
_____	_____
Print Name and Title	Print Name and Title
_____	_____
Date	Date

METHOD TO ADJUST PRICE BASED ON STAINLESS STEEL PRICE FLUCTUATIONS

The Equipment Price shall be adjusted twice based on the fluctuation of stainless-steel surcharge plus base price. Each adjustment will take place upon receipt of the complete order of raw materials for the period. Pounds of steel used in the calculation will be derived from the JMS GA equipment drawings for the equipment to be shipped during the period. Period 1 adjustment will take place at the end of raw material delivery for Phase 1 of the shipments. This will include SS raw material needed to produce Phase 1 Plate Settlers. Period 2 adjustment will take place at the end of raw material delivery for Phase 3 and will include the SS raw material needed to produce Phase 2 and Phase 3 shipments.

The web address for the reference stainless steel surcharge prices is the North American Stainless-Steel website at: https://www.northamericanstainless.com/NAS_App/Surcharge2
The current stainless steel 304/304L surcharge will be compared to the surcharge at adjustment time. Both are measured in cents per pound.

The base price fluctuations will also be documented through announcements on the North American Stainless Steel website for cold rolled standard chemistry 304 Stainless Steel. The changes in base price will be expressed by the change in Discount Points. Each change of 1 discount point represents $0.0233 per pound. JMS will monitor for any changes in the discount points for 304 Stainless Steel monthly and provide all data to the customer. JMS will also validate data from the website with a letter from the mill making the same announcement. At the time of the adjustment event, any positive or negative changes in discount points for the entire period will be used to calculate the net change.

North American Stainless-Steel website for price announcement changes:
https://www.northamericanstainless.com/news/

Example:

= [(April 2020 surcharge price – February 2019 in $/lb) + (Net change of discount points for the period of February 2019 thru April 2020 * $0.0233/lb] * Total Weight equipment pounds of steel used = $ adjustment

Buyer or Customer will acknowledge this adjustment value with a change order, positive or negative, within 45 days.

Terms and Conditions of Sale of Goods, Materials, or Equipment Where Jim Myers and Sons, Inc. is the Seller

1. AGREEMENT. These terms and conditions of sale apply to all goods, services, or combination of goods and services, sold, furnished or provided by Jim Myers and Sons, Inc. (the "Seller") to the Customer. These terms are applicable to the goods and services (the "Product") provided by the Seller to the Customer and to the extent the parties have agreed to any other terms, the terms of this document shall be read in concert with those terms. To the extent there are conflicting terms, the terms in this document shall govern.

2. PRICE; PAYMENT. The price stated in Seller's quotation is firm for thirty (30) days ("Price"). Unless otherwise agreed to in writing, the Price does not include installation, field assembly, freight, insurance, duties, finished product storage, and/or taxes, including sales, use, gross receipts, or similar taxes imposed by federal, international, state or local authorities. Payment terms are as indicated in Seller's quotation and the Purchase Order, or if not stated, Customer shall pay within thirty (30) days net unless otherwise agreed in writing. All payments shall be made without deduction, deferment, set-off, lien, or counterclaim of any nature. All amounts not paid within thirty (30) days after the date such amounts are due and payable shall bear interest at the rate of 1.5% per month, 18% APR, calculated daily and compounded monthly. If Customer does not pay the Seller through no fault of the Seller, within thirty (30) days from the time payment should be made as outlined in the Purchase Order, the Seller may, without prejudice to any other available remedies, and upon written notice to the Customer, stop the work of this Purchase Order until payment of the amount owed has been received.

3. PRICE ESCALATIONS. If the cost of goods and materials for this Purchase Order increases from the time the Customer enters into this Purchase Order through the date Seller orders the materials for this Project, Seller shall be entitled to a change order increasing the amount Customer pays Seller in a corresponding amount of the increased cost of goods and material plus a corresponding increase for overhead and profit. Increases may include any increases caused by tariffs, surcharges, trade disputes, or any other reason that increases the costs of goods and materials. In support of a change order request due to increased costs of goods and materials, upon a written request from Customer, Seller shall provide documentation to Customer of both the original and increased costs of goods and materials.

4. DELIVERY. The cost of freight is only included in the Price if specifically noted on the Purchase Order. Unless otherwise agreed to in writing, delivery is DAP. Dates for the delivery or shipment of goods or performance of the services are approximate only and are subject to change.

5. FORCE MAJEURE/EXIGENT CIRCUMSTANCES. The Seller is not liable for delays in performance or delivery due to causes beyond its reasonable control, including any labor difficulties, shortages, strikes or stoppages of any sort, failure or delay in obtaining materials from ordinary sources, riot, war, accidents, pandemic, epidemic, fires, floods, storms, or other acts of God or any similar or dissimilar events. If such a delay occurs, the Seller may, at its option, extend the performance or delivery date for a period of time equal to the delay or terminate acceptance of the purchase order. Under no circumstances, shall Seller be liable for any direct, or indirect, consequential, incidental, liquidated or other damages for delays in performance or delivery.

6. WARRANTIES. The Seller hereby assigns to the Customer any rights it may have under any warranty extended by a third party covering the goods or part thereof. Goods manufactured by others and resold by the Seller carry the original warranty but do not carry any additional warranty by the Seller unless stated specifically in writing or as set forth below.

(a). LIMITED WARRANTY. The Seller warrants that the Product shall be free from defects for a period of one year from the date of delivery unless otherwise agreed to in writing.

(b). WARRANTY NOTICE AND REMEDY. The Customer must make a claim for any breach of warranty by written notice to the Seller's home office within ten (10) days of the discovery of the defect or non-conformance. The Seller will, at its option and expense, repair or replace, but not install, any parts and/or materials that it determines are defective, or will re-perform any services which do not meet this warranty. No expenses incurred by the buyer in replacing, repairing or returning defective goods, services, or replacement parts will be reimbursed by the Seller. These remedies are the exclusive remedies for breach of warranty.

(c). EXCLUSIONS FROM WARRANTY. These warranties are inapplicable to and exclude: (i) damage caused by accident, misuse or negligence, improper handling, improper lubrication, normal wear and tear, erosion, corrosion or by disasters such as fire, flood, wind and lightning; (ii) damage caused by the failure to follow all installation and operating instructions or manuals or to provide normal maintenance; (iii) damage caused by unauthorized or improper installation, repairs or modifications, or failure to adhere or any deviation to engineer's specifications; (v) damage caused by altering or tampering with the product or corrective work performed without Seller's specific written consent; or (vi) any other abuse, neglect, or misuse. **THE SELLER EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

7. SECURITY INTEREST. Until payment in full of the price, the Seller retains a purchase money security interest in the Product to secure full payment of the price. The Customer authorizes the Seller to record its security interest, to file a mechanic's lien, or both to secure payment. Upon request, the Customer will promptly sign any documents reasonably related thereto. The Customer will not encumber the Product with any mortgage, lien, pledge or other attachment prior to payment in full of the price therefor.

8. HAZARDOUS MATERIALS. Any hazardous materials encountered by the Seller at the site will be the responsibility of the Customer and may cause delays in performance.

9. SELLER'S REMEDIES. The Seller has the right to recover all amounts owed or incurred as a result of the goods and services it has provided. Customer specifically agrees that in the event Customer's creditworthiness becomes unsatisfactory to the Seller or upon Customer's default prior to receipt of payment in full, the Seller shall have the following rights, in addition to any and all other rights that Seller may possess under federal, state or local law:

(a) At any reasonable time, to withhold shipment or suspend providing services in whole or in part;

(b) To require cash payments or satisfactory security for future deliveries of goods or the provision of services;

(c) To recall goods in transit and retake the same;

(d) To peaceably enter upon Customer's premises to repossess the goods, without the necessity of any legal notices or process; and/or,

(e) To terminate this agreement.

Customer acknowledges and agrees that all goods withheld, recalled, retaken or repossessed shall become the absolute and sole property of the Seller subject to the equitable right of set-off for any partial payment made to the Seller for such goods.

If Customer terminates the Purchase Order for convenience, Customer will compensate Seller for work performed and materials purchased before Seller received the Notice of termination, as well as any other expenses reasonably or necessarily incurred in connection with the termination.

Seller agrees that this Purchase Order is an evidence of indebtedness. In the event Seller institutes legal proceedings in the collection of any outstanding balance owed to Seller, Seller is entitled to its reasonable attorneys' fees in such proceedings.

10. LIMITATION OF LIABILITY. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER OR ANY THIRD PARTY FOR ANY LOSS OF USE, REVENUE OR PROFIT, OR FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR PUNITIVE DAMAGES WHETHER ARISING OUT OF BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, REGARDLESS OF WHETHER SUCH DAMAGES WERE FORESEEABLE AND WHETHER OR NOT SELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND NOTWITHSTANDING THE FAILURE OF ANY AGREED OR OTHER REMEDY OF ITS ESSENTIAL PURPOSE. AFTER THE WARRANTY PERIOD EXPIRES, IN NO EVENT SHALL SELLER'S AGGREGATE LIABILITY ARISING OUT OF OR RELATED TO THIS AGREEMENT, WHETHER ARISING OUT OF OR RELATED TO BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, EXCEED 10% OF THE PURCHASE PRICE.

11. INDEMNITY. The Customer shall defend, indemnify and hold harmless the Seller, its agents, directors, officers and employees, from and against any and all claims, demands, causes of action, losses, costs, damages, liabilities and expenses (including reasonable attorney's fees and litigation expenses) arising out of or resulting from Customer's breach of any provision of this agreement or any negligent acts or omissions of Customer, or its agents, employees, subcontractors, vendors or invitees in connection with this agreement.

12. GOVERNING LAW AND DISPUTE RESOLUTION. This agreement and any dispute arising under or related thereto, whether in tort or contract, shall be governed and decided in accordance with the laws of the State of North Carolina. Any dispute, controversy or claim arising out of, or in connection with the provision of goods, services, this agreement, or any combination thereof, including its breach, termination or invalidity, shall be finally settled without recourse to state or federal courts in accordance with the rules of the Construction Industry Arbitration Rules of the American Arbitration Association. Venue for arbitration proceedings shall be in Mecklenburg County, North Carolina. Customer expressly agrees and consents to personal jurisdiction in the state of North Carolina. The arbitrator shall award attorneys' fees, costs, witness costs, expert witness fees, arbitrator compensation, arbitrator fees, exhibit fees, travel costs and other amounts deemed reasonable to the prevailing party as defined by North Carolina General Statute §44A et al.

13. NOTICES. Unless specifically directed otherwise, whenever written notice is required under this Agreement, it may be provided by e-mail or other recognized electronic means and the parties further agree that communications and other business dealings between the parties may where appropriate also be conducted by such means.

14. GENERAL. The rights and remedies contained herein are the exclusive remedies available for breach. No course of prior dealings and no usage of the trade shall be relevant to supplement or explain any terms used herein. If any provision of this Agreement is held to be invalid or unenforceable, such holding shall not affect the validity or enforceability of any other provision herein. No waiver by either party of any default or breach by the other party will operate as or be deemed a waiver of any subsequent default or breach.