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

March 13, 2025
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 **March 13, 2025, 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: 840 3486 5400
Passcode: 373932

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/kb3VVcjKrn

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.

9. 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 March 2025.

Danita Hirsh

Danita Hirsh, Assistant Secretary
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Agenda Item 3

Engineering Committee Meeting

Meeting Date: March 13, 2025

TO: Engineering Committee

FROM: Roni Grant, Capital Improvement Program Manager

SUBJECT: Approval of Minutes

Overview

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

- February 13, 2025

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

February 13, 2025

The Regular Meeting of the South Orange County Wastewater Authority (SOCWA) Engineering Committee Meeting was held on February 13, 2025, 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:

MIKE DUNBAR	Emerald Bay Service District
LINDSAY LEAHY	Santa Margarita Water District
MARC SERNA	South Coast Water District
MARK McAVOY	City of Laguna Beach

Absent:

DAVE REBENSDORF	City of San Clemente
HANNAH FORD	El Toro Water District

Staff Present:

AMBER BOONE	General Manager
RONI GRANT	Associate Engineer
JIM BURROR	Director of Operations
ANNA SUTHERLAND	Accounts Payable
MARY CAREY	Finance Controller
MATT CLARKE	IT Administrator
DANITA HIRSH	Executive Assistant

Also Present:

TARYN KJOLSING	South Coast Water District
ROGER BUTOW	Clean Water Now (CWN)
ROBB GRANTHAM	Santa Margarita Water District
DAVE LARSEN	Moulton Niguel Water District
RUSS BERGHOLZ	Dudek Engineers
ULISES ESCALONA	City of Laguna Beach

1. Call Meeting to Order

   Ms. Roni Grant, Associate Engineer, called the meeting to order at 8:31 a.m.

2. Public Comments

   Ms. Lindsay Leahy introduced herself as the new Deputy General Manager of Santa Margarita Water District and will represent SMWD on the Engineering Committee.

3. Approval of Minutes

   - Engineering Committee Minutes of November 14, 2024

ACTION TAKEN
A motion was made by Mr. Dunbar and seconded by Mr. McAvoy to approve the Engineering Committee Minutes for November 14, 2024.

Motion carried:	Aye 4, Nay 0, Abstained 0, Absent 2	
	Mr. McAvoy	Aye
	Ms. Ford	Absent
	Mr. Dunbar	Aye
	Ms. Leahy	Aye
	Mr. Serna	Aye
	Mr. Rebensdorf	Absent

4. General Manager's Report – Engineering Bylaws Update

Ms. Amber Boone, General Manager, updated the Committee on the proposed changes to the Engineering Committee Bylaws Exhibit "A." An open discussion ensued.

ACTION TAKEN
A motion was made by Mr. Dunbar and seconded by Ms. Leahy to recommend that the Board of Directors approve Resolution No. 2025-03, A Resolution of the Board of Directors of the South Orange County Wastewater Authority Amending Exhibit "A" Bylaws revising the Engineering Membership from seven (7) to six (6) with the meeting quorum requirements to remain at four (4) members.

Motion carried:	Aye 4, Nay 0, Abstained 0, Absent 2	
	Mr. McAvoy	Aye
	Ms. Ford	Absent
	Mr. Dunbar	Aye
	Ms. Leahy	Aye
	Mr. Serna	Aye
	Mr. Rebensdorf	Absent

5. North Coast Interceptor Project Property Acquisition and Coastal Development Permit Application [Project Committee 23]

Mr. Ulises Escalona, Project Manager for the City of Laguna Beach, gave a presentation on the project. An open discussion ensued.

ACTION TAKEN
A motion was made by Mr. Dunbar and seconded by Mr. McAvoy to recommend that the PC 23 Board of Directors authorize the General Manager to execute all necessary permits, applications, and related documents where SOCWA is a co-applicant for the PC 23 North Coast Interceptor Forcemain Project being managed by the City of Laguna Beach.

Motion carried:	Aye 2, Nay 0, Abstained 0, Absent 0	
	Mr. McAvoy	Aye
	Mr. Dunbar	Aye

6. Budgeted Capacity for FY 2025-2026

An open discussion ensued regarding an administrative update to table three (3) on page 13 of the agenda packet relating to the agencies restructuring agreement.

Public Speaker: David Larsen – Moulton Niguel Water District

This was an information item; no action was taken.

7. Operations Report

Mr. Jim Burror, Director of Operations, announced that Josh Papas was selected as the Interim Chief Operator at the Coastal Treatment Plant while the process continues in filling the position more permanently. Mr. Burror also stated that AQMD is finalizing and updating SOCWA's permits. An open discussion ensued.

This was an information item; no action was taken.

8. Capital Improvement Construction Projects Progress and Change Order Report (February) [Project Committees 2 and 15]

Ms. Roni Grant, Associate Engineer, updated the Engineering Committee on the status of the following CIP projects:

- JBL Scum Line Replacement - Construction is currently in progress.
- JBL Electrical Upgrades - Pre-purchasing of MCC and Plant 1 Generator is underway.
- JBL and CTP SCADA System - Upgrades started earlier this year and are near completion.
- CTP Diffusers Replacement - The contractor substantially completed the contract work, and working out final punch list items.
- CTP Aeration/Secondary Deck Grating Replacement - Construction is currently in progress. A change order to install 1.5-inch grating in the secondary effluent area, replacing the originally planned 1-inch grating is recommended. This adjustment is necessary to enhance the safety of plant staff, as the area experiences high traffic and requires regular access. The change order amounts to $8,639.53, bringing the revised total contract amount to $158,000.78. In addition, 89 non-compensable days will be added to the contract for the changes, for a revised contract end date of June 30, 2025.
- CTP West Primary and Secondary Scum Skimming System - Pre-Purchasing of scum skimmers, launders, and weirs is currently in progress.
- CTP Auxiliary Blower Building Roof Replacement - The Notice to Proceed (NTP) has been issued to Best Contracting Services.
  CTP Personnel Building Sewer Rehabilitation – The Notice to Proceed (NTP) has been issued to T.E. Roberts.

This was an information item; no action was taken.

9. J.B. Latham Treatment Plant (JBL) Aeration Flare System and Underground Piping Replacement Project [Project Committee 2]

   An open discussion ensued regarding tabling the project until after a thorough interview with the top two consultants to perform the work had been completed. No action has been taken.

10. San Bernadino Municipal Water District Phase 1 Biosolids Facility Study [Project Committee 2]

    An open discussion ensued regarding the San Bernadino Municipal Water District (SBMWD) wanting to develop a Phase 1 Biosolids Program Feasibility Study for a processing facility that would receive, treat, and dispose of biosolids. The facility would be owned and operated by their water district. SBMWD is seeking a $50,000 commitment from agencies wanting to participate.

    This was an information item; no action was taken.

11. Coastal Treatment Plant (CTP) Blower System Upgrades Preliminary Design Agency Allocation [Project Committee 15]

    An open discussion ensued regarding finalizing the member agency allocation for Project Committee 15. Director Dunbar of Emerald Bay Services District has agreed to absorb the difference, allowing the assignment allocation to total 100%.

    This was an information item; no action was taken.

12. Adjournment

    There being no further business, Ms. Grant adjourned the meeting at 9:23 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 February 13, 2025, 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: March 13, 2025

TO: Engineering Committee

FROM: Amber Boone, General Manager

SUBJECT: General Manager's Status Report

Overview

Verbal update on SOCWA activities.

Recommended Action: Information Item.

Agenda Item 5

Engineering Committee Meeting

Meeting Date: March 13, 2025

TO: Engineering Committee

FROM: Jim Burror, Deputy General Manager/Chief Engineer
James Jones, Operations Superintendent

SUBJECT: Operations Report

Overview

Verbal update on operations and maintenance activities.

Recommended Action: Information Item.

Agenda Item 6

Engineering Committee Meeting

Meeting Date: March 13, 2025

TO: Engineering Committee

FROM: Roni Grant, Capital Improvement Program Manager

SUBJECT: Capital Improvement Construction Projects Progress and Change Order Report (March) [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 Scum Line Replacement
Construction is currently in progress.

JBL Electrical Upgrades
Pre-purchasing of MCC and Plant 1 Generator is underway.

JBL and CTP SCADA System
Upgrades started earlier this year and are near completion. There is one change order in the amount of $14,626.5, bringing the revised total contract amount to $420,526.50. This change order covers the software licensing for Win-911 FactoryTalk A&E, including licensing and backup version upgrades. This system will allow backup in case the primary SCADA system is down.

CTP Diffusers Replacement
The contractor substantially completed the contract work and is working on the final punch list items.

CTP Aeration Deck Grating Replacement
Construction is currently in progress.

CTP West Primary and Secondary Scum Skimming System
Pre-Purchasing of scum skimmers, launders, and weirs is currently in progress.

CTP Auxiliary Blower Building Roof Replacement
Construction was completed with no change orders.

CTP Personnel Building Sewer Rehabilitation
Construction is currently in progress.

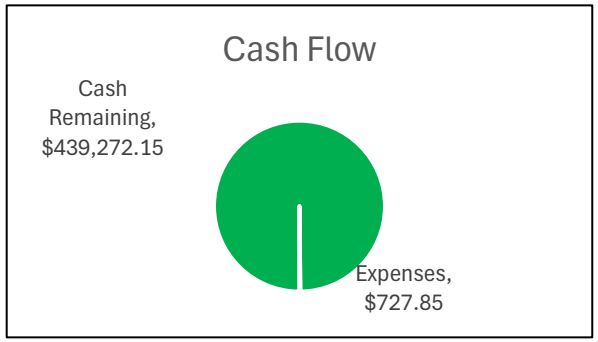
Recommended Action: Information Item only.

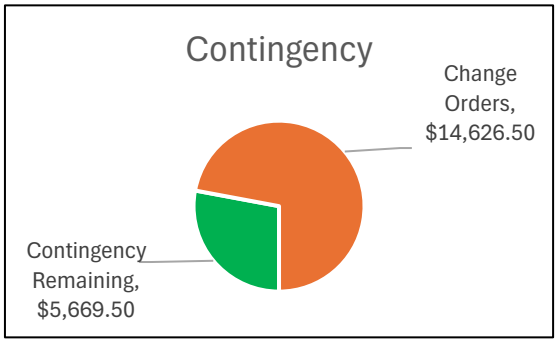
Project Financial Status

Project Committee	2 and 15
Project Name	SCADA System Upgrades - 32243C and 35249L
Project Description	SCADA server replacement and upgrades at JBL and CTP

Data Last Updated

March 4, 2025





Cash Flow

Collected	$	440,000.00
Expenses	$	727.85

Project Completion

Schedule	95%
Budget	1%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
W. M. Lyles	20660	$ 405,900.00	$ 14,626.50		$ 420,526.50	$ -
SOCWA Staff Time						$ 727.85
		$ 405,900.00	**$ 14,626.50**	**$ -**	**$ 420,526.50**	**$ 727.85**

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

Construction Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Common	32243C	$ 20,296.00	$ 14,626.50	$ 5,669.50	72.1%
		$ 20,296.00	**$ 14,626.50**	**$ 5,669.50**	**72.1%**

Change Order No.	Vendor Name	Project ID	Description	Status Date	Days	Amount
1	W. M. Lyles	32243C	Win911 SCADA Programming	1/21/2025		$ 14,626.50

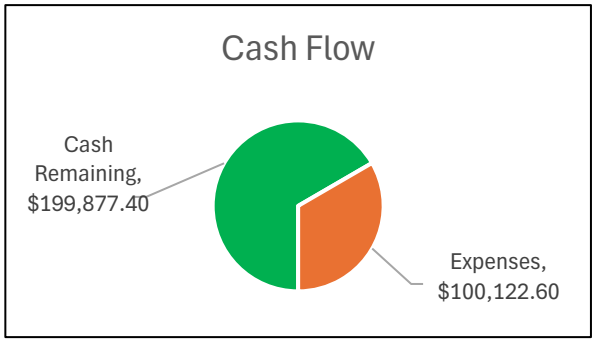
SCADA Upgrades

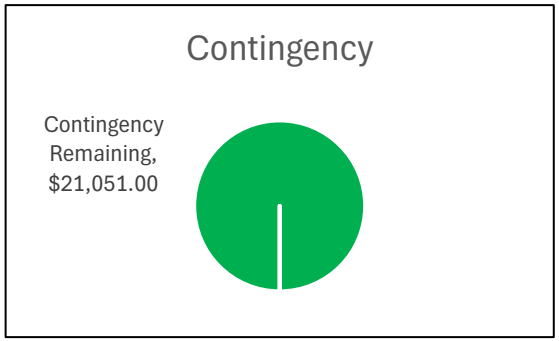
Project Financial Status

Data Last Updated

Project Committee	2
Project Name	Scum Line Replacement - 32233S
Project Description	Replacement of scum line at Plant 1 Aeration Basin 1

March 4, 2025





Cash Flow

Collected	$	300,000.00
Expenses	$	100,122.60

Project Completion

Schedule	40%
Budget	37%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
SS Mechanical	20557	$ 278,949.00	$ (39,765.68)		$ 239,183.32	$ 81,103.18
Project Partners	20164	$ 30,000.00			$ 30,000.00	$ 9,280.00
Steve Andrews	20332	$ 5,232.00			$ 2,818.00	$ 724.50
SOCWA Staff Time	32233S					$ 9,014.92
		$ 314,181.00	**$ (39,765.68)**	**$ -**	**$ 272,001.32**	**$ 100,122.60**

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

Construction Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Solids	32233S	$ 21,051.00	$ (39,765.68)	$ 21,051.00	0.0%
		$ 21,051.00	**$ (39,765.68)**	**$ 21,051.00**	**0.0%**

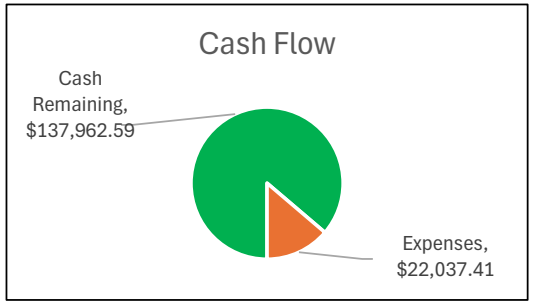
Change Order No.	Vendor Name	Project ID	Description	Status Date	Days	Amount
1	SS Mechanical	32233S	Change pipe diameter from 12" to 10"	1/8/2025	94	$ (39,765.68)
						$ (39,765.68)

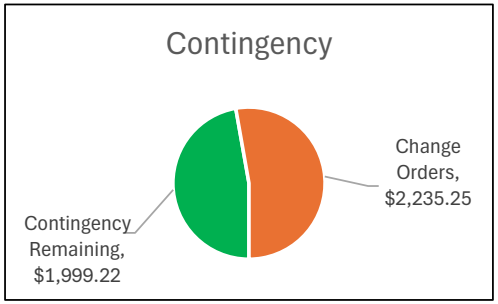
Project Financial Status

Project Committee	15
Project Name	Grating Replacement on Aeration/Secondary Deck - 35245L
Project Description	Replacement of grating on west aeration/secondary deck

Data Last Updated

March 4, 2025





Cash Flow

Collected	$ 160,000.00
Expenses	$ 22,037.41

Project Completion

Schedule	20%
Budget	12%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
SS Mechanical	20588	$ 147,126.00	$ 10,874.78		$ 158,000.78	$ 4,700.00
Project Partners	20877	$ 25,000.00			$ 25,000.00	$ 7,840.00
Steve Andrews	20332	$ 2,818.00			$ 2,818.00	$ 483.00
SOCWA Staff Time	35245L					$ 9,014.41
		$ 174,944.00	**$ 10,874.78**	**$ -**	**$ 185,818.78**	**$ 22,037.41**

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

Construction Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	35245L	$ 12,874.00	$ 10,874.78	$ 1,999.22	84.5%
		$ 12,874.00	**$ 10,874.78**	**$ 1,999.22**	**84.5%**

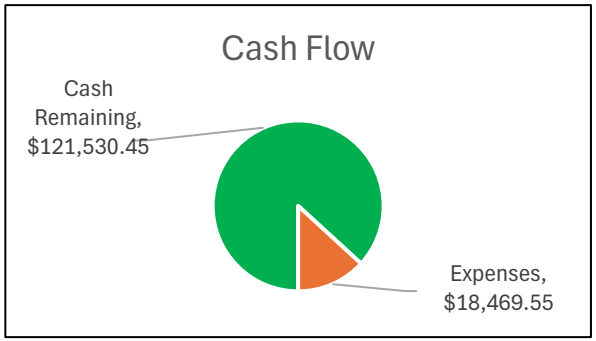
Change Order No.	Vendor Name	Project ID	Description	Status Date	Days	Amount
1	SS Mechanical	35245L	316L SST angle in lieu of 304L SST angle at the Step-Feed Channel	1/8/2025		$ 2,235.25
2	SS Mechanical	35245L	Change Secondary effluent grating from 1-inch to 1.5"	1/31/2025		$ 8,639.53

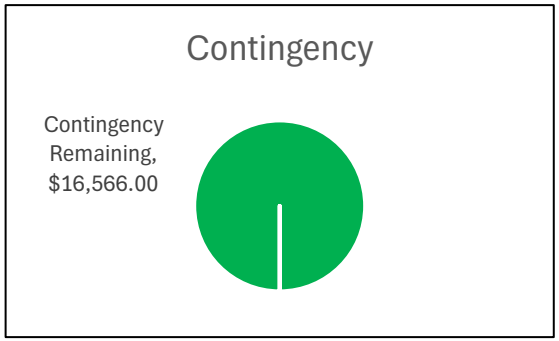
Project Financial Status

Data Last Updated

Project Committee	15
Project Name	Auxiliary Blower Building Roof Replacement - 35221L
Project Description	Replacement of Auxiliary Blower Building roof

March 4, 2025





Cash Flow

Collected	$	140,000.00
Expenses	$	18,469.55

Project Completion

Schedule	99%
Budget	14%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
Best Contracting	20911	$ 123,434.00			$ 123,434.00	
Project Partners	20877	$ 10,000.00			$ 10,000.00	$ 6,560.00
SOCWA Staff Time	35221L					$ 11,909.55
		$ 133,434.00	**$ -**	**$ -**	**$ 133,434.00**	**$ 18,469.55**

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

Construction Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	35221L	$ 16,566.00		$ 16,566.00	0.0%
		$ 16,566.00	**$ -**	**$ 16,566.00**	**0.0%**

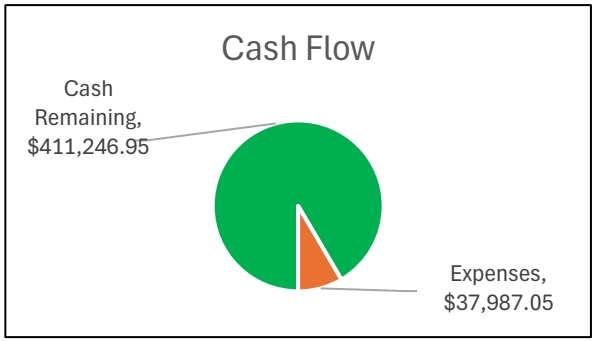
Change Order No.	Vendor Name	Project ID	Description	Status Date	Days	Amount
						$ -

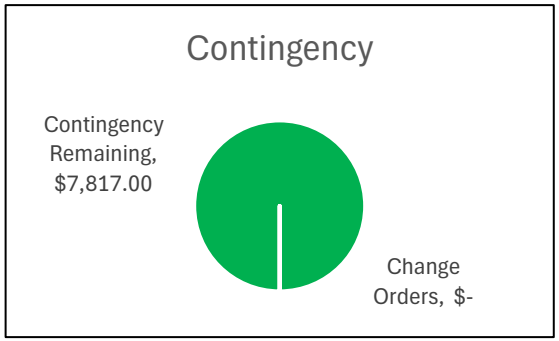
Project Financial Status

Data Last Updated

March 4, 2025

Project Committee	15
Project Name	Personnel Building Sewer Rehabilitation - 3525
Project Description	Replacement of grating on west aeration/secondary deck





Cash Flow

Collected	$	449,234.00
Expenses	$	37,987.05

Project Completion

Schedule	15%
Budget	34%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
T.E. Roberts	20930	$ 78,165.00			$ 78,165.00	
Project Partners	20877	$ 35,000.00			$ 35,000.00	$ 14,880.00
SOCWA Staff Time	3525					$ 23,107.05
		$ 113,165.00	**$ -**	**$ -**	**$ 113,165.00**	**$ 37,987.05**

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

Construction Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	3525	$ 7,817.00		$ 7,817.00	0.0%
		$ 7,817.00	**$ -**	**$ 7,817.00**	**0.0%**

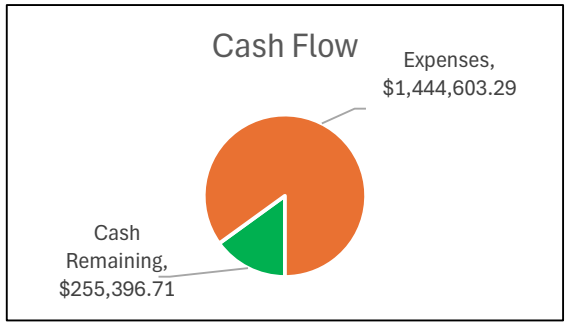
Change Order No.	Vendor Name	Project ID	Description	Status Date	Days	Amount
						$ -

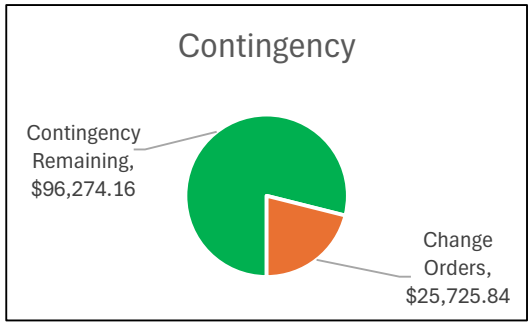
Project Financial Status

Project Committee	15
Project Name	Aeration Diffusers Replacement - 35228L
Project Description	Replacement of diffusers in the aeraiton tanks.

Data Last Updated

March 4, 2025





Cash Flow

Collected	$	1,700,000.00
Expenses	$	1,444,603.29

Project Completion

Schedule	100%
Budget	96%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
Filanc	19640	$ 1,022,250.00	$ 25,725.84		$ 1,047,975.84	$ 1,047,975.84
EDI	16620	$ 250,490.00			$ 250,490.00	$ 250,490.00
EDI	20885	$ 82,800.00			$ 82,800.00	
Hazen	17256/19641	$ 93,578.00			$ 93,578.00	$ 57,894.04
SS Mechanical	20443	$ 37,535.00			$ 37,535.00	$ 37,535.00
SOCWA Staff Time	35228L					$ 50,708.41
		$ 1,486,653.00	**$ 25,725.84**	**$ -**	**$ 1,512,378.84**	**$ 1,444,603.29**

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

Construction Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	35228L	$ 122,000.00	$ 25,725.84	$ 96,274.16	21.1%
		$ 122,000.00	**$ 25,725.84**	**$ 96,274.16**	**21.1%**

Change Order No.	Vendor Name	Project ID	Description	Status Date	Days	Amount
1	Filanc	35228L	Contract Extension	4/4/2024	273	$ -
2	Filanc	35228L	Solids removal in basins	1/25/2025	60	$ 25,725.84

Agenda Item 7

Engineering Committee Meeting

Meeting Date: March 13, 2025

TO: Engineering Committee

FROM: Roni Grant, Capital Improvement Program Manager

SUBJECT: J.B. Latham Treatment Plant (JBL) Flare System and Underground Piping Replacement Final Design [Project Committee 2]

Overview

The existing digester gas and hot water loop piping serving the digesters is highly corroded and requires replacement. The buried portions of these pipelines run through an area that is congested with other process piping. Excavating in this area would be difficult, and leaks in buried piping can be difficult to locate and repair. Locating the new utilities above-ground could reduce construction costs, operational impacts, future maintenance costs and improve reliability.

The current flare system has been in operation since 1971 and has reached the end of its useful life. SOCWA engaged DHK Engineer in 2013 for a digester gas flare condition assessment and Carollo Engineers in 2018 for a flare study. In addition, SCAQMD has previously advised SOCWA that the existing flare does not meet the requirements of Rule 1118.1 because (in the view of SCAQMD) it exceeded the annual capacity thresholds set forth in the rule during two consecutive years.

Rule 1118.1 provides two pathways to continue operating the existing flare:

- Rule 1118.1(d)(5) allows for the continued operation of an existing flare that exceeds the annual capacity thresholds if SOCWA submits a Notice of Intent (NOI) to replace the flare and then applies for a permit to construct a replacement flare. SOCWA would have 18 months from the date of permit to construct a replacement flare, plus an additional 12 months if needed due to circumstances that prevented the installation within the 18-month period. SOCWA did submit a NOI to replace the flare and applied for the permit to construct it at the end of 2024.

- Under this provision, rather than submitting a NOI to replace an existing flare, SOCWA would submit a NOI to reduce Flare Input. Compliance with the rule would then entail monitoring digester gas input to the flare (using the existing meter) to ensure that the gas input to the flare does not exceed 5% of its maximum capacity on an annual basis. Rule 1118.1 also includes a provision that allows SOCWA to change its notification of intent from one to the other compliance path. In this case, it would involve submitting a Notification of Flare Input Reduction and rescinding the Notification of Flare Replacement.

The final design project elements include the following:

- Replace existing flare with new flare and piping and new location.

- Replace Hot Water Piping between digesters.
- Replace Digester Gas Piping between digesters and flare.
- Piping structures to accommodate proposed (this project) and future piping needs.

Proposals

SOCWA solicited proposals through PlanetBids on November 13, 2024. Eight firms were contacted during this process:

- Black and Veatch
- Carollo Engineers
- Dudek
- Hazen and Sawyer
- HDR
- Kleinfelder
- MKN
- TYLin

Three proposals were received from Carollo, Dudek, and MKN. Staff reached out to the firms who did not propose. The timeline either did not work, or the firms did not have enough pipe bridge experience.

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

Table 1 – Summary of Proposals

Firm	**Carollo**	**Dudek**	**MKN**
Project Manager	Jeff Weishaar	Ken Deibert	Ryan Gallagher
Total Labor Hours	2,343*	1,298*	970*
Total Fee	$562,706	$409,990	$278,793

*Subconsultants hours were not included in the total labor hours.

The proposals were distributed to the evaluation committee (PC 2 Engineering Committee members and SOCWA staff) on January 30, 2025.

At the February Engineering Committee meeting, it was proposed to conduct Q&A sessions with Dudek and MKN. These sessions were facilitated by staff on March 4, 2025, with the participation of PC 2 Engineering Committee members and SOCWA staff.

Considering the upcoming master planning effort, there is a recommendation to phase the project. The initial phase would involve designing the above-ground piping system, followed by the replacement of the flare. Staff has reached out to Dudek and MKN to request revised fees to reflect this phased approach. The revised fees will be distributed at the March Engineering Committee meeting for consideration.

Budget

The Buried Digester and Flare Gasline Replacement (32232S) has a project budget of $125,000. The Heat Exchanger No. 4 Pipe Replacement (32234S) has a project budget of $75,000; the buried digester piping reconstruction (32263S) has a project budget of $250,000, for a total project budget of $450,000 for the final design.

Recommended Action: Committee Discussion/Direction/Action.

January 30, 2025

Roni Young Grant, PMP
Associate Engineer
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, California 92629

Subject: **Letter Proposal for J.B. Latham (JBL) Treatment Plant Digester, Flare, and Heat Exchanger and Piping Replacement Final Design**

Dear Roni Young Grant,

Dudek is pleased to submit this letter proposal for the above-referenced project. Our proposal demonstrates our team's informed approach to the South Orange County Wastewater Authority (SOCWA) JBL Treatment Plant Digester, Flare, and Heat Exchanger & Piping Replacement Final Design project.

Table 1. Dudek Information

Legal name, address and form (e.g., Corporation, LLP, etc.) of company	Dudek | Main Office | 605 Third Street, Encinitas, California 92024 A *proud* California Corporation since 1980 | C1210012
Identify any parent companies	Dudek has no parent company.
Addresses of principal place of business and, if different, any local office	Main Office | 605 Third Street, Encinitas, CA 92024 Orange County | 27271 Las Ramblas, Suite 340, Mission Viejo, California 92691
Name, title, phone, and email address of person to contact about the proposal	Contact | Ken Deibert, PE, Project Manager Phone | 510.601.2505 | Email | kdeibert@dudek.com
Proposal validity	Dudek states that this proposal will remain valid for six (6) months from the date submitted to SOCWA.
Addenda Acknowledgement	Dudek acknowledges receipt of Addendum No. 1, dated November 25, 2024, Addendum No. 2, dated December 11, 2024, and Addendum No. 3, dated January 3, 2025.
Required Forms and Certifications	Please refer to Appendix B.

Should you have any questions or require additional information, please do not hesitate to contact Project Manager Ken Deibert at 510.601.2505 or kdeibert@dudek.com. We value our relationship with SOCWA and look forward to assisting you with this project.

Sincerely,

Ken Deibert, P.E.
Project Manager

Michael Metts, P.E.
Vice President, Engineering
Michael Metts is authorized to sign on behalf of Dudek.

1.3.2 Approach to the Work

The existing digester gas and hot water loop piping serving the digesters is highly corroded and requires replacement. The buried portions of these pipelines run through an area congested with process piping, so installing the new pipes above ground is proposed. This may require a bridge between Digesters 1 and 2, and Digesters 3 and 4. The bridges must be high enough for the largest anticipated vehicle to pass between the digesters. The following sections summarize our approach to addressing the key scope elements of the project.

Key Project Elements

- Replace the existing flare with a new flare and design piping to the new flare location
- Replace hot water piping between the digesters
- Replace digester gas piping between the digesters and the flare
- Design pipe bridges to support aboveground piping and maintain vehicle access

Minimize Disruption During Construction

Minimizing plant disruption during construction is critical for projects at wastewater plants, where continuous operation is essential. It is anticipated that the new piping and new flare system will be installed before any demolition takes place. Construction sequencing will be planned carefully with operations staff to find ways to minimize the duration of tie-in connections to avoid adverse temperature effects on the digestion process. In order to maintain safe gas flaring, detailed sequencing will be specified for the switchover of gas flow from the existing to new flaring system. The timing and phasing of the switchover to the new piping will be developed with plant operations and maintenance staff during the preliminary design, before the constructability review.

Design Efficiency

SOCWA has invested resources into preliminary design, alternatives analysis, equipment selection, and conceptual layouts. Dudek has carefully reviewed the work completed by others for this project. For efficient production purposes, Dudek will use a combination of existing record drawings, CAD drawings, and photo images as base layers to show the replacement work and add design details to clearly convey the work.

Avoid Duplication of Effort

Some of the preliminary design work includes DHK's 2013 digester gas flare condition assessment and Carollo Engineers' 2018 flare study. Our approach will verify the previously completed work, but our efforts will be focused on preparing the construction bid documents while avoiding duplication of effort on alternatives analysis and other work that has already been approved.

Key Components

Biogas Flare

Dudek has reviewed the SOCWA JBLTP Flare Study that was included in the RFP and have taken note of the key considerations made for the construction of a new flare. The design of a new flare system must incorporate site limitations, the SCAQMD requirements, and should follow the CSA code recommended valving arrangement.

Digester Gas and Hot Water piping

It is understood that the existing Digester Gas pipelines and the existing Hot Water pipelines are currently installed below-grade in an area that is highly congested with other process piping. Dudek intends to design above-grade piping where feasible, utilizing a combination of pipe bridges, stand-alone pipe supports and racks, pipe chases, and existing structure pipe supports to facilitate flows of Digester Gas to the new flare and Hot Water piping between digesters.

Special considerations must be made for Digester Gas piping between the digesters and the new flare including the use of either stainless steel or HDPE piping, 2% slope towards drip traps to collect moisture, manual shutoff valves installed at each end of the pipeline, and purge points installed both upstream and downstream of each isolation.

Structural Considerations

The structural design of pipe rack systems requires multiple considerations to determine the most appropriate and cost-effective system for supporting conveyance piping. When designing a pipe rack system for piping, the structural engineer must account for all loading scenarios, including loads (dead, live, wind, seismic, thrust, and thermal) that may be transferred to the structural system. Mechanical considerations are critical for a layout that provides efficient loading to the pipe support rack and provides for future utilities. Dudek and our subconsultant, Kelsey Structural, have developed an open communication relationship to ensure that, together, we design an effective and efficient solution.

Pipe Bridges

Figure 1. Pipe Bridge Installed for the City of Corona Water Reclamation Facility (WRF) 1A

The pipe bridge design includes the structural design of two structural steel pipe bridge structures and concrete foundations to support the new flare gas piping and future piping. The pipe bridge is anticipated to consist of galvanized structural steel framing and will utilize cantilever columns, ordinary moment frames, or ordinary concentric braced frame lateral systems. The Structural Engineer will determine the final lateral system selection during the conceptual design phase. Structural foundations are anticipated to consist of drilled pier foundations for a cantilever column system or concrete spread footings for moment frame or braced framed systems. The design will provide the minimum clearance for the maximum height of the vehicle. Mechanical considerations are critical for a layout that provides efficient loading to the pipe bridge and provides for future utilities The estimated span of the structures/piping over the existing road is

approximately 40 feet. Figure 1 shows an example of a pipe bridge recently installed at the City of Corona Water Reclamation Facility (WRF) 1A.

Flare Foundation

The flare foundation includes the structural design of a concrete foundation and equipment anchorage for the new flare system. The foundation will include a thickened concrete slab-on-grade with turn-down perimeter footings or mat slab, with concrete pedestal supports for the flare frame. Kelsey will also design anchorage for the equipment to the foundation.

Standalone Pipe Supports and Racks

The task includes the structural design of new standalone pipe supports, foundation elements, and anchorage to support new flare gas piping and future piping. New supports are anticipated to be located at grade and elevated as required for pedestrian and vehicular clearance. Structural supports are anticipated to consist of cantilever columns (stanchion) or braced-frame structural steel frames (hot-dipped galvanized) anchored to new concrete spread footing or mat slab foundations. If possible, Kelsey will utilize Eaton, Unistrut, or similar systems.

Existing Structure Pipe Supports

Pipe support design includes structural design and detailing for various piping supports that are supported on existing structures, including the digesters. Supports consist of structural steel kicker systems (A-frame), lateral bracing, and post-installed anchorage to existing concrete structures. Kelsey will provide localized strengthening (fiber) to existing structures if required. Consideration will be given to material finishes to minimize corrosion. If possible, Kelsey will utilize Eaton, Unistrut, or similar systems.

The pipe support systems design will include an allowance for additional piping (air, water, sludge, electrical conduit). To determine and place expansion or seismic couplings and supports, coordination with SOCWA and the pipe coupling manufacturer (Victaulic or similar) is anticipated. Kelsey will include typical pipe straps, U-bolts, saddles, and similar piping support details with the structural design drawings.

Pipe Chases

The task includes structural design and performance specification for precast concrete pipe chases for below-grade piping. Structural design will include determining minimum prescriptive requirements (member thickness and reinforcement) and developing a precast concrete performance specification. The Contractor and their subcontractors will perform the final design of the precast concrete pipe chases during construction.

Miscellaneous Equipment Foundations

This includes the structural design of concrete equipment pads and foundations for various ancillary mechanical and electrical equipment (operating weight less than 2,000 lbs). Foundations will include concrete slab-on-grade with turn-down perimeter footings, spread footings, and thickened equipment pads as required for the equipment's support. Kelsey will design and detail anchorage for the equipment.

Table 2. Anticipated Sheet List

No.	Sheet No.	Sheet Name
1	G-1	Title Sheet, Vicinity Map
2	G-2	General Notes and Drawing Index
3	G-3	Symbols, Abbreviations, and Schedules
4	G-4	Overall Site Plan and Contractor Staging Area
5	G-5	Construction Phasing Plan
6	C-1	Civil Utility Plan
7	C-2	Civil Grading Plan
8	S-1	Structural General Notes - 1
9	S-2	Structural General Notes - 2
10	S-3	Structural General Notes - 2
11	S-4	Special Inspections and Notes
12	S-5	Overall Structural Pipe Support Plan
13	S-6	Enlarged Structural Pipe Support Plan - 1
14	S-7	Enlarged Structural Pipe Support Plan - 2
15	S-8	Pipe Support Elevations - 1
16	S-9	Pipe Support Elevations - 2
17	S-10	Pipe Support Sections - 1
18	S-11	Pipe Support Sections - 2
19	S-12	Structural Typical Details - 1
20	S-13	Structural Typical Details - 2
21	S-14	Structural Typical Details - 3
22	S-15	Structural Details - 1
23	S-16	Structural Details - 2
24	M-1	Mechanical Demolition Plan
25	M-2	Mechanical Demolition Details
26	M-3	Mechanical Piping Site Plan - 1
27	M-4	Mechanical Piping Site Plan - 2
28	M-5	Mechanical Flare – Plan and Section
29	M-6	Mechanical Sections - 1
30	M-7	Mechanical Sections - 2
31	M-8	Mechanical Details
32	E-1	Electrical Symbols, Legend & Abbreviations
33	E-2	Single-Line Diagrams & Panel Schedules
34	E-3	Partial Plant Electrical Site Plan
35	E-4	Existing Flare Demolition Power Plan
36	E-5	Flare Power, Grounding, and Hazardous Envelope Plans
37	E-6	Conduit Block Diagram
38	E-7	Electrical Details
39	I-1	Instrumentation Symbols & Legend
40	I-2	P&ID

1.3.3 Experience and Technical Competence

Table 3. Project Descriptions and Reference Information

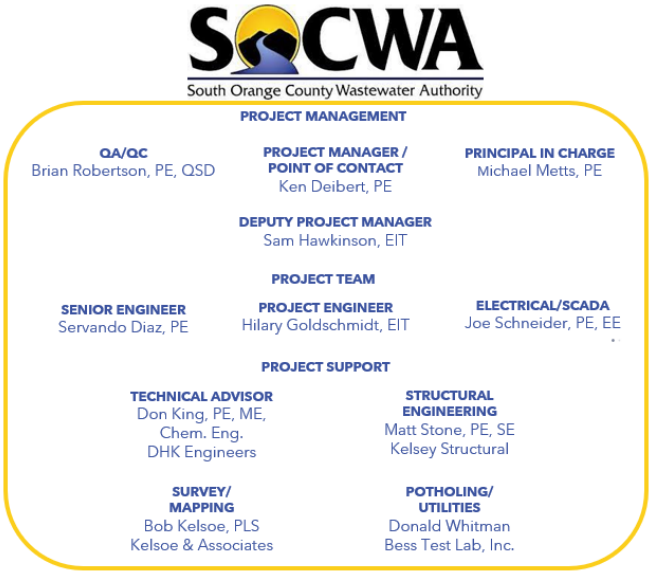
Project Name/Client Name/Client Reference/Project Dates	Project Name and Brief Description
City of Oceanside Sarita Lemons, Project Manager 760.435.5873; slemons@oceanside.org 2021–2023	La Salina Wastewater Treatment Plant Digester Improvements. Dudek provided mechanical, structural, and other miscellaneous design services to facilitate rehabilitating and cleaning the primary and secondary digesters at the La Salina Wastewater Treatment Plant. Services comprised of design for new overhead heated sludge supply and return piping, structural spot repairs and coating, manway cover replacements, and gas piping assembly and safety equipment replacements on the tank domes and at the flare connection. Dudek worked closely with City engineering and operations staff to establish parameters and phasing for maintaining digester process and managing odor and dust during construction activities. Dudek and Kelsey Structural also provided expedited mechanical and structural repair design in response to condition assessment findings of the digester interiors during construction.
Orange County Sanitation District Richard Birdsell, Senior Engineer 714.593.723; rbirdsell@ocsd.com 2021–Ongoing	CENGEN Hot Water Pipe Bracing, Plant 1. The District hired Dudek to investigate the hot water piping loop at Plant 1. The piping included multiple expansion joints, which were not operating properly. Dudek teamed up with the leading pipe stress analysis firm Becht and determined that the piping had sufficient inherent flexibility and expansion joints, which increased the pipe stress due to inadequate anchors and guides. Dudek prepared plans and specifications for removing the expansion joints and modifying multiple pipe supports. The design resulted in lower pipe stress and less maintenance.
City of Corona Alan Zhang, Assistant Project Manager 951.736.2236; alan.zhang@coronaca.gov 2021–2023 (Design) Currently in construction	Aeration System Improvements, WRF1A. The City of Corona contracted Dudek to provide design and engineering construction support services for replacing the panel diffusers with retrievable fine bubble diffuser grids for WRF-1A Aeration Basin Nos. 1, 2, and 3 and completely replacing the air supply piping with a new aboveground alignment including a pipe bridge for vehicle passing and structure supports for overhead alignment along the basin decks. The design included new electric actuated air control valves and meters and supporting electrical improvements and required sequence of work planning to maintain the operation of two of the three basins during construction.

1.3.4 Key Personnel and Subconsultants

Dudek will serve as the prime consultant providing overall management and engineering services. **Ken Deibert, PE**, will serve as your dedicated project manager and the main point of contact for SOCWA. He is a successful project manager with years of experience providing wastewater infrastructure design and rehabilitation to similar clients. Ken will oversee the development and execution of the tasks/projects, tracking budgets and schedules. He understands the importance of good communication, being solution-oriented, and efficient multitasking. Ken and **Sam Hawkinson**, Deputy Project Manager, will facilitate the flow of information among the team and with the SOCWA project manager. **Michael Metts**, **PE**, will serve as principal in charge. He has 42 years of experience managing, planning, and designing water infrastructure projects throughout California and serves as Dudek's Chief Engineer. **Brian Robertson**, PE, QSD, will provide expert project quality control. He will thoroughly review all deliverables before delivery to SOCWA, including those of our subconsultants.

For this project, Dudek will supplement our team with the services of four subconsultants–trusted firms with whom we have long-term relationships; they have significantly contributed to successful projects. Matt Stone, PE, SE, will provide structural engineering services, and Don King (DHK) will provide technical advice. Don King is well known to SOCWA staff, and Matt Stone recently provided structural services for the SOCWA JBL Digester 1 and 2 Manway Access Improvements Design. Bob Kelsoe, PLS, will provide survey and mapping, and Donald Whitman of Bess Test Lab will provide potholing and utilities.

Dudek understands that SOCWA is considering the Dudek team in its entirety; therefore, we will not change the team composition, including the project manager, without prior consultation and written approval from SOCWA.



Current and Future Workload of Key Staff. We have reviewed the scope of work requirements and have carefully selected a talented, collaborative project team with the capabilities and perseverance to satisfy the needs of the SOCWA contract while meeting the performance schedule. Dudek routinely works on projects of similar scope and scale with public agencies, and we are experts in effectively balancing staff resources and workloads to service your contract. Michael Metts and Ken Deibert will ensure the availability and allocation of staff resources to this contract.

Table 4 includes brief overviews of key personnel and subconsultants; focused resumes are provided in **Appendix A.**

Table 4. Key Personnel Overview

Name/Role/Education/ License/Certifications	Profile	Relevant Experience
Michael Metts, PE **Principal in Charge** BA, Civil Engineering CA PE No. 42586	▪ 42 years' experience in water, wastewater, and recycled water engineering design, permitting, water resources planning, and construction management and assistance ▪ 20+ years serving as district engineer for various water/wastewater districts	▪ Principal, CIP Engineering Services, South Orange County Wastewater Authority ▪ Principal Engineer, Corona WRF1 and WRF 2 Headworks Upgrades
Ken Deibert, PE **Project Manager** BS, Civil Engineering CA PE No. 62246	▪ Senior project manager with 30 years' experience as a civil engineer specializing in wastewater treatment, conveyance, disposal, and reuse ▪ Completed various municipal capital infrastructure improvements, including sewers, force mains, pump stations, and other facilities for WCW	▪ Districtwide Master Plan, West County Wastewater (WCW) ▪ Effluent Line Cathodic Protection Upgrade, WCW ▪ Hilltop Green Force Main, WCW ▪ Recycled Water Reliability Upgrades, WCW
Sam Hawkinson, EIT **Deputy Project Manager** BS, Environmental Engineering	▪ Project manager with 7 years' professional experience ▪ Municipal wastewater engineering designer specializing in water and wastewater treatment facilities	▪ 4S Ranch Headworks Screening System Improvements and Off-Spec Water Dilution, Olivenhain Municipal Water District

Table 4. Key Personnel Overview

Name/Role/Education/ License/Certifications	Profile	Relevant Experience
		▪ Inland Empire Brine Line Master Plan, Santa Ana Water Project Authority
Brian Robertson, PE, QSD **QA/QC** BS, Civil Engineering CA PE No. C77990 Certified QSD	▪ 18 years' experience in water, wastewater, and drainage conveyance systems for cities and districts throughout Southern California ▪ Seamless coordination with team members, utilities, and essential governmental agencies	▪ JBL Plant 2 Headworks Rehab Final Design, SOCWA ▪ WRF 1 Aeration System Improvements, City of Corona ▪ Digester Tank Improvements for La Salina Wastewater Treatment Plant, City of Oceanside
Servando Diaz, PE **Senior Engineer** BS, Bioresource and Agricultural Engineering CA PE No. 90015	▪ Servando Diaz has 17 years' experience focused on water, wastewater, and recycled water projects, with an emphasis on infrastructure planning and improvements ▪ Involved in all stages of the engineering process, from conceptual planning, preliminary design, and final design to construction assistance services	▪ WRF 1 Aeration System Improvements, City of Corona ▪ Plant 2 Boiler Retrofit, Orange County Sanitation District ▪ Plant 3A Subsidence Mitigation and Site Improvements, Moulton Niguel Water District
Joe Schneider, PE, EE **Electrical/I&C Lead** MBA, Project Management BSE, Electrical Engineering CA EE No. 19636	▪ Principal electrical engineer with 26 years' experience as an electrical, instrumentation, and controls engineer and 18 years' experience specializing in instrumentation and control system design and electrical distribution system design for wastewater treatment and wastewater collection facilities.	▪ JBL Plant 2 Headworks Rehab Final Design, SOCWA ▪ San Vicente WRP Headworks Rehabilitation Project, Ramona Municipal Water District ▪ SROG 91st Avenue WWTP Electrical Reliability Improvements, City of Phoenix
Subconsultants		
Matt Stone, PE, SE **Structural Engineering** **Kelsey Structural Group** MS & BS, Structural Engineering CA PE No. 78488 CA SE No. 6183	▪ Over 15 years' project management and structural design work encompassing infrastructure, water, and wastewater projects ▪ Specializes in assessing, designing, and retrofitting water and wastewater treatment, storage, and conveyance facilities ▪ Trusted Dudek subconsultant who has worked on SOCWA projects previously.	▪ Dudek, SOCWA JBL Plant 2 Headworks Rehabilitation ▪ Dudek, SOCWA JBL Plant 2 Digester 1 & 2 Manway Improvements ▪ Dudek, OCSan Centrifuge Diverter Gate Improvements at Plant No. 1 ▪ Dudek, City of Corona WRF-1A Aeration Improvements
Don King, PE, ME, Chem. Eng. **DHK** **Odor Control** BS, Chemical Engineering	▪ Educational background in chemical engineering, emphasizing odor control, air quality, environmental and regulatory issues, hazardous materials/waste, and chemical processes ▪ Over 30 years' experience in odor control, systems certification and testing, air quality permitting, air dispersion modeling, and regulatory interface	▪ Dudek 4S Ranch WRF Headworks Screening System Improvements, Olivenhain Municipal Water District ▪ Dudek Odor Control Improvement Program, San Elijo WPCF

Table 4. Key Personnel Overview

Name/Role/Education/ License/Certifications	Profile	Relevant Experience
CA ME, No. M 24995 CA PE, No. C45875 CA Chem Eng, No. CH 4865	▪ Trusted SOCWA Advisor	▪ Dudek, SOCWA JBL Plant 2 Headworks Rehabilitation ▪ Numerous SOCWA projects
Donald Whitman **Potholing** **Bess Test Lab, Inc.** United States Marine Corp, 1992	▪ 26 years' experience managing various DOTs, municipalities, and public- and private-sector clients ▪ Responsible for the management and coordination of utility-locating services ▪ Develops multiple department service schedules and maintain those schedules throughout the duration of the project ▪ Reviews the progress of services to ensure that the standards, time goals, and budget requirements are met	▪ On-Call Potholing Services Contract, LA County Department of Public Works ▪ Water and Sewer Projects UT1065, UT 1066, UT1067, UT1069, UT1070 & UT1072, City of Ontario ▪ RP-5 Sewer Force Main, Inland Empire Utilities Agency
Bob Kelsoe, PLS **Survey** **Kelsoe & Associates** Southern California Surveyors Joint Apprenticeship Committee - chainman and party chief program (4 years)	▪ President of Kelsoe & Associates, Inc. ▪ 30+ years' experience in the land surveying profession ▪ Experienced in mapping and computer-aided drafting (CAD) ▪ Prepares Records of Survey, ALTA/ACSM land title survey maps, legal descriptions, and topographic survey maps	▪ Survey and topographic work for: - City of Corona - City of San Dimas - City of Rancho Palos Verdes - City of Bellflower - Other agencies throughout Southern California

1.3.5 Pricing

Dudek states that this proposal will remain valid for 6 months from the date submitted to SOCWA. The Dudek fee includes all costs required to complete the work requested by this RFP, including, but not limited to, delivery, hauling, handling, or disposal fees; tax; insurance; bonds; and permits for the contract period.
A Standard Dudek Rate Schedule is included in **Appendix C**

		Dudek Labor Hours and Rates											Subconsultant Fees						
	Project Team Role:	PIC	QA/QC	Senior Project Manager	Project Manager	Senior Engineer	Project Engineer	CAD Designer	Electrical Engineer	Admin			Structural	Technical Advisor	Surveying	Potholing			
	Team Member:	Mike Metts	Brian Robertson	Ken Delbert	Sam Hawkinson	Servando Diaz	Hilary Goldschmidt	Nikki Hunter	Joe Schneider	Michelle Kinney	TOTAL DUDEK HOURS	DUDEK LABOR COSTS	Kelsey	DHK	Kelsoe	Bess	OTHER DIRECT COSTS	TOTAL FEE	
	Billable Rate :	$330	$275	$290	$275	$260	$200	$200	$290	$100			Fee	Fee	Fee	Fee			
Task 1	**Project Management**																		
1.1	Schedule, Status Reports, Admin			12	4	8				8	32	$ 7,460	$4,180	$390				$ 12,030	
1.2	Engineering Phase Meetings (6)		2	10	4	6	4		6		32	$ 8,650	$1,760	$780			$ 800	$ 11,990	
	Subtotal Task 1		2	22	8	14	4		6	8	64	$ 16,110	$ 5,940	$ 1,170	$ -	$ -	$ 800	$ 24,020	
Task 2	**Data Collection & Document Review**																		
2.1	Record Drawing Review			3	3	6	6		6		24	$ 6,195	$1,600	$390				$ 8,185	
2.2	Utility Research			3	3	6	6		3		21	$ 5,325	$1,560	$390				$ 7,275	
	Subtotal Task 2			6	6	12	12		9		45	$ 11,520	$ 3,160	$ 780	$ -	$ -	$ -	$ 15,460	
Task 3	**Survey**																		
3.1	Site Reconnaissance			2	2	6	4				14	$ 3,490		$390			$ 1,200	$ 5,080	
3.2	Piping and Field Measurements			2	2	6	4				14	$ 3,490			$9,000		$ 1,200	$ 13,690	
	Subtotal Task 3			4	4	12	8				28	$ 6,980	$ -	$ 390	$ 9,000	$ -	$ 2,400	$ 18,770	
Task 4	**Potholing**																		
4.1	Potholing plan		1	2	2	4	8	8			25	$ 5,645		$390	$3,150	$15,540		$ 24,725	
	Subtotal Task 4		1	2	2	4	8	8			25	$ 5,645	$ -	$ 390	$ 3,150	$ 15,540	$ -	$ 24,725	
Task 5	**Conceptual Design**																		
5.1	Conceptual Design TM	1	2	8	8	24	24	28	16		111	$ 26,680	$10,280	$780				$ 37,740	
	Subtotal Task 5	1	2	8	8	24	24	28	16		111	$ 26,680	$ 10,280	$ 780	$ -	$ -	$ -	$ 37,740	
Task 6	**Conceptual Design Workshop**																		
6.1	Conceptual Design Workshop		2	3	2	2	2		2		13	$ 3,470	$1,240	$390			$ 1,800	$ 6,900	
	Subtotal Task 6		2	3	2	2	2		2		13	$ 3,470	$ 1,240	$ 390	$ -	$ -	$ 1,800	$ 6,900	
Task 7	**50% Submittal**																		
7.1	50% Submittal	2	3	16	16	48	48	200	43	4	380	$ 85,475	$14,640	$1,560				$ 101,675	
	Subtotal Task 7	2	3	16	16	48	48	200	43	4	380	$ 85,475	$ 14,640	$ 1,560	$ -	$ -	$ -	$ 101,675	
Task 8	**100% Bid Set**																		
8.1	100% Bid Set	2	3	16	16	48	48	200	56	4	393	$ 89,245	$19,380	$1,560				$ 110,185	
	Subtotal Task 8	2	3	16	16	48	48	200	56	4	393	$ 89,245	$ 19,380	$ 1,560	$ -	$ -	$ -	$ 110,185	
Task 9	**Constructability Review**																		
9.1	Constructability Review	1	1	2	2	4	6				16	$ 3,975						$ 3,975	
	Subtotal Task 9	1	1	2	2	4	6				16	$ 3,975	$ -	$ -	$ -	$ -	$ -	$ 3,975	
Task 10	**Technical Specifications & Standard Details**																		
10.1	Technical Specification Review	1	1	2	2	4	8			2	20	$ 4,575		$390				$ 4,965	
	Subtotal Task 10	1	1	2	2	4	8			2	20	$ 4,575	$ -	$ 390	$ -	$ -	$ -	$ 4,965	
Task 11	**Construction Sequencing & Shutdown Plan**																		
11.1	Sequencing & Shutdown Plan	1	1	2	2	4	6				16	$ 3,975		$390				$ 4,365	
	Subtotal Task 11	1	1	2	2	4	6				16	$ 3,975	$ -	$ 390	$ -	$ -	$ -	$ 4,365	
Task 12	**Bidding & Engineering Services During Construction**																		
12.1	Bid Phase Services		1	1	2	4	4		2		14	$ 3,535	$840					$ 4,375	
12.2	Conformed Drawings & Specifications		1	1	2	2	4	12	2		24	$ 5,415						$ 5,415	
12.3	Construction meetings		2	6	4	6	6		2		26	$ 6,730		$780				$ 7,510	
12.4	Review Submittals		2	3	2	16	16		12		51	$ 12,810	$4,920	$390				$ 18,120	
12.5	Respond to RFIs		2	2	4	8	8	2	4		30	$ 7,470	$1,560	$780				$ 9,810	
12.6	Change Orders		1	1	1	2	2		2		9	$ 2,340						$ 2,340	
12.7	Record Drawings		1	1	1	4	4	20	2		33	$ 7,260	$2,380					$ 9,640	
	Subtotal Task 12		10	15	16	42	44	34	26		187	$ 45,560	$ 9,700	$ 1,950	$ -	$ -	$ -	$ 57,210	
	Total Hours and Fee	8	26	98	84	218	218	470	158	18	1298	$ 303,210	$ 64,340	$ 9,750	$ 12,150	$ 15,540	$ 5,000	$ 409,990	

Appendix A

Forms & Certifications

1.3.6 Conflict of Interest

ATTACHMENT D

CONFLICT OF INTEREST AFFIDAVIT CERTIFYING NO CONFLICTS OF INTEREST

The undersigned declares:

I am the Vice President of Dudek ("Consultant"), the party entering into the forgoing contract.

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, Consultant 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 Consultant 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 Consultant 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 Consultant.

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 January 28, 2025 [date], at Encinitas [city], California [state].

Signature: 

Title: Vice President, Engineering

1.3.7 Non-Collusion Affidavit

ATTACHMENT B - NON-COLLUSION AFFIDAVIT

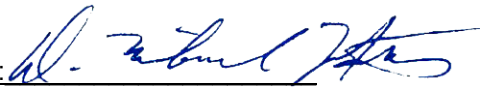
The undersigned declares:

I am the Vice President of Dudek, the party making the foregoing bid.

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

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

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on January 28, 2025 [date], at Encinitas [city], California [state].

Signature: 

Title: Vice President, Engineering

1.3.8 Certifications

Each respondent must include the following signed certifications with its proposal:

1) Respondent 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. (Attachment D). *Signed and included.*

2) Respondent certifies that it is willing and able to obtain all insurance required by the form contract included as Attachment C by submission. *Dudek states that complete insurance information will be provided to SOCWA within ten (10) days of the award of the contract.*

3) Respondent 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 the respondent to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided by submission. *Dudek so states.*

4) Respondent acknowledges and agrees with all terms and conditions stated in the RFP by submission.

Dudek respectfully requests the Authority's consideration of the following exceptions.

Section 4.3 ENGINEER's Qualifications

ENGINEER represents that its employee(s) has the qualifications and skills necessary to perform the services under this Agreement in a competent, professional manner, without the advice or direction of SOCWA. . Consultant shall perform the services with the skill and care ordinarily exercised by members of the same profession operating under similar circumstances. This means ENGINEER is able to fulfill the requirements of this Agreement. Failure to perform all the services required under this Agreement constitutes a material breach of the Agreement. ENGINEER has complete and sole discretion for the manner in which the work under this Agreement will be performed. Acceptance by SOCWA of reports, and incidental professional work or materials furnished hereunder, shall not in any way relieve ENGINEER of responsibility for the technical adequacy of its work.

Section 5.8 Waiver of Subrogation

Except for Professional Liability, ENGINEER hereby agrees to waive rights of subrogation against SOCWA and the Additional Insureds which any of ENGINEER's insurers may acquire from ENGINEER by virtue of the payment of any loss. ENGINEER agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation.

6.13 If ENGINEER is obligated to defend Indemnified Parties pursuant to this Section and fails to do so after reasonable notice from SOCWA, SOCWA Indemnitees may defend themselves and/or settle such Claims, and ENGINEER shall pay to SOCWA Indemnitees any and all liabilities incurred in relationship with Indemnified Parties' defense and/or settlement of such Claims. Notwithstanding the foregoing, with respect to any professional liability claim or lawsuit, this indemnity does not include providing the primary defense of SOCWA Indemnitees, provided, however, Engineer shall be responsible for SOCWA Indemnitees' defense costs to the extent such costs are incurred as a result of Engineer's negligence, recklessness or willful misconduct.

5) Respondent certifies that all information provided in connection with its proposal is true, complete and correct by submission. *Dudek so states.*

Appendix B

Detailed Scope of Work and Project Schedule

Scope of Services

TASK 1: PROJECT ADMINISTRATION

Dudek will prepare and implement an effective project management plan to keep the project on schedule. Ken Deibert will attend meetings as needed to manage the project and provide the required deliverables.

Task 1.1: Project Schedule, Status Reports, Invoices, and Administration

- Prepare a project schedule in MS Project, including design, bidding, and construction
- Update the project schedule monthly
- Prepare and submit monthly status reports that provide an overview of progress made during the month and tasks to be accomplished during the following month
- Submit invoices that follow the task items provided in the hours/fee table provided with the proposal and/or used as a basis for the contract–provide a brief narrative by task of the work performed during the billing cycle and copies of invoices for direct expenses

Task 1.2: Engineering Phase Meetings

- Kickoff Meeting
- Project/progress meetings, as needed

Assumptions

- The engineering phase meetings noted in Task 1.2 are anticipated to be held via Zoom, MS Teams, or similar technology.

Deliverables

- Meeting agendas and minutes (including action list and decision log)
- Presenting at or leading meetings as applicable
- Monthly status reports
- Monthly updated project schedules
- Monthly invoices

TASK 2: DATA COLLECTION AND DOCUMENT REVIEW

Dudek will verify the as-built drawings with the existing site conditions.

Task 2.1: Record Drawing Review

Dudek will review existing record drawings and previous studies to familiarize ourselves with on-site infrastructure, structures, and proposed project elements.

Task 2.2 Utility Research

Dudek will research records, including utilities, conduits, electrical equipment, structural record drawings, and other agency records, as necessary to secure the information required to identify, locate, and accurately layout all existing utilities and improvements within the project limits that may interfere with the proposed improvements.

Assumptions

- SOCWA will provide available record drawings and previous studies.
- The review will include photos from the 1991 construction to clarify locations of underground pipelines.
- Dudek will address geotechnical conditions by desktop review and conservative assumptions.

TASK 3: SURVEYING

Informal data gathering will confirm the location of aboveground facilities, but no topographical or boundary survey is anticipated. Surveying will be needed to estimate excavation and import of backfill materials. Finish grade elevations will be needed at locations where the new finish grade will join the existing grade. Dudek will measure rim and invert elevations for existing drainage structures impacted by construction.

Task 3.1: Site Reconnaissance

- Conduct a site reconnaissance of the digester site, piping alignments, and surrounding area
- Perform a field investigation to assess existing site conditions
- Identify underground or aboveground utilities in the project vicinity that may impact piping routing
- Make structural assessments based on field observations

Task 3.2: Piping and Field Measurements

Dudek will conduct a tape measure survey of the piping to be replaced to allow the preparation of plans, profiles, and quantities for pipe replacement.

Assumptions

- The new flare is proposed in the existing truck wash area.

Deliverables

- A site plan that documents observations from the site reconnaissance and field measurements

TASK 4: POTHOLING

Ten potholes will be required to verify potential conflicts with proposed pipe bridge supports and new flare. Dudek will coordinate the potholing effort and prepare a plan to document the results.

Assumptions

- Four potholes for pipe bridge supports will be excavated.
- Six potholes for the new flare location to clarify utility relocations will be excavated.

Deliverables

- Potholing plan with documented measurements (size, material, depth, and purpose) of pipes encountered

TASK 5: CONCEPTUAL DESIGN

Dudek will prepare a technical memorandum that summarizes the following.

- Clarify locations of existing piping based on the provided as-built drawings and field observations
- Determine the ideal connection locations to the existing piping
- Determine which items to relocate above-grade in the initial and future design phases
- Determine the ideal type of above-grade pipe structure (bridge, rack, pipe supports on existing structure, pipe chase) for each section of piping (between digesters, between digesters and flare, etc.)
- Provide a conceptual design for all above-grade pipe structures and pipe chases
- Provide a conceptual design for structure foundations based on potholing plan
- Estimate construction costs with a Class III budgetary estimate
- Estimate the construction duration
- Identify plant outage durations that will result from construction activities
- Provide a Construction Phasing Plan that minimizes operational impacts

Deliverables

- Conceptual Design Technical Memorandum
- Engineer's estimate of probable construction cost (Class III budgetary estimate)
- Construction Phasing Plan, including construction duration and outage durations

TASK 6: CONCEPTUAL DESIGN WORKSHOP

Feedback from the workshop will be documented and form the basis of the final design. Dudek will present the conceptual design technical memorandum at this in-person workshop.

Deliverables

- Meeting agenda and minutes (electronic)
- Presenting at meeting
- PowerPoint slides

TASK 7: 50% SUBMITTAL

The 50% submittal will address all SOCWA comments from the Conceptual Design Workshop. This submittal will also include comments returned from the Workshop with the 50% plans, specifications, and cost estimate.

Assumptions

- SOCWA will take 4 weeks to review the submittal and return comments.

Deliverables

- Comments from the workshop
- 50% plans, specifications, and cost estimate

TASK 8: 100% BID SET

After SOCWA staff reviews the 50% submittal, Dudek will provide the 100% bid set of construction documents. This includes 100% design plans, specifications, and opinion of construction cost (Class II Bid Estimate) that incorporate the review comments from the 50% submittal, standard details, and the list of specifications provided by SOCWA.

Electrical Assumptions

- SOCWA will provide record drawings of existing flare, digester area PLC panels, and electrical equipment.
- The existing flare is powered and controlled from panels and PLC near MCC-F in the NE corner of the plant.
- Power and controls to the PLC and electrical equipment for the new flare can run from Bldg 60 between Digesters 1 and 2 or from DAF MCC to the west of the new location.
- One electrical in-person site visit was budgeted at the beginning of the design.
- Dudek will not design E&I modifications to bring the existing digester area up to NFPA 820 code. Only work added for new flare will be made NFPA 820 compliant.
- Existing PLCs have available I/O and there is no need to add a PLC panel.
- Assumed hard-wired I/O from flare to PLC, not network communications.

Deliverables

- Final design plans and technical specifications (Division 2)
- Final opinion of construction cost (Class II Bid estimate)
- SOCWA comments from the Conceptual Design Workshop
- SOCWA comments from the 50% submittal

TASK 9: CONSTRUCTABILITY REVIEW

Dudek will hold a constructability review meeting with SOCWA staff prior to releasing the bid set. This meeting, which is proposed to be held virtually, will review the bid documents for constructability and value engineering.

Deliverables

- Meeting agenda and minutes (including action list and decision log)
- Presenting at meeting

TASK 10: TECHNICAL SPECIFICATIONS AND STANDARD DETAILS

SOCWA will provide Dudek with the listing of standard specifications from Division 1 to be used for the project after the 50% submittal review. This meeting, which is proposed to be held virtually, will discuss the coordination of sections in the technical specifications.

Assumptions

- SOCWA will provide Dudek with its Standard Details, if applicable.
- Dudek will submit the required information for review prior to submitting the bid set.

Deliverables

- Section 01010, Summary of Work
- Section 01014, Work Restrictions and Sequence

TASK 11: CONSTRUCTION SEQUENCING AND SHUTDOWN PLAN

Dudek will present a list of shutdowns and tie-ins needed with durations and mitigation measures needed to minimize operational impacts. Dudek will coordinate with SOCWA staff to establish the list of shutdowns, durations, and mitigation measures.

Assumptions

- SOCWA operations and maintenance staff will be made available to help Dudek identify and describe the potential operational impacts and potential mitigations for each of the proposed shutdowns and tie-ins.

Deliverables

- Construction sequencing and shutdown plan

TASK 12: BIDDING AND ENGINEERING SERVICES DURING CONSTRUCTION

During the bid and construction phases of the project, Dudek will provide construction administration assistance, as directed by SOCWA. Potential services during the bidding and construction phases typically include the following:

Task 12.1 Bid Phase Services

- Address questions during bidding, develop amendment documents, and evaluate bid results
- Attend the pre-bid meeting with SOCWA staff

Task 12.2 Conformed Drawings and Specifications

- Prepare conformed drawings and specifications incorporating any bid addendums.

Task 12.3 Construction meetings

- Attend the pre-construction conference
- Attend the monthly construction progress review meetings, or as requested

Task 12.4 Review Submittals

- Review shop drawing submittals.
- Cataloging data and other information.
- Assumed 12 submittals at 3 hours each and 6 resubmittals at 1.5 hours each

Task 12.5 Respond to Requests for Information

- Respond to requests for information (RFIs) from the construction manager
- Assumed 15 RFIs at 2 hours each

Task 12.6 Change Orders

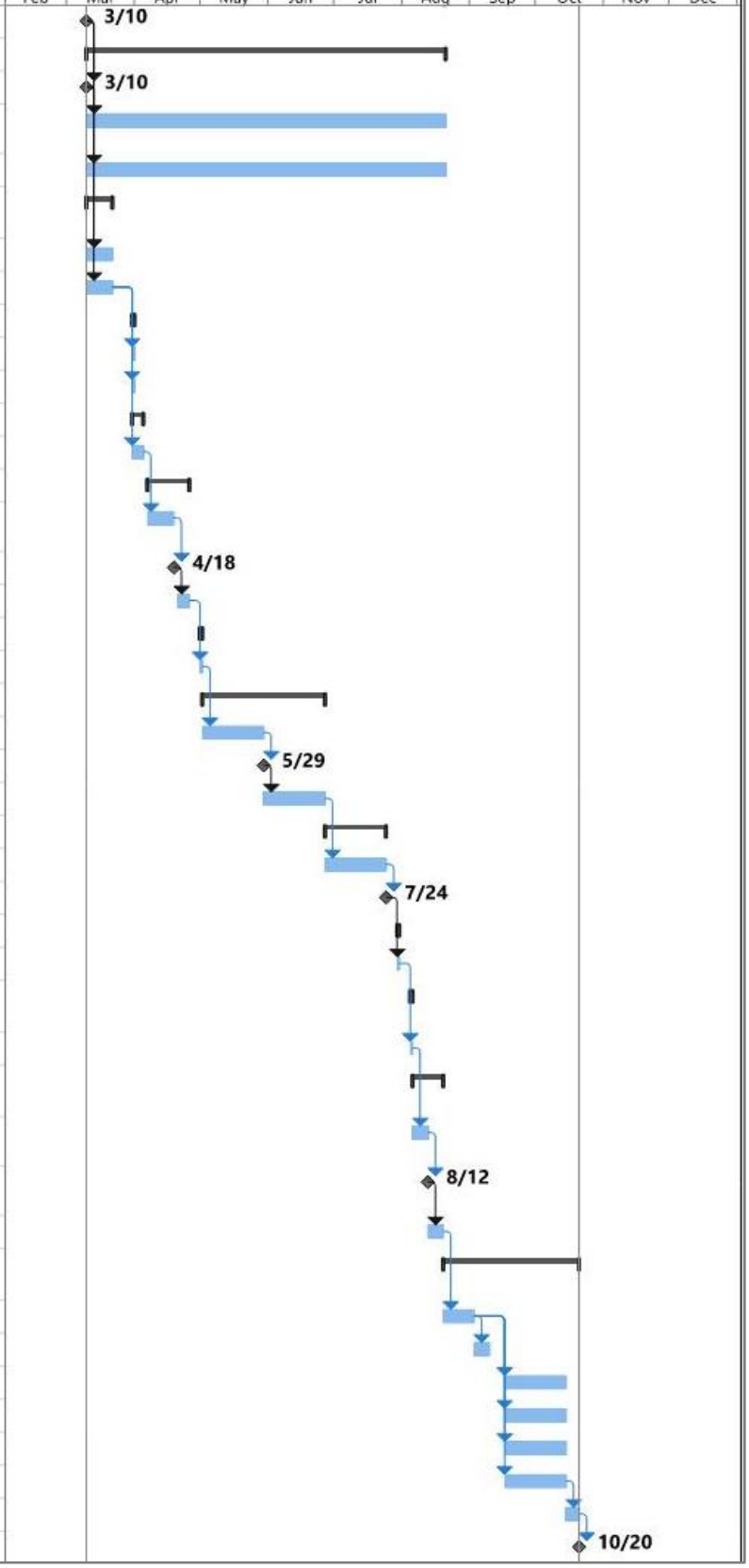
- Assist with the preparation of change order documents

Task 12.7 Record Drawings

- Prepare record drawings that show as-constructed features

Project Schedule

ID	Task Name	Duration
1	Notice to Proceed	0 days
2	**Task 1 Project Management**	**118 days**
3	Kickoff meeting	0 days
4	1.1 Project Schedule, Status Reports, Administration	118 days
5	1.2 Engineering Phase Meetings	118 days
6	**Task 2 Data Collection and Document Review**	**10 days**
7	2.1 Record Drawing Review	10 days
8	2.2 Utility Research	10 days
9	**Task 3 Survey**	**1 day**
10	3.1 Site Reconnaissance	1 day
11	3.2 Piping and Field Measurements	1 day
12	**Task 4 Potholing**	**5 days**
13	4.1 Potholing plan	5 days
14	**Task 5 Conceptual Design**	**15 days**
15	5.1 Conceptual Design Technical Memorandum	10 days
16	Submit Conceptual Design TM	0 days
17	Client Review	5 days
18	**Task 6 Conceptual Design Workshop**	**1 day**
19	6.1 Conceptual Design Workshop	1 day
20	**Task 7 50% Submittal**	**40 days**
21	7.1 50% Submittal	20 days
22	Submit 50% Bid Set	0 days
23	50% Submittal Review	20 days
24	**Task 8 100% Bid Set**	**20 days**
25	8.1 100% Bid Set	20 days
26	Submit 100% Bid Set	0 days
27	**Task 9 Constructability Review**	**1 day**
28	9.1 Constructability Review	1 day
29	**Task 10 Technical Specifications and Standard Details**	**1 day**
30	10.1 Technical Specification Review	1 day
31	**Task 11 Construction Sequencing and Shutdown Plan**	**10 days**
32	11.1 Construction Sequencing and Shutdown Plan	5 days
33	Submit Construction Sequencing and Shutdown Plan	0 days
34	Client Review	5 days
35	**Task 12 Bidding and Engineering Services During Construction**	**44 days**
36	12.1 Bid Phase Services	10 days
37	12.2 Conformed Drawings	5 days
38	12.3 Construction meetings	20 days
39	12.4 Review Submittals	20 days
40	12.5 Respond to RFIs	20 days
41	12.6 Change Orders	20 days
42	12.7 Record Drawings	4 days
43	Submit record drawings	0 days



Appendix C

Standard Schedule of Rates

Engineering Services

Project Director	$355.00/hr
Principal Engineer III	$330.00/hr
Principal Engineer II	$315.00/hr
Principal Engineer I	$300.00/hr
Program Manager	$290.00/hr
Senior Project Manager	$290.00/hr
Project Manager	$275.00/hr
Senior Engineer III	$270.00/hr
Senior Engineer II	$260.00/hr
Senior Engineer I	$255.00/hr
Project Engineer IV/Technician IV	$245.00/hr
Project Engineer III/Technician III	$235.00/hr
Project Engineer II/Technician II	$220.00/hr
Project Engineer I/Technician I	$200.00/hr
3D Production Manager	$235.00/hr
Senior Designer II	$220.00/hr
Senior Designer I	$215.00/hr
Designer	$210.00/hr
Assistant Designer	$205.00/hr
CADD Operator III	$200.00/hr
CADD Operator II	$190.00/hr
CADD Operator I	$175.00/hr
CADD Drafter	$160.00/hr
CADD Technician	$145.00/hr
Project Coordinator	$170.00/hr
Engineering Assistant	$145.00/hr

Environmental Services

Senior Project Director	$350.00/hr
Project Director	$300.00/hr
Senior Specialist V	$275.00/hr
Senior Specialist IV	$265.00/hr
Senior Specialist III	$250.00/hr
Senior Specialist II	$235.00/hr
Senior Specialist I	$220.00/hr
Specialist V	$210.00/hr
Specialist IV	$195.00/hr
Specialist III	$185.00/hr
Specialist II	$175.00/hr
Specialist I	$165.00/hr
Analyst V	$155.00/hr
Analyst IV	$145.00/hr
Analyst III	$135.00/hr
Analyst II	$125.00/hr
Analyst I	$105.00/hr
Technician IV	$100.00/hr
Technician III	$90.00/hr
Technician II	$80.00/hr
Technician I	$70.00/hr
Project Coordinator II	$170.00/hr
Project Coordinator I	$135.00/hr

Mapping and Surveying Services

UAS Pilot	$165.00/hr
Survey Lead	$260.00/hr
Survey Manager	$220.00/hr
Survey Crew Chief	$185.00/hr
Survey Rod Person	$145.00/hr
Survey Mapping Technician	$135.00/hr

Construction Management Services

Principal Manager	$215.00/hr
Senior Construction Manager	$195.00/hr
Senior Project Manager	$190.00/hr
Construction Manager	$185.00/hr
Project Manager/Construction Management	$175.00/hr
Resident Engineer	$175.00/hr
Construction Engineer	$175.00/hr
On-site Owner's Representative	$160.00/hr
Prevailing Wage Inspector	$160.00/hr
Construction Inspector	$150.00/hr
Administrator/Labor Compliance	$125.00/hr

Hydrogeology/HazWaste Services

Project Director	$345.00/hr
Principal Hydrogeologist/Engineer III	$320.00/hr
Principal Hydrogeologist/Engineer II	$310.00/hr
Principal Hydrogeologist/Engineer I	$300.00/hr
Senior Hydrogeologist V/Engineer V	$275.00/hr
Senior Hydrogeologist IV/Engineer IV	$265.00/hr
Senior Hydrogeologist III/Engineer III	$255.00/hr
Senior Hydrogeologist II/Engineer II	$245.00/hr
Senior Hydrogeologist I/Engineer I	$235.00/hr
Project Hydrogeologist V/Engineer V	$225.00/hr
Project Hydrogeologist IV/Engineer IV	$215.00/hr
Project Hydrogeologist III/Engineer III	$205.00/hr
Project Hydrogeologist II/Engineer II	$195.00/hr
Project Hydrogeologist I/Engineer I	$185.00/hr
Hydrogeologist/Engineering Assistant	$150.00/hr
HazMat Field Technician	$135.00/hr

District Management & Operations

District General Manager	$225.00/hr
District Engineer	$215.00/hr
Operations Manager	$165.00/hr
District Secretary/Accountant	$150.00/hr
Collections System Manager	$150.00/hr
Grade V Operator	$140.00/hr
Grade IV Operator	$125.00/hr
Grade III Operator	$115.00/hr
Grade II Operator	$95.00/hr
Grade I Operator	$90.00/hr
Operator in Training	$80.00/hr
Collection Maintenance Worker	$85.00/hr

Project Delivery Services

Technology Specialist II	$245.00/hr
Technology Specialist I	$190.00/hr
GIS Analyst V	$220.00/hr
GIS Analyst IV	$200.00/hr
GIS Analyst III	$165.00/hr
GIS Analyst II	$145.00/hr
GIS Analyst I	$130.00/hr
Creative Services IV	$185.00/hr
Creative Services III	$160.00/hr
Creative Services II	$145.00/hr
Creative Services I	$130.00/hr
Technical Editor IV	$185.00/hr
Technical Editor III	$160.00/hr
Technical Editor II	$145.00/hr
Technical Editor I	$130.00/hr
Publications Specialist IV	$135.00/hr
Publications Specialist III	$125.00/hr
Publications Specialist II	$115.00/hr
Publications Specialist I	$105.00/hr
Clerical Administration	$100.00/hr

Expert Witness – Court appearances, depositions, and interrogatories as expert witness will be billed at 2.00 times normal rates.

Emergency and Holidays – Minimum charge of two hours will be billed at 1.75 times the normal rate.

Material and Outside Services – Subcontractors, rental of special equipment, special reproductions and blueprinting, outside data processing and computer services, etc., are charged at 1.15 times the direct cost.

Travel Expenses – Mileage at current IRS allowable rates. Per diem where overnight stay is involved is charged at cost

Invoices, Late Charges – All fees will be billed to Client monthly and shall be due and payable upon receipt. Invoices are delinquent if not paid within 30 days from the date of the invoice. Client agrees to pay interest at a 10% annual rate for amounts unpaid greater than 30 days after the date of the invoice.

Annual Increases – Unless identified otherwise, these standard rates will increase in line with the CPI-U for the nearest urban area per the Department of Labor Statistics to where the work is being completed) or by 3% annually, whichever is higher.

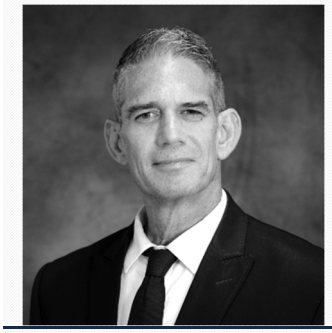
Prevailing Wage – The rates listed above assume prevailing wage rates do not apply. If this assumption is incorrect Dudek reserves the right to adjust its rates accordingly.

Appendix D

Resumes

Ken Deibert, PE

SENIOR PROJECT MANAGER, CONVEYANCE



Ken Deibert (*KEN DIE-burt; he/him*) is a senior project manager with 30 years' experience as a civil engineer specializing in wastewater treatment, conveyance, disposal, and reuse. Ken's strengths are in solving problems and helping internal and external interested parties achieve their engineering objectives. He has worked as a senior engineer and project manager for the West County Wastewater District (WCW) for 12 years, where he completed various municipal capital infrastructure improvements, including sewers, force mains, pump stations, and other facilities.

Ken's experience includes design of on-site wastewater treatment and disposal systems, as well as construction experience in both the winery industry and public capital improvement projects. He has extensive construction management experience with an emphasis on the coordination of various engineering disciplines involved—civil, mechanical, electrical, and structural.

Education

University of California, Berkeley
BS, Civil Engineering, 1992

Certifications

Professional Civil Engineer (PE), CA No. 62246, 2001

Relevant Previous Experience

Water/Wastewater

Hilltop Green Force Main, WCW, Richmond, California. Served as the project manager. Tasks included developing the budget, schedule, scope, interested party coordination, permitting, recording easements, design review, contract documents, advertising, bidding, award, construction management, requests for information, change order requests, pay applications, and closeout. The project involved installing 1,800 feet of 12-inch high-density polyethylene force main across the Hilltop Green community pool clubhouse parking lot using both open trench and horizontal directional drilling construction methods. The project concluded in 2023 at total cost of $1.2 million.

Lakeside Force Main, WCW, Richmond, California. Served as the project manager. Tasks included developing the budget, schedule, scope, interested party coordination, permitting, recording easements, design review, contract documents, advertising, bidding, award, construction management, requests for information, change order requests, pay applications, and closeout. The project involved installing 3,200 feet of 8-inch high-density polyethylene force main from the Lakeside lift station—along Hilltop Mall Road and through the Hilltop Mall parking lot—using both open trench and horizontal directional drilling construction methods. The project concluded in 2022 at a total cost of $1.1 million.

Effluent Line Cathodic Protection Upgrade, WCW, Richmond, California. Served as the project manager. Tasks included developing the budget, schedule, scope, interested party coordination, permitting, recording easements, design review, contract documents, advertising, bidding, award, construction management, requests for information, change order requests, pay applications, and closeout. The project involved replacing 26 cathodic protection test stations along a 30,000-foot alignment of a 36-inch transmission main to the City of Richmond treatment plant. The project completed in 2023 at a total cost of $400,000.

Districtwide Master Plan, WCW, West Contra Costa County, California. This project required significant coordination with the consultant to develop a Districtwide Master Plan and California Environmental Quality Act Environmental Impact Report; prepare 5-, 10-, and 20-year capital improvement program budgets; and implement the planned capital improvement program, which included $30 million in loans from the California Clean Water State Revolving Fund. Key projects at the treatment plant included electrical upgrades, primary clarifier improvements, seismic retrofits, mechanical improvements, sodium hypochlorite tank replacements, and recycled water reliability upgrades. WCW adopted the master plan in 2014, and the cost of the plant improvements was $33 million.

Garrity Creek Pipe Removal, WCW, Richmond, California. Received a Resolution of Commendation from the Board of Directors of the West County Wastewater District for efforts in removing a concrete-encased sewer crossing Garrity Creek during low tide in 2012. This project required significant coordination with the U.S. Fish and Wildlife Service.

Waste Water Disposal System Expansion, V. Sattui Winery, St Helena, California. Designed a 7,000-gallon-per-day wastewater treatment and disposal system for both winery process waste and domestic waste.

Michael Metts, PE

PRINCIPAL IN CHARGE

Michael Metts is a principal engineer and manager of Dudek's engineering services with 42 years' experience in civil engineering and is a registered engineer in the State of California. Michael's engineering experience encompasses water, wastewater, and recycled water engineering design, permitting, water resources planning, facility design, and construction management and assistance. He has provided project management and principal-in-charge services throughout the southwestern United States. Michael's project experience encompasses the evaluation and expansion of existing facilities as well as the design of new facilities, allowing him to anticipate project challenges to the benefit of his clients. He is committed to maintaining clear and open communication with the client while maintaining control of the project budget and schedule as well as proactively delivering cost-effective and innovative project solutions.

Education

University of Kentucky
BS, Civil Engineering, 1983

Certifications

Professional Civil Engineer (PE), CA No. 42586

Professional Affiliations

American Public Works Association (APWA)

American Society of Civil Engineers

American Water Works Association

California Water Environment Association

National Society of Professional Engineers

Water Environment Federation

Project Experience

Ramona Municipal Water District, Ramona, California. (14 years) Provides district engineering and engineering department management services under the direction of the general manager. Services include evaluating and recommending improvements to the Ramona Municipal Water District's (RMWD) Engineering Department operations to maximize efficiency and streamline daily functions; and providing day-to-day management of RMWD engineering operations, including capital budget, water resources planning, support facilities planning, environmental services, quality control, construction, developer designed and constructed facilities, negotiating developer funded improvements and agreements, managing Legislative Code revisions, coordination with other RMWD departments and outside agencies, rate and fee studies assistance, urban water and stormwater management plans, mitigation programs, assessment district formation, evaluation and assistance with grant and loan applications, and attendance at board meetings.

Wastewater Treatment

Coastal Treatment Plant Tertiary System Upgrades, South Orange County Wastewater Authority, Laguna Niguel, California. Principal engineer for design of upgrades to the 2.5 MGD Advanced Water Treatment facility, including repairs and recoating of the steel filter tanks and supports, replacement of filter media, pneumatic valves, and level transmitters for the Evoqua sand filters, a new horizontal centrifugal filter supply pump, the addition of an ultrasonic level sensor and VFDs for enhanced pumping control, replacement of chlorine contact tank vertical mixers, and replacement of the motor control center for the tertiary treatment system. The design phases were accelerated to meet a narrow plant shutdown window during the low water demand winter months.

Influent Sewer Line Collapse – Emergency Services, South Orange County Wastewater Authority, Dana Point, California. Served as the project manager and Principal in Charge for an emergency project where two force mains, 20-inch and 16-inch, collapsed due to extensive corrosion damage. Dudek evaluated the situation and quickly developed innovative solutions for reinstatement of the force mains. We coordinated with SOCWA and MNWD to correlate pump station constraints with need to shut down the force mains for repair. The solution involved transferring all flow from one force main to the other during limited duration low flow conditions in the middle of the night. Each force main was repaired in consecutive night periods to reinstate the force mains without damage to other portions of the Techite force mains due to increased pressure. The project also involved coordination of excavating the plant roadway to maintain scheduled deliveries of biosolids to the plant, operations that required extremely heavy truck transport within the construction zone.

Design Services Emergency Replacement of Export Pipeline, South Orange County Wastewater Authority, Dana Point, California. Served as project manager and provided field evaluation of emergency conditions, provided engineered solution to emergency situation, coordinated closely with client and contractor to develop engineering solution in limited schedule, provided quality control review of deliverables and engineering efforts, assisted in field during construction, acted as primary contact for client. The project involved the emergency repair of two 4-inch sludge transport pipelines within an ecologically sensitive area of Orange County. Development of the engineering repair documents was required under a very short time schedule. Dudek developed the repair document and worked closely with the contractor to get the repair completed within time constraints to avoid trucking of sludge through the adjacent heavily used park.

Santa Maria WWTP Headworks Upgrade, Ramona Municipal Water District, California. Principal in Charge for the design of a new headworks facility at the Santa Maria WWTP. The plant's existing influent lift station and downstream processes have been affected by rags and grit due to a lack of headworks screening and grit removal for the plant. The project included relocation of the influent truck sewer, a new headworks structure with influent screw pumps, mechanical screenings equipment, grit removal, and a new emergency generator. Various project challenges included construction phasing, large equipment and structures, utility relocation, and connections to existing facilities.

4S Ranch WRF Digester Support and Oxidation Ditch Optimization, Olivenhain Municipal Water District, Encinitas, California. Served as project principal engineer for engineering and operational support services at the 4S Ranch WRF to support ongoing efforts to optimize the oxidation ditch biological treatment process and digester performance. The District faced process upset conditions after transitioning from aerobic to facultative digestion and turned to Dudek for process support. With the Dudek team performed microscopic examination of the activated sludge, analyzed water quality, operational, and process control data, and developed interim operational recommendations to improve biological and digester performance, reduce sulfide off-gassing during dewatering, and maintain plant operations during upset conditions. Currently, Dudek is assisting the District in implementing process instrumentation and control improvements to optimize the oxidation ditch performance to reduce operating costs while producing higher quality treated effluent.

Concept Level Facility and Process Review of 3A Wastewater Treatment Plant, Moulton Niguel Water District, Laguna Niguel, California. Served as project principal engineer for the preparation of a concept-level facility and process review report for the plant to define the current and future capacity and process capabilities for the facility after the District assumed operations of the facility. Scope of work includes the review and consolidation of previous reports and studies, review and comments on the waste discharge requirements, and treatment process evaluation and facility constraints analysis.

Brian Robertson, PE, QSD

QA \ QC

Education

Cal Poly State University, San Luis Obispo
BS, Civil Engineering, 2006

Certifications

California PE 77990
Certified QSD

Brian Robertson has 18 years' project engineering experience in planning and design of infrastructure projects. Brian has developed a reputation for delivering high-quality work on time and within budget. He has extensive experience in water, wastewater, and drainage conveyance systems for cities and districts throughout Southern California and has received recognition for his work preparing detailed analysis, reports, drawings, specifications, and cost estimates. Brian has developed an excellent rapport for seamless coordination with team members, various utilities, and essential governmental agencies. He brings a high level of professionalism while delivering project design packages with other services, including development review and staff augmentation.

Project Experience

Santa Maria WWTP Headworks Upgrade, Ramona Municipal Water District, Ramona, California. Lead engineer for civil and mechanical design of a new headworks facility at the Santa Maria definition (WWTP). The plant's existing influent lift station and downstream processes have been affected by rags and grit due to a lack of headworks screening and grit removal for the plant. Project includes relocation of influent truck sewer, new headworks structure with influent screw pumps, mechanical screenings equipment, grit removal, and new emergency generator. Various project challenges include construction phasing, large equipment and structures, utility relocation, and connections to existing facilities.

Headworks Screening System Improvements, Olivenhain Municipal Water District, Encinitas, California. Serves as a project engineer for condition assessment and improvements of the existing headworks facility including installation of new mechanical bar screen units, grit classifiers, odor control system, slide gates and influent channel improvements and lining. He has guided bypassing approach and will support through completion of the project.

Digester Tank Improvements for La Salina Wastewater Treatment Plant, Oceanside Water Department, Oceanside, California. Project manager responsible for improvements and rehabilitation of the primary and secondary digester tanks. Design was prepared for new above grade circulation lines from the heat exchangers to the digesters to address clogging, leaking, and access issues. The design also included digester tank rehabilitation and upgrades to the gas over-pressurization system to increase the system reliability and safety. Current responsibilities include engineering support during construction.

Huston Creek WWTP Dewatering Building and Primary Clarifier, Crestline Sanitation District, Crestline, California. Project engineer for the final design of a new two-story biosolids dewatering building, sludge holding tank, and primary clarifier for the District's 1 MGD Huston Creek WWTP. The project includes new structures, pumps, polymer feed system, odor control system, channels, electrical systems, and new emergency generator. Project site conditions required careful structural, civil, and mechanical design to support new facilities in challenging topographic conditions and other requirements to maintain plant operation during construction. His services included preparation of final design packages and engineering services during bidding and construction.

Trickling Filter Valve Replacement at Plant No. 1, Orange County Sanitation District, Fountain, California. Project manager for the design of a valve replacement for the piping system that connects the trickling filter clarifiers to the sludge and scum pump station. The valve is buried deep and surrounded by a net of utilities which required extensive alternatives development and evaluation, constructability reviews, and other design considerations to protect existing structures from settlement due to deep excavation and shallow groundwater conditions.

WRF 1 Aeration System Improvements, City of Corona, California. Project manager for a new air piping supply system and new diffuser grid in aeration basins 1, 2, and 3 at WRF-1A. The improvements include relocation of the existing air headers with a new overhead alignment, including a pipe bridge and other overhead structural support systems. Design plans and sequence of construction specifications were developed to minimize construction cost and maintain plant operation and performance during installation of the new diffusers.

Edinger Pump Station Rehabilitation Study, Orange County Sanitation District, Huntington Beach, California. Project engineer responsible for assessment and development of planning studies to determine feasible options for the rehabilitation, replacement, relocation, or abandonment of the Edinger Pump Station. Project elements included assessment of geotechnical, structural, hydraulic, and mechanical conditions. Multiple alternative pump station sites and configurations were developed and evaluated extensively with engineering and operations staff.

Highbury Pump Station Rehabilitation, Bureau of Engineering, Wastewater Conveyance Engineering Division, Los Angeles, California. Project engineer for the rehabilitation design of the existing pump station. Tasks included utility research, site design, pump system hydraulics, evaluation of new pumping and equipment options, preparation of the preliminary design report, workshop presentations, and preparation of the Plans, Specifications, and Estimates (PS&E) package.

Final Effluent Sampler and Building Area Upgrades (J-110), Orange County Sanitation District, Huntington Beach, California. Project engineer for a new final effluent water quality sampler facility; improvements to the ocean outfall system; and other miscellaneous mechanical, electrical, and instrumentation improvements for Plant No. 2. Responsibilities included development of a work plan to implement inspection of the 120-inch Short Ocean Outfall and other associated large diameter yard piping. Coordinated with subconsultants and operations staff, evaluated sampling and metering equipment options, evaluated pipeline rehabilitation alternatives, prepared civil site design, and prepared the preliminary design report, and PS&E.

Farmersville Wastewater Treatment Plant Design, City of Farmersville, California. Project engineer for a new wastewater treatment plant, including the following elements: headworks, mixing chamber, aeration basins, clarifiers, holding tanks, return activated sludge pump station, digester tanks, and a solids handling building. Responsibilities included the design and preparation of drawings for the influent pump station, yard piping, and other conveyance design elements.

Planning Area 18 North Capital Improvement Facilities, Irvine Community Development Company, Irvine, California. Project engineer for the capital facilities associated with the Irvine Community Development Company (ICDC) Planning Area 18 North development project, in coordination with the Irvine Ranch Water District (IRWD). Facilities design included 12-inch domestic water pipelines; 6-inch, 8-inch, 24-inch, and 36-inch reclaimed water pipelines; and turnout improvements. This project included close coordination with IRWD and ICDC to accomplish the tight project schedule and maintain the budget.

Sam Hawkinson, EIT

DEPUTY PROJECT MANAGER

Sam Hawkinson is a project manager with 6 years' professional experience as a municipal wastewater engineering designer specializing in water and wastewater treatment facilities. He brings a unique client perspective and operations-oriented design to all his projects. Sam has gained a reputation for handling multiple projects in concert while maintaining clear, effective communication with both internal and external parties. He is thorough from design to construction and effectively drives projects to completion.

Education

Portland State University BS, Environmental Engineering

Certifications

Engineer-in-Training

Professional Engineer, Oregon

Professional Affiliations

California Water Environment Association, Student and Young Professionals Committee Secretary

Project Experience

4S Ranch Headworks Screening System Improvements and Off-Spec Water Dilution, Olivenhain Municipal Water District, Olivenhain, California. Senior engineer of design of headworks bar screens, washer compactors, and grit classifier. A later addendum added new submersible off-spec water pump, off-spec water yard piping, potable water dilution piping, and a temporary bypass pump point of connection for providing additional off-spec water diversion capabilities.

Hinkley Water Treatment Plant Sludge Press, Horace Hinkley Water Treatment Plant, Redlands, California. Senior engineer of design of new sludge dewatering press at Horace Hinkley Water Treatment Plant. The project includes designing and specifying a sludge press to dewater the wasted sludge produced at the treatment plant and allowing the City to not rely solely on drying beds to dewater. The design includes new sludge pumps, controls, air compressor, polymer skids, and associated valving and piping.

Trickling Filter Valve Replacement, Orange County Sanitation, Fountain Valley, California. Designed and specified the requirements for replacing an aged valve on the trickling filter drain line. The design included bypassing requirements for isolating the drain line, improving the asset life of the buried valve, and protecting existing structures.

Blow-Off Vault Replacement, Orange County Sanitation, Fountain Valley, California. Designed and specified the replacement of existing troubled blow-off vaults from the high-pressure digester gas pipeline between Plant 1 and Plant 2.

Drinking Water PFAS Treatment Preliminary Design Project, Lake Arrowhead Community Services District, Lake Arrowhead, California. Senior engineer providing technical assistance to staff engineer regarding per- and polyfluoroalkyl substances (PFAS) removal technologies and Division of Drinking Water (DDW) drinking water standards. Provides quality control during the drafting of the preliminary design report.

Inland Empire Brine Line Master Plan, Santa Ana Watershed Project Authority, Riverside, California. Senior engineer providing technical assistance to staff engineer regarding PFAS removal technologies and DDW PFAS limits for drinking water. Provides quality control during the drafting of the Master Plan.

Chemical System Upgrades Project, Ellis Creek Water Recycling Facility, Petaluma, California. The project engineer is responsible for the sizing and cost comparison of equipment for the new sodium hypochlorite storage facility and the new mixer at the Wetlands Effluent Pump Station influent chamber. New equipment included sodium hypochlorite storage tanks, redundant peristaltic metering pump skids rated for outdoor use, sizing of dosing pipe and dose location in Wetlands Effluent Pump Station, and mixer options.

Redlands Perchlorate Wellhead Treatment, City of Redlands, Redlands, California. Senior engineer providing technical assistance to staff engineer regarding PFAS, perchlorate removal technologies, and DDW drinking water standards. Provides quality control during the drafting of the pre-design report.

Oxidation Ponds Transfer Structure Rehab and Storage Expansion, Ellis Creek Water Recycling Facility, Petaluma, California. Developed an operational tool that allows Ellis Creek Water Recycling Facility operations staff to accurately model and predict the amount of recycled water in their storage ponds. The tool employed record drawings, surveys, bathymetric data, and an understanding of the long-standing methods used by operations staff to measure their recycled water capacity. Prepared options to rehab existing oxidation pond transfer structures and their associated piping. Employed multiple options in close coordination with specialty contractors to determine the optimal trenchless rehabilitation methods for pipes where full replacement is cost-prohibitive and full replacement for other pipes.

Relevant Previous Experience

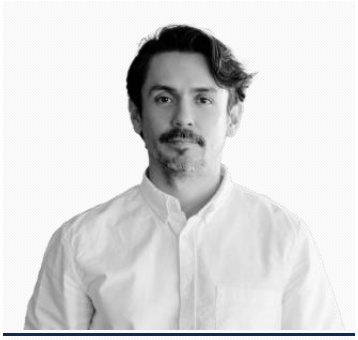
Pump Stations Improvement Project, Silicon Valley Clean Water, Redwood City, California. Silicon Valley Clean Water, a wastewater treatment agency in California, is undertaking the Regional Environmental Sewer Conveyance Upgrade (RESCU) program to replace its aging conveyance system. The RESCU program includes three large capital improvement program projects that account for more than $400 million in construction costs. The project involved constructing a new Redwood City pump station, improving existing pump stations in the collections system, and constructing a new pipeline from the San Carlos pump station to the new gravity pipeline. The approximate project value is $120 million. Provided engineering services during construction as an owner's advisor, including attending meetings, submittal reviews, responses to requests for information, design clarifications, startup support services, and site visits.

Biosolids Digester Facilities, San Francisco Public Utilities Commission, San Francisco, California. Provided engineering services during construction and developed the deliverables management workflow and training documents associated with the bidding and engineering services during project construction at the Southeast Water Pollution Control Plant. Coordinated deliverables with the design team and project subconsultants, performed scheduling and resource management of the reviewers, and led mediation to develop a consensus of the information prior to submission to the client.

San Jose Digester and Thickener Facilities Upgrade, City of San Jose, California. Prepared operation manuals for the newly installed equipment and provided engineering services during construction. Reviewed mechanical submittals for accuracy and completeness. Assembled operations and maintenance (O&M) manuals for newly installed equipment for the City of San Jose to rehabilitate aging anaerobic digesters as part of a comprehensive upgrade to the San Jose–Santa Clara Regional Wastewater Facility sludge and biosolids processing facilities. The project evaluated and installed features to increase operator safety and protect infrastructure.

Servando Diaz, PE

SENIOR PROJECT ENGINEER



Education

California Polytechnic State University, San Luis Obispo
BS, Bioresource and Agricultural Engineering, 2009

Certifications

Professional Civil Engineer (PE), CA No. 90015

Professional Affiliations

Orange County Water Association

Engineers without Borders – USA

Servando Diaz (*ser-VAN-doh DEE-az; he/him*) is a project engineer with 17 years' experience focused on water, wastewater, and recycled water projects, with an emphasis on infrastructure planning and improvements. Servando's project experience includes pipelines, pump stations, treatment facilities, and reservoirs. He has been involved in all stages of the engineering process, from conceptual planning, preliminary design, and final design to construction assistance services.

Project Experience

Water Reclamation Facility 1 Aeration System Improvements, City of Corona, California. Part of the project team for the design of a new aeration system at Basin 1, 2, and 3 at the City of Corona's Water Reclamation Facility 1 facility. Design included replacement and installation of a 20-inch aeration header, aeration submain piping and valves, basin air and gas diffusion system, slide gates, mud valves, appurtenances, and associated electrical improvements. Project elements also included design of a steel structural pipe bridge for the aeration piping to cross over an access road.

Plant 2 Boiler Retrofit, Orange County Sanitation District, Fountain Valley, California. The Orange County Sanitation District contracted Dudek to retrofit their existing firetube boilers at Plant 2 to meet the nitric oxide (NO) and nitrogen dioxide (NO_2) emission limits for 2015. The project incorporates retrofitting the existing 250-horsepower (hp) boilers with new burners, stainless steel natural gas and high-pressure digester gas trains, flue gas return piping, and routing controls to the plant Supervisory Control and Data Acquisition System. Other improvements include replacing the existing feedwater tank and pumps with a new spray deaerator system to extend the useful life of the existing boilers, installing all new type 316 stainless feedwater piping, and rehabilitating the concrete floor. Primary task for this project was to develop an Operation Manual and Procedures document to describe the functionality of the system based on the feedwater and boiler burner control systems interaction and controls, monitoring points, system features, and drawings for use by the District operations staff.

16th Street Pump Station Back-Up Generator and Upgrades, City of Newport Beach, California. Served as project engineer for preliminary and final design for the addition of a 1,000-kilowatt (kW) generator and replacement of three constant speed, 1,200-revolutions-per-minute (RPM), 350-hp vertical turbine booster pumps with three variable speed, 1,800-RPM, 300-hp pump assemblies. Work at the pump station included replacing the solid-state soft start motor controllers with 18-pulse variable frequency drives and replacing the diaphragm type booster pump check valves with slanted disc check valves. Additional work related to the addition of the generator included adding a 3,000-amp automatic transfer switch and 4,000-gallon external fuel tank.

Moulton Peak Radio Tower Replacement, Moulton Niguel Water District, Laguna Hills, California. Part of the project team providing engineering design services for the replacement of an existing radio tower at the District's Moulton Peak Reservoir site. Evaluated multiple orientations and height alternatives. The recommended facility was designed to be 128 feet tall and to support up to 25 antennas. The facility is located on an existing reservoir site, and appurtenances for this facility included a 14-kW, propane-fueled generator; a 6-foot × 6- to-10-foot packaged air-conditioned radio and telemetry housing, a 16- to 30-foot concrete housekeeping pad, and retaining wall.

Plant 3A Subsidence Mitigation and Site Improvements, Moulton Niguel Water District, Laguna Niguel, California. Part of the project team for the condition assessment and design of improvements due to localized subsidence at existing plant facilities. The mechanical improvements included removal and replacement of three aboveground pump stations, excavation and replacement with compaction of approximately 4,000 cubic yards (CY) of earthwork, replacement of approximately 4,000 linear feet (LF) of pipelines and 2,600 LF of conduits, demolition of the 3W pump station, installation of a small submersible pump in the 3W wet well, installation of a sludge bypass vault, and installation of recycled water connection valve and meter vault. Site modifications consisted of demolition and installation of approximately 500 tons of aggregate base, demolition and installation of approximately 35,000 square feet of asphalt pavement, and installation of approximately 240 CY of concrete pavement to improve plant drainage.

Final Design of Separate Industrial Wastewater Treatment Plant, City of Gonzales, California. Part of the project team for the design of a brand-new, $25 million industrial wastewater collection system and treatment facility to convey and treat 1 million gallons per day of fruit and vegetable processing industrial wastewater. The new plant includes an influent pump station, headworks with screenings and grit removal, aerated treatment ponds, and effluent infiltration basins. The collection system consists of approximately 2.5 miles of 24-inch to 27-inch gravity industrial wastewater trunk sewers.

University Well Treatment Upgrade, Goleta Water District, Goleta, California. The Goleta Water District contracted Dudek to design a variety of well site improvements, including a new treatment system for the removal of iron and manganese. The iron and manganese treatment system comprised a filter vessel, steel backwash tank, backwash reclaim system, backwash overflow to storm drain line, pre-packaged sludge lift station, aboveground and belowground piping, valves, operators, and flow meters. Project challenges that were successfully addressed included maximizing the site space constraints for the large filter vessel and backwash tank and the interconnection to the existing well site infrastructure. Other on-site upgrades included modification to the existing chemical storage room and replacement of the on-site fencing and landscaping.

Corona Del Mar Water Treatment Plant Bypass Valve Design Project, Goleta Water District, Goleta, California. The Goleta Water District contracted Dudek to size a bypass influent valve located within a vault to improve system hydraulics due to increasing drought conditions in the area. Record drawings of the site did not provide a clear understanding of the existing underground infrastructure and utilities. Served as on-site inspection engineer and provided reconnaissance to investigate and document underground features. Based on the findings, Dudek produced a complete set of construction plans and specifications for the installation of a new 18-inch bypass control valve with appurtenances.

Water Reclamation Facility 2, Headworks Upgrades Project, City of Corona, California. Part of the project team with responsibilities in cost estimation and construction services, including review of equipment submittals. Improvements included replacement of an inoperable rotating drum screen and a poorly performing grinder with inclined bar/filter units, washer/compactor, and screenings sluice conveyance system; replacement of existing grit aeration blowers with high speed turbo blowers; installation of new 316 stainless air piping for the grit tank and channels; and complete concrete rehabilitation and application of epoxy liner to the channels, splitter box, and grit tank.

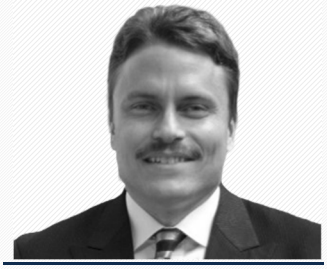
Joseph A. Schneider, PE

ELECTRICAL ENGINEERING / I&C

Joseph (Joe) A. Schneider is a principal electrical engineer with 26 years' professional experience as an electrical, instrumentation, and controls engineer and 18 years' experience specializing in instrumentation and control system design and electrical distribution system design for water treatment, wastewater treatment, water distribution facilities, and wastewater collection facilities.

Mr. Schneider's instrumentation and control system design experience consists of the design of programmable logic controllers (PLC) based plant control systems and instrumentation, specification creation, and construction administration duties. His electrical design experience includes evaluation of site-wide electrical systems and medium and low-voltage electrical distribution system design up to 12.47 kilovolts (kV). These designs include redundant power options and emergency generators, lighting design, grounding system design, specification creation, construction administration duties, and start-up.

Mr. Schneider is experienced in managing multiple concurrent projects and meeting multiple deadlines. He utilizes his experience as an electrical system owner to understand client operations and concerns and provide design solutions to meet their needs.



Education

Keller Graduate School of Management of DeVry University, MBA, Project Management, 2005

Arizona State University, BSE, Electrical Engineering, 1999

Certifications

Registered Electrical Engineer, CA 19636

Registered Electrical Engineer, AZ No. 43868

Project Experience

JBL Plant 2 Headworks Rehabilitation Final Design, South Orange County Wastewater Authority (SOCWA). Currently serving as the lead electrical and controls engineer in the design of electrical, instrumentation, and controls to support the rehabilitation of the Plant 2 Headworks Building, which houses bar screens, washer/compactor, and grit classifier. The existing roof will be replaced, and the odor control system for the building will be upgraded. The electrical portion of the design includes identification and removal of all conduit and conductors and lighting supported by the roof, new replacement conduits and conductors, reinstalled lighting, and power/controls for new odor control system equipment. The electrical and controls design has been completed up to the 90% design review package.

San Vicente Water Reclamation Facility Headworks Rehabilitation Project, Ramona Municipal Water District, California. Serving as the lead electrical and controls engineer in the design of electrical, instrumentation, and controls to replace existing Bar Screen No. 2, its control panel, and the existing screw conveyor with a new bar screen, new conveyor, and new control panel that controls both Bar Screen No. 2 and the screw conveyor. Design also included relocating existing Bar Screen No. 1's control panel and other miscellaneous improvements. The design included drawings and specifications.

Headworks Screenings Improvement Project, Coachella Sanitary District, California. The existing WRF screenings facility consists of one bar screen, one washer/compactor, and one control panel that controls both. The existing motor starters are in a motor control center, separate from the screenings control panel. Mr. Schneider is serving as the lead electrical and controls engineer in the design of electrical, instrumentation, and controls to replace the

washer/compactor, add a screenings conveyor, add a second bar screen, and replace the screenings control panel with a new screenings control panel that controls two bar screens, one conveyor and one washer/compactor. Motor starters will be in a separate motor control center. The PLC-based screenings control panel will communicate back to the Plant Control System via Ethernet and will allow control of the system from SCADA. The design includes drawings, specifications, and engineer's estimate of probable construction cost.

Hyperion Treatment Plant Primary Sludge Thickening, Los Angeles Department of Public Works, Los Angeles, California. Served as an electrical project engineer assisting the project's lead electrical and control system engineer with the preliminary and detailed electrical design of solids conveyance and thickening facilities in existing buildings. Electrical design included 12 kV and low voltage power distribution additions and modifications including the addition of medium and low voltage motor controllers, medium and low voltage variable frequency drives, and a medium voltage motor control center.

Southwest Regional Operating Group 91st Avenue Wastewater Treatment Plant Electrical, Instrumentation and Controls Inspection Services, City of Phoenix, Tolleson, Arizona. Served as the project manager for a project as the third-party representative of the City of Phoenix, ensuring that the City's best interests were represented on each project at the 230 MGD 91st Avenue Wastewater Treatment Plant (WWTP). Tasks included managing project team and budgets; reviewing consultants' design packages and providing comments; reviewing shop drawings; performing field inspection during construction; witnessing testing, start-up, and commissioning as the owner's agent; and overseeing updating and maintaining of the site SKM Power Tools software model and power system studies.

SROG 91st Avenue WWTP Electrical Reliability Improvements, City of Phoenix, Tolleson, Arizona. Served as an electrical and controls project engineer assisting the project's lead electrical and control system engineer with the electrical design of upgrade of portions of the plant's existing medium and low voltage power distribution system, which provided redundant power feeders from the 5 kV distribution system down to the 480 V MCC level for plant processes, including solids and digester facilities. Design included site 5 kV distribution, 480 V substation replacements, 480 V main-tie-main draw-out switchgear, and redundant 480 V distribution throughout the site. Performed construction administration, including shop drawing review.

23rd Avenue WWTP JOC, City of Phoenix, Arizona. Served as the lead electrical and controls engineer managing and designing the electrical and controls for projects with an engineering fee up to $100,000 per task. Experience includes approximately five JOC projects at the 63 MGD plant. JOC projects include solids handling facility centrifuges control panels and VFDs replacement, aeration basin tunnels and primary pump station tunnels lighting replacement projects, and a laboratory upgrade project.

Jomax Water Reclamation Facility Phase 2B Expansion (2.25 to 3 MGD), Vistancia Development LLC, Peoria, Arizona. Served as the lead electrical and controls engineer in the design of electrical, instrumentation, and controls to expand the wastewater plant capacity from 2.25 MGD to 3 MGD. The existing 12 kV electrical distribution system and standby generator system was analyzed and modified to accommodate the expansion. The existing Modicon PLC control system was modified to accommodate the expansion. Phase 2B expansion design included the addition of new process facilities to increase plant capacity from 2.25 MGD to 3 MGD. Electrical, LED lighting, ground, and controls design added the expanded plant processes to the existing electrical system at the 480 V level and to the existing plant control system. Processes included modification of the existing influent pump station; replacement of existing bar screen; and addition of new bar screen, grit classifier, grit pump, aeration basin, sludge holding tank, and dewatering centrifuge and conveyors. Design included drawings, specifications, and engineer's estimate of probable construction cost.

Hilary Goldschmidt

PROJECT ENGINEER I

Hilary Goldschmidt (*she/her*) is a civil engineer who specializes in wastewater treatment and water resources engineering. As a project engineer, she is proficient in cost estimating, technical report writing, and development of engineering plans. She has excelled in her work which often requires communication with maintenance crews, operators, engineers, and lab technicians.

Education

University of California, Davis
BS, Civil Engineering, Minor in Sustainability in the Built Environment

Certifications

Engineer-in-Training (EIT), No. 183513

Project Experience

Petaluma Chemical Systems Upgrade for Phase 1, City of Petaluma, California. Project engineer responsible for engineering services during construction for the sodium hypochlorite system replacement and relocation. Coordinating submittal and request for information (RFI) review and responses with the design team and construction manager. Participating in weekly construction progress meetings and providing status updates on submittal and RFI reviews.

Petaluma Chemical Systems Upgrade for Phase 2, City of Petaluma, California. Project engineer responsible for contributing to process mechanical sections of the Preliminary Design Report. Coordinating with venders to prepare engineers estimate of probable cost. Drafting demolition drawings for modification to an existing chlorine contact basin. Drafting the civil yard piping plan for the advanced wastewater treatment system and routing the discharge piping. Drafting the civil yard piping plan for the 3W and potable water extension from Phase 1 endpoint to new lab building facility.

Ellis Creek Water Recycling Facility Oxidation Pond Flow Structure Rehabilitation and Storage Expansion Feasibility, City of Petaluma, California. Project engineer responsible for developing demolition and mechanical drawings for outfall boxes, transfer structures, and their associated pipelines. Assisted in developing a schedule for additional pipelining during other construction on the treatment plant.

Valve Replacements and WWA Improvements at Slater Pump Station, Orange County Sanitation, California. Project engineer responsible for developing a total cost estimation and labor schedule for construction. Assisted in writing project update memorandums with respect to estimated flowrate expectations for construction and associated emergency condition mitigation plans. Assisted in the development of miscellaneous valve specifications.

J.B. Latham (JBL) Plant 2 Headworks Rehabilitation Final Design, South Orange County Wastewater Authority, California. Served as the project engineer for the development of mechanical and demolition sheets for the headworks odor control ducting for the headworks system. Assisted in analysis of bypass system development during construction. Coordinated with venders for potential bypass equipment. Assisted in the development of specifications for equipment including but not limited to the fans, fiberglass ducting, maintenance and plant operation, and bypass pumping.

Ignacio Transfer Pump Station Electrical Upgrades, Novato Sanitary District, California. Project engineer responsible for the preparation of demolition documents and drawings for potential new layouts for the pump station. Coordinated with venders and subcontractors to develop engineers' opinion of probable cost for three design alternatives. Drafted the Preliminary Design Report under direct supervision of the project manager.

Rams Hill Wastewater Treatment Facility, Borrego Water District, California. Project engineer responsible for the coordination with operators to receive data on total dissolved solids, wet well contaminant, and effluent data. Compiled a report regarding this data for the Regional Water Board for compliance verification.

Relevant Previous Experience

Sonoma County Water Agency, California. Assisted in coordinating 7 Wastewater Treatment Facilities, 15 Lift stations, 3 Booster Stations, and 3 Production wells permitting and corrective data base generation of asset management. Oversaw permitting and the development of a standard operating procedure database.

EDUCATION

B.S., Chemical Engineering, University of Toledo, 1979

REGISTRATIONS

Registered Mechanical Engineer, California, 1987, #M 24995
Registered Civil Engineer, California, 1990, #C 45875
Registered Chemical Engineer, California, 1993, #CH 4865

SUMMARY OF EXPERIENCE

Mr. King's educational background is in chemical engineering with emphasis on odor control, air quality, environmental, wastewater, water and regulatory issues. Mr. King has over 40 years of experience in odor control, systems certification and testing, air quality permitting, air emission inventory, air dispersion modeling, and regulatory interface for municipal and industrial projects and is registered as a Civil, Mechanical and Chemical Engineer in the State of California.

DETAILED EXPERIENCE- AIR QUALITY/ ODOR CONTROL

- **South Orange County Wastewater Authority (SOCWA)- Odor Control Design, Certification, AQMD Permitting, HVAC Design, Compliance Plans, Greenhouse Gas Inventory, Ventilation and Special Projects;** DHK Engineers has and continues to provide a wide array of odor control, ventilation, design, HVAC, environmental, compliance and training services to all SOCWA facilities. Since 2005, DHK has provided foul air/odor control air balancing and certification services, design upgrades for RTP ORS#1 Headworks, team member for RTP, JBL cogeneration assessments and upgrades, facility planning, Health and Safety training, environmental compliance (Spill Prevention Control and Countermeasure Plans), all air permitting and annual AQMD reports. DHK has also been the go too firm for energy auditing and development and implementation of energy efficiency strategies as well as technical support with SDGE and SCE utility issues. Successful execution of design projects includes RTP Administration HVAC Upgrades, RTP Headworks ORS#1 upgrades, Emergency Fuel Storage Facility at JBL and Fire Hardening Upgrades at CTP.

- **City of Laguna Beach – Odor Control Upgrades and Improvement Program.** In 2014, DHK Engineers was selected as the City of Laguna Beach Odor Expert to assist the City in the development and implementation of a comprehensive odor control program. Several successful and on-going odor mitigation projects including the North Coast interceptor – Magnesium Hydroxide Pilot Program has greatly improved the difficult circumstances the City has to manage including long residence time in the collection and conveyance system, wastewater seasonal variations for flow and the density of residences and sensitive receptors. DHK was instrumental in quickly resolving a transient odor issue downtown and permanent odor control resources (scrubber technology and foul air ventilation) are in the implementation phase. As part of the comprehensive program, DHK was tasked with technology evaluation including treatment, ventilation methods, chemical addition, and source control. DHK was instrumental in working with the City's team as well as SOCWA Coastal Treatment Plant in determining the potential beneficial impacts of improvements made with the City and CTP.

- **Santa Margarita Water District- Odor Assessment and Control Program-Chiquita Water Reclamation Facility** Comprehensive odor control program for the Chiquita Water Reclamation Plant including all aspects of the process areas, process adjustments, point source evaluations, conveyance/ductwork configurations, air dispersion, chemical injection and bundling of types of odors and development of odor/ventilation monitoring program.

- **El Toro Water District- Northline Lift Station Odor Control Investigation and Implementation Program** Northline Lift Station Odor Assessment and Implementation Program; El Toro Water District and DHK developed a comprehensive odor/ collection system pressure monitoring program at the Northline LS to determine the reach of the existing odor control system into the collection system. Odor characterization and pressure profiles identified specific times of the day resulting in excessive odor issue. Using field information identified possible conditions which could result in transient odors. Long residence time in the collection system and one of the remote upstream LS contributed to the transient excursions. A comprehensive review of technologies and chemical alternative focused in on addition of a flow paced magnesium hydroxide. The program greatly improved the conditions and helped manage the Northline odor issue.

- **Orange County Sanitation District- Multiple Odor Control**

  - Santa Ana Trunkline Sewer Replacement Project (1-23). Technical odor consultant and testing company for sewer replacement project with OCSD. The projects included comprehensive testing vapor and liquid phase to determine baseline conditions and develop design criteria to ensure compliance with OCSD environmental requirements during construction.

  - Newhope-Placentia Trunkline Sewer Replacement Project (2-72A). Technical odor consultant and testing company for sewer replacement project with OCSD. The projects included comprehensive testing vapor and liquid phase to determine baseline conditions and develop design criteria to ensure compliance with OCSD environmental requirements during construction.

  - Dover Drive Sewer Rehabilitation Odor Control Assessment (5-63), OCSD, CA. Technical odor consultant for development of baseline odor/pressure profiles along of Dover Drive Sewer Line. Ventilation and safety strategies were developed, as well as specifications and drawings, to ensure the OCSD odor and nuisance requirements were met.

  - Coast Trunk Sewer Rehabilitation Odor Control Design (11-26), OCSD, CA. Technical odor consultant and design engineer for ventilation and treatment of Coast Trunk Sewer Line. Ventilation and safety strategies were developed, as well as specifications and drawings, to ensure the OCSD odor and nuisance requirements were met.

  - Westside (3/52), College (7-47) and MacArthur (7-49) Pump Stations Upgrade Projects Odor Control Assessments, OCSD, CA. Technical odor consultant and testing company for three pump stations with OCSD. The projects included comprehensive testing vapor and liquid phase to determine baseline conditions and develop design criteria to ensure compliance with OCSD environmental requirements.

- **SOCWA Pump Station, City of Laguna Beach, CA**. Principal Consultant for odor control retrofit alternatives for the SOCWA Pump Station in downtown setting. The assessment included consideration for pre-treatment, point source treatment, ventilation strategies and corrosion control with the downtown collection system.
- **County of San Diego Administration Building- The Waterfront Park Project, San Diego, CA.** Principal engineer for odor evaluation of City of San Diego PUD trunk sewer adjacent to new park. Conducted odor and sewer main pressure assessments, calculations and alternative analyses.

Matt Stone, PE, SE

Senior Project Manager

Education/Professional Registration
BS, Structural Engineering, 2008, UCSD
MS, Structural Engineering, 2009, UCSD
Civil Engineer in California, 2011, No. 78488
Structural Engineer in California, 2014, No. 6183

Mr. Stone is a currently licensed California Structural Engineer with over 14 years of project management and structural design work encompassing commercial, infrastructure, water, wastewater and military projects. He has performed many complex structural and seismic designs for new and existing buildings utilizing the latest design standards and philosophies. His work has included the preparation of structural drawings, specifications, and calculation packages, project coordination and management, technical report writing, cost estimating and construction support services. He specializes in the assessment, design and retrofit of water and wastewater treatment, storage and conveyance facilities.

Relevant Project Experience

SOCWA JBLTP Digester 1 And 2 Manway Improvements – Dana Point, CA – Project Manager – Kelsey Structural – 2021
Mr. Stone provided the structural design of four retrofit access manway doors and strengthening of existing Digesters at the existing SOCWA J.B. Latham Treatment Plant. The retrofit design required sawcutting the existing circular reinforced concrete Digester walls to provide new and enlarged access penetrations to improve ventilation and accessibility during maintenance. Fiber wrap strengthening of the existing structure was required to accommodate the new penetrations and resist hydrostatic and seismic hoop forces in the walls concentrated around the openings.

City of Petaluma ECWRF Sodium Hypochlorite Replacement and Relocation – Petaluma, CA – Project Manager – Kelsey Structural – Ongoing
Mr. Stone is currently providing the structural design of a new Sodium Hypochlorite Chemical Storage Area for the City of Petaluma, CA. The new facility consists of a concrete containment area supporting three new 6,600-gallon sodium hypochlorite storage tanks, constructed as part of the City's Ellis Creek Water Recycling Facility upgrades. The new containment area consists of a 1,200 square-foot basin with 2'-6" tall containment walls capable of providing emergency storage for all three tanks in case of leaks. The containment area has been designed with integral structural column pedestals, which are intended to be utilized in the future for a structural canopy cover and screening walls, which were part of the original design but were elected to be removed from the project by the City after the 90% submittal. Additionally, 18" diameter drilled pier foundations have been utilized per geotechnical recommendations to provide sufficient support for the structure due to the poor Bay Mud layers of soil below, which pose the risk of differential settlements of up to 12" across the structure if not mitigated.

City of Corona WRF-1A Aeration Improvements – Corona, CA – Project Manager – Kelsey Structural – 2023
Mr. Stone provided the structural design for a series of aeration pipe supports at the City of Corona's existing WRF-1A treatment plant. Design includes various custom pipe supports for 20" and 12" diameter stainless steel air piping including cantilever frames and kicker supports at the existing Aeration Basins and a 25' long pipe bridge spanning over an existing access road. Modifications at the existing Blower Building were required to accommodate the new piping penetrations through the CMU walls. Design considerations for expansion couplers, large thrust loads, existing structure loading and anchorage required detailed coordination with the client and design team to help ensure minimal impacts to the existing facility and operations.

City of Oxnard Chemical Storage Facility Roof Repairs – Oxnard, CA – Project Manager – Kelsey Structural – 2023
Mr. Stone performed a field investigation and structural repair of a deteriorated roof structure for the City of Oxnard's Chemical Storage Facility. The existing structure was constructed with a partially-open roof canopy structure with wood framing that had sustained significant dry-rot damage due to moisture exposure and the damp marine environment. As part of the investigation, Kelsey Structural identified the extents and severity of the roof damage and were able to salvage the majority of the roof structure, recommending and designed repairs and retrofit to the lower overhang of the structure where deterioration was most severe. New flashing and protective sealants were detailed to inhibit future deterioration of the structure.

City of San Diego Kearny Mesa Repair Facility – San Diego, CA – Project Manager – Kelsey Structural – 2023
Mr. Stone provided the structural design for the City of San Diego Kearny Mesa Repair Facility for Fleet Services maintenance. Design included the retrofit of an existing concrete building as well as new steel canopy structures and equipment foundations. The existing building is a single-story concrete tilt-up building with two interior wood-framed

619-534-1150 mstone@kelseystructural.com KELSEY STRUCTURAL APC

mezzanine structures that will be removed as part of the project and replaced with new steel moment frame lateral force resisting systems. Additional work at the existing building included a new rollup-door at an existing concrete shear wall that required strengthening of the existing lateral system as well as new metal stud and wood-framed partitions and curtain wall systems.

City of Gonzales Industrial Water Reclamation Facility – Gonzales, CA – Project Manager – Kelsey Structural – 2022
Mr. Stone is provided the structural design of a new Industrial Water Reclamation Facility for the City of Gonzales. Structural design is being provided for multiple treatment facilities including an 1,800 sqft. concrete-masonry unit Operations Building, below grade reinforced concrete Wet Well and Pump Station, Headworks facility, Grit Chamber, Blower Building and miscellaneous site structures and equipment foundations. Extremely poor soil conditions at the site coupled with high groundwater and flood plain required all structures to be supported on mat foundations capable of spanning voids beneath the structures and resisting large differential settlements that may occur due to liquefaction during seismic events.

City of Glendora Bluebird Booster Station Upgrade – Glendora, CA –QA/QC – Kelsey Structural – 2021
Mr. Stone provided the structural QA/QC review for a booster pump station, equipment upgrades and modifications of two existing steel reservoirs at the Bluebird site for the City of Glendora. The project consisted of a new 1,500 sqft CMU building with a hip shaped steel framed roof that included sky lights for pump removal and a 1-ton monorail crane beam at the underside of the steel roof framing. Foundation designs were performed for a new emergency generator, transformer and switchboard, and vertical surge tank. Structural design was also provided for the strengthening around new penetrations at two existing steel tanks per AWWA D100 and AWWA D103.

City of Poway Clearwell Bypass, Poway, CA – Project Manager – Kelsey Structural – 2021
Mr. Stone provided the structural design of a new pump station, pipe gallery retrofits and AWWA D103 bolted steel tank review for the City of Poway's Clearwell Bypass project. Recent failures of the existing clearwell have prompted replacement of the aging concrete storage basin, requiring temporary bypass of all treatment plant water while the new clearwells are constructed. To implement this bypass, Kelsey Structural has provided a new slab-on-grade pump station design and retrofits to an existing pipe gallery structure to facilitate bypass pumping and new piping to the temporary steel storage tanks. Structural design has included reinforced concrete slab-on-grade with deepened perimeter footings to accommodate the site slope, concrete pedestal pipe supports, and retrofit concrete wall construction requiring demo and replacement of an existing below-grade vault wall.

LWD Encinitas Estates Pump Station – Encinitas, CA – Structural Engineer – Kelsey Structural – 2021
Mr. Stone provided structural engineering design services for the Leucadia Wastewater District (LWD) Encinitas Estates Pump Station project in Encinitas, CA. The project consisted of a new precast below grade pump station and various site structures. Structural design included a new CMU freestanding site wall, emergency generator foundation, and multiple electrical equipment foundations. The electrical MCC equipment foundation required a steel canopy for weather protection and consisted of metal deck over HSS tube steel beams supported by HSS columns and was connected to both the foundation and top of the CMU site wall due to limited space and site constraints. Mr. Stone also provided the design criteria and submittal review of the precast pump station structure.

RMWD Weese Filtration Plant Interconnect – Oceanside, CA – Project Manager – Kelsey Structural – 2021
Mr. Stone provided the structural design of a new single-story interconnect structure at the Weese Filtration Plant in Oceanside, CA for Rainbow Municipal Water District. Design includes a new partially-buried CMU building with steel framed roof and concrete foundations housing pumping and piping equipment. The structure is located in a sloped grade and retains approximately 8' of soil with roadways surrounding the structure and was designed to resist all soil and surcharge lateral loads. A large rollup door was required in the exposed front wall to allow for pump removal and maintenance.

FPUD Overland Trail Lift Station Rehabilitation – Fallbrook, CA – Project Manager – Kelsey Structural – 2020
Mr. Stone provided the structural design and retrofit for the Overland Trail Lift Station Rehabilitation Project for Fallbrook Public Utility District. Structural design services included retrofit of an existing below-grade lift station which consisted of widening the existing drywell in order to allow for larger pumps and new piping penetrations to accommodate increased flow through the station. Construction sequencing was critical to minimize system downtime and bypassing while also limiting damage to the existing portions of the lift station to remain as well as the adjacent clarifier structure. Concrete retrofit and repair details were provided and tailored to the project to allow for quick material cure times to help minimize the duration of system bypassing.

Robert T. Kelsoe, PLS
President
Kelsoe & Associates, Inc.

Mr. Kelsoe is the president of Kelsoe & Associates, Inc., and has more than 30 years of experience in the land surveying profession. He is a licensed land surveyor in California and Nevada and is responsible for the firm's land surveying activities.

Prior to joining Kelsoe & Associates, Mr. Kelsoe worked for California Corridor Constructors as a project surveyor on the San Joaquin Hills Transportation Corridor. He was responsible for the layout and calculation of more than 30 bridges and grading approximately 12 miles of new freeway. In addition, he created the company's quality control/quality assurance program.

Mr. Kelsoe has extensive experience performing and supervising public agency surveys. As a project surveyor for Fuscoe, Williams, Lindgren, and Short, he worked closely with the California Department of Transportation (Caltrans) on detailed topographic surveys and second-order geodetic control. He also performed and supervised surveys for the Los Angeles County Transportation Commission on the Metro Green Line and the Army Corps of Engineers on the lower Santa Ana River reconstruction.

In addition, Mr. Kelsoe is experienced in mapping and computer aided drafting (CAD). He has prepared Records of Survey, ALTA/ACSM land title survey maps, legal descriptions and topographic survey maps for the City of Corona, City of San Dimas, City of Rancho Palos Verdes, City of Bellflower and several other agencies throughout Southern California.

Published author Robert Kelsoe has been recognized as an expert in land surveying. Various insurance companies have retained him as an expert witness in numerous boundary dispute and construction defect cases throughout California.

Education

Southern California Surveyors Joint Apprenticeship Committee - chainman and party chief program (4 years)

Rancho Santiago College - land surveying program

Riverside City College - land surveying program

Registration

California Professional Land Surveyor: LS 6957

Nevada Professional Land Surveyor: LS 12994

Professional affiliations:

California Land Surveyors Association

Daniel Rivera
Project Surveyor
Kelsoe & Associates, Inc.

Daniel Rivera is a project surveyor for Kelsoe & Associates and manages our field topographic mapping. He has risen through the ranks of our firm, beginning as a chain person and rising to the rank of party chief. He studied land surveying and computer aided drafting at Riverside Community College and holds an associate's degree. He also has certificates in engineering and architecture.

Mr. Rivera has experience in many different aspects of the land surveying profession. He has extensive experience in topographic surveys and field-to-finish surveys. He works closely with the Principals at Kelsoe & Associates in the preparation of Records of Surveys, ALTA/ACSM Land Title Survey Maps, legal descriptions, and topographic maps for public agencies throughout Southern California.

Representative project experience

- City of Corona Wells 32 & 33 - Performed detailed topographic surveys for proposed well sites in Home Gardens.
- City of Corona Restroom Upgrades - Performed topographic survey for restroom upgrade design at Ridgeline Park, River Road Park, and Griffin Park.
- Corp. Yard Emergency Generator - Performed a topographic survey to design an emergency generator pad at the City of Corona's Corporate Yard.
- Corona Public Library - Performed detailed topographic survey of the Corona Library for proposed upgrades and modifications.
- Centennial High School - performed a detailed topographic survey of the entire campus for the proposed modernization project.
- Waste Water Treatment Plant No. 2 - Performed topographic survey along the southerly access road for the design of proposed modifications.

Education

- Riverside Community College - Associate's Degree, Engineering Technology

Donald Whitman
Project Manager

Donald has managed numerous utility locating projects over the past 26 years for various DOT's, municipalities, public and private sector clients. He will be responsible for the management and coordination of utility locating services. He will develop multiple department services schedules and maintain those schedules throughout the duration of the project. He will prepare staff hours and fee estimates for the combined project teams. He will review the progress of services to ensure that the standards, time goals and budget requirements are met.

Education

U.S. Marine Corps, MCRD San Diego, CA 1992

Claremont CA, San Antonio High School Diploma 1992

Professional Registrations and/or Licenses

40 hour HAZPOWER
Confined Spaces Safety
Project Management
San Diego Work Zone Traffic Control

Skills

Utility Locating
Potholing
Project Management
Traffic Control

Professional Experience

2016 – Present **Bess Testlab, Inc.**
Project Manager

Donald Whitman is responsible for the technical project execution, including overseeing crews, equipment, project progress, safety and quality control. Supervisor of field crews and experienced in all levels of Subsurface Utility Engineering to mention a few, Utility Locating and Vacuum Excavation (Potholing).

2000 – 2016 **SAF-r-DIG Utility Surveys Inc.**
Project Manager

Generated and executed scope and/or fee proposals, agreements, master service contracts, including amendments and scope changes for projects involving various levels of Subsurface Utility Engineering. Collected and directed the collection of utility records and as-build utility data from private and municipal agencies for use by field and office personnel. Established work plans including staffing and resources for each phase of projects and directed recruitment of project personnel.

Related Experience

LA County Department of Public Works On Call Potholing Services Contract
Furnish all labor, materials, parts and equipment necessary to provide routine positive location (potholing) services using vacuum excavation, hand excavation, or comparable methods to locate underground utilities, including but not limited to; petroleum, data transmission, telephone, gas, electric, water and sewer pipelines, and perform other related services. Provide a written report stating the date for the exact location of each work assignment site.
Role- Project Manager – 2012-2016 Saf-r-Dig 2017-2021 Bess Testlab Inc

City of Ontario Water and Sewer Projects UT1065, UT 1066, UT1067, UT1069, UT1070 & UT1072
Provide utility locating, potholing services and necessary traffic control along various proposed alignments using vacuum extraction to positively locate existing utility conflicts such as telephone, gas, electric, water, petroleum and various connection points. Provide a written report stating the date for the exact location of each work assignment site. The report shall contain detailed findings, including but not limited to the type, size, and depth of the utility facility and, if present, the thickness of pavement.
Role- Project Manager

IEUA RP-5 Sewer Force Main
Provide Utility potholing services and all necessary traffic control to locate approx. 86 utility conflicts along proposed alignment on Mountain Ave and EL Prado Road. Provide a written report stating the date for the exact location of each work assignment site. The report shall contain detailed findings, including type, size, and depth of the utility.
Role- Project Manager

Hayward (Corporate) | Fresno | Los Angeles | T. (408) 988-0101 | F. (408) 988-0103 - www.besstestlab.com

JANUARY 30, 2025 AT 2:00PM

PROPOSAL FOR

J.B. Latham (JBL) Treatment Plant Digester, Flare, and Heat Exchanger & Piping Replacement Final Design

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
ATTN: JEANETTE COTINOLA - PROCUREMENT/CONTRACTS MANAGER
34156 DEL OBISPO STREET, DANA POINT, CA 92629

MKN | 16310 BAKE PARKWAY | IRVINE, CA 92618 | T 714.213.9758

January 30, 2025

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

Subject: **J.B. Latham (JBL) Treatment Plant Digester, Flare, and Heat Exchanger & Piping Replacement Final Design**

Ryan Gallagher, PE
Project Manager
rgallagher@mknassociates.us
714.213.9758

Dear South Orange County Wastewater Authority Review Team,

We are excited to submit our proposal for this project—our first opportunity to partner with SOCWA. As a firm of over 80 professionals dedicated exclusively to serving California's water industry, MKN is uniquely positioned to deliver this project and serve as a long-term partner.

We are particularly excited about this project due to our relevant experience, local resources, and early investment in understanding your goals. We believe our team will deliver exceptional results for SOCWA, and here's why:

- **Experienced Team.** MKN has assembled a highly skilled team with decades of experience in wastewater treatment plant (WWTP) projects. Our expertise includes delivering projects at over 50 WWTPs, ranging from 100 gpm to 140-MGD. Notably, we have completed multiple California projects involving complex gas piping, boiler piping, flares, and cogeneration systems—all directly relevant to this project.
- **Forward-Thinking Solutions.** Our approach builds on SOCWA's scope of work, incorporating enhancements like 3D laser scanning to reduce design costs and change orders. We will also explore thoughtful alternatives for flare placement to ensure efficient, effective solutions for your facility.
- **Constructability Expertise.** Peter Brennan, PE, CCM, brings 39 years of construction expertise, including 22 years leading construction management projects for LACSD. He will lead the constructability review (Task 9), ensuring your project is designed and delivered with construction efficiency in mind.
- **Collaborative Approach**. We prioritize collaboration, presenting key decisions to SOCWA staff for input and ensuring alternatives are backed by data. Using 3D laser surveys, we'll provide your operations team with detailed visualizations of piping and support placements, facilitating future planning and operational efficiency.
- **Flare Partnership.** MKN understands SOCWA's collaboration with Don King for flare selection, permitting, and procurement. Our Project Manager, Ryan Gallagher, has previously worked with Mr. King at the City of Oxnard WWTP and will coordinate closely with him throughout the design process to maintain alignment and continuity.
- **Best Value.** MKN offers exceptional value, with rates averaging 10–15% lower than our competitors due to our low overhead and streamlined operations.

Certification Statements

1. **Conflict of Interest:** Individuals employed by MKN, or associated firms, including subconsultants, have no conflict of interest with the project.
2. **Insurance:** MKN is prepared to provide proof of required insurance.
3. **Wages:** Proposed pricing includes funds to comply with all applicable wage regulations.
4. **Terms and Conditions:** MKN agrees to the terms and conditions stated in the RFP.
5. **Proposal Submission:** Information provided in this proposal is true, complete, and correct.

Please do not hesitate to contact me at **714.213.9758** or **rgallagher@mknassociates.us** with any questions or to discuss this proposal further. We look forward to working with your team to expedite delivery of this project. Thank you for your consideration.

Ryan Gallagher, PE
Project Manager

SECTION 1

IDENTIFICATION OF RESPONDER

MKN's Client-Centric Origins

MKN is a water, wastewater, and recycled water engineering firm located in California. Since 2012, our firm has grown to over 80 professional engineers, planners, construction managers/inspectors, and support staff. MKN is focused on meeting the growing needs of public agencies similar to the South Orange County Wastewater Authority (SOCWA) for responsive, technically capable consultants who are committed to a long-term relationship based on excellence.

Whether we are overseeing a citywide water treatment program or managing a specific aspect of a project, our dedicated team works tirelessly to ensure we deliver the quality, responsiveness, availability, and accessibility our clients expect.

Water Is Our Focus

At MKN, water is our sole focus, and a significant part of that is wastewater. From planning to design and rehabilitation, we handle every aspect of wastewater infrastructure. Our experienced team has successfully delivered projects at over 50 wastewater treatment plants, ranging from 100 gpm to 140-MGD.

After reviewing the scope and background documents, we are confident that your project aligns seamlessly with our core expertise. SOCWA's size and needs are comparable to many of our existing wastewater clients. We are committed to delivering the same responsiveness, attention to detail, and dedication to quality that have defined our success in similar projects.

MKN's key project team members are located in our Irvine office, only 15 miles from SOCWA.

MKN Is Committed to OC

MKN is local to Orange County and committed to a long-term relationship with SOCWA.

MKN's staff have been working in Orange County for more than two decades and are committed to the local water industry. Our team has delivered successful projects for many of SOCWA's neighboring agencies. These include South Coast Water District, Irvine Ranch Water District, East Orange County Water District, City of Newport Beach, Yorba Linda Water District, City of Anaheim, Trabuco Canyon Water District, and Emerald Bay Service District.

50+ WWTP Projects

Local Project Manager

Recent Similar Projects

Cost-Saving Concepts

MKN's local Project Manager, experienced wastewater team, and creative solutions will deliver the most value to SOCWA's project.

Firm Name:
MKN & Associates, Inc.
(S Corporation)

Principal Place of Business:
354 Pacific Street,
San Luis Obispo, CA 93401

Local Office:
16310 Bake Parkway,
Irvine, CA 92618

SECTION 2

APPROACH TO THE WORK

Scope of Work

As noted in the RFP, the objective of this project is two-fold: (1) replace corroded digester gas and hot water loop piping above grade, and (2) install a new flare. Based on our review of the project and past experience, we understand the key issues for successful delivery of this project include the following:

1. **Best Value Construction Cost.** Deliver a project that is cost-effective by identifying the most economical piping alignments and flare location, and by minimizing change orders through a detailed design.
2. **Minimize Impact to Plant Operation.** Prepare a construction sequencing plan in coordination with operators that limits impact to plant operations.
3. **Design for Future Piping.** Provide a design that accurately considers future above-grounding of other pipelines currently buried in the digester complex.
4. **Staff Collaboration.** Deliver the design process in a collaborative manner that incorporates SOCWA staff into decision-making from start to finish.

Our approach integrates these key success factors into meeting SOCWA's overall project objectives. The scope of services for this project consists of the following tasks:

TASK 1 – Project Management and Progress Meetings

MKN has included sufficient time and budget in the scope of services to manage the services provided. Project management/administration will include: A Kickoff Meeting (in-person) and a maximum of six (6) virtual monthly progress meetings with SOCWA staff. The primary purpose of the monthly progress meetings is to review the schedule, task progress, and outstanding action items. MKN will prepare the agenda, action-item list, and decision log for each meeting.

At the Project Kickoff Meeting, MKN will solicit initial feedback on the project's design criteria. For example, minimum width clearance (i.e., California Code of Regulations requires a maximum fire truck width of 120 inches), future piping connection points and sizing, pipe materials, minimum height (14 feet is the maximum height for vehicles per the California Vehicle Code and is consistent with the maximum height clearance for fire trucks at 13'-6"), etc. This information will be documented in the meeting minutes and used for developing pipe routing alternatives.

TASK 2 – Data Collection and Document Review

MKN will evaluate the documents provided and develop a data request for additional items as part of the Project Kickoff Meeting. MKN will conduct a site visit as part of the Kickoff Meeting to collect any other field observations or measurements.

TASK 3 – Surveying

Records detailing SOCWA's as-built drawings cannot be fully relied upon as a baseline. Traditional methods of documenting existing conditions, such as annotated photos or CAD re-creations from field measurements, are time-consuming, prone to inaccuracies, and are less effective for collaboration.

MKN's 3D laser scanning approach allows SOCWA operations staff to clearly visualize the proposed improvements, which avoid future change orders and facilitates improved collaboration.

MKN proposes using 3D laser scanning to generate accurate models of existing conditions, offering several key benefits:

1. **Reduced Construction Change Orders:** Precise models minimize conflicts and enhance detail, improving cost estimates and reducing risks.
2. **Increased Design Efficiency:** Time can be spent designing improvements rather than creating base maps.
3. **Lower Future Design Costs:** The 3D model simplifies future project design efforts.
4. **Enhanced Collaboration:** The 3D model enables staff to evaluate multiple routing options collaboratively, with easier and more accurate adjustments than 2D methods.

MKN and GPRS will use Leica survey-grade laser scanners to capture site conditions with an accuracy of 2–4 millimeters, creating a detailed point cloud and 3D model.

The generated model will include equipment and piping as small as 1 inch (or ½ inch upon request). Additionally, MKN will utilize a Trimble DA2 device to collect supplemental ground elevations for design purposes.

TASK 4 – Potholing

MKN's subconsultant, Underground Solutions, will provide up to 10 potholes up to a depth of 8 feet. The potholes will be performed following confirmation from SOCWA on the preferred pipe alignment and conceptual design.

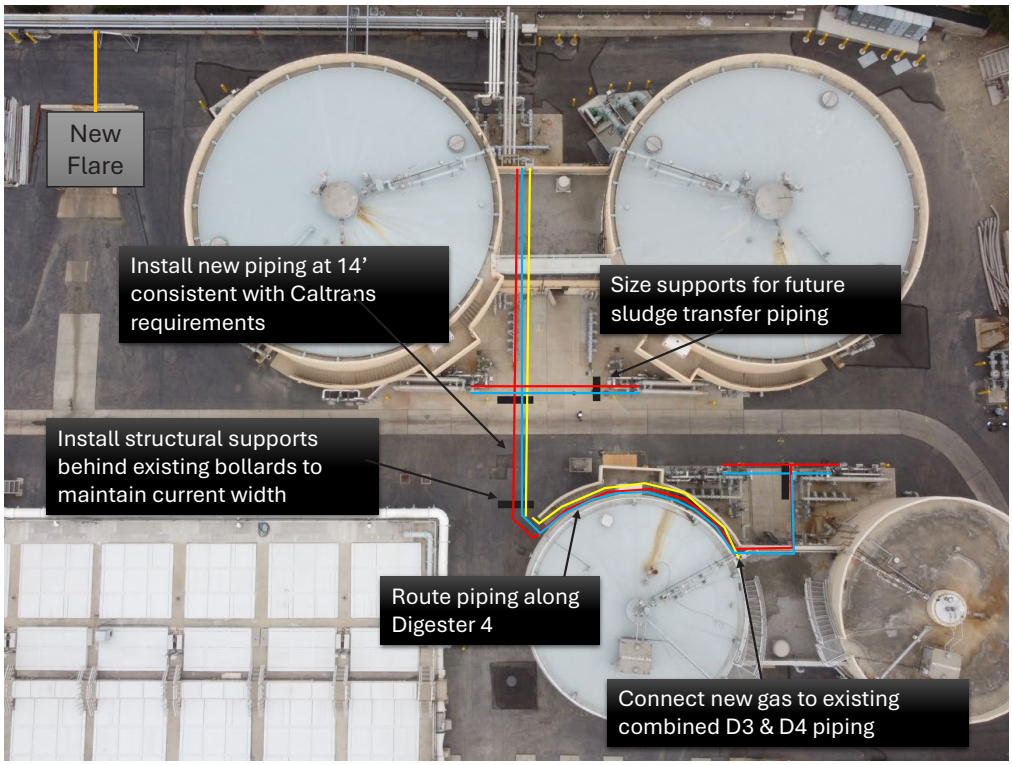


Figure 1 - Our team has identified several initial alignment options that will be discussed with SOCWA staff at the Kickoff Meeting.

TASK 5 – Conceptual Design

Once a 3D model is established following Task 3, MKN will prepare multiple options for consideration at the Conceptual Design Workshop. MKN will utilize the model to present the alternative approaches and solicit feedback. Figure 1 illustrates one concept with several considerations and approaches highlighted. Key design considerations include the ability to meet width requirements and locating supports to avoid existing underground utilities. One consideration for the conceptual design could be to locate the new supports in the location of the current bollards.

The conceptual design will include the conceptual design drawings, construction cost estimate, construction duration with plant outages, and a proposed construction phasing plan.

TASK 6 – Conceptual Design Workshop

MKN will facilitate an in-person workshop to present the Conceptual Design. Feedback from SOCWA staff will be documented in meeting minutes and will serve as the basis of the final design.

TASK 7 – 50% Submittal

MKN will submit a 50% submittal which includes plans, specifications, and a cost estimate. MKN will include a comment log that captures SOCWA comments from the Conceptual Design Workshop along with responses/status from the MKN design team. MKN assumes SOCWA will require 4 weeks to review the 50% submittal.

Initial Design Considerations

In order to proactively address Tasks 5 - 7, we have identified the following key concepts based on our review of the available information:

Hot Water Piping: MKN will update the system schematic for the above-ground hot water loop piping and confirm its current operation. The 1991 schematics and as-builts appear inconsistent, suggesting potential inefficiencies in the piping layout. Currently, the heat exchangers for Digesters 2, 1, 3, and 4 operate in series from a single primary loop.

Replacement and relocation of the original boilers during the J.B. Latham Package B Project presents an opportunity to optimize the piping for current needs. For instance, creating two parallel loops instead of the existing series design could improve heat distribution, particularly to Digester 1.

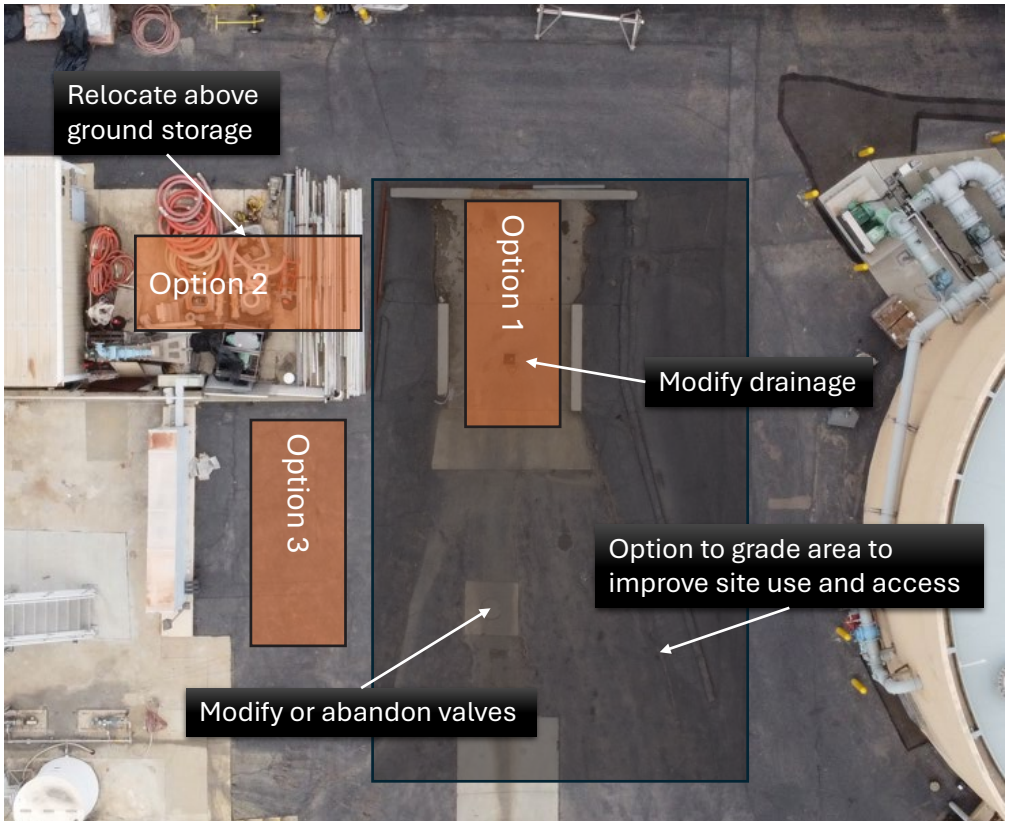


Figure 2 - The associated civil improvements required for each Flare replacement option will impact the overall construction cost. MKN is prepared to discuss each option at the Kickoff Meeting.

Flare Design: At the Kickoff Meeting, MKN will review potential flare locations and gather staff feedback. Option 1, within the old sludge truck ramp, requires significant demo and civil modifications for drainage. Options 2 and 3 could better utilize space and reduce civil improvements. Savings from Option 2 could fund a storage shed, racks, or canopy for displaced materials.

MKN will coordinate with Don King on integrating the Owner Furnished Contractor Installed (OFCI) flare equipment. Ryan Gallagher, MKN's Project Manager, has prior experience working with Don King and will confirm the OFCI scope to prevent scope gaps or overlaps between the General Contractor and supplier.

MKN will integrate the OFCI flare into design drawings, including connections for ancillary equipment. The digester gas supply line will feature components such as a flow meter, pressure indicators, valves, a sediment trap, flame traps, and an explosion relief valve.

For power and SCADA integration, MKN has partnered with Gerry Green, PE, of GGI, leveraging their extensive wastewater project experience.

TASK 8 – Bid Set

MKN will provide a complete bid set with the completed plans, specifications, and cost estimates. The bid set will include an updated comment log documenting SOCWA 50% submittal comments with MKN responses. Table 1 presents the anticipated drawings for the project.

TASK 9 – Constructability Review

MKN's Peter Brennan will complete a constructability review with SOCWA staff. The effort will include a site walk, documentation of comments, and review with SOCWA staff.

TASK 10 – Technical Specifications and Standard Details

SOCWA will provide MKN with a list of standard specifications from Division 1 to be used for the project after the 50% submittal review. SOCWA will also provide MKN with its Standard Details, if any, for inclusion in the project documents, as needed, with the 50% submittal review. MKN will be responsible for preparing Section 01010, Summary of Work, and Section 01014, Work Restrictions and Sequence. MKN will meet with SOCWA to discuss coordination of specifications sections referenced in the technical specifications. MKN will submit required information for review prior to submitting the bid set.

#	SHEET	SHEET NAME
1	G1	Location and Vicinity Maps, General Information and Index of Drawings
2	G2	General Notes, Symbols and Abbreviations
3	G3	Site Access Plan
4	D1	Demolition Plan
5	C1	Civil Plan
6	C2	Grading
7	C3	Civil Details
8	M1	Piping Plan
9	M2	Piping Sections I
10	M3	Piping Sections II
11	M4	Flare Plan and Section
12	M5	Piping Details
13	S1	Structural General Notes
14	S2	Pipe Supports
15	S3	Foundations
16	S4	Structural Details
17	E1	Electrical Standard Symbols and Abbreviations
18	E2	Site Electrical Plan
19	E3	Flare Electrical Plan
20	E4	Heat Exchanger Electrical Plans
21	E5	Instrumentation Diagram

Table 1 - Anticipated Plan Sheets

TASK 11 – Construction Sequencing and Shutdown Plan

MKN will present a list of shutdowns and tie-ins needed with durations and mitigation measures needed to minimize operational impacts. SOCWA operations and maintenance (O&M) staff will be made available to help MKN identify and describe the potential operational impacts and potential mitigations for each of the proposed shutdowns and tie-ins.

TASK 12 – Bidding and Engineering Services During Construction (ESDC)

MKN will provide bidding services including assistance in responding to bidding questions. MKN will provide ESDC services including submittal review, responses to Requests for Information (RFIs), change order assistance, and record drawing preparation.

PROPOSED SCHEDULE - A conceptual project schedule is presented in Figure 3. MKN will submit a detailed Microsoft Project schedule at the Kickoff Meeting.

Task	Mar	Apr	May	Jun	Jul	Aug	Sept
Task 1 - PM & Mtgs							
Task 2 - Data Collection/Review							
Task 3 - Surveying							
Task 4 - Potholing							
Task 5 - Conceptual Design							
Task 6 - Design Workshop							
Task 7 - 50% Submittal							
Task 8 - Bid Set							
Task 9 - Constructability Review							
Deliver IFB							

Figure 3 - Conceptual Project Schedule

SECTION 3

EXPERIENCE AND TECHNICAL COMPETENCE

The following projects represent a sample of MKN's direct project experience similar to the JBL Treatment Plant Digester, Flare, and Heat Exchanger & Piping Replacement Final Design Project.

Fats, Oils, and Grease (FOG) Facility Improvements

OWNER: City of Thousand Oaks
DURATION: 2021-2024
CONTACT: Nader Heydari, PE
Deputy Director of Public Works
805.449.2430; NHeydari@toaks.org

RELEVANCE TO SOCWA:

1. *New hot water piping*
2. *Heavy utility congestion with minimal as-builts*
3. *Same project team*

BRIEF DESCRIPTION

The City of Thousand Oaks selected MKN to prepare an alternatives analysis, preliminary design and final design for a new FOG receiving facility at their Hill Canyon Treatment Plant. The $4.2M project includes a brand new FOG station to replace an aging and inefficient system built over 15 years ago. The new system consists of an offloading area, an innovative Huber screenpress, tank fill pumps, multiple holding tanks with pump mixing systems, heat exchangers integrated with the facility's existing hot water loop system, and digester feed pumps.

Evaluation and Design of Digester Heating and Biogas Systems

OWNER: City of Chico
DURATION: 2021-2022
CONTACT: Eric Nyenhuis, PE
Engineering Director - Southland Industries
858.210.0940; enyenhuis@southlandind.com

RELEVANCE TO SOCWA:

1. *Construction within active WTP*
2. *New biogas and hot water piping*
3. *Same project team*

BRIEF DESCRIPTION

MKN's comprehensive scope includes data collection, historical gas production analysis, and a full review of heating and biogas systems. Through a phased approach, the team will produce a Preliminary Design Report (PDR) detailing energy generation, heating system configurations, and requirements for gas cleaning systems. Key tasks cover heat recovery evaluations, upgrades to heating loops, and configuration studies for biogas cleaning and distribution systems. The project outcomes will improve operational resilience, reduce energy costs, and support Chico's renewable energy goals.

SSLOCSD Cogeneration System

OWNER: South San Luis Obispo County Services District
DURATION: 2024-Ongoing
CONTACT: Jeff Schaller, PE
Project Manager - Southland Industries
657.566.0283; jschaller@southlandind.com

RELEVANCE TO SOCWA:

1. *Design of overhead piping structures*
2. *Flare Construction*
3. *Construction within active WWTP*
4. *New biogas and hot water piping*
5. *APCD Permitting*
6. *Same project team*

BRIEF DESCRIPTION

The South San Luis Obispo County Services District (SSLOCSD) partnered with Southland Industries and MKN to evaluate and design a new cogeneration (cogen) system for the District's wastewater treatment plant.

MKN's role encompassed two main phases: Phase 1 included preliminary engineering to analyze plant digester gas production, heating load, and potential cogen locations. Key activities involved evaluating equipment needs, testing digester gas for contaminants, assessing air quality requirements, and developing scalable layout alternatives for the cogen system. A Technical Memorandum (TM) summarized findings, including a cost-benefit analysis of rehabilitating versus replacing the system, and provided conceptual cost estimates. Phase 2, planned as a future phase, is intended to finalize the design package, with comprehensive construction-ready plans, equipment specifications, and permitting documentation.

Boiler Alternatives Study and Replacement Project

OWNER: City of Santa Maria
DURATION: 2023-Ongoing
CONTACT: Doug McWhinney - Senior Construction Engineer - Southland Industries
760.691.6771; dmcwhinney@southlandind.com

RELEVANCE TO SOCWA:
1. *Evaluation and Design of digester gas and heating systems*
2. *Construction within active WWTP*
3. *Same project team*

BRIEF DESCRIPTION

The City of Santa Maria engaged MKN to evaluate and design a replacement for the primary boiler system at its Wastewater Treatment Plant (WWTP). MKN's scope covers a comprehensive study of potential boiler replacements, including dual-fuel boilers and gas cleaning systems to optimize efficiency. The alternatives study, informed by previous assessments and operational data, includes conceptual layouts and cost estimates.

Wastewater Treatment Plant (WWTP) Upgrades Project

OWNER: Cambria Community Services District
DURATION: 2021-2024
CONTACT: James Green
Utilities Department Manager
805.550.3558; jgreen@cambriacsd.com

RELEVANCE TO SOCWA:
1. *Instrumentation and Controls integration*
2. *Construction at active WWTP*
3. *Minimal Record Information*
4. *Same project team*

BRIEF DESCRIPTION

MKN developed the preliminary process design to meet the District's future TN discharge goals and prepared a comprehensive Basis of Design report, which informed the scope of improvements. Major upgrades included conversion of an activated sludge treatment process to a Modified Ludzack-Ettinger (MLE) process, installation of a new blower system, mixed liquor recycle pumps, and fine bubble diffusers to enhance aeration in the activated sludge process. Additionally, the project encompassed improvements to the influent lift station, secondary water system, and RAS/WAS pumping systems, as well as civil work to accommodate the upgraded generator and electrical systems.

Water Energy Efficiency Project

OWNER: City of San Luis Obispo
DURATION: 2021-2024
CONTACT: Jason Meeks
Water Treatment Plant Supervisor
805.431.2410; jmeeks@slocity.org

RELEVANCE TO SOCWA:
1. *Design of overhead piping structures*
2. *Construction within active WTP*
3. *New gas and hot water piping*
4. *APCD Permitting*
5. *Same project team*

BRIEF DESCRIPTION

The City of San Luis Obispo launched the Water Energy Efficiency Project to improve operational efficiency and energy savings at its water treatment facility. MKN was engaged to provide design and construction-phase engineering support, focusing on key upgrades across the ozone system, transfer pump station, plant water systems, and SCADA integration. Critical tasks involved overseeing ozone system upgrades, implementing improvements to the water transfer pump station, and refining the plant water distribution setup. The project also encompassed SCADA system enhancements for streamlined process control and monitoring.

MKN PROJECT PROOF:

MKN recently completed the Thousand Oaks FOG facility that included several hundred feet of hot water piping for connecting new heat exchangers to the existing hot water loop.

SECTION 4

KEY PERSONNEL AND SUBCONSULTANTS

Project Team

MKN has the relevant expertise and local resources to successfully deliver this project. The following team was selected based on recent experience on similar projects, history working together, and proven track record of client satisfaction. The following addresses RFP requirements related to roles/responsibilities and availability. Resumes that highlight additional relevant experience are included in Appendix C.

Ryan Gallagher, PE - Project Manager
Ryan will provide project oversight and ensure that necessary resources are committed to the project. Mr. Gallagher brings 19 years of experience including in multiple WWTP projects. *(30% available)*

Eileen Shields, PE - QA/QC
Eileen will serve as a technical resource and implement MKN's QA/QC procedures, including review of all deliverables, participation in internal kickoff and serving as a technical resource. Eileen brings 19 years of experience focused in wastewater treatment throughout Central and Southern California. *(30% available)*

Joseph (JJ) Reichmuth, PE - Civil
JJ will lead the design of the civil improvements at the flare. In his 26-year career, JJ has delivered numerous piping designs at WWTPs as part of various cogen and boiler projects. *(20% available)*

Jon Hanlon, PE, AMPP - Mechanical/Piping
Jon will lead the design of the above-ground piping and flare equipment. In his 34-year career, Jon has delivered numerous piping designs at WWTPs as part of various cogen and boiler projects. *(20% available)*

PROJECT MANAGEMENT

PROJECT MANAGER
Ryan Gallagher, PE

QA/QC
Eileen Shields, PE

SUPPORT TEAM

CIVIL
Joseph (JJ) Reichmuth, PE

MECHANICAL/PIPING
Jon Hanlon, PE, AMPP

CONSTRUCTABILITY REVIEW
Peter Brennan, PE, CCM

ELECTRICAL/INSTRUMENTATION
Gerry Green, Inc.

STRUCTURAL
Buehler Engineering, Inc.

SURVEY (3D LASER SCANNING)
GPRS

POTHOLING
Underground Solutions, Inc.

Peter Brennan, PE, CCM - Constructability Review
Peter will lead the constructability effort, bringing 39 years of experience in construction management. While working for LACSD for 22 years, he administered wastewater projects ranging from $1M to $190M. *(40% available)*

Gerry Green, Inc. - Electrical/Instrumentation
Gerry Green, PE, will design the electrical and instrumentation components related to the new flare, and any relocated instrumentation associated with the above-ground piping work. With over 44 years of experience, Gerry specializes in electrical, instrumentation and control systems for water and wastewater facilities, including multiple projects with MKN. *(20% available)*

Buehler Engineering, Inc. - Structural
Joseph Klimczyk, PE, SE, is a California-licensed Structural and Civil Engineer with 14 years of experience. Mr. Klimczyk specializes in municipal projects, having partnered with MKN on multiple projects including a recent project involving similar pipe supports at a treatment plant.
(20% available)

To deliver the requested services, MKN will also include the following subconsultants as part of the project team:

- **Survey (3D Laser Scanning): GPRS**
- **Potholing: Underground Solutions, Inc.**

South Orange County Wastewater Authority

J.B. Latham (JBL) Treatment Plant Digester, Flare, and Heat Exchanger & Piping Replacement Final Design

MKN Pricing Estimate January 2025 - Valid for 6 Months

HOURLY RATES	QA/QC - ES 289	Project Manager - RG 289	Civil - JR 289	Mechanical - JH 289	Project Engineer I 203	Constructability - PB 272	Senior Designer 185	Admin. Assistant 113	HOURS (MKN)	LABOR FEE (MKN)	GPRS - Laser Scanning	Buehler - Structural	GGI - Electrical/ Instrumentation	USI - Potholing	Non-Labor Costs	TOTAL FEE
Task 1 - Project Management (6 mos.) and Meetings (6)	1	36	6	6	-	-	-	-	49	$14,161	$-	$-	$1,518	$-	$1,518	**$15,679**
Task 2 - Data Collection and Document Review	-	8	8	10	10	-	-	-	36	$9,544	$-	$-	$2,024	$-	$2,024	**$11,568**
Task 3 - Surveying	-	-	-	-	12	-	24	-	36	$6,876	$3,410	$-	$-	$-	$3,410	**$10,286**
Task 4 - Potholing (4 Digester/6 New Flare)	-	-	-	4	4	-	4	-	12	$2,708	$-	$-	$-	$9,350	$9,350	**$12,058**
Task 5 - Conceptual Design	4	8	16	36	40	-	44	-	148	$34,756	$7,920	$2,200	$1,012	$-	$11,132	**$45,888**
Basemap with Alternatives	4	4	12	12	16	-	24	-	72	$16,936	$7,920	$2,200	$1,012	$-	$11,132	**$28,068**
Potholing Plan/Proposed Foundations	-	-	-	4	4	-	4	-	12	$2,708	$-	$-	$-	$-	$-	**$2,708**
Consideration of Future Pipes	-	2	-	8	16	-	16	-	42	$9,098	$-	$-	$-	$-	$-	**$9,098**
Construction Cost and Duration	-	-	4	4	4	-	-	-	12	$3,124	$-	$-	$-	$-	$-	**$3,124**
Construction Phasing Plan	-	2	-	8	-	-	-	-	10	$2,890	$-	$-	$-	$-	$-	**$2,890**
Task 6 - Conceptual Design Workshop	-	2	2	2	2	-	2	-	10	$2,510	$-	$-	$506	$-	$506	**$3,016**
Task 7 - 50% Submittal (Plans, Estimate)	6	2	34	50	82	-	88	-	262	$59,514	$-	$3,850	$3,669	$-	$7,519	**$67,033**
Construction Plans (12 MKN, 9 others)	4	2	32	42	66	-	88	-	234	$52,798	$-	$3,850	$3,669	$-	$7,519	**$60,317**
Estimate	2	-	2	8	16	-	-	-	28	$6,716	$-	$-	$-	$-	$-	**$6,716**
Task 8 - Bid Set (Plans, Estimate)	4	2	16	25	37	-	44	-	128	$29,234	$-	$5,830	$4,807	$-	$10,637	**$39,871**
Construction Plans (12 MKN, 9 others)	4	2	16	21	33	-	44	-	120	$27,266	$-	$5,830	$4,807	$-	$10,637	**$37,903**
Estimate	-	-	-	4	4	-	-	-	8	$1,968	$-	$-	$-	$-	$-	**$1,968**
Task 9 - Constructability Review	-	2	-	8	8	8	4	-	30	$7,430	$-	$-	$-	$-	$-	**$7,430**
Task 10 - Technical Specifications and Standard Details	4	-	4	8	24	-	-	8	48	$10,400	$-	$-	$1,518	$-	$1,518	**$11,918**
Task 11 - Construction Sequencing and Shutdown Plan	2	2	-	8	8	-	-	-	20	$5,092	$-	$-	$-	$-	$-	**$5,092**
Task 12 - Bidding and ESDC	2	29	18	33	72	-	37	-	191	$45,159	$-	$-	$3,795	$-	$3,795	**$48,954**
Bid Phase Support	-	4	4	4	8	-	4	-	24	$5,832	$-	$-	$-	$-	$-	**$5,832**
Project Management and Construction Meetings (5)	-	6	-	5	-	-	-	-	11	$3,179	$-	$-	$275	$-	$275	**$3,454**
Submittal Review (up to 20)	-	10	10	15	40	-	-	-	75	$18,235	$-	$-	$1,100	$-	$1,100	**$19,335**
RFI Review (up to 5)	-	5		5	10	-	4	-	24	$5,660	$-	$-	$1,100	$-	$1,100	**$6,760**
Change Order Support	-	2	4	4	4	-	8	-	22	$5,182	$-	$-	$550	$-	$550	**$5,732**
Record Drawings (21 sheets)	2	2	-	-	10	-	21	-	35	$7,071	$-	$-	$770	$-	$770	**$7,841**
TOTAL BUDGET	**23**	**91**	**104**	**190**	**299**	**8**	**247**	**8**	**970**	**$227,384**	**$11,330**	**$11,880**	**$18,849**	**$9,350**	**$51,409**	**$278,793**

ATTACHMENT D
CONFLICT OF INTEREST AFFIDAVIT CERTIFYING NO CONFLICTS OF INTEREST

The undersigned declares:

I am the Project Manager of MKN & Associates, Inc. ("Consultant"), the party entering into the forgoing contract.

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, Consultant 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 Consultant 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 Consultant 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 Consultant.

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 January 30, 2025 at Irvine, CA.

Signature: _____

Title: Project Manager

APPENDIX B

NON-COLLUSION AFFIDAVIT

ATTACHMENT B
NON-COLLUSION AFFIDAVIT

The undersigned declares:

I am the Project Manager of MKN & Associates, Inc., the party making the foregoing bid.

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

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

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on January 30, 2025, at Irvine, CA.

Signature: _____

Title: Project Manager

APPENDIX C

RESUMES

RYAN GALLAGHER, PE

PROJECT MANAGER

EDUCATION

BS, Civil Engineering, California Polytechnic State University, San Luis Obispo, CA

LICENSES & REGISTRATIONS

Professional Civil Engineer, CA No. 74805

PROFESSIONAL ASSOCIATIONS

American Public Works Association (APWA), Ventura County Chapter (President 2014)

American Society of Civil Engineers (ASCE), Santa Barbara-Ventura Branch (Younger Member Forum President 2012)

Association of Water Agencies of Ventura County (AWAVC) (Board of Directors 2010–2016, President 2013)

Orange County Sanitation District (OC San) (Board of Directors 2021–Present, Vice Chair 2022–2024, Board Chairman 2024)

Orange County Water Association (OCWA) (President 2020 and 2021)

Tustin City Council (2020–2028, Mayor Pro Tem 2024)

Mr. Gallagher has 19 years of experience in the planning, design and construction support services for water, wastewater and recycled water systems projects. This experience includes a wide array of projects from planning to design to construction phase services for various wellhead treatment systems, conveyance and storage projects. Ryan has managed multiple on-call municipal contracts delivering task orders that range in size from $1,000 to +$600,000. Ryan specializes in complex multi-agency water supply programs, alternative delivery, program management, master planning, and contract negotiations, and he is a consistent and reliable resource for clients.

Relevant Experience

FOG Receiving Facility | City of Thousand Oaks, CA

Project Manager for planning and detailed design for a new Fat, Oil and Grease Receiving Facility at the Hill Canyon Treatment Plant. The new FOG system is sized for up to 40,000 gallons per day of FOG, and includes an automated unloading process, screening equipment, mixing and heating, and digester injection pumps. The total construction cost is estimated at approximately $4-5M.

Hill Canyon Treatment Plant Master Plan | City of Thousand Oaks, CA

Project Manager for master plan of a 9-MGD wastewater treatment plant. The plan includes three major components: process evaluation, energy evaluation, and water resource assessment. Efforts include a condition assessment, biological modeling, evaluation of FOG and food waste, biosolids drying alternatives, and advanced treatment for using plant effluent.

Electrical and Instrumentation Upgrades – Hill Canyon Treatment Plant | City of Thousand Oaks, CA

Project Manager for the preliminary and final design of approximately $4 million in improvements at the Hill Canyon Treatment Plant. Upgrades included replacement of two motor control centers, FEB Pump Station replacements, a new aqueous ammonia system, a new fiber-optic network, and new supervisory control and data acquisition (SCADA) upgrades. The process included a 2-day workshop peer review, including specialized subconsultants and process/instrumentation and control (I&C) experts.

Bioreactor Optimization | City of Thousand Oaks, CA

Served as Project Manager for a preliminary design study of optimizing existing bioreactors at the 9-MGD Thousand Oaks Hill Canyon Wastewater Treatment Plant. The project included evaluation of blower replacement, instrumentation and control valve improvements, deammonification for filtrate treatment, hydraulic modeling of basins, computational fluid dynamics modeling, and process modeling. The preliminary design included a summary of improvements and a life-cycle cost analysis for modifications to increase efficiency and performance of the City's bioreactor process train.

Biosolids Drying Feasibility Study | City of Thousand Oaks, CA

Project Manager for a feasibility study that included installing drying technology at the 9-MGD Thousand Oaks Hill Canyon Wastewater Treatment Plant. The project involved

evaluation of available technologies, including direct, indirect, and combination dryers. The project also required evaluation of thickening and dewatering improvements, including bench-scale testing. A life-cycle cost analysis was provided for the recommended project.

Biodigester Feasibility Study | Ventura County Watershed Protection District, Ventura, CA

As Project Manager, developed a report determining the feasibility of an anaerobic digester to convert local horse manure, food waste, and green waste into energy in the Ventura River Watershed area. Tasks included participation in multiple public workshops and development of the following four technical memorandums: (1) Feedstock Summary and Collection Methods, (2) Technology and Site Analysis, (3) Conceptual Site Plan, Environmental/Permitting, and Delivery, and (4) Implementation and Business Plan.

Centrate Treatment Evaluation | City of Thousand Oaks, CA

Project Manager for development of a fatal-flaw-level analysis of using various technologies to increase the energy efficiency of the current centrate treatment (Basin 6), and to further reduce the ammonium loading to the main plant secondary process at the City of Thousand Oaks' Hill Canyon Wastewater Treatment Plant. Technologies included DEMON Sequencing Batch Reactor, Cleargreen Sequencing Batch Reactor, and a Moving Bed Biofilm Reactor.

Centrate Valve Replacement | Las Virgenes Municipal Water District, Calabasas, CA

Principal for replacement of two buried 24-inch plug valves at Rancho Composting Facility. Replacement included modifications to the piping to install the new valves above grade.

CIP Development | Las Virgenes Municipal Water District, Calabasas, CA

Served as Project Manager for development of a 5-year capital improvement program for the District's Tapia Water Reclamation Facility and Rancho Composting Facility. Efforts included a workshop, data review, site visits, identification of 100+ projects, screening, and cost estimating. Projects were focused on operations and maintenance (O&M), coating, and structures, intended to be covered by the District's annual maintenance budget. The projects were prioritized based on criteria and weighting established with the District.

Coating Specification | City of Thousand Oaks, CA

As Principal-in-Charge, provided technical peer review of City-provided coating specifications for use at the Hill Canyon Treatment Plant.

Cogeneration System and Solar Thermal Domestic Hot Water Heating System Evaluation | Ventura County Public Works Agency, Santa Paula, CA

Project Manager for the evaluation to determine the economic and technical feasibility of constructing both a cogeneration system and a solar thermal domestic hot-water heating system at the Todd Road Jail facility in Santa Paula.

Dewatering Screw Press | Camrosa Water District, Camarillo, CA

Project Manager overseeing development of a preliminary design report for a Class A screw press facility and associated equipment. The project included process modeling of the existing 2.25-MGD oxidation ditch water reclamation facility, evaluation of Class A filtrate impacts, and preliminary design of ancillary equipment such as a polymer system, open-air canopy, truck-loading area, conveyor system, and emergency storage capability.

Dewatering Screw Press | Simi Valley, CA

Project Manager for a screw press dewatering system to replace an existing belt press at the 9.5-MGD Simi Valley Water Quality Control Plant. The project included dewatering technology analysis (5 screw press manufacturers surveyed), evaluation of ancillary system improvements, and a preliminary technical memorandum.

Dewatering Screw Press | City of Thousand Oaks, CA

Project Manager for a screw press dewatering system to replace an existing belt press at the 9-MGD Hill Canyon Treatment Plant. The project included dewatering technology analysis, evaluation of struvite/filtrate impacts, ancillary systems, a preliminary technical memorandum, and detailed design.

Digester Improvements | Simi Valley, CA

Task Lead for the Preliminary Design Report that included evaluation of alternatives for replacement of an existing digester mixing system, involving draft tube, linear motion, large bubble gas, and external pump. The evaluation also included review of primary feed and digested sludge transfer piping and sludge heating system alternatives. Served as Task Lead for cost estimating, construction sequencing, and piping.

EILEEN SHIELDS, PE

QA/QC

EDUCATION

MS, Civil & Environmental Engineering, California Polytechnic State University, San Luis Obispo, CA

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

LICENSES & REGISTRATIONS

Professional Civil Engineer, CA No. 74757

PROFESSIONAL ASSOCIATIONS

American Society of Civil Engineers (ASCE)

Engineers Without Borders USA (EWB-USA)

From master planning to design of conveyance and treatment facilities and construction phase services, Eileen Shields' experience allows her to effectively develop projects from concept through construction. Ms. Shields' various water, wastewater, and recycled water project experience includes alternatives evaluation, preliminary and detailed design, permitting, hydraulic modeling, site civil design, and cost estimation; pipeline design; bid and construction assistance, including development and administration of prequalification of contractors; planning and design of water supply and conveyance alternatives; wastewater treatment and collection system conceptual planning, process evaluation and wastewater treatment plant design.

Relevant Experience

WWTP Improvements, PG&E SST | Cambria Community Services District, Cambria, CA

Project Engineer. Design of an approximately 12MM wastewater treatment plant upgrade including rehabilitation of the influent and effluent pump station pumps, wetwell, piping, and surge mitigation facilities, addition of equalization storage, MLE process upgrades to the aeration basins, blower improvements, rehabilitation of secondary clarifiers, and electrical and instrumentation improvements.

WWTP Influent Piping Improvements | City of Santa Maria, CA

Project Manager. Project included development of plans and specifications for replacement of WWTP influent piping and a new septage receiving station. The Santa Maria Wastewater Treatment Plant receives and treats approximately five million gallons per day on average. The design plans included an example construction sequencing plan to complete the work with minimal impact to existing operations, without expensive bypass pumping. MKN is providing bid and construction phase office engineering services.

WWTP Redundancy Project – Project Management Support | South San Luis Obispo County Sanitation District, Oceano, CA

Project Manager. Serving as an extension of District staff to provide Project Management Services for the District's WWTP Redundancy Project. Project includes construction of a redundant 5-MGD secondary treatment system consisting of two activated sludge aeration basins, a secondary clarifier, sludge thickening systems, a new blower and controls building, return activated sludge pump station, and support systems including piping, electrical, site work, flood proofing, and instrumentation. MKN developed the RFQ and RFP and led the procurement of construction management services and startup and commissioning services, assisted in completion of construction bidding documents with regard to permitting and federal funding requirements, led General Contractor prequalification, and is providing coordination of District Project consultants, coordination and support for grant and loan applications, review of and support for permitting compliance, and bid and construction phase project management services.

Southland Wastewater Treatment Facility Improvements Project – Phase 1 | Nipomo CSD, Nipomo, CA

Project Manager and Project Engineer. Design of 0.9-MGD Wastewater Treatment Facility improvements including conversion of aerated ponds to extended aeration with secondary clarification, addition of mechanical fine screens and grit removal, influent lift station replacement, sludge thickening system, sludge drying beds, and infiltration basins (bid as alternates). Design was developed to minimize bypass pumping and disruption to existing wastewater treatment facility during construction. Provided

engineer's opinion of cost, and plans and specifications for public bid; development of prequalification package and evaluation of contractor's submittals; bid phase services; and office engineering construction phase services.

Wastewater Treatment Plant Alternatives Study | Avila Beach CSD, Avila Beach, CA

Project Manager. Project included a review of previous evaluations of the Avila Beach Wastewater Treatment Plant (approximately 60,000 gpd); estimation of existing and future flows and loadings; review of treatment performance for each process including: influent lift station, primary clarifier, fixed-film reactor, secondary clarifiers, and a chlorine contact basin; identification of vulnerabilities; development and evaluation of improvement alternatives; recommendations for improvements to meet existing and future flows and loadings; and development of a planning-level capital cost opinion.

WWTP Concept Design Planning | Beale Air Force Base, Marysville, CA

Project Engineer. Concept design planning for a 0.75-MGD WWTP with significantly different seasonal flows. Capacity and condition of existing facilities were reviewed, including influent sewer and lift station, headworks screens and grinders, trickling filters, solids contact basin, secondary clarifiers, UV disinfection, anaerobic digesters, and sludge drying beds. Reviewed existing and future wastewater treatment plant flows and loadings and developed design criteria and capital improvements plan, and determined recommended improvements.

Wastewater Treatment Plant Improvements – Preliminary Design | Avila Beach CSD, Avila Beach, CA

Project Manager. Project consists of preliminary design and project management support services for wastewater treatment plant improvements to increase capacity for future flows and loadings. The existing WWTP consists of a primary clarifier, trickling filter, secondary clarifiers, chlorination, and an anaerobic sludge digester. Due to the constrained site and need for additional secondary treatment, the project consists of adding a package membrane bioreactor treatment plant as a separate, side-stream treatment system, and improvements to the influent lift station, including concrete coating and pump/piping replacement. MKN also performed a feasibility study for adding equalization storage. MKN developed an RFP for package membrane bioreactor wastewater treatment plant and led the evaluation process for selection.

Southland WWTP Dewatering Screw Press | Nipomo CSD, Nipomo, CA

Project Manager. Project consists of preliminary design and development of final construction plans, specifications, and cost opinion to add a dewatering screw press at the Southland WWTP (0.6-MGD). The design will integrate with the existing gravity belt thickener, while allowing bypass of the thickener for emergencies, and make use of one of the existing concrete-lined drying beds for dewatered sludge storage. Project was initiated to address a Notice of Violation for nuisance odors from the Air Pollution Control District. MKN also provided office engineering services during construction, including submittal review, review/response to RFIs, and observation of performance testing.

Wastewater Collection System and Treatment Plant Master Plan | City of Guadalupe, CA

Project Engineer. Project consisted of a condition assessment and capacity evaluation of the City of Guadalupe wastewater collection system and treatment plant. Tasks included evaluation of existing wastewater flow conditions, creation of a GIS-based hydraulic Sewer CAD model, preparation of GIS-based system atlas, identification of deficiencies under existing and future conditions; development of Capital Improvements Program (CIP) and cost opinions for existing and future improvements.

Wastewater Collection System Master Plan Update | City of Atascadero, CA

Project Engineer for update of collection system GIS, hydraulic model, infiltration/inflow study, lift station analysis, and development of capital improvement plan.

Water Reclamation Facility Master Plan Update | City of Atascadero, CA

Project Engineer. The Atascadero Water Reclamation Facility includes influent flow metering, headworks screens, aerated pond, facultative lagoon, and a polishing pond, followed by post-aeration system and percolation basins. Specific responsibilities included treatment plant capacity evaluation, review of recycled water opportunities and assessment of alternatives, condition assessment of the wastewater treatment plant, evaluation of sludge handling options, and development of capital improvement plan for 2.3-MGD facility.

Joseph J. Reichmuth is a Principal Engineer with over 26 years of design and field experience with an emphasis in pipeline and pump station design, ranging from condition assessment and rehabilitation to planning and design. Mr. Reichmuth has also been involved in the design and assessment of over 30 lift stations throughout his 10 years with MKN. Pipeline design experience includes several force main designs including those with various trenchless construction methods, such as horizontal directional drilling and jack-and-bore.

JOSEPH (JJ) REICHMUTH, PE
CIVIL

EDUCATION

BS, Civil Engineering, California Polytechnic State University, San Luis Obispo, CA

LICENSES & REGISTRATIONS

Professional Civil Engineer, CA No. 63124

Cured-in-Place Pipe (CIPP) Certified, NASSCO ITCP

Manhole Rehabilitation Certified, NASSCO ITCP

PROFESSIONAL ASSOCIATIONS

American Society of Civil Engineers (ASCE)

North American Society for Trenchless Technology (NASTT)

Relevant Experience

El Estero Wastewater Treatment Plant Fats, Oils, and Grease Receiving Station | City of Santa Barbara, CA

Project Engineer/Construction Observer. Responsible for design, implementation, and construction phase services of a Fats, Oils and Grease (FOG) receiving, handling, and injection system at the El Estero Wastewater Treatment Plant (WWTP). Services include plans and technical specifications for the site, piping, pumping, storage vessel, and controls of a pilot FOG receiving and delivery system.

Water Reclamation Facility Upgrades | City of San Luis Obispo, CA

Project Engineer. As a subconsultant to PG&E, identified and evaluated Energy Conservation Measures (ECMs) for the City of San Luis Obispo's water distribution, sewer collection, wastewater treatment, and groundwater treatment facilities. ECMs were evaluated to improve energy efficiency and decrease operating costs utilizing PG&E's Sustainable Solutions Turnkey (SST) program. Over $7M in capital projects were selected for improvements including solids dewatering facility upgrades, headworks screening, primary sludge pumps, RAS and WAS pumping systems, SCADA system, and digester gas cogeneration system replacement.

Blacklake WWTP Headworks Rehabilitation | Nipomo CSD, Nipomo, CA

Project Engineer. Project consisted of providing plans, specifications, and construction cost opinion to rehabilitate existing headworks structure. Improvements included concrete repair and re-coating of headworks structure and upstream manhole; installation of handrailing, safety gates and safety chain; installation of new slide gates and grit pan; and other miscellaneous improvements to rehabilitate aging structure. Plans and specifications were prepared for public bid.

Water Treatment Plant Pipe Gallery Improvements | City of San Luis Obispo, CA

Project Engineer. Performed design services for replacement of 30-inch steel pipe at the City's Water Treatment Plant. A recent pipe inspection identified a portion of a piping that connects the treatment plant to the City's storage and distribution system in need of immediate repair due to severe corrosion. MKN provided the City with technical memorandum outlining potential new piping configurations and methods of rehabilitating the existing pipe. Based on this memorandum the MKN developed construction documents for installation of a new pipe to both replace the severely corroded section for existing pipe and to provide the City more flexibility in operation for the treatment system.

Headworks Barscreen Project | City of Atascadero, CA

Project Engineer. Assisted with the design of a new headworks facility for the WWTP. Responsibilities included assisting in the design of a screening facility to handle up to 2.4-MGD. Provided assistance with engineer's opinion of cost, and plans and

JOSEPH (JJ) REICHMUTH, PE
RELEVANT EXPERIENCE CONT.

specifications for public bid; bid phase services; and office engineering construction phase services. Responsibilities also included review of submittals and responding to RFIs during the construction.

WWTP Major Maintenance and Repair Program (MMRP) | City of Morro Bay, CA

Project Engineer. Project consists of a multi-year, on-demand engineering service agreement to assist in the execution of a Major Maintenance and Repair Program (MMRP). Prepared plans and specifications for replacement of chain and flight solids management system. Also providing construction phase support services including submittal reviews, RFI responses, and construction observations for new headworks screening, washing, and compacting facilities and recoating of anaerobic digesters.

Southland WWTF Upgrade - Phase 1 | Nipomo CSD, Nipomo, CA

Project Engineer. Assisted with the design of a 0.9-MGD Wastewater Treatment Facility. Responsibilities included design of the sludge thickening system and drying beds. Provided assistance with engineer's opinion of cost, and plans and specifications for public bid; bid phase services; and office engineering construction phase services. Responsibilities also included review of submittals and responding to RFIs during the construction.

Treatment Blower Improvements, Porterville Wastewater Plant | City of Porterville, CA

Served as project engineer for design of replacement process air blowers, piping, and air meters for a 8.0-MGD WWTP. The existing combustion engines will be replaced with electric turbo blowers to increase the plant's efficiency and to provide Operators with increased control of the aeration process. Existing leaking air piping will also be replaced and will include new flow meters connected to the plant SCADA system.

Wastewater Trunk Line Upsize Along Olson Ave to WWTP | City of Reedley, CA

Provided QA/QC for design of the replacement of an existing 21" sewer main that included an inverted siphon. A new 36" sewer alignment was designed that avoided the need of a siphon. The project included 3 concrete junction structures, cured-in-place pipe spanning across an existing bridge, and detailed sewer bypass specifications.

WWTP Influent Piping Improvements | City of Santa Maria, CA

Project Engineer. Performed evaluation of existing influent piping at the City's WWTP to determine the condition of the existing pipes and to recommend improvements to the piping to reduce grit accumulation and to provide capacity to the WWTP for future flow conditions. The study included a review of plant hydraulics and projected future flows to determine the capacity of the existing system. Based on this study, developed and provided construction documents to the City to install 350 feet of 48-inch piping, 225 feet of 42-inch piping, modifications to 3 concrete diversion structures, and an automatic septage receiving station.

WWTP Effluent Pump Station Replacement | City of Guadalupe, CA

Project Engineer. The City's effluent disposal system consists of an effluent ditch, a series of three holding ponds and an effluent pump station. The current effluent pump station was constructed in the early 1990's and conveys treated wastewater to a spray disposal field located north of the Santa Maria River. The effluent disposal/reuse system is in need of repair and rehabilitation to ensure reliable and effective operation. MKN was retained to perform design and construction phase services for the City. The New effluent lift station consisted of new electrical service and switchgear, new lighting and controls, three new submersible pumps with guiderails, and new effluent flowmeter and vault.

JON HANLON, PE, AMPP
MECHANICAL/PIPING

EDUCATION

BS, Mechanical Engineering, California Polytechnic State University, San Luis Obispo, CA

LICENSES & REGISTRATIONS

Professional Mechanical Engineer, CA No. 33232

Certified Coating Inspector, AMPP No. 10431924

PROFESSIONAL ASSOCIATIONS

American Public Works Association (APWA)

American Society of Mechanical Engineers (ASME)

American Water Works Association (AWWA)

Association for Materials Protection and Performance (AMPP)

Jon Hanlon, after over 20 years of serving as project engineer, project manager, and ultimately as an operations manager for a Fortune 500 consulting engineering firm, joined Michael K. Nunley and Associates, Inc. (MKN) specializing in water, wastewater, and water reuse engineering for public agencies. As a Principal Engineer at MKN, Mr. Hanlon's experience has included design, analysis, and management of complex multi-disciplined projects, including water and wastewater treatment facilities, pump stations, production wells, piping and valves, hydraulic analysis, master planning, and environmental permitting.

Relevant Experience

FOG Receiving Facility | City of Thousand Oaks, CA

Project Engineer for planning and detailed design for a new Fats, Oils and Grease Receiving Facility at the Hill Canyon Treatment Plant. The new FOG system is sized for up to 40,000 gallons per day of FOG, and includes an automated unloading process, screening equipment, mixing and heating, and digester injection pumps. The total construction cost is estimated at approximately $4.7M.

Cogen - WWTP Energy Recovery Project | South San Luis Obispo County Sanitation District, Oceano, CA

Evaluation and design of biogas reuse systems included: evaluation of cogeneration and fuel cell technology and design of a new gas cleaning, dual fuel boiler, and cogeneration engine.

Boiler Alternatives Study and Replacement | City of Santa Maria, CA

Project Manager. Prepared an Alternatives Study for improvements to the hot water system that supports the wastewater treatment plant's (WWTP's) anaerobic digesters. The project also evaluated the WWTP's digester capacity through buildout. MKN utilized historical data to determine anticipated flows and loads. Based on the planned digester maintenance schedule, MKN evaluated the plant's ability to meet volatile solids reduction goals under a number of scenarios. The capacity of the existing boiler was also evaluated under each scenario.

Biosolids Handling Facility | South San Luis Obispo County Sanitation District, Oceano, CA

Project Manager. MKN was retained by SSLOCSD to prepare a set of construction bidding documents for a new biosolids handling facility. MKN also provided bid phase and construction phase services. The design involved modifications to the existing centrifuge facility.

Wastewater Treatment Facility Expansion | City of Santa Maria, CA

Principal-in-Charge. Project included constructability review and construction management of $16+ million WWTF expansion (from 9.5-MGD to 13.5-MGD), including construction of additional screening, grit chamber and screw conveyor, primary clarifier, primary trickling filter, digester, control building, and percolation pond pump station. Project also includes significant modifications to existing facilities.

Digester Gas Evaluation and Cogeneration System | City of Santa Maria, CA

Digester gas evaluation and cogeneration system design - performed biogas evaluation and digester capacity analysis. Evaluated solar opportunities, battery storage, biogas-to-grid, and use of biogas for City fleet vehicles. Designed cogeneration system to utilize biogas to offset electrical costs and heat digesters.

JON HANLON, PE, AMPP
RELEVANT EXPERIENCE CONT.

Wastewater Treatment Plant Upgrade | Morro Bay/ Cayucos Sanitary District, CA

District Engineer. Preliminary design to replace a 2.06-MGD trickling filter WWTP with a new extended-aeration facility. The proposed facility utilizes an oxidation ditch with tertiary filtration.

Wastewater Treatment Facility Equipment and Process Optimization | City of Oxnard, CA

Project Engineer. Reviewed existing Wastewater Treatment Facility (WWTF) equipment and processes for a 22-MGD plant, including primary sedimentation tanks, biotowers, activated sludge treatment, secondary sedimentation tanks, chlorination/dechlorination, primary sludge treatment, dissolved air flotation, anaerobic digesters, and belt filter presses.

WWTP Effluent Pump Station Replacement | City of Guadalupe, CA

Project Manager. The City's effluent disposal system consists of an effluent ditch, a series of three holding ponds and an effluent pump station. The current effluent pump station was constructed in the early 1990's and conveys treated wastewater to a spray disposal field located north of the Santa Maria River. The effluent disposal/ reuse system is in need of repair and rehabilitation to ensure reliable and effective operation. MKN was retained to perform design and construction phase services for the City. The New effluent lift station consisted of new electrical service and switchgear, new lighting and controls, three new submersible pumps with guiderails, and new effluent flowmeter and vault.

WWTP Influent Lift Station Rehabilitation | City of Guadalupe, CA

Project Manager. Project to design upgrades the influent lift station and pumps at the City WWTP. Project included projecting future flows and developing a phased approach for meeting increasing demands, design of new pumps and instrumentation, and rehabilitation of concrete structures.

WWTP Influent Pump Station Flowmeter Installation | City of Morro Bay, CA

Project Manager. Due to hydraulic constraints at the WWTP, the Palmer-Bowlus influent flow meter cannot accurately measure peak influent flows. MKN developed plans and details for three new magnetic flowmeters and assisted the City in modifications to the piping systems required to implement the new design.

WWTP Major Maintenance and Repair Program (MMRP) | City of Morro Bay, CA

Project Manager. Project consists of a multi-year, on-demand engineering service agreement to assist in the execution of a Major Maintenance and Repair Program (MMRP). Specific projects include: Preparation of plans and specifications for new headworks screening, washing, and compacting facilities; structural evaluation of three existing anaerobic digesters; design and construction support for recoating anaerobic digesters; design and replacement of chain and flight solids management system; replacement of major secondary process control valves; and evaluating flood risk at critical elements of the WWTP.

Digester Valve Replacement | South San Luis Obispo County Sanitation District, Oceano, CA

MKN was retained by SSLOCSD to assist in preparing construction bid documents for repair and replacement of existing sludge piping and valves from the original plant construction in 1965. The valves are located in sensitive areas and are situated in complicated configurations which involve significant modifications.

El Estero Wastewater Treatment Plant Fats, Oils and Grease Receiving Station | City of Santa Barbara, CA

Project Manager. Responsible for design, implementation, and construction phase services of a Fats, Oils and Grease (FOG) receiving, handling, and injection system at the El Estero Wastewater Treatment Plant (WWTP). Services include plans and technical specifications for the site, piping, pumping, storage vessel, and controls. Recipient of 2014 ASCE Project of the Year.

Clarifier #1 Rehabilitation and Upgrade | City of Santa Maria, CA

Project Manager. Project to replace primary clarifier scraper mechanism at City WWTP. Project included preparation of contract documents (plans and specifications), evaluating strategies for procuring scraper assembly, seismic assessment, evaluation of code requirements, and electrical upgrades. Bid and construction phase service were included in the scope of work.

PETER BRENNAN, PE, CCM

CONSTRUCTABILITY REVIEW

EDUCATION

MS, Civil Engineering, Loyola Marymount University, Los Angeles, CA

BS, Civil Engineering, Santa Clara University, Santa Clara, CA

LICENSES & REGISTRATIONS

Professional Civil Engineer, CA No. 53110

Certified Construction Manager, CMAA No. A2428

PROFESSIONAL ASSOCIATIONS

American Society of Civil Engineers (ASCE)

California Water Environment Association (CWEA)

Construction Management Association of America (CMAA)

Peter Brennan brings over 35 years of experience providing construction management and project management in the water resources industry. As an Engineering Consultant, Peter has been providing third-party construction management services to public agencies in California for the past 12 years. Prior to that Peter worked for over 22 years with the Los Angeles County Sanitation Districts where he administered construction contracts ranging from $1M to $190M. In this position, he served as a Construction Manager/Senior Engineer for various projects such as wastewater treatment plants, pipelines, pump stations, and landfill construction.

Relevant Experience

Valencia Advanced Wastewater Treatment Facility (AWTF) | Los Angeles County Sanitation Districts (LACSD), CA

LACSD is constructing a new AWTF at VWRP consisting of membrane filtration, nanofiltration, and reverse osmosis. The AWTF will produce "product" water with low chloride concentration to blend with the higher chloride plant effluent and achieve a blended concentration below the 100 mg/L limit. The project includes enhanced brine concentration and trucking of concentrated brine to an existing industrial facility. Peter led the MKN construction management team that joined the project in 2022 to assist Contractor OHL with schedule recovery and completion of the project.

Pure Water Advanced Water Purification Facility | City of Oceanside, CA

Construction Manager Owner's Representative for the modifications to the San Luis Rey Wastewater Plant Oceanside, CA. Construction of this $55M project was recently completed and is designed to produce 4.5-MGD of fully advanced treated recycled water at an existing wastewater plant. Major works include nitrification-denitrification facilities, improvements to aeration blowers, the construction of a new advanced water purification building, a new ultra-filtration system, a new reverse-osmosis system, and ultraviolet light advanced oxidation. Included within these major scopes of work are all ancillary piping, instrumentation, SCADA programming, and process feed tanks.

Rehab and Expansion of Lenain Water Treatment Plant | City of Anaheim, CA

This $10M project expanded and rehabilitated the Lenain Water Treatment Plant for the City of Anaheim. Work included demolition, grading, retaining walls, replacement of reservoir inlet valves, installation of 1000 lineal feet of new 36-inch CML&C steel plant effluent piping, steel tank rehab, replacement of plate settlers, replacement of lamella plates, orifice plates, rapid mixer and flocculation mixer, washwater balance tank improvements, replacement of valves, actuators and chemical piping at the chemical feed facilities, electrical and instrumentation improvements and other appurtenant work.

El Estero Wastewater Treatment Plant Secondary Process Improvement Project | City of Santa Barbara, CA

This $22.6M project converted the existing conventional activated sludge process to biological denitrification. These improvements resulted in increased quality secondary effluent feed to the new ultrafiltration facility. Project work included modifying the aeration basin, including new inlet and outlet gates, baffle walls, aeration diffusers, mixers, and aeration piping as well as structural modifications; replacing return-activated sludge pumps and piping; replacing two aeration process air blowers; adding new concrete flume structure to distribute mixed liquor flow to the secondary clarifiers; modifying secondary clarifier, including replacing and modifying sludge collector

mechanisms; adding new mixed liquor pumps and associated piping; adding new chemical facilities (ammonium sulfate, ferric chloride, and polymer) including tanks, pumps, and injection diffusers; adding secondary effluent recycle facility including diversion box and gate; and modifying associated 480V power upgrades.

El Estero Wastewater Treatment Plant Tertiary Filter Replacement | City of Santa Barbara, CA

Construction Manager. This $8.4M project replaced the treatment plant's existing filtration system with an ultrafiltration (UF) facility. Work included demolition of an existing gravity filter, installation of driven concrete piles, construction of a new UF facility, new filter feed pumps, replacement of chemical feed pumps, modifications to the chlorine contact basin, modifications to the reclaimed water storage reservoir, new reclaimed water transfer pumps, yard piping modifications, associated electrical and instrumentation modifications, and other appurtenant work.

Owner's Agent/Owner's Engineer (OA/OE) Services for the Groundwater Reliability Improvement Program (GRIP) | Water Replenishment District of Southern California (WRD), CA

Construction Manager. WRD established the GRIP to find alternative sources of water to offset the imported water used for replenishment in the Montebello Forebay. As part of the GRIP, an advanced water treatment facility (AWTF) is being designed and constructed to treat 10,000 acre-feet per year of tertiary recycled water. The GRIP AWTF is located in a 5.2-acre lot, adjacent to the San Gabriel River in the City of Pico Rivera. Treatment processes include an automatic strainer to protect downstream membrane treatments systems from large particles; microfiltration or ultrafiltration to reduce turbidity and the silt density index of reverse osmosis (RO) feed water; cartridge filtration to protect downstream of the RO process; RO to remove salts, minerals, metal ions, organic compounds, and microorganisms; advanced oxidation with ultraviolet light treatment using hydrogen peroxide in concert with UV to reduce N-Nitroso-Dimethylamine (NDMA) concentrations and provide additional disinfection; decarbonation to release excess carbon dioxide and stabilize the product water; and pH adjustment/corrosivity stabilization. The 11,700 sf treatment facility is LEED certified with approximately 40,000 sf of additional surface landscape and bioretention, 4,000 sf of vegetated roof garden, with 79,000 sf of surface parking and pedestrian hardscape.

Advanced Water Purification Facility (AWPF) and Product Water Pump Station Project | Monterey Regional Water Pollution Control Agency, CA

Technical Advisor. This $48M project involves the construction, testing, and startup of a 4-million-gallon-per-day (MGD) AWPF and pump station to treat various wastewater sources from the Peninsula and Salinas Valley for injection of approximately 3,500 acre feet per year (AFY) of purified recycled water to the Seaside Groundwater Basin. The new 22,560-square-foot AWPF is being constructed on a 5.7-acre site within the confines of the Monterey Regional Treatment Plant and adjacent to the operating Monterey Regional Waste Management District. Both facilities must be kept in full operation during construction. Access and security of vehicular traffic, construction work, and staff must be coordinated with the existing plant operations team. In addition to access and security issues, ongoing coordination with plant operations personnel prevents potential impact to the ongoing operation of the existing wastewater treatment plant. Provided construction management, construction inspection, testing, startup, and commissioning services.

Aerated Sludge Holding Tank Replacement | Carpinteria Sanitary District, CA

Construction Manager. This $6M project demolished two aging aerated sludge holding tanks and constructed two new concrete digesters that meet current seismic standards, use state-of-the-art aeration equipment and computerized process control systems, enhance treatment of solids, and dramatically improve energy efficiency through the use of ultra-efficient pumps and blowers. The solid foundation comprising 170 stone columns beneath the new tanks prevents future seismic liquefaction. Additional project elements included the installation of a temporary sludge handling system and new aeration blowers; relocation of existing chemical facilities; and modifications to yard piping, electrical and instrumentation, and other appurtenant work.

ELECTRICAL/INSTRUMENTATION

GERRY GREEN INC.

Consulting Electrical Engineers

GERRY GREEN, PE
Principal Electrical Engineer

EDUCATION
1986-1994 San Diego Mesa College
1995-1997 San Diego State University, Electrical Engineering

LICENSE REGISTRATION
California P.E. License E-15691 issued in 1998

PROFESSIONAL EXPERIENCE
Mr. Green is a California registered electrical engineer with over thirty years' experience in electrical design and engineering analysis projects. He specializes in Commercial and Industrial and power systems including electrical, instrumentation, and control systems for industrial facilities. Recent project experience includes small manufacturing facilities, pump stations, lift stations, wells, water/wastewater treatment plants, public library facilities, site improvements, and parking facilities.
Green performs electrical power and control system design, electrical power system analysis: short circuit, load flow, protective device coordination, and arcflash hazard studies. Construction support services include review of material and equipment submittals and periodic monitoring of construction progress for compliance with contract documents. Green's active design involvement in projects from concept design through construction completion keep him current with design trends, advances in equipment technology, and constructability issues.
Examples of recent relevant design project experience are outlined below:

- **Point Loma WWTP – Electrical/Instrumentation Assessment, City of San Diego**
  Electrical Engineer performing condition assessment of all electrical and instrumentation equipment at a 240MGD sewage treatment plant and digester gas fueled cogeneration. Treatment Plant systems include digester gas recovery systems and burn off systems. Instrumentation assessments include equipment condition of digester gas instrumentation, and local control panels. Equipment assessments included Likelihood of Failure and Consequence of Failure analysis which required engineering understanding of processes.
- **North City Water Reclamation Plant – Electrical/Instrumentation Assessment, City of San Diego**
  Electrical Engineer performing condition assessment of all electrical and instrumentation equipment at a 30MGD recycled water plant. Electrical assessments include equipment condition of power distribution system substations, switchboards, and motor control centers. Instrumentation assessments include equipment condition of flow meters, analyzers, pressure and level transmitters, and local control panels.
- **Alternative Fuel Receiving Facility - Encina Water Pollution Control Facility, Encina Wastewater Authority**
  Electrical Engineer assisting the Principal Engineer with the electrical and instrumentation and control system designs for Biofuel System Improvements at a Wastewater Treatment and Resource Recovery Facility. Project included biofuel tanks, mixing pumps, metering pumps, and blowers.
- **Cayucos Sustainable Water Project, Cayucos Sanitary District**
  Electrical Engineer performing the electrical and instrumentation and control system designs and construction support services for a new 0.34MGD Recycled Water Plant with multiple process areas. Water treatment systems included various chemical treatment systems for well sourced potable water service and recycled water process.

2734 Loker Avenue West | Suite M | Carlsbad | CA 92010 | Tel. (619) 962-2356

BUEHLER

Resume | Joseph Klimczyk, PE, SE

Structural Project Manager

Profile

Years of Experience
With Firm: 10 years
In Industry: 13 years

Education
Bachelor of Science, Architectural Engineering, Cal Poly, San Luis Obispo

Professional Registrations
Structural Engineer
California | No. S7248
Civil Engineer
California | No. 82689

Associations
- American Institute of Steel Construction

Professional Background

Joseph is a California licensed Civil Engineer. His experience includes new and existing construction for commercial, industrial, municipal, military, educational, and residential projects. He has experience designing with all major materials: concrete, steel, timber, masonry, and cold formed steel. He has experience designing building and non-building structures as well as designing supports for elevated and ground mounted equipment.

Selected Relevant Experience

City of San Luis Obispo Water Treatment Plant Byproduct Reduction Project
San Luis Obispo, California
The project consisted of modifications to concrete walls at the current treatment facility for installation of new piping. Additionally, modifications to the steel water storage tank for new mechanical equipment will be installed on the tank roof.

City of Watsonville Concrete Clearwell Concrete Repair and Sand Filter Roof Replacement
Watsonville, California
The project is an evaluation and design of repairs for the existing concrete damage in cast-in-place concrete clearwell and filter basins. Determinmation of the cause of the concrete deterioration. Wood roof replacement over filter basin.

Villa Del Monte Mutual Water Company Steel Water Storage Tank Foundation and Miscellaneous Site Structures
Los Gatos, California
The project is a mat foundation and anchorage design of 175,000 gallon steel water storage tank that included miscellaneous housekeeping pads for prefabricated tanks and pump house structure.

City of Guadalupe DJ Farms Water Storage Tank
Guadalupe, California
The project consisted of a mat foundation and anchorage design of 700,000 gallon steel water storage tank.

City of Coalinga Derrick Tank Rehabilitation Water Storage Tank
Coalinga, California
The project is a design repair for the existing 7,520,000 gallon welded steel water storage tank. The repairs included a new roof to replace the existing corroded roof, new wind girder, and new shell penetrations.

City of Watsonville Rehabilitation of Amesti and Hames Tanks Water Storage Tank
Watsonville, California
The project is a design repair for existing 9000,000 gallon and 500,000 gallon welded steel water storage tank. Repairs included reinforcment of corroded shell plates, rafters, and dollar plates. New penetrations for new piping and overflow.

Bakersfield
1800 21st Street, Suite C
Bakersfield, CA 93301

Fresno
8405 N. Fresno Street, Suite 120
Fresno, CA 93720

Irvine
16310 Bake Parkway
Irvine, CA 92618

Oceanside
702 Civic Center Drive, Suite 104
Oceanside, CA 92054

San Jose
101 Metro Drive, Suite 370
San Jose, CA 95110

San Luis Obispo/Corporate Office
354 Pacific Street
San Luis Obispo, CA 93401

Santa Clarita
25101 The Old Road, Suite 115
Santa Clarita, CA 91381

Ventura
121 North Fir Street, Suite G
Ventura, CA 93001

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Agenda Item 8

Engineering Committee Meeting

Meeting Date: March 13, 2025

TO: Engineering Committee

FROM: Roni Grant, Capital Improvement Program Manager

SUBJECT: JBL and CTP Master Plan Scoping Services [Project Committees 2 and 15]

Overview

On December 9, 2024, Project Committee 2 (PC2) Members signed the Assignment and Assumption Agreement, which contemplates a Master Planning Effort "to accommodate future treatment plant modernization, potential recapitalization, and capacity right sizing from changes in flows regarding the Parties' future use of the JB Latham Treatment Plant." Parallel to this effort are discussions by Project Committee 15 (PC15) members of the Coastal Treatment Plant (CTP) Master Planning needs. This discussion provides a framework for the agencies to potentially realize a shared master planning process for both facilities.

At the January 23, 2025, PC 2/15 Joint Meeting, the proposed master planning scoping framework and outines were presented to the PC 2/15 members. They directed staff to reach out to firms to assist in the development of the request for proposal (RFP). Staff reached out to Dopudja Wells and Z&K Consulting, with Ardurra as a subconsultant to Z&K.

A summary of the two proposals is in Table 1.

Table 1 – Summary of Proposals

Firm	**Dopudja Wells**	**Z&K/Ardurra**
Project Manager	Jason Pivovaroff	Crystal Fraire
Total Labor Hours	72	140
Total Fee	$24,420	$25,780

Table 2 shows the allocation of costs by member agency if Dopudja Wells is selected.

Table 2 –Cost Allocation by Member Agency if Dopudja Wells is selected

Agency	**PC 2 Common (L)**	**PC 2 Common (S)**	**PC 15**	**Total**
City of Laguna Beach			$6,630.03	$6,630.03
Emerald Bay Service District			$366.30	$366.30
South Coast Water District	$3,169.72	$2,540.90	$5,213.67	$11,553.10
Santa Margarita Water District	$2,935.28	$3,564.10		$5,870.57
Total	$6,105.00	$6,105.00	$12,210.00	$24,420.00

Table 3 shows the allocation of costs by member agency if Z&K/Ardurra is selected.

Table 3 –Cost Allocation by Member Agency if Z&K/Ardurra is selected

Agency	PC 2 Common (S)	PC 2 Common (L)	PC 15	Total
City of Laguna Beach			$6,999.27	$6,999.27
Emerald Bay Service District			$386.70	$386.70
South Coast Water District	$3,346.24	$2,682.41	$5,504.03	$12,196.52
Santa Margarita Water District	$3,098.76	$3,762.59		$6,197.51
Total	$6,445.00	$6,445.00	$12,890.00	$25,780.00

The proposals were distributed to the evaluation committee (PC 2 and 15 Engineering Committee members and SOCWA staff) on March 4, 2025. Committee members were requested to provide their rating sheets at or before the Engineering Committee meeting for discussion.

Budget

The master planning effort will be funded by PC 2 and PC 15 non-cap engineering.

Recommended Action: Committee Discussion/Direction/Action.

February 28, 2025

Ms. Roni Young-Grant, PMP
Associate Engineer
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629

SUBJECT: Proposal to Provide Engineering Services for developing the Request for Proposals for the Districts Water Treatment Facility Master Plans.

Dear Ms. Young-Grant,

Dopudja & Wells Consulting (Dopudja & Wells) is pleased to submit this requested proposal to provide South Orange County Wastewater Authority (SOCWA) engineering support services for developing a Request for Proposal for the J.B. Latham Treatment Plant and Coastal Treatment Plant Facility Master Plans.

Background

SOCWA is a Joint Powers Authority serving nearly 500,000 homes and businesses in south Orange County. Recently, SOCWA has undergone reorganization, which has realigned its agencies participation and has ultimately impacted ownership and participation of two critical SOCWA wastewater treatment plants.

SOCWA is seeking to retain a qualified firm to support staff in developing the Request for Proposal (RFP) scope of services for the proposed J.B. Latham (JBL) and Coastal Treatment Plant (CTP) Facility Master Plans. The focus of the Facility Master Plans will evaluate current operations, capacity needs to accommodate anticipated growth projections, review critical assets and process vulnerabilities, and determine corresponding financial considerations to address the broader regional and industry wide issues as well as site specific challenges unique to each plant.

Scope of Work

The following scope of work has been developed to accomplish the development of the RFP's for JBL and the CTP as described above. A brief description of each proposed task included in the scope of work is provided below.

Task 1. Determine Master Plan Scope Requirements and Approach

To achieve expectations for the regional treatment plants, Dopudja & Wells will work closely with SOCWA staff to identify the core scope of services for the JBL and CTP Facility Master Plans. Anticipated areas of focus for the Facility Master Plans will include review of the current facility, operations and critical assets, regional growth projections, capacity needs, and corresponding financial considerations to address the broader regional and industry wide issues as well as site specific challenges unique to each plant. The scope of services for the Facility Master Plan Request for Proposal (RFP) will be developed by:

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- Discussion and review of core scope of services for each Facility Master Plan with SOCWA staff and partnering agencies.
- Discuss advantages of issuing a combined RFP or individual RFPs for each Water Treatment Plant.

Task 1 Summary: No formal deliverable will be developed for this task. The task will result in a preliminary framework of the scope of services for the Facility Master Plans to be used in the subsequent task.

Task 2. Develop Facility Master Plan Request for Proposal

Dopudja & Wells will develop the framework for a Facility Master Plan Request for Proposal (RFP) by outlining the scope of services, overall objectives, and structure of the master plan. The goal of this task will be to identify core scope of services that will produce a Facility Master Plan that will guide the long-term development and operations of SOCWA's facilities to ensure they meet the current and future needs of the region.

The general focus of the Facility Master Plans will be:

1. Review existing facilities and assessment of treatment process components
2. Evaluate anticipated growth projections and determine capacity requirements
3. Evaluate critical assets and their performance to assist with asset management objectives
4. Identify resulting financial considerations to address the broader regional and industry wide issues as well as site specific challenges unique to each Plant.

The draft RFP for the Facility Master Plans will be submitted to SOCWA for review and discussion prior to the final RFP being prepared. The draft RFP will be presented in a similar format to current SOCWA's RFP templates. Dopudja & Wells is anticipating review meetings with SOCWA staff, and other appropriate staff through the course of development and reviewing the draft RFP document. The draft RFP document will be updated to reflect the necessary changes based upon discussion and comments.

Task 2 Summary: Draft and Final Request for Proposal documents. Up to two 1-hour meetings are assumed to discuss and review the preliminary and draft RFP documents.

Task 3. Project Control

Dopudja & Wells will perform internal and external coordination, project management, QA/QC, and monthly invoicing activities.

Project Team

The proposed scope of work will be performed with a highly qualified team with familiarity with SOCWA. Mr. Stephen Dopudja, P.E. will serve as Project Principal to ensure delivery of the project. Mr. Dopudja has 37 years of experience, with nearly 12 years of direct experience with SOCWA and it's member agencies. Mr. Paul Jones, P.E. will serve as the project's Senior Advisor. Mr. Jones was extensively involved in the recent reorganization of SOCWA and will ensure overall project quality control. Mr. Jason Pivovaroff will serve as the Project Lead and

Manager for development of the RFP. Mr. Pivovaroff has extensive wastewater treatment plant experience, including responsibilities at public agencies such as Inland Empire Utility Agency and Wester Municipal water District.

Schedule

The draft RFP of Task 2 will be delivered six weeks after notice to proceed. The Final RFP will be delivered two weeks after comments are received on the Draft RFP. Dopudja & Wells is available to start this Scope of Work immediately.

Proposed Fee

The Scope of Work described above is proposed to be performed on a time and materials basis for a not-to-exceed amount of $24,420. The proposed fee is detailed in Attachment A. This amount will not be exceeded without written authorization from SOCWA.

Thank you for the opportunity to allow Dopudja & Wells to support SOCWA in these activities. Please feel free to reach out if you have any questions.

Sincerely,

Dopudja & Wells Consulting

Stephen Dopudja, P.E.
President
R.C.E 65187

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Attachement A - Fee Detail		Project Manager	Senior Advisor	Principal	Admin Support	Total Labor	Total Labor	Task Total
		$ 355	$ 385	$ 375	$ 140	Hours	$	$
Task 1	**Determine Master Plan Scope Requirements and Approach**	**6**	**2**	**4**	**0**	**12**	**$ 4,400**	**$ 4,400**
	Review background documents and material preparation	4	1	2	0	7	$ 2,555	$ 2,555
	Staff review meetings	2	1	2	0	5	$ 1,845	$ 1,845
Task 2	**Develop Facility Master Plan Request for Proposal**	**32**	**6**	**8**	**2**	**48**	**$ 16,950**	**$ 16,950**
	Prepare Draft RFP	22	4	4	2	32	$ 11,130	$ 11,130
	Prepare Final RFP	8	1	2	0	11	$ 3,975	$ 3,975
	Staff review meetings	2	1	2	0	5	$ 1,845	$ 1,845
Task 3	**Project Control**	**2**	**2**	**2**	**6**	**12**	**$ 3,070**	**$ 3,070**
	Project Management	2	0	0	6	8	$ 1,550	$ 1,550
	QA/QC	0	2	2	0	4	$ 1,520	$ 1,520
Total, Hours		***40***	***10***	***14***	***8***	***72***		
Total, $		***$ 14,200***	***$ 3,850***	***$ 5,250***	***$ 1,120***		***$ 24,420***	***$ 24,420***

South Orange County Wastewater Authority
Task Assignment Form

Task No.: 5	**Date Requested:** 02/03/2025	**W.O.:**
Requested and Approved by: Roni Young Grant, PMP		**SOCWA Signature:** _____ **Date:**
Project Name: SOCWA RFP Development for Infrastructure Assessment & Master Planning		**Z&K Signature:** Crystal Traine **Date:** 02/20/2025

Task Description: Z&K will support SOCWA in developing a Request for Proposal (RFP) for the Infrastructure Assessment and Master Planning of the PC2 and PC15 treatment plants. This effort will focus on defining a structured approach to asset management, capacity analysis, financial planning, and infrastructure assessment, regulatory compliance, and ensuring that the RFP aligns with SOCWA's long-term Capital Improvement Plan (CIP).

The development process will involve early-stage coordination with the PC2 and PC15 committees to:

- Define the master planning needs.
- Determine whether a single or dual RFP approach is appropriate.
- Outline expectations for consultant proposals and/or interviews (if deemed applicable)
- Establish a clear phased framework for the selected consultant(s) to follow and the expectations for the deliverables

Z&K will work closely with SOCWA to ensure that the RFP captures all necessary details, including technical requirements, evaluation criteria, and deliverables to achieve a long-term strategic plan for the two plants.

Assumptions:

- SOCWA will provide access to historical reports, existing infrastructure data, and CIP planning documents to inform the scope of the RFP.
- The PC2 and PC15 committees will review and provide feedback on the RFP framework before finalization.
- The final RFP will include standardized update processes for ongoing CIP integration.
- The selected consultant(s) will be expected to provide a phased approach to infrastructure improvements.
- Two iterations of the RFP are included.
- Assumption the Excel spreadsheet and working files of the 2019-2028-Ten-Year-Plan-WITH-Apendices-A-M-8-2019.pdf are available for this task

Work Requested: Z&K Consultants will provide the following services to develop the SOCWA RFP for Infrastructure Assessment & Master Planning:

1. **Master Planning Framework Development**
   - Review the original listing of SOCWA assets as prepared by Tetra Tech in 2005 as part of an Asset Management Study and for reference is based on this report:

     2019-2028-Ten-Year-Plan-WITH-Apendices-A-M-8-2019.pdf
   - Per the Ten Year Plan the goal is as follows:
   - "The preparation of the Ten-Year Plan included a very detailed Excel model describing the scope, timing, need and cost estimating for the projected capital project. Each year includes a series of studies and condition assessments that will provide information to help refine the Ten Year Plan. It is the intent of SOCWA staff that this information will be used to update the Ten Year Plan each year in conjunction with the preparation of the annual budget."
   - Facilitate initial discussions with committee members to outline scope and project objectives.
   - Provide an overview of past work and define the future direction of PC2 and PC15both the J.B. Latham Wastewater Plant (JBL) (Project Committee 2 (PC2) and Coastal Treatment Plant (Project Committee 15) (PC 15).
   - PC 15 includes the following projects:
     - Coastal Treatment Plant
     - Coastal Treatment Plant Export Sludge Force Main
     - Coastal Treatment Plant Access Road
   - Ensure alignment with SOCWA's 5-year CIP and the remainder of the remainder of the SOCWA Ten Year Capital Improvement Program which was prepared in 2019 and future regulatory requirements.
     - PC2 – Appendix B - J.B. Latham Treatment Plant Ten Year Plan
     - PC15 – Appendix F - Coastal Treatment Plant Ten Year Plan
   - Determination of the CIP projects completed for PC2 and PC15 identified in the
   - Development of a 20 Year CIP to upgrade all infrastructure that has reached its useful life

2. **RFP Preparation with Attachments**
   - Draft a comprehensive RFP document, including:
     - Background & project objectives
     - Scope of Work
       - Asset management Software Evaluation
       - Asset Categorization
       - Capacity analysis (Determination if the
       - Financial planning, and infrastructure assessment
       - Useful Life Determination/Risk of Failure (RoF) Analysis which is also included in the Asset Management Plan
       - Treatment Plant Optimization
       - Regulatory Compliance – Existing and Future/Upcoming Regulations
       - This includes a review of the Waste Discharge Requirements (WDR) for both PC2 and PC15 facilities and review of the upcoming regulations such as the "*Draft Sewage Sludge Risk Assessment for Perfluorooctanoic Acid (PFOA) and*

Perfluorooctane Sulfonic Acid (PFOS)" and other upcoming regulations which could have an impact on PC2 and PC15 facilities
    - Consultant qualification requirements – this will include including regulatory experts
    - Evaluation criteria & scoring methodology
- Define CIP Phasing Plan that consultants will be required to submit.
- Ensure compliance with SOCWA procurement policies.
- **Progress Meetings and Coordination:** The following meetings are anticipated:
    - Meet with SOCWA Staff and Stakeholder's to Kick off Task
    - Meet with each Plant Staff to Review the CIP
    - Meet with SOCWA Staff and Stakeholder's to Review DRAFT RFP and Attachment List
- Approach to RFP review:

  Step 1 – Prepare the outline and send for Review in Track Changes
  Step 2 – Meet with SOCWA Staff to Review the 10 Year Plan PC 2 and PC 15 projects completed and/or changes that affect the CIP projects
  Step 3 – Prepare the DRAFT RFP with a list of all of the attachments
  Step 4 – Meet with the Stakeholders to review the DRAFT RFP
  Step 5 – Finalize the RFP and provide a Sharefile with all of the Attachments to the RFP

3. **QA/QC:** Ensuring all deliverables meet quality standards

Schedule: This work will be per SOCWA's PM Schedule.

Deliverables: Request for Proposal with the Attachments (Assumed two iterations of the RFP)

Comments:

Task Description	Subtask Hours	Subtask Total Cost
Task 1 – Master Planning Framework Development	16 Hrs Project Manager 16 Hrs Senior Project Manager	$155/hr * 16 hours = $2,480 $220/hr * 16 hours = $3,520
Task 2 – RFP Preparation with Attachments	60 Hrs Project Manager 40 Hrs Senior Project Manager	$155/hr * 60 hours = $9,300 $220/hr * 40 hours = $8,800
Task 3 – QA/QC	8 Hrs QA/QC Manager	$210/hr * 8 hours = $1,680
Grand Total		**$ 25,780**