I hereby certify that the following Agenda was posted at least 72 hours prior to the time of the Board Meeting so noticed below at the usual agenda posting location of the South Orange County Wastewater Authority (SOCWA) and at www.socwa.com.

Lynda May

Lynda May, Assistant Secretary
SOCWA and the Board of Directors thereof

Regular Meeting of The
South Orange County Wastewater Authority
Board of Directors

March 5, 2026
8:30 a.m.

PHYSICAL MEETING LOCATION:
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629

THE BOARD OF DIRECTORS 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) 234-5400 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 LYNDA MAY AT LMAY@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 UNMUTE 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 UNMUTE 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 BOARD OF DIRECTORS IN CONNECTION WITH A MATTER SUBJECT FOR DISCUSSION OR CONSIDERATION AT AN OPEN MEETING OF THE BOARD OF DIRECTORS 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 949-234-5400. IF SUCH WRITINGS ARE DISTRIBUTED TO MEMBERS OF THE BOARD OF DIRECTORS 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 BOARD OF DIRECTORS 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
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South Orange County Wastewater Authority
Board of Directors Meeting
March 5, 2026

Agenda

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. ORAL COMMUNICATIONS

   Members of the public may address the Board regarding an item on the agenda or may reserve this opportunity during the meeting at the time the item is discussed by the Board. There will be a three-minute limit for public comments.

4. APPROVAL OF BOARD MEMBER REQUEST FOR REMOTE PARTICIPATION

   ACTION Board Discussion/Direction and Action.

PAGE NO.

5. CONSENT CALENDAR

   A. Minutes of Board of Directors 1

   - Board of Directors Regular Meeting of February 5, 2026

   ACTION The Board will be requested to approve the subject Minutes.

   B. Minutes of Engineering Committee 6

   - Engineering Committee Meeting of January 22, 2026

   ACTION The Board will be requested to receive and file the subject Minutes.

   C. Minutes of Finance Committee 10

   - Finance Committee Meeting of January 20, 2026

   ACTION The Board will be requested to receive and file the subject Minutes.

   D. January 2026 Operations Report 13
      1. Monthly Operational Report
      2. SOCWA Ocean Outfall Discharges by Agency
      3. Beach Ocean Monitoring Report
      4. Recycled Water Report
      5. Pretreatment Report (February)

   ACTION The Board will be requested to receive and file subject reports as submitted.

Agenda

ACTION Information Item.

6. ENGINEERING MATTERS

ACTION The Engineering Committee recommends that the PC 2 Board of Directors:

1. Authorize execution of a construction contract with Pacific Hydrotech in the amount of $174,241.
2. Approve a contract contingency of $17,424, for a total project authorization of $191,665, to address any unforeseen conditions encountered during the work.

ACTION The Engineering Committee recommends that the PC 15 Board Directors:

1. Authorize execution of construction contract with T.E. Roberts in the amount of $570,059.00.
2. Approve a contract contingency of $57,000, for a total project authorization of $627,059 to address any unforeseen conditions encountered during the work.

ACTION The Engineering Committee recommends that the PC 15 Board Directors:

1. Approve a project budget increase of $20,000 for a total of $100,000;
2. Authorize the General Manager to execute a contract with MKN for a fee not to exceed $89,401.00, and;
3. Approve a project contingency of $10,599.

ACTION The Engineering Committee recommends that the PC 15 Board Directors:

1. Authorize the General Manager to execute a contract with AECOM in the amount of $494,821 upon the CTP Regional Flow Study reaching Project Element 4, and
2. Approve a contract contingency of $49,482, for a total project authorization $544,303, to address any unforeseen conditions encountered during the work.

7. GENERAL MANAGER'S REPORT

ACTION Board Discussion, Direction, or Action.

Agenda

ACTION Board Discussion, Direction, or Action.

ACTION Board Discussion, Direction, or Action.

ACTION Board Discussion, Direction, or Action.

ACTION Board Discussion, Direction, or Action.

ACTION Board Discussion, Direction, or Action.

G. General Counsel's Report

ACTION Board Discussion, Direction, or Action.

ACTION Staff Recommends that the Board of Directors approve Resolution No. 2026-03, reestablishing the date and time of the regular meetings of the SOCWA Engineering Committee from the second Thursday of the month to the third Thursday of the month.

I. Upcoming Meetings Schedule:
- April 2, 2026 – Board of Directors Regular Meeting
- March 19, 2026 – Engineering Committee Meeting
- February 17, 2026 – Finance Special Committee Meeting

ACTION Information Item.

8. CLOSED SESSION

A. Closed Session Conference Pursuant to Government Code § 54957(b)(1)
Public Employment
Title: General Counsel

B. Closed Session Conference Pursuant to Government Code § 54957(b)(1)
Public Employment
Title: General Manager

Report out of Closed Session

Agenda

9. OTHER MATTERS

Determine the need to take action on the following item(s) introduced by the General Manager, which arose after the posted agenda. [Adoption of this action requires a two-thirds vote of the Board, or if less than two-thirds are present, a unanimous vote.]

10. ADJOURNMENT

THE NEXT SOCWA BOARD MEETING
April 2, 2026

MINUTES OF REGULAR MEETING
OF THE
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

DRAFT

Board of Directors

February 5, 2026

The Regular Meeting of the South Orange County Wastewater Authority (SOCWA) Board of Directors was held in person and via teleconference on February 5, 2026, at 8:30 a.m. at their Administrative Offices located at 34156 Del Obispo Street, Dana Point, California. The following members of the Board of Directors were present:

KATHRYN FRESHLEY	El Toro Water District	Director
GAVIN CURRAN	City of Laguna Beach	Alternate Director
SCOTT GOLDMAN	South Coast Water District	Director
FRANK URY	Santa Margarita Water District	Director
MIKE DUNBAR	Emerald Bay Service District	Director

Staff Present:

AMBER BOONE	General Manager
RONI GRANT	Capital Improvement Program Manager
JIM BURROR	Deputy GM/ Chief Engineer
DINA ASH	Human Resources Administrator
LYNDA MAY	Assistant Secretary
ANNA SUTHERLAND	Staff Accountant
JACK BECK	Accountant
MATT CLARKE	Chief Technology Officer
CALEB WHEATLEY	Chief Operator
JAMES JONES	Superintendent of O&M
ROBERT CULVER	Environmental Service Manager

Also Present:

ADRIANA OCHOA	Snell & Wilmer
KARI VOZENILEK	Kidman Law, LLP
DUSTIN BURNSIDE	City of San Clemente
SHERRY WANNINGER	Moulton Niguel Water District
MATT COLLINGS	Moulton Niguel Water District
JENNIFER LOPEZ	South Coast Water District
RICK SHINTAKU	South Coast Water District
ERICA CASTILLO	South Coast Water District
JOE MUELLER	South Coast Water District
MARC SERNA	South Coast Water District
MIKE GASKINS	El Toro Water District
DENNIS CAFFERTY	El Toro Water District

1. CALL TO ORDER

   Director Frank Ury called the meeting to order at 8:30 a.m.

2. PLEDGE OF ALLEGIANCE – Director Kathryn Freshley

3. ORAL COMMUNICATIONS

   None.

4. APPROVAL OF BOARD MEMBER REQUEST FOR REMOTE PARTICIPATION

None.

5. CONSENT CALENDAR

ACTION TAKEN

A motion was made by Director Dunbar and seconded by Director Goldman to approve the Consent Calendar as submitted.

Motion carried:	Aye 5 Nay 0, Abstained 0, Absent 1	
	Director Dunbar	Aye
	Director Freshley	Aye
	Director Curran	Aye
	Director Ury	Aye
	Director Goldman	Aye
	Director Rebensdorf	Absent

(5A-5F)

A. Minutes of Board of Directors Special Meeting for January 8, 2026
B. Minutes of Engineering Committee Meeting for November 13, 2025
C. Minutes of Finance Committee Meeting for November 18, 2025
D. Minutes of Executive Committee Meeting for January 27. 2026
E. December 2025 Operations Reports
Approved Action: Information Item; received and filed.
F. Capital Improvement Construction Projects Progress and Change Order Report (December) [Project Committees 2 and 15]
Approved Action: Information Item; received and filed.

6. ENGINEERING MATTERS

A. Contract Award for Coastal Treatment Plant Personnel Building Phase 2 Upgrades [Project Committee 15]

A brief discussion ensued on the contingency amount and construction management services. Director Goldman inquired on the percentage, noting 10 percent is normally the standard. Director Dunbar explained the need for 15 percent due to unknowns discussed at the recent Engineering Committee meeting. Ms. Grant clarified the additional 10 percent listed is for the design engineer and that construction management will be handled by the staff.

ACTION TAKEN

A motion was made by Director Goldman and seconded by Director Curran to a) authorize execution of a construction contract with T.E. Roberts in the amount of $649,848.00, and b) approve a contract contingency of $97,500, to address any unforeseen conditions encountered during the work.

Motion carried:	Aye 3 Nay 0, Abstained 0, Absent 0	
	Director Dunbar	Aye
	Director Curran	Aye
	Director Goldman	Aye

B. ETM Reach B Techite Pipe Replacement Final Design [Project Committee 21]

A brief discussion ensued on the selection of BKF as the contractor. Director Freshley agreed on the necessity of replacing the Techite Pipe due to the risk of structural failure.

ACTION TAKEN

A motion was made by Director Freshley and seconded by Director Goldman to a) authorize execution of a final design contract with BKF in the amount of $517,713, and b) approve a contract contingency of $51,771, for a total project authorization of $569,484 to address any unforeseen conditions and optional tasks if needed during the work

Motion carried: Aye 1 Nay 0, Abstained 0, Absent 0
Director Freshley Aye

7. GENERAL MANAGER'S REPORT

A. CSRMA Pooled Liability Program Renewal

A discussion opened on the recent 13.58 percent increase in the program's cost, and the difficulty in getting a quote from JPIA. Director Ury requested market research with a brief summary to report back with. Director Goldman suggested assigning a representative.

This was an information item; no action was taken.

B. Budget Assumptions and Schedule

An open discussion ensued with Ms. Boone noting that the draft budget should be close to the CPI for the O&M expenses. Ms. Boone also stated that the draft final budget will be nearly complete and provided at the next Finance Committee meeting. Mr. Burror briefed on the current and pending CPUC utility rate requests. Ms. Grant provided details on the support staffing contracts, with Director Goldman suggesting a consideration for a full time hire.

This was an information item; no action was taken.

E. Cost Allocation Policy

Ms. Boone provided a status update, including comments being brought to the upcoming Engineering Committee meeting, and possible additional language from the Finance Committee. Ms. Boone then noted any comments from the board today will be brought to these two meetings to help form a unified cost allocation structure to approve at the March board meeting. Ms. Ochoa reiterated that the Public Relations portion was circulated to Director Ury and Director Whalen and their comments were incorporated into the current final draft in the agenda.

This was an information item; no action was taken.

C. General Manager's Report

An open discussion ensued on the Master Schedule for planning efforts, with Ms. Boone offering to send placeholder invites. Director Ury suggested showing actual (completed) events next to the date to track as milestones. Director Goldman suggested further distinction in the schedule and milestone tracking in regards to specific project committees and agencies. Ms. Boone briefed on the SOCWA Draft Goals, highlighting the current progress with OCWA on a panel to cover best practices for cost estimates. The discussion concluded with Ms. Boone commending the O&M staff for their work featured in the agenda report.

This was an information item; no action was taken.

D. General Counsel's Report

Ms. Ochoa provided and update on recent legal developments, including SB 707 and the Director vs. City of Los Angeles case. Ms. Ochoa noted the importance of the legal case for setting a precedent on tiered water rates. After an update on the upcoming renewed Brown Act books, a brief overview on Resolution 2026-01 followed.

ACTION TAKEN
A motion was made by Director Ury and seconded by Director Dunbar to approve Resolution No. 2026-1: A Resolution of the Board of Directors of the South Orange County Wastewater Authority Authorizing Optional Teleconferencing, Remote Participation By Board Members, And Virtual Meetings Of Committees Pursuant To Government Code Sections 54953.8.7 And 54953.8.6 (Senate Bill 707).

Motion carried:	Aye 5 Nay 0, Abstained 0, Absent 1	
	Director Dunbar	Aye
	Director Freshley	Aye
	Director Curran	Aye
	Director Ury	Aye
	Director Goldman	Aye
	Director Rebensdorf	Absent

F. Upcoming Meetings Schedule
- February 12, 2026 – Engineering Committee Meeting
- February 17, 2026 – Finance Committee Meeting
- March 5, 2026 – Board of Directors Regular Meeting

8. CLOSED SESSION

A. A Closed Session Conference was held for the Public Employee Appointment Pursuant to Government Code § 54957(b)(1)
Title: General Counsel

B. A Closed Session Conference was held for the Public Employee Appointment Pursuant to Government Code § 54957(b)(1)
Title: General Manager

The Board of Directors reconvened to Open Session at 9:38am. Chairman Ury stated there were no reportable actions from the Closed Session.

9. OTHER MATTERS

None.

10. ADJOURNMENT

There being no further business, Director Ury adjourned the meeting at 9:39 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 Board of Directors on February 5, 2026, and approved by the Board of Directors of the South Orange County Wastewater Authority.

Lynda May, Assistant Secretary
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

MINUTES OF REGULAR MEETING
OF THE
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Engineering Committee

DRAFT

January 22, 2026

The Regular Meeting of the South Orange County Wastewater Authority (SOCWA) Engineering Committee was held on January 22, 2026, 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
HANNAH FORD	El Toro Water District [Zoom]
ROBERT GRANTHAM	Santa Margarita Water District
MARC SERNA	South Coast Water District

Absent:

DAVE REBENSDORF	City of San Clemente
MARK MCAVOY	City of Laguna Beach

Staff Present:

AMBER BOONE	General Manager
RONI GRANT	Capital Improvement Program (CIP) Manager
JIM BURROR	Deputy GM/Chief Engineer
BRIAN PECK	Project Manager
MATT CLARKE	Chief Technology Officer
LYNDA MAY	Administrative Assistant/Assistant Secretary

1. Call Meeting to Order

   Ms. Roni Grant, Capital Improvement Program (CIP) Manager, called the meeting to order at 8:39 a.m.

2. Public Comments

   None.

3. Approval of Committee Member Request for Remote Participation (Standing Item)

   Ms. Hannah Ford participated via Zoom.

4. Approval of Minutes

   - Engineering Committee Minutes of November 13, 2025.

   ACTION TAKEN
   A motion was made by Mr. Grantham and seconded by Mr. Dunbar to approve the Engineering Committee Minutes for November 13, 2025.

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

5. General Manager's Report

Ms. Amber Boone, General Manager, provided an update of the Master Schedule for CTP and JBL planning efforts. A discussion on the recent CASA General Manager Workshop ensued with a briefing on AB 339, with potential procedural templates being looked at currently. Mr. Dunbar commented on a session that covered customer base messaging, and the importance of using proper wording. Ms. Boone agreed and noted that a consistent vernacular will help the process on the investment side.

This was an information item; no action was taken.

6. Operations Report

Mr. Jim Burror, Deputy GM/Chief Engineer, gave a report on Operations, starting with status updates of the O&M budgets and the Cogeneration system service. A brief discussion ensued on the cost impact of the Cogeneration system being off with Mr. Burror concluding that the board will be informed of any budgetary issues associated with the Operations budget.

This was an information item; no action was taken

7. Capital Improvement Construction Projects Report and AQMD Permit Status

A discussion was opened with Ms. Grant briefing on the CTP access road project being put out to bid. Mr. Grantham requested schematics for the upcoming budget to show an overview of unit processes, and how they are needed to keep the plant operational. Ms. Boone suggested a look at the color-coded linking system used by OC Sanitation for NPDES assessments.

This was an information item; no action was taken

8. JBL Flare and Underground Piping Project (Project Committee 2)

An open discussion followed a presentation by Brian Peck, Project Manager, on the JBL Flare and Piping Relocation project. Mr. Grantham inquired on the timing and urgency and if it should be delayed until the Master Plan upgrades takes place. Mr. Burror emphasized the safety hazard of the current temporary setup, with Ms. Boone noting the pressure from AQMD with their new rule to replace the flare. After discussing the risks and technical considerations, the committee and staff agreed on the need to move forward.

This was an information item; no action was taken.

9. Contract Award for Coastal Treatment Plant Personnel Building Phase 2 Upgrades [Project Committee 15

A brief discussion ensued on the necessary upgrades to the Personnel Building with Mr. Burror noting cold weather exposure, and vector issues.

ACTION TAKEN
A motion was made by Mr. Dunbar and seconded by Mr. Serna to 1) authorize execution of a construction contract with T.E. Roberts in the amount of $649,848 and 2) approve a contract contingency of $97,500 to address any unforeseen conditions encountered during the work.

Motion carried:	Aye 2, Nay 0, Abstained 0, Absent 1	
	Mr. Dunbar	Aye
	Mr. Serna	Aye
	Mr. McAvoy	Absent

10. CTP Storm Drainage Modifications [Project Committee 15]

An open discussion ensued on the potential compliance risks for delaying the storm drain improvements, with a consensus to bring the project back with more detail at the next Engineering Committee meeting.

This was an information item; no action was taken.

11. Effluent Transmission Main Reach B Techite Replacement Final Design [Project Committee 21]

An open discussion ensued on the scope of work with Ms. Ford updating the committee on El Toro Water District’s current evaluation. The committee and staff agreed to proceed with the two firm interviews scheduled for the next week.

This was an information item; no action was taken.

12. CTP Facility Planning Assessment Project Update [Project Committee 15]

Ms. Grant updated the Engineering Committee on the proposals received from AECOM and Hazen. A discussion ensued regarding the interviewing and selection process with a suggestion for a secondary scoring method for interviews.

This was an information item; no action was taken.

13. Draft Capital Improvement Program Budget for Fiscal Year 2026-27

Mr. Burror provided a presentation of the Fiscal Year 2026-27 Budget and CIP Ten Year Plan, highlighting the anticipated cash requests, project allocations and providing calculations for agency billing purposes. Ms. Boone noted they will bring this back in February for more reviewing. Mr. Burror briefed on the status of CIP projects being planned including Digesters 3 and 4, IT infrastructure, and the golf course road repairs.

This was an information item; no action was taken.

14. Engineering Cost Estimate Update

An open discussion ensued on methods for more accurate cost estimating, including working with outside contractors and other agencies on their estimation processes. Mr. Grantham suggested using firms that have a variety of local projects that are current and related, such as a construction management firm. Mr. Serna suggested looking at recent bids from member agencies to compare to estimates. Ms. Ford also shared their methodology and offered to share their cost data with any future cost estimates. Ms. Boone also discussed options for cost estimating tools that utilize regional data.

16. Capacity and Flow Analysis

An open discussion ensued on the analysis of flows and loads at PC 2, and PC 15, comparing agreed-upon capacities and actual flows. Ms. Boone updated the committee on the template being created, and the O&M Budget being ready for the finance committee to review in February. Mr. Grantham commented their support on using the previous year's flows as a basis for the upcoming year. The discussion concluded with a suggestion for a quarterly update on any significant deviations from the agreed-upon capacities.

15. Cost Allocation Policy

A brief discussion ensued with Ms. Boone updating the committee on policy's progress with the board, finance committee, and audit. Ms. Boone requested committee members to look at their own Project Committee sections in the draft policy and in the Operational Cost Distribution report by Carollo to bring back in February.

17. Adjournment

There being no further business, Ms. Grant adjourned the meeting at 9:08 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 January 22, 2026, and approved by the Engineering Committee and received and filed by the Board of Directors of the South Orange County Wastewater Authority.

Lynda May, Assistant Secretary
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

MINUTES OF REGULAR MEETING
OF THE
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Finance Committee

DRAFT

January 20, 2026

The Regular Meeting of the South Orange County Wastewater Authority (SOCWA) Finance Committee was held on January 20, 2026, at 10:30 a.m. in-person and via teleconference from the Administrative Offices located at 34156 Del Obispo Street, Dana Point, California. The following members of the Finance Committee were present:

GAVIN CURRAN	City of Laguna Beach	Alternate Director
DENNIS CAFFERTY	El Toro Water District	Alternate Director
ERICA CASTILLO	South Coast Water District	Alternate Director
PAUL PENDER	Santa Margarita Water District	Alternate Director

Staff Participation:

AMBER BOONE	General Manager
JIM BURROR	Deputy GM/Chief Engineer
JACK BECK	Accountant
ANNA SUTHERLAND	Staff Accountant
RONI GRANT	Capital Improvement Program Manager
MATT CLARKE	Chief Technology Officer
LYNDA MAY	Administrative Assistant/ Assistant Secretary
DINA ASH	Human Resources Administrator

Also Participating:

KATHRYN FRESHLEY	El Toro Water District
SANDER HUANG	South Coast Water District
KELSEY DECASAS	Moulton Niguel Water District
MATT COLLINGS	Moulton Niguel Water District

1. Call Meeting to Order

   Chairperson Paul Pender called the meeting to order at 10:34 a.m.

2. Public Comments

   None.

3. Approval of Committee Member Request for Remote Participation (Standing Item)

   None.

4. Approval of Minutes

   - Finance Committee Meeting of November 18, 2025.

ACTION TAKEN
A motion was made by Director Castillo and seconded by Director Pender to approve the Minutes for November 18, 2025, as submitted.

Motion carried:	Aye 3, Nay 0, Abstained 1, Absent 0	
	Director Curran	Aye
	Director Cafferty	Abstained
	Director Pender	Aye
	Director Castillo	Aye

5. Annual Financial Audit and Annual Use Audit

An open discussion ensued starting with Director Castillo suggesting the inclusion of the MD&A (Management Discussion and Analysis) for the next year, and for the auditors to give a brief presentation to clear up any material weakness and control deficiencies. Ms. Boone briefed the Committee on one of the Auditor's comments due to the late timing of the board's approval for the mid-year adjustments post reorganization. Director Curran advised on having proper internal authority to make urgent changes like this, followed by a prompt explanation to the Board for approval going forward.

Ms. Decasas from Moulton Niguel Water District offered comments on the Use Audit. Director Cafferty and Director Castillo discussed the need to break down the Care-of allocations. Ms. Boone stated the items discussed will be brought back with a presentation from the auditors.

6. Internal Controls Review

An open discussion ensued on the items identified for improvement by the auditors, and parts of the upcoming financial manual that will help identify these issues. Director Castillo requested an explanation on the third item, regarding the addition of labor accruals to the depreciation schedule. Ms. Boone explained that it was a past practice being done by Finance without documentation or communication, so they immediately added it as part of the documented capital projects close out procedure.

7. SOCWA Financial Manual Draft Outline

An open discussion ensued on the content of the outline, with a suggestion by Director Cafferty to add internal controls. Ms. Boone reported that internal controls can be included, and that this item will be brought back to the committee for further review.

8. Other Post-Employment Benefits (OPEB) Trust Account Annual Review

A brief discussion ensued with Ms. Boone suggesting having another actuarial for the next year, even though the requirement is every two years to help inform some future liabilities stemming from Moulton Niguel's exit. This item's action was tabled for the next meeting due to the committee requesting a presentation on the PARS report.

9. PC 15 Special Fund Discussion

A brief discussion ensued on options for retaining the funds from the Moulton Niguel Water District's asset transfer. Director Castillo noted that the timing of spending is important in the decision. Director Curran offered to send a list of investors from the City of Laguna Beach.

10. Engineering Capital Overrun Procedure Draft

An open discussion ensued on procedures including thresholds for estimates deviating during a project. Director Pender and Director Cafferty suggested the threshold should trigger a review with the Engineering Committee, instead of the Finance Committee, followed by an approval by the board since the Finance Committee wouldn't have a lot of input on a project's engineering decisions, unless it is significant enough to affect the billing cycle.

11. Cost Allocation Policy

An open discussion ensued on the latest draft of the Cost Allocation Policy. Ms. Boone updated the committee on the agency working with the Board on public affairs, with the engineering committee on percentage allocations, and with feedback from the auditors on revising the policy for any procedural handling of balance sheet items.

12. Budget vs. Actuals for Q2, FY 25-26

A discussion opened on the Budget vs. Actuals ending December 2025 and the need for a standard business practice for closing books including a pattern analysis for recurring vendors, which will be brought back to the next Finance Committee meeting. Director Pender and Director Castillo provided input on their practices.

13. FY 26-27 Budget Schedule

Ms. Boone briefed on the budget schedule, noting they will likely have a draft budget ready for the committee in February, thus accelerating the previously distributed budget schedule.

14. FY 26-27 Budget Assumptions

An open discussion ensued on the budget assumptions and what will be included in the upcoming draft budget. Director Pender requested the first draft contain all of the assumptions.

15. FY 26-27 Flows vs. Capacity Discussion

An open discussion ensued beginning with the use of agreed-upon capacity for efficiency. Director Curran suggested to consider trends over multiple years rather than one year to understand consistent issues which will be brought back to the next Financial Committee meeting.

16. Adjournment

There being no further business, Chairperson Pender adjourned the meeting at 12:00 p.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 Finance Committee of January 20, 2026, and approved by the Finance Committee and received and filed by the Board of Directors of the South Orange County Wastewater Authority.

Lynda May/ Assistant Secretary
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

Agenda Item 5.D.

Board of Directors Meeting
Meeting Date: March 5, 2026

TO: Board of Directors

FROM: Jim Burror, Deputy General Manager/Chief Engineer

SUBJECT: January 2026 Operations Report

Summary/Discussion

The following selected operational reports are provided monthly to the Board of Directors. The operational reports included are as follows:

1) Monthly Operational Report

   An six (6) page overview and comparison of owner use of facilities, including influent and recycled water production. The pages include ongoing calculations used by SOCWA for billing the agencies. Other items include important statistics for regulatory compliance, visits by the public to the treatment works, and other vendor interactions. The information is broken down by facility and by Member Agency.

2) SOCWA Ocean Outfall Discharges by Agency

   This data shows how much water is being discharged into the ocean each month and for the last 12 months. This data is presented for the agencies planning reuse projects to better understand the potential to expand water reuse in their service area.

3) Beach Ocean Monitoring Report

4) Recycled Water Report

5) Pretreatment Report

Fiscal Impact

No change.

Recommended Action:

Receive and file the Operational Reports.

Monthly Operational Report

SOCWA Operational Report January 2026

Excursion, Complaint, and Violation Events

Events	CTP	JBL	Totals
Odor	0	0	0
Noise	1	0	1
Spills	0	0	0
Violations	0	3	3
Others	0	0	0

Plant Wastewater Characteristics

Key Parameters	CTP	JBL TP1	JBL TP2	Total
Influent (mgd) (1)	2.37	7.95	1.01	11.33
Effluent (mgd)	2.78	7.95	2.97	13.70
Peak Flow (mgd)	7.86	11.96	10.00	29.82
Influent BOD (mg/l)	198	233	252	
Influent TSS (mg/l)	353	448	388	
Effluent BOD (mg/l)	3.9	10.6	8.8	
Effluent TSS (mg/l)	8.1	17.7	14.7	
Effluent Turbidity (NTU)	1.6	11.1	3.7	

(1) CTP Influent value does not include AWT backwash in this table.

Recycled Water (AWT) Operations

Key Parameters	CTP	JBL	Totals
Average Flow (mgd)	0.13		0.13
Days of Operation (days)	8		
Total Flow (million gallons)	3.88		3.88
Plant Irrigation (million gallons)	0.10	0.33	0.43
AWT Time Online (%)	22.8		

Wastewater Unit Definitions

mgd = million gallons per day

mg/l = milligram per liter also known as parts per million

NTU = Nephelometric Turbidity Units

SOCWA Operational Report January 2026 (cont'd)

Biosolids Management

Biosolids Management Site	CTP	JBL	Totals
Nursery Products (tons)		950.2	950.2
Prima Deshecha (tons)		0.0	0.0
Other:______________ (tons)		0.0	0.0
Total Processed (tons)		950.2	950.2

Summary of Maintenance Activities

Task Type	CTP	JBL	Totals
Preventative Maintenance	197	219	416
Corrective Maintenance	17	45	62

Site Visitors

Visitor Types	CTP	JBL	Totals
Regulatory	0	1	1
Member Agency	1	6	7
Residents	0	0	0
Others	6	49	55
Tours #/Visitors	1	0	1

Grit Disposal Management

Grit & Screenings	CTP	JBL	Totals
Simi Valley Landfill (tons)	9.1	27.4	36.5

Chemical and Energy Utilization

Chemical/Utility	CTP	JBL	Totals
Ferric Chloride (tons)	9.5	27.2	37
Utility Power Purchase (kWh)	208,719	418,630	627,349
Cogen Power (kWh)		0	0
Natural Gas (Dth)	12	51	63
Digester Gas to Engine (scfm)		0	0
Digester Gas to Boiler (scfm)		1,488,687	1,488,687
Digester Gas to Flares (scfm)		5,856,538	5,856,538

NA = Not Available at the time this report was generated.

Wastewater Unit Definitions

kWh = kilowatt hours

Dth = Dekatherms

scfm = standard cubic feet per minute

SOCWA Operational Report January 2026 (cont'd)

Agency Flows to SOCWA Operated Treatment Plants
(Including Internal Waste Streams Used for Billing)

Agency	CTP (mgd)	CTP (%)	JBL (mgd)	JBL (%)	Total (mgd)	Notes
CLB	1.283	53.58%			1.283	
EBSD	0.121	5.04%			0.121	
MNWD			1.400	15.62%	1.400	C/O SCWD
SCWD	0.991	41.38%	1.697	18.94%	2.688	
SMWD			5.865	65.44%	5.865	
Total	2.394	100.00%	8.962	100.00%	11.356	

Total Agency Outfall Flows by Outfall System-Billing Flows

Agency	SJCOO (mgd)	SJCOO (%)	ACOO (mgd)	ACOO (%)	Total (mgd)	Notes
CLB			1.28	8.09%	1.28	
EBSD			0.12	0.76%	0.12	
MNWD	2.85	20.08%	5.58	35.20%	8.44	C/O SCWD/SMWD (SJCOO) & ETWD (ACOO)
SCWD	1.86	13.11%	1.38	8.67%	3.24	
ETWD			3.43	21.61%	3.43	
IRWD			4.07	25.67%	4.07	C/O ETWD
SMWD	6.19	43.59%			6.19	
CSC	3.30	23.22%			3.30	
Total	14.21	100.00%	15.86	100.00%	30.07	

SOCWA Operational Report January 2026 (cont'd)

FY Flow/Solids Summary-Billing

Project Committee No. 2 Liquids (JBL)

Agency	Own (mgd)	Own (%)	Budget (mgd)	Budget (%)	Month (mgd)(1)	Month (%)	FY Avg to Date (mgd)	FY Avg to Date (%)
SCWD	6.75	51.92%	1.598	20.85%	1.697	18.94%	1.56	18.20%
SMWD	6.25	48.08%	4.667	60.89%	5.865	65.44%	5.62	65.49%
MNWD(3)			1.400	18.26%	1.400	15.62%	1.40	16.32%
Total	13.00	100.00%	7.665	100.00%	8.962	100.00%	8.58	100.00%

Project Committee No. 2 Solids (JBL)

Agency	Own (lbs/d)	Own (%)	Budget (lbs/d)	Budget (%)	Month (lbs/d)	Month (%)	36 Month Rol. Avg. (lbs/d) (2)	36 Month Rol. Avg. (%)
SCWD	16,055	41.62%	5,183	17.12%	2,743	7.92%	3,415	13.64%
SMWD	22,518	58.38%	19,402	64.08%	24,755	71.50%	16,750	66.90%
MNWD(3)			5,693	18.80%	7,125	20.58%	4,871	19.46%
Total	38,573	100.00%	30,278	100.00%	34,622	100.00%	25,037	100.00%

Project Committee No. 5 - San Juan Creek Ocean Outfall (SJCOO)

Agency	Own (%)	Budget (mgd)	Budget (%)	Month (mgd)	Month (%)	FY Avg to Date (mgd)	FY Avg to Date (%)
CSC	16.63%	13.300	16.63%	3.300	23.22%	2.693	20.75%
SCWD	12.46%	9.970	12.46%	1.862	13.11%	1.736	13.37%
SMWD	55.40%	44.320	55.40%	6.194	43.59%	6.180	47.61%
MNWD(4)		12.410	15.51%	2.854	20.08%	2.373	18.28%
Total	100.00%	80.000	100.00%	14.210	100.00%	12.982	100.00%

(1) Influent billing meter summary:

a. CSJC is metered daily in the collection system. The area-velocity meter has an accuracy of +/- 20%.

b. MNWD flows with SCWD flows are assumed to be 1.4 mgd unless Treatment Plant 3A is discharging to the sewer. If other discharges occur, they are estimated.

c. SCWD flows are the summation of the DPSD and Victoria PS meters. The two metering systems have an accuracy of +/- 10%.

d. The Oso Trabuco sewer is metered daily in the collection system. The flows from MNWD are subtracted from the metering data collected to determine SMWD's flows. The metering system in the collection system has an accuracy of +/- 20%.

(2) The 36-month average is the average of the past 36 months. The Use Audit is based on the last 3 Fiscal Years versus the average of the past 36 months.

(3) C/O SCWD for billing.

(4) C/O SCWD and SMWD for billing.

SOCWA Operational Report January 2026 (cont'd)

FY Flow/Solids Summary-Billing (cont'd)

Project Committee No. 15 (CTP)

Agency	Own (mgd)	Own (%)	Budget (mgd)	Budget (%)	Month (mgd)	Month (%)	FY Avg to Date (mgd)	FY Avg to Date (%)
CLB	3.64	54.33%	1.430	53.56%	1.283	53.58%	1.332	53.52%
EBSD	0.20	2.99%	0.060	2.25%	0.121	5.04%	0.079	3.17%
SCWD	2.86	42.69%	1.180	44.19%	0.991	41.38%	1.078	43.31%
Total	6.70	100.00%	2.670	100.00%	2.394	100.00%	2.488	100.00%

Project Committee No. 24 (ACOO)

Agency	Own (%)	Budget (mgd)	Budget (%)	Month Outfall Flow (mgd)	Month Outfall Flow (%)	FY Avg Outfall Flow (mgd)	FY Avg Outfall Flow (%)
CLB	11.00%	5.500	11.00%	1.283	8.09%	1.332	11.67%
EBSD	0.78%	0.390	0.78%	0.121	0.76%	0.079	0.69%
ETWD	16.30%	8.151	16.30%	3.427	21.61%	2.154	18.86%
MNWD(1)	43.85%	21.924	43.85%	5.584	35.20%	3.256	28.52%
IRWD(1)	15.76%	7.880	15.76%	4.072	25.67%	3.545	31.05%
SCWD	12.31%	6.155	12.31%	1.376	8.67%	1.051	9.20%
Total	100.00%	50.000	100.00%	15.862	100.00%	11.416	100.00%

(1) Permitted flow to the ACOO from IRWD and MNWD who are not member agencies of SOCWA.

Select Critical Equipment Repairs

JBL - PC2

Troubleshot failing Sludge Feed Pump CFP #3 at JBL.
Repaired failing Raw Sewage Pump #4 at JBL.
Repaired failing TWAS Borger Lobe Pump #2 at JBL.
Repaired gas leak on Digester #4 at JBL.
Repaired failing RAS #6 at JBL.
Repaired failing Air Compressor DAFT #1 at JBL.
Repaired failing Primary Sludge Pumps Nos. 1 and 2 at JBL.
Repaired failed Secondary Tank Flight Drive #2 at JBL.
Repaired failing Truck Scale #2 at JBL.
Repaired failed Effluent Pump Check Valve 1 at JBL.
Troubleshot failing Outfall Flow Meter at JBL.
Troubleshot failing Aeration Blower system at JBL.
Repaired failing Raw Sewage Pump #7 at JBL.
Troubleshot failing Boiler Recirc Pump Flow Meter at JBL.
Replaced failed Scrubber Recirc Pump #2 at JBL.
Troubleshot failing GE Jenbacher Engine at JBL.

CTP - PC15

Overhauled AWT Cell #6 AWT at CTP.
Repaired failing Aeration Tank #2B Control Valve / E1A at CTP.
Repaired failing Applied Water Turbidimeter / Influent at CTP.
Troubleshot the failing Drain line from the lower headworks and scrubber to the DPS at CTP.
Troubleshot failing CLB Influent Flow at CTP.
Repaired failed TWAS Pump #1 / North at CTP.
Repaired failing Grit Classifier 1 East at CTP.
Repaired failing Grit Classifier 3 / West at CTP.
Replaced failed Bleach Pump #1 at CTP.
Troubleshot failing Aeration Blower #2 at CTP.
Replaced failed East Basin CL2 Analyzer at CTP.

SOCWA Ocean Outfall Discharges by Agency

SOCWA Operational Report January 2026 (cont'd)

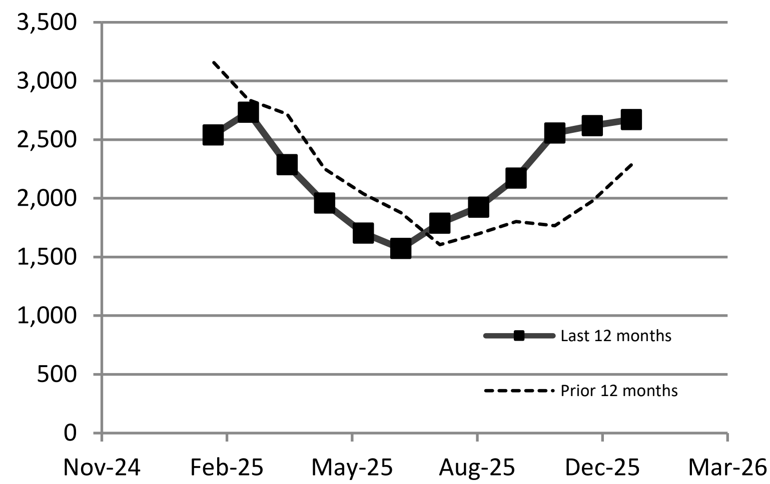
Agency	SJCOO (mgd)	SJCOO (%)	ACOO (mgd)	ACOO (%)	Total (mgd)
CLB			1.28	8.09%	1.28
EBSD			0.12	0.76%	0.12
MNWD(1)	2.85	20.08%	5.58	35.20%	8.44
SCWD	1.86	13.11%	1.38	8.67%	3.24
ETWD			3.43	21.61%	3.43
IRWD(2)			4.07	25.67%	4.07
SMWD	6.19	43.59%			6.19
CSC	3.30	23.22%			3.30
Total	14.21	100.00%	15.86	100.00%	30.07
	or Acre-Feet per year equivalent				33,680

(1) C/O ETWD, SCWD & SMWD

(2) C/O ETWD

12-Month Running Total Discharge to Ocean Outfalls (AF)

Jan-26	2,671
Dec-25	2,620
Nov-25	2,557
Oct-25	2,174
Sep-25	1,924
Aug-25	1,790
Jul-25	1,573
Jun-25	1,705
May-25	1,962
Apr-25	2,288
Mar-25	2,734
Feb-25	2,542
Total	26,538



Beach / Ocean Monitoring Report

ALISO CREEK OCEAN OUTFALL MONITORING REPORT

January 2026

	IRWD LOS ALISOS WRP				EL TORO WRP				SOCWA REGIONAL PLANT				SOCWA COASTAL PLANT				IRWD IDP	IRWD SGU	SCWD ACWRF	ACOO	Rain
	FLOW	TSS	cBOD	SS	FLOW	TSS	cBOD	SS	FLOW	TSS	cBOD	SS	FLOW	TSS	cBOD	SS	FLOW	FLOW	FLOW	FLOW	Fall
DATE	MGD	mg/L	mg/L	ml/L	MGD	mg/L	mg/L	ml/L	MGD	mg/L	mg/L	ml/L	MGD	mg/L	mg/L	ml/L	MGD	MGD	MGD	MGD	inches
01/01/26	3.171	12.4	3.3	<0.1	4.970	16.7	6.7	0.2	7.260	6.3	5.0	<0.1	2.978	6.9	3.7	<0.1	0.451	0.000	0.000	18.830	0.53
01/02/26	2.686	14.4	4.2	<0.1	3.325	18.6	6.2	0.1	6.30	7.9	4.2	<0.1	3.071				0.451	0.000	0.000	15.833	0.14
01/03/26	3.108	15.2		<0.1	3.885	14.4	5.4	0.1	6.360	6.7	4.2		2.910	7.1	3.3	<0.1	0.450	0.000	0.000	16.713	0.14
01/04/26	3.240	16.5		<0.1	4.586	8.2	4.6	<0.1	6.090	7.2	3.6	<0.1	2.934	8.0	2.8	<0.1	0.451	0.000	0.000	17.301	0.50
01/05/26	3.254	16.0	4.1	<0.1	5.138	12.3		0.1	8.000	7.5	4.4	0.1	3.162	9.4	3.2	<0.1	0.451	0.000	0.044	20.049	0.01
01/06/26	4.123	15.6	4.9	<0.1	3.117	11.0	3.8	0.1	7.110	7.8	3.7	0.2	2.756	9.3	2.6	<0.1	0.450	0.000	0.224	17.780	0.00
01/07/26	4.206	14.0	4.7	<0.1	3.892	13.7	4.6	0.1	6.360	8.0	2.7	0.1	2.572	8.7	2.3	<0.1	0.451	0.000	0.129	17.610	0.00
01/08/26	3.842	15.6	3.5	<0.1	3.704	10.2	2.8	0.1	6.250	6.7	3.9	0.1	2.653	5.2	2.8	<0.1	0.450	0.000	0.148	17.047	0.01
01/09/26	3.505	13.2	3.8	<0.1	3.145	11.3	4.5	0.1	6.110	6.6	3.1	0.5	2.422	10.7	3.6	<0.1	0.451	0.000	0.030	15.663	0.00
01/10/26	3.369	13.5		0.1	4.094	9.4	4.5	0.1	5.880	5.8	3.2	0.2	2.571	10.7	2.9	<0.1	0.450	0.000	0.000	16.364	0.00
01/11/26	3.421	14.0	4.5	<0.1	3.497	9.3	7.4	<0.1	5.430	6.8	4.2	<0.1	2.800	15.2	5.6	<0.1	0.451	0.000	0.000	15.599	0.00
01/12/26	3.490	13.2	3.7	<0.1	3.037	6.6		0.1	6.060	5.8	3.8	<0.1	3.018	11.8	4.1	<0.1	0.451	0.000	0.000	16.056	0.00
01/13/26	3.619	14.8	4.2	<0.1	3.636	9.4	4.3	<0.1	7.770	7.3	4.3	<0.1	2.725	8.8	6.8	<0.1	0.450	0.000	0.000	18.200	0.00
01/14/26	3.719	17.6	5.3	<0.1	3.730	11.0	3.9	0.1	7.470	7.0	2.6	<0.1	3.062	16.6	6.0	<0.1	0.451	0.000	0.000	18.432	0.00
01/15/26	3.651	15.6	3.8	<0.1	1.472	10.7	5.6	0.1	7.410	5.1	3.4	0.2	3.285	14.6	6.4	<0.1	0.451	0.000	0.000	16.269	0.00
01/16/26	3.558	17.2	4.5	<0.1	3.947	9.3	5.5	<0.1	3.950	8.2	4.3	0.4	2.618	3.1	2.9	<0.1	0.451	0.000	0.000	14.524	0.00
01/17/26	3.426	17.1		0.1	3.916	8.0	4.0	<0.1	5.370	6.1	3.4		2.663	3.1	1.7		0.451	0.000	0.000	15.826	0.01
01/18/26	3.294	15.3	5.1	<0.1	3.749	5.1	2.3	<0.1	4.320	6.3	2.8	0.1	2.683	2.7	2.7	<0.1	0.450	0.000	0.000	14.496	0.00
01/19/26	3.252	15.5	6.4	<0.1	2.762	5.4		<0.1	4.350	7.2	1.6	<0.1	2.705	4.9	6.9	<0.1	0.451	0.000	0.000	13.520	0.00
01/20/26	3.245	15.6	6.0	<0.1	2.909	6.2	5.4	0.1	5.790	6.3	4.0	<0.1	2.751	4.7	5.2	<0.1	0.451	0.273	0.000	15.419	0.00
01/21/26	3.471	16.8	8.1	<0.1	3.195	11.6	4.5	0.1	3.170	9.8	3.4	<0.1	2.675	5.0	4.2	<0.1	0.450	0.278	0.000	13.239	0.00
01/22/26	3.576	15.2	6.0	<0.1	2.723	15.1	5.5	<0.1	4.500	6.8	3.2	0.1	2.708			<0.1	0.451	0.284	0.000	14.242	0.29
01/23/26	3.737	16.0	8.6	<0.1	3.676	12.4	6.6	<0.1	4.890	6.2	3.0	0.2	2.802	19.3	6.5	<0.1	0.450	0.283	0.000	15.838	0.01
01/24/26	3.796	16.4		<0.1	3.446	9.0	4.3	<0.1	5.230	6.4	3.5		2.953	2.9	1.2		0.451	0.368	0.000	16.244	0.00
01/25/26	3.426	15.6	4.6	<0.1	3.515	10.1	4.5	<0.1	4.460	8.9	2.4	<0.1	3.032	10.0	3.7	<0.1	0.450	0.346	0.000	15.229	0.01
01/26/26	3.211	12.8	4.9	<0.1	2.794	9.2		<0.1	5.380	6.4	3.2	0.2	2.679	7.4	4.2	<0.1	0.451	0.345	0.012	14.872	0.00
01/27/26	3.655	14.9	4.8	<0.1	2.724	11.4	6.1	<0.1	5.420	7.6	2.0	0.2	2.663	5.7	3.0	<0.1	0.450	0.344	0.000	15.256	0.00
01/28/26	3.787	13.7	5.5	<0.1	3.772	13.8	6.8	<0.1	4.490	8.0	2.2	0.2	2.635	7.1	4.2	<0.1	0.450	0.342	0.149	15.625	0.00
01/29/26	3.542	11.7	5.1	<0.1	2.325	20.8	11.9	0.1	4.320	5.9	2.5	<0.1	1.820	5.9	4.1	<0.1	0.450	0.345	0.120	12.922	0.00
01/30/26	3.456	13.6		<0.1	2.703	26.7	7.8	0.2	3.690	5.7	2.2	<0.1	2.361	3.3	4.0	<0.1	0.451	0.385	0.137	13.183	0.00
01/31/26	3.447	13.0		<0.1	2.856	9.9	7.8	<0.1	3.900	6.3	3.2		2.449	5.7	2.2		0.451	0.385	0.040	13.528	0.00
AVG	3.493	14.9	5.0	<0.1	3.427	11.5	5.5	<0.1	5.584	6.9	3.3	<0.2	2.746	8.1	3.9	<0.1	0.451	0.128	0.033	15.862	
TOTAL	108.28				106.24				173.09				85.12				13.97	3.98	1.033	491.71	1.65

Unified Beach Monitoring #1

South Orange County Wastewater Authority-Aliso Creek Ocean Outfall

REPORT FOR: January 2026
REPORT DUE: March 1 2026
SAMPLE SOURCE: Surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 10:22
Weather: Overcast
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Enterococcus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S3	01/06/26	8:28	50	10	10	None	None	None	None	Blue	62	Clear		
S4	01/06/26	11:00	20	<10	10	None	None	None	None	Green		Clear		
S5	01/06/26	10:45	10	<10	<10	None	None	None	None	Blue		Clear		
S6	01/06/26	10:28	<10	<10	<10	None	None	None	None	Green		Clear		
WEST	01/06/26	10:26	10	<10	<10	None	None	None	None	Blue		Clear		
S7	01/06/26	10:21	100	<10	<10	None	None	None	None	Blue		Clear		
S8	01/06/26	10:17	<10	10	<10	None	None	None	None	Blue		Clear		
S9	01/06/26	10:06	60	<10	<10	None	None	None	None	Blue		Clear		
ACM1	01/06/26	14:37	1,100	170	160	None	None	None	None	Green		Clear	Flowing	
S10	01/06/26	9:25	<10	<10	<10	None	None	None	None	Blue		Clear		
S11	01/06/26	9:17	10	<10	<10	None	None	None	None	Blue		Clear		
S12	01/06/26	9:06	10	<10	10	None	None	None	None	Blue		Clear		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #2

South Orange County Wastewater Authority-Aliso Creek Ocean Outfall

REPORT FOR: January 2026

REPORT DUE: March 1, 2026

SAMPLE SOURCE: Receiving water surf zone

TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly

EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan

SAMPLES COLLECTED BY: SOCWA Lab

SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: Low Tide 12:48

Weather: Clear

COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S3	01/13/26	12:06	190	<10	<2	None	None	None	None	Blue		Clear		
S4	01/13/26	11:54	50	<10	<2	None	None	None	None	Blue		Clear		
S5	01/13/26	11:50	130	<10	<2	None	None	None	None	Blue		Clear		
S6	01/13/26	11:40	<10	<10	<2	None	None	None	None	Blue		Clear		
WEST	01/13/26	11:27	<10	<10	<2	None	None	None	None	Blue		Clear		
S7	01/13/26	11:22	<10	<10	<2	None	None	None	None	Blue		Clear		
S8	01/13/26	11:14	<10	<10	<2	None	None	None	None	Blue		Clear		
S9	01/13/26	11:10	<10	<10	<2	None	None	None	None	Blue		Clear		
ACM1	01/13/26	10:59	10	20	2	None	None	None	None	Blue		Clear		
S10	01/13/26	10:44	20	<10	8	None	None	None	None	Blue		Clear		
S11	01/13/26	10:40	20	10	10	None	None	None	None	Blue		Clear		
S12	01/13/26	10:35	40	10	<2	None	None	None	None	Blue	61	Clear		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100m

Unified Beach Monitoring #3

South Orange County Wastewater Authority-Aliso Creek Ocean Outfall

REPORT FOR: January 2026

REPORT DUE: March 1, 2026

SAMPLE SOURCE: Receiving water surf zone

TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly

EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan

SAMPLES COLLECTED BY: SOCWA Lab

SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 9:21

Weather: Clear

COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S3	01/20/26	8:20	<10	<10	<2	None	None	None	None	Green		Clear		
S4	01/20/26	8:43	<10	<10	10	None	None	None	None	Green	60	Clear		
S5	01/20/26	9:32	<10	<10	<2	None	None	None	None	Green		Clear		
S6	01/20/26	9:31	10	<10	<2	None	None	None	None	Green		Clear		
WEST	01/20/26	9:34	<10	<10	<2	None	None	None	None	Green		Clear		
S7	01/20/26	9:39	10	<10	<2	None	None	None	None	Green		Clear		
S8	01/20/26	8:57	<10	70	44	None	None	None	None	Green		Clear		
S9	01/20/26	9:00	10	90	84	None	None	None	None	Green		Clear		
ACM1	01/20/26	9:21	<10	<10	6	None	None	None	None	Green		Clear		
S10	01/20/26	9:13	<10	<10	<2	None	None	None	None	Green		Clear		
S11	01/20/26	9:06	10	<10	2	None	None	None	None	Green		Clear		
S12	01/20/26	9:01	10	10	4	None	None	None	None	Green		Clear		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #4

South Orange County Wastewater Authority-Aliso Creek Ocean Outfall

REPORT FOR: January 2026
REPORT DUE: March 1, 2026
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: Low Tide 10:03
Weather: Clear
COMMENTS:

STA#	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S3	01/27/26	1132	<10	<10	<2	None	None	None	None	Blue		Clear		
S4	01/27/26	1102	<10	<10	<2	None	None	None	None	Blue		Clear		
S5	01/27/26	1051	<10	<10	<2	None	None	None	None	Green		Clear		
S6	01/27/26	1028	<10	10	<2	None	None	None	None	Green		Clear		
WEST	01/27/26	1022	<10	<10	<2	None	None	None	None	Green		Clear		
S7	01/27/26	1018	<10	<10	<2	None	None	None	None	Green		Clear		
S8	01/27/26	1012	<10	<10	<2	None	None	None	None	Green		Clear		
S9	01/27/26	0948	<10	<10	<2	None	None	None	None	Green		Clear		
ACM1	01/27/26	0919	260	100	20	None	None	None	None	Brown		Clear	Flowing	
S10	01/27/26	0914	<10	10	<2	None	None	None	None	Green		Clear		
S11	01/27/26	0910	<10	<10	2	None	None	None	None	Green		Clear		
S12	01/27/26	0901	10	<10	48	None	None	None	None	Green	59	Clear		

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Water Quality Sample Station Map – Aliso Creek Ocean Outfall

Aliso Creek Ocean Outfall

Unified Beach Water Quality Monitoring Stations

SOCWA's NPDES discharge permit requires participation in the South Orange County Unified Beach Water Quality Monitoring Program. The monitoring stations below are tested by SOCWA at least once per week for Total and Fecal Coliform and Enterococcus Bacteria.

Station	Location
S3	Three Arch Bay Beach; 10,000' down-coast from ACOO
S4	Ninth Street-1000 Steps; 5,000' down-coast from ACOO
S5	Laguna Lido Beach; 4,000 down-coast from ACOO
West	West Street Drain; 2,000' down-coast from ACOO
S6	Table Rock Beach; 3,000' down-coast from ACOO
S7	Camel Point Beach; 2,000' down-coast from ACOO
S8	Aliso Beach south; 1,000' down-coast from ACOO
S9	Aliso Beach middle; at ACOO
ACM1	Aliso Beach at Aliso Creek Outlet
S10	Aliso Beach north; 1,000' up-coast of ACOO
S11	Treasure Island Beach; 2,000' up-coast of ACOC
S12	Goff Island Beach; 3,000' up-coast of ACOO

MONITORING REPORT

Off Shore Stations

South Orange County Wastewater Authority

DISCHARGE: Aliso Creek Ocean Outfall
Report For: January 2026
Report Due: March 1, 2026
Sample Source: Receiving water, nearshore and offshore
Exact Sample Points: As specified in permit
Samples Collected By: Seaventures/SOCWA staff
Samples Analyzed By: SOCWA Lab

Report Frequency: Monthly
Sampling Frequency: Monthly
Type of Sample: Grab
Tide: High Tide 8:48
Comments:

Sta No.	Sample Depth	Sample Date	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Sample Time	Oil & Grease	Sewage Debris
A-1	Surface	01/19/26	2	<2	<2	8:10	0	0
A-1	Mid depth	01/19/26	<10	<10	10			
A-2	Surface	01/19/26	2	<2	<2	8:01	0	0
A-2	Mid depth	01/19/26	<10	<10	<10			
A-3	Surface	01/19/26	6	<2	<2	8:24	0	0
A-3	Mid depth	01/19/26	6	<10	<10			
A-4	Surface	01/19/26	2	<2	<2	8:31	0	0
A-4	Mid depth	01/19/26	<10	<10	<10			
A-5	Surface	01/19/26	2	<2	<2	8:17	0	0
A-5	Mid depth	01/19/26	<10	10	<10			
B-1	Surface	01/19/26	<2	<2	<2	7:50	0	0
B-1	Mid depth	01/19/26	<10	<10	<10			
B-2	Surface	01/19/26	6	<2	<2	8:39	0	0
B-2	Mid depth	01/19/26	10	<10	<10			
N1	Surface	01/19/26	<2	<2	<2	9:08	0	0
N2	Surface	01/19/26	<2	<2	<2	9:05	0	0
N3	Surface	01/19/26	<2	<2	<2	9:03	0	0
N4	Surface	01/19/26	<2	<2	<2	9:00	0	0
N5	Surface	01/19/26	<2	<2	<2	8:57	0	0
N6	Surface	01/19/26	<2	2	<2	8:53	0	0
N7	Surface	01/19/26	<2	<2	<2	8:50	0	0

0 - None
1 - Mild
2 - Moderate
3 - Severe

REQUIREMENT: (1) Floating particulates and grease and oil shall not be visible. (2) The discharge of waste shall not cause aesthetically undesireable discoloration of the ocean surface.
Receiving Water Limitations: (1)30-Day geometric mean of fecal coliform density not to exceed 200CFU/100 mL calculated based on the five most recent samples from each site (2)single sample max not to exceed 400 CFU/100mL (3) Enterococcus 6-week rolling geometric mean not to exceed 30 CFU/100 mL, calculated weekly. (4) Statistical threshold value (STV) of 110 CFU/100 mL for enterococcus not to be exceeded by more than 10% of samples collected in a calendar month, calculated in a static manner

Compliance Summary Report
Aliso Creek Ocean Outfall January 2026

ACOO Permit Order No. R9-2022-0006							
Agency - Facility	**Violation Date**	**Constituent**	**Effluent Limit Violation**	**Units**	**Permit Limit**	**Reported Value**	**Potential Fine**
LAWRP-PTP	1/31/2026	O&G	Deficient monitorng	mg/L	Monthly	N/A	$3,000

SOCWA and MEMBER AGENCY FACILITIES ACOO Spill / Overflow Report Log - January 2026 Order No. R9-2022-0006 ~ NPDES Permit No. CA0107611

Reporting Agency	Responsible Agency	Estimated Volume (Gallons)	Type of Discharge	Location/Comments	Receiving Waters	Date Reported To State	Date Resolved
				No Spills During this Monitoring Period			

SAN JUAN CREEK OCEAN OUTFALL MONITORING REPORT

January 2026

	J.B. LATHAM FACILITY				SAN CLEMENTE WRP				SMWD CHIQUITA WRP				3-A PLANT				CSJC Desalter	SCWD Desalter	SJCOO	Rain
	FLOW	TSS	cBOD	SS	FLOW	TSS	cBOD	SS	FLOW	TSS	cBOD	SS	FLOW	TSS	cBOD	SS	FLOW	FLOW	FLOW	Fall
DATE	MGD	mg/L	mg/L	ml/L	MGD	mg/L	mg/L	ml/L	MGD	mg/L	mg/L	ml/L	MGD	mg/L	mg/L	ml/L	MGD	MGD	MGD	inches
01/01/26	9.630	9.2	9.8	<0.1	3.575	6.2	7.1	<0.1	0.000				1.530	5.4	4.2	<0.1	0.010	0.177	15.170	0.53
01/02/26	9.510	9.6	7.1	<0.1	3.183	4.9	5.0	<0.1	0.000				1.538	7.4	3.3	<0.1	0.010	0.173	15.190	0.14
01/03/26	9.440	8.6	8.2		3.926				0.000				1.570				0.000	0.177	15.020	0.14
01/04/26	9.700	12.1	6.6	0.5	2.951	4.8	5.7		0.080	4.1	6.9	<0.1	1.693	8.1	5.4	<0.1	0.270	0.176	15.110	0.50
01/05/26	10.520	12.3	10.8	<0.1	3.932	6.7	5.3	<0.1	0.000				1.697	56.0	18.2	9.0	0.230	0.173	16.600	0.01
01/06/26	9.510	9.0	5.9	<0.1	3.922	6.0	6.1	<0.1	0.000				1.597	14.4	5.8	<0.1	0.380	0.176	15.780	0.00
01/07/26	9.090	8.5	5.6	<0.1	4.280	5.6	5.0	<0.1	0.136	4.8	3.6	<0.1	1.548	6.0	5.0	<0.1	0.020	0.177	15.800	0.00
01/08/26	8.940	8.2	11.2	<0.1	4.112	5.8	6.4	<0.1	0.000				1.461	16.3	7.4	<0.1	0.000	0.172	15.800	0.01
01/09/26	8.830	9.2	7.8	0.1	3.764	5.7	7.0	<0.1	0.000				1.447	37.3	15.7	<0.1	0.270	0.177	15.290	0.00
01/10/26	8.660	15.0	6.9		3.932				0.000				1.431			0.1	0.670	0.177	14.890	0.00
01/11/26	8.810	14.5	7.9	<0.1	3.636	6.0	5.2		0.000				1.416				0.660	0.172	14.670	0.00
01/12/26	8.850	10.4	9.4	<0.1	3.119	8.2	7.3	0.5	0.000				1.385	10.8	37.7	<0.1	0.670	0.014	14.810	0.00
01/13/26	8.550	12.9	6.9	<0.1	3.230	7.8	6.7	<0.1	0.000				1.407	72.4	18.3	<0.1	0.180	0.177	14.240	0.00
01/14/26	8.330	12.9	6.5	<0.1	3.166	7.4	7.4	<0.1	0.005	4.5	3.1	<0.1	1.406	22.4	9.0	<0.1	0.000	0.177	13.350	0.00
01/15/26	8.300	9.7	9.6	0.1	3.453	6.1	5.6	<0.1	0.000				1.381	32.0	11.6	<0.1	0.000	0.177	13.300	0.00
01/16/26	8.620	9.9	7.3	<0.1	2.745	5.6	6.8	<0.1	0.000				1.374	21.0	8.0	<0.1	0.000	0.175	13.560	0.00
01/17/26	8.390	15.6	7.2		2.713				0.000				1.394	16.9	5.7	0.1	0.430	0.177	12.740	0.01
01/18/26	8.560	29.0	29.0	64.0	3.425	3.5	4.8		0.000				1.377	23.1	6.2	<0.1	0.680	0.176	13.410	0.00
01/19/26	7.860	74.7	19.7	0.1	3.079	7.8	4.4	0.2	0.002	2.9	2.1	<0.1	1.448	22.4	8.6	<0.1	0.410	0.173	12.710	0.00
01/20/26	8.940	27.2	14.7	0.1	3.114	8.2	5.3	<0.1	0.002	3.1	2.2	<0.1	1.403	16.0	7.4	<0.1	0.430	0.154	14.360	0.00
01/21/26	9.060	10.6	15.2	0.1	3.319	8.0	5.8	0.1	0.002	2.6	2.3	<0.1	1.496	5.6	4.0	0.5	0.340	0.196	14.360	0.00
01/22/26	8.550	39.1	14.4	0.1	3.432	8.0	7.3	<0.1	0.000				1.509	9.2	3.1	<0.1	0.390	0.170	13.510	0.29
01/23/26	9.310	27.0	13.6	0.2	2.466	7.6	9.3	<0.1	0.000				1.404	17.0	6.0	0.3	0.450	0.178	13.970	0.01
01/24/26	8.660	7.4	4.9	<0.1	3.036				0.000				1.376				0.450	0.177	13.260	0.00
01/25/26	8.790	6.9	6.0	<0.1	2.510	4.9	6.5		0.002	1.8	4.5	<0.1	1.385	7.0	2.9	<0.1	0.450	0.177	13.600	0.01
01/26/26	8.830	9.3	7.7	<0.1	3.090	7.6	5.7	<0.1	0.003	2.4	3.0	<0.1	1.397	6.2	3.8	<0.1	0.430	0.017	13.600	0.00
01/27/26	8.590	15.8	8.3	<0.1	2.968	7.6	6.2	<0.1	0.000				1.415	0.7	2.8	<0.1	0.420	0.174	13.680	0.00
01/28/26	8.130	18.6	9.4	0.1	3.122	6.8	6.9	<0.1	0.002	1.5	3.0	<0.1	1.408	6.6	2.6	<0.1	0.420	0.178	13.430	0.00
01/29/26	8.230	18.1	10.6	<0.1	2.787	7.8	7.7	0.2	0.000				1.397	6.2	3.4	<0.1	0.430	0.176	13.470	0.00
01/30/26	7.790	15.6	9.7	<0.1	3.037	6.9	8.4	<0.1	0.000				1.387	5.0	5.0	<0.1	0.420	0.172	13.320	0.00
01/31/26	7.970	23.5	11.0		3.267				0.000				1.385				0.450	0.178	13.110	0.00
AVG	8.805	16.5	10.0	<2.5	3.300	6.6	6.3	<0.1	0.008	3.1	3.4	<0.1	1.454	17.4	8.1	<0.5	0.322	0.165	14.229	
TOTAL	272.950				102.291				0.234				45.062				9.970	5.120	441.110	1.65

Unified Beach Monitoring #1

South Orange County Wastewater Authority-San Juan Creek Ocean Outfall

REPORT FOR: January 2026

REPORT DUE: March 1, 2026

SAMPLE SOURCE: Receiving water surf zone

TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly

EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan

SAMPLES COLLECTED BY: SOCWA Lab

SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 9:48

Weather: Overcast

COMMENTS:

STATION #	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S0	01/05/26	9:19	<100	600	1200	None	None	None	None	Brown		Turbid		
S1	01/05/26	9:15	400	700	1100	None	None	None	None	Brown		Turbid		
S2	01/05/26	8:42	500	700	1300	None	None	None	None	Brown		Turbid		
DSB5	01/05/26	8:35	100	600	1200	None	None	None	None	Brown		Turbid	Flowing	
S3	01/05/26	9:34	1000	600	1000	None	None	None	None	Brown		Turbid		
DSB4	01/05/26	9:37	2700	400	520	None	None	None	None	Brown		Turbid		
S5	01/05/26	9:43	800	400	820	None	None	None	None	Brown	62	Turbid		
DSB1	01/05/26	9:46	1300	500	800	None	None	None	None	Brown		Turbid		
SJC1	01/05/26	9:08	4100	2100	4100	None	None	None	None	Brown		Turbid	Flowing	

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #2

South Orange County Wastewater Authority-San Juan Creek Ocean Outfall

REPORT FOR: January 2026
REPORT DUE: March 1, 2026
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: Low Tide 12:22
Weather: Clear
COMMENTS:

STATION #	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S0	01/12/26	8:28	220	100	220	None	None	None	None	Brown	58	Slightly Turbid		
S1	01/12/26	8:25	20	<20	20	None	None	None	None	Green		Slightly Turbid		
S2	01/12/26	9:14	100	<20	10	None	None	None	None	Green		Slightly Turbid		
DSB5	01/12/26	9:25	80	20	60	None	None	None	None	Green		Slightly Turbid	Flowing	
S3	01/12/26	8:48	<20	<20	10	None	None	None	None	Green		Slightly Turbid		
DSB4	01/12/26	8:45	<20	<20	2	None	None	None	None	Green		Slightly Turbid		
S5	01/12/26	8:55	<20	<20	<2	None	None	None	None	Green		Slightly Turbid		
DSB1	01/12/26	9:01	<20	<20	2	None	None	None	None	Green		Slightly Turbid		
SJC1	01/12/26	8:32	1300	800	1000	None	None	None	None	Brown		Turbid	Flowing	

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #3

South Orange County Wastewater Authority-San Juan Creek Ocean Outfall

REPORT FOR: January 2026
REPORT DUE: March 1, 2026
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 10:09
Weather: Overcast
COMMENTS:

STATION #	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S0	01/21/26	9:11	<20	<20	<2	None	None	None	None	Green		Slightly Turbid		
S1	01/21/26	9:15	<20	<20	10	None	None	None	None	Green		Slightly Turbid		
S2	01/21/26	8:37	20	<20	22	None	None	None	None	Green		Slightly Turbid		
DSB5	01/21/26	8:31	80	40	40	None	None	None	None	Green		Slightly Turbid	Flowing	
S3	01/21/26	9:25	<20	<20	4	None	None	None	None	Green		Slightly Turbid		
DSB4	01/21/26	9:27	<20	<20	<2	None	None	None	None	Green		Slightly Turbid		
S5	01/21/26	9:32	20	<20	20	None	None	None	None	Green	60	Slightly Turbid		
DSB1	01/21/26	9:35	20	100	10	None	None	None	None	Green		Slightly Turbid		
SJC1	01/21/26	9:03	<20	60	20	None	None	None	None	Green		Slightly Turbid	Flowing	

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Monitoring #4

South Orange County Wastewater Authority-San Juan Creek Ocean Outfall

REPORT FOR: January 2026
REPORT DUE: March 1, 2026
SAMPLE SOURCE: Receiving water surf zone
TYPE OF SAMPLE: Grab

REPORT FREQUENCY: Monthly
EXACT SAMPLE POINTS: As specified in Unified Monitoring Plan
SAMPLES COLLECTED BY: SOCWA Lab
SAMPLES ANALYZED BY: SOCWA Lab

Tidal Condition: High Tide 10:02
Weather: Partly Cloudy
COMMENTS: Lots of small birds at SJC1z

STATION #	DATE	TIME	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Material of Sewage Origin Onshore	Material of Sewage Origin Offshore	Oil & Grease	Odor	Water Color	H20 Temp(F)	Water Condition	Water Outlet	Birds
S0	01/26/26	11:59	100	100	10	None	None	None	None	Brown		Clear		
S1	01/26/26	11:57	20	<20	8	None	None	None	None	Brown		Clear		
S2	01/26/26	12:34	20	<20	<2	None	None	None	None	Green		Clear		
DSB5	01/26/26	12:29	80	<20	8	None	None	None	None	Green		Clear		
S3	01/26/26	12:51	20	<20	6	None	None	None	None	Green		Clear		
DSB4	01/26/26	12:49	<20	20	2	None	None	None	None	Green		Clear		
S5	01/26/26	13:03	20	20	<2	None	None	None	None	Brown		Clear		
DSB1	01/26/26	13:05	<20	<20	<2	None	None	None	None	Brown		Clear		
SJC1	01/26/26	12:04	2200	960	4000	None	None	None	None	Brown	62	Clear	Flowing	

RECEIVING WATER LIMITATIONS:Single Sample Maximum - Total coliform density shall not exceed 10,000 per 100ml; Fecal coliform density shall not exceed 400 per 100ml; Enterococcus density shall not exceed 104 per 100ml.

Unified Beach Water Quality Sample Stations - SJCOO

DSB 5	Doheny Beach – North Creek Outlet 1500' up-coast from SJCOO
S2	Doheny Beach- Midway between Jetty and San Juan Creek
SJC1	San Juan Creek Mouth – up-coast from SJCOO
S0	Doheny Beach at Outfall; surf line over SJCOO
S1	Doheny Beach Campground; 1,000' down-coast from SJCOO
DSB 4	Doheny State Beach; 1,900' down-coast from SJCOO
S3	South Day Use; 2000' down-coast from SJCOO
S5	Doheny Beach near overpass; 3000' down-coast from SJCOO
DSB 1	End of Doheny State Beach; 3500' down-coast from SJCOO

San Juan Creek Ocean Outfall

Unified Beach Water Quality Monitoring Stations

SOCWA's NPDES discharge permit requires participation in the South Orange County Unified Beach Water Quality Monitoring Program. The monitoring stations below are tested by SOCWA at least once per week for Total and Fecal Coliform and Enterococcus Bacteria.

Station	Location
DSB 5	Doheny Beach – North Creek Outlet 1500' up-coast from SJCOO
S2	Doheny Beach- Midway between Jetty and San Juan Creek
SJC1	San Juan Creek Mouth – up-coast from SJCOO
S0	Doheny Beach at Outfall; surf line over SJCOO
S1	Doheny Beach Campground; 1,000' down-coast from SJCOO
DSB 4	Doheny State Beach; 1,900' down-coast from SJCOO
S3	South Day Use; 2000' down-coast from SJCOO
S5	Doheny Beach near overpass; 3000' down-coast from SJCOO
DSB 1	End of Doheny State Beach; 3500' down-coast from SJCOO

MONITORING REPORT | Offshore

South Orange County Wastewater Authority

DISCHARGE: San Juan Creek Ocean Outfal
Report For: January 2026
Report Due: March 1, 2026
Report Frequency: Monthly
Sample Source: Receiving water, nearshore and offshore
Sampling Frequency: Monthly
Exact Sample Points: As specified in permit
Type of Sample: Grab
Samples Collected By: Seaventures/SOCWA staff
Tide: High Tide 8:48

Samples Analyzed By: SOCWA Lab

Comments:

Station No.	Sample Depth	Sample Date	Total Coliform CFU/100ml SM9222B	Fecal Coliform CFU/100ml SM9222D	Entero-coccus CFU/100ml EPA 1600	Sample Time	Oil & Grease	Sewage Debris
A-1	Surface	01/19/26	<2	<2	<2	9:55	0	0
A-1	Mid depth	01/19/26	<10	<10	<10			
A-2	Surface	01/19/26	<2	<2	<2	9:48	0	0
A-2	Mid depth	01/19/26	<10	10	<10			
A-3	Surface	01/19/26	<2	238	110	10:09	0	0
A-3	Mid depth	01/19/26	<10	170	30			
A-4	Surface	01/19/26	<2	<2	<2	10:15	0	0
A-4	Mid depth	01/19/26	<10	<10	<10			
A-5	Surface	01/19/26	<2	240	72	10:03	0	0
A-5	Mid depth	01/19/26	<10	360	130			
B-1	Surface	01/19/26	2	<2	<2	9:43	0	0
B-1	Mid depth	01/19/26	<10	<10	<10			
B-2	Surface	01/19/26	<2	<2	<2	10:20	0	0
B-2	Mid depth	01/19/26	<10	<10	<10			
N1	Surface	01/19/26	<2	<2	2	9:36	0	0
N2	Surface	01/19/26	<2	<2	<2	9:33	0	0
N3	Surface	01/19/26	<2	<2	<2	9:30	0	0
N4	Surface	01/19/26	<2	<2	<2	9:26	0	0
N5	Surface	01/19/26	<2	<2	<2	9:23	0	0
N6	Surface	01/19/26	<2	<2	<2	9:19	0	0

0 - None
1 - Mild
2 - Moderate
3 - Severe

REQUIREMENT: (1) Floating particulates and grease and oil shall not be visible. (2) The discharge of waste shall not cause aesthetically undesireable discoloration of the ocean surface.

Receiving Water Limitations: (1)30-Day geometric mean of fecal coliform density not to exceed 200CFU/100 mL calculated based on the five most recent samples from each site (2)single sample max not to exceed 400 CFU/100mL (3) Enterococcus 6-week rolling geometric mean not to exceed 30 CFU/100 mL, calculated weekly. (4) Statistical threshold value (STV) of 110 CFU/100 mL for enterococcus not to be exceeded by more than 10% of samples collected in a calendar month, calculated in a static manner

Compliance Summary Report

San Juan Creek Ocean Outfall January 2026

SJCOO Permit Order No. R9-2025-0001							
Agency	Violation Date	Constituent	Effluent Limit Violation	Units	Permit Limit	Reported Value	Potential Fine
MNWD-3A	1/5/2026	SS	Instantaneous Max	ml/L	3.0 ml/L	9.0 ml/L	$3,000
SOCWA-JBL	1/18/2026	SS	Instantaneous Max	ml/L	3.0 ml/L	64.0 ml/L	$3,000
SOCWA-JBL	1/24/2026	SS	Average Weekly	ml/L	1.5 ml/L	9.23 ml/L	$3,000
SOCWA-JBL	1/31/2026	SS	Average Monthly	ml/L	1.0 ml/L	2.5 ml/L	$3,000

SOCWA and MEMBER AGENCY FACILITIES SJCOO Spill / Overflow Report Log -January 2026 Order No. R9-2025-0001 ~ NPDES Permit No. CA0107417

Reporting Agency	Responsible Agency	Estimated Volume (Gallons)	Type of Discharge	Location/Comments	Receiving Waters	Date Reported To State	Date Resolved
				No spills during this monitoring period.			

Waste Discharge Requirement Order 97 - 52							
Agency - Facility	Violation Date	Constituent	Effluent Limit Violation	Units	Permit Limit	Reported Value	Remarks
MNWD - RTP	1/5/2026	Manganese	12-Month	mg/L	0.05	0.14	
MNWD - RTP	1/5/2026	Manganese	Daily Maximum	mg/L	0.06	0.19	
SOCWA - CTP	1/7/2026	Manganese	12-Month	mg/L	0.05	0.08	
SOCWA - CTP	1/7/2026	Manganese	Daily Maximum	mg/L	0.06	0.07	
MNWD - 3A	9/26/2025	Manganese	12 month	mg/L	0.05	0.10	offline
MNWD - 3A	9/26/2025	Manganese	Daily Maximum	mg/L	0.06	0.08	offline

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

QUARTERLY RECYCLED WATER MONITORING

Monitoring Period Ending: Jan 31, 2026

Constituent	Units	12-month Avg Maximum Permit Limit	TCWD 12-month Average	SMWD Oso 12-month Average	SMWD Chiquita 12-month Average	SMWD Nichols 12-month Average	MNWD-3A 12-month Average	MNWD-RTP 12-month Average	SCWD-CTP 12-month Average ***
TDS	mg/L	1000	807		883	870	898	867	728
Chloride	mg/L	375	232		238	243	228	182	145
Sulfate	mg/L	400	302		215	170	355	176	185
Sodium	mg/L	None	60		165	178		207	158
Alkalinity	mg/L	None	-	-	-	-		239	170
Adjusted SAR	Ratio	None	5.38		5.34	5.32	4.57	4.50	4.33
Iron	mg/L	0.3	0.064		0.115	0.023	0.20	0.288	0.153
Manganese	mg/L	0.05	0.002		0.038	0.011	0.10	0.141	0.082
MBAS	mg/L	0.5	<0.50		0.18	0.24	<0.05	<0.13	<0.10
Boron	mg/L	0.67	0.263		0.233	0.378	0.27	0.327	0.27
Fluoride	mg/L	None	0.97		0.54	0.52	0.75	0.72	0.57
Total Organic Carbon	mg/L	None	6.1		12.0	9.9	11.9	11.5	9.8

*** The CTP 12-month permit limits are listed below:

TDS	1200 mg/L
Chloride	400 mg/L
Sulfate	500 mg/L

SOCWA Service Area
Recycled Water Production (ac-ft)
2026

Agency	Facility or Region	Jan '26	Feb '26	Mar '26	Apr '26	May '26	Jun '26	Jul '26	Aug '26	Sep '26	Oct '26	Nov '26	Dec '26	Annual Totals
CSJC 1	3-A Plant/MNWD	2.43												2.43
CSJC 2	Chiquita/SMWD	1.30												1.30
CSJC 3	Non-Domestic Wel	4.97												4.97
ETWD	Region 8	30.46												30.46
IRWD														
4	IRWD - 8	50.83												50.83
4	IRWD - 9	13.40												13.40
SCWD	SOCWA CTP	11.92												11.92
MNWD	JRP	198.46												198.46
	3-A Plant	0.00												0.00
5	CTP	0.00												0.00
SMWD	Oso Creek	0.00												0.00
	Chiquita	538.77												538.77
	Nichols	2.29												2.29
TCWD	RRWRP	43.03												43.03
TOTALS		897.85												897.85

1 Denotes transfer of recycled water from MNWD (3A Plant) for use in the CSJC service area. Not counted as additional production.
2 Denotes recycled water purchased from SMWD Chiquita-WRP used in the CSJC service area. Not counted as additional production.
3 Denotes nondomestic groundwater produced from wells used for landscape irrigation.
4 IRWD production is from recycled water production, nonpotable water wells, and surface water impoundments
5 Denotes transfer of recycled water from SCWD (SOCWA CTP) for use in the MNWD service area. Not counted as additional production.
Note: All of ETWD reclaimed water produced and used in Region 8.
NR = No Report

Pretreatment Report

Agenda Item

Legal Counsel Review: No	
Meeting Date: March 5, 2026	

TO: Board of Directors

FROM: Amber Boone, General Manager

STAFF CONTACT: Katie Greenwood, Source Control Manager

SUBJECT: Monthly Pretreatment Report – February 2026
San Juan Creek Ocean Outfall
NPDES Permit #CA0107417 Order # R9-2022-0005
Aliso Creek Ocean Outfall
NPDES Permit #CA0107611 Order # R9-2022-0006

Summary of Program Activities

SOCWA staff completed the 2025 annual pretreatment report. Staff reviewed and entered influent/effluent sampling data for eight treatment plants including SOCWA (JBL and CTP), SMWD (Chiquita), MNWD (3A and RTP), CSC, IRWD (Alisos) and ETWD into the Water Information Management Solution (WIMS) database so it may be uploaded electronically to the State CA Integrated Water Quality System (CIWQS) database. Staff also completed the narrative portion of the 2025 SOCWA Annual Pretreatment report. The final report in its entirety was submitted through CIWQS to the RWQCB-SD by March 1, 2026, and copy was distributed to key member agency staff.

Permit Related Activities

The following Wastewater Discharge (WD) Permits, Special Wastewater Discharge (SWD) Permits, Nuisance Water-Special Wastewater Discharge (NSWD) Permits, Non-Industrial Wastewater Discharge (NIWD) forms, and BMP letters were issued or are in the process of being drafted for issuance:

SMWD – <u>CR&R La Pata Transfer Station</u>– SOCWA received a partial permit application for a proposed truck wash facility. To complete the application, staff requested confirmation of the wastewater generating processes, truck type and volume, and proposed pretreatment. Additionally, the applicant is required to characterize the wastewater through sampling of a similar sister site. As of January 2026, staff has reviewed and approved the sister site sampling plan and is waiting to receive the data.

SOCWA/SMWD – <u>San Juan Meadows</u> – On February 3, 2026, Geosyntec, on behalf of Advanced Group 99-SJ, submitted part one of a SWD permit application for a groundwater dewatering project at the proposed San Juan Meadows Development Project, located in San Juan Capistrano. Staff are reviewing the first half of the application and are waiting to receive the second half.

SMWD – Incendo – In response to inspection findings, Incendo staff submitted a permit application on January 27, 2026. Staff reviewed the information and drafted a class II WD permit, currently under a courtesy review by the industry prior to providing to SMWD for review and signature. Staff are aiming to issue it by end of March 2026.

SCWD/SOCWA – Acciona (Doheny Ocean Desalination Plant) - Staff received a partial permit application on February 5, 2026, from Acciona, the contractor for the SCWD desalination plant, for the proposed discharge from the CIP process associated with the SCWD Doheny Ocean Desalination Plant. Staff requested additional information to complete the application.

MNWD/SOCWA – Aliso Creek Lift Station Rehabilitation Project - Staff received a second SWD permit application from Pacific Hydrotech, working for MNWD, for the discharge of groundwater encountered during trenching efforts associated with the rehabilitation of the Aliso Creek Lift Station. Staff expect to issue a permit on April 1, 2026.

SOCWA – Southern California Gas Company (SoCalGas) – SWD Permit #SOCWA-4-010-01-26 - On February 17, 2026, staff received a second permit application and discharge request proposing to discharge up to 730,000 gallons of water sourced from recycled water provided by MNWD and used for hydrostatic safety testing of a 9.9 mile existing 30-inch natural gas transmission line. The proposed discharge is set to commence in August 2026. Staff are reviewing the application.

Training and Meetings

Staff attend monthly OC Strike Force meetings to share and receive environmental case updates.

Staff attend monthly CWEA SARBS BOD meetings as the current pretreatment chair.

On February 3, 2026, staff participated via Zoom in the Clean Water SoCal Pretreatment Committee meeting, serving as one of the presenting committee co-chairs. The meeting included a regulatory update and featured presentations on three PFAS studies, along with related regulatory developments.

On February 10-12, 2026, staff attended the CWEA P3S Annual Conference in Riverside and participated in the P3S committee meeting on February 12, 2026.

Inspections

SMWD – On February 25, 2026, SOCWA and SMWD staff jointly inspected Docent Brewery in CSJC and Mission Ready Brewing in RSM. Inspection findings are pending as of the date of this report.

Enforcement

SMWD –Applied Medical Rubber Manufacturing, Building R103 (WD Permit #SMWD-1-003) – On February 17, 2026, SOCWA issued a notice of non-compliance (NON) to Applied Medical for exceeding the permit limit for zinc and oil & grease at sample location 001. As required, 24-hour notification was given. The system was cleaned, and re-sampling was performed, and compliant results were provided to SOCWA within 30 days, as required. SOCWA considers this enforcement action resolved.

CSC - Custom Flavors (WD Permit #CSC-2-009-08-27) 160 Calle Iglesia – On February 19, 2026, staff issued a notice of non-compliance (NON) for exceeding the permit limit for O&G (oil and grease) on January 28, 2026. SOCWA was notified within 24 hours of becoming aware of the violation. The discharge was re-sampled within 30 days and measured in compliance with permit limits. SOCWA considers this enforcement action resolved.

CSC – Reynard (WD Permit #CSC-1NS-002) – On February 24, 2026, staff issued a warning notice of noncompliance (WNON) for late reporting. All self-monitoring reports are due to SOCWA by the 20th of each month and Reynard staff failed to submit its January 2026 SMR by the due date of February 20, 2026.

Summary of IWS Activities in SOCWA's Service Area - YTD through February 24, 2026

MA IUs	Events	Permits	NIWD	BMPs	FSEs	OSEs	DSEs	Closed	Enforcement	Total IUs
CLB (S)	0	2	2	5	8	110	15	0	0	142
CSC (S)	14	10	35	18	187	1263	38	9	2	1551
CSJC (S)	7	0	27	58	142	1706	31	0	0	1964
ETWD (M)	3	0	88	0	261	148	51	0	0	503
EBSD (U)	0	1	0	0	0	0	0	0	0	1
IRWD (S)	1	6	51	21	63	915	18	0	0	1074
MNWD (S)	2	5	120	38	662	2146	156	0	0	3127
SMWD (S)	9	9	19	19	222	863	52	0	1	1184
SCWD (S)	2	7	33	7	149	185	15	0	0	396
TCWD (S)	0	0	11	0	7	33	2	0	0	51
SOCWA (S)	0	6	1	0	0	0		0	0	6
Totals	38	46	387	166	1701	7369	378	9	3	**9999**

(S) = SOCWA conducts PT program NIWD = Non-industrial Waste Discharger YTD = Year to Date
(M) = MA conducts PT program /w SOCWA BMP = Best Management Practices OSE = Other Surveyed Establishment
(U) = Urban Diversion Only FSE = Food Service Establishment DSE = Dental Surveyed Establishment

Agenda Item 5.E.

Board of Directors Meeting
Meeting Date: March 5, 2026

TO: Board of Directors

FROM: Amber Boone, General Manager

STAFF CONTACT: Roni Grant, Capital Improvement Program Manager

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

The status of the SOCWA Capital Improvement Program and construction projects progress are presented in the tables on the following pages. Below are updates for the previous month for the major construction projects currently underway at SOCWA facilities, including any change orders.

J.B. Latham Treatment Plant Electrical System Upgrades
Replacement of MCC-M and Plant 1 Standby Generator

Pre-purchasing activities for the Motor Control Center (MCC) and Plant 1 Generator are currently underway. Construction is anticipated to be completed by December 2026, contingent upon the issuance of the AQMD permit to construct for the generator.

J.B. Latham Treatment Plant Effluent Pump Station and Energy Building Upgrades
Replacement of effluent valves and piping; installation of monorail system, roof, safety and seismic retrofit in the Energy Building.

Construction is currently in progress. Construction is anticipated to be completed by July 2026.

J.B. Latham Plant 2 Headworks Rehabilitation
Plant 2 Headworks Building rehabilitation including roof, channel coating, grating, HVAC system and misc. electrical upgrades.

Construction is currently in progress. Construction is anticipated to be completed by July 2026.

J.B. Latham Old Effluent Pump Station Staging and Repurposing
Demolition of the Old Effluent Pump Station and Repurpose into staging and storage area.

Construction is currently in progress. Construction is anticipated to be completed by July 2026.

CTP Aeration Deck Grating Replacement
Improvements to the aeration deck grating, including concrete repair and grating supports.

Construction has been completed.

CTP West Primary and Secondary Scum Skimming System
Replacement of the west primary and secondary scum skimmers, launders and weirs

Construction is currently in progress. Construction is anticipated to be completed by July 2026.

Coastal Treatment Plant Personnel Building Reconstruction
Improvements to Personnel Building including lockers, fixtures, ceilings, tiles and minor electrical items.

The construction contract has been approved; construction is anticipated to be completed by July 2026.

Coastal Treatment Plant Grit Tank Coating System Upgrades
Removal of the existing coating system and apply new coating system at the grit tanks.

The first phase of the construction has been completed. Phase 2 will be combined with the Foul Air System Upgrades project.

CTP Storm Drain Improvements
Improvements to the storm drain systems at CTP.

The bids are currently under review. Construction is anticipated to be completed by July 2026.

Recommended Action: Information only.

SOCWA CIP Workplan

Project Number	Project Name	Project Budget	Status	FY 2025/2026 Q1 (Jul - Sep)	FY 2025/2026 Q2 (Oct - Dec)	FY 2025/2026 Q3 (Jan - Mar)	FY 2025/2026 Q4 (Apr - Jun)	FY 2026/2027 Q1 (Jul - Sep)	FY 2026/2027 Q2 (Oct - Dec)	FY 2026/2027 Q3 (Jan - Mar)	FY 2026/2027 Q4 (Apr - Jun)
PC 2 - J.B. Latham Treatment Plant											
3215/3252	MCC M and Plant 1 Generator Replacement	$ 4,406,903	Pre-procurement and design underway	D	D	D	B&A	C	C	C	C
3285	Main Plant Drain Line Reconstruction	$ 500,000	Design underway	D	D	B&A	C	C	C		
32241L	Effluent Pump Station Storage and Staging Area	$ 850,000	Bids under review	D	B&A	C	C	C			
32226L	Effluent Pump Station Upgrades	$ 1,877,000	Construction underway	C	C	C					
32243L	Plant 2 Headworks Rehabilitation	$ 2,200,000	Construction underway	C	C	C					
32262L	DAF Polymer System Upgrade	$ 741,000	Planning underway	P	P	D	D	D	B&A	C	C
3216/32225C /32225S	Energy Building Upgrades	$ 1,955,000	Construction underway	C	C	C					
32232S	Buried Digester Gas and Flare Piping Improvements	$ 125,000	Design underway	D	D	D	D	B&A	C	C	C
32234S	Heat Exchanger 4 Pipe Replacement	$ 75,000	Design underway	D	D	D	D	B&A	C	C	C
32224S	Truck Loading area, MCC 2 and CF Reconstruction	$ 3,000,000	FY 26/27					P	P	D	D
32231S	Gas Flare Replacement	$ 2,000,000	Design underway	D	D	D	D	B&A	C	C	C
32261S	Odor Control Scrubber No. 2 Replacement	$ 2,000,000	Planning underway	P	P	D	D	D	B&A	C	C
32262S/32264S	Dewatering System Replacement	$ 1,056,490	Planning underway	P	P	D	D				
32263S	Buried Digester Piping Reconstruction	$ 250,000	Design underway	D	D	D	D	B&A	C	C	C
322236S	Digester 3 and 4 Upgrades and Coating	$ 500,000	FY 26/27	P	P	D	D	B&A	C	C	C
32252S	Cogen 60K Overhaul	$ 400,000	Construction completed	C	C						
PC 5 - San Juan Creek Ocean Outfall											
5059	Monitoring Vault Rehabilitation	$ 165,000	FY 26/27					P	D	D	D
PC15 - Coastal Treatment Plant											
3541A	Export Sludge Environmental Mitigation	$ 1,392,100	Mitigation work/permitting ongoing	ENV	ENV	ENV	ENV				
35242L	Grit Baffles and Diffusers	$ 200,000	Phase 1 completed	B&A	C	C	C				
15820/15821	East Primary Tank Sludge Piping, Troughs and Scum Skimmers	$ 275,000	Planning underway					P	D	D	D
3543	Export Sludge Pipeline Replacement at RTP	$ 400,000	Planning underway	P	D	D	D	P	D	D	D

SOCWA CIP Workplan

				FY 2025/2026				FY 2026/2027			
Project Number	Project Name	Project Budget	Status	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
35247L	Aeration Blower System Upgrades	$ 142,657	Preliminary design underway	P	P	D	D	B&A	C	C	C
35246L/35239L	West Primary and Secondary Sludge Skimmers and Launders/Weirs	$ 1,750,000	Contract awarded	D	B&A	C	C				
35229L/35235L	Odor Control Scrubber/Foul Air System Reconstruction	$ 1,650,000	Final design underway	D	D	D	B&A	C	C	C	C
3522AL	Drainage Pump Station	$ 4,200,000	Final design underway	D	D	D	B&A	C	C	C	
3525	Personnel Building Reconstruction	$ 911,586	Phase 1 completed, Phase 2 bidding underway	D	B&A	C	C				
35233L/35236L	Scum Pump Station and Wet well	$ 300,000	FY 26/27					P	D	D	D
35234L	RAS/WAS Pump Station Repair	$ 100,000	FY 26/27					P	P	D	D
35237L	Electrical Manhole/Cable Project	$ 85,000	FY 26/27					P	P	D	D
15817	EQ Tank Liner Rehabilitation	$ 300,000	FY 26/27					D	B&A	C	C
35248L	Access Road Repaving	$ 950,000	Design underway	D	B&A	C	C				
35245L	Grating Replacement on Aeration/Secondary Deck	$ 160,000	Construction completed	B&A	C	C	C				
PC 21 - Effluent Transmission Main											
3107/3108	Air Valve Replacement	$ 911,424	Design/permitting underway	D	ENV	ENV	B&A	C	C		
31222B	Reach B Techite Pipe Replacement	$ 657,000	RFP underway		P	D	D	D	C	C	C
3101/31221B	Trail Bridge Crossing	$ 1,947,284	Planning/design underway	P	P	P	P	ENV	ENV	ENV	ENV
PC 24 - Aliso Creek Ocean Outfall											
54221O	Outfall inspection, port cleaning and repairs	$ 400,000	FY26/27					P	D	D	B&A
34222O	Golf Course Road	$ 45,000	Planning underway	D	D	B&A	C	C			

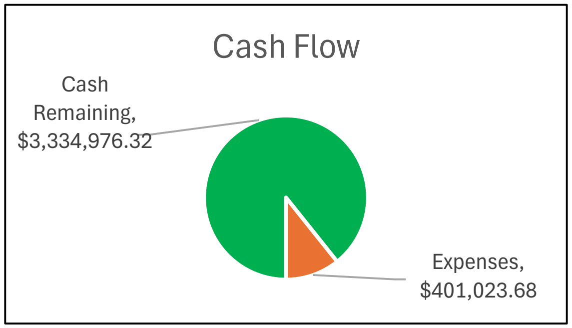
P	Planning
CA	Condition Assessment
ENV	Environmental/Permitting
D	Design
B&A	Bidding and Award
C	Construction

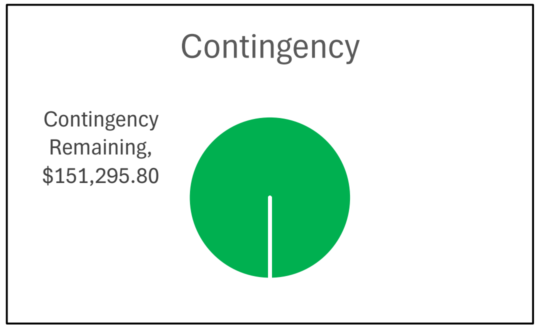
Project Financial Status

Project Committee	2
Project Name	Effluent Pump Station and Energy Building Upgrades
Project Description	Replacement of effluent valves and piping; installation of monorail, roof, safety upgrades and seimsic retrofit in the Energy Building

Data Last Updated

February 5, 2026





Cash Flow

Collected	$ 3,736,000.00
Expenses	$ 401,023.68

Project Completion

Schedule	40%
Budget	10.73%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
Pacific Hydrotech	21280	$ 3,093,900.00	$ 3,399.20		$ 3,097,299.20	$ 323,898.58
Carollo Engineers	20453	$ 119,316.00			$ 119,316.00	$ 29,758.40
Project Partners	21283	$ 12,500.00			$ 12,500.00	
SOCWA Staff Time	32226L/32225S/3216					$ 47,366.70
		$ 3,225,716.00	**$ 3,399.20**	**$ -**	**$ 3,229,115.20**	**$ 401,023.68**

Construction Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids/Solids/Common	32226L/32225S/3216	$ 154,695.00	$ 3,399.20	$ 151,295.80	2.2%
		$ 154,695.00	**$ 3,399.20**	**$ 151,295.80**	2.2%

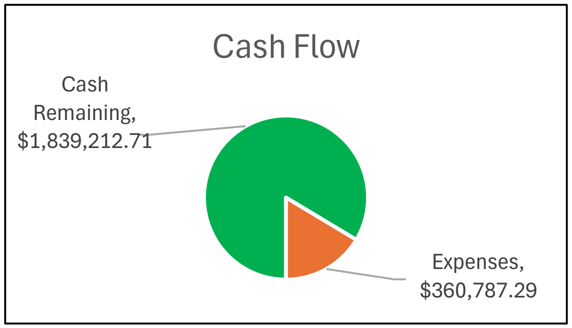
Change Order No.	Vendor Name	Project ID	Description	Status Date	Days	Amount
1	Pacific Hydrotech	32225S	Energy Building Guardrail mounting plate anchor conflicts	12/11/2025	0	$ 31,955.35
2	Pacific Hydrotech	32226L	Effluent Pump Station Manifold Tee Addition	12/23/2025	0	$ 9,432.35
3	Pacific Hydrotech	32226L	Effluent Pump Station Line Stop Deduct	12/23/2025	0	$ -37,988.50
						$ 3,399.20

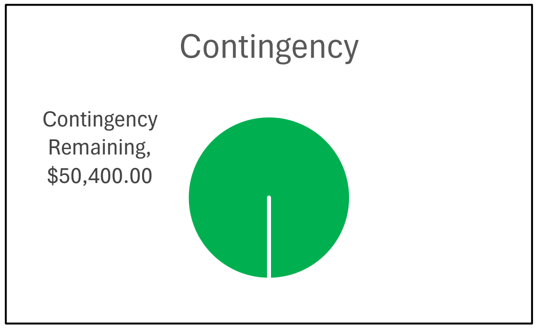
Project Financial Status

Data Last Updated

February 5, 2026

Project Committee	2
Project Name	Plant 2 Headworks Rehabilitation - 32243L
Project Description	Plant 2 Headworks building roof replacement, channel concrete repair and cover replacement, and electrical modification





Cash Flow

Collected	$ 2,200,000.00
Expenses	$ 360,787.29

Project Completion

Schedule	25%
Budget	16.38%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
Pacific Hydrotech	21351	$ 2,149,600.00			$ 2,149,600.00	$ 323,898.58
Dudek Engineers	20250	$ 47,858.00			$ 47,858.00	$ 8,642.50
Project Partners	21283	$ 5,000.00			$ 5,000.00	
SOCWA Staff Time	32243L					$ 28,246.21
		$ 2,202,458.00	**$ -**	**$ -**	**$ 2,202,458.00**	**$ 360,787.29**

Construction Contingency

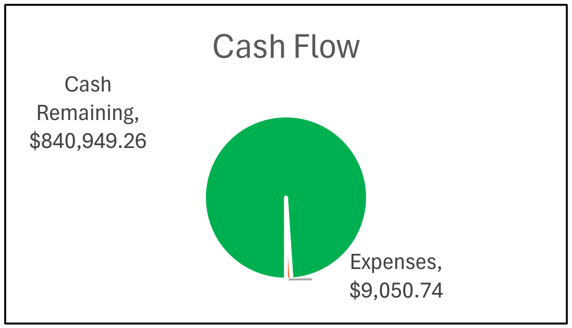
Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	32243L	$ 50,400.00		$ 50,400.00	0.0%
		$ 50,400.00	**$ -**	**$ 50,400.00**	**0.0%**

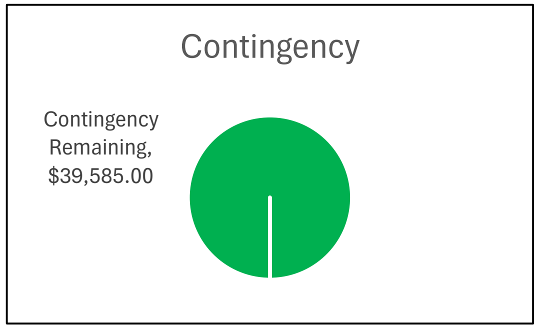
Project Financial Status

Project Committee	2
Project Name	Effluent Pump Station Stroage and Staging Area (32241L)
Project Description	Demolition of the existing Effluent Pump Station and Repurpose into parking and storage area

Data Last Updated

February 5, 2026





Cash Flow

Collected	$ 850,000.00
Expenses	$ 9,050.74

Project Completion

Schedule	10%
Budget	1.11%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
Pacific Hydrotech	21640	$ 791,700.00			$ 791,700.00	
Z&K/Ardurra	21446	$ 26,640.00			$ 26,640.00	
SOCWA Staff Time	32241L					$ 9,050.74
		$ 818,340.00	**$ -**	**$ -**	**$ 818,340.00**	**$ 9,050.74**

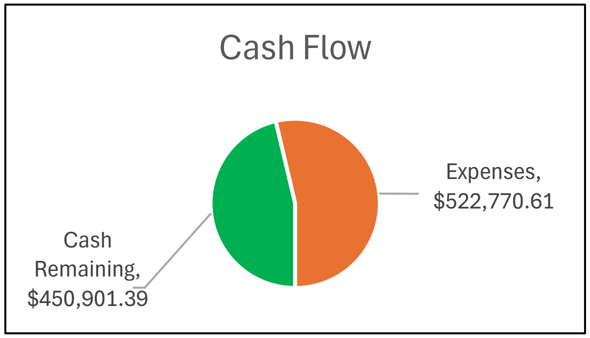
Construction Contingency

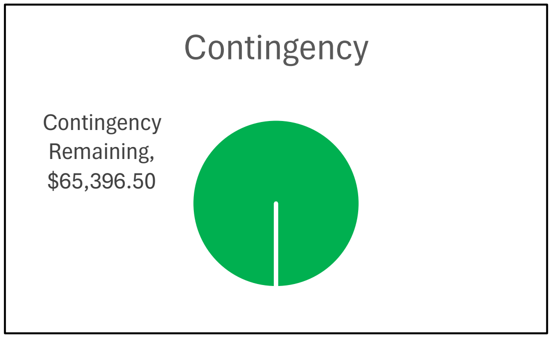
Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	32241L	$ 39,585.00		$ 39,585.00	0.0%
		$ 39,585.00	**$ -**	**$ 39,585.00**	**0.0%**

Data Last Updated
February 5, 2026

Project Financial Status

Project Committee	2
Project Name	Electrical System Upgrades - 3252
Project Description	Electrical System upgrades including MCC and Plant 1 Generator





Cash Flow

Collected	$ 973,672.00
Expenses	$ 522,770.61

Project Completion

Schedule	40%
Budget	64%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
Quinn Power	20975	$ 414,940.00			$ 414,940.00	$ 264,999.15
Pacific Parts	20561	$ 239,025.00			$ 239,025.00	$ 56,331.22
Hazen	14331	$ 164,350.00			$ 164,350.00	$ 149,354.49
SOCWA Staff Time	3252					$ 52,085.75
		$ 818,315.00	**$ -**	**$ -**	**$ 818,315.00**	**$ 522,770.61**

Construction Contingency

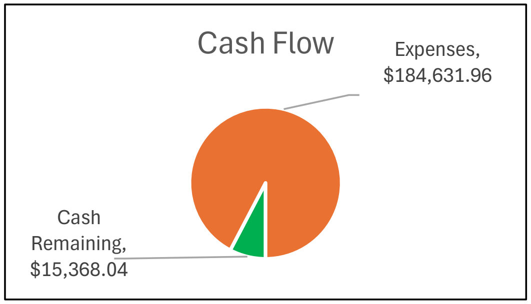
Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	3252	$ 65,396.50		$ 65,396.50	0.0%
		$ 65,396.50	**$ -**	**$ 65,396.50**	**0.0%**

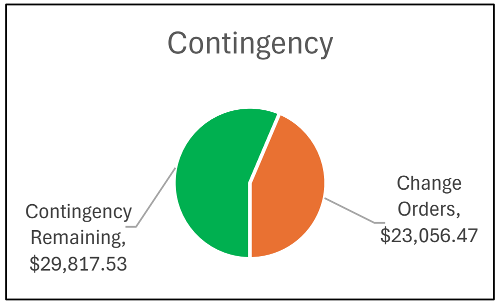
Project Financial Status

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

February 5, 2026





Cash Flow

Collected	$ 200,000.00
Expenses	$ 184,631.96

Project Completion

Schedule	95%
Budget	92%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
SS Mechanical	20588	$ 147,126.00	$ 23,056.47		$ 170,182.47	$ 161,673.35
Project Partners	20877	$ 25,000.00			$ 25,000.00	$ 9,759.00
Steve Andrews	20332	$ 2,818.00			$ 2,818.00	$ 483.00
SOCWA Staff Time	35245L					$ 12,716.61
		$ 174,944.00	**$ 23,056.47**	**$ -**	**$ 198,000.47**	**$ 184,631.96**

Construction Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	35245L	$ 52,874.00	$ 23,056.47	$ 29,817.53	43.6%
		$ 52,874.00	**$ 23,056.47**	**$ 29,817.53**	**43.6%**

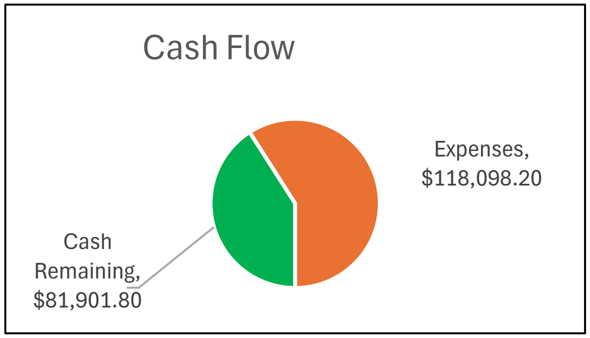
Change Order No.	Vendor Name	Project ID	Description	Status Date	Days	Amount
1	SS Mechanical	35245L	316L SST angle in lieu of 304L SST angle at the Step-Feed Channel	1/8/2025	94	$ 2,235.25
2	SS Mechanical	35245L	Change Secondary effluent grating from 1-inch to 1.5"	1/31/2025	89	$ 8,639.53
3	SS Mechanical	35245L	Removal and Replacement of Rebar without proper edge clearances	7/9/2025	90	$ 12,181.69
						$ 23,056.47

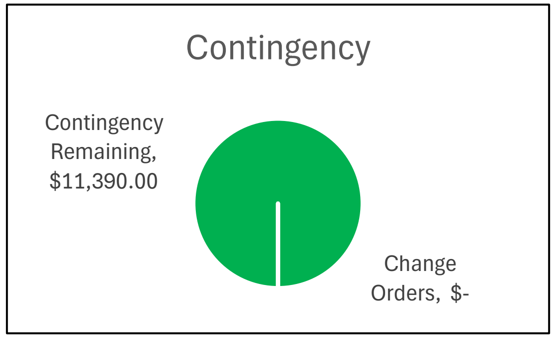
Project Financial Status

Project Committee	15
Project Name	Grit Tanks Coating Upgrades (35242L)
Project Description	Coating of grit tanks

Data Last Updated

February 5, 2026





Cash Flow

Collected	$ 200,000.00
Expenses	$ 118,098.20

Project Completion

Schedule	50%
Budget	59%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
Murphy Coating	21425	$ 113,894.00			$ 113,894.00	$ 113,984.00
SOCWA Staff Time	35228L					$ 4,114.20
		$ 113,894.00	**$ -**	**$ -**	**$ 113,894.00**	**$ 118,098.20**

Construction Contingency

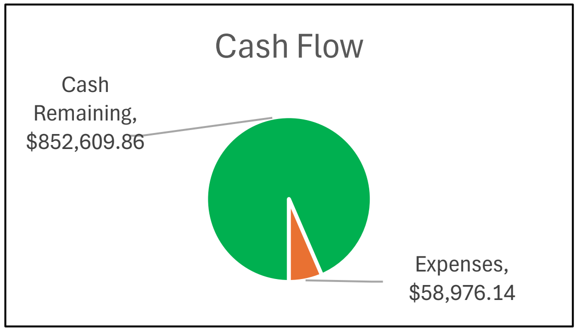
Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	35242L	$ 11,390.00		$ 11,390.00	0.0%
		$ 11,390.00	**$ -**	**$ 11,390.00**	**0.0%**

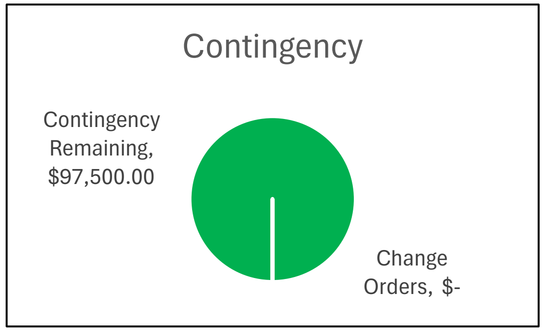
Project Financial Status

Project Committee	15
Project Name	Personnel Building Reconstruction Phase II- 3525
Project Description	Personnel building reconstruction including fixtures, lightings, ceiling, tiles and minor electrical

Data Last Updated

February 19, 2026





Cash Flow

Collected	$ 911,586.00
Expenses	$ 58,976.14

Project Completion

Schedule	5%
Budget	6%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
T.E. Roberts	21768	$ 649,849.00			$ 649,849.00	
Project Partners	20877	$ 50,000.00			$ 50,000.00	$ 26,633.50
ProjectLine	21767	$ 50,368.00				
SOCWA Staff Time	3525					$ 32,342.64
		$ 750,217.00	**$ -**	**$ -**	**$ 699,849.00**	**$ 58,976.14**

Construction Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	3525	$ 97,500.00		$ 97,500.00	0.0%
		$ 97,500.00	**$ -**	**$ 97,500.00**	**0.0%**

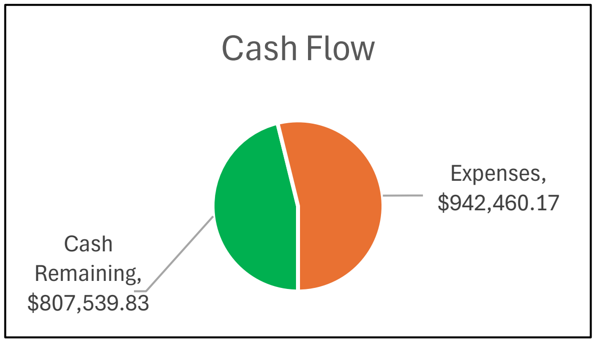
Change Order No.	Vendor Name	Project ID	Description	Status Date	Days	Amount
						$ -

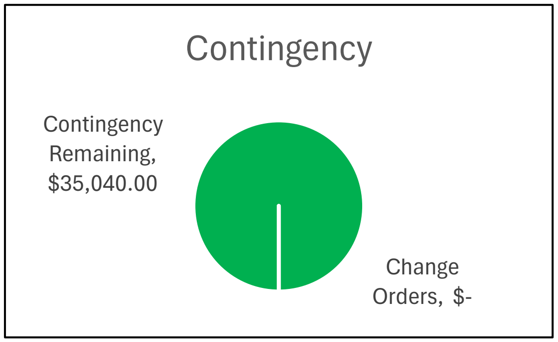
Project Financial Status

Project Committee	15
Project Name	West Primary and Secondary Sludge Skimming System - 35246L/35239L
Project Description	Replacement of west primary and secondary sludge skimming system

Data Last Updated

February 5, 2026





Cash Flow

Collected	$ 1,750,000.00
Expenses	$ 942,460.17

Project Completion

Schedule	50%
Budget	54%

Construction Contracts

Company	PO No.	Original	Change Orders	Amendments	Total	Costs to Date
Filanc		$ 784,000.00			$ 784,000.00	
Brentwood	20496	$ 930,960.00			$ 930,960.00	$ 930,960.00
Z&K/Ardurra	21446	$ 39,860.00			$ 39,860.00	
SOCWA Staff Time	35246L/35239L					$ 11,500.17
		$ 970,820.00	**$ -**	**$ -**	**$ 1,754,820.00**	**$ 942,460.17**

Construction Contingency

Area	Project Code	Amount	Change Orders	Total Remaining	Percent Used
Liquids	35246L/35239L	$ 35,040.00	$ -	$ 35,040.00	0.0%
		$ 35,040.00	**$ -**	**$ 35,040.00**	**0.0%**

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

Agenda Item 6.A.

Board of Directors Meeting
Meeting Date: March 5, 2026

TO: Board of Directors

FROM: Amber Boone, General Manager

STAFF CONTACT: Roni Grant, Capital Improvement Program Manager

SUBJECT: JBL Energy Building Roof Repair [Project Committee 2]

Overview

Pacific Hydrotech is currently working on the JBL Effluent Pump Station and Energy Building Upgrades. During the course of structural repairs and upgrades on the Energy Building roof, a section of the roof was exposed, and the contractor discovered several load-bearing trusses exhibiting significant damage. The deterioration appears to be caused by termite activity and/or prolonged moisture exposure.

The damaged trusses compromise the structural integrity of the roof system. Working this area cannot proceed safely without a plan to reinforce or brace the affected members. Carollo, the design engineer, recommended replacing the damaged wood trusses in kind with new trusses.

This work was not originally budgeted or included as part of the JBL Effluent Pump Station/Energy Building Upgrades project. The necessary repair totals $174,241. Given the time sensitivity of the work and the existing subcontractors' established familiarity with the site, scope, and ongoing construction activities, proceeding with the current subcontractor team is the most efficient and cost-effective approach. This minimizes delays, reduces coordination risks, and ensures continuity in project execution.

Cost Allocation

A summary of the cost allocation by member agencies is in Table 1.

Table 1 –Cost Allocation by Member Agency

Agency	PC 2 Common
South Coast Water District	$81,492.52
Santa Margarita Water District	$92,748.48
Total	$174,241.00

Budget

The budget for the JBL Energy Building Roof Upgrades (32225C-000) has a budget of $542,000. Staff are requesting a 10% contingency, in the amount of $17,424, for a total project authorization of $191,665, to address any unforeseen conditions encountered during the work.

Prior Related Project Committee or Board Action (s)

This item was reviewed and discussed by the Engineering Committee on February 19, 2026.

Recommended Action

The Engineering Committee recommend that the PC 2 Board of Directors:

1. Authorize execution of a construction contract with Pacific Hydrotech in the amount of $174,241.
2. Approve a contract contingency of $17,424, for a total project authorization of $191,665, to address any unforeseen conditions encountered during the work.

Attachment: JBL Energy Building Roof Repair quote

PACIFIC HYDROTECH CORPORATION
314 E 3rd Street
Perris,CA 92570
(951) 943-8803

EXTRA WORK

DESCRIPTION: CO#03 - BUILDING ROOF IMPROVEMENTS
PROJECT NAME: JBL EFFLUENT PUMP STATION & EMERGENCY BUILDING UPGRADES
JOB #: C2519
DATE: 1/7/2026

EQUIPMENT	Hours	Rate	Total
Tool Truck	40	57.71	$ 2,308.40
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
Subtotal			$ 2,308.40
15% Markup		15%	$ 346.26
Total Cost			$ 2,654.66

MATERIAL	Quant	Cost	Total
Misc Materials	1	500.00	$ 500.00
Trash Service	4	830.88	$ 3,323.52
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
Subtotal			$ 3,823.52
15% Markup		15%	$ 573.53
Total Cost			$ 4,397.05

SUBCONTRACTS	Lump S	Cost	Total
Sylvester Roofing	1	21053.85	$ 21,053.85
Finalized Construction	1	74205.82	$ 74,205.82
MJ Plastering Inc.	1	35000.00	$ 35,000.00
Solos Construction LLC	1	10500.00	$ 10,500.00
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
Subtotal			$ 140,759.67
5% Markup		5%	$ 7,037.98
Total Cost			$ 147,797.65

LABOR	Hours	Rate	Total
Superintendent	24	130.00	$ 3,120.00
Foreman	40	130.00	$ 5,200.00
Laborer	24	104.00	$ 2,496.00
Laborer	24	104.00	$ 2,496.00
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
Subtotal			$ 13,312.00
20% Markup		20%	$ 2,662.40
Total Cost			$ 15,974.40

Equipment Total Cost		$ 2,654.66
Material Total Cost		$ 4,397.05
Subcontracts Total Cost		$ 147,797.65
Labor Total Cost		$ 15,974.40
Subtotal		$ 170,823.76
Bond	1%	$ 1,708.24
Insurance	1%	$ 1,708.24
TOTAL COSTS		**$ 174,240.24**

CHANGE ORDER REQUEST

Sylvester Roofing Co. inc.
25-205.001 - Pacific Hydrotech - JBL Effluent Pump Station SC-C2519-003

DATE: 1/06/2026
PCO#: 3

To: Daniele Terrones
Pacific Hydrotech Corporation
,
Phone:
Fax:
Email: DTerrones@pachydro.com
CC:

From: Anthony Zaffuto
Sylvester Roofing Co. inc.
306 West El Norte Pkwy. Suite-N.#371
Escondido, CA 92026
Phone: 760.743.0048
Fax: 760.743.4152
Email: tony@sylvesterroofing.com

Below is the detail for our proposal to complete the following changes in contract work:

- Pending Change Order: removal and patching of roofing at 600 sft location
    - Proposed Scope of Work: removal and patching of roofing at 600 sft location.
- The prices below are valid until

PCO Item	Status	Change (in Days)	Quantity	UM	Unit Price	Amount
1 : removal and patching of roofing at 600 sft location	Beginning		0.000	LS	0.00000	21053.85
removal and patching of roofing at 600 sft location						

Submitted By:

1/06/2026
Anthony Zaffuto Date

Approved By:

Danielle Terrones Date
Pacific Hydrotech Corporation

CO Description: Price to remove roofing and install new roofing at 600 sft

Cost Issue #: PCO 4

Subcontractor Name: Sylvester Roofing

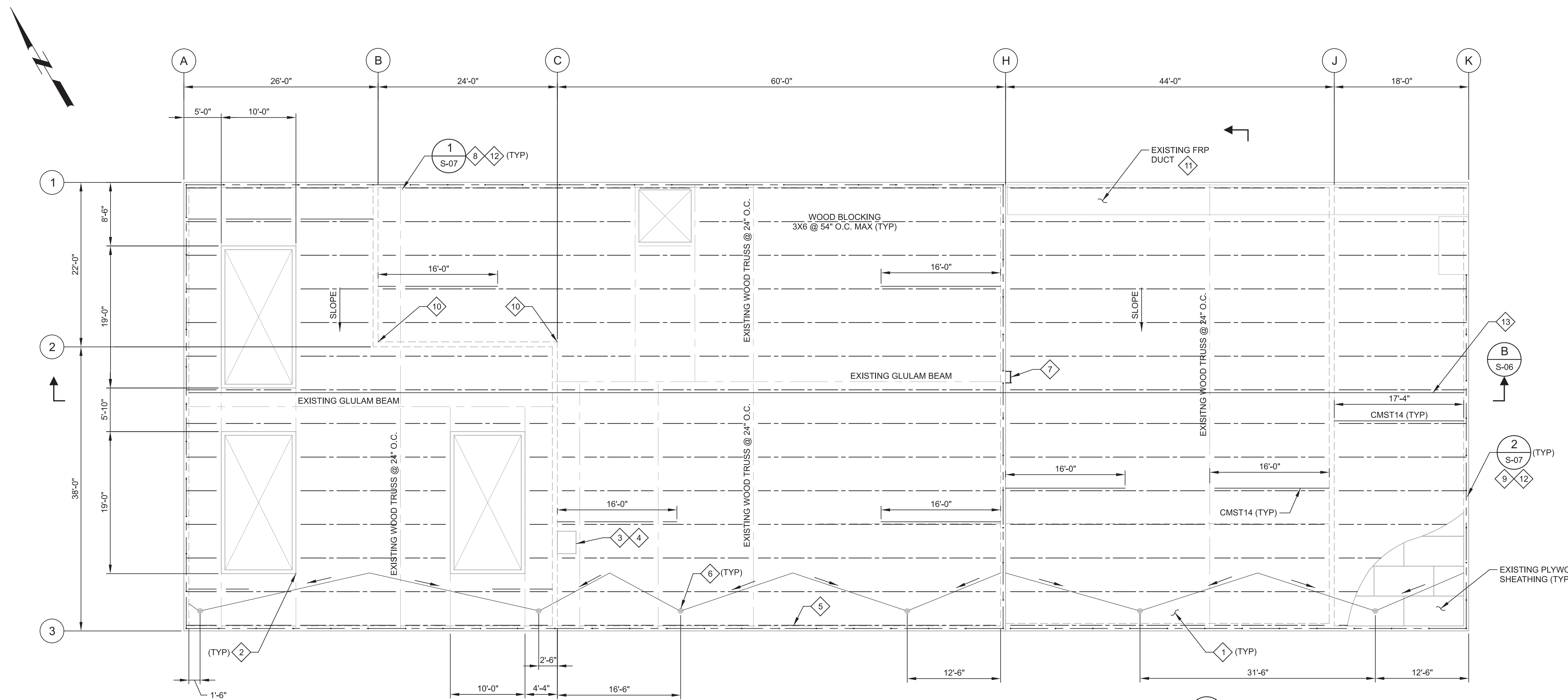
Date: 1/6/2026

Pac Hydro / JBL

#	Description	Units Qty.	Units Unit	Labor $/Unit	Labor Total	Materials $/Unit	Materials Total	Equipment $/Unit	Equipment Total	Subcontract $/Unit	Subcontract Total
1	Labor for tear off	40	hr	$ 112.00	$ 4,479.87		$ -		$ -	---	---
2	Labor for Installation of roofing at 3 large units	96	ea	$ 112.00	$ 10,752.00		$ -		$ -	---	---
3	base	6	ea		$ -	$ 62.00	$ 372		$ -	---	---
4	Torch smooth	6	ea		$ -	$ 118.00	$ 708		$ -	---	---
5	Torch cap	6			$ -	$ 137.00	$ 822		$ -	---	---
6	Primer	1	ea		$ -	$ 83.54	$ 84		$ -	---	---
7	cant strip	1	ea		$ -	$ 168.77	$ 169		$ -	---	---
8	fasteners	1	ea		$ -	$ 103.00	$ 103		$ -	---	---
9	Q-Panels	6	ea		$ -	$ 22.00	$ 132		$ -	---	---
10	mastic	1	can		$ -	$ 87.55	$ 88		$ -	---	---
11	Foremen Truck with Propane	3	dy		$ -		$ -	$ 115.00	$ 345	---	---
12					$ -		$ -		$ -	---	---
13					$ -		$ -		$ -	---	---
14					$ -		$ -		$ -	---	---
15					$ -		$ -		$ -	---	---
16					$ -		$ -		$ -	---	---
17					$ -		$ -		$ -	---	---
18					$ -		$ -		$ -	---	---
19					$ -		$ -		$ -	---	---
20					$ -		$ -		$ -	---	---
21					$ -		$ -		$ -	---	---
22					$ -		$ -		$ -	---	---
23					$ -		$ -		$ -	---	---
24					$ -		$ -		$ -	---	---
25					$ -		$ -		$ -	---	---
26					$ -		$ -		$ -	---	---
27					$ -		$ -		$ -	---	---
28					$ -		$ -		$ -	---	---
29					$ -		$ -		$ -	---	---
30					$ -		$ -		$ -	---	---
31					$ -		$ -		$ -	---	---
32					$ -		$ -		$ -	---	---
33					$ -		$ -		$ -	---	---
34					$ -		$ -		$ -	---	---
35					$ -		$ -		$ -	---	---
36					$ -		$ -		$ -	---	---
37					$ -		$ -		$ -	---	---
38					$ -		$ -		$ -	---	---
39					$ -		$ -		$ -	---	---
40					$ -		$ -		$ -	---	---
41					$ -		$ -		$ -	---	---
42					$ -		$ -		$ -	---	---
	Subtotal				**$ 15,232**		**$ 2,477**		**$ 345**		**$ -**
	Sales Tax (Material & Equipment Only)	9.00%					$ 222.92		$ 31.05		
	Subtotal				$ 15,231.87		$ 2,699.78		$ 376.05		$ -

Mark-ups	Labor %	Labor $	Materials %	Materials $	Equipment %	Equipment $	Subcontract %	Subcontract $
Bond (if not CDI)	0.000%	$ -	0.000%	$ -	0.000%	$ -	0.000%	$ -
OH&P	15.000%	$ 2,284.78	15.000%	$ 404.97	15.000%	$ 56.41	5.000%	$ -
Subtotal		$ 2,284.78		$ 404.97		$ 56.41		$ -

COSTS		
Direct Costs (L, M & E)	$	18,307.70
Subcontractor Costs	$	-
Subtotal	$	18,307.70
MARK-UPS		
BOND	$	-
OH&P	$	2,746.15
Subtotal	$	2,746.15
TOTAL	**$**	**21,053.85**



A ROOF PLAN

SCALE: 1/8" = 1'-0"
FILE: 203567_S_9111_1.2

A
S-06

GENERAL NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING S-01.
2. FOR WORK RESTRICTIONS AND SEQUENCING REQUIREMENTS, SEE SPECIFICATION 01014.
3. REPAIR ANY DAMAGE TO ADJACENT EXISTING CONSTRUCTION CAUSED BY DEMOLITION.
4. DRAWINGS DO NOT SHOW THE EXTENT OF ALL EXISTING EQUIPMENT, CONDUIT, PIPING, AND SIMILAR ITEMS MOUNTED ON EXISTING SUBSTRATE. CONTRACTOR SHALL FIELD VERIFY THE EXTENT AND LOCATION OF ALL SUCH ITEMS.
5. ALL DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR. EXISTING CONSTRUCTION SHOWN IS BASED ON THE 1974 PLANT 1 PROJECT.

KEY NOTES:

1. REMOVE THE EXISTING ROOFING SYSTEM INCLUDING MEMBRANE, INSULATION, AND ASSOCIATED FLASHING TO EXPOSE EXISTING PLYWOOD SHEATHING. INSTALL BUILT-UP ROOFING SYSTEM IN ACCORDANCE WITH SPECIFICATION SECTION 07510.
2. REPLACE FLASHING AND ROOFING AT SKYLIGHT CURB WITH ROOFING SYSTEM PER KEYNOTE 1. SEE PHOTO P1/S-08.
3. REMOVE AND REPLACE IN KIND HATCH PER SPECIFICATION SECTION 07722. COORDINATE SUPPORT OF HATCH WITH EXISTING CURB. MODIFY EXISTING CURB PER MANUFACTURERS REVIEW AND SUBMIT MODIFICATION FOR ENGINEERS REVIEW PRIOR TO BEGINNING WORK.
4. INSTALL REMOVABLE GUARDRAIL SYSTEM WITH SWING GATE AT HATCH PER SPECIFICATION SECTION 07722.
5. INSTALL ALUMINUM GUARDRAIL AROUND ROOF PERIMETER PER DETAIL 6/S-07.
6. EXISTING ROOF DRAINS.
7. INSTALL ALUMINUM LADDER FOR ACCESS TO LOWER ROOF AREA PER DETAIL A252/TYP.
8. PROVIDE WALL ANCHORAGE PER DETAIL 1/S-07 AT EVERY THIRD ROOF TRUSS @ 6' MAX O.C.
9. PROVIDE WALL ANCHORAGE PER DETAIL 2/S-07 WHERE NEW 3X6 BLOCKING CONNECTS AT WALL.
10. PROVIDE TRUSS SHEATHING AND STUDS TO TRUSS AT GRIDLINES B AND C PER DETAIL 4/S-07. PROVIDE WALL ANCHORAGE AT WALL GRIDLINE 1 AND 3 PER DETAIL 1/S-07.
11. WHERE EXISTING FRP DUCT OCCURS, NEW GUARDRAIL IS NOT REQUIRED.
12. WHERE NEW WALL ANCHORAGE CONFLICTS WITH EXISTING ACOUSTICAL PANELING AT CENTRIFUGE ROOM, NOTCH EXISTING PANELING AS REQUIRED FOR INSTALLATION.
13. PROVIDE CONTINUOUS CMST14 STRAP PER DETAIL 3/S-27 OVER ENTIRE ROOF LENGTH AT SPECIFIED BLOCKING LOCATION FOR CONTINUOUS ROOF TIE.

REV	DATE	BY	DESCRIPTION

DESIGNED: MAE
DRAWN: JAP
CHECKED: MED
DATE: APRIL 2025

REGISTERED PROFESSIONAL ENGINEER — MATHEW A. ESQUER — No. 93497 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Mathew A. Esquer

carollo
70

SOCWA
South Orange County Wastewater Authority

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
EFFLUENT P.S. & ENERGY RECOVERY BUILDING UPGRADES PROJECT
STRUCTURAL
ENERGY RECOVERY BLDG
ROOF PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203567
DRAWING NO. S-05
SHEET NO. 15 OF 34

FINALIZED CONSTRUCTION

CHANGE ORDER REQUEST

Attn:	**Daniel Terrones**	**COR #: 03**	
Company:	**Pacific Hydrotech Corporation**	Job Name:	**JBL Effluent Pump Station & Energy Bldg Upgrades**
Address:	**314 E 3rd St**	Address:	**34152 Del Obispo St**
City:	**Perris, CA 92570**	City:	**Dana Point, CA 92629**
Phone:	**951-822-2559**	Date:	**11/10/2025**
Email:	**Dterrones@pachydro.com**	**GRAND TOTAL:**	**$74,205.82**

Scope: Shore up existing roof trusses for safe demo, remove plywood from underside of effected trusses, remove existing plywood and wood curb, remove and replace one 3ply truss and two single trusses, re-install all roof members that had been removed, install plywood at underside, all catalog hardware. Work required by others for us to complete scope; demo roofing, demo skylight, demo plaster from underside of roof structure, install scaffolding from below roof structure to install in plywood.

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL
1	4x12x20' PTDF #2	2	EA	$ 293.93	$	587.86
2	4x12x12' PTDF #2	2	EA	$ 176.36	$	352.72
3	2x4x16' DF #2	14	EA	$ 13.46	$	188.44
4	4x14x12' DF #1	2	EA	$ 208.75	$	417.50
5	3x6x12' DF #2	22	EA	$ 22.54	$	495.88
6	2x6x12' DF #2	10	EA	$ 14.25	$	142.50
7	4x6x20' DF #2	6	EA	$ 51.63	$	309.78
8	2x6x20' DF #2	30	EA	$ 23.75	$	712.50
9	2x4x20' DF #2	20	EA	$ 16.80	$	336.00
10	Wood Trusses	1	LS	$ 3,125.00	$	3,125.00
11	4'x8'x5/8" Struc 1 CDX Plywood	24	EA	$ 41.17	$	988.08
12	4'x8'x1/2" Struc 1 CDX Plywood	32	EA	$ 27.96	$	894.72
13	4'x10'x1/2" Struc 1 CDX Plywood	8	EA	$ 61.04	$	488.32
14	HU414	4	EA	$ 32.50	$	130.00
15	HU210	8	EA	$ 14.30	$	114.40
16	H2.5	80	EA	$ 2.60	$	208.00
17	LTP4	120	EA	$ 2.52	$	302.40
18	3 1/2" x .162 HDG Gun Nails	1	BOX	$ 181.30	$	181.30
19	3 1/4" x .162 HDG Gun Nails	1	BOX	$ 156.21	$	156.21
20	3" x .148 Gun Nails	3	BOX	$ 87.05	$	261.15
21	1 1/2" x .131 PR Gun Nails	1	BOX	$ 49.04	$	49.04
22	2 1/2" x .148 PR Gun Nails	1	BOX	$ 54.60	$	54.60
23	12K Reach Forklift	1	MO	$ 4,700.00	$	4,700.00

24	Truss Boom	1	MO	$	260.00	$	260.00
25	Truck & Fuel	12	DAY	$	110.00	$	1,320.00
26	Foreman Labor	96	HR	$	101.88	$	9,780.48
27	Carpenter Labor	384	HR	$	98.88	$	37,969.92

SUBTOTAL	$	64,526.80
OHP&I 15%:	$	9,679.02
TOTAL:	$	74,205.82

FINALIZED CONSTRUCTION, INC. | 41689 ENTERPRISE CIR N, STE 216, TEMECULA, CA 92590 | P: 760-802-6838

RFI RESPONSE FORM

Owner:	South Orange County Water Authority	**Date:**	10/22/2025
Contractor:	Pacific Hydrotech Corporation	**Project No.:**	C2519
Project Name:	JBL Effluent Pump Station & Energy Building Upgrades	**RFI No.:**	014
RFI Title:	Structural Roof Truss Damage	**Spec/Dwg. Reference:**	06100; S-05

Information or Interpretation and Reason Requested

Structural Roof Truss Damage – Request for Reinforcement/Bracing Plan

During the course of structural repairs and upgrades on the roof, we opened a section and discovered several load-bearing trusses exhibiting significant damage. The deterioration appears to be caused by termite activity and/or prolonged moisture exposure.

The damaged trusses compromise the structural integrity of the roof system. Work in this area cannot proceed safely without a plan to reinforce or brace the affected members.

Please provide a structural plan or detail for reinforcing or bracing the damaged trusses to restore adequate load-carrying capacity. Include any material specifications, connection details, and installation requirements.

Attachments:

Photos of damaged trusses

Existing roof framing plans

Authored By: Daniel Terrones **Date Submitted:** 10/22/2025

Response to Request:

It is recommended that the damaged trusses be removed and replaced.

The Contractor shall provide pricing options for two replacement options:

1. Replace damaged wood trusses in kind with new truss.
2. Replace damaged wood trusses with engineered lumber. For costing purposes, contractor shall assume LVL minimum 1-3/4” x 24” deep. Additional information shall be provided as required.

Installation requirements shall be as required to match existing installation with modifications for seismic anchorage per the Contract Drawings.

In the event Contractor believes the RFI response does or will cause a change to the requirements of the Contract, Contractor shall immediately give written notice stating that Contractor considers the response to be a Change Order.

Firm Name: Carollo Engineers, Inc **Date Returned:** 10/31/2025

Response By: Mathew Esquer

MJ Plastering, Inc.
License Number 942132

10944 Cypress Ave
Riverside, CA 92505

Phone (714) 834-1600
Fax (714) 834-1601
Email: general@mjplasteringinc.com

PROPOSAL & CONTRACT

ATTENTION: Daniel Terrones
NAME: Pacific Hydrotech Corp.
ADDRESS: 314 E 3rd
CITY: Perris, CA 92570
PHONE: (951) 943-8803
FAX: (951) 943-1093

DATE: November 26, 2025
JOB ADDRESS: 34156 Del Obispo Street
CITY: Dana Point, CA
JOB NAME: C2519 JBL Interior Soffit

ITEMS INCLUDE IN OUR SCOPE OF WORK:

1) **Demo of stucco on soffit**
2) **Rib lath on soffit**
3) **Milcor, weep screed, staples, corner aid, and lathing accessories and control joint.**
4) **Bituthene on non vertical surfaces**
5) **Plastic protection over doors and windows**
6) **Scaffold platform installation and dismantle**
7) **16/20 sand float finish**
8) **All clean up of plaster trash and debris, Haul off and dumpster provided by GC**

NOTE: PLASTER FINISHES WILL CRACK AND CHECK. THERE IS NO GUARANTEE AGAINST CRACKING AND CHECKING. MJ PLASTERING, INC. CAN RE DO WALLS AT OWNER OR GENERAL CONTRACTORS EXPENSE.

ITEMS EXCLUDE FROM OUR SPECIFIC SCOPE OF WORK:

1) Painting or accent color.
2) Dumpster or haul-off.
3) Framing gypsum board, plywood and sheathing.
4) Sealants or anti-graffiti coating

NOTE: This estimate is valid for a period of 30 days.
NOTE: This is a Prevailing wage project.

All of above work to be completed in a substantial and workmanlike manner according to job walk performed by Alvaro Jacobo and Daniel Terrones for the sum of $35,000.00

Payment schedule: Billings to be submitted consisting of 20% after Scaffold, 30% after Lath application, 25% after Brown application, and 25% after Stone Veneer application. Any alteration from the above specifications involving extra cost of material or labor will only be executed upon written orders for same and will become an extra change over the sum mentioned in this contract. All agreements must be made in writing.

SUBMITTED BY: **Miguel Jacobo Jr, Vice President** **ACCEPTED BY:** ____________________

DATE: **November 26, 2025** **DATE:** ______________________________

Solos Construction LLC

Solos Construction LLC
8422 Aqueduct Ave, North Hills, Ca. 91343
OFFICE (951) 940-7676
LIC #1087874

THIS AGREEMENT was made on the 26th day of December, 2025, by and between **Pacific Hydrotech Corporation**, Hereafter called the Lessee, and Solos Construction LLC, hereafter called the Lessor. Lessee and Lessor, for the consideration hereafter named, agree as follows:
Under the General Conditions of Lease attached to this sheet, Lessor hereby leases to Lessee all Equipment named and identified in the following "List of Equipment," for use at such location and at such rental rate for approximately such time as is therein stated. Lessor shall furnish such equipment in operative conditions.

34152 Del Obispo St, Dana Point, Ca. 92629

Scaffold Rental $10,500 (Description: Scaffolding platform roughly 35' by 20'. Platform above Andritz machine #2)

There needs to be access (parking) close to the working area to at least 1 truck per day if not we 6 would have to cancel and charge a trip charge.

Initial __________

DESCRIPTION OF EQUIPMENT:
Scaffold installation and dismantle.
SCAFFOLD RENTAL IS FOR: 1 to 60 Days
Rental Rate Pass Agreement Times After 60 days
$1,800 per each month

Initial _________

PAYMENT IS AS FOLLOWS:

50% of the contract amount is due and payable on the day of installation. Remaining 50% is due 14 days after scaffold installation. If payment is not paid within 30 days there will be 10% late charge unless discussed otherwise with Owner's Initial __________

There will be a minimum trip charge of $900.00 per truck on all jobs when scaffold has to be moved, reset and or cannot be completed due to adverse job conditions out of our control.

Initial ___________

If payment is not received on time as mentioned by contract and Lien needs to be in force, you will be billed for this action amount of $350.00 no exceptions Initial ___________

Upon Solos Construction LLC confirming scaffolding installed is Cal-OSHA compliant by both parties, the contractor is solely responsible for the daily inspections and maintenance required to keep all erected scaffolding safe for workers to access. Daily maintenance shall be done by a qualified or competent person in scaffolding erection certified by a recognized training organization or union. All maintenance and repairs must meet or exceed manufacturer's recommendations, Cal OSHA, and Federal OSHA regulations. At any time, the contractor does not meet these requirements Solos Construction reserves the right to charge time, Equipment, and labor for having to correct all items that may be out of compliance. If Contractor elects Solos Construction to return for Maintenance there will be a trip fee each time of $800 in addition to any frames, time, labor fees if applicable as mentioned above prior to returning to the project's location. If Cal OSHA or any regulatory agency Federal or state issues any fines because of any non-compliance or injury, the contractor will be responsible for OSHA fines and legal fees incurred by Solos Construction.

GENERAL CONDITIONS OF EQUIPMENT RENTAL AGREEMENT (LEASE)

The conditions of lease here below stated, together with the Agreement set forth on the reverse side of this sheet, constitute a contract between the parties therein named which contract is hereafter referred to as "this Agreement"

1) RENTAL PERIOD. The Rental period shall cover all time consumed in the transportation the Equipment, including the date of legal delivery to a public carrier for transit to Lessee and upon return of the Equipment, the date of legal delivery by such carrier to Lessor, or if no public carrier is used, shall include the date upon which transit to Lessee and the date upon which transit from Lessee ends at the Lessor's unloading point.
2) RENTAL CHARGES. Lessee shall pay rental for the entire Rental Period mentioned above for article Equipment named in the list of descriptions in accordance with the following: Pass rental agreement there will be an additional extra charge per day or month as mentioned on the rental fees.
3) PAYMENT: The rent for any and every item of Equipment described in the List of Equipment shall be paid unless stated otherwise in full no later than two weeks after receipt of invoice.
4) NO RETENTION OR DISCOUNTS shall be deducted from any payments made by the Lessee to the Lessor.

[1]

5) FEES, ASSESSMENTS, AND TAXES PAID BY LESSEE. Lessee shall pay all license fees, assessments, and sales, use, property and excise, and other taxes or hereafter imposed, and relating to Lessee's use or possession of the equipment.

6) RECALL NOTICE; Lessor may recall any or all Equipment upon ten (10) day written notice to Lessee and the Lessee may return any or all Equipment upon a like notice to Lessor. 7) MAINTENANCE AND OPERATION: Lessee shall not remove, altar, disfigure any scaffold already installed nor cover up any numbering, lettering, or insignia displayed upon the Equipment, and shall see that the Equipment is not subject to carless, unusually or needlessly rough usage, and Lessee shall at his own expenses maintain the Equipment and its appurtenances in good repair and operative conditions, and return it in such condition to Lessor, ordinary wear and tear resulting from proper use thereof alone expected. 8) REPAIRS: The expenses of all repairs made during the Rental period, including labor, Equipment, parts, and other items shall be paid by Lessee.

9) DISCLAIMER OF WARRANTIES: LESSOR, BEING NEITHER THE MANUFACTURER, NOR A SUPPLIER, NORA DEALER IN THE EQUIPMENT, MAKES NO WARRANTIES, EXPRESSES OR IMPLIED, AS TO ANY MATTER WHATSOEVER, INCLUDING, WITHOUT LIMITATION, THE CONDITION OF THE EQUIPMENT, ITS MERCHANTABILITY, ITS DESIGN, ITS CAPACITY, ITS PERFORMANCE, ITS EQUIPMENT, ITS WORKMANSHIP, ITS FITNESS FOR ALL PARTICULAR PURPOSE, OR THAT IT WILL MEET THE REQUIREMENTS OF ANY LAWS, RULES, SPECIFICATIONS, OR CONTACTS WHICH PROVIDE FOR SPECIFIC APPARATUS OR SPECIAL METHODS, LESSOR FURTHER DISCLAIMS ANY LIABILITY WHATSOEVER FOR LOSS, DAMAGE,OR INJURY TO LESSEE OR THIRD PARTIES AS A RESULT OF ANY DEFECTS, LATENT OR OTHERWISE, IN THE EQUIPMENT. AS TO LESSOR, LESSEE LEASES THE EQUIPMENT "AS IS". LESSOR SHALL NOT BE LIABLE IN ANY EVENT TO LESSEE FOR ANY LOSS, DELAY, OR DAMAGE OF ANY KIND OR CHARACTER RESULTING FROM DEFECTS IN, OR INEFFICIENCY OF, EQUIPMENT HEREBY LEASES OR ACCIDENTAL BREAKAGE THEREOF.

10) INDEMNITY: Lessee shall indemnify Lessor against, and hold Lessor harmless from, all claims, actions, suits, proceedings, cost, expensive, damages, and liabilities, including attorney fees, arising out of, connected with, or resulting from the equipment or the Lease, including without limitation, the manufacture, selection, delivery, leasing, renting, control, possession, use, operation, maintenance or return of the Equipment. Lessee shall further indemnify Lessor and hold Lessor harmless from all loss damage to the Equipment during the rental period. Lessee recognizes and agrees that including in this indemnity clause, but not by way of limitation, is Lessee's assumption of all liability for injury: disability and death of workmen and other persons caused by the operation, use, control, handling, or transportation of the Equipment during the Rental Period.

11) RISK OF LOSS: Lessor shall not be responsible for loss or damage to property, Equipment, or equipment belonging to Lessee, its agents, employees, suppliers, or anyone directly or indirectly employed by Lessee while said Equipment property, or equipment is in Lessor's care, custody, and control or under Lessor's physical control. Lessee is encouraged to obtain appropriate equipment, Equipment, or installation floater insurance against such risk of loss. Lessee and its insurers waive all rights of subrogation against Lessor for such losses. 12)

INSPECTION: CONCLUSIVE PRESUMPTIONS. Lessee shall inspect the Equipment within three (3) business days after receipt thereof. Unless Lessee within said period gives written notice to Lessor, specifying and defect in or other proper objection to the Equipment. Lessee agrees that it shall be conclusively presumed, as between Lessor and Lessee, that Lessee has fully inspected and acknowledged that the Equipment is in full compliance with the terms of this agreement, in good condition and repair, and that Lessee is satisfied with and has accepted the Equipment in such good condition and repair. Lessor shall have the right at any time to enter the premises occupied by the Equipment and shall be given free access thereto and afforded necessary facilities for the purpose of inspection.

13) INSURANCE: Lessee shall keep the Equipment insured against all risks of loss or damage from every cause whatsoever for not less than the full replacement value thereof: and shall carry public liability and property damage insurance covering the Equipment and its operation and handling.

14) OWNERSHIP: Lessor shall always retain ownership and title of the Equipment. Lessee shall give Lessor immediate notice if any of said Equipment is levied upon or is about to become liable or is threatened with seizure, and Lessee shall indemnify Lessor against all loss and damages caused by such action.

15) DEFAULT; REMEDIES. If (a) Lessee shall default in the payment of any rent or in making any other payment hereunder when due, or (b) Lessee shall default in the payment when due of any indebtedness of Lessee to Lessor arising independently of this lease, or (c) Lessee shall default in the performance of any other covenant herein and such default shall continue for five days after written notice hereof to Lessee by Lessor, or (d) Lessee because insolvent or makes an assignment for the benefit of creditor, or (e) Lessee applies for or consents to the appointment of a receiver, trustee, or liquidator of Lessee or of all or a substantial part of the assets of Lessee under the Bankruptcy Act , or any amendment thereto (including, without limitation, a petition for reorganization, arrangement, or extension) or under any other insolvency law or law providing for the relief of debtors, then, if and to the extent permitted by applicable law. Lessor shall have the right under any other insolvency law or law providing for the relief of debtors, then, if and to the extent permitted by applicable law. Lessor shall have the right to exercise any one or more of the following remedies. a) To declare the entire amount of rent hereunder immediately due and payable as to any or all items of the Equipment, without notice or demand to Lessee.

b) To sue for and recover all rents, and other payments, then accrued or thereafter accruing, with respect to any or all items of the Equipment.

c) To take possession of any or all items of the Equipment without demand, notice, or legal process, wherever they may be located. Lessee hereby waives all damages occasioned by such taking of possession. Any said taking of possession shall not constitute a termination of this lease as to any or all items of Equipment unless Lessor expressly so notifies Lessee in writing.

d) To terminate this lease as to any or all items of Equipment.

e) To pursue any other remedy at law or in equality. Notwithstanding any said repossession or any other action which Lessor may take, Lessee shall be and remain liable for the full performance of all obligations on the part of Lessee to be performed under this Lease.All such remedies are cumulative and may be exercised concurrently or separately.

16) NO SUBLETTING ASSIGNMENT: No Equipment shall be sublet by Lessee, nor shall he assign or transfer any interest in this Agreement without written consent of the Lessor. Lessor may assign this Agreement without notice. Subject to the foregoing, this Agreement insures to the benefit of, and is binding upon, the heirs, successors, and assigns of the parties hereto.

17) REMEDIES CUMULATIVE: NO WAIVER, SEVERAL ABILITY: All remedies of Lessor hereunder are cumulative and may, to the extent permitted by law, be exercised concurrently or separate, and the exercise of any one remedy shall not be deemed to be an election of such remedy or to preclude the exercise of any other remedy. No failure on the part of the Lessor to exercise and no delay in exercising, any right or remedy, hereby shall operate as waiver thereof, nor shall any signal or partial exercise by Lessor of any right or remedy hereunder preclude any other or further exercise thereof or the exercise of any other right or remedy. If any term or provision of this lease is found invalid, it shall not affect the validity and enforcement of all remaining terms and prevision of this lease.

18) EXPENSES: Lessee shall pay Lessor all cost and expenses, including attorney's fees, incurred by Lessor in exercising any of its rights or remedies hereunder or enforcing any of the terms, conditions, or provisions hereof.

19) ENTIRE AGREEMENT: This instrument constitutes the entire agreement between Lessor and Lessee; and it shall not be amended.

20) Contract between Solos Construction LLC and **Pacific Hydrotech Corporation** is not dependent upon funding from Owner "Prime Contract" with General Contractor or **Pacific Hydrotech Corporation** Contract with General Contractor **Pacific Hydrotech Corporation** is fully responsible for payment in full for scaffold rental.

PLEASE SEND RENTAL AGREEMENT SIGNED VIA FAX OR EMAIL:
denice@solospros.com

Lessor and Lessee, for themselves, their successor, executors, administrators, and assigns, agree to the full performance of the covenants herein contained. This contract price is valid for 60 days

IN WITNESS WHEREOF, they have executed this Agreement the day and year first above written

Lessor,
By: Alfonso Ceja 818-926-1321
Solos Construction LLC
Lessee,
By:

Company Name:

Company Address:

Print Name:

Agenda Item 6.B.

Board of Directors Meeting	
Meeting Date: March 5, 2026	

TO: Board of Directors

FROM: Amber Boone, General Manager

STAFF CONTACT: Roni Grant, Capital Improvement Program Manager

SUBJECT: CTP Storm Drainage Modifications [Project Committee 15]

Overview

The existing configuration of the Coastal Treatment Plant (CTP) remains largely the same since the expansion of the plant and the construction of the tertiary treatment system in the 1980's. A large storm water channel passes through the center of the treatment plant ultimately discharging to Aliso Creek. This channel is intended to carry flows from the tributary area uphill from the CTP. There are series of smaller drainage channels that allow diversion of surface flows within the treatment plant back into the plant's main treatment process. However, there remain a number of plant areas where storm flows can still discharge into Aliso Creek.

The management of storm flows from surfaces within the CTP are addressed in the Industrial General Permit issued by the State of California Regional Water Quality Control Board. This Permit seeks to eliminate storm flows carrying various pollutants from discharging into Aliso Creek. SOCWA retained the engineering firm Tetra Tech to design modifications to the CTP storm drainage system to provide compliance with the Industrial General Permit.

The Tetra Tech design includes modifications to drain channels and installation of new catch basins and drainage pipe. A weir structure will be added to the main storm channel to capture dry weather flows which will then diverted to the main plant process stream through a sump pump system. These modifications are largely located in the southern area of the treatment. Limited storm drainage modifications in the northern area of the treatment will included in the bid package for the Drainage Pump Station Phase I Improvements which is expect to be issued in the summer of 2026.

The bid results for this project were presented at the SOCWA Engineering Committee Meeting on January 22, 2026. The Committee requested additional information prior to making a recommendation.

Project Location and Function

Figure 1 shows the four areas of the plant where the improvements will take place. These areas are all located at the south end of the treatment plant away from the main process area. Three areas are associated with the plant roadways; the fourth area is restricted to the main storm channel. The functions of the storm drainage improvements are summarized in Table 1.

Figure 1 – Location of Storm Drainage Improvements

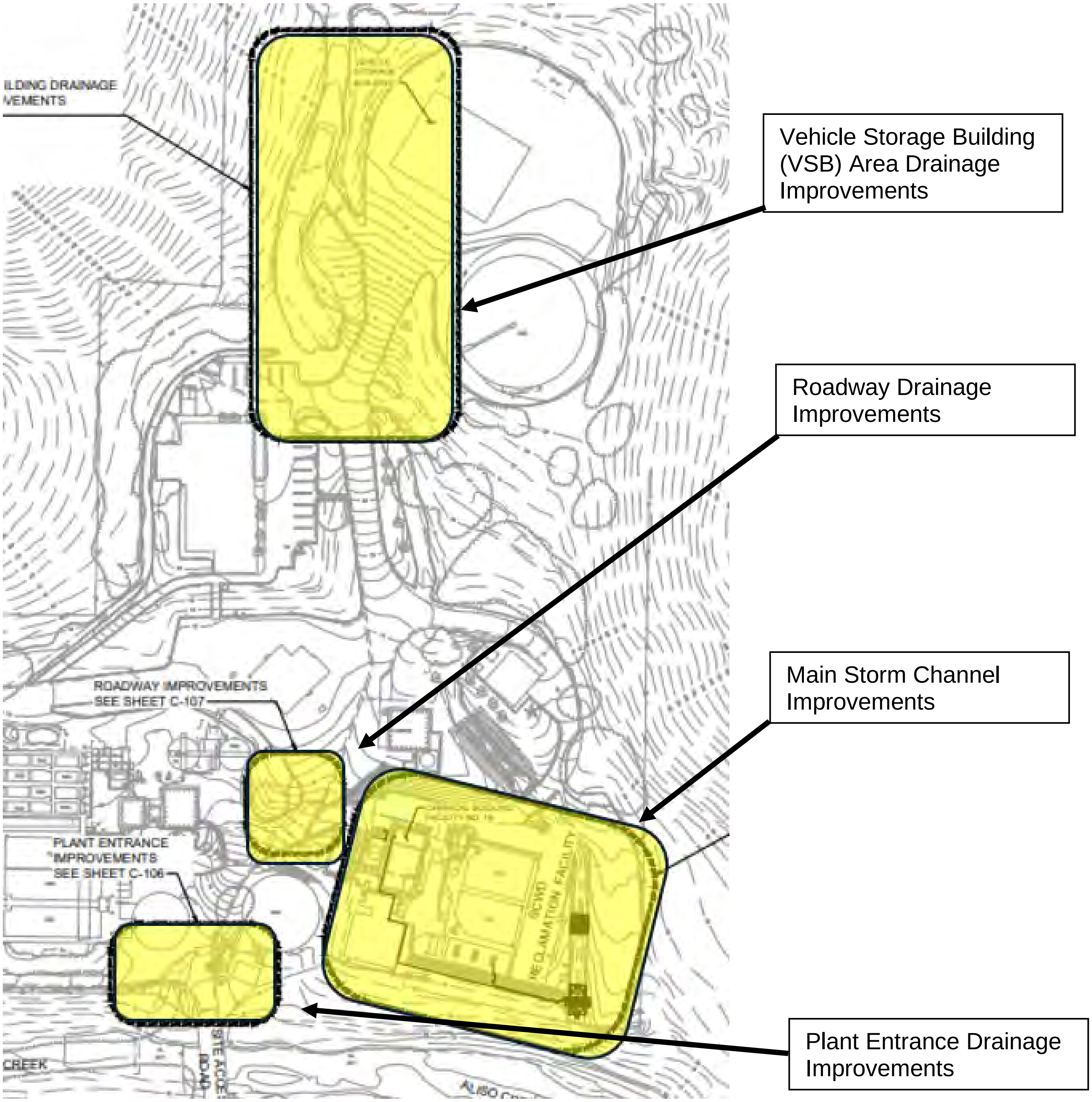


Table 1 – Summary of Storm Drainage Improvements By Area

AREA	FUNCTION
VSB Area	(1) Direct drainage from building area and roadway away from Main Storm Channel into drainage system already connected to main plant process.
Roadway Drainage	(1) Direct drainage from roadways into drainage system already connected to main plant process.
Plant Entrance	(1) Direct drainage from roadways into drainage system already connected to main plant process; (2) install curbs system to prevent high storm flows from overflowing road and draining to Aliso Creek; (3) repair deteriorate concrete gutters.
Main Storm Channel	(1) Repair damaged channel concrete; (2) Install weir structure and sump pump system to direct dry weather flows away from Aliso Creek into main plant process.

Bids

On November 18, 2025, SOCWA issued a formal solicitation for bids by way of the PlanetBids platform. Qualified contractors were invited to participate in the procurement process for the construction of the storm water modifications. Bid submissions were due by January 8, 2026. SOCWA received four bids as summarized in Table 2.

Table 2 – Summary of Bids

Item No.	**Description**	**T.E. Roberts**	**Filanc**	**Pacific Hydrotech**	**S.S. Mechanical**
1	Mobilization /Demobilization	$30,066	$65,000	$245,500	$37,000
2	Trapezoidal Channel Improvements	$18,570	$128,000	$113,000	$25,835
3	Stop Log Structure	$265,926	$507,000	$279,100	$258,765
4	Sump Pump and Piping	$11,183	$15,000	$8,100	$17,425
5	South Site Drainage Improvements	$39,430	$14,000	$28,400	$38,150
6	Electrical Improvements	$36,216	$73,000	$30,600	$27,410
7	Vehicle Storage Bldg Area Improvements	$109,223	$282,000	$282,900	$167,590

Item No.	Description	T.E. Roberts	Filanc	Pacific Hydrotech	S.S. Mechanical
8	Plant Entrance Drainage Improvements	$28,077	$100,000	$29,300	$59,970
9	Roadway Drainage Improvements	$30,868	$131,000	$66,400	$81,075
10	All Other Work	$500	$41,000	$100	$27,900
	Total Bid	$570,059	$1,356,000	$1,083,400	$741,120
	Subcontractors				
	Electrical	JBM Electrical	Hydrotech Electric	Southern Contracting	Southern Contracting
	Concrete	CMB Structures Inc.		Southwest Ditch	
	Demolition		Graham Crackers Demo		
	Paving		Hardy & Harper	Wheeler Paving	Beach Paving
	Rebar		Amber Steel		

There is a significant disparity in the amount of the four bids. Of note the area of the largest disparity among the three lowest bids are in the items related to the Vehicle Storage Area, the Plant Entrance Area and Roadway Corridor. Each of these areas involves removal and replacement of the asphalt road surfaces. The apparent lower bidder T.E. Roberts is self performing this work; the other bidders are using subcontractors.

The apparent low bid amount of $570,059 by T.E. Roberts is approximately 25% higher than the Engineer's Estimate of Probable Cost of $450,000. The Estimate of Probable Cost was prepared by TetraTech in the spring of 2025.

Cost Allocation

A summary of the cost allocation by member agencies is in Table 3.

Table 3 – Cost Allocation by Member Agency

Agency	PC 15 Liquids (L)
City of Laguna Beach	$309,542.04
Emerald Bay Service District	$17,101.77
South Coast Water District	$243,415.19
Total	$570,059.00

Budget

The budget for the CTP Storm Drainage Improvements was included as part of the $4,200,000 line item budget for the Drainage Pump Station Rehabilitation (35220L) for Fiscal Year 2025/26. The budget impact for award of the construction contract will involve the related expenses as shown in Table 4.

Table 4 – Budget Impacts of Construction Cost Award

Cost Item	Percentage of Construction Contract	Cost
Construction Contract		$570,059.00
Construction Contingency	10%	$57,000.00
Construction Services	10%	$57,000.00
Total		$684,059.00

Prior Related Project Committee or Board Action (s)

This item was reviewed and discussed by the Engineering Committee on February 19, 2026.

Recommended Action

The Engineering Committee recommend that the PC 15 Board of Directors:

1. Authorize execution of a construction contract with T.E. Roberts in the amount of $570,059.00.
2. Approve a contract contingency of $57,000, for a total project authorization of $627,059 to address any unforeseen conditions encountered during the work.

Agenda Item 6.C.

Board of Directors Meeting	
Meeting Date: March 5, 2026	

TO: Board of Directors

FROM: Amber Boone, General Manager

STAFF CONTACT: Jim Burror, Deputy General Manager/Chief Engineer

SUBJECT: CTP Regional Flow Study [Project Committee 15]

Overview

The CTP Regional Flow Study is intended to be a high-level evaluation of the technical feasibility of region-wide wastewater flow redirection options associated with the potential decommissioning of the Coastal Treatment Plant (CTP). The evaluation will assess alternatives for redirecting incoming wastewater flows from the City of Laguna Beach (CLB), South Coast Water District (SCWD), and Emerald Bay Services District (EBSD) to other regional treatment facilities, including the Orange County Sanitation District (OCSAN), the Regional Treatment Plant (RTP), and the J.B. Latham Treatment Plant (JBL).

The analysis will incorporate key regional considerations, including the SCWD Tunnel Stabilization and Sewer Pipeline Replacement Project, current and projected recycled water demands in South Orange County, and potential funding mechanisms related to the North Coast Interceptor (NCI) associated with the City of Laguna Beach.

The primary objectives of this SOW are to:

- Assess technical feasibility at a conceptual level, identifying major opportunities, constraints, and fatal-flaw risks associated with regional flow redirection alternatives.
- Develop high-level planning cost estimates for decommissioning activities, required infrastructure modifications, and operational transitions.
- Integrate regional and programmatic considerations, including coordination with ongoing capital projects, recycled water objectives, and applicable funding strategies.
- Provide actionable, decision-support recommendations to inform policy discussions and determine whether more detailed technical, environmental, or financial studies are warranted.

Proposals

SOCWA solicited proposals through PlanetBids on November 20, 2025. Sixteen (16) firms were contacted during this process (in alphabetical order):

- AECOM

- ARCADIS U.S., Inc.
- Ardurra
- Black & Veatch
- Brown and Caldwell
- Carollo Engineers
- CDM Smith
- Civiltech
- Dudek
- Hazen and Sawyer
- HDR Engineering, Inc.
- JACOBS
- MKN & Associates, Inc
- Tetra Tech
- YTLin
- West Yost

Three (3) proposals were received. The proposals and associated labor efforts are attached here.

A summary of the proposals is in Table 1.

Table 1 – Summary of Proposals Elements by Firm (in alphabetical order)

Firm	**ARCADIS**	**Dudek**	**MKN**
Project Manager	Ryan Hejka	Brian Robertson	Ryan Gallagher
Labor Hours(*)	328	298	388

*Subconsultants were not proposed.

The proposals were distributed to the evaluation committee on February 2, 2026.

Initial Proposal Review for Minimum Requirements

An initial review of the proposals determined that all three (3) submissions were responsive to the Request for Proposals. Based on the proposals' content, SOCWA staff recommended that all three (3) firms advance to the interview stage. Interviews were conducted on February 11, 2026.

The average preinterview ratings are shown in Table 2.

Table 2 – Summary of Proposal Preinterview Ratings (in alphabetical order)

Firm	**Max Score**	**ARCADIS**	**Dudek**	**MKN**
Average Rating	100	75.3	89.0	84.7

Interview Results

After the interviews, the selection committee evaluated the proposers. The average post-interview ratings are shown in Table 3.

Table 3 – Summary of Proposals (in alphabetical order)

Criteria	Max Score	ARCADIS	Dudek	MKN
Understanding of the Work	25	17.50	18.75	24.25
Approach to the Project	30	21.25	23.25	29.00
Experience and Technical Competence				
- Key Team Members	15	9.50	11.50	14.25
- Firm	10	7.50	8.25	8.25
Completeness and thoroughness	20	17.00	16.75	18.75
Proposed Fee (post interview scoring)	20	20.00	20.00	15.00
Total	120	92.75	98.50	109.50

ARCADIS

ARCADIS submitted a detailed proposal with a strong modeling approach to develop cost estimates. The team has solid experience working on large wastewater projects in the Los Angeles area. Their technical work was thorough and well prepared.

However, the panel felt the approach was more suited for a full design project rather than a focused planning study. The panel was also concerned that the proposal did not clearly show enough experience working within SOCWA's specific multi-agency structure. This was felt to be important because coordination among member agencies is necessary to keep the project on schedule, which raised concerns about project delivery.

Dudek

Dudek's proposal followed the Scope of Work and clearly explained its approach. The team is currently involved in modeling efforts with SOCWA member agencies, which was viewed as a benefit.

However, the panel did not see enough examples of leading large projects involving multiple agencies working together. Since this project requires coordination among several agencies, the panel wanted stronger evidence of senior-level leadership in that area. This raised some concern about meeting the project's schedule.

MKN

MKN received the highest overall rating. The panel believed MKN best understood both the technical work and the coordination needed among agencies. The proposal clearly explained how engineering analysis, cost development, and communication would work together.

The proposed project manager is also an executive at the firm. The panel viewed this as a strength because it means the project would have strong leadership and direct access to company resources, reducing the risk of delays.

Based on qualifications, understanding of the project, and lower schedule risk, the panel determined that MKN provided the strongest overall value to SOCWA.

Post Interview Rating Cost Evaluation

After the selection team submitted their ratings, the proposal costs were provided to the selection team members. The proposal fees are shown in Table 4.

Table 4 – Summary of Proposal Fees (in alphabetical order)

Firm	ARCADIS	Dudek	MKN
Proposed Fees	$79,999	$80,000	$89,401

MKN remained the highest-rated firm after the proposal fee score was added to the firm's post-interview score, see Table 3 above. Thus, the selection committee considers MKN the best value for SOCWA.

Budget

The project budget is $80,000. An increase of $9,401 is necessary for this contract award. Staff is also requesting a contingency of $10,599, bringing the total project budget to $100,000.

A summary of the cost allocation by member agencies is in Table 5.

Table 5 –Cost Allocation by Member Agency

Agency	Budget Allocation %	Proposed Contract	Proposed Contingency	Total Authorization
CLB	54.30%	$48,545	$5,755	$54,300
EBSD	3.00%	$2,682	$318	$3,000
SCWD	42.70%	$38,174	$4,526	$42,700
Total	100.00%	$89,401	$10,599	$100,000

Prior Related Project Committee or Board Action (s)

This item was reviewed and discussed by the Engineering Committee on February 19, 2026.

Recommended Action:

None

1. Approve a project budget increase of $20,000 for a total of $100,000;
2. Authorize the General Manager to execute a contract with MKN for a fee not to exceed $89,401.00, and;
3. Approve a project contingency of $10,599.

Attachments (in alphabetical order):

ARCADIS Proposal and Hours
Dudek Proposal and Hours
MKN Proposal and Hours

CTP Regional Flow Study Scope of Work

1. Project Overview

This Scope of Work (SOW) outlines the professional engineering services required to conduct a high-level evaluation of the technical feasibility and associated costs for potential redistribution of all or portions of wastewater and/or recycled water that currently are treated at the SOCWA Coastal Treatment Plant (CTP), along with any associated right sizing of existing infrastructure. Currently incoming wastewater flows at the CTP are collected from the City of Laguna Beach (CLB), South Coast Water District (SCWD), and Emerald Bay Service District (EBSD), then treated to both secondary levels for ocean discharge and Title 22 quality irrigation used by SCWD. Options for redistribution of wastewater flows and/or recycled water to alternative facilities, include the Orange County Sanitation District (OCSAN), Regional Treatment Plant (RTP), ~~and~~ JB Latham Treatment Plant (JBL), and the Proposed Aliso Creek Restoration Project. The evaluation will incorporate key considerations including, but not limited to existing CTP assets, current and future wastewater treatment needs, current and future agency recycled water demands and reuse objectives, and existing and planned major conveyance infrastructure such as the SCWD Tunnel Stabilization & Sewer Pipeline Replacement Project, pumping and force main facilities, and future planned improvements of the North Coast Interceptor (NCI).

The primary objectives of this SOW are to:

- Assess the technical viability of flow redistribution at a conceptual level, identifying major opportunities, constraints, and risks.
- Estimate high-level costs for redistribution of wastewater and/or recycled water flows entering CTP for each alternative to be considered
- Potential related rightsizing, infrastructure modifications, and operational transitions, resulting from redistribution alternatives considered
- Integrate regional considerations to ensure alignment with ongoing projects, water resource management goals, and funding strategies.
- Provide actionable recommendations to guide decision-making and potential detailed future studies.

This SOW focuses on a high-level analysis and does not include detailed design, permitting, or implementation. It assumes access to relevant data from the Client, Member Agencies, and stakeholders, including flow records, infrastructure maps, and stakeholder inputs. Compliance with regulations such as the Clean Water Act, California Coastal Act, and the California Environmental Quality Act (CEQA) will be considered at a preliminary level.

2. Scope of Services

The Firm shall perform the following tasks in accordance with professional standards from the American Society of Civil Engineers (ASCE) and relevant regulatory guidelines. Services are divided into phases for structured execution.

Project Element 1: Project Initiation and Data Collection

- Gather and review existing documentation, including CTP operational data, flow diagrams, as-built drawings, permits, and historical records.
- Gather and review existing documentation related to the status of the Aliso Creek Restoration Project, including water flow needs for the estuary.
- Collect information on current flows from CLB, SCWD, and EBSD, including volumes, quality parameters, and seasonal variations.
- Obtain details on recipient facilities (OCSAN, RTP, JBL), such as capacity, treatment capabilities, and integration requirements.
- Review regional projects and data, including, but not limited to:
    - SCWD Tunnel Stabilization & Sewer Pipeline Replacement Project documentation (e.g., tunnel enlargement and new pipeline, pump station, and agency intertie installation in the Laguna Beach area).
- Recycled water demand projections for South Orange County (e.g., local agency reports indicating X% of demand met by recycled water).
- Funding planning records for the North Coast Interceptor (NCI), a key conveyance pipeline operated by CLB.
- Conduct virtual or in-person interviews with stakeholders from CLB, SCWD, EBSD, OCSAN, RTP, JBL, and relevant agencies (e.g., OCWD, SOCWA) to gather insights.
- Potential community and business for impacts from OCSAN non-point source control program (qualitative listing of the requirements only), including, but not limited to, dry weather diversions, chemicals of reasonable concern used by business, etc.

Deliverables: A listing of all attained resources and a copy of all received electronic and paper files.

Project Element 2: Technical Feasibility Assessment

Evaluate the high-level feasibility of either right sizing CTP, or portions of the CTP and redistributing and/or redirecting all or portions of flows, with a focus on technical, operational, and environmental aspects. Assessments will include:

1. Wastewater Flows from City of Laguna Beach (CLB) and Emerald Bay Services District:
    a. Assess redirection options to sending raw sewage to OCSAN, considering NCI's role as the primary conveyance system, sending raw sewage or secondary to JBL, and secondary effluent flows from CTP to RTP.
    b. Evaluate integration with CLB's NCI funding and maintenance strategies, including potential cost-sharing for upgrades.
    c. Evaluate integration with EBSD‘s facilities, as well as EBSD contributions in the NCI cost-sharing for upgrades.
    d. Maintain the flow allocation percentages between CLB and EBSB for allocating costs under Project Element 3

2. Wastewater Flows from South Coast Water District (SCWD):

    a. Analyze compatibility with the recently completed SCWD Tunnel Stabilization & Sewer Pipeline Replacement Project, assessing how tunnel improvements (e.g., enlarged structure and 24-inch pipeline) could facilitate or constrain redirections.

b. Identify synergies, conflicts, and additional facility requirements (pumping capacity, pipelines, etc.) for SCWD's to 1) convey raw sewage from CTP to OCSAN, 2) convey raw sewage or secondary from CTP to JBL, and 3) convey surplus secondary effluent to RTP. These options must also include any additional facilities, agreements, etc. to maintain recycled water services within the SCWD service area.

3. Recycled Water Flows used by South Coast Water District (SCWD):

~~c.~~a. Assess opportunity to continue production of Title 22 Recycled Water at CTP for distribution within SCWD's existing recycled water system.
~~d.~~b. Assess opportunity to redistribute wastewater flows for Title 22 recycled water production at alternative treatment sites.
c. Assess options to utilize alternative available recycled water sources for incorporation into SCWD's Title 22 distribution system.

4. Tertiary Treatment Flows used by the CLB

~~e.~~ a. Assess the opportunity for live-stream discharge of the CLB flows to Aliso Creek to support the Aliso Creek Restoration Project.

Overall feasibility analysis will cover:

- Hydraulic assessment at a conceptual level to simulate redirection scenarios.
- Infrastructure needs, such as pipeline extensions, lift station upgrades, pump upgrades, or metering.
- Environmental and regulatory considerations, including water quality compliance and effects on SCWD's recycled water production (e.g., maintaining supplies for irrigation in parks, golf courses, and green belts to meet X% of South County demands).
- Risk identification, such as system disruptions during transition or climate-related vulnerabilities.
- A listing/description of potential limitations to future projects including, but not limited to, for each option:
  a. Permits
  b. New property needs
  c. Maintenance access concerns limitations (i.e., maintenance access in PCH, city traffic islands, heavy traffic intersections, etc.)
  d. Other local agency limitations/restrictions (i.e., moratoriums on street construction, limited hours for construction/maintenance access (i.e. PCH may be night only and/or outside the summer months), local agency requirements for additional paving outside the trench zone, local business signage and outreach requirements during construction, bikeway impact restrictions, etc.)

Project Element 3: Cost Evaluation

- Develop high-level cost estimates for key components, including:
  a. CTP redistribution and/or decommissioning (e.g., shutdown, site remediation, asset disposition).
  b. Flow redistribution/redirection infrastructure (e.g., pipelines, pumps, controls).
  c. Operational transitions and monitoring.

d. Incorporate cost implications of considerations:
e. Potential cost savings from utilizing SCWD's tunnel project investments to reduce redirection costs.
f. Potential savings or offsets from enhanced recycled water utilization in South County.
g. Funding contributions from CLB and EBSD for NCI enhancements, drawing from city budgets or loans (e.g., historical allocations for NCI replacement phases).
h. Use industry benchmarks and parametric estimating methods for accuracy at this level.
i. Perform sensitivity analysis on variables like material costs, labor, and contingencies.
j. A listing only or other considerations including, but not limited to, environmental mitigations, supplement fees/charges (i.e. OCSAN annexation fees), LAFCO processes (annexation or out of area sewer service agreements), lower flow impacts to the Aliso Creek Ocean Outfall, etc.

Project Element 4: Analysis and Recommendations

- Synthesize findings into a feasibility matrix, highlighting viable redirection options, risks, and mitigation strategies.
- Provide recommendations on next steps, such as detailed studies or pilot testing.
- Address regional integration, including how the project alternatives align with the three PC15 Agencies goals, ongoing capital -projects, potential to avoid other capital costs or difficult projects, continuation or expansion of recycled water uses, and NCI funding by CLB/EBSD.
- Develop estimated implementation timelines for each of the project alternatives.

Project Element 5: Reporting and Deliverables

- Technical Memorandums must be submitted and approved for Elements 1 and 2 prior to proceeding with Project Element 3.
- Deliver a final report including:
  - Executive summary. (An initial draft will be summited for review and approval prior to inclusion in the final report.)
  - Final Technical Memorandums for Project Elements 1 through 3.
  - - Provide digital files in standard formats (e.g., PDF, Excel).

Project Element 6: Project Management

A Project Control Plan (PCP) will be developed by the Consultant to establish clear project management procedures and strategies so that the Consultant and PC 15 Member Agencies are unified in the understanding of expectations, roles, and responsibilities. The PCP should include decision-making processes, confirmation of planning criteria to be used, the basis for project cost estimates, coordination needs with concurrent projects, coordination with SOCWA and the PC 15 Member Agencies.

Project Meetings and Communications

The project will have at a minimum:

- Kick-off meeting
- Monthly PM meetings
- Up to 3 Individual Agency meetings
- At least 3 workshops The Consultant shall provide progress reports that include project updates, schedules, and track percent completed by project element at the monthly PM meetings.

Assumptions and Exclusions

- Assumptions:
  a. Client provides timely access to data and stakeholders.
  b. No major changes in regulatory requirements or flow characteristics during the study.
  c. High-level estimates based on available data; accuracy within ±30-50%.
- Exclusions:
  a. Detailed engineering design or construction documents.
  b. Full CEQA environmental impact assessments.
  c. Financial modeling is beyond high-level costs (e.g., no rate studies).

Legal advice on funding or inter-agency agreements.

Schedule

The project shall commence upon agreement execution and be completed within [X] months, with milestones as follows:

- Phase 1: [X] weeks from start.
- Phase 2: [X] weeks following Phase 1.
- Phase 3: [X] weeks following Phase 2.
- Phase 4: [X] weeks following Phase 3.
- Phase 5: [X] weeks following Phase 4, including reviews.

Proposal

South Orange County Wastewater Authority

CTP Regional Flow Study

ENG-25-10

JANUARY 2026

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Jim Burror
Deputy General Manager/Chief Engineer
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629
Phone: (949) 234-5410

January 29, 2026

Re: Proposals for CTP Regional Flow Study ENG-25-10

Dear Mr. Burror:

Arcadis is pleased to submit our proposal to conduct the CTP Regional Flow Study, supporting South Orange County Wastewater Authority (SOCWA) in evaluating alternative regional wastewater flow strategies. Our team brings a proven track record in delivering high-level, effective feasibility analyses for complex water and wastewater projects throughout Southern California.

Leverage Team Efficiency and Alternative Analysis Expertise

Our team's experience managing multi-agency alternative analyses ensures a streamlined, responsive approach. We have recently completed similar studies for regional wastewater, potable water and recycled water projects, providing actionable recommendations that help clients balance cost, risk, and regional integration.

Sewer System Hydraulic Expertise

Arcadis is recognized for its expertise in sewer system hydraulics, including flow forecasting, pipeline and lift station evaluation, and tunnel projects. Our specialists bring deep technical knowledge of system interconnections, operational transitions, and high-level feasibility assessments—ensuring robust, defensible findings for this study.

Effective Member Agency Engagement

We excel at building consensus among diverse stakeholders. Our approach emphasizes collaboration and transparent communication with each member agency, ensuring that all voices are heard and project objectives are unified.

Identification of Responder

- Legal Name: Arcadis U.S., Inc.
- Parent Company: Arcadis N.V. (parent company, headquartered in Amsterdam, Netherlands)
- Principal Address: 630 Plaza Drive, Suite 200, Highlands Ranch, CO 80129
- Local Office: 18401 Von Karman Avenue, Suite 300, Irvine, CA 92612
- Contact: Ryan Hejka PE, Project Manager, (626) 342-1191, Ryan.Hejka@Arcadis.com

Should you have any questions or need additional information, please contact Mr. Hejka.

Sincerely,
Arcadis U.S., Inc.

Christine Cotton, PE
Principal-in-Charge
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Project Manager
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A. Project Understanding and Approach to the Work

Our Understanding

The Coastal Treatment Plant (CTP) Regional Flow Study requires a high-level engineering evaluation of alternatives for redirecting wastewater flows following CTP decommissioning. The study addresses the City of Laguna Beach (CLB), South Coast Water District (SCWD), and Emerald Bay Service District (EBSD), focusing on feasible options for redirecting influent to Orange County Sanitation District (OCSAN), Regional Treatment Plant (RTP), and JB Latham Treatment Plant (JBL).

Key Objectives

- Technical Feasibility: Assess viability of flow redirection, identifying major opportunities, constraints, and risks.
- Cost Evaluation: Develop high-level cost estimates for decommissioning, infrastructure modifications, and operational transitions.
- Regional Integration: Ensure alignment with ongoing projects (e.g., SCWD Tunnel Stabilization & Sewer Pipeline Replacement), water resource management goals, and funding strategies (e.g., North Coast Interceptor (NCI) by CLB).
- Actionable Recommendations: Provide guidance for decision-making and future studies.

Upon reviewing the project requirements and regional context, we have identified several key challenges and considerations that will shape the feasibility evaluation and ultimate success of the CTP Regional Flow Study:

• Complex Flow Patterns

The involvement of multiple agencies CLB, SCWD, and EBSD introduces significant variability in flow volumes, wastewater quality, and seasonal fluctuations. Each agency's unique infrastructure, operational protocols, and historical flow data must be thoroughly analyzed to ensure that redirection scenarios are technically viable and equitably address the needs of all stakeholders. Additionally, maintaining appropriate flow allocations and understanding the interdependencies between agencies will be critical to developing actionable recommendations.

• Infrastructure Compatibility

Recipient facilities, including OCSAN, RTP, and JBL, have distinct capacities, treatment capabilities, and integration requirements. Assessing the compatibility of existing infrastructure such as pipelines, tunnels, and lift stations with proposed flow redirection scenarios will be essential. Potential upgrades, extensions, or new connections may be required to accommodate redirected flows without compromising operational reliability or service levels. Integration with concurrent projects, like the SCWD Tunnel Stabilization & Sewer Pipeline Replacement Project, adds further complexity and requires a coordinated approach to avoid redundancy and maximize cost efficiencies.

• Recycled Water Demands

SOCWA's reliance on recycled water for irrigation and other non-potable uses underscores the importance of maintaining or expanding recycled water production amid flow redirection. Evaluating the potential impacts on tertiary effluent availability, distribution systems, and regional water balance is necessary to prevent service disruptions and to continue meeting established sustainability and water reuse targets. The study must consider how changes in raw and treated wastewater flows could affect recycled water supply and future demands.

• Funding & Cost-Sharing

A multi-agency project of this scope requires careful evaluation of funding mechanisms and cost-sharing strategies, particularly regarding the North Coast Interceptor (NCI) and other major infrastructure investments. The study must identify equitable approaches to allocating capital and operational costs, taking into account agency-specific contributions, benefit distribution, and potential cost offsets from leveraging existing projects (e.g., the SCWD tunnel improvements). Ensuring financial transparency and buy-in from all stakeholders is essential for project advancement.

• Regulatory Compliance

The project must be evaluated within the context of a complex regulatory environment. Preliminary reviews of the Clean Water Act, California Environmental Quality Act (CEQA), permitting requirements, and property access needs are critical to identifying potential obstacles early in the process. Consideration must also be given to local and regional planning requirements, environmental mitigations, and possible future regulatory changes that could affect project feasibility or timeline.

• Stakeholder Impacts

Redirecting flows and decommissioning CTP will have far-reaching impacts on communities, businesses, and ongoing regional initiatives. Potential construction activities, changed flow paths, or service transitions could affect public right-of-way, business operations, and local traffic. Early and ongoing engagement with all relevant stakeholders including the PC 15 Member Agencies, OCWD, SOCWA, and the broader community will be necessary to anticipate concerns, minimize disruptions, and foster project support.

Our Approach

Arcadis will deliver the CTP Regional Flow Study through a structured, phased methodology that aligns with the Project Elements outlined in the RFP. Our approach combines technical rigor, robust project management, and innovative practices, ensuring the study is completed on time and within budget. This section details our approach, anticipated challenges and solutions, schedule, and the core strengths we bring to the project.

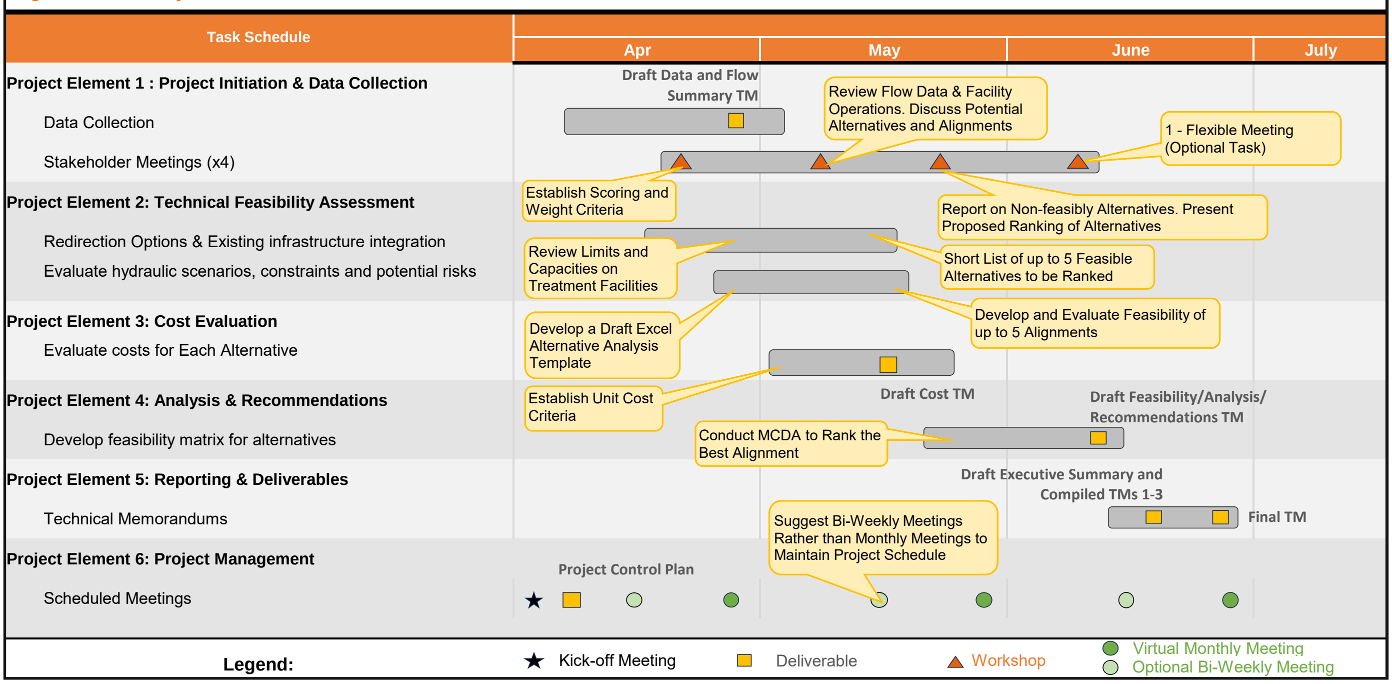
Technical and Management Considerations

Our team leverages proven project management frameworks to coordinate multi-agency efforts, maintain clear communication, and proactively manage risks. Key considerations include:

- Effective Stakeholder Engagement: Early and continuous collaboration with all member agencies and stakeholders to facilitate data sharing and consensus-building.
- Quality Assurance: Robust internal review processes and clear documentation standards.
- Resource Optimization: Applying lessons learned from recent alternative analyses to streamline data collection, evaluation, and reporting.
- Schedule Control: A detailed project schedule and routine progress tracking to ensure timely delivery of all milestones.

The schedule below details the work to be performed to deliver this study within 12 weeks following the kick-off meeting. For the demonstration of the feasibility and approximate time required for each task it is assumed the kickoff meeting will commence the first week of April 2026. The critical path in this schedule is the scheduling and meeting with the SOCWA's Member Agencies. It is assumed that these workshops can be facilitated in a timely matter and will take place between April to June. Ultimately the final study will be delivered before the Beginning of July 2026.

Summarized Schedule for the Development of the CTP Regional Flow Study



This study will focus on a "fatal flaw" conceptual analysis rather than detailed design. A description of Arcadis' methodology for each Project Element is summarized below.

Project Element 1: Project Initiation & Data Collection

- Arcadis will gather and review all relevant documentation, including flow diagrams, as-builts, permits, and historical records. We will document, summarize, and tag each file in an internal Excel database, enabling team members to perform keyword searches and easily access project materials. This centralized approach allows one reviewer to efficiently summarize and distribute key findings to each project element lead. This data request is summarized in the Required Data List on page 5.
- We will conduct stakeholder interviews through forms and email, engaging representatives from CLB, SCWD, EBSD, OCSAN, RTP, JBL, OCWD, and SOCWA. Arcadis will provide standardized forms to an email list of stakeholders, streamlining the data gathering process. We will summarize flow and operations data and present our findings for review in a group virtual meeting with all stakeholders.
- Arcadis and SOCWA will establish a data collection cutoff date to keep the project on schedule.

- We will develop internal flow charts and Excel spreadsheets to summarize and track flow data from each agency.
- Arcadis will facilitate three stakeholder meetings to support project communications:
  1. A meeting to establish scoring criteria.
  2. A meeting to review flow data, facility operations, and discuss potential future alignments proposed by both Arcadis and stakeholders.
  3. A meeting to report on the feasibility of alternatives and propose the top five alternatives, along with their initial rankings.
- Arcadis has also included a fourth, optional stakeholder meeting, to be scheduled if and when the need arises during project delivery. This flexible approach draws on our experience with multi-agency projects, ensuring we can address emerging issues, clarify technical findings, or facilitate additional consensus-building at key decision points. By offering this meeting as an as-needed resource, we help ensure that all stakeholder concerns are addressed proactively and that project momentum is maintained.

Project Element 2: Technical Feasibility Assessment

- Arcadis will review operational data to determine the feasibility of redirection options for each agency. We will consider flow equalization, inflow and infiltration (I&I), impacts of aging pipelines, and potential sewer return flows as part of evaluating the decommissioning of CTP and flow redirection scenarios.
- We will review available data from stakeholders for exisitng infrastructure, available capacity and use USGS contours to evaluate ground elevations for proposed alignments.
- We will assess integration with current infrastructure, including the NCI and SCWD Tunnel Project. Our team will review existing drawings and evaluate modifications or capacity needs of tunnels and pipelines to determine the feasibility of using these assets as alternative alignments.
- Arcadis will develop a skeletonized hydraulic model for up to 10 proposed alignment alternatives to support the feasibility analysis in Project Element 2. This streamlined model will allow us to efficiently evaluate hydraulic performance, including minimum and maximum slope requirements, the need for lift stations, and potential upsizing of conveyance infrastructure. Using InfoWorks ICM, we will manage and compare multiple alternative scenarios. The top five alternatives, as determined through the feasibility assessment, will be advanced to Project Element 4 for multi-criteria decision analysis (MCDA), where detailed hydraulic and operational evaluations will inform the final recommendations.
- We will extract data from the hydraulic model to develop cost estimates using the unit costs established in Project Element 3. In addition, we will incorporate environmental, regulatory, and other qualitative data aligned with the MCDA parameters. All information will be documented in Excel-based hydraulic spreadsheet, providing a streamlined platform for efficient and transparent alternative analysis.
- We will develop a feasibility matrix for alternatives and identify risks, including system disruptions, climate vulnerabilities, and maintenance/ access issues.

Project Element 3: Cost Evaluation

- Arcadis will use regional databases and recent local project examples to develop a unit cost Technical Memorandum (TM). We will submit this TM for SOCWA's review and use it to estimate capital and operational costs for each alternative.
- We will compare strategies using industry benchmarks and conduct sensitivity analyses.
- Arcadis will assess cost-sharing and buy-in estimates for redirected flows.

Project Element 4: Analysis & Recommendations

- Arcadis will develop scoring and weighting criteria for the MCDA analysis, working with SOCWA to define the major goals and considerations for each alternative.
- We will expand our Excel-based hydraulic spreadsheet to include alternative analysis, costs, and MCDA rankings. This template will allow for the quick evaluation of up to five alternative alignments.
- Arcadis will provide recommendations for next steps, integrate regional goals and alignment with ongoing projects, and supply implementation timelines.

Project Element 5: Reporting & Deliverables

- Arcadis will deliver technical memorandums and the final report in MS Word via SharePoint or Bluebeam Sessions, allowing multiple authors to edit documents simultaneously. This collaborative approach streamlines the review process and ensures all stakeholders can provide input efficiently. We will submit draft Technical Memorandums to SOCWA within one week after completion of each project element. Three TMs will be provided: TM 1 (Project Element 1), TM 2 (Project Elements 2 and 4), and TM 3 (Project Element 3).

Project Element 6: Project Management

- Arcadis will develop a Project Control Plan (PCP) as a preliminary deliverable, providing a unified management framework for all project activities.
- We will conduct a project kick-off meeting and monthly meetings, and provide monthly invoices with bullet-style progress reports.

- In addition, Arcadis proposes to add six bi-weekly meetings to the project schedule, supplementing the monthly meetings required by the RFP. This will allow our project managers and SOCWA's project management team to more closely monitor progress and address issues promptly, ensuring the project stays on track for its accelerated timeline.

Addressing Anticipated Challenges

We recognize that each Project Element presents unique challenges. The table below summarizes key anticipated obstacles and our proactive approaches to overcoming them:

Table 1. Approach to Overcoming Foreseen Project Challenges

PROJECT ELEMENT	CHALLENGES	APPROACH TO OVERCOME CHALLENGES
1. Project Initiation & Data Collection	• Incomplete or inconsistent data from member agencies • Scheduling conflicts for stakeholder interviews	• Early and regular coordination with agency contacts • Develop a data request matrix and track responses • Submit forms to solicit feedback
2. Technical Feasibility Assessment	• Variability in infrastructure condition and compatibility • Uncertainty in flow projections and system interdependencies	• Use conservative assumptions and sensitivity analysis • Validate findings through cross-agency technical workshops
3. Cost Evaluation	• Limited cost data for new infrastructure • High variability in market prices and contingencies	• Employ industry benchmarks and parametric estimating • Conduct sensitivity analysis and provide cost ranges
4. Analysis & Recommendations	• Complex trade-offs between alternatives • Potential for stakeholder disagreement on preferred options	• Develop an objective feasibility matrix • Facilitate consensus-building workshops with clear criteria
5. Reporting & Project Management	• Ensuring clarity and accessibility of technical reports • Coordinating timely reviews and approvals across agencies	• Utilize clear executive summaries and visual aids • Set interim deadlines and follow-up on review status
6. Project Management Project Management	• Maintaining alignment between all agencies • Managing schedule risks due to unforeseen issues	• Implement a Project Control Plan with clear roles/responsibilities • Track progress closely and hold regular PM meetings

Required Data List

Historical and current influent flow data for CLB, SCWD, and EBSD	Stakeholder contact information and availability for interviews (CLB, SCWD, EBSD, OCSAN, RTP, JBL, OCWD, SOCWA)
Wastewater quality parameters for each agency (e.g., BOD, TSS, nutrients)	Funding and cost-sharing documentation for major assets, such as NCI funding strategies and cost allocation agreements
As-built drawings and GIS shapefiles of sewer, pump station, tunnel, and pipeline infrastructure, including NCI and SCWD Tunnel	Records of maintenance or capital improvement projects affecting the studied facilities
Recycled water production and demand data	Information on recycled water agreements and interagency transfers
Infrastructure capacity and operational data for recipient facilities (OCSAN, RTP, JBL)	Available studies or records on community and business impacts related to wastewater or recycled water projects
Documentation for ongoing and planned regional projects, such as the SCWD Tunnel Stabilization & Sewer Pipeline Replacement Project	Any other data, reports, or studies relevant to environmental constraints, property needs, or permitting for proposed alternatives
Permits, regulatory compliance documentation, and relevant planning reports	

Arcadis will coordinate closely with SOCWA to refine this list at project initiation and ensure all required data is obtained efficiently and securely.

B. Project Experience and Technical Competence

At Arcadis, we have extensive experience providing high-level evaluations of wastewater collection and treatment systems, including the technical feasibility assessments crucial for projects like the CTP Regional Flow Study. Our teams have led and supported numerous projects across the United States, where we routinely assess opportunities, constraints, and risks associated with redirecting wastewater flows, estimating high-level costs, and integrating regional considerations. For example, we have managed large, multi-stakeholder partnerships, such as the Lehigh County Authority's Sewer Capacity Assurance and Rehabilitation Program (SCARP), where we successfully brought together different communities to evaluate capacity, assess flow impacts, and implement phased corrective action plans aligned with regulatory requirements and future needs.

Our approach emphasizes the integration of existing data, stakeholder input, and cross-disciplinary collaboration to deliver innovative and practical solutions. For instance, in previous projects, we have coordinated closely with clients to ensure alignment with ongoing infrastructure upgrades, water resource management goals, and funding strategies—much like what is required for SOCWA's study. We are adept at managing the full scope of work, from initial high-level feasibility analysis to developing cost estimates for infrastructure modifications and operational transitions. Our track record includes mobilizing expert teams on short notice to address client needs, conducting fatal flaw analyses, and navigating preliminary regulatory requirements, such as those under the Clean Water Act and CEQA. This depth of experience positions Arcadis as a trusted advisor capable of supporting SOCWA through the complexities of this critical regional flow study.An overview of our experience is provided in the table below. Detailed project descriptions and references are presented on the following pages.

		Alternative Analysis						
CLIENT	STUDY AREA (ACRES)	Pump Stations	Tunnel Analysis	Storage Facilities	Treatment Planning	Operation & RTC	Source Control	CIP/Cost Development
City of Santa Monica, CA	5,000	●		●	●	●		●
Laguna Beach County Water District, CA	5,000	●			●			●
Glendale Water and Power, CA	19,000	●		●	●			●
Gwinnett County, GA	279,500	●	●	●	●	●		●
Milwaukee Metropolitan Sewerage District, WI	271,000		●			●		●
City of Columbus, OH	180,000	●	●	●	●	●	●	●
City of Houston, TX	72,500	●	●	●	●	●	●	●
North Texas Municipal Water District, TX	1,400,000	●		●	●	●	●	●
Allegheny County Sanitary Authority, PA	76,000	●	●	●	●		●	●
Buffalo Sewer Authority, NY	71,000	●		●				●
Cincinnati MSD, OH	70,000	●		●		●	●	●
Citizens Energy Group, IN	202,000	●				●	●	
Lehigh County Authority, PA	31,000						●	●
Evansville Water Sewer District, IN	30,280	●	●	●	●	●	●	●
National Water Company, KSA	106,000	●				●		●

Recycled Water Feasibility Study

Laguna Beach County Water District, Laguna Beach, CA

The Laguna Beach County Water District provides retail water service to customers in the Laguna Canyon and portions of Laguna Beach in Southern California. The district does not currently treat nor recycle any of the wastewater generated in its service area. With support of the State Water Resources Control Board Facilities Planning Grant Program, Arcadis evaluated the feasibility of using shallow groundwater, nuisance runoff, and recycled water from the sewer to provide non-potable water for irrigation and other purposes. The evaluation also included coordinating with neighboring utilities to identify partnership opportunities. The study addressed several key items including:

- Evaluation of potential sites and selection of a preferred site
- Identification of recycled water users and demands
- Designation of a proposed recycled water service area
- Identification of alternative sources of recycled/non-potable water
- Evaluation of treatment requirements, costs, and operational considerations

Arcadis is currently updating our initial study to account for new regulatory developments, changes to irrigation demands, and new partnership opportunities with utilities that are currently developing IPR programs.

Client Contact

Bobby Young
Prior Engineering Manager of Laguna Beach County Water District
Current Engineering Manager of East Orange County Water District
185 N. McPherson Road,
Orange, CA 92869-3720
714-538-5815
byyoung@eocwd.com

Contract Term / Completion Date

Feasibility Study (2015 to 2016)
Feasibility Study Update (2023 to 2024)

Total Value

Feasibility Study $230,000
Feasibility Study Update $40,000

Key Personnel

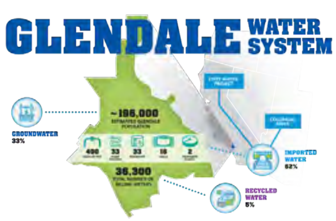
Ryan Hejka, PE
James Collins, PE
Jenny Liu, EIT

Relevancy

- ☑ Alternative Analysis
- ☑ Evaluation of multiple alignments
- ☑ Stakeholder meetings to establish and build consensus on evaluation criteria
- ☑ Feasibility Study Update completed with efficient focused analysis with a quick schedule and limited budget

2025 Water and Recycled Water Master Plan

Glendale Water and Power, Glendale, CA



Arcadis is leading the development of Glendale's 2025 Water and Recycled Water Master Plan, focused on strengthening local water sustainability and reliability. Our team partnered with Glendale Water & Power to evaluate over 40 facility sites, prioritize rehabilitation projects, and conduct a high-level feasibility analysis of a wide range of water supply and reuse alternatives.

A key component was our alternatives analysis using a multi-criteria decision analysis (MCDA) framework. Working directly with the City and its stakeholders, Arcadis established criteria, rankings, and weighting factors to transparently assess and prioritize indirect and direct potable reuse, advanced treatment options, and new supply sources. This collaborative approach ensured that technical feasibility, regulatory compliance, environmental benefit, cost, and community values all shaped project selection.

Arcadis also facilitated alignment with neighboring agencies to promote regional water resilience, and conducted a robust gap analysis to match projected future demands with available and potential supplies. Our robust stakeholder outreach program engaged the community and supported consensus-building.

As a result, the Master Plan provides Glendale with a clear, actionable roadmap for sustainable water supply development and infrastructure investment—directly applicable to regional feasibility and alternatives analysis studies like the SOCWA Flow Study.

Mr. Hejka has served as Glendale's trusted hydraulic advisor for multiple master plans and is currently finalizing the 2025 Master Plan in close collaboration with City staff.

Client Contact

Chisom Obegolu
Assistant General Manager of Water
141 N. Glendale Avenue
Glendale, CA 91206
818.551.3023
CObegolu@Glendaleca.gov

Contract Term / Completion Date

2025 - Ongoing

Total Value

$1,200,000 (total fees/cost)

Key Personnel

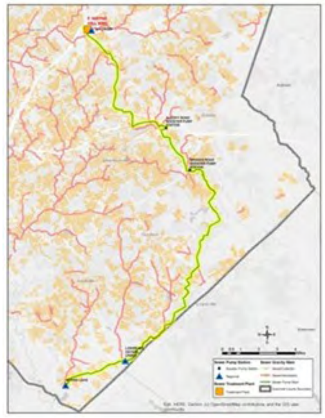
Ryan Hejka, PE
Christine Cotton, PE
James Collins, PE
Kanchan Joshi
Morrison Ramos

Relevancy

- ☑ Alternative Analysis
- ☑ Evaluating multiple alignments. Remove to optimize based on
- ☑ Stakeholder meetings to establish and build consensus on evaluation criteria
- ☑ Evaluate IPR, DPR, and Groundwater treatment and costs

Eastside Conveyance System Preliminary Design Analysis

Gwinnett County Department of Water Resources, Gwinnett County, GA



The Eastside Conveyance System (ECS) Capacity Preliminary Design Analysis (PDA) is a project commissioned by the Gwinnett County Department of Water Resources (DWR) to address the capacity limitations of the ECS force main, which has reached its maximum design flow capacity of 34.5 million gallons per day (mgd) during peak storm events. The ECS consists of three regional submersible pump stations and two in-line booster pump stations, all sharing a 36-inch ductile iron force main extending over 28 miles to discharge at the F. Wayne Hill Water Resources Center (FWHWRC)2.

The project aims to select an optimal strategy for identifying infrastructure improvements, including strategies for implementing a new WRC within the planning horizon. The project included EPA Augmented Alternatives Analysis (AAA) methods, which include triple bottom-line scoring, cost, social and environmental factors, and relevant cost/benefit ratios. The analysis documented current capacity limitations and identified infrastructure improvements and operation strategies through hydraulic modeling. The analysis reviewed previously defined alternatives and identified new preferred strategies for further evaluation to address hydraulic limitations within the ECS.

Several alternatives were evaluated, including providing additional operational storage, diverting flows to areas with perceived capacity, and increasing force main capacity. The project also considers the anticipated growth throughout the eastern corridor of the county, which will result in additional loading on the ECS.

The ECS PDA was a critical initiative to ensure the system can handle future demands and maintain adequate service. The project involves collaboration between various Arcadis and DWR engineering departments, as well as DWR Operations, to provide optimal strategies.

Client Contact
Ron Miller, P.E
Project Manager
Ronald.Miller@gwinnettcounty.com

Contract Term / Completion Date
2024 - 2025

Total Value
$160,000

Key Personnel
Chris Adams, PE

Relevancy
- ☑ Capacity Assessment
- ☑ Alternatives Analysis
- ☑ Growth Projections
- ☑ Hydraulic Modeling
- ☑ Preliminary Design
- ☑ Financial Impact
- ☑ Cost Benefit Analysis

Domestic Water and Sanitary Sewer Master Plan Updates

City of Santa Monica, CA

Arcadis supported the City of Santa Monica, a leader in sustainability and water conservation, with updating its Domestic Water and Sanitary Sewer Master Plans and hydraulic models to analyze current and projected service levels for its water and wastewater systems. The project included a detailed review of existing and future water sources, water usage, and system configuration, and involved updating and calibrating hydraulic models with field data. Through scenario analysis and collaboration with ongoing City initiatives, the project identified major opportunities, constraints, and risks related to system performance, alternative water supplies, and compliance with emerging water quality regulations.

The study culminated in the development of a Capital Improvement Program through 2045, utilizing hydraulic modeling to estimate high-level costs for infrastructure upgrades and operational changes. Arcadis integrated regional considerations by synchronizing demand projections with other master planning efforts and aligning with broader water resource management and funding strategies. The project provided actionable recommendations, including comprehensive model reference materials and staff training, to support informed decision-making and guide future detailed studies and long-term operational planning.

Client Contact
Dinaz Kureishy, PE
Project Manager
2500 Michigan Avenue, Building 1
Santa Monica, CA 90404
310.458.2220
Dinaz.Kureishy@santamonica.gov

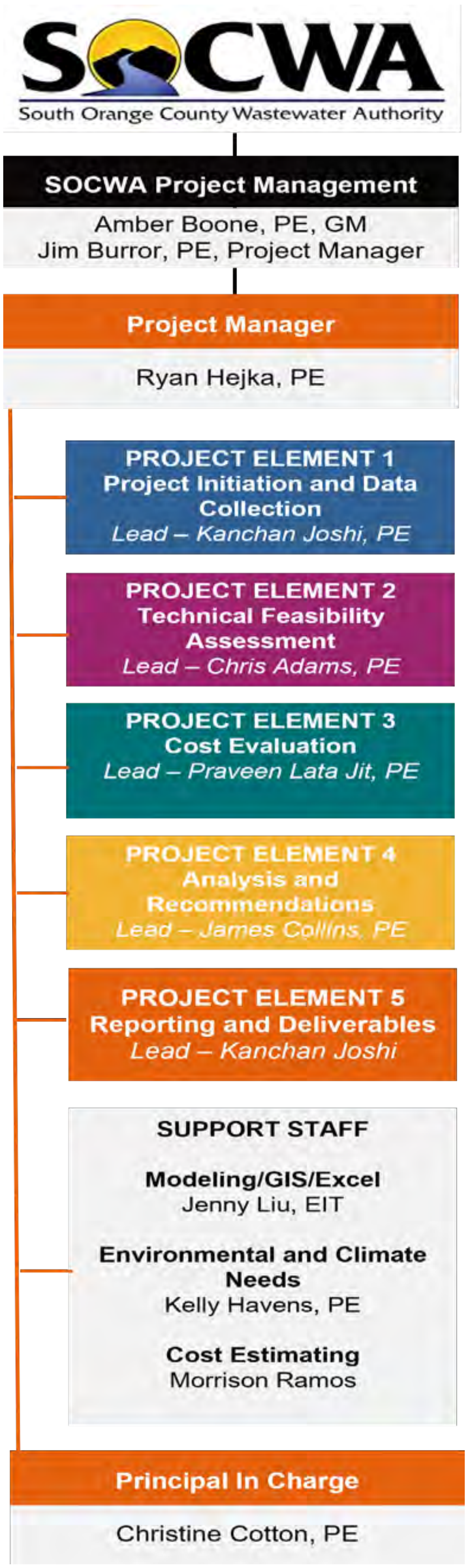
Contract Term / Completion Date
2024

Total Value
$910,000 (total fees/cost)

Key Personnel
Christine Cotton, PE
Jenny Liu, EIT
Ryan Heka, PE
James Collins, PE

Relevancy
- ☑ Domestic water master plan
- ☑ Demand forecasting
- ☑ Capital improvement planning
- ☑ Alternative supply evaluations

C. Key Personnel and Sub-Consultants



At Arcadis, our team for the SOCWA CTP Regional Flow Study is composed of industry-recognized experts in feasibility analysis, hydraulic modeling, alternatives evaluation, environmental compliance, and cost estimating. Our project leadership and technical staff have delivered high-level assessments and innovative solutions for regional wastewater and water resource challenges across California and the United States. Our team is committed and will be available as required for the successful completion of the project within SOCWA's 12-week duration. Arcadis does not intend to use any sub-consultants for this project. Brief team highlights are provided below with resumes further detailing our team's qualifications provided in the resume appendix.

Project Manager/Primary Contact – Ryan Hejka, PE

"I take pride in proactive planning, client collaboration, and the agility to pivot as needed all to achieve successfully on-time delivery"

As Project Manager, Ryan will serve as the main point of contact and have full oversight on project delivery, coordination, and quality assurance. Ryan specializes in hydraulic modeling and master planning, with expertise in sewer, water, and recycled water systems across the western US. His recent leadership of the Glendale Water Master Plan and experience with complex alternatives analysis ensures a proactive, responsive approach. Ryan's strong relationships with project element leads and support staff underpin a "well-oiled team" dynamic, proven on similar multi-agency projects.

Ryan is committed to providing the time and attention necessary for the success of the SOCWA CTP Regional Flow Study, with approximately 45% of his professional availability dedicated to this project between March and September. This ensures direct involvement at all major milestones, timely responses to SOCWA's needs, and effective leadership throughout the project's critical phases. Supported by a highly qualified team, Ryan's availability and proactive management approach will keep the project on track and responsive to emerging issues.

Principal-in-Charge – Christine Cotton, PE

Ms. Cotton brings nearly three decades of experience managing master plans, advanced water treatment, and large-scale infrastructure programs throughout Southern California. As Principal-in-Charge, she will provide executive oversight, ensure project quality, and attend monthly meetings as needed to support the team and client. Christine's extensive background in contract management and regional water quality projects positions her to ensure that project deliverables meet the highest standards.

Project Element Leads

Our Project Element Leads are recognized specialists in their respective fields and will be directly responsible for delivering the technical work, analysis, and recommendations for each major phase of the SOCWA CTP Regional Flow Study. Their deep subject matter expertise and experience in collaborative, multi-agency planning ensure each project element is addressed thoroughly and efficiently:

Kanchan Joshi | Project Initiation & Data Collection / Reporting and Deliverables

Ms. Joshi will spearhead the launch of the study by coordinating data requests, managing the collection and review of existing documentation, and ensuring stakeholder interviews are conducted efficiently and comprehensively. She will lead the organization and cataloging of all acquired data, establishing the foundation for technical analysis in later phases. Kanchan's expertise with GIS and data management will streamline the integration of diverse datasets, maps, and historical records from the various participating agencies. As the lead for Reporting & Deliverables, she will oversee the assembly, synthesis, and quality control of all technical memoranda and the final report, ensuring clarity, accuracy, and consistency throughout. Her track record in delivering comprehensive, actionable deliverables makes her instrumental to project documentation and knowledge transfer.

Chris Adams, PE | Technical Feasibility Assessment

Mr. Adams will lead the high-level assessment of technical feasibility for all flow redirection scenarios. He will develop and review the creation of an excel based hydraulic model to simulate potential flow paths, evaluate the compatibility of existing pipelines, tunnels, and lift stations, and identify any constraints or fatal flaws. Chris will coordinate with the team to assess the implications of various alternatives on system reliability, maintenance, and operational flexibility. His experience in alternatives analysis for complex municipal systems will ensure that all options are rigorously vetted for technical soundness, operational risk, and future adaptability.

Praveen Lata Jit | Cost Evaluation

Ms. Jit is responsible for leading the cost evaluation, bringing industry-leading expertise in estimating capital, operational, and maintenance costs for infrastructure alternatives. She will develop high-level comparative cost analyses for each redirection scenario, working closely with technical leads to ensure estimates reflect actual project conditions and likely construction/operational realities. She will also perform sensitivity analyses to capture variability in materials, labor, and contingencies, and support the team in developing clear, transparent cost comparisons that will be critical to stakeholder decision-making.

James Collins, PE | Analysis & Recommendations

Mr. Collins will synthesize inputs from the technical and cost teams to develop a robust feasibility matrix that compares alternatives across technical, operational, environmental, and financial criteria. He will facilitate workshops with the project team and stakeholders to review findings, build consensus, and identify preferred alternatives. Drawing on his experience with advanced treatment and regulatory compliance, James will ensure that recommendations are actionable and fully aligned with regional water resource management goals, regulatory requirements, and long-term sustainability objectives.

Supporting Staff

Our supporting staff provide essential technical and analytical resources that underpin the success of each project phase. They bring targeted skills in modeling, GIS, environmental assessment, and cost analysis, ensuring the study is comprehensive and robust:

Jenny Liu, EIT

Ms. Liu will support all technical phases with her skills in hydraulic modeling, GIS analysis, and data visualization. She will be instrumental in developing and refining hydraulic models, preparing spatial analyses to illustrate flow paths and system constraints, and supporting the interpretation of technical results. Her previous work with several team leads on master planning and alternatives analysis projects ensures efficient communication and seamless workflow integration.

Kelly Havens, PE

Ms. Havens will support the feasibility assessment by evaluating environmental and climate vulnerability considerations for each alternative. She will analyze environmental compliance requirements, assess the climate resilience of proposed infrastructure modifications, and identify potential environmental permitting or mitigation needs early in the process. Her experience managing multi-benefit stormwater and climate adaptation projects will help the team proactively address regulatory and sustainability challenges.

Morrison Ramos

Mr. Ramos will work closely with Praveen to gather cost data, benchmark estimates, and document assumptions. He will support the preparation of cost tables and sensitivity analyses, helping ensure that all cost evaluations are accurate, transparent, and defensible. Morrison's familiarity with large-scale infrastructure projects will help the team navigate the complexities of multi-agency cost allocation and value engineering.

Forms and Certifications

Conflict of Interest

Arcadis affirms that, to the best of our knowledge, the participation of our employees in this proposal and any resulting contract does not constitute a conflict of interest or potential conflict of interest pursuant to California Government Code Sections 1090 et seq., the Political Reform Act, or any other applicable laws and regulations.

ATTACHMENT B
NON-COLLUSION AFFIDAVIT

The undersigned declares:

I am the Senior Vice President of Arcadis U.S., 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, 29, 2026 at Los Angeles, California.

Signature: Christine Cotton, PE

Title: Senior Vice President

January 29, 2026

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.
2. Respondent certifies that it is willing and able to obtain all insurance required by the form contract included as Attachment C.
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 Respondent to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided.
4. Respondent acknowledges and agrees with all terms and conditions stated in the RFP.
5. Respondent certifies that all information provided in connection with its Proposal is true, complete, and correct.

Christine Cotton, PE
Principal-in-Charge
✉ Christine.Cotton@arcadis.com | ☎ 213.797.5304

Resumes

Christine Cotton, PE

Principal-in-Charge

Ms. Cotton has 29 years of experience in water quality, planning, design, and facility startup projects. She has served as Arcadis' Contract Manager for our Los Angeles Department of Water and Power (LADWP) On-Call Engineering Services, Water Quality, and Disinfection and Treatment contracts over the last 12 years, collaborating with LADWP on water quality, advanced treatment, design, asset management, and information technology projects. Ms. Cotton has managed complex programs over her career, including programming master plans, stakeholder development, large capital improvements designs, and facilities start-up.

Education/Qualifications

- MS, Civil and Environmental Engineering University of Texas, 1996
- BS, Civil and Environmental Engineering University of Texas, 1994

Years of Experience

Total – 29
With Arcadis – 29

Professional Registration/ Certifications

- Professional Engineer – AZ

Relevant Experience

Engineering Services for Water Treatment Facilities; Conveyance and Distribution Facilities; and Large Rotating Equipment

Metropolitan Water District of Southern California, CA

Contract Manager for Arcadis' on-call engineering services to support planning, design, construction, and as-builts for new and existing treatment, conveyance, storage, and distribution facilities.

Professional and Technical Engineering and Architectural Design Services

LADWP, Los Angeles, CA

Contract Manager for Arcadis' on-call engineering contract. A total of 43 task orders were executed under the last two Engineering On-Call contracts resulting in approximately $27.5 million in support services during the three- and five-year contracts, from 2012 to 2015 and 2016 to 2021, respectively.

Professional and Technical Services for Ultraviolet and Chloramine Facilities and Disinfection Integration

LAWDP, Los Angeles, CA

Contract Manager for the Los Angeles Reservoir Ultraviolet Facility. The projected added ultraviolet disinfection facilities and converted from chlorine to chloramine residual disinfectant to comply with the Stage 2 Disinfectants and Disinfection By-Products Rule (D-DBPR) and the Long Term2 Enhanced Surface Water Treatment Rule (LT2ESWTR).

Owner's Agent - San Fernando Basin (SFB) Groundwater Remediation

LAWDP, Los Angeles, CA

Engineering Manager and ultraviolet (UV) treatment expert for the Owner's Agent team, providing the full range of expert professional engineering and consulting services to assist in the initiation, planning, designing, permitting, procurement, alternate delivery, construction, commissioning, and operations of the SFB remediation and drinking water treatment facilities program.

Division of Drinking Water (DDW) Permitting Lead for the Program, performance testing, and start-up activities and has assisted LADWP to get DDW agreement on critical treatment and start-up elements.

Los Angeles Aqueduct (LAA) and Source Water Treatment Evaluation and Fairmont Treatment Plant Design

LAWDP, Los Angeles, CA

Technical Lead for the evaluation of the current treatment strategies and operational practices for source waters conveyed through the LAA, and source waters from the State Water Project East Branch and West Branch. Through a collaborative effort, LADWP was able to effectively utilize the technical results to make long-term decisions on the future of various treatment facilities serving the LAA, including the construction of a new water treatment plant utilizing plate settler technology near the Fairmont Reservoir. After the source water treatment and location were selected, she was the water quality and treatment that lead to develop the design criteria and to complete the 30% design. Also assisted LADWP in development of liquidated damages and performance criteria for the FSP project.

Program Management Framework Development

LAWDP, Los Angeles, CA

Contract and Project Manager for project to assist the Water System with developing Program Management Framework to be rolled out to the Water System. The Program management framework includes the Strategic alignment, Governance & Organization, People, Processes, Tools, Reporting & Communications, Guidelines, Templates, Tools & SOPs Development, staff training, Reporting Systems & Digital Tools, and internal communication strategy. Part of the Program Management roll out is to conduct a program management pilot with the Water System's nitrification control projects.

LAAFiltration Plant and Los Angeles Reservoir UV Disinfection Facilities

LAWDP, Los Angeles, CA

Program Manager and UV Expert for the design of two ultraviolet disinfection facilities. The project added ultraviolet disinfection facilities and converted the distribution system from chlorine to chloramine residual disinfectant to comply with the Stage 2 Disinfectants and Disinfection By-Products Rule and the Long Term 2 Enhanced Surface Water Treatment Rule. Led the DDW coordination over the 12-year project period and provided technical leadership and oversight for the monthly DDW reports and start-up and commissioning activities.

Asset Management Services

LAWDP, Los Angeles, CA

Project Manager assisting LADWP increased awareness of the benefits of Asset Management through workshops. Presented functionalities of Maximo and the process to develop a business case and prioritize projects prior to inclusion in CIP list. Develop and led brainstorming sessions, exercises, and training materials for engaging in Asset Management training for LADWP staff. Evaluating and updating current LADWP asset management reports for main lines, pump stations and regulatory stations. Analysis of existing data for each asset classes and conducted a respective gap analysis to identify missing data and coordinate with LADWP to collect necessary missing information.

Water Information Network Phase I

LAWDP, Los Angeles, CA

Contract Manager, Facilitator, and Technical Assistance for the Water Information Network Data User Requirements Study and Long-Term Growth and Operation Plan with the purpose of evaluating water system integration needs to create an accessible and easy-to-use data exchange framework and user interface under using PI Server by OSIsoft, LLC.

Sustainable Water Infrastructure Program

City of Santa Monica, CA

DDW Regulatory Lead and UV Advanced Oxidation Process (AOP) and UV Disinfection Technical Lead for Arcadis' planning, design, performance testing, and start-up services to support a modular reverse osmosis unit at Santa Monica Urban Runoff Recycling Facility to treat stormwater and brackish groundwater; and the UV AOP (UV/chlorine) treatment element of the below grade Advanced Water Treatment Facility at the Civic Center Parking Lot. Led the development of the UV AOP specification that included water quality constraints for bromate and liquidated damages associated with not meeting performance requirements. In addition, the project principal for Arcadis, including coordination with contractors and subconsultants to assist with overall project progress and communication.

Ryan Hejka, PE

Project Manager

Education/Qualifications

- BS, Civil Engineering, California State Polytechnic University Pomona, 2012

Years of Experience

Total – 12
With Arcadis – 2

Professional Registration/ Certifications

- Professional Engineer – CA

Mr. Hejka is an experienced Project Manager and Hydraulic Modeling Specialist with a proven track record delivering water, wastewater, and recycled water planning and design projects for municipal clients throughout the western United States. He has successfully managed and delivered fast-paced, high-impact projects, including the Laguna Beach County Water District Recycled Water Feasibility Study Update, where he led a team to provide regulatory evaluation, alternatives analysis, updated cost estimates, and stakeholder engagement under tight deadlines. Ryan's expertise spans feasibility studies, master planning, and the design of reservoirs, pump stations, and pipelines, as well as the development and calibration of complex hydraulic models. He excels at guiding multidisciplinary teams, maintaining clear communication with clients, and ensuring that deliverables are completed on schedule and in alignment with client objectives. Ryan is skilled in integrating regulatory requirements and technical design considerations, making him a trusted leader for both planning and infrastructure design assignments.

Relevant Experience

2025 Water and Recycled Water Master Plan

Glendale Water and Power, Glendale, CA

Project Manager for the 2025 Water and Recycled Water Master Plan, developing a future focused strategy to secure reliable and sustainable water supplies for the region. Responsibilities include leading water reuse opportunity assessments, evaluating indirect and direct potable reuse alternatives, and identifying high-priority projects for implementation. Implemented multi-criteria decision analysis (MCDA) to compare supply and reuse options, balancing technical feasibility, regulatory compliance, environmental benefit, cost effectiveness, and community values. Led the Arcadis and City's team in coordinating inter-agency collaboration and worked with our outreach subconsultant to engage stakeholders to align regional objectives and foster public support. Oversaw the task to conduct detailed gap analyses of projected demands versus supply and perform facility condition assessments to guide capital improvements and support plan implementation. Additionally, he guided his team through a potable and recycled water hydraulic modeling evaluation to plan and optimize hydraulic improvements for the City.

2024 Recycled Water Feasibility Study Update

Laguna Beach County Water District, Laguna Beach, CA

Served as Project Manager for the successful and expedited delivery of the LBCWD Recycled Water Feasibility Study Update. This $30K project was completed in a few months and provided critical guidance for LBCWD's future recycled water planning. Led a focused team to review and update irrigation demands, evaluate current potable reuse regulations, and assess a new alternative for connecting with Moulton Niguel Water District (MNWD) to meet local water needs. The scope also included preparing updated cost estimates for the new alternative, ensuring that financial implications are clearly understood for decision making. The evaluation provided an overview of MNWD's planned reuse projects, and all alternatives were assessed using previously established criteria. Facilitated all client communications, including a project kick-off and a review meeting with LBCWD, and oversaw the preparation of both draft and final technical memoranda as an amendment to the 2016 Recycled Water Feasibility Study. This project demonstrated the ability to deliver concise, actionable recommendations (including updated costs) under accelerated timelines, with an emphasis on regulatory awareness and regional collaboration.

Various IEUA Hydraulic Modeling Tasks

Inland Empire Utility Agency, Chino, CA

Most recently he was the replacement PM for the recent RP-4 sewer manhole surcharge study. However, in the past five years has worked on multiple recycled water studies and analysis using IEUA's recycled water model. This work involved projecting seasonal recycled water demand and spreading use; sizing future pipelines for potential future recycled water customers; sizing potential future pump stations; analyzing pressures and velocities in the recycled water system throughout multiple planning years.

Henry J. Mills Finished Water Reservoir #1 and #2 Rehabilitation

Metropolitan Water District, Los Angeles, CA

Serves as Design Manager for the rehabilitation of the Henry J. Mills Reservoirs, overseeing both preliminary and final design phases. After leading the preliminary design report including reservoir cover and slide gate replacements, vault and flow meter upgrades, and multidisciplinary team coordination's leadership resulted in Arcadis' selection for final design. The expanded scope includes major site investigations, stakeholder engagement, regulatory and dam safety coordination, and comprehensive rehabilitation and upgrades for reservoir liners, floating covers, gates, dewatering systems, instrumentation, electrical systems, and site security. Manages all aspects of project delivery, including schedule, budget, quality, and constructability reviews, while facilitating regular meetings and workshops. Also includes technical oversight of CFD modeling for mixing improvements and integration of robust QA/QC processes to ensure regulatory compliance and operational excellence for one of Southern California's most critical water storage facilities.

Owner's Agent - Fairmont Sedimentation Plant

Los Angeles Department of Water and Power, Los Angeles, CA

Hydraulics Lead for the design of the Fairmont Sedimentation Plant. Used InfoWorks ICM to verify the hydraulic Impacts that the FSP design will have on Los Angeles Aqueducts 1 and 2. Reviewed and verified the CFD Modeling of the inlet structure of the FSP as well as confirmed the hydraulics of the FSP. Assisted LADWP in the development of their CAD Manual and 3D drafting standards. Part of a team that is developing the project management plan which outlies the review process between LADWP and the progressive design builder. Assisted LADWP in pilot testing the Revizto design review software.

One Water Los Angeles 2040 Plan

Los Angeles Sanitation District, Los Angeles, CA

Engineer for the Mass Balance Model for the One Water LA 2040 Plan, this project looks at the integration of all the City's water assets. Responsible for the development of a custom mass balance planning model that tracks all major flows in the City of Los Angeles in annual time steps from 2015 through 2020 under normal, wet, and dry year conditions. The modeled flow components include imported water, groundwater, wastewater, recycled water, stormwater, and discharges to the LA River and ocean. This model also includes a cost module and will be utilized in the alternative supply portfolio analysis of the One Water LA 2040 Plan.

Sepulveda Feeder Pump Station Preliminary Design and Owner Agent Support

Metropolitan Water District, Los Angeles, CA

Assistant Project Manager for Metropolitan Water District of Southern California's Sepulveda Feeder Pump Station. This project consisted of a preliminary design for a progressive design build of two massive 30 cfs pump stations with a construction cost of $100 million. This was a fast-paced design that required coordination with multiple permitting agencies as well as multiple engineering disciplines. Responsible for delivering this design to the client in less than one year to accelerate the District's schedule to build this emergency drought pump station as quickly as possible. Lead the coordination of the workshops with the client, which frequently exceeded 30 or more attendees.

Kanchan Joshi

Project Initiation and Data Collection / Reporting and Deliverables – Lead

Ms. Joshi is a hydraulic modeler and civil engineer with over 7 years of experience in water and wastewater infrastructure planning across North America. She specializes in advanced hydraulic modeling and master planning using Innovyze and Bentley platforms, supporting capital improvements for large-scale sewer systems. Kanchan has delivered training programs, automated data and model analysis, and integrated GIS-based spatial analysis to streamline planning processes. Her work includes Sewer System Management Plans, developer impact studies, 2D flood modeling, risk analysis, and redundancy recommendations, consistently meeting Arcadis standards of excellence. She holds a master's in environmental engineering from Georgia Tech and a bachelor's in civil engineering from Sardar Patel College of Engineering.

Education/Qualifications

- MS, Environmental Engineering, Georgia Institute of Technology
- BS, Civil Engineering, Sardar Patel College of Engineering

Years of Experience

Total – 8
With Arcadis – 1

Professional Registration/ Certifications

- Engineer in Training

Relevant Experience

City of Atlanta Program

City of Atlanta GA

Supported the program management team by developing and calibrating sewer modeling for the City using InfoWorks ICM. Supported the program management team on capital planning as well as training city staff on using data automation tools. Project included working as a part of the program management team and conducting several analyses on the hydraulic models that helped the City with capital planning projects.

City of Carlsbad on Call Sewer Modeling

City of Carlsbad, CA

Supported the On-Call Sewer modeling for City of Carlsbad by hydraulic analysis on the system to evaluate the impact of new developments in the area because of state regulations to boost housing capacity in the region. Led data collection, development of hydraulic models and impact on downstream trunk sewers as well as proposing any necessary improvements.

Sewer System Management Plans

Various Location

Supported the development of Sewer System Management Plans (SSMP) for various utilities in Southern California, specifically with system evaluation, capacity assurance and capital improvements. Led the data collection to determine strategies used by various utilities and deliver the findings in a and the final report, ensuring clarity, accuracy, and consistency throughout.

Chris Adams, PE, CPM

Technical Feasibility Assessment – Lead

Education/Qualifications

- BS, Civil Engineering, Georgia Institute of Technology, 2000

Years of Experience

Total – 25
With Arcadis – 3

Professional Registration/ Certifications

- Professional Engineer – GA

Mr. Adams is a professional engineer with 25 years of experience specializing in hydraulic analysis using computer-aided modeling platforms. His experience includes the development and operation of water and wastewater system hydraulic models, pump station design, transient analysis, sewer evaluation studies involving Rainfall Derived Inflow and Infiltration (RDII) analysis, developing and evaluating flow monitoring programs, quality control, and project management for hydraulic and modeling-related projects.

Relevant Experience

New Castle County Collection System Modeling Quality Control Advisory
New Castle County, DE

Led a comprehensive assessment of the county's wastewater hydraulic modeling framework, including evaluation of existing capacity analysis tools, flow monitoring programs, and alternative modeling platforms. Developed strategic recommendations for model calibration, flow metering, and long-term infrastructure planning using industry-standard methodologies. Provided expert guidance to enhance system scalability, usability, and regulatory compliance, supporting proactive utility management and capital investment planning.

City of Santa Monica Sewer System Master Plan
Santa Monica, CA

Technical Lead for developing and calibrating a collection system model for the city and developing capital improvement projects over the planning horizon. Responsibilities also included developing and implementing a flow monitoring program to support calibration and managing the flow meter contractor.

Preliminary Design Analysis
Gwinnett County, GA

Hydraulics Lead for evaluating the hydraulic alternatives for improving the hydraulics along the Eastside Conveyance System. The system consisted of approximately 15 miles of sewer forcemain, three regional pump stations, and two inline booster stations conveying 45-MGD to the F. Wayne Hill WRF. Alternatives included increasing pumping capacity, installing new forcemains, and implementing storage alternatives.

Calibration of Plant 1/Plant 2 Hydraulic Model
Orange County Sanitation District, CA

Led the update and calibration of hydraulic models for OCSAN's Plants 1 and 2 to simulate peak flow conditions, including a combined inflow of 565 MGD. Integrated complex logic to represent combined plant capacity and interplant diversion infrastructure. Developed and evaluated alternatives for replacing aging conveyance systems from headworks to primary and secondary treatment, ensuring performance under peak and average flow conditions.

Additional responsibilities included: Designing a localized flow monitoring program and conducting capacity analysis for the Browning Sub-Trunk and Knott Interceptor/Miller Holder Sub-Trunk Sewer Relief pipelines.

Takoma Park Basement Backup Investigation

Takoma Park, MD

Technical Advisor for updating and recalibrating the Takoma Park basin hydraulic model to identify rehabilitation/replacement projects for eliminating basement backups. The model recalibration used the "Model at Source" approach to identify rainfall-dependent inflow and infiltration sources entering the sewer. Alternatives for increasing the hydraulic capacity by rehabilitating each RDII source and through capital projects were developed.

Sanitary Sewer Model Development and Calibration

Miami-Dade Water and Sewer Department, FL

Project Lead for Arcadis supporting the development and calibration of the WASD sewer system. Primary responsibilities included QAQC for the Arcadis team in evaluating model connectivity through as-builts, developing flow schematics, reviewing and processing flow data for model inputs, and developing preliminary WWF calibration metrics.

Regional Wastewater System Capacity Analysis

North Texas Municipal Wastewater District (NTMWD), TX

Technical Lead for developing and executing a flow monitoring program for 56 meters covering the NTMWD Southern System. Project responsibility included coordinating with flow monitoring contractors, QAQC of the flow data, and rainfall analysis.

Harford County Sewer Modeling

Harford County, MD

Technical Lead for updating and recalibrating the Harford County sewer model. The model recalibration is supplemented with 30 temporary flow monitors, 12 pump station flow meters, and three WWTP flow meters. Additional responsibilities included identifying the location of flow monitors and providing preliminary flow data. Developed flow data analysis protocols, which include Power BI and spreadsheet tools for providing QAQC of ongoing flow data and identifying various components of sanitary flow, including DWF, Base infiltration, and RDII. The project is ongoing and will proceed with model recalibration upon completion of the flow data collection period.

Lehigh County Authority Planning Model

Allentown, PA

Hydraulic Model Technical Lead for alternatives analysis for a 50-year CIP. Responsibilities included optimizing the model development of alternatives, developing priority source reduction plans based on model calibration, and reviewing the modeling input and output. Several custom SQL queries were developed to optimize QAQC, allowing the project to increase efficiency.

Wet Weather Management Program

City of Chattanooga, TN

Member of the modeling Team used first to develop and calibrate the initial hydraulic model of the combined and sanitary sewer system. As part of the ongoing program since 2010, responsibilities have included QAQC and Technical Lead for continued hydrologic and hydraulic modeling for finalizing production of model updates, training mid-level and entry-level staff on the use of the model, updating complex controls, and supporting facility design for CSO operations as well as flow data analysis for over 120 flow monitors used for calibration.

Sanitary Sewer Overflow Reduction Program

City of Bellevue, WA

Modeling and Hydraulics Technical Leader responsible for reviewing sanitary flow data and developing calibrated models and recommendations for eliminating SSOs for the City's wet weather design events up to 100-year events. These projects included developing and analyzing temporary flow monitoring programs for model calibration, updating hydraulic models to reflect current conditions, and providing alternatives for eliminating SSOs within the system. Newport, Fairweather, Somerset, and Medina Basins have been completed. The Newport Basin model was used to design a wet weather pumping station to divert flows to system areas with available capacity.

Modeling Alternatives to Address Lift Station and Collection System

Gainesville Regional Utilities, GA

Modeling Lead responsible for developing and modeling alternatives to address lift-station and collection system improvements for projected flows and design events for the LS1 basin. Additional responsibilities included flow data analysis for developing design events and updating their collection system model, which included 165 pump stations and 130 miles of forcemain. The model update was developed to allow various levels of analysis, including a focus on the pressurized portion of their system and the gravity portions of the system.

Praveen L. Jit

Cost Evaluation – Lead

Education/Qualifications

- BC, Quantity Surveying, UNITEC Institute of Technology, 2001

Years of Experience

Total – 16
With Arcadis – 6

Professional Registration/ Certifications

- Certified Project Manager – Arcadis Project Management Program
- Royal Institution of Chartered Surveyors - Assessment of Professional Competence Member

Ms. Jit is an experienced project estimator with a thorough understanding of architectural, structural, and civil scope of work for multiple projects in the academic, healthcare, aviation, sports, commercial and infrastructure sectors. She also has experience in the field of streetcar and light rail projects. She applies this comprehensive cost perspective to the most complex elements of any project with precision and accuracy. From programming to complete construction documents, she uses her expertise to manage project costs within budget while meeting the owner's and designer's expectations. Her experience encompasses construction phase activities; real-time cost reporting to support decision making, and cost auditing and recommendations on proposed construction change directives and change orders. Her skills includes design management, early budget cost advice, design phase cost management, value engineering and sustainability cost analysis. During reconciliation with contractors, she serves as an advocate for the owner with results that translate into cost savings.

Relevant Experience

50th Street Station
Valley Metro, Phoenix, AZ

Project Lead and Electrical and Systems Estimator for a 0.4-mile route with one new platform station. This new station along the existing Valley Metro Rail system serves the communities and future development near 50th and Washington streets.

The station provides access to the Ability360 facility and neighboring business community, as well as supports transit-oriented development planned for the area.

Gilbert Road Light Rail Extension
Valley Metro, Mesa, AZ

Electrical and Systems Estimator for 1.9 miles of light rail on Main Street from Mesa Drive to Gilbert Road in Mesa. Also provided change order reviews during construction. The extension includes two stations, a transit center with bus services, and a car park and ride. It also included the light rail system's first roundabout at Horne and Main Streets, two TPSS buildings, and one signal house. This extension was executed using the CMAR delivery method. Construction began in October 2016 and completed in May 2019.

Northwest Extension Phase 2
Valley Metro, Phoenix, AZ

Project Lead and Electrical and Systems Estimator for a 1.6-mile light rail extension. Major elements included relocation and reconstruction of wet utilities, demolition and reconstruction of roadway pavements, two at-grade platform stations, one elevated station, and one park-and-ride area. The elevated station was the first in Valley Metro's light rail system. Adjacent to the elevated station is a four-story park-and-ride garage. The project also included two TPSS buildings and one signal house. It also includes public art, the reconstruction of two canal bridges, a mechanically stabilized earthen (MSE) wall, and one elevated bridge over the I-17 freeway. Northwest Extension Phase II was executed using the CMAR delivery method. Construction began in August 2020 and completed in January 2024.

The project was over budget by approximately $60M. Helped in GMP negotiation and saved Valley Metro approximately $57M. Some of these savings were due to value-engineered items and some due to negotiation in labor productivity, equipment, and material rates. The two estimates were within 1% at the end of GMP negotiation.

Peoria Park-and-Ride

Valley Metro, Peoria, AZ

Project Lead and Civil Estimator for Peoria Park and Ride at Old Town. The project included 67 regular and four ADA size parking spaces, six secured bicycle parking spaces with bike lids, two electrical vehicle charging stations, security cameras, and timed awning lights for increased night visibility. The project also included a structural steel canopy. Peoria Park and Ride were executed using the JOC delivery method. Construction started in mid-2019 and completed in late 2019.

South Central Avenue Light Rail Extension

Valley Metro, Phoenix, AZ

Project Lead and Electrical and Systems Estimator for 5.5 miles of light rail extension. Major work included relocation and reconstruction of wet utilities, demolition and reconstruction of roadway pavements, construction of two roundabouts, nine platform stations, and one park-and-ride area. The project also includes six TPSS buildings, eight signal houses, and track improvements at McKinley Street. It also included public art from 18 artists and reconstruction of four bridges. The project was executed using the CMAR delivery method. Construction began in 2019 and is expected to be complete Spring of 2025. The total project cost is $654M for the South-Central Extension and $94M for Downtown Hub Utilities.

Tempe Streetcar

Valley Metro, Tempe, AZ

Project Lead and Electrical and Systems Estimator for 3.0 miles of in-street running track. Major work included relocation and reconstruction of wet utilities, demolition and reconstruction of roadway pavements, construction of 14 streetcar stops. It also included four TPSS buildings, four signal houses and upgrading of existing manual interlocking to full, vitally controlled interlocking. The design also includes off-wire operations through downtown on Mill Avenue and at gateway intersections, primarily shared roadways with vehicle traffic, landscaping, and public art. Tempe Streetcar is executed using the CMAR delivery method. Construction began in 2018 and completed in 2021.

1111 East Fir Housing Development

Seattle Housing Authority, Seattle, WA

Project Estimator for 85 apartment units in five stories of wood-framed construction and six apartment units in one-story of concrete construction with 13 parking stalls and storage areas. Below grade is one-level parking with 49 parking stalls and utility spaces.

Academy of Entertainment and Technology

Santa Monica College, Santa Monica, CA

Project Estimator for expansion of The Academy of Entertainment and Technology (AET), a new facility to house the KCRW radio station, and a new additional AET building. AET houses Santa Monica College's curriculum in animation, game development, graphic design, post-production, and visual effects. Phase 1 of the project was a new 126,000 SF, 440-space parking structure.

ADA Upgrade

Huntington Beach Civic Centre, Huntington Beach, CA

Project Estimator for an 84,907 SF renovation of the civic centre, including ADA upgrades. Upgrades include ramps and rails on the site to access the building and parking areas and interior upgrades in council chamber, conference rooms, offices, restrooms, kitchen, stairs, and elevator.

Athletic Fields and Facilities

Athletic Fields and Facilities, Van Nuys, CA

Project Estimator for new 34,702 SF construction of a stadium field house and a baseball/softball field house including two baseball dugouts, four softball dugouts, concrete bleachers, new synthetic turf baseball and softball field, and associated site work.

James Collins, PE

Analysis and Recommendations – Lead

Education/Qualifications

- MS Civil Engineering, University of New Hampshire, 2005
- BS Environmental Conservation, University of New Hampshire, 2003

Years of Experience

Total – 20
With Arcadis – 15

Professional Registration/ Certifications

- Professional Engineer – NH, MA

Mr. Collins is a technical expert who specializes in the fields of water and reuse treatment and regulations. He has more than 20 years of experience in treatment evaluations, design, start-up and operations, and regulatory compliance for facilities from 10 gpm to more than 2,000 mgd and specializes in advanced treatment technologies including UV, advanced oxidation technologies and granular activated carbon. He has over 15 years of experience working with water reuse projects in Arizona, Texas, and California.

Relevant Experience

Pure Water Los Angeles Master Plan

Los Angeles Department of Water and Power (LADWP), Los Angeles, CA

Task Leader evaluating treatment and integration locations for incorporating recycled wastewater into LADWP's potable water system. Master plan includes evaluating indirect and direct potable reuse options based on regulatory requirements, system limitations, additional treatment, as well as community benefits.

Domestic Water and Sanitary Sewer Master Plan Updates

City of Santa Monica, CA

Task Leader identifying and evaluating alternative water supplies for increasing the City's water self-sufficiency. Lead technical evaluation of alternatives and conducted screening evaluation to rank groundwater, desalination, and direct potable reuse options.

Recycled Water Feasibility Plan

Laguna Beach County Water District (LBCWD), Laguna Beach, CA

Technical Lead for updating LBCWD's Recycled Water Feasibility Study to evaluate options for integrating recycled water to supplement existing water supplies and reduce imported water. Evaluation includes coordinating with local partners to identify collaboration opportunities.

Water and Recycled Water Master Plans

Glendale Water and Power (GWP), CA

Technical Advisor assisting the GWP with evaluating new water supplies through expanded recycled water sources, groundwater, indirect and direct potable reuse, and local partnerships. Assisted with identifying water sources and prioritizing project siting and selection.

Advanced Purified Water Treatment Plant (WTP) for Direct Potable Reuse

El Paso Water Utilities, El Paso, TX

Technical advisor for the ultraviolet (UV) advanced oxidation and granular activated carbon (GAC) concept design and pilot testing for a 10-million gallons per day (MGD) advanced purified water treatment plant that will treat plant influent from the secondary clarifier effluent of the Roberto Bustamante Wastewater Treatment Plant (WWTP) in El Paso to potable water quality for distribution to the drinking water customers of the City of El Paso.

Advanced WTP Expansion

City of Scottsdale, AZ

Project engineer for the design of an expansion of an existing advance water recycling facility, including the addition of UV advanced oxidation for N-Nitrosodimethylamine (NDMA) treatment. Led evaluation of 1) identifying NDMA sources throughout the WWTP, 2) identifying changes to the existing treatment processes to limit formation and included both bench-scale and full-scale testing of NDMA mitigation techniques, 3) NDMA treatment technologies.

Tujunga and North Hollywood Central Treatment Facilities

LADWP, Los Angeles, CA

Technical Reviewer for 25- and 38-MGD UV Advanced Oxidation Process (AOP) and GAC facility for treatment of 1,4-dioxane and VOCs in contaminated wellfield. Process lead for the 30% design and reviewer of final design, construction and start-up

North Hollywood West Water Treatment Facilities

LADWP, Los Angeles, CA

Process and mechanical design lead for implementation of 18-MGD UV AOP and GAC facility for treatment of 1,4-dioxane and Volatile Organic Compounds (VOC) in contaminated wellfield. Responsible for development and review of bench-scale testing, design criteria, specifications and process mechanical design lead for detailed design

Los Angeles Reservoir UV Facility

LADWP, Los Angeles, CA

Technical Advisor for the design, programming and start-up of a 650-MGD UV disinfection plant for the Los Angeles Reservoir. Responsible for control strategy and start-up and testing planning and review.

Los Angeles Aqueduct (LAA) Filtration Plant UV Facility

LADWP, Los Angeles, CA

Project Manager for programming and start-up of a 600-MGD UV disinfection plant for the LAA Filtration Plant. Responsible for client planning and completion of testing; control strategy development, review and implementation; and regulatory coordination. Developed and conducted equipment, regulatory and controls training for operations and maintenance staff.

Fairmont Sedimentation Plant

LADWP, Los Angeles, CA

Task Manager as Owner's Agent for a 460-MGD sedimentation plant being delivered through progressive design build. Directed tasks related to bench-testing and water quality evaluations, development of design standards and bridging documents.

Advanced Oxidation Handbook

American Water Works Association (AWWA)

Primary Author for the Advanced Oxidation Handbook published by AWWA. The handbook introduces the concepts related to the fundamentals, design, and operation of advanced oxidation technologies (AOTs) including UV and ozone based AOTs. It is designed to help the beginner and to provide important reference material for those experienced with AOTs.

New York State Center for Clean Water Technologies (previous firm)

Suffolk County Water Resource Authority, NY

Technical Advisor for evaluating emerging technologies for 1,4-dioxane treatment in partnership with Suffolk County Water Authority. Project included pilot-scale evaluation of medium pressure UV/chlorine and ozone/peroxide for 1,4-dioxane treatment. Results were compared to full-scale UV/peroxide system.

1,4-Dioxane Pilot Testing and Facility Design

Tucson Water, Tucson, AZ

Led the technical evaluation of advanced oxidation treatment technologies for 1,4-dioxane treatment. Responsible for detailed evaluation focused on UV and ozone advanced oxidation. Process/Mechanical Design Lead for detailed design of an 8.3-MGD UV advanced oxidation facility with GAC quenching for hydrogen peroxide.

Jenny Liu, EIT

Modeling / GIS / Excel – Support

Education/Qualifications

- BS, Environmental Engineering, California, Polytechnic State University, 2022

Years of Experience

Total – 2
With Arcadis – 2

Professional Registration/ Certifications

- Engineer in Training
- Certified California Water Audit Validator
- Envision Sustainability Professional

Ms. Liu is an environmental engineer at Arcadis with a bachelor's degree in environmental engineering and a minor in City and Regional Planning from California Polytechnic State University. In her time with Arcadis, she has worked on a variety of projects for both Arcadis' Environment and Water divisions. Ms. Liu led start-up commissioning field events and drafted proposals and preliminary analysis reports. She also managed projects for Chevron and BP Foxglove sites and prepared key reports for the client as part of the Environment division. Most recently, Ms. Liu led the alternative analysis for the Santa Monica Domestic Water Master Plan and assisted in a pressure transient analysis for the Goleta distribution system.

Relevant Experience

Domestic Water and Sanitary Sewer Master Plan

City of Santa Monica, CA

The City of Santa Monica set a goal to reduce its reliance on Metropolitan imported water by expanding its local supply. Arcadis conducted a preliminary analysis of new supply sources and production alternatives to guide the City's future planning efforts. Led the analysis of alternatives divided into three categories: (1) groundwater, (2) desalination, and (3) direct potable reuse. Coordinated with Arcadis technical experts and engaged in stakeholder workshops to meet the City's needs. Conducted research, performed supply and demand analysis on the Santa Monica water portfolio, conducted high-level cost analysis, moderated workshop meetings, and drafted the technical memorandum on the alternative analysis findings.

Goleta Distribution System Pressure Transient Analysis

City of Goleta, CA

Arcadis led a pressure transient analysis to help the City of Goleta improve the monitoring and maintenance of its distribution system. Pressure transient events cause damage to the piping systems and increase repair costs if they reoccur. Reviewed the City's existing pressure data and the monitoring system configuration. Identified potential pressure transient events at all the City's monitoring locations, determined specific locations with high-pressure transient frequency, and suggested key action items the City can take to optimize its pressure transient monitoring.

Laguna Beach County Water District (LBCWD) Recycled Water Study Update

LBCWD, Laguna Beach, CA

LBCWD conducted a recycled water study in 2016 and wanted to explore new indirect and direct potable reuse projects. Led junior staff to complete the recycled water demand study update and research of new indirect and direct reuse opportunities in Orange County. Completed cost analysis and drafted the technical memorandum summarizing findings.

State Water Project Dependent Area Workshops

Metropolitan Water District of Southern California (MWDSC), Los Angeles, CA

Arcadis assists MWDSC in hosting a workshop series with its member agencies to develop a portfolio of drought mitigation actions. These projects are intended to prepare MWDSC and its member agencies for future drought scenarios. Assisted in workshop moderation, provided technical support for MWD member agencies, and coordinated with stakeholders to obtain workshop feedback. Assisted in creating an accessible SharePoint website for different stakeholders to access material required for the workshops and prepared for discussions on drought planning goals. Drafted and oversaw the completion of the summary report that detailed the objectives and deliverables of each workshop.

Chino Basin Water Bank Development

Inland Empire Utilities Agency (IEUA), Chino, CA

IUEA investigated a potential water bank proposal between its member agencies. Arcadis drafted the water bank proposal, which was intended to provide resilience in drought scenarios. Authored the Watermaster regulations and framework section for the Water Market Strategy Document, which detailed the proposed water bank in the Chino Water Basin regulatory setting. Drafted potential Chino Water Basin participant profiles to provide a better understanding of the agencies' water sources, customer profiles, and goals. Designed brochures and fact sheets as part of marketing tools for the Chino Basin Water Bank.

San Francisco Public Utilities Commission (SFPUC) Level 1 Validation

SFPUC, City of San Francisco, CA

Urban retail water suppliers must submit a validated distribution system audit to the California Department of Water Resources annually. Reviewed the SFPUC water audit documents and conducted a validation interview with SFPUC staff. Made sure that the water audit inputs were aligned with the updated American Water Works Association Water Audit Software Version 6, recommended suggestions on data validation score improvement, and prepared water audit validation notes and reports.

Santa Monica Urban Runoff Recycled Facility (SMURRF)

City of Santa Monica, CA

The City of Santa Monica upgraded the existing SMURRF with a new reverse osmosis treatment unit to treat dry-weather urban runoff, stormwater, and brackish groundwater. Monitored key performance parameters of the facility and collected samples along the treatment train during the 14-day Acceptance Test. Drafted the Acceptance Test Engineering Report to document the field observations, analytical results, and trends in performance parameters and determine compliance with Acceptance Test standards.

Sterling Natural Resource Center (SNRC)

East Valley Water District, Highland, CA

The SNRC is a wastewater reclamation facility aiming to boost the region's drought resiliency. The treatment facility is currently completing its pre-commissioning activities in preparation for the system startup. Conducted site visits and drafted a plant overview training module for the operators. Assisted in presenting the training model and will be providing oversight during the system startup.

Los Angeles Perchlorate and Volatile Organic Compounds (VOCs) Cleanup Project

Water Replenishment District (WRD), Vernon, CA

The WRD installed a treatment system to remove perchlorate and VOC at an industrial site. Oversaw the start-up operations of the Fluidized Bed Reactor and Ultraviolet Trojan system and assisted in troubleshooting the system before initiating continuous flow operation. Performed compliance sampling, prepared updated field forms, and managed sample bottle inventories.

Chevron Environmental Management Company Sites

Washington and California

Assistant Project Manager for at least four Chevron sites.F Managed tasks between field staff, international resources, subcontractors, and technical experts. Trained new staff members to complete planning tasks and lead field events remotely.

Education/Qualifications

- Master of Science in Civil Engineering, UCLA, 2008
- Bachelor of Science in Engineering Geology, UCLA, 2007

Years of Experience

Total – 16
With Arcadis – 1

Professional Registration/ Certifications

- Professional Engineer – CA

Kelly Havens, PE

Environmental and Climate Needs – Support

Ms. Havens is an innovative water resources engineer supporting business development, client and project management, and team building for climate resilience, stormwater management, green stormwater infrastructure, and integrated water resources practices. She has worked as a stormwater engineering consultant for over 16 years, serving as project manager of multi-consultant teams on projects for municipal and private clients focused on stormwater and climate resilience infrastructure planning, design, technical guidance, and funding and financing strategy. Ms. Havens has expertise in green stormwater infrastructure and multi-benefit stormwater capture projects. She has experience assisting clients with National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer (MS4) permit requirements throughout California. Ms. Havens has worked with many clients on funding strategies for stormwater, grant applications, and development of innovative funding programs. She served as consultant lead for the development of the Contra Costa County Regional Alternative Compliance (RAC) System, an off-site stormwater quality credit trading program. Ms. Havens is a member of the California Stormwater Quality Association (CASQA) and recently co-led the Funding Subcommittee.

Relevant Experience

Funding Options Memorandum and P3 Partnership Opportunities

Los Angeles County Public Works (LACPW), Los Angeles County, CA

Drafted a memorandum to examine funding and financing approaches to support stormwater capture project development. The memorandum described potential funding that could supplement Safe, Clean Water Program funding, including public agency partnerships (for example, water supply agencies), state and federal grants, other local taxes and fees, and other funding options. The memorandum also examined financing options, including bonds, the state revolving fund, Water Infrastructure Finance and Innovation Act, and private financing. Explored innovative smaller-scale public-private partnership opportunities as part of the work. This included conceptual level site identification, facility selection, and sizing for multi-benefit stormwater capture and infiltration projects.

Stormwater Technical Support, Descanso Gardens

Rios Clementi Hale Studios, Los Angeles County, CA

Served as Technical Advisor on stormwater management related work for Descanso Gardens in support of a Safe, Clean, Water Program grant application for the Winery Canyon Channel/ Descanso Gardens Measure W Stormwater Capture and Reuse Project, including providing advising on hydrologic modeling. Separately wrote a Water Quality Technical Report for California Environmental Quality Act, examining potential water quality impacts of the Descanso Gardens

Master Plan, designed to meet National Pollutant Discharge Elimination System permit requirements and considering applicable Total Maximum Daily Loads, 303(d) listings and Enhanced Watershed Management Programs.

Contra Costa County Regional Alternative Compliance System and Clean Watersheds for All

Contra Costa Clean Water Program, Contra Costa County, CA

Managed a multi-consultant team to develop a treated stormwater crediting program for Contra Costa County municipalities, led by the City of San Pablo (RAC System). Led dozens of meetings with municipal agencies, regulators, technical experts, lawyers, developers, and the public to develop the System Summary Report, which was approved for use as alternative compliance by the San Francisco Bay Regional Water Board. Managed the Clean Watersheds for all projects to identify opportunities, prepare concept designs, and develop a funding and delivery roadmap for multi-benefit regional stormwater capture projects in Contra Costa County. Through a separate contract, Wrote the scope for the successful Environmental Protection Agency grant application that funded the project.

Advancing Regional Stormwater-Scale Stormwater Management and One Watershed Project

City/County Association of Governments of San Mateo County, CA

Managed a project to advance regional-scale multi-benefit stormwater management projects in San Mateo County, including development of goals and objectives, a business case for regional stormwater management, a funding strategy, including a stormwater credit trading program concept. The analysis and program plan were captured in white paper. Managed a project to develop a framework ("OneWatershed Framework") to assess climate vulnerability of water-based infrastructure assets on a watershed basis, incorporating the lived experience of local communities, and identify solutions including passive stormwater treatment, detention, and retention.

Monterey Peninsula Stormwater Resource Plan

Monterey One Water, Monterey, CA

Managed a successful state grant and the resulting development of the Monterey Peninsula Stormwater Resource Plan and Monterey Peninsula Water Recovery Study, including planning and design of multi-benefit water capture and supply projects, and stakeholder and Technical Advisory Committee meetings.

Kellogg Resiliency Project

Fairfield Suisun Sewer District, CA

Managed a project that produced plans, specifications, and estimates for a resilience solution in Suisun City, including green stormwater infrastructure, flood basin retrofits, and improvements at the pump station. Managed pre-design efforts including the drainage model.

Clean Water Program Support

City of Oakland, City of Palo Alto, City of Dublin, City of Walnut Creek, City of San Pablo, City of Santa Clara, C/CAG, Contra Costa County, Alameda Countywide Clean Water Program, CA

Managed and supported several projects with California municipalities and clean water programs focused on technical guidance, watershed planning, funding opportunities and program development, stormwater drainage master plan support, and design of multi-benefit stormwater capture and climate resilience facilities.

Sea Level Rise Adaptation Plan

LACPW, Los Angeles County, CA

Managed a Sea Level Rise Adaptation Plan for a large stormwater culvert in response to California Coastal Commission Development Permit requirements, including a drainage model and concept designs for alternatives. Managed the development of the plan and presented it to the Coastal Commission.

City of Oakland Storm Drain Master Plan and Green Stormwater Infrastructure Guidance

City of Oakland, CA

Managed a subcontract to update the City's Storm Drainage Master Plan (SDMP). Led desktop and field analyses to prioritize City sites for regional multi-benefit stormwater capture projects to address flooding and water quality, 10% concept designs for three sites, and led funding strategy discussions with the City and Caltrans. Managed a Lake Merritt Water Quality Recommendations Report and led a stakeholder outreach meeting as part of the project. Separately, managed the City's Green Stormwater Infrastructure (GSI) Plan implementation project, managing GSI guidance, City-specific GSI details, and existing GSI facility field assessments.

Education/Qualifications

- BSc, Mechanical Engineering, Far Eastern University

Years of Experience

Total – 25
With Arcadis – 10

Morrison Ramos

Cost Estimating – Support

Morrison has more than 25 years of expertise in Mechanical Cost Estimating for Heating, Ventilating, and Air Conditioning (HVAC), Plumbing, Fire Protection, Site Utilities (Water, Sewer, Storm, Natural Gas Distribution and Private Irrigation), Pump Stations, Water and Wastewater Treatment Plant, Oil and Gas piping distribution, He is experienced in cost control, quantity surveying, contracts administration for both pre-contract and post-contract services including quantity surveying/cost estimating for various types of pre-construction development from program stages, conceptual, schematic, detailed design construction, preparation of bills of quantities, contractual procurement, preparation of bid documents, evaluation of bids and preparation of bid reports, value engineering, to post construction analysis, preparation and negotiation of variation change orders, conditions assessment, preparation of cost/financial reports, interim valuation, final accounts, property valuation and other cost related jobs. He specialized in various types of projects including laboratories and medical research buildings, hospitals, commercial structures, schools, libraries, industrial facilities, central plants, water and wastewater treatment plants, office buildings, high-rise residential, commercial reclamation, and land development.

Relevant Experience

Edinger Pump Station
Orange County, CA

Mechanical Estimator. The scope of the project includes the construction of a new Electrical Building with a gross floor area (GFA) of 1,153 square feet, an underground Pump Station with a GFA of 2,076 square feet housing three pumps, and the abandonment of the existing pump station and utility work.

Jackson County Water Reclamation Project
Jackson County, MS

Mechanical Estimator. The project consists of an approximate 20 MGD Wastewater treatment plant with pretreatment, BNR basins, clarifiers, effluent reuse pump station, reject tank, UV disinfection, tertiary filters, and process buildings.

Bergen County Utilities Authority – Edgewater Pump Station
Edgewater, NJ

Mechanical Estimator. The project consists of a pump station building with five pumps at a capacity of 335 horsepower (HP) each. Included is a bar screen, HVAC, Plumbing, Process Mechanical, Electrical, and Process Instrumentation.

Formosa Wastewater treatment Plant

St. James Parish, LA

Mechanical Estimator. The project consists of approximate 709,370 SF site construction of a wastewater treatment plant with moving bed biofilm reactor (MBBR), membrane bioreactor (MBR), Inorganic Clarifier, Water Reuse Reverse Osmosis, Blowers, Mixers, Disc Thickener, and Screw Press.

Ohio Creek Watershed Project

City of Norfolk, VA

Mechanical Estimator. The project consists of two main Pump Station as Ballentine with 3-300 HP vertical line shaft pumps and Haynes Creek with 4-100 HP vertical line shaft pumps. Provided a cost estimate for mechanical and process mechanical, pumps including sluice gates.

Pittsburgh Water and Sewer Replacement

Pittsburgh, PA

Mechanical Estimator. The project consists of Aspinwall water treatment plant intake replacement with installation of new, passive, cylindrical screens, located 200 feet from shore in the Allegheny River, through new gate house.

City of Greensboro

Greensboro, NC

Mechanical Estimator. The project includes installation of water utility distribution for four water booster stations.

Novelis Corporation

Oswego Couty, NY

Mechanical Estimator. The project consists of a new city water line for RCW improvements project. Water main pipeline alignment from Backflow Preventer Building no 1 to 2 with blowdown structure and channel well.

Hunt Highway Water Production Facility

Chandler, AZ

Mechanical Estimator. The project consists of installation discharge water piping, fittings, valves and specialties.

Capital Extension (CAPEX)

Valley Metro, Phoenix, AZ

Mechanical and Site Utilities Estimator. The Capitol Extension (CAPEX) project is a 0.8-mile project extending the existing Valley Metro light rail transit from downtown Phoenix to the area near the Arizona State Capitol. The project begins at Washington Street and 3rd Avenue connecting to the existing single-track couplet. The alignment continues running on Washington Street, loops south onto 15th Avenue, and then returns east on Jefferson Street. Along Jefferson Street, the alignment extends from 15th Avenue to 3rd Avenue where it connects to the existing downtown alignment. The project includes two split platform stations (four total side loading platforms) along the route: 15th Avenue/Washington, 7th Avenue/ Washington, 15th Avenue/Jefferson, and 7th Avenue/Jefferson platforms The platforms were designed according to Valley Metro's standards design criteria including all amenities like existing station platforms. Additionally, an operator facility was built near the 15th Avenue/Jefferson Street platform. Systems facilities include one new traction power substation (TPSS) and a signal building planned on the southeast corner of Jefferson Street and 12th Avenue. Traction power is provided by an overhead contact system (OCS).

Valley Metro South Central Light Rail Extension

Valley Metro, Phoenix, AZ

Mechanical and Site Utilities Estimator for a 5.5 mile of light rail extension. Major elements of work include relocation and reconstruction of wet utilities, demolition and reconstruction of roadway pavements, construction of two roundabouts, nine platform stations, and one park-andride area. The project also included six TPSS buildings, eight signal houses, and track improvements at McKinley Street. Also included was public art by 18 artists and reconstruction of four bridges. The project was executed using the CMAR delivery method. The total project cost was $654 million for the South-Central Extension and $94 million for Downtown Hub Utilities. Morrison also helped in GMP negotiation for Downtown Hub Utilities where the final two estimates were within 5% of direct construction cost. (2019 – 2024)

Valley Metro 50th Street Light Rail Station

Valley Metro, Phoenix, AZ

Mechanical and Site Utilities Estimator for a 0.4-mile route with one new platform station along the existing rail system. This new station serves the communities and future development near 50th and Washington streets. The station provided access to the Ability360 facility and neighboring business community, as well as supported transit-oriented development planned for the area. (2017- 2019). The total project cost was $23 million.

Price Proposal
South Orange County Wastewater Authority
CTP Regional Flow Study

Task No.	Task Description	Arcadis Hours							$	
		Technical Advisor	Senior Technical Manager	Principal Engineer/ Scientist	Senior Engineer/ Scientist	Project Engineer/ Scientist	Project Assistant	Total Hours	Total Labor	Total Cost
		$350	$320	$300	$270	$210	$125			
CTP Regional Flow Study										
1	Project Element 1 : Project Initiation & Data Collection	0	6	15	1	44	1	67	$16,055	$16,055
2	Project Element 2: Technical Feasibility Assessment	0	8	24	8	32	0	72	$18,640	$18,640
3	Project Element 3: Cost Evaluation	0	0	3	4	23	0	30	$6,810	$6,810
4	Project Element 4: Analysis & Recommendations	2	6	12	0	22	0	42	$10,840	$10,840
5	Project Element 5: Reporting & Deliverables	2	5	20	4	46	11	88	$20,415	$20,415
6	Project Management	2	2	10	0	12	3	29	$7,235	$7,235
	PROJECT ELEMENTS 1 THROUGH 5 TOTAL	**6**	**27**	**84**	**17**	**179**	**15**	**328**	**$79,995**	**$79,995**

PROPOSAL FOR

CTP REGIONAL FLOW STUDY

ENG-25-10

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

JANUARY 29, 2026

27271 Las Ramblas, Suite 340 / Mission Viejo, CA 92691 / 949.450.2525

DUDEK

Cover Letter

January 29, 2026

Jim Burror
Engineering
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, California 92629

Subject: Coastal Treatment Plant Regional Flow Study

Dear Jim Burror:

Dudek is pleased to submit this proposal for the Coastal Treatment Plant (CTP) Regional Flow Study and appreciates the opportunity to continue supporting South Orange County Wastewater Authority (SOCWA) and its member agencies with resilient regional wastewater and recycled water planning solutions. Our team values its long-standing partnership with SOCWA and remains committed to delivering practical planning that supports effective decision-making.

Dudek brings unmatched regional experience to this effort. Since the early 2010s, we have supported SOCWA, the City of Laguna Beach, and South Coast Water District with planning, condition assessment, and design across the regional systems. Since 2020, we have completed over 10 projects with Laguna Beach and over 20 for South Coast Water District in addition to ongoing work at SOCWA's treatment plants. This background gives our team a clear understanding of the interconnected conveyance, treatment, and operational needs that will inform the Regional Flow Study.

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This study comes at a critical time with SOCWA's CTP and J.B. Latham Treatment Plant Feasibility Study projects underway. Coordination across these efforts will be essential for consistent assumptions, aligned evaluation pathways, and a unified basis for future capital and operational planning. Our proposed approach builds on our experience evaluating diversion alternatives, tunneling and conveyance feasibility, and planning-level hydraulic and cost analyses across the Project Committee 15 systems.

We understand this project's purpose and are ready to begin immediately. For questions about our submittal, please contact Project Manager **Brian Robertson** at **760.479.4845** or brobertson@dudek.com.

Sincerely,

Mike Metts
Practice Director

Mike Metts is authorized to sign on behalf of Dudek

Brian Robertson
Project Manager

1.3.1 Identification of Responder

Table 1. Dudek Information

Legal name, address, and form of company	Dudek; 687 S. Coast Highway 101, Suite 110, Encinitas, CA 92024 A proud California Corporation since 1980; C1210012
Parent companies	Dudek has no parent company.
Principal and local address	Main Office; 687 S. Coast Highway 101, Suite 110, Encinitas, CA 92024 Local Office; 27271 Las Ramblas, Suite 340, Mission Viejo, CA 92691
Contact information	Brian Robertson, PE, QSD, Project Manager 687 S. Coast Highway 101, Suite 110, Encinitas, CA 92024 760.479.4845; brobertson@dudek.com

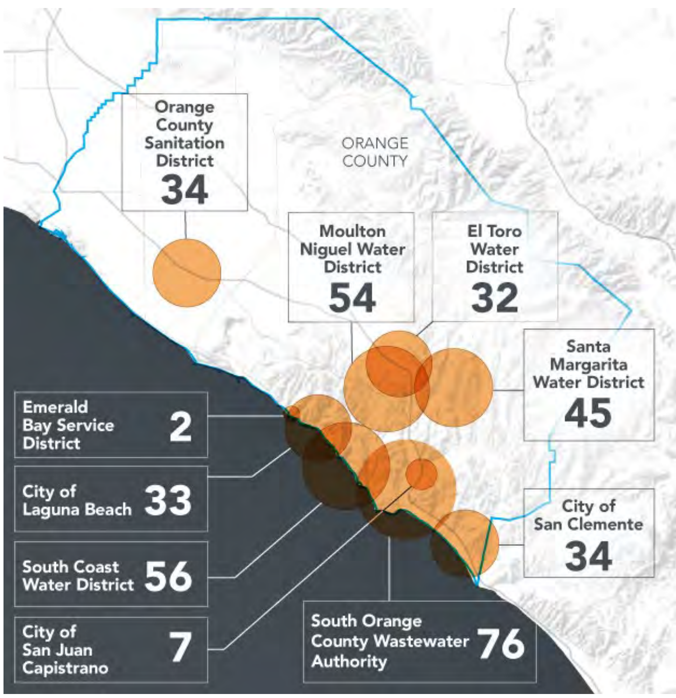


Figure 1. Dudek Project Inventory with Orange County Clients

Firm Background

Dudek, established in 1980 in Encinitas, California, began as a civil engineering consulting firm serving San Diego County. Today, Dudek employs over 1,000 staff across 21 offices nationwide, offering services in energy, transportation, water, federal, municipal, education, and healthcare sectors.

In South Orange County, Dudek's Mission Viejo office provides specialized support for local infrastructure and environmental needs, focusing on responsive service and strong relationships with SOCWA member agencies. The team leverages local expertise to deliver tailored, sustainable solutions for regional water and wastewater challenges while meeting regulatory requirements.

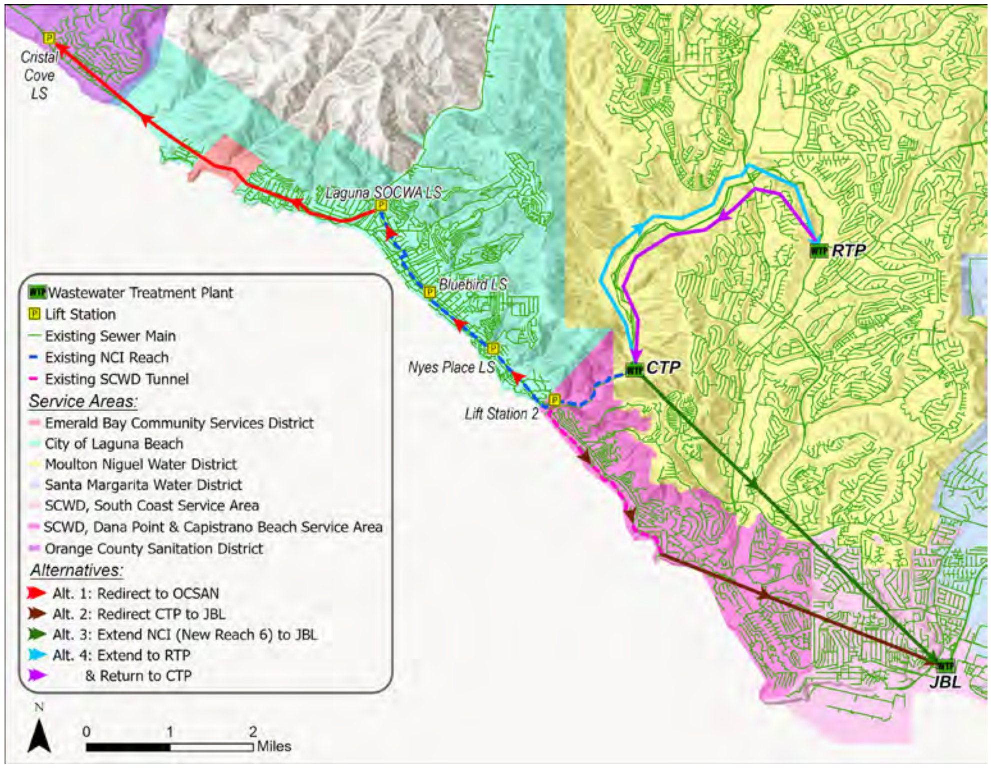
1.3.2 Understanding and Approach to Work

Project Understanding

SOCWA is conducting a high-level technical feasibility study to evaluate options for decommissioning the Coastal Treatment Plant (CTP) and redirecting wastewater flows from the City of Laguna Beach (CLB), the Emerald Bay Service District (EBSD), and the South Coast Water District (SCWD). The study will assess at a planning level regional hydraulic feasibility, infrastructure requirements, recycled water implications, environmental and permitting considerations, and planning-level capital and operations and maintenance (O&M) costs for redirecting flows to other treatment facilities operated by SOCWA, the Moulton Niguel Water District (MNWD), and the Orange County Sanitation District (OC San).

Evaluating the feasibility of CTP flow redirection requires a clear understanding of how wastewater from CLB, EBSD, and SCWD currently moves through the regional collection and conveyance systems. CLB and EBSD service area flows are conveyed primarily through the North Coast Interceptor (NCI), a critical corridor following Pacific Coast Highway (PCH) before turning east into Aliso Canyon. These flows rely on the Laguna SOCWA Lift Station (LSLS), the Bluebird Lift Station, and the downstream gravity and siphon system that outlets to CTP. Portions of NCI are aging and located within constrained, environmentally sensitive areas that present unique constructability and permitting challenges.

SCWD's system introduces additional regional interdependencies. The South Coast Service Area conveys flows north toward Lift Station 2, while the Dana Point and Capistrano Beach areas convey flows south to the J.B. Latham Treatment Plant (JBL). Their system comprises approximately 140 miles of pipelines, 13 lift stations, multiple forcemains, and Tunnel C, a recently reconstructed 2-mile utility tunnel that plays a major role in potential redirection routing. Tunnel C's capacity, configuration, and elevation profile significantly influence whether flows can be routed efficiently to JBL, avoiding major disruptions to portions of PCH.



The feasibility of redirecting flows away from CTP (6.7 mgd permitted, 1.5 mgd average 2025 dry-weather) also depends on the capabilities and constraints of potential receiving facilities. JBL provides 13 mgd of secondary treatment capacity with ocean discharge through the San Juan Creek Outfall and may be expanded for tertiary treatment. MNWD's Regional Treatment Plant (RTP) shares the CTP outfall and provides 12 mgd of secondary treatment and 9 mgd of tertiary capacity, and currently receives export sludge from CTP. The OC San treatment system serves as a potential downstream receiving facility providing secondary treatment (190 mgd) and ocean discharge services, and supplies secondary effluent from both Plant 1 and 2 to the Orange County Water District (OCWD) Groundwater Replenishment System (GWRS). Each facility presents distinct hydraulic requirements, operational considerations, and constraints for new interties.

A critical regional driver is the need to maintain reliable recycled water supplies. CTP currently produces Title 22 recycled water that supports local distribution systems and is the main supply source for SCWD. Any redirection strategy must preserve recycled water reliability to meet the projected demands of SOCWA member agencies. Infrastructure configurations that influence tertiary treatment location, transfer capabilities, pressure zone interfaces, and seasonal recycled water demand need to be considered to assess how well redirection pathways align with long-term regional water reuse objectives.

Together, these conveyance characteristics, service area relationships, receiving facility capacities, and recycled water considerations establish the basis for evaluating feasible redirection pathways and outlining the opportunities, limitations, and interagency coordination needs that shape our proposed conceptual redirection strategies, presented in the Approach section.

Approach

To help SOCWA explore the range of possibilities for redirecting flows from the existing wastewater treatment plant while maintaining reliable Title 22 recycled water supplies, our team has outlined a set of preliminary conceptual alternatives. These alternatives are not intended to predetermine the final scope of analysis, but rather to demonstrate the breadth of considerations involved and to provide a structured starting point for discussion. For each concept, we will examine high-level hydraulic feasibility, potential facility and pipeline modifications, constructability constraints, recycled water production impacts, permitting requirements, O&M considerations, environmental sensitivities, and interagency coordination needs. Applying consistent evaluation criteria will allow us to highlight the opportunities, challenges, and tradeoffs associated with each approach, and to identify the most promising pathways for a more detailed follow-up study. The preliminary alternatives and key issues to be assessed are summarized below.

Alternative 1 – Redirect Raw Sewage to OC San Service Area

This alternative diverts raw sewage from CTP into the OC San system by modifying SCWD Lift Station 2 to send flows north through the NCI to Bluebird and the Laguna SOCWA Lift Stations (LSLS), then via a new force main to an intertie near OC San's Crystal Cove Pump Station. Because the NCI would operate in reverse, hydraulic feasibility, including lift station capacity and gravity/siphon performance, must be evaluated. Interagency coordination is needed on NCI ownership, required flow splits, and SCWD recycled-water impacts. If capacity or recycled-water constraints arise, a reduced option could divert only CLB flows near Nyes Place.

Table 2. Alternative 1 Summary Table

Anticipated Infrastructure	Hydraulic/Operational Considerations	Permitting/Constraints
▪ LS 2 reconfiguration for northbound diversion ▪ Bluebird Lift Station and LSLS reconfiguration for northbound pumping operation ▪ NCI pipeline removal/replacement, reuse as carrier pipe ▪ LSLS receipt/export header improvements. ▪ New export force main to intertie near OCSAN Crystal Cove Pump Station ▪ New metering, sampling, and isolation facilities at the intertie.	▪ Compatibility of LS2, Bluebird, and LSLS with northbound system head conditions ▪ Reverse direction flow in NCI gravity/siphon reaches ▪ EBSD connection (force main extension to new export force main) ▪ Preservation of CLB/EBSD flow allocations ▪ Operational and funding coordination between CLB, SCWD, EBSD and OCSAN	▪ Caltrans right-of-way (PCH) exposure; alternative inland routes or trenchless construction ▪ OC San annexation, acceptance criteria; available conveyance capacity from Crystal Cove through Newport Beach to Plant 2 ▪ Re-permitting dry weather diversions (25 in CLB, 30 in SCWD) ▪ Intertie siting

Alternative 2 – Redirect Raw Sewage to JBL

This alternative redirects CLB and SCWD South Coast Service Area flows to JBL using SCWD's Tunnel C corridor. Raw sewer flows from the upper reach of NCI and LS 2 would be intercepted at a new diversion manhole and, if hydraulically feasible, conveyed by gravity to the Tunnel C north portal. Recently reconstructed Tunnel would be used as gravity pathway to the southern outlet. Downstream, a new bored tunnel would connect to the JBL influent system, with an intermediate lift station to meet JBL hydraulic grade requirements. Under Alternative 2, it is anticipated JBL would be the new source of recycled water supply for the SCWD recycled water system.

Table 3. Alternative 2 Summary Table

Anticipated Infrastructure	Hydraulic/Operational Considerations	Permitting/Constraints
▪ Diversion facility for NCI Reach 4/5 and LS 2 influent. ▪ Potential LS 2 decommissioning or repurposing. ▪ Buried pipe system to Tunnel C. ▪ Use of existing Tunnel C gravity carrier. ▪ New bored tunnel segment to JBL, intermediate lift station and tie-in to JBL influent gravity sewer	▪ Gravity/force main from new diversion point to north tunnel portal. ▪ LS 2 duty point modifications; surge and redundancy considerations. ▪ Flow transition and controls at Tunnel C entrance ▪ Additional pump station and force main from Tunnel C south portal to JBL. ▪ JBL compatibility with redirected flows and future expansion plans for new recycled water supply. ▪ Operational and funding coordination between CLB, EBSD, and SCWD.	▪ Tunnel construction requirements (launch/receive pits) ▪ Groundwater control, geotechnical stability, settlement risks ▪ Easements for new transfer pipe and pump station ▪ Environmental review for new JBL-bound tunnel segment/lift station, Coastal zone considerations

Alternative 3 – Extend NCI with New Reach 6 from CTP to JBL

Alternative 3 routes all wastewater now sent to the Coastal Treatment Plant (CTP) directly to the J.B. Latham (JBL) Treatment Plant via a new deep-bore tunnel (Reach 6). Existing CTP influent pipelines would be consolidated and redirected to a new lift station that pumps flows into the tunnel, where a large-diameter gravity carrier conveys wastewater toward JBL.

Reach 6 would be a deep tunnel constructed with TBM methods and aligned inland to avoid PCH and reduce surface impacts. It would require launch and receiving shafts, with possible intermediate shafts based on geology, distance, and ventilation needs. At JBL, flows could enter by gravity if grades allow; otherwise, a terminal lift station would be needed. The large-diameter (≈10-ft) TBM tunnel would provide space for multiple pipelines, supporting flexible conveyance of raw sewage, secondary, or tertiary flows from CTP to JBL.

Table 4. Alternative 3 Summary Table

Anticipated Infrastructure	Hydraulic/Operational Considerations	Permitting/Constraints
▪ Consolidation and rerouting of existing CTP influent pipelines to a new CTP lift station. ▪ New CTP lift station designed for raw, secondary, or tertiary wastewater service. ▪ Large-diameter TBM-excavated Reach 6 gravity carrier tunnel with launch/receiving shaft and intermediate shaft(s) ▪ Launch and receiving shafts; possible intermediate shafts. ▪ Gravity or pumped tie-in to JBL influent system.	▪ Lift station head, screening, odor, and solids loading requirements. ▪ Gravity carrier access, ventilation, life-safety systems ▪ JBL hydraulic grade limitations for tie-in. ▪ JBL compatibility with redirected flows and future expansion plans ▪ Operational and funding coordination between CLB, EBSD, and SCWD.	▪ Deep tunneling (i.e. tunnel boring machine) with inland alignment to avoid PCH impacts. ▪ Groundwater and NPDES dewatering for shaft construction, muck handling/hauling plan ▪ Subsurface rights and easement acquisition. ▪ CEQA documentation for the new tunnel corridor, lift station, and associated facilities.

Alternative 4 – Redirect CTP Secondary Effluent to RTP; Return RTP Recycled Water to CTP for SCWD RW Connect.

Under Alternative 4, CTP would continue primary and secondary treatment, with secondary effluent sent to the Regional Treatment Plant (RTP) for tertiary treatment. The resulting recycled water would then return to CTP for connection to SCWD's recycled water system. New interconnecting pipelines would require careful environmental planning and a mix of open-cut and trenchless construction to minimize impacts along the Aliso Creek corridor.

Table 5. Alternative 4 Summary Table

Anticipated Infrastructure	Hydraulic/Operational Considerations	Permitting/Constraints
▪ New effluent lift station at CTP and associated effluent channel/piping modifications for tie-in. ▪ New effluent force main system from CTP to RTP ▪ New recycled water pipeline from CTP back to CTP site ▪ Onsite recycled water handoff facility improvements for SCWD.	▪ Pump sizing and surge control in force main system. ▪ RTP tertiary treatment process and capacity compatibility. ▪ Integration with SCWD RW storage/pressure zones. ▪ Dual pipelines require coordinated operations among SCWD, SOCWA, and MNWD to manage daily flows, outages, and system balancing. ▪ Funding coordination and interagency agreements between MNWD and SCWD.	▪ Pipeline construction through and near the Aliso Creek corridor requires multi-agency environmental permitting (e.g., CDFW, RWQCB, USACE). ▪ Extensive environmental planning/permitting, environmentally sensitive areas ▪ Potential easement needs or access agreements for pipe reaches crossing County/regional parklands. ▪ Trail access, staging constraints, and construction window limitations.

Scope of Work

Dudek will implement the Project Element (PE) tasks per the ENG-25-10 RFP. The following clarifications, assumptions and limitations define the basis for effort and the boundaries of analysis.

Clarifications

PE 1, Data Collection: Dudek will leverage data gathered from Dudek's prior SOCWA and member agency work (i.e. City of Laguna Beach Sewer Master Plan, 2025; SCWD Sewer Model Calibration, 2022, SCWD Recycled Water Road Map, 2022; as-builts obtained for various CTP/AWT improvements projects) to summarize flow and loading criteria. Anticipated key data requests include: 1) SOCWA, CLB, EBSD, SCWD: flow monitoring logs and historical records of seasonal variations; 2) CLB: NCI funding planning records; 3) EBSD sewer atlas/maps or GIS, record drawings of major infrastructure (sewer mains, pump station, and force main; 4) OCSAN: non-point source control program materials and qualitative impact context; available capacity for Plant 2 and transfer facilities to OCWD GWRS; 5) SCWD: Tunnel Stabilization C & Sewer Pipeline Replacement as-builts; implementation status of planned potable to recycled water conversions, Phase 1 (2022) through Phase 6 (2035); and 6) Relevant planning information from concurrent JBL and CTP Feasibility Assessment Study projects

PE1, Stakeholder Meetings: Following initial data collection and review, Dudek will summarize and present findings and follow up questions in a series of virtual 30–60 minute interview sessions with CLB, SCWD, EBSD, OC San/OCWD, SOCWA/JBL/CTP, and MNWD/RTP to gather insights and follow up supporting background data.

PE2, Flow Redirect Development: Up to three (3) alternatives proposed will be assessed, based on close coordination with SOCWA and input from stakeholders.

PE2, Hydraulic Assessment: Hydraulic screening calculations (i.e. Manning's and Hazen-Williams calculations, FlowMaster, and Dudek internal sizing tools) will be used to conceptually estimate preliminary conveyance needs, pipe and pump sizing ranges, and routing feasibility for each alternative. The hydraulic models we developed for the CLB and SCWD systems will be used for context and may be used for proportional engineering adjustments; however model runs/updates will not be provided.

PE2, Infrastructure Needs: Infrastructure needs will be defined at a conceptual level, including pipelines, interties, lift station modifications, and required tunneling or trenchless segments. Schematic figures will be prepared for each alternative to show high-level pipe routes and key infrastructure nodes, using aerials and as-builts as backgrounds. These conceptual layouts will identify major feasibility constraints, access considerations, and property or easement limitations to support comparison of alternatives.

PE2, Risk and System Reliability Screening: We will identify the high-level risks associated with each alternative, such as bypass needs during cutover, PCH/Caltrans access and constraints, odor concerns, tunnel access issues, upstream pumping dependencies, and climate-related vulnerabilities (i.e. coastal corrosion environment, sea-level, flooding risks). Screening will focused on whether risks appear manageable at a conceptual level.

PE2, Environmental Considerations: Key environmental constraints and likely permitting requirements for each alternative will be identified through a meeting/consultation with our internal CEQA and permitting specialists, including water-quality compliance considerations, potential Coastal Zone impacts, environmentally sensitive areas (e.g., Aliso Canyon), major roadway crossings, and associated agency coordination needs.

PE3, Cost Development: Planning-level (AACE Class 5) costs will be prepared using order-of-magnitude quantities, regionally representative unit pricing, Southern California bid data, and Dudek's SOCWA-area conveyance/tunneling cost database, adapted from the approach used in the NCI Reliability Assessment & Analysis for CLB. Escalation will follow the ENR Construction Cost Index midpoint method. Capital costs will cover pipelines, tunnels, interties, lift station modifications, and soft costs (engineering, CM/inspection, environmental documentation, and administration).

PE4, Feasibility Analysis and Recommendations: Findings from the preceding elements will be consolidated into a planning-level feasibility matrix comparing the redirection alternatives across key differentiators such as operational reliability, maintainability, permitting considerations, constructability challenges, long-term cost exposure, and overall alignment with PC-15 agencies' service, regulatory, and recycled-water objectives. The matrix will identify feasible pathways along with major constraints and risks requiring early attention. Recommendations will outline the alternatives most suitable for advancement and will identify appropriate future planning and assessment studies including refined engineering assessments, hydraulic modeling, environmental/regulatory review, and interagency coordination with OC San, MNWD/RTP, and SCWD. High-level implementation timelines will illustrate anticipated sequencing for planning, permitting, design, and construction to support PC-15's long-term facility planning and investment decision-making.

PE5, Reporting and Deliverables: Technical Memorandums (TM) for PE1 and PE2 will be submitted in accordance with the RFP and approved prior to initiating PE3. A consolidated final report will be prepared at the conclusion of the study, including an executive summary, final Technical Memorandums for PEs 1–3, and all supporting digital files (PDF, Excel, or figures as applicable). Deliverables for all project elements are summarized below:

PE1: TM1: Letter-style TM with attached data/resource log, flow and recycled-water summaries, and supporting source files.

PE2: TM2: Letter-style TM describing redirection alternatives and screening results, with attached schematics, hydraulic tables, and risk/environmental notes

PE3: TM3: Letter-style TM presenting Class 5 Estimate of Construction costs for each alternative.

PE4: TM4: Letter-style summarizing feasibility findings, comparative evaluation with attached scoring tables.
PE5: Final Report with executive summary and appended TM-1 through TM-4 including executive summary, final TMs for PEs 1–3, and digital files in standard formats.

PE6: Project Control Plan (PCP); monthly progress updates; schedule and percent-complete tracking summaries.

PE6, Project Control and Management: A Project Control Plan (PCP) will be developed to establish project management procedures and establish a unified understanding of expectations, roles, decision pathways, planning criteria, and cost-basis assumptions among SOCWA and the PC-15 member agencies. The PCP will identify Dudek's designated points of contact for each Member Agency and outline coordination needs with concurrent SOCWA and PC-15 efforts. Project communications will include a kickoff meeting, monthly project management meetings, and routine check-ins with SOCWA staff. Monthly progress reports will summarize project status, schedule updates, and percent-complete by project element. The PCP will also include a 12-week baseline schedule presented with a week-by-week breakdown of major activities and review milestones.

Key Assumptions and Limitations

- Due to the constrained project budget, the scope of work is limited to planning-level screening consistent with AACE Class 5 practices and level of effort is limited to the hours included in the fee estimate breakdown. Detailed evaluations, modeling, engineering design, and field verification required for design-level decisions, permitting, or funding applications are outside the scope and may be provided as additional services.
- All findings, cost estimates, constraints, and recommendations generated through this study are intended solely for comparative feasibility screening and should not be used for design, permitting, or environmental documentation.
- Cost Evaluation will be limited to conceptual level cost estimates of infrastructure construction costs for each alternative. Additional elements of the RFP requesting cost savings, sensitivity analysis, and long-term O&M costs can be developed through contract amendment if desired by the District.
- Requested agency data will be provided within five business days of request. Delays due to agency availability or incomplete data may require schedule extensions or additional fee.
- Environmental and regulatory considerations will be accommodated through a single meeting with our CEQA and permitting team to discuss and identify potential issues and fatal flaw considerations, timelines, and vulnerabilities.
- Alternative concepts beyond those described herein may be submitted for initial screening. However, development efforts under PE 3 and PE 4 will be limited to a maximum of three alternatives.
- Stakeholder participation is assumed to include one interview session per agency (total of up to five sessions) plus limited email follow-up.
- SOCWA will provide singular package of consolidated review comments for Technical Memorandums and the draft Final Report.

1.3.3 Experience and Technical Competence

Dudek engineers are recognized experts in the design of wastewater treatment facilities. Our referenced engineering projects are chosen specifically for project similarities and team member involvement.

Table 6. Relevant Project Experience

Project Name, Client and Dates	Client Reference	Brief Scope	Relevance to CTP Regional Flow Study Project
Laguna Beach NCI Assessment & Reach 5 Replacement Final Design City of Laguna Beach 2022 - Ongoing	Ulises Escalona 949.497.3311 uescalona@lagunabeachcity.net	Completed reach-based evaluation of the 4.3-mile NCI, reviewing condition, siphon performance, hydraulic behavior, access constraints, and constructability for multiple alternatives. Reach 5 identified as highest-risk and advanced into replacement final design.	Directly informs regional redirection feasibility through detailed knowledge of NCI constraints, siphon hydraulics, lift-station dependence, and PCH corridor limitations. Provides understanding of diversion points, gravity/siphon transitions, and environmental access constraints central to evaluating CTP-bypass concepts.
Laguna Beach Wastewater Master Plan City of Laguna Beach 2024–2025	Ulises Escalona 949.497.0792 uescalona@lagunabeachcity.net	Completed the City's first comprehensive WMP, including 2024–25 flow monitoring, development/calibration of a new hydraulic model, and condition assessments for ~20 miles of pipe, 26 lift stations, and 25 dry-weather diversion structures. Developed unit flow factors, capacity results, and risk-based CIP recommendations.	Offers a current understanding of SCWD flow patterns, dry-weather diversion routing, lift-station operations, and system constraints—all foundational to evaluating SCWD's role in any CTP redirection scenario. Reduces uncertainty in regional screening by providing validated dry-weather behavior and realistic flow distributions.
Sewer Model Calibration South Coast Water District 2021–2022	Taryn Kjolsing 949.499.4555 ext. 317 tkjolsing@scwd.org	Updated/validated SCWD's sewer model using 2021–22 flow monitoring, potable-water-based allocation, updated pump controls, and basin diurnal curves. Identified surcharge locations through systemwide dry-weather stress testing.	Applicable to redirection alternatives involving JBL and CTP, providing insight into pump/pressure-zone constraints, transfer limitations, and recycled water reliability considerations. Clarifies system bottlenecks, intertie conditions, and hydraulic behavior that influence regional flow routing concepts.
Hydraulic Modeling Recycled Water Transfer from CTP to JBL South Coast Water District 2025 - Ongoing	Taryn Kjolsing 949.499.4555 ext. 317 tkjolsing@scwd.org	Evaluated SCWD's ability to transfer up to 4 MGD of recycled water from CTP to JBL under multiple demand scenarios; assessed pump capacities, pipeline velocities/pressures, storage interactions, and seasonal demand variability.	Directly applicable to redirection alternatives involving JBL and CTP, providing insight into pump/pressure-zone constraints, transfer limitations, and recycled water reliability considerations. Clarifies system bottlenecks, intertie conditions, and hydraulic behavior that influence regional flow routing concepts.

1.3.4 Key Personnel

Dudek will serve as the prime consultant providing overall management and engineering services. Brian Robertson, PE, QSD, will serve as your dedicated project manager and the main point of contact for SOCWA. He is a successful project manager with 19 years' experience providing wastewater and recycled water infrastructure design and master-planning-level studies for similar clients, including the Member Agencies. Brian will oversee the development and execution of the tasks, tracking budgets and schedules, and developing and executing the Project Control Plan. He understands the importance of good communication, efficient multitasking, and being solution oriented. He will facilitate the flow of information among the team and with the District's project manager. Supporting Brian will be Russ Bergholz, PE, PMP, serving as principal in charge. Russ has 30 years' experience managing, planning, and designing water infrastructure projects throughout Southern California and serves as Dudek's lead principal engineer.

Dudek does not anticipate the use of subconsultants under this contract. However, Dudek maintains a strong working relationship with many local subconsultants and is open to teaming with other firms, as required or requested by SOCWA.

Figure 2 illustrates the team organization and lines of communication. Focused resumes for Key Personnel are provided in Appendix A.

Figure 2. Organizational Chart

1.3.5 Pricing

In accordance with the proposal submission instructions, pricing has been submitted as a separate file.

1.3.6 Conflicts of Interest

Dudek confirms that the participation of its employees, agents, or subcontractors in the proposed contract does not constitute a conflict of interest or a potential conflict of interest pursuant to California Government Code Sections 1090 et seq., the Political Reform Act, and other applicable laws.

1.3.7 Non-Collusion Affidavit

ATTACHMENT B
NON-COLLUSION AFFIDAVIT

The undersigned declares:

I am the CEO 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 1/29/26, at Encinitas, CA

Signature: ______________________

Title: Chief Executive Officer

1.3.8 Certifications

Dudek confirms all five certifications mentioned in the RFP.

Dudek respectfully requests the consideration of the following *exceptions* to the SOCWA Agreement for Design Services.

Section	Change	Suggested Language
4.3	Add a performance standard after the first sentence	*"Consultant shall perform the services with the skill and care ordinarily exercised by members of the same profession operating under similar circumstances in the same or similar locality at the time of performance."*
5.1	Change to "per claim"	*"Contractor and each of its subcontractors shall maintain throughout the term of this Agreement a professional liability policy of insurance having coverage of not less than One Million Dollars per claim."*
5.8	Add "Except for Professional Liability"	"*Except for Professional Liability, contractor hereby agrees to waive rights of subrogation against SOCWA and the Additional Insureds which any of Contractor insurers may acquire from Contractor by virtue of the payment of any loss."*
6.1.3	Add to the end	*"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."*
8.1	Add to the end	*"Any reuse or modification of the work product beyond the original purpose for which it was created, by SOCWA or a third person or entity authorized by SOCWA, without written verification or adaptation by Contractor will be at SOCWA's sole risk and without liability or legal exposure to Contractor."*

Brian Robertson, PE, QSD

PROJECT MANAGER

Brian Robertson has 19 years' project engineering experience in the 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 analyses, 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.

Education

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

Certifications

California PE 77990
Certified QSD

Project Experience

Headworks Screening System Improvements, Olivenhain Municipal Water District, Encinitas, California. Served 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 guided the bypassing approach and will support it through the completion of the project.

CTP Foul Air System Reconstruction Final Design, South Orange County Wastewater Authority, Laguna Niguel, California. Serving as project manager for the final design of major odor control system upgrades at the Coastal Treatment Plant, including incorporation of a new packaged odor scrubber system (ORS-2) to treat high-strength foul air from the rotary screen, aerated grit tank, and sludge equalization processes, refurbishment of the existing chemical scrubber (ORS-1), and associated ductwork and interconnecting foul air conveyance modifications. The work includes design of new foul air interconnects to provide operational flexibility between ORS-1 and ORS-2, new air collection from the rotary screen, and improvements at the primary sedimentation tank (PST) and aerated grit tank (AGT) foul air sources. Responsibilities include development of detailed, multi-phase construction sequencing and bypass plans to maintain continuous odor control operations, preparation of work restriction and sequencing specifications, and coordination with SOCWA operations staff for maintaining compliance with SCAQMD requirements during construction.

Plant 2 Headworks Rehabilitation, J.B. Latham Treatment Plant (JBL), South Orange County Wastewater Authority, Dana Point, California. Serving as project manager for the rehabilitation of the Plant 2 Headworks facility, including replacement of the corroded roof structure, concrete repairs within the headworks channels, new channel covers, and electrical improvements associated with roof and conduit replacement. The project also includes development of temporary influent bypassing at the junction structure to maintain continuous plant operations and implementation of both temporary and permanent odor control system upgrades to improve ventilation and reduce corrosion. He led the development of construction sequencing, outage planning, and work restrictions to maintain 24/7 operability during rehabilitation and continues to support the project through engineering services during construction.

Santa Maria Wastewater Treatment Plant Headworks Upgrade, Ramona Municipal Water District, Ramona, California. Lead engineer for the civil and mechanical design of a new headworks facility at the Santa Maria wastewater treatment plant (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 includes the relocation of an influent truck sewer, a new headworks structure with influent screw pumps, mechanical screenings equipment, grit removal, and a new emergency generator. Various project challenges include construction phasing, large equipment and structures, utility relocation, and connections to existing facilities.

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, a polymer feed system, an odor control system, channels, electrical systems, and a 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 the preparation of final design packages and engineering services during bidding and construction.

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 relocating the existing air headers with a new overhead alignment, including a pipe bridge and other overhead structural support systems. Design plans and a sequence of construction specifications were developed to minimize construction costs and maintain plant operation and performance while installing the new diffusers. Project was awarded as a Best APWA 2025 Project.

Edinger Pump Station Rehabilitation Study, Orange County Sanitation District, Huntington Beach, California. Project engineer responsible for assessing and developing 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.

Golden Lantern/Stonehill Recycled Water Distribution Final Design, South Coast Water District, Dana Point, California. Served as a project engineer for a recycled water distribution project consisting of the replacement of approximately 3,700 feet of 6" recycled water main with 16 16-inch main in Stonehill Drive from Monarch Beach Drive to Golden Lantern Street. Responsibilities included alignment development, utility coordination, and mapping, preparation of sequencing and point of connection plans, and preparation of design drawings.

Russ Bergholz, PE, PMP

PRINCIPAL IN CHARGE

Russ Bergholz is a principal engineer with 30 years' experience. Russ manages Dudek's Water Infrastructure Group and is responsible for the management and engineering of water-/recycled water–related system Master Plans and design projects. His experience includes the development of numerous water, recycled water, and sewer Master Plans; pipeline design projects (including trenchless technology); and infrastructure rehabilitation projects for many Southern California cities and special districts. He has a documented track record of keeping projects within scope and budget while maintaining quality control and addressing the critical success factors of his clients' projects. As a project manager, Russ is responsible for the tracking, monitoring, team delegation, deliverable quality assurance, engineering guidance, accounting, and client and subconsultant coordination associated with each project, including final stamp and signature of project plans and specifications.

Education

University of California, Davis
BS, Civil Engineering, 1995

Licenses and Certifications

Professional Civil Engineer, CA No. 59395

Project Management Institute PMP No. 1472209

Professional Affiliations

American Public Works Association

California Water Environment Association

Water Environment Federation

Project Experience

Infrastructure Design - Sewer

Mojave Regional Wastewater Treatment Plant Planning Study, VVWRA, Victorville, California. Serving as project manager. Following the completion of a comprehensive capacity analysis of the VVWRA interceptor system, the concept of construction of a regional plan was developed to offset the capacity by scalping current and future upstream flows. Dudek developed the planning study by identify and evaluating five alternative sites for the new treatment plant. The plant layouts accommodate both the installation of a membrane bioreactor–based 6 mgd plant with the space for increasing ultimate treatment capacity to 12 mgd. The evaluation process identified 14 weighted selection criteria to apply to each alternative, allowing for an objective and defensible approach to site selection.

North Coast Interceptor (NCI) Assessment, City of Laguna Beach, California. Served as project manager. A substantial sewer spill from the NCI in late 2019 necessitated the immediate investigation of mitigation measures to prevent such a spill in the future. Dudek was hired to evaluate the entire NCI, assess risk potential, and identify various options for replacement or realignment of the interceptor system. The NCI was divided into five segments and evaluated based on various combinations of options between all five segments, providing a wide range of potential solutions for consideration. The final report provided the City of Laguna Beach with the data to make an informed decision on the necessary improvements, along with the project costs to develop a rate increase to fund the work.

North Coast Interceptor (NCI) Reach 5 Inverted Siphon Replacement, Laguna Beach, California. Serving as project manager for the alternative analysis and final design of the City of Laguna Beach Reach 5 Interceptor replacement. After a series of pipe failures, the City hired Dudek to develop in an in-depth evaluation of alternatives to mitigate additional risks to the NCI. Through the evaluation process, Reach 5, which extends from the Pacific Coast Highway to the South Orange County Wastewater Authority Coastal Treatment Plant, was considered the reach with the highest risk and potential damage if another failure were to occur. Considering the many stakeholders involved with this congested corridor, careful coordination and communication were imperative for successfully developing construction documents and permits and the eventual construction effort. The replacement pipeline will be a low-pressure inverted siphon and 100% redundant with approximately 5,200 linear feet of new dual 18-inch HDPE pipelines.

Bluebird South Orange County Water Authority Lift Station Rehabilitation, City of Laguna Beach, California. Served as project manager. The project included the preparation for comprehensive rehabilitation of the existing 31-year-old, 4 mgd sewer lift station. Improvements involved complete realignment of the 30-inch-diameter inlet gravity pipe, wet well relining, new dry well valves and bridge crane, permanent bypass suction and discharge pipe (500 linear feet of 14-inch HPDE), new concrete access ramp, and complete rewiring of the station power and controls. Assessment and full design package of the rehabilitation of this critical infrastructure was completed in 6 months.

Bayside Drive Trunk Sewer Improvements, OC San, City of Newport Beach, California. Served as lead design engineer. Dudek completed design and construction assistance for the Bayside Drive Trunk Sewer Improvements for OC San. The project included structural in situ CIPP structural liner replacement of an existing 24-inch-diameter DIP sewer. This pipe was originally designed for full pipe flow but was converted later to open channel flow. After operating in open channel flow conditions, the DIP severely corroded inside. The 3,000 feet of pipe is located within a winding and hilly section of Bayside Drive in the City of Newport Beach along the edge of Newport Harbor. The work included site investigation, odor control, traffic control, preparation of a preliminary design report, final plans and specifications, and assistance with permits including a City of Newport Beach Encroachment Permit. The project was managed under a tight budget and schedule, with successful completion of the design and construction within the deadline. All stakeholders were very pleased with the final product.

30-Inch Effluent Transmission Main Replacement at San Juan Creek, Moulton Niguel Water District, Laguna Niguel, California. Served as project manager. The effluent transmission main is main sewer effluent for the District and was undersized at the crossing of the San Juan Creek channel. Dudek was hired to design the upsize of this crossing. The project design included use of trenchless microtunneling construction methods for the new 30-inch-diameter PVC pipe inside a 48-inch-diameter steel casing across the 350-foot-wide channel. With the replaced and upsized effluent transmission main, the District's outfall has the capacity to accept increased sewer flows.

Hydraulic Modeling, Moulton Niguel Water District, Laguna Niguel, California. Project manager. The Moulton Niguel Water District was without an operating or calibrated water system hydraulic model since the last water Master Plan in 2014. Dudek was hired to assess and update the water system hydraulic model to reflect current water system operations, calibrate the model to current average day water demands, and create an entirely new systemwide hydraulic profile of the distribution system.

Recycled Water System Expansion Feasibility Study, South Coast Water District, Laguna Beach, California. Served as project manager. The planning study evaluated the potential recycled water sources and included hydraulic analysis to determine limitations and distribution system improvements and evaluated the impact on water quality. The resulting report provided specific current system improvements to reduce pressure issues and long-term improvements to take advantage of surface water runoff in order to support recycled water use during the summer months.

Neil Harper, PE

QA/QC

Neil Harper is a professional engineer (PE) with 27 years' experience in project management, engineering, planning, design, construction support services, and providing quality control for a variety of municipal and public agency clients. Specific areas of practice include water, wastewater, and water reuse systems, and relevant experience includes water distribution and treatment facilities, pumping facilities, and reservoirs.

He serves in various project roles that range from management and engineering to senior technical advisor, and performs quality assurance and control on a significant portion of Dudek's engineering projects. A key part of his approach includes evaluating the constructability and permitting aspects of the projects. The following are a range of projects that include his role in the project.

Education

California Polytechnic State University, San Luis Obispo
BS, Bio-Resource and Agricultural Engineering

Certifications

Professional Civil Engineer (PE), CA No. C63288

Professional Affiliations

Orange County Water Association, 2002–present; Board of Directors (2014–2017); President (2017)

American Society of Civil Engineers

Project Experience

Mountain Avenue West Replenishment Basin, Eastern Municipal Water District, Riverside County, California. Served as project engineer for design of the flow control and pressure-regulating facilities to deliver both raw water and future water supplies to the site for percolation into the local groundwater basins. The raw water facilities included 800 linear feet of 36-inch-diameter cement mortar-lined and coated (CML&C) steel pipeline, a flow metering and control facility composed of two 18-inch trains of motor-operated butterfly valves arranged in series (this arrangement accommodated a wide range of flows and pressures and mitigated cavitation of the butterfly valves), and two basin inlet facilities with "air-gaps." The future water supply facilities included 2,100 linear feet of 30-inch-diameter PVC pipeline, a flow metering and control facility composed of two 12-inch trains each equipped with a Cla-Val-type control valve to provide flow and pressure control, and one basin inlet facility that includes an "air-gap." Additional facilities on site consist of several reinforced concrete diversion facilities composed of 36-inch sluice gates with PVC piping and level measurement equipment. Also included in the overall facility design for the 38-acre project were 11 monitoring walls (three multi-port wells and eight single-port wells) that were drilled to depths of up to 1,100 feet, and equipment with submersible level transducers and telemetry that communicates with the on-site Programmable Logic Controller/Supervisory Control and Data Acquisition (PLC/SCADA) panel.

North Trumble Recycled Water Storage Ponds, Eastern Municipal Water District, Riverside County, California. Served as project engineer for design of nine 150-horsepower (hp) vertical turbine floating pump stations, five pressure sustaining, flow control, and flow metering inlet facilities to the five ponds, and five outlet metering stations. The project entailed multiple connections from the 24-inch-diameter inlet piping and 16-inch-diameter outlet piping to the 36-inch-diameter and 48-inch-diameter recycled water transmission mains. Extensive coordination with SCE to provide electrical service for the nine floating pump stations was also required.

Wells 201–203 Centralized Treatment Facility, Eastern Municipal Water District, San Jacinto, California. Lead engineer for a team that performed a value engineering analysis and prepared a summary report that included cost reduction and project optimization options. The project consisted of the design of a water treatment plant that removes iron, maganese, and potential nitrates (future phase). The water treatment plant facility also includes a blending station, forebay, pump station, and other appurtenant facilities. A multi-day workshop provided the Eastern Municipal Water District and design team with 14 viable cost-reduction measures and project optimization options.

O'Neill Regional Park Sewer Conversion, Resource Development and Management Department (now called Orange County Public Works), City of Trabuco, Orange County, California. Served as project engineer for design of a 40-foot-deep submersible lift station, 12,000 feet of gravity sewer, 98 manholes, and 1,400 feet of forcemain. The project required a project concept report that developed and evaluated alternatives to septic tanks/leach fields to hold/treat sewage generated by O'Neill Regional Park's 14 restrooms and RV dump station. Alternatives included a variety of gravity and pressure sewer conveyance systems and on-site sewage holding tanks. A preliminary design report further developed the recommended concept that was a gravity sewer system and one pump station and forcemain. One challenging aspect of the project was a 35-foot-deep open cut crossing of Trabuco Creek; this was primarily due to permitting.

Prado Dam Utility Relocations, City of Corona, Riverside County, California. Served as project engineer for design of multiple sewer, effluent, and forcemain pipelines ranging from 4 inches to 48 inches in diameter that required reconstruction and/or rerouting to accommodate the large earthen dikes providing flood control in and around the Prado Dam area. Extensive coordination and planning was required between the U.S. Army Corp of Engineers, City of Corona, and County of Orange. Multiple bypass pumping plans were integral to this project.

Wastewater Treatment Plant No. 2 Lift Station Replacement, City of Corona Department of Water and Power, Riverside County, California. Served as project manager for design of the influent plant lift station, which included four 50-hp dry pit sewage pumps operated with VFDs, 35-foot-deep reinforced concrete dry pit with stairway, overhead crane, sluice gates, automation of existing sluice gates, rerouting of plant sewer piping (12- to 24-inch-diameter) and manholes.

Lift Station No. 2 Forcemain Contingency Plan, South Coast Water District, Laguna Beach, Orange County, California. Served as project manager for preparation of a forcemain contingency plan should the 20-inch-diameter forcemain that is more than 1 mile long become disabled or broken. Flow from the lift station ranges from 500 gpm to 3,300 gpm, and the station is located adjacent to sensitive environmental areas such as Aliso Creek and the Pacific Ocean.

Huston Creek Wastewater Treatment Plant Dewatering Building and Primary Clarifier, Crestline Sanitation District, Crestline, Riverside County, California. Served as senior technical advisor and performed quality assurance for submittals on a project that involved construction biosolids dewatering facilities located within a concrete masonry unit (CMU) building. The biosolids were dewatered using centrifuges. In addition, the project involved construction of a third primary clarifier that required a detailed construction phasing plan, including bypassing of raw sewage at the plant's headworks.

Secondary Feed to the 1050 Zone, Moulton Niguel Water District, Laguna Niguel, Orange County, California. Served as project engineer to develop and study alternatives for providing a secondary feed (in the form of a redundant pump station) for the existing 1050 pressure zone. The 1050 pressure zone is a hydraulically closed zone. Six alternatives were developed and evaluated. Two alternatives were selected for further evaluation and refinement. The project concluded with a recommended project that included adding a pump station at an existing pumping/storage facility and approximately 2,000 linear feet of 12-inch-diameter piping.

Elizabeth Caliva, PE

HYDRAULICS LEAD

Elizabeth Caliva is a professional engineer and seasoned project manager with over 23 years' experience leading water, wastewater, and recycled water planning efforts. She specializes in managing complex infrastructure Master Plans and planning studies, serving as both technical lead and project manager. Elizabeth is known for delivering high-quality projects on time and within budget, with a strong emphasis on clear communication, client collaboration, and team coordination. Her technical foundation includes extensive experience in hydraulic modeling and infrastructure planning. While she now leads teams and oversees project delivery, she maintains proficiency in key modeling platforms such as InfoSWMM (Innovyze), AquaTwin Sewer, and AquaTwin Asset (Aquanuity). Her project portfolio spans master planning, Sanitary Sewer Management Plans (SSMPs) and audits, condition assessments, and the design of treatment plants, pump stations, and pipelines. Elizabeth is known for her leadership in guiding multidisciplinary teams through complex infrastructure planning efforts, ensuring alignment between technical goals and client priorities.

Education

University of California, Berkeley
MS, Water Resources and Water Quality Engineering, 2003
BS, Environmental Engineering, 1999

Certifications

Professional Civil Engineer (PE), CA No. 64331

Professional Affiliations

WateReuse Association

Project Experience

Planning/Modeling

Wastewater Master Plan, City of Laguna Beach, California. Served as project manager for the City's first comprehensive Wastewater Master Plan, overseeing all aspects of planning, technical analysis, and project coordination. Led a multidisciplinary team, including three subconsultants, in conducting extensive field surveys, flow monitoring, and developing the City's inaugural sewer hydraulic model to evaluate system capacity. Directed condition assessments for 26 lift stations, 25 urban water diversion structures, 400 manholes, and 20 miles of pipeline. Developed a risk-based prioritization model to inform a phased 20-year capital improvement program. Delivered the project on time and within budget, providing the City with a strategic, data-driven roadmap to guide future infrastructure investments, improve system reliability, and support proactive asset management. Received positive feedback from the client for project quality and responsiveness.

Recycled Water Roadmap, South Coast Water District, Dana Point, California. Project manager. Developed and managed the comprehensive roadmap for a multi-phase expansion of South Coast Water District's recycled water system. Led cross-disciplinary teams in advanced hydraulic modeling, infrastructure assessment, and contingency planning to address future irrigation demands and system resilience. Delivered actionable recommendations for phased pipeline and facility upgrades, supporting the District's strategic goal to convert potable irrigation customers to recycled water. The plan optimized capital investments, enhanced long-term water reliability, and positioned the District for sustainable growth, with a projected investment of $25 million–$32 million.

Sewer Model Calibration and Update, South Coast Water District, Dana Point, California. Project manager. Managed the calibration and update of the District's sewer system hydraulic model to enhance the accuracy of capacity assessments and support future infrastructure planning. Oversaw the integration of recent flow monitoring data, coordinated with District operations staff, and directed technical analysis across three distinct service areas. Led the allocation of sewer flows using potable water usage data, refined model parameters, and validated results through field data and advanced calibration techniques. Conducted a system-wide capacity stress test to identify potential risk areas and inform targeted monitoring and improvement strategies. Delivered a robust modeling platform that provides the District with greater confidence in system evaluations and supports data-driven decision-making for capital investments and operational planning.

Recycled Water Transfer from CTP to JB Latham—Hydraulic Analysis, South Coast Water District, Dana Point, California. Project manager. Leading the technical evaluation of South Coast Water District's recycled water system to assess the feasibility and requirements for transferring up to 4 mgd of recycled water from the SOCWA Coastal Treatment Plant (CTP) to the JB Latham Treatment Plant. Overseeing hydraulic modeling under multiple demand scenarios, coordinating system updates, and identifying operational constraints and infrastructure needs. Managing the analysis of pump station and pipeline capacities and developing phased improvement strategies to optimize system performance and support future expansion. Collaborating with District staff to deliver actionable recommendations for capital projects, ensuring reliable transfer operations and supporting long-term water resource planning. Project is currently in progress.

Sewer Master Plan Update, City of Corona, California. Serving as project manager for the City of Corona's 2025 Sewer Master Plan Update, overseeing planning, technical analysis, and environmental documentation for a complex municipal sewer system spanning 440 miles of pipelines and 15 lift stations. Leading a multidisciplinary team in conducting comprehensive capacity analysis and condition assessments to address aging infrastructure and support ongoing population growth. Coordinating the development of a Program Environmental Impact Report (PEIR) to facilitate future improvements. The updated master plan will provide the City with a strategic, phased roadmap for capital investments, regulatory compliance, and reliable sewer service across diverse neighborhoods and development patterns. The project is currently on schedule and within budget.

Water and Sewer Master Plan Updates, City of El Centro, California. Serving as project manager, leading the development of the City's first updated water and sewer master plans in over 17 years, managing all aspects of planning, technical analysis, and project coordination. Overseeing comprehensive infrastructure evaluations, including hydraulic modeling of the sewer trunk system, condition assessments of pipelines, lift stations, and the wastewater treatment plant, as well as capacity and condition analysis of the water distribution system and 21 mgd water treatment plant. Coordinating with subconsultants on rate studies to ensure financial sustainability. The master plans will deliver a realistic, strategic framework for guiding phased capital improvements and updated utility rates, aligning infrastructure investments with projected growth and improving system reliability. Project is currently on schedule and within budget.

Interceptor Risk Analysis 2020, Victor Valley Wastewater Reclamation Authority, Victorville, California. Project manager. Oversaw the evaluation of future interceptor system flows and infrastructure needs as a follow-up to the Authority's 2019 capacity study. Coordinated with member agencies to develop updated growth projections and leveraged the Authority's calibrated hydraulic model to assess system capacity through 2030. Directed field investigations and integrated closed-circuit television and sonar data to evaluate condition-limited areas, supporting the prioritization of over $120 million in recommended projects. Facilitated the initiation of a regional inflow and infiltration (I/I) study to identify opportunities for capacity improvement prior to major upgrades. The analysis provided the Authority with a targeted investment strategy and actionable guidance for enhancing system performance and planning future improvements. Project delivered on schedule and within budget.

Brandon Lacap, PE

CONVEYANCE LEAD

Brandon Lacap is a professional civil engineer with 15 years' experience in engineering design, hydraulic analysis, condition assessment, and the management of water/wastewater infrastructure and capital improvements projects. Brandon has extensive experience designing and preparing plans and specifications for public and federal agencies; writing preliminary design reports; developing water and wastewater master planning documents; and performing hydraulic modeling/surge analysis of conveyance systems. Brandon specializes in sewer lift station, sewer pipeline, and mechanical piping design, with a focus on value engineering.

Education

San Diego State University
BS, Civil Engineering, 2009

Certifications

Professional Civil Engineer (PE), CA No. 87211

Project Experience

North Coast Interceptor Reach 5 Replacement, City of Laguna Beach, California. Served as senior engineer for the design for inverted sewer siphon improvements to replace a significant section of the City of Laguna Beach's existing 24-inch asbestos cement North Coast Interceptor (NCI) pipeline, which has been prone to failure over the past 50 years. The project includes several key components, most notably replacing the existing 24-inch NCI pipeline with approximately 5,200 LF of dual 18-inch high-density polyethylene (HDPE) pipelines, starting from Pacific Coast Highway and ending just outside of the entrance to the South Orange County Wastewater Authority Coastal Treatment Plant. This project will also incorporate trenchless technology, including approximately 1,500 LF of horizontal directional drilling in sensitive areas, while traditional open trenching will be used in less sensitive zones. The project also maintains the interconnection between the NCI and the South Coast Water District's Lift Station 2 (LS-2) emergency intertie system, allowing one of the new pipelines to be connected for emergency use, thereby enhancing operational flexibility and providing an additional layer of redundancy.

Wastewater Master Plan, City of Laguna Beach, California. Served as condition assessment task lead/lead engineer responsible for the comprehensive condition assessment of 21 of the City's aging sewer pump stations and force mains, as well as conducting field investigations and assessments of 24 of the City's stormwater diversion facilities. The stormwater diversion facilities included a number of stormwater pump stations, stormwater diversion vaults, and diversion overflow structures, as well as motor-operated stormwater diversion valve assemblies. This project included a review of record drawings, facility history, and maintenance reports; hydraulic analysis; a review of SCADA data for pump cycle timing and run time; and a field inspection of all pump stations and stormwater diversion facilities. The condition assessment was used to identify deficiencies and develop recommendations for a prioritized list of capital improvement projects to develop the City's 10-year Wastewater Master Plan CIP.

Wastewater Master Plan Update, Olivenhain Municipal Water District, 4S Ranch, California. Served as condition assessment task lead/lead engineer for the condition assessment and analysis task of both of the District's sewer collection systems: the Rancho Cielo Sewer Collection System and the 4S Ranch Sewer Collection System. These two collection systems combine approximately 66 miles of gravity mains, 1,215 manholes, 14 sewer lift stations ranging from 60 gpm to 1,700 gpm, and approximately 12 miles of force mains. Managed the comprehensive condition assessment of the District's three largest lift stations, including the hydraulic evaluation and field inspection of all mechanical, structural, electrical, and site/civil assets. The remaining 11 lift stations underwent a hydraulic evaluation, a review of previous improvement recommendations from the 2015 Sewer Master Plan, and Workshop discussions with operators to develop improvement projects for incorporation into the overall capital improvement program (CIP). Dudek prepared a condition assessment and prioritization technical memorandum that included descriptions of recommended improvement projects and planning-level project costs for all 14 lift stations. These costs were then prioritized and incorporated into a 10-year CIP budget to be documented in the District's Wastewater Master Plan Update Report.

North Coast Interceptor (NCI) Assessment, City of Laguna Beach, California. Served as senior engineer. A substantial sewer spill from the NCI in late 2019 necessitated the immediate investigation of mitigation measures to prevent such a spill in the future. Dudek was hired to evaluate the entire NCI, assess risk potential, and identify various options for replacement or realignment of the interceptor system. The NCI was divided into five segments and evaluated based on various combinations of options between all five segments, providing a wide range of potential solutions for consideration. The final report provided the City with the data needed to make an informed decision on the necessary improvements, along with the project costs to develop a rate increase to fund the work.

Lift Station No. 11 Rehabilitation, South Coast Water District, Dana Point, California. Served as project manager for the Lift Station No. 11 Rehabilitation project located at the Dana Point Harbor. This project focuses on critical upgrades to ensure the continued functionality of a key wastewater conveyance system serving Dana Point Harbor. Lift Station No. 11, responsible for pumping wastewater from the commercial harbor property and adjacent areas, faces operational challenges due to aging infrastructure and increased demand resulting from the ongoing Dana Point Harbor Revitalization Project. Given the potential for a new lift station within 3 to 4 years, the project recommendations included targeted improvements to maintain reliable operations in the short term. These included replacing the existing pumps with two new 7.5-horsepower, 350 gpm, constant-speed, dry-pit submersible pumps; upgrading the mechanical piping; rehabilitating the dry well's concrete structure; and making critical electrical upgrades to the motor control center, utility panel, and pump control panel.

Plant 3A Subsidence Odor Reduction Tower Pump Station and 3W Pump Station Demolition, Moulton Niguel Water District, Laguna Niguel, California. Served as senior engineer. The Plant 3A wastewater treatment plant was recently taken over by the Moulton Niguel Water District and had numerous deficiencies that needed to be addressed. Dudek was hired to develop improvement plans to mitigate soil subsidence along the western side of the site, along with the replacement of three sludge pump stations, replacement of electrical conduits, improvement of site drainage, and conveyance of filter water to the plant's Odor Reduction Tower (ORT) via a new ORT pump station. The improvement plans successfully conveyed a wide range of tasks to bidding contractors and provided substantial improvements in operational reliability and safety within the plant.

Sodium Hydroxide Chemical Storage and Feed Systems, Olivenhain Municipal Water District, Encinitas, California. Project manager for design improvements to the existing sodium hydroxide chemical storage and feed system process equipment at the David C. McCollom Water Treatment Plant. The improvements included upsizing on-site caustic bulk storage to 4,400 gallons, relocating and reconfiguring the caustic chemical injection system for the existing membrane clean-in-place system, relocating the existing citric acid supply system and bulk storage tank, and designing a new caustic metering pump system for chemical injection into the treatment plant's existing raw untreated water influent stream as well as the combined filter treated water effluent. Dudek was able to design a new system that repurposed existing, abandoned dual containment piping throughout the treatment plant, as well as utilize space in existing overhead pipe struts to minimize the impact on existing plant utilities.

Amanda Combs, PE

TUNNELING LEAD

Amanda Combs is a project manager with 23 years' experience leading high-quality water and wastewater projects from conceptual planning, preliminary design, and final design to construction-phase services for pipelines, pump stations, water storage, and treatment plants.

Education

Virginia Polytechnic Institute and State University
MS, Environmental Engineering, 2001

Virginia Polytechnic Institute and State University
BS, Civil/Environmental Engineering, 1998

Certifications

Professional Civil Engineer, CA No. 67287

Project Experience

Infrastructure Planning and Design – Sewer Pipelines

Advanced Water Treatment Plant Filter Supply and Backwash Pump Replacement, South Orange County Wastewater Authority, Laguna Niguel, California. Project manager for the hydraulic analysis, pump selection, and design of pump, piping, and valve replacements at the South Orange County Wastewater Authority–operated Advanced Water Treatment Plant. The new pumps consisted of two new 15-horsepower (hp) horizontal solids-handling centrifugal pumps with a design point of 1,195 gpm at 25 feet TDH to replace existing, undersized filter supply pumps, and two new 10-hp vertical turbine pumps with a design point of 1,150 gpm at 12 feet TDH to replace oversized filter backwash pumps. The design also included new suction and discharge piping and flow and level instrumentation for pump control.

Aliso Creek Advanced Water Treatment Supply Enhancements and Urban Runoff Reuse, South Coast Water District, Dana Point, California. Project manager for the preparation of design–build solicitation documents, including the basis of design drawings and technical specifications, Request for Qualifications, and Request for Proposals, for a project to intercept and treat a portion of the urban runoff in lower Aliso Creek. The creek water will be treated by microfiltration and reverse osmosis to reduce total dissolved solids and will be blended with the tertiary treated effluent from the District's Advanced Water Treatment Title 22 recycled water effluent. The project expanded recycled water deliveries by producing a blended effluent with a TDS level more favorable for landscaping irrigation.

San Juan Creek 30-Inch Effluent Transmission Main Replacement, Moulton Niguel Water District, Laguna Niguel, California. Project engineer for designing a new pipe under San Juan Creek to replace the existing exposed crossing pipe. Work included an analysis of trenchless construction methods and creek scour depth, and the preparation of plans and specifications for the selected slurry microtunneling alternative. A design depth of 45 feet was selected for the approximately 300-foot-long tunnel under the Orange County Flood Control District channel. Due to the proximity of the concrete slope lining and flood control levees, shaft construction methods were limited to watertight and non-vibratory methods to protect the adjacent improvements.

6-20 Fairview Trunk Sewer Rehabilitation, Orange County Sanitation District, Fountain Valley, California. Serving as lead engineer providing engineering design services to rehabilitate the Fairview Trunk Sewer in Costa Mesa. After extensive alternative analysis and modeling, Orange County Sanitation District (OC San) identified the need to rehabilitate most of the older Fairview Trunk Sewer and spot repair the newer Fairview Relief Sewer. Dudek was selected to design the cured-in-place pipeline (CIPP) rehabilitation of the existing gravity sewer pipelines (12 inches to 27 inches in diameter) while mitigating numerous sewer lateral inflows. The preliminary design process has identified a 12-phase implementation plan with 14 pumped bypass setups and 19 specialized in-manhole flow diversions for allowing the CIPP process under dry pipe conditions. During the preliminary design stage, Dudek identified the potential for changing the project direction to save OC San over $1.5 million in construction costs.

FE 20-80 Olive Sub Trunk Sewer Siphon Rehabilitation, Orange County Sanitation District, Fountain Valley, California. Served as project manager to provide engineering design services to rehabilitate the Olive Sub Trunk Sewer at the Santa Ana River crossing. OC San was forced to divert flow from the Olive Trunk Sewer inverted siphon in Anaheim due to both a major pipe failure and a buildup of sediment within the belly of the siphon. Dudek was hired to develop the design package to repair the 50 feet of failed pipeline and clean and rehabilitate the remaining 500 linear feet (LF) of the 24-inch pipeline that crosses the river. During the preliminary design phase, Dudek worked with OC San to select and size an 18-inch HDPE slipline for the siphon to increase cleansing velocities. Included in the project was the sizing and design of a 16-inch fiberglass reinforced plastic air jumper across the existing roadway bridge to transport foul air from the upstream to downstream manholes of the siphon. The project required permitting with the City of Anaheim, the City of Orange, Orange County Public Works, and Caltrans. Once complete, the rehabilitated inverted siphon and air jumper will be reinstated, with improved hydraulics and reduced risk of odor complaints.

Del Obispo Recycled Water Main Improvements, South Coast Water District, Dana Point, California. Project engineer for the design of approximately 5,000 LF of new 12-inch PVC recycled water main, with gate valves, 1- and 2-inch recycled water services, and ancillary appurtenances. The design includes multiple trenchless jack and bore construction locations, steel pipe casing beneath large culverts and Pacific Coast Highway, and a recycled water filling station.

Aufendkamp Connection Transmission Main, Santa Margarita Water District, Rancho Santa Margarita, California. Lead engineer for the relocation of approximately 2,400 LF of 42-inch cement mortar-lined and coated (CML&C) welded steel pipe at three locations to accommodate the widening of a portion of Interstate 5 by Caltrans. Dudek coordinated extensively with Caltrans, its design consultants, and other property and utility owners affected by the project to develop new alignments and complete the design documents. The design includes approximately 105 LF of new concrete-encased 42-inch CML&C pipe within the Aliso Creek channel at a maximum depth of 20 feet, 2,100 LF of new 42-inch CML&C pipe by open trench construction, and 250 LF of 60-inch steel casing installed by auger boring beneath Los Alisos Boulevard. The design also addressed creek diversion, groundwater dewatering, channel restoration, bike trail detour, encroachment permits, and California Department of Fish and Wildlife Streambed Alteration Agreement and U.S. Army Corps of Engineers Section 404 Permit compliance. Dudek also provided construction support and inspection services, assistance with encroachment and wetlands permitting, and assistance with easement acquisition.

California Department of Transportation Widening Pipeline Adjustments, Moulton Niguel Water District, Laguna Niguel, California. Project engineer. The project included water main relocation within a creek and under an Interstate 5 overpass, protection of an existing water main passing under a bridge being widened, a sewer casing extension, and numerous miscellaneous smaller conflicts along the project corridor. Design of all components required extensive coordination with the California Department of Transportation (Caltrans) and its design consultants. Construction work for the water main relocation was coordinated with the Caltrans overpass widening work, allowing the District's contractor to utilize the Caltrans access improvements to the site while reducing the required permits.

DUDEK

800.450.1818 | HELLO@DUDEK.COM

DUDEK.COM

SOCWA

CTP Regional Flow Study

DUDEK FEE ESTIMATE

1/29/2026

	Dudek Labor Hours and Rates												
	Project Team Role:	PIC - QA/QC	Project Manager	Senior Engineer Hydraulics	Senior Engineer Hydraulics	Senior Engineer Conveyance	Project Engineer Conveyance	Env. Specialist	Project Coordinator				
	Team Member:	R. Bergholz	B. Robertson	E. Caliva	J. Li Z. Wang	B. Lacap A. Combs	S. Diaz T. Dhanens	A. Hardy	M. Kinney	TOTAL DUDEK	DUDEK LABOR	OTHER DIRECT	
	Billable Rate :	$330	$275	$300	$230	$275	$230	$260	$165	HOURS	COSTS	COSTS	TOTAL FEE
Task PE 1	Data Collection and Review												
1.1	Flow Diagrams, As-builts, Permits, Historical Records		1				2			3	$ 735		$ 735
1.2	CLB, SCWD, and EBSD Flow, Volumes, Quality, Seasional Variations		1	1	2					4	$ 1,035		$ 1,035
1.3	Recipient Facilities Details (OC San, RTP, JBL)		2				2			4	$ 1,010		$ 1,010
1.4	Review Regional Project Data										$ -		$ -
1.4.1	SCWD Tunnel Stabilization C Sewer	1	1			2				4	$ 1,155		$ 1,155
1.4.2	Recycled Water Demand Projections from CTP		1	2	2					5	$ 1,335		$ 1,335
1.4.3	NCI Funding Planning Records	1	1			2				4	$ 1,155		$ 1,155
1.4.4	Stakeholder Interviews (up to 5)	5	5	2						12	$ 3,625		$ 3,625
	Subtotal Task PE 1	7	12	5	4	4	4			36	$ 10,050	$ -	$ 10,050
Task PE 2	Technical Feasibility Assesment												
2.1	CLB & EBSD Raw Sewage Flow Redirect to OCSAN (Alternative 1)	4	4	2	8	4				22	$ 5,960		$ 5,960
2.2	CTP Flow Redirect to JBL (Alternative 2 & 3)	4	4	2	8	6				24	$ 6,510		$ 6,510
2.3	CTP Flow to RPT, RPT Tertiary to SCWD (Alternative 4)	1	2			2	4			9	$ 2,350		$ 2,350
2.4	Environmental/Regulatory Considerations		1					4		5	$ 1,315		$ 1,315
2.5	Risk Identificiation	1	1	1		1				4	$ 1,180		$ 1,180
2.6	Listing of Potential Limitations to Future Projects	1	1	1		1				4	$ 1,180		$ 1,180
	Subtotal Task PE 2	11	13	6	16	14	4	4		68	$ 18,495	$ -	$ 18,495
Task 3	Cost Development												
3.1	Construction Cost Estimate (3 alternative alignments)	2	8			20	20			50	$ 12,960		$ 12,960
	Subtotal Task 3	2	8			20	20			50	$ 12,960	$ -	$ 12,960
Task 4	Analysis and Recommendations												
4.1	Feasiblity Matrix	1	2	2	2	2	2			11	$ 2,950		$ 2,950
4.2	Recommendations for Future Study	1	2	2		2				7	$ 2,030		$ 2,030
4.3	Regional Integration	1	2	2		2				7	$ 2,030		$ 2,030
4.4	Project Alternatives Implementation Schedule	1	2	2		2				7	$ 2,030		$ 2,030
	Subtotal Task 4	4	8	8	2	8	2			32	$ 9,040	$ -	$ 9,040
Task 5	Reporting and Deliverables												
5.1	Tech Memo PE 1 - Data Collection and Review		2	2	2	1	2			9	$ 2,345		$ 2,345
5.2	Tech Memo PE 2 - Technical Feasibility	2	8	8	12	8	12	4		54	$ 14,020		$ 14,020
5.3	Tech Memo PE 3 - Cost Evaluation	2	4			2	4			12	$ 3,230		$ 3,230
5.4	Final Tech Memo	2	4				4		4	14	$ 3,340		$ 3,340
	Subtotal Task 5	6	18	10	14	11	22	4	4	89	$ 22,935	$ -	$ 22,935
Task 6	Project Management												
6.1	Kick-off Meeting	2	2							4	$ 1,210	$ 95	$ 1,305
6.2	PM/Progress Meetings		4							4	$ 1,100		$ 1,100
6.3	Progress Reports and Invoicing		2						3	5	$ 1,045		$ 1,045
6.4	Project Control Plan		2							2	$ 550		$ 550
6.5	Tech Memo Review Meetings (3 total, 1 in-person)	4	4							8	$ 2,420	$ 100	$ 2,520
	Subtotal Task 6	2	10						3	15	$ 3,905	$ 95	$ 4,000
	Total Non-Optional Hours and Fee	36	73	29	36	57	52	8	7	298	$ 79,805	$ 195	$ 80,000
	Percent of Hours:	*12%*	*24%*	*10%*	*12%*	*19%*	*17%*	*3%*	*2%*	*100%*			

JANUARY 29, 2026 AT 2:00PM

PROPOSAL FOR

COASTAL TREATMENT PLANT (CTP) REGIONAL FLOW STUDY ENG-25-10

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY
ATTN: JIM BURROR, DEPUTY GENERAL MANAGER/CHIEF ENGINEER
34156 DEL OBISPO STREET, DANA POINT, CA 92629

mkn
AN ARDURRA COMPANY

January 29, 2026

South Orange County Wastewater Authority
Attn: Jim Burror
Deputy General Manager/Chief Engineer
34156 Del Obispo Street
Dana Point, CA 92629

Subject: Proposal for ENG-25-10 – CTP Regional Flow Study

Dear South Orange County Wastewater Authority Review Team,

We are pleased to submit our proposal for this regional flow study and are particularly enthusiastic about the opportunity because of our strong alignment with South Orange County Wastewater Authority's (SOCWA) goals, our extensive regional experience, and our early investment in understanding the challenges and decision drivers facing the stakeholders. We are confident that the MKN & Associates, LLP, an Ardurra Group Inc., company (MKN) team is uniquely positioned to deliver clear, actionable results for SOCWA.

AN ARDURRA COMPANY

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

- **Experienced Team.** MKN brings deep, directly relevant experience spanning master planning, design, and interagency coordination to support both comprehensive analysis and expedited delivery. Our portfolio includes more than 120 hydraulic modeling efforts, 80+ lift stations, 90+ treatment facilities, and over 400 miles of pipeline, providing a strong technical foundation for this study.
- **Infrastructure and Stakeholder Understanding.** MKN's Project Manager has worked closely with nearly every key project stakeholder over a 20-year career, including SCWD, EBSD, OCWD, LBCWD, OCSAN and SOCWA. This familiarity with local systems, constraints, and agency priorities will be leveraged to accelerate coordination and reduce inefficiencies.
- **Relevant Interagency Experience.** MKN has recently delivered nearly two dozen interconnection and flow transfer projects, including the ongoing interagency transfer between Mesa Water District and the City of Newport Beach (with Laguna Beach County Water District participation). This experience is directly applicable to evaluating OCWD recovery and regional redirection options.
- **Collaborative, Stepwise Approach.** As outlined in our approach and schedule, MKN is committed to a rapid project start following Notice of Award, a robust kickoff with front-loaded confirmation of alternatives, and an efficient, chapter-based delivery strategy to streamline execution and decision-making.
- **Partnership-Focused Delivery.** While we believe our team provides exceptional value, we recognize the importance of fiscal stewardship. MKN is committed to working collaboratively with SOCWA to refine scope or phasing as needed to align with budget considerations while still achieving the study's core objectives.

MKN & Associates, LLP has received and acknowledges Addendum 1, released on December 3, 2025.

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.

MKN & Associates, LLP

Ryan Gallagher, PE
Project Manager

1 IDENTIFICATION OF RESPONDER

MKN's Client-Centric Origins

MKN & Associates, LLP (MKN) is a consulting engineering firm originally founded in 2012. Since then, we've grown to more than 85 professional engineers, planners, construction managers/inspectors, and support staff across eight offices throughout California. In November 2025, MKN proudly joined Ardurra Group, Inc. (Ardurra), a nationally recognized firm providing engineering services since 1929. This allows MKN to maintain our core principles and continue delivering the same high level of quality and responsiveness our clients expect, while expanding our capabilities and resources to better serve public agencies' evolving needs.

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

Now with more than 2,000 employees nationwide, including 250 in California, we bring deep expertise in complex engineering and design services. Ardurra is ranked #75 on Engineering News-Record's (ENR's) Top 500 Design Firms list and is consistently among the top 20 firms in ENR's Water Sourcebook rankings for water and wastewater services.

Water Is Our Focus

MKN is deeply committed to water in all its forms, focusing exclusively on delivering professional services for water, wastewater, and recycled water projects. Our firm's expertise encompasses the full range of well and pump station projects, from planning and condition assessment to design, rehabilitation, and inspection. MKN's staff members are recognized leaders in industry organizations, actively contributing to the advancement of standards and best practices through research, presentations, and participation in professional forums. We continually innovate our engineering methods and deliverables to better serve our clients. With principals who have decades of experience in management and leadership roles at top engineering firms, MKN brings a proven track record and technical depth to every project, ensuring high-quality outcomes that align with the scope of work outlined in the RFP.

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.

Legal Name: MKN & Associates, LLP
Address/Local Office: 16310 Bake Parkway, Irvine, CA 92618
Parent Company: Ardurra Group, Inc.
Principal Place of Business:
1000 NW 57th Ct., Suite 800, Miami, FL 33126

19 Interconnection Projects

80+ Pump/ Lift Stations

90+ Water/Wastewater Treatment Projects

120+ Hydraulic Modeling Projects

400+ Miles of Pipeline

2 PROJECT UNDERSTANDING AND APPROACH TO THE WORK

Our Team Understands Your Goals

SOCWA is approaching a pivotal moment, with parallel facility master planning efforts about to begin for both the JB Latham Treatment Plant (JBL) and Coastal Treatment Plant (CTP). This regional flow study is intended to provide a rapid, big-picture framework to inform and align those efforts before they advance independently. By quickly evaluating the technical feasibility of decommissioning CTP and redirecting regional flows, the study establishes a common understanding of viable options, key constraints, and regional interdependencies—allowing the JBL and CTP master plans to proceed with consistent assumptions and focus on realistic, supportable pathways.

The effort is deliberately high level, designed to support timely and well-informed decision-making without unnecessary detail. The scope emphasizes a "fatal flaw" assessment that identifies major technical, operational, regulatory, and cost drivers at a conceptual level, sufficient to compare alternatives and screen out infeasible concepts.

Project Element 1

Project Initiation and Data Collection

Given the critical-path nature of the initial data request, MKN will issue the data request within five (5) days of Notice of Selection (several critical data request items are noted in the Quick Start box). A dedicated SharePoint workspace will be established to facilitate document upload and coordination. All materials will be organized, labeled, and maintained in a manner that supports efficient review and seamless incorporation into SOCWA's final project records, consistent with the approved scope of work. In advance of the Project Kickoff Meeting, MKN will prepare and distribute the following materials no later than five (5) days prior to the workshop:

1. **Kickoff Meeting Agenda**
   Confirmation of project objectives, scope, schedule, and budget.
2. **Updated Data Request Tracker**
   Identification of outstanding items, clarification of data needs, and confirmation of a preliminary delivery schedule.
3. **Draft Report Outline**
   Structured by ***Project Elements 1 through 5,*** with each element established as a dedicated report chapter to streamline integration into the final deliverable.
4. **Preliminary Evaluation Criteria and Financial Assumptions**
   Including planning-level unit costs, escalation assumptions, inflation factors, and other key financial inputs.
5. **Process Schematics**
   Illustrative schematics summarizing key system concepts (refer to following page).

MKN QUICK START

Several Data Request Items SOCWA can initiate:

- Current and Estimated CTP Influent (by Agency)
- Annual Average (MGD), Dry Weather and PWWF (gpm)
- SCWD and CLB Sewer Model and Sewer System GIS
- Current flows and capacity of lift stations noted in schematic
- Existing and Future RW Demand (if different from 2017 MP)
- Abandoned Coast Pipeline drawings and ownership
- SCWD Tunnel Project As-Builts (overall alignment and section view)
- NCI Rehabilitation Reports/ Capital Projects (alignment)
- As-Builts and Related Easements for CTP Sludge Export Force Main

By combining deep expertise in *master planning and infrastructure design with long-standing working relationships* across the SOCWA program stakeholders, MKN offers a uniquely integrated perspective on this effort. This combination positions our team to execute the full scope efficiently, manage interfaces effectively, and maintain schedule certainty.

MKN WILL FACILITATE A ROBUST PROJECT KICKOFF WORKSHOP

MKN intends to utilize the Kickoff Workshop to establish an accurate baseline and confirm key elements of each scenario. This is essential for finalizing Project Element 1 – and initiating Project Element 2 – Technical Feasibility Assessment. MKN has prepared initial schematics, as an example, but intends to update, expand, and improve them both prior to the Kickoff Workshop, and after utilizing information received as part of the data request, Kickoff Workshop and stakeholder interviews.

Examples of key information include average and maximum flow rates for impacted pipelines and current and maximum design flow rates at each impacted lift station and treatment plant. In addition, the CLB schematic will be expanded to include any additional flow inputs to the NCI and potentially include the SCWD tunnel infrastructure in the schematic to highlight how it is modified. Additional items will be discussed at the Kickoff Meeting.

MKN has strong relationships with management from both OCWD and OCSAN and can coordinate these interviews ahead of the Kickoff Meeting; this will assist in facilitating a robust Kickoff Meeting.

Project Element 2

Technical Feasibility Assessment

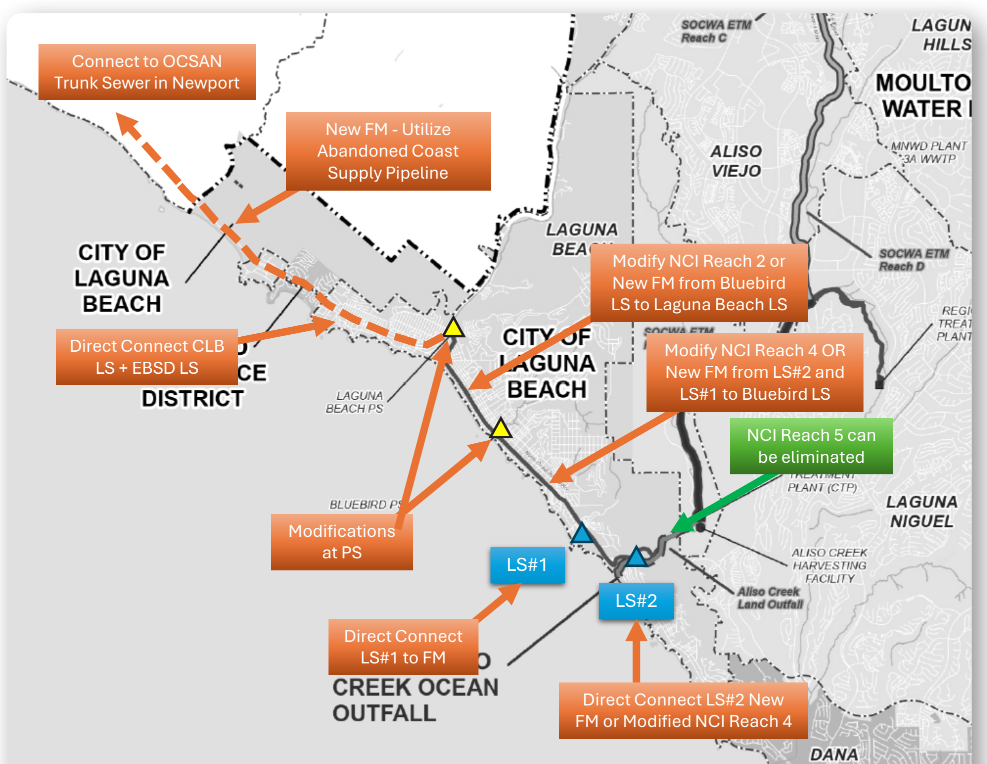
With the concepts approved as part of Project Element 1, Project Element 2 can proceed, which will focus on identifying the infrastructure required to achieve each scenario. For this phase, MKN will utilize GIS files to develop conceptual figures highlighting new and modified infrastructure (i.e., SCWD Tunnel). MKN will utilize the hydraulic models to confirm system understanding and corresponding modifications, as well as conduct high-level analysis where applicable. For conveyance infrastructure, standalone calculations will be completed based on maximum flows to develop conceptual-level sizes for purposes of the financial analysis. The GIS figures will be utilized to determine approximate pipeline lengths.

Any shared infrastructure will be identified and segmented where stakeholder flows may vary. A corresponding table will be developed to summarize each segment and corresponding stakeholder ownership (based on proportional flow allocation percentages).

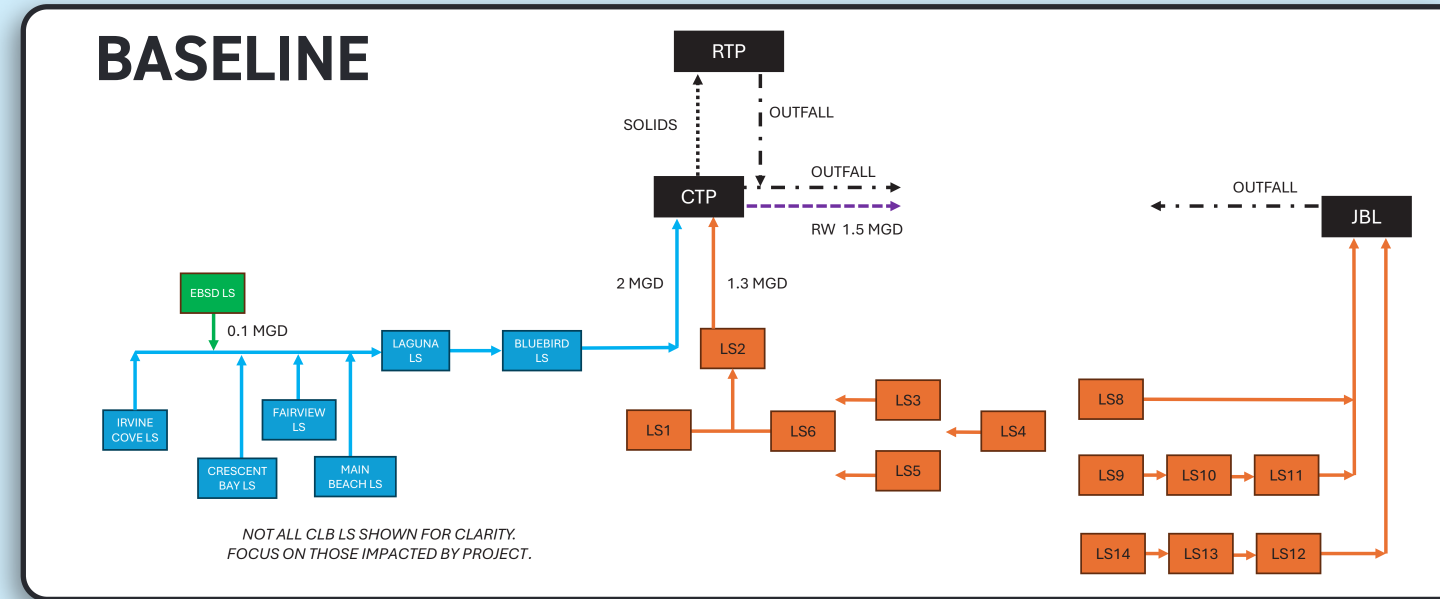
MKN will review impacts to the SCWD recycled water system and potential mitigation measures (i.e., supply from JBL). Potential project offsets will also be identified. For example, NCI Reach 5 would no longer be required for either the OCSAN or JBL raw water diversion scenarios.

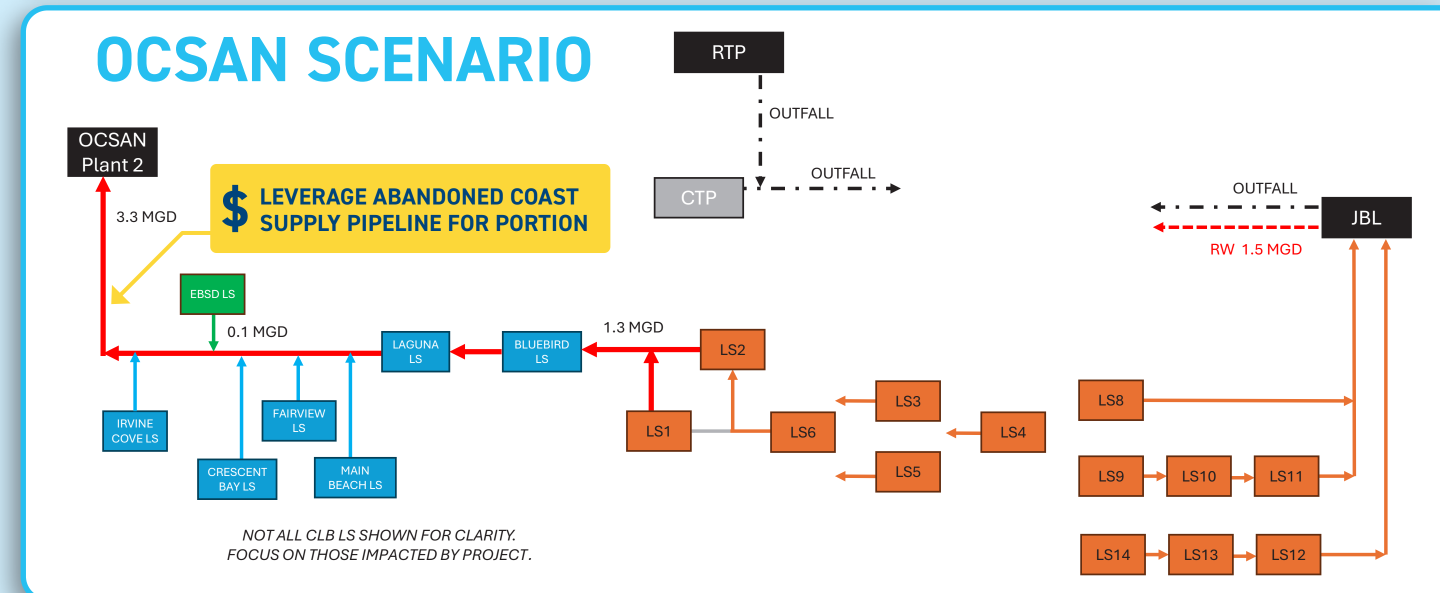
As noted in the RFP, this effort will include an assessment of non-infrastructure-related elements such as environmental, regulatory, customer impacts, and potential for new water (i.e., OCWD basin).

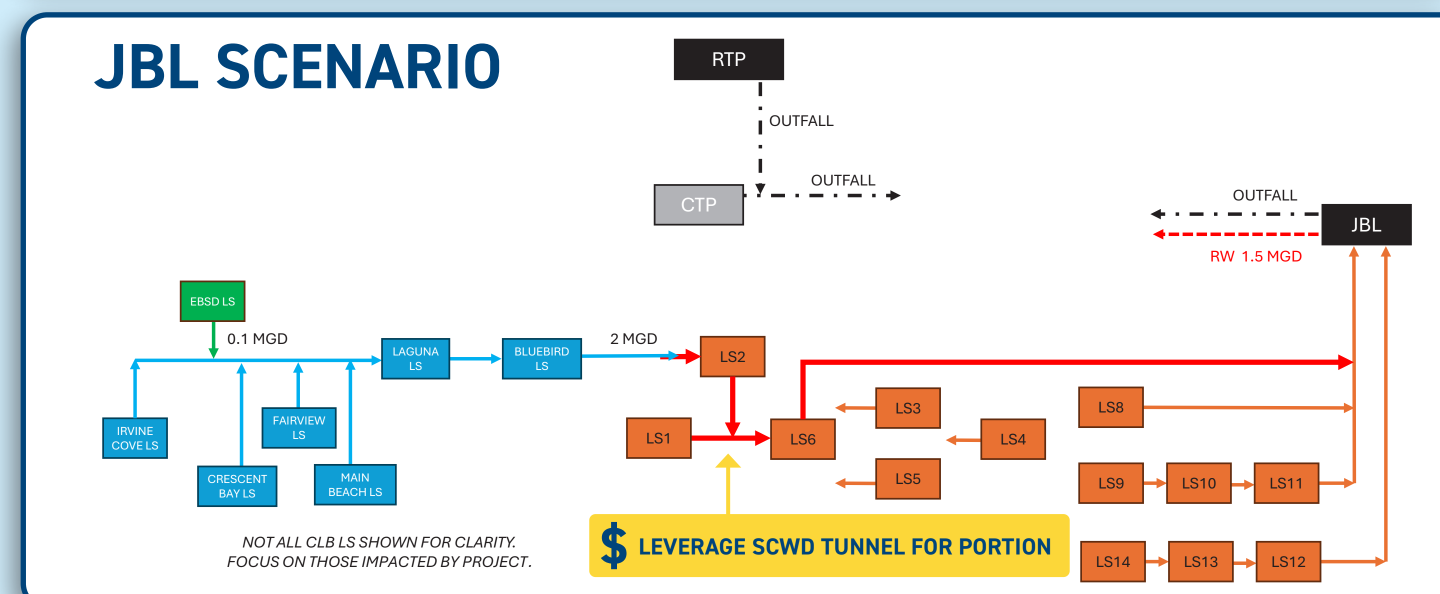
MKN will develop a matrix table that summarizes each scenario and the assessment results.



MKN will develop figures that illustrate the required infrastructure modifications.







Project Element 3

Cost Evaluation

The cost evaluation will be based on planning-level unit costs and clearly defined assumptions that will be documented and submitted as part of Project Element 1 (initial deliverable). This approach is intended to allow SOCWA to review, validate, and confirm key assumptions prior to their application in the evaluation of project alternatives. Where available, MKN will utilize unit costs and assumptions from recent SOCWA and member agency planning documents (e.g., the Laguna Beach Wastewater Master Plan). In cases where agency-specific data are not available, industry-standard planning-level unit costs consistent with MKN's master planning practices will be applied.

While capital costs will be a primary evaluation factor, the analysis will also consider long-term operational and financial impacts associated with each alternative. For example, a connection to the Regional Treatment Plant (RTP) may result in materially different long-term operating costs compared to a connection to OCSAN. In addition, alternatives that enable resource recovery or beneficial reuse, such as converting wastewater into additional water supply (e.g., groundwater replenishment via the OCWD basin), may provide significant long-term value by offsetting imported water supplies. MKN will evaluate these cost drivers and potential savings over a 30-year planning horizon and present the results using net present value (NPV) to enable a consistent, apples-to-apples comparison of alternatives.

Project Element 4

Analysis and Recommendations

Similar to Project Element 3, MKN will provide proposed evaluation criteria with assumed weighting factors to SOCWA at the Kickoff Meeting. The criteria and weighting will be modified based on feedback provided by SOCWA and used for the initial alternative analysis.

The table provided below is from an MKN evaluation of effluent optimization conducted for City of Thousand Oaks as part of their WWTP Facility Master Plan. A similar approach can be utilized for SOCWA, providing a consolidated quantitative and qualitative analysis in a simple, clear summary table. The City ultimately decided to stay with the current use which was the highest rated.

EVALUATION CRITERIA												
Alt #	Title	Capital Cost ($M)	New Water (AFY)	NPV ($M)	Cost	Regulatory Issues	Schedule	Stakeholder Complexity	New Water	Operational Ease	TOTAL SCORE
1	No Change	0	0	9.90	2	3	3	3	1	3	15
2	Modify Existing	0	0	17.33	3	3	2	2	1	3	14
3	Santa Rosa IPR	73.45	0	-43.23	1	1	1	1	1	1	6
4	IPR via Lake Bard	98.22	5,152	-38.40	1	1	1	1	3	1	8
5	LV Reservoir IPR	31.49	1,625	16.83	3	2	1	1	3	2	12
6	RW Sales in City	13.23	350	8.32	2	1	2	3	2	2	12

Project Element 5

Reporting and Deliverables

To accelerate project delivery, MKN recommends that SOCWA consider receiving the Final Technical Memoranda (TMs) for Project Elements (PEs) 1–4 as a single consolidated Draft Final Report, rather than as individual Final TMs. This approach reduces redundancy, streamlines review, and supports more efficient integration across project elements.

MKN will submit the Draft Final Report accompanied by a comprehensive comment-tracking spreadsheet that links each SOCWA comment to a corresponding response and resolution status.

In addition, to further support schedule efficiency, MKN will deliver the draft Executive Summary concurrent with PE4, which represents the final TM contributing content to the Final Report. ***As reflected in the proposed project schedule, this approach meets all SOCWA milestone dates while preserving full SOCWA review periods and MKN's internal quality control for each deliverable.***

Project Element 6

Project Management

MKN will use the Project Kickoff Meeting to establish a shared understanding of project expectations, roles, and responsibilities among the PC-15 member agencies—**City of Laguna Beach (CLB), South Coast Water District (SCWD), and Emerald Bay Service District (EBSD).**

At the Kickoff Meeting, MKN will propose and confirm four (4) structured review meetings, scheduled at approximately monthly intervals and aligned with the delivery of each Project Element. Establishing these meetings in advance—along with clearly defined deliverable dates and review expectations—will be critical to maintaining schedule discipline and ensuring timely, coordinated input from all PC-15 agencies.

Optional Item

Two Board Workshops

SOCWA may elect to include up to two optional Engineering Committee and/or Board workshops to provide policy-level input at key milestones. The first workshop, held shortly after the Kickoff Meeting, would focus on confirming alternatives and evaluation criteria, while the second would occur following delivery of the Draft Final Report to review findings and preliminary recommendations. ***These workshops would supplement regular staff review meetings,*** allowing technical coordination to continue efficiently while providing a focused forum for Board-level guidance and inter-agency considerations.

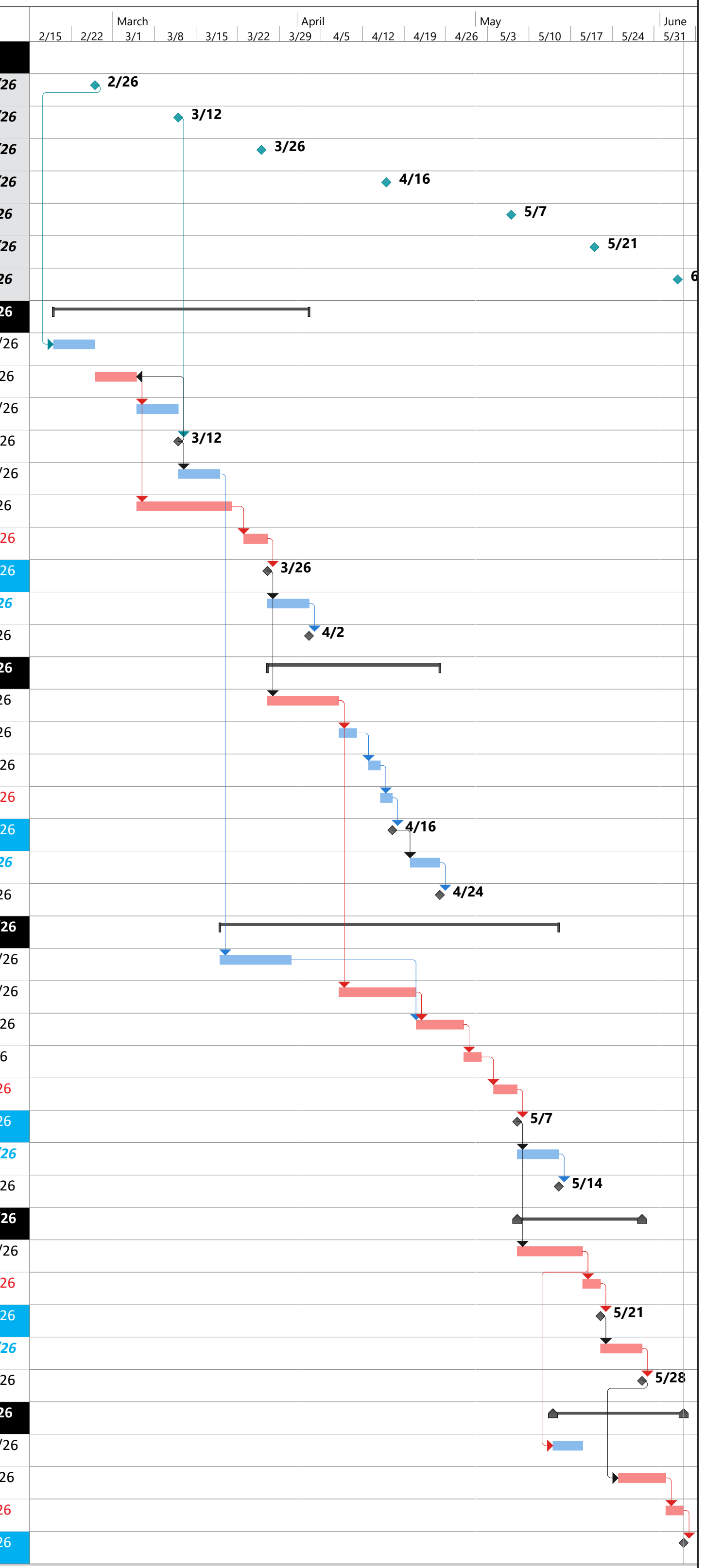
Scope Assumptions

1. In lieu of TMs for Project Elements 1, 2, and 3, MKN will submit the draft chapter of the full report. Comments received for each chapter will be addressed and the updated chapter submitted as part of the full draft report.
2. Due to the limited scope and fast paced schedule, MKN assumes that the Project Control Plan can be achieved through the detailed Microsoft project schedule, and Kickoff Meeting Minutes documenting communication protocols.
3. Comments from SOCWA will be consolidated into a single document and delivered prior to the review meeting.
4. Project is 4 months based on dates provided by SOCWA; additional schedule will require budget augmentation. SOCWA will have 1 week for review.
5. Progress reports will be provided through emailed meeting minutes sent following the monthly Project Management coordination meeting.
6. Three alternatives are being evaluated, currently assumed to be: (1) Flow to JBL, (2) Flow to OCSAN, (3) Flow to RTP.

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

CTP REGIONAL FLOW STUDY (ENG-25-10) SCHEDULE

ID	Task Name	Duration	Start	Finish
1	**SOCWA SET DATES (PER RFP)**			
2	***Contract Award***	***0 days***	***Thu 2/26/26***	***Thu 2/26/26***
3	***Kickoff Meeting***	***0 days***	***Thu 3/12/26***	***Thu 3/12/26***
4	***Project Element 1 Due***	***0 days***	***Thu 3/26/26***	***Thu 3/26/26***
5	***Project Element 2 Due***	***0 days***	***Thu 4/16/26***	***Thu 4/16/26***
6	***Project Element 3 Due***	***0 days***	***Thu 5/7/26***	***Thu 5/7/26***
7	***Project Element 4 Due***	***0 days***	***Thu 5/21/26***	***Thu 5/21/26***
8	***Project Element 5 Due: 2 weeks***	***0 days***	***Thu 6/4/26***	***Thu 6/4/26***
9	**PE1 - PROJECT INITIATION/DATA COLLECTION**	**31 days**	**Thu 2/19/26**	**Thu 4/2/26**
10	Data Request	5 days	Thu 2/19/26	Wed 2/25/26
11	Develop Kickoff Materials	5 days	Thu 2/26/26	Wed 3/4/26
12	OCWD/OCSAN Interviews	5 days	Thu 3/5/26	Wed 3/11/26
13	Kickoff Workshop	0 days	Thu 3/12/26	Thu 3/12/26
14	SOCWA Interviews	5 days	Thu 3/12/26	Wed 3/18/26
15	Prepare PE1	12 days	Thu 3/5/26	Fri 3/20/26
16	QC PE1	4 days	Mon 3/23/26	Thu 3/26/26
17	Deliver PE1	0 days	Thu 3/26/26	Thu 3/26/26
18	***SOCWA Review***	***5 days***	***Fri 3/27/26***	***Thu 4/2/26***
19	PE1 Review Meeting	0 days	Thu 4/2/26	Thu 4/2/26
20	**PE2 - TECHNICAL FEASIBILITY ASSESSMENT**	**20 days**	**Fri 3/27/26**	**Fri 4/24/26**
21	Alternative Infrastructure/Figures	8 days	Fri 3/27/26	Tue 4/7/26
22	Cost Sharing/Allocations & Non-Infrastructure Impact	3 days	Wed 4/8/26	Fri 4/10/26
23	Prepare PE2	2 days	Mon 4/13/26	Tue 4/14/26
24	QC PE2	2 days	Wed 4/15/26	Thu 4/16/26
25	Deliver PE2	0 days	Thu 4/16/26	Thu 4/16/26
26	***SOCWA Review***	***5 days***	***Mon 4/20/26***	***Fri 4/24/26***
27	PE2 Review Meeting	0 days	Fri 4/24/26	Fri 4/24/26
28	**PE3 - COST EVALUATION**	**40 days**	**Thu 3/19/26**	**Thu 5/14/26**
29	Prepare Operating Costs	8 days	Thu 3/19/26	Mon 3/30/26
30	Prepare Capital Costs	8 days	Wed 4/8/26	Mon 4/20/26
31	Cost Comparison	6 days	Tue 4/21/26	Tue 4/28/26
32	Prepare PE3	3 days	Wed 4/29/26	Fri 5/1/26
33	QC PE3	4 days	Mon 5/4/26	Thu 5/7/26
34	Deliver PE3	0 days	Thu 5/7/26	Thu 5/7/26
35	***SOCWA Review***	***5 days***	***Fri 5/8/26***	***Thu 5/14/26***
36	PE3 Review Meeting	0 days	Thu 5/14/26	Thu 5/14/26
37	**PE4 - ANALYSIS AND RECOMMENDATIONS**	**15 days**	**Fri 5/8/26**	**Thu 5/28/26**
38	Prepare PE4	7 days	Fri 5/8/26	Mon 5/18/26
39	QC PE4	3 days	Tue 5/19/26	Thu 5/21/26
40	Deliver PE4	0 days	Thu 5/21/26	Thu 5/21/26
41	***SOCWA Review***	***5 days***	***Fri 5/22/26***	***Thu 5/28/26***
42	PE4 Review Meeting	0 days	Thu 5/28/26	Thu 5/28/26
43	**PE5 - REPORTING AND DELIVERABLES**	**16 days**	**Thu 5/14/26**	**Thu 6/4/26**
44	Prepare and Deliver Executive Summary (with PE4)	3 days	Thu 5/14/26	Mon 5/18/26
45	Prepare Final Report (TM consolidation)	6 days	Mon 5/25/26	Mon 6/1/26
46	QC Final Report	3 days	Tue 6/2/26	Thu 6/4/26
47	Deliver PE5	0 days	Thu 6/4/26	Thu 6/4/26



Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

3 EXPERIENCE AND TECHNICAL COMPETENCE

Experience with Relevant Projects

MKN selected the following projects because they demonstrate experience with the infrastructure that will be assessed or utilized as part of the CTP Regional Study. Beyond these projects, MKN has relevant experience developed over 80+ pump/lift station projects, 120+ hydraulic modeling projects, and 400+ miles of pipeline.

Lift Station Condition Assessments

OWNER
Emerald Bay Service District

Developed standard condition assessment form for lift stations and performed field assessment of seven (7) lift stations for Emerald Bay Service District. Effort included collaboration with District Operators and resulted in a recommendation of 47 projects/improvements across all lift stations for a total of $2.1M. Projects were prioritized over a 5-year implementation period. **(May 2021 – Aug. 2022)**

CLIENT CONTACT
Mike Dunbar, PE
General Manager
600 Emerald Bay
Laguna Beach, CA 92651
mdunbar@ebservicedistrict.com
949.533.4052

Lift Station Condition Assessments

OWNER
South Coast Water District

Developed standard condition assessment form for lift stations and performed field assessment of twelve (12) lift stations for South Coast Water District. MKN evaluated wet well capacity, pump efficiency, and operator interviews. Delivered detailed field inspection results and condition ratings for all lift stations and integrated them into an online ArcGIS platform. Provided a report with over 160 recommendations and a 10-year CIP for implementation based on a priority ranking system. **(Mar. 2021 – Aug. 2021)**

CLIENT CONTACT
Taryn Kjolsing, PE
Director of Engineering
31592 West Street
Laguna Beach, CA 92651
tkjolsing@scwd.org
949.541.1327

Hill Canyon Treatment Plant Master Plan

OWNER
City of Thousand Oaks

As Project Manager with a previous company (Gannett Fleming), MKN's Ryan Gallagher led development of a Master Plan for the Hill Canyon Treatment Plant, a 9-MGD tertiary WWTP. MKN, as a subconsultant to Gannett Fleming, developed an alternatives analysis evaluating various options for use of the facility effluent. These options included multiple beneficial reuse options and regional concepts. **(Feb. 2019 – Jan. 2020)**

CLIENT CONTACT
John Minkel
Deputy Public Works Director
2100 Thousand Oaks Blvd.
Thousand Oaks, CA 91362
jminkel@toaks.org
805.491.8121

Mesa Water/ Newport Interagency Water Transfer

OWNER
Mesa Water District

MKN completed a feasibility study evaluating the concept of delivering excess capacity from the Mesa Water Reliability Facility (MWRF) to the City of Newport ***and Laguna Beach County Water District*** (via Newport). The project included a high-level conceptual analysis and cost evaluation. The project was presented to the Mesa Water Board and approved; MKN is currently in design for the interconnection. **(Aug. 2025 – Nov. 2025)**

CLIENT CONTACT
Nadia Boutros, PE
Civil Engineer
1965 Placentia Avenue
Costa Mesa, CA 92627
nadiab@mesawater.org
949.207.5451

2017 Infrastructure Master Plan

OWNER
South Coast Water District

For SCWD's 2017 Infrastructure Master Plan Update, MKN teamed with AECOM to perform the water, recycled water, and sewer infrastructure master plan updates for South Coast Water District. The updated master planning effort focused on identifying potential local-source development options; changes in the District's physical infrastructure due to redevelopment; changes in water demand, wastewater generation, and recycled water use; the analysis of demand patterns provided from the District's SCADA system and water meter records; and identifying new sources of supply for the water system. **(Jan. 2016 – Feb. 2018)**

CLIENT CONTACT
Taryn Kjolsing, PE
Director of Engineering

31592 West Street
Laguna Beach, CA 92651

tkjolsing@scwd.org
949.541.1327

MKN's Multi-Agency Interconnection Experience (Partial List)

MKN Interconnection Projects	Planning	Hydraulics	Design	Agreement Support
Mesa Water District/City of Newport	√	√	√	
Channel Islands Beach CSD/City of Oxnard	√	√		
Channel Islands Beach CSD/City of Port Hueneme	√	√	√	√
Pleasant Valley CWD/United Water Conservation District	√	√		√
Nipomo CSD/Santa Maria	√	√	√	√
Calleguas Mutual Water District/Ventura County Water Agency	√	√	√	√
Woodlands Mutual Water Company/Nipomo CSD	√	√	√	
City of Pismo Beach/County of San Luis Obispo	√	√	√	
Calleguas Mutual Water District/Crestview Water District	√	√	√	
Nipomo CSD/Woodlands MWC	√	√	√	
Nipomo CSD/Golden State Water Company - Primavera Service Area	√	√	√	
Nipomo CSD/Golden State Water Company - Cypress Ridge Service Area	√	√	√	
City of Thousand Oaks/California American Water			√	
WMWD/RCWD Regional Intertie	√	√		√
WMWD/RCWD Jefferson Avenue Interconnection	√	√	√	√
WMWD/RPU Magnolia Avenue Interconnection	√	√	√	√
Metropolitan Water District/Eastern Municipal Water District		√	√	
Cal Water/City of La HabraLa Bonita Park Water Facilities		√	√	
Corona/WMWD ADS Connection	√	√	√	

4 KEY PERSONNEL AND SUBCONSULTANTS

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

PROJECT MANAGER

Ryan Gallagher, PE

QA/QC MANAGER

Henry Liang, PE

MKN PROJECT TEAM

HYDRAULIC MODELING
Chris Haugen, EIT

CONVEYANCE
Joseph (JJ) Reichmuth, PE

PLANNING
Alex Maher, PE

COST ESTIMATING
Chang Ye, PhD, PE, PMP, CPE, QSD

Ryan Gallagher, PE

Project Manager — ***40% Availability***

EDUCATION

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

LICENSES & REGISTRATIONS

Professional Civil Engineer, CA No. 74805

Over his 20-year career, Ryan Gallagher has completed more than 130 projects with over 30 public agencies in Southern California, serving as the Project Manager for most of them. The estimated construction value of the projects that have been planned, designed, and/or constructed exceeds $300M. Projects include planning through design for water, wastewater, and recycled-water conveyance, pumping, storage, and treatment. Ryan specializes in complex multi-agency water supply programs, alternative delivery, program management, master planning, and contract negotiations.

Henry Liang, PE

QA/QC Manager — ***35% Availability***

EDUCATION

MBA, Craig School of Business, California State University, Fresno, CA

BS, Civil & Environmental Engineering, University of California, Berkeley, CA

LICENSES & REGISTRATIONS

Professional Civil Engineer, CA No. 68442

Henry Liang is a Principal with over 20 years of experience in planning and design of municipal water, wastewater and water resources projects ranging from planning to design of major transmission pipelines, pump stations, and wells including raw and treated water projects throughout California. His expertise includes detailed hydraulic modeling and transient analysis for a variety of water supply projects.

Chris Haugen, EIT
Hydraulic Modeling
50% Availability

YEARS EXPERIENCE
5

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

LICENSES & REGISTRATIONS
Engineer-in-Training, CA No. 178979

Certified Water Audit Validator (WAV), CA-NV AWWA

Joseph (JJ) Reichmuth, PE
Conveyance
30% Availability

YEARS EXPERIENCE
27

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

Alex Maher, PE
Planning
40% Availability

YEARS EXPERIENCE
13

EDUCATION
BS, Civil Engineering, California State Polytechnic University, Pomona, CA

LICENSES & REGISTRATIONS
Professional Civil Engineer, CA No. 86584

Pipeline, Lateral, and Manhole Assessment Certified (PACP/LACP/MACP), NASSCO No. U-0721-70402535

Chang Ye, PhD, PE, PMP, CPE, QSD
Cost Estimating
25% Availability

YEARS EXPERIENCE
21

EDUCATION
PhD, Civil Engineering, Missouri University of Science and Technology, Rolla, MO

MS, Applied Ecology, Chinese Academy of Sciences, Beijing, China

BS, Environmental Engineering, Zhejiang Agricultural University, Zhejiang, China

LICENSES & REGISTRATIONS
Professional Civil Engineer, CA No. 68761

Project Management Professional (PMP), No. 3709402

Certified Professional Estimator (CPE), CA No. 310000-191-0919

Qualified SWPPP Developer (QSD), CA No. 68761

5 PRICING

As requested in the RFP, costs and fees have been submitted in a separate file.

A APPENDIX A - REQUIRED FORMS AND STATEMENTS

This appendix contains all statements and forms as required per the RFP.

6. Conflicts of Interest

MKN & Associates, LLP does ***not*** have any conflicts of interest or potential conflicts of interest pursuant to California Government Code Sections 1090 et seq., the Political Reform Act, and other applicable laws.

7. Non-Collusion Affidavit

MKN & Associates, LLP does ***not*** have any conflicts of interest or potential conflicts of interest pursuant to California Government Code Sections 1090 et seq., the Political Reform Act, and other applicable laws.

ATTACHMENT B
NON-COLLUSION AFFIDAVIT

The undersigned declares:

I am the Project Manager of MKN & Associates, LLP, 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 29, 2026, at Irvine, CA.

Signature: ______________________

Title: Project Manager

8. Certifications

MKN & Associates, LLP 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.

MKN & Associates, LLP certifies that it is willing and able to obtain all insurance required by the form contract included as Attachment C.

MKN & Associates, LLP 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 it to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided.

MKN & Associates, LLP acknowledges and agrees with all terms and conditions stated in the RFP.

MKN & Associates, LLP certifies that all information provided in connection with its proposal is true, complete, and correct.

Ryan Gallagher, PE

Project Manager

B APPENDIX B - RESUMES

Resumes for key staff members are included in the following pages.

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 2024–2026)
- Orange County Water Association (OCWA) (President 2020 and 2021)
- Tustin City Council (2020–2028, Mayor Pro Tem 2024)

YEARS OF EXPERIENCE
- 6 with MKN
- 20 Total

Over his 20-year career, Ryan Gallagher has completed over 130 projects with 30+ public agencies in Southern California, serving as the Project Manager for the majority. The estimated construction value of the projects that have been planned, designed and/or constructed exceeds $300M. Projects include planning through design for water, wastewater, and recycled-water conveyance, pumping, storage, and treatment. Ryan specializes in complex multi-agency water supply programs, alternative delivery, program management, master planning, and contract negotiations.

Long Beach Water Reclamation Plant Optimization | Water Replenishment District of Southern California (WRD), Long Beach, CA

Task Lead. The project involved the review of water supply conditions at the Long Beach Water Reclamation Plant, owned and operated by Los Angeles County Sanitation Districts. The evaluation included review of supply and operational data, existing agreements and on-site investigations in support of developing alternatives for increasing the supply of tertiary water to the adjacent advanced water purification facility, owned by WRD and operated by Long Beach Water Department (LBWD). Conducted additional analysis of recommended projects including a site assessment, sizing and cost estimate for an injection well, and a condition assessment for the El Dorado Backup Pump Station and the South Lake Pump Station, both owned by LBWD.

Newport Water Supply Conceptual Evaluation | Mesa Water District & City of Newport Beach, Newport Beach, CA

Project Manager. The project consisted of a conceptual study assessing surplus Mesa Water capacity to supply Newport Beach. Work included supply-demand analysis, evaluation of six interconnections, infrastructure alternatives, and financial comparison of imported versus local supply. The study confirmed technical and financial feasibility for long-term regional reliability.

Regional Wastewater Conveyance and Treatment Agreement Negotiation | Channel Islands Beach Community Services District, Oxnard, CA

Project Manager. This project involved conducting an analysis of existing wastewater service agreements between Channel Islands Beach Community Services District and City of Oxnard. The effort included an evaluation of multiple service agreements dating back to 1966, development of scenarios for a new cost and service structure between the agencies, and preparation of schematics and figures illustrating the complex integration of the two systems within the Channel Island Harbor and surrounding areas.

Water, Sewer, and Recycled Water Rate Study Support | Inland Empire Utilities Agency, Chino, CA

Project Manager. MKN provided staff augmentation for implementation of new water, sewer and wastewater rates for IEUA. Duties included development of a scope and RFP, consultant outreach and overall project management of the consultant procurement process. Prepared an overall program schedule, coordinated with IEUA staff to identify critical issues, and developed a strategy for engaging agency stakeholders.

Wastewater Rate Study RFP Development | City of Beaumont, CA

Project Manager. This project to prepare a wastewater rate study request for proposal (RFP) for the City of Beaumont included interviews with staff and development of a scope of work, project schedule, and procurement document. The effort included providing assistance in the review of the final proposals for consistency with contract scope of work.

Wastewater Rate Study | Channel Islands Beach Community Services District, Channel Islands Harbor, CA

Project Manager. This update to the District's wastewater service rate and connection fees included support in negotiating a revised service contract with the City of Oxnard. This effort, identified by the team during development of the study, is expected to result in significant savings to the District.

Lift Station Condition Assessment (7 Lift Stations) | Emerald Bay Service District, Laguna Beach, CA

Project Manager. The project involved a condition assessment of seven lift stations for Emerald Bay Service District. Efforts included development of a field evaluation of all lift stations, preparation of observations and condition ratings, and preparation of a 5-year CIP for implementation of project recommendations based on prioritization and collaboration with District operations staff. The recommendations included 47 projects/improvements for a total of $2.1M.

Lift Station Condition Assessment (7 Lift Stations) | Channel Islands Beach Community Services District, Oxnard, CA

Project Manager. The project evaluated seven existing raw wastewater lift stations in the District service area. Prepared a report with recommended improvements covering mechanical, structural, electrical, and instrumentation.

Lift Station Condition Assessment (12 Lift Stations) | South Coast Water District, Laguna Beach, CA

Project Manager. The project involved a condition assessment of 12 lift stations for the South Coast Water District. Efforts included development of a standard condition assessment form, field evaluation of all lift stations, preparation of observations and condition ratings, and uploading data and form into online ArcGIS platform. Results were used to establish over 160 projects and a 10-year implementation plan based on prioritization ranking and collaboration with District operations staff.

2020 Water and Sewer Master Plan | Channel Islands Beach Community Services District, Oxnard, CA

Project Manager. The project developed a combined water and sewer master plan for a service area consisting of approximately 4,000 residents. The effort included updating current and future supply and demands, capacity assessment, water and sewer hydraulic models, and development of a 5-year capital improvement plan (approximately $8M).

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

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

Ventura County Harbor Wastewater Modeling | City of Oxnard, CA

Project Manager. This project to develop a wastewater hydraulic model using SewerCAD included providing land use duty factors, model development, flow monitoring, calibration, and analysis. The hydraulic system was integrated into the City of Oxnard's wastewater model.

Infrastructure Review (Multiple) | Channel Islands Beach Community Services District, Oxnard, CA

Project Manager. The project team developed a water and sewer hydraulic modeling analysis of developments planned in District service areas, including Fisherman's Wharf, Casa Sirena, and Marina.

HENRY LIANG, PE

QA/QC MANAGER

EDUCATION

- MBA, Craig School of Business, California State University, Fresno, CA
- BS, Civil & Environmental Engineering, University of California, Berkeley, CA

LICENSES & REGISTRATIONS

- Professional Civil Engineer, CA No. 68442

PROFESSIONAL ASSOCIATIONS

- American Council of Engineering Companies (ACEC), California Water Resources Committee (Chair), California Scholarship Foundation (Trustee)
- American Society of Civil Engineers (ASCE)
- Cal Alumni Association, Club of Fresno (Vice President)
- California State University, Fresno, Lyles College of Engineering (Part-time Faculty)

YEARS OF EXPERIENCE

- 9 with MKN
- 25 Total

Henry Liang is a Principal and Operations Manager of MKN's Fresno, California office. He has extensive experience in water, wastewater, and water resources projects. Since 2001, he has gained experience in planning and design of municipal water and wastewater systems, water transmission pipelines, wells, pump stations, and water treatment plants. Henry has recently served as a project manager on several large multi-disciplinary projects for the Cities of Fresno, Merced, Reedley, Westlands Water District, Valley Children's Healthcare, UC Merced and the United States Bureau of Reclamation. In addition to his project work, Henry is heavily involved in promoting the engineering industry through his active involvement in the American Society of Civil Engineers and American Council of Engineering Companies. He currently serves as the chair of the ACEC California Water Resources Committee.

Sewer and Recycled Water Master Plan Updates | South Coast Water District, Orange County, CA

Project Manager. The project involved the water, recycled water, and sewer infrastructure master plans for the South Coast Water District. The updated master planning effort focused on identifying potential local source development options; changes in the District's physical infrastructure due to redevelopment; changes in water demand, wastewater generation, and recycled water use; an analysis of demand patterns provided from the District's SCADA system and water meter records; and new sources of supply into the water system, including increasing treated groundwater, recycled water system expansion, Dana Point ocean desalination, and indirect potable reuse. The project included updating the model, an analysis of the existing and future utility systems, identifying deficiencies, and recommending solutions. An in-depth analysis also included analyzing water demands, evaluating storage requirements, analyzing different desalination plant locations, and optimizing interconnections with adjacent systems.

Campus Lift Station Improvements | University of California, Merced, CA

Project Manager. Led comprehensive lift station capacity modeling, alternatives analysis, and preliminary through final design for campus wastewater infrastructure improvements. Managed multi-disciplinary project team through complete project lifecycle from initial capacity validation and flow projections for incremental growth scenarios to construction administration and commissioning support. Developed up to three alternative layouts for new parallel lift station, coordinated utility conflict resolution, and established operational continuity strategies during construction. Delivered detailed engineering drawings across civil, mechanical, electrical, and structural disciplines, technical specifications at 30%, 75%, and 100% design phases, and construction cost estimates. Provided construction administration services including submittal reviews, contractor coordination, and final system commissioning to verify capacity under simulated operating conditions.

Infrastructure Capacity Assessment | Merced County Association of Governments (MCAG), Merced, CA

Project Manager. Led the assessment of public water and sewer systems within Merced County to support the Merced County Association of Governments' efforts under California's Regional Early Action Planning (REAP) program. Conducted high-level analyses of each city's water distribution and sewer collection systems to identify capacity deficiencies and support housing growth targets as per the Regional Housing Needs Allocation (RHNA) Plan. Developed hydraulic models for each city's backbone system and evaluated multiple growth scenarios. Assessed water supplies and wastewater treatment capabilities, identified deficiencies, and proposed necessary improvements to meet future demands. Delivered a comprehensive Capital Improvements Project List detailing required enhancements for each city's water and sewer systems.

Avenue 13 Sewer Rehabilitation | City of Madera, CA

Principal-in-Charge. Oversaw the design and construction phases of the project, which included an analysis of repair methods and the design for a CIPP rehabilitation of more than 24,000 LF of 42-48" sewer main. The challenges for this project were agency coordination and managing three emergency repairs. The project included work in a county, irrigation district, and railroad right of ways. Between design and construction, the pipe suffered three different failures.

Various Sewer Pipeline Rehabilitation Projects | City of Fresno, CA

Project Manager. Managed the rehabilitation of approximately 4 miles of critical collector sewers in the City of Fresno's sewer collection system. Rehabilitation consisted of cured in place pipe (CIPP) lining of 12- to 24-inch concrete sewer pipe. Project requirements included preparation of plans, specifications, and cost estimates for the lining work. Design included development of bypass concepts and implementation of staging and traffic control requirements.

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

Principal-in-Charge. Oversaw the design of the replacement of an existing 21-inch sewer main including an inverted siphon. The new 36-inch sewer alignment avoided the need for a siphon. The project included two structures with non-rising stem stainless steel slide gates. Additionally, the wastewater treatment plant headworks lift station was rehabilitated by repairing concrete damage.

Gunner Ranch West Wastewater Improvements | Gunner Ranch, Inc., Madera, CA

Project Director. The project involves the construction of a membrane bioreactor wastewater treatment plant and over four miles of 27- to 30-inch sewer trunk line that will serve the 1,000+ acre Gunner Ranch West mixed-use development. Total construction value of the wastewater facilities exceeds $10M. The wastewater facilities will become part of a Madera County Community Service Area and will be owned and operated by Madera County. Services include the design of the facilities; bidding support; performing on-going construction observation, materials testing, and inspection services; and ensuring construction contract compliance. In addition to managing the construction documents (submittals, RFIs), MKN is also serving as the Owner's Engineer, reviewing technical submittals for compliance with the design and contract documents.

Wastewater Treatment Plant Improvements and Performance Evaluation | Valley Children's Hospital, Madera, CA

Project Manager. Managed the design and performance evaluation of Valley Children's Hospital's (VCH) Wastewater Treatment Plant Improvements project. Designed improvements to help address the noncompliance issues associated with total nitrogen levels and treatment bypass. The improvements consisted of: new lift station, new oxidation reduction potential (ORP) sensor in the anoxic tank, new dissolved oxygen (DO) sensors in the aeration tank, new mixed liquor suspended solids (MLSS) sensor in the aeration tank, new flowmeters on the internal recycle (IR) pump discharge and the return activated sludge (RAS) pump discharge line, new lift station, electrical and instrumentation improvements to integrate the new instruments and pump station into the plant's process controls, piping modifications to send RAS from the secondary clarifiers to the anoxic tank, and a new emergency overflow pipeline to send excess flows to the emergency overflow pond.

CHRIS HAUGEN, EIT

HYDRAULIC MODELING

EDUCATION

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

LICENSES & REGISTRATIONS

- Engineer-in-Training, CA No. 178979
- Certified Water Audit Validator (WAV), CA-NV AWWA

PROFESSIONAL ASSOCIATIONS

- Orange County Water Association (OCWA)

YEARS OF EXPERIENCE

- 5 with MKN
- 5 Total

Chris Haugen is an Assistant Engineer in MKN's Irvine, California office. His experience includes comprehensive water master plan development, water design, strategic planning, hydraulic modeling, and GIS integration. Chris Haugen consistently demonstrates exceptional problem solving, communication skills, and teamwork, contributing to the success of complex engineering and planning projects.

588 Pressure Zone Expansion | City of Ventura, CA

Assistant Engineer. The project involved the preliminary and final design for approximately 730 linear feet of water line replacement of a 6-inch-diameter asbestos watermain to a 8-inch-diameter PVC watermain. It also included the preliminary and final design of a new below-ground pressure-reducing station with 8-inch and 6-inch valves. Efforts included the preparation of construction documents, an opinion of cost for public bidding, and engineering services during the bidding period.

Golf Course Booster Pump Station and Wells Upgrade Project | City of Ventura, CA

Assistant Engineer. The project involved the preparation of a technical memorandum that analyzed an existing potable water transmission main as part of proposed improvements to existing well sites. The work included a hydraulic analysis of the existing pipeline to verify the hydraulic capacity and determine the feasibility of routing additional flow through the pipeline without exceeding the pipeline's existing pressure ratings.

State Water Interconnect Modeling | City of Ventura, CA

Assistant Engineer. The project involved a hydraulic analysis to review various scenarios and summarize the results in a technical memorandum for the new 7-mile, 30-inch State Water Project Interconnection pipeline between the City of Ventura and Calleguas Municipal Water District. The pipeline would provide additional water supplies and would deliver the City's allocated State Water of 10,000 acre-feet per year. The project included updating the City's water hydraulic model to be consistent with the State Water Project and summarizing results in a technical memorandum.

Strategic Planning | Port Hueneme Water Agency, Port Hueneme, CA

Assistant Engineer. The project involved the two-part strategic planning process with the Port Hueneme Water Agency Board of Directors. The effort included preparation of background information, current operations, a water supply analysis, a summary of challenges/opportunities, and the development of a recommended work plan. The process included coordination with staff and two public workshops with the Board of Directors.

Water Master Plan | Yorba Linda Water District, Yorba Linda, CA

Assistant Engineer. The project consisted of a capacity evaluation of the District's existing water distribution system. Specific responsibilities included the evaluation of existing water production, storage, and distribution facilities; creation of a GIS-based hydraulic water model; review of water quality requirements and goals; development of potential future requirements and evaluation of equipment alternatives; identification of deficiencies under existing and future conditions; development of a water supply and optimization study; and development of a Capital Improvements Program and cost opinions for existing and future improvements.

Well Siting Evaluation | City of Newport Beach, CA

Assistant Engineer. The project involved the preparation of a well-siting study to identify a new potable groundwater well site within the vicinity of Fountain Valley. Specific responsibilities included coordination with staff, preparation of screening criteria, and the identification and evaluation of preferred locations and recommendations.

Water Master Plan | City of El Monte, CA

Assistant Engineer. The project consisted of a comprehensive Water Master Plan for the City's water distribution system, which consisted of nine groundwater wells, three emergency interconnections, two reservoirs, one booster pump station, and approximately 42 miles of pipeline. Specific responsibilities included the evaluation of water supply, storage, and distribution facilities; development of a calibrated hydraulic model with steady-state scenarios; identification of pressure, velocity, and fire flow deficiencies under existing and future conditions; and development of a phased Capital Improvements Plan including project prioritization and cost estimating.

Water Master Plan | Quartz Hill Water District, Quartz Hill, CA

Assistant Engineer. The project involved a comprehensive Water Master Plan for the District's water distribution system, including six pressure zones, 10 groundwater wells, two imported water connections, eight reservoirs, six booster pump stations, 21 pressure-reducing stations, and approximately 97 miles of pipeline. Specific responsibilities included forecasting long-term development and water demand; the review of the District's water supply portfolio; the evaluation of existing water supply, storage, and distribution; the development of a calibrated hydraulic model with steady-state scenarios; the identification of pressure, velocity, and fire flow deficiencies under existing and future conditions; and the development of a phased Capital Improvements Plan including project prioritization and cost estimating.

PFAS Remediation Program | Water Replenishment District of Southern California, Beaumont, CA

Assistant Engineer. The project provided technical and program support to the District's $61M PFAS treatment program. The program provided funding and technical support to an estimated 20+ PFAS treatment systems throughout the groundwater basin. Efforts included establishing program forms and processes to develop the program elements, coordination with pumpers and consultant teams, and supporting the District Program Manager.

Urban Water Management Plan (UWMP) | City of Fillmore, CA

Assistant Engineer. In accordance with the Urban Water Management Planning Act of the California Water Code, agencies are required to prepare an update to their UWMP every five years. The updates would include change in legislation and the Water Code since the previous UWMP. This project incorporated the new code requirements, including updating the water shortage contingency plan, drought risk assessment, long-term forecast for each water supply source including climate change and supporting information, seismic risk assessment and mitigation plan, and energy analysis for extraction, conveyance, treatment, and the distribution system.

Water and Sewer System Master Plans: Water System Hydraulic Model Update | Templeton Community Services District, Templeton, CA

Assistant Engineer. The project involved evaluating the water system using the hydraulic model created by MKN in Bentley Systems WaterCAD. The updates accurately modeled the water distribution systems for current and future needs. MKN utilized the District's water meter records to update water demand allocations in the model.

JOSEPH (JJ) REICHMUTH, PE

CONVEYANCE

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)

YEARS OF EXPERIENCE
- 12 with MKN
- 27 Total

Joseph J. Reichmuth is a Principal Engineer with over 25 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. His pipeline design experience includes rehabilitation of sewer force mains and trunk mains. Designs have included traditional dig- and replacement-type construction along with various trenchless construction methods, such as horizontal directional drilling, jack-and-bore, cured-in-place pipe, and pipe bursting.

Calleguas-Crestview Interconnection Facility | Calleguas Municipal Water District, Thousand Oaks, CA

Project Engineer. Performed design services for an interconnection facility to connect the Crestview Mutual Water Company (Crestview) with Calleguas Mutual Water District (Calleguas). This connection will provide Calleguas with an emergency source of water during outages of imported water from other sources. The interconnection facility consist of a subsurface vault with a flow meter, pressure reducing/sustaining valve, and associated piping. The vault is connected to Crestview's water distribution system and Calleguas' Springville Reservoir via 650 feet of 12-inch CML&C welded steel pipe.

Lift Station Assessment | City of Atascadero, CA

Project Engineer. Condition assessment of four lift stations. Work included site visits, condition ratings of all aspects of the facility, wet well capacity review and storage times, and review of pump efficiency. Evaluations were summarized and a list of potential projects with estimated costs were developed for use in planning future capital improvement projects.

Lift Station Condition Assessments | Camrosa Water District, Camarillo, CA

Project Engineer. This project involved the condition assessment of six lift stations to be used for development of a Near-Term Capital Improvements Program. Efforts included field evaluation of all lift stations and preparation of observations and condition ratings. Results were used to establish future projects based on prioritization ranking and collaboration with District operations staff.

Lift Station Condition Assessment (12 Lift Stations) | South Coast Water District, Laguna Beach, CA

Project Engineer. The project involved the condition assessment of 12 lift stations, including development of a standard condition assessment form, field evaluation of all lift stations, preparation of observations and condition ratings, and uploading data and form into online ArcGIS platform. Results were used to establish over 160 projects and a 10-year implementation plan based on prioritization ranking and collaboration with District operations staff.

18th Street Lift Station Replacement Project | Selma-Kingsburg-Fowler County Sanitation District, Kingsburg, CA

Project Engineer. This project replaced an existing lift station that was constructed in the 1940s as the headworks structure to the previous wastewater treatment plant. Project elements included design of a new submersible lift station and pumps, odor control facilities, force main, removal of existing wetwell and concrete block building structures, installation of piping, and installation of new generator, electrical, SCADA, and motor control center. Responsible for design of new lift station including pumps and associated piping, odor control facility, emergency overflow structure, and connection to the existing gravity sewer.

Creek Sewer Rehabilitation Project | City of Arroyo Grande, CA

Project Engineer. Developed construction documents for the rehabilitation of 2,400 feet of aging sewer main for the City of Arroyo Grande. Due to the close proximity of the sewer main to the Arroyo Grande Creek, Cured-in-Place Pipe (CIPP) was proposed. Construction phase services were also performed for the City.

Arroyo Grande Lift Station No. 1 Repair Project | City of Arroyo Grande, CA

Project Engineer. Developed construction documents for the repair of an incoming gravity sewer main into Lift Station No. 1. Construction phase services were also performed for the City.

Sewer and Storm Drain Rehabilitation Project | City of Arroyo Grande, CA

Project Engineer. Developed construction documents for the rehabilitation of 1,000 feet of vitrified clay sewer main and 900 feet of corrugated metal storm drainpipe for the City of Arroyo Grande. Due to accessibility constraints, the use of Cured-in-Place Pipe (CIPP) was proposed.

Calle Joaquin and Laguna Lift Station Replacements | City of San Luis Obispo, CA

Project Engineer. Assisted in the design to replace two City sewer lift Stations including 2500 feet of force main. Provide assistance with engineer's opinion of cost, and plans and specifications for public bid; bid phase services; and office engineering construction phase services.

Cal Poly State University Student Housing South Lift Station | WebCor Builders, San Luis Obispo, CA

Project Engineer. MKN was retained by WebCor Builders to perform design/build and construction phase services for a new lift station on the California Polytechnic State University Campus. Design of the new lift station required development of anticipated flows, development of a hydraulic model to evaluate capacity of existing collection system, and flow monitoring to confirm existing flows. Special consideration was given to managing emergency flows and to address potential odors.

Highland Way Sewer Line Project | City of Grover Beach, CA

Project Manager. Developed construction documents for installation of 1,300 linear feet of new sewer line for the City of Grover Beach. This new extent of the sewer collection system is intended to service customers within the City limits and to eliminate on-site wastewater disposal systems. Project included coordination with proposed construction plans for future development along the alignment.

Downtown Master Sewer Study | City of Bakersfield, CA

Project Engineer. The goal of Downtown Master Sewer Study was to develop a comprehensive collection system evaluation report (including updated GIS mapping) of the existing sewer collection system within the Downtown Bakersfield area in support of the Downtown Vision Plan and other potential future development within the Study Area. Provided condition assessment of existing lift stations and limited number of sewer manholes within Study Area and development of Capital Improvements Program and cost opinions for existing and future improvements.

Sewer Master Plan | City of Grover Beach, CA

Project Engineer. Project consisted of a condition assessment and capacity evaluation of the City of Grover Beach sewer collection system. Provided evaluation of existing gravity pipelines, lift stations, and force mains and assisted in development of a Capital Improvements Program and cost opinions for existing and future improvements.

ALEX MAHER, PE

PLANNING

EDUCATION

- BS, Civil Engineering, California State Polytechnic University, Pomona, CA

LICENSES & REGISTRATIONS

- Professional Civil Engineer, CA No. 86584
- Pipeline, Lateral, and Manhole Assessment Certified (PACP/LACP/MACP), NASSCO No. U-0721-70402535

PROFESSIONAL ASSOCIATIONS

- American Society of Civil Engineers (ASCE)
- Orange County Water Association (OCWA)

YEARS OF EXPERIENCE

- 1 with MKN
- 13 Total

Alex Maher specializes in the design and preparation of construction plans, specifications, and cost estimates for large water and wastewater pipelines, pumping stations, pressure-reducing stations, and reservoirs. Alex has experience in providing construction support services for major water facilities throughout southern California. His experience in preparing planning documents related to water and wastewater infrastructure projects includes water supply assessments, water and wastewater master planning studies, Developmental Disability Waivers (DDW), and hydraulic analyses for various public- and private-sector clients. He is proficient in several hydraulic modeling platforms. Alex has also conducted numerous conditions assessments for municipal water companies and for military installations in California and Utah.

Master Plan Studies and Hydraulic Modeling Services | Mesa Water District, Costa Mesa and Newport Beach, CA

Task Manager/Hydraulic Modeler. The project involved providing hydraulic modeling services, including Master Plan updates, for proposed developments within the Mesa Water District distribution system. Mesa Water's distribution system consists of more than 300 miles of pipeline, approximately 11,000 junctions, two storage reservoirs, two booster pump stations, and seven groundwater wells. Five master planning efforts for Mesa Water District were successfully completed and results for Master Plan Updates were delivered for land areas up to 9 acres, developments with 250 attached units, and developments with 177 detached units. Other hydraulic modeling services conducted for Mesa Water District included an on-call fire flow analysis to determine system reliability, system operational adjustments, utilizing model results to assist with Water Loss Audits, water age and water source analyses to aid in a Nitrification Study, and continuous hydraulic model updates, per Mesa Water's direction.

Tustin Legacy Specific Plan Amendment, Sub Area Master Plan | City of Tustin, CA

Project Manager. The project involved developing master planning reports for the Tustin Legacy Specific Plan Amendment, Sub Area Master Plan (TLSP SAMP) and subsequent amendments to the SAMP. The TLSP is comprised of more than 20 distinct planning areas, totaling 723 acres, located in the City of Tustin and bound by Barranca Parkway to the south, Redhill Avenue to the west, Edinger Avenue to the north, and Jamboree Road to the east. Recent development areas for which SAMP Updates were performed include Staybridge Suites, Brookfield, Neighborhood D-South, and Neighborhood G.

Orange Heights Development Water and Wastewater Master Planning | The Irvine Company (TIC), Orange, CA

Task Manager. The project involved providing master planning analysis and reports for potable water, non-potable water, and wastewater collection systems for a planned community containing approximately 1,180 single-family residential homes, 115 multi-family residential homes, parks, and other community facilities. The analysis also included a backwash analysis of the Irvine Ranch Water District Zone C+ Tank.

Master Plan Update and Hydraulic Modeling | Shopoff Realty Investments, Anaheim, CA

Project Engineer. The project involved providing professional hydraulic modeling and analysis for a new residential development. The proposed development, located on a 20-acre site, consisted of 546 dwelling units and 232,276 square feet of irrigated public-use space. The dwelling units were a combination of single-family homes, townhomes, and multi-level apartment buildings. Water demands for the proposed development were determined using Anaheim's water-demand factors. On-site hydraulic models were created and fire hydrant flow tests were coordinated to aid in model calibration. The analysis included three unique analyses for existing conditions, proposed max-day conditions, and proposed max-day plus fire flow.

Water System Master Plan and Geographic Information System (GIS) | New Home Company, Thousand Oaks, CA

Project Engineer. The project involved providing engineering services for the development of a comprehensive water system master plan and GIS in the City of Thousand Oaks. The City encompasses an area of approximately 56 square miles with over 14,000 acres designed as open space. What was provided included a capital improvement program, hydraulic model, GIS, condition assessment of each water facility, corrosion study, structural analysis, water quality evaluation, computer maintenance management system, evaluation of the city's remote facility control system, and vulnerability assessment. The effort also included scrubbing as-builts, digitizing, and data entry for various attributes in the new GIS.

Newhall Utility Corridor Project | FivePoint and Newhall Land and Farming C/O, Santa Clarita, CA

Project Engineer. The project involved completing the preliminary and final design for the construction of approximately 22,000 linear feet of 36-inch fiberglass reinforced polymer mortar gravity sewer and approximately 13,450 linear feet of dual 18-inch HDPE sewer force mains along CA-126. Proposed pipelines were designed within a dual-purpose utility corridor and bike trail. The project included crossing Castaic Creek designed as horizontal directional drilling, as well as crossings of Chiquita Channel and San Martinez Grande Channel designed as jack-and-bore. Complete design and calculation services were performed per Los Angeles County Sanitation Districts (LACSD) requirements as the ultimate owner, for both pipeline systems as well as site civil engineering services for grading and construction of the proposed bike trail. The scope of services included extensive coordination with Caltrans, providing easement documentation, and permitting with LACSD.

Recycled Water Delivery System | Ontario Municipal Utilities Company, Ontario, CA

Project Engineer. The project involved preparing plans, specifications, and estimates for the City's new backbone recycled water distribution system. The system includes over 10 miles of recycled water PVC pipeline ranging in size from 8-inch to 24-inch diameter, a new irrigation system booster pump to irrigate the Euclid Avenue center median, a new recycled water booster pump station required to deliver recycled water from Inland Empire Utilities Agency's 1059 Zone to the City's new recycled water distribution high zone, preparation of a Title 22 Supplemental Engineering Report and CEQA documentation, and bidding and construction-phase engineering support.

Master Plan Update and Hydraulic Modeling | Shopoff Realty Investments, Village of Taos Ski Valley (VTSV), NM

Project Manager. The project involved conducting site selection with VTSV for a new 250,000-gallon reservoir within VTSV's Blue Pressure Zone. Following Engineer recommendations, the VTSV conducted a hydraulic analysis to verify that their existing water system, including the proposed 250,000-gallon reservoir, could accommodate resort facilities that include 90 hotel rooms, 52 multi-room villas, and relaxation spa facilities. The project included hydraulic model developments and all facilities within VTSV's Blue Pressure Zone. Water demands for the proposed facilities were developed using demand data published by other similar mountain communities. Fire flow requirements were determined using the International Fire Code and the building's construction materials, gross floor area, and proposed fire suppression system. The project also included an evaluation of the village's potential future natural gas utility needs based on available lots within the village limits.

CHANG YE, PHD, PE, PMP, CPE, QSD

COST ESTIMATING

EDUCATION

- PhD, Civil Engineering, Missouri University of Science and Technology, Rolla, MO
- MS, Applied Ecology, Chinese Academy of Sciences, Beijing, China
- BS, Environmental Engineering, Zhejiang Agricultural University, Zhejiang, China

LICENSES & REGISTRATIONS

- Professional Civil Engineer, CA No. 68761
- Project Management Professional (PMP), No. 3709402
- Certified Professional Estimator (CPE), CA No. 310000-191-0919
- Qualified SWPPP Developer (QSD), CA No. 68761

PROFESSIONAL ASSOCIATIONS

- American Society of Professional Estimators (ASPE)
- American Water Works Association (AWWA) (Water Main Rehabilitation Committee; Water Reuse Committee; Inorganic Contaminants Research Committee)
- Project Management Institute (PMI)

YEARS OF EXPERIENCE

- 1 with MKN
- 21 Total

Chang Ye has been gaining industrial experience in civil engineering since 2005. He has designed and managed over 200 civil infrastructure projects in Southern California, including potable water reservoirs, water wells, pump and lift stations, water, sanitary sewer, and recycled water pipelines, stormwater drainage systems, treatment facilities, on-site treatment systems, airports, railroads, and site gradings and developments.

Chang's expertise includes developing Plans, Specifications, Estimates and bid documents; providing construction management and support; developing water, sewer, and recycled water system models with various modeling tools and GIS; conducting hydraulic and hydrology analysis; preparing various master plans and emergency response plans; developing Stormwater Pollution Prevention Plan (SWPPP), Low Impact Development (LID), Water Quality Management Plan (WQMP), and various environmental compliance programs and reports; and assisting in developing standards and specifications for agencies.

Replacement of Lift Station Pumps and Pump Hardware at Gateway of the Americas Sewer Lift Station No. 1 | County of Imperial, CA

Lead Engineer. This project involved replacing two lift station pumps and associated pump hardware at the Gateway of the Americas Sewer Lift Station No. 1. As Lead Engineer, Chang conducted hydraulic calculations, assessed pump performance, selected appropriate pumps, and provided engineering solutions. He also developed detailed plans, specifications, cost estimates, and bid documents to ensure successful project implementation and alignment with operational requirements.

Replacement of Lift Station Pumps and Pump Hardware at Gateway of the Americas Sewer Lift Station No. 2 | County of Imperial, CA

Project Engineer. This project involved site renovation and the replacement of two lift station pumps at the Gateway of the Americas Sewer Lift Station No. 2. As Project Engineer, Chang conducted site investigations, pump assessments, hydraulic calculations, and the pump selection. He also provided engineering solutions and developed comprehensive plans, specifications, cost estimates, and bid documents to ensure the successful execution of the project.

Regional Lift Station Modifications and Enhancements | Jurupa Community Services District, Jurupa Valley, CA

Project Engineer. This project involved modifications to the Jurupa Community Services District's Regional Lift Station, including the replacement of sanitary pumps. As Project Engineer, Chang conducted hydraulic calculations and prepared preliminary and final plans and specifications, ensuring the project met technical and operational requirements.

Lift Station No. 6 Replacement | Running Springs Water District, Running Springs, CA

Project Engineer. This project involved the demolition and replacement of Sanitary Lift Station No. 6 in Running Springs Water District. As Project Engineer, Chang led the site design, which included the pump selection, wet well and piping design, building and floodwall design, and the preparation of specifications, cost estimates, and bid documents, ensuring a seamless and efficient replacement aligned with operational needs.

Lift Stations No. 1, 2, and 3 Replacement | Running Springs Water District, Running Springs, CA

Project Engineer. This project involved the demolition and replacement of three sanitary lift stations in Running Springs Water District. As Project Engineer, Chang's responsibilities included conducting hydraulic calculations, the pump selection, designing wet wells and piping systems, pump building design, and preparing specifications, cost estimates, and bid documents, ensuring the successful modernization of the lift stations.

Lake Pump Station Replacement | Big Bear Area Regional Wastewater Agency, Big Bear Lake, CA

Lead Designer. This project involved constructing a pump station with a maximum capacity of 5,000 gpm and a 300-hp pump to facilitate stormwater infiltration into the sanitary sewer system. As Lead Designer, Chang conducted a feasibility study, selected pumps, designed the wet well and piping systems, developed building designs, and prepared specifications, cost estimates, and bid documents, ensuring the project's feasibility and alignment with operational goals.

Sky Country Trunk Sewer Improvement Project | Jurupa Community Services District, Jurupa Valley, CA

Project Engineer. The Sky Country Trunk Sewer Improvement Project involved the construction of approximately 8,900 linear feet of 8-inch- to 18-inch-diameter VCP and PVC trunk sewer, addressing complex existing utility conditions. As Project Engineer, Chang conducted hydraulic calculations, performed utility research, developed preliminary and final designs, presented alternative alignments, prepared detailed specifications, and provided construction management support, ensuring the project's successful delivery and alignment with operational requirements.

San Bernardino National Forest Sycamore Fire Station No. 32 Sewer Tie-in Project | United States Forest Service, San Bernardino, CA

Project Engineer. This project involved constructing approximately 400 linear feet of 8-inch-diameter sewer main on Glen Helen Parkway to connect sewer service to a fire station. As Project Engineer, Chang provided project coordination, conducted utility research, and prepared construction plans, specifications, and cost estimates, ensuring a seamless tie-in and alignment with project requirements.

Regional Force Main Segment 3 Sewer Plans | Jurupa Community Services District, Jurupa Valley, CA

Lead Engineer. This project involved constructing 2,100 linear feet of 24-inch-diameter gravity sewer line and 2,500 linear feet of 24-inch-diameter sewer force main to the wastewater treatment plant. As Lead Engineer, Chang provided engineering alternatives, conducted hydraulic modeling and siphon calculations, and prepared detailed construction plans, specifications, and cost estimates, ensuring the project's technical accuracy and alignment with operational requirements.

Route 18 Outfall Line Realignment | Big Bear Area Regional Wastewater Agency, Big Bear Lake, CA

Project Engineer. This project involved the realignment of a 12- to 18-inch-diameter reclaimed water outfall line along State Route 18 to the Lucerne Valley Discharge Site. As Project Engineer, Chang conducted hydraulic calculations, provided engineering solutions, and developed final plans and specifications, ensuring the project met operational and regulatory requirements effectively.

Water Line Replacement in Limonite and Pedley Area | Jurupa Community Services District, Mira Loma, CA

Lead Designer. The Limonite and Pedley Area Water Line Replacement Project involved constructing 6,500 linear feet of 8- to 12-inch-diameter cement mortar-lined steel water pipelines to replace aged and leaking water pipes. The project also included evaluating engineering alternatives to enhance system loops and relocating several water services for existing business properties. As the Lead Designer, Chang contributed to the preliminary and final design phases by preparing engineering reports, plans, specifications, and cost estimates, ensuring a reliable and efficient water distribution system.

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

Fresno
8405 North Fresno Street, Suite 120
Fresno, CA 93720

Irvine
16310 Bake Parkway
Irvine, CA 92618

Oceanside
301 Mission Avenue, Suite 202
Oceanside, CA 92054

San Jose
100 Century Center Court, Suite 670
San Jose, CA 95112

San Luis Obispo
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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5 PRICING

The pricing below will remain fixed throughout the duration of the project.

	Principal Engineer	QA/QC	Senior Engineer II	Assistant Engineer II	Assistant Engineer I	Technical Writer	Total Hours (MKN)	Total Fee
Hourly Rates	303	303	264	193	173	119		
Project Element 1: Project Initiation and Data Collection								
Data Request and Review	6			16			22	$ 4,906
Process Schematics/Cost Assumptions/Eval Criteria	6			16			22	$ 4,906
Kickoff Workshop	6	2	2	8			18	$ 4,496
Interviews (8 total/virtual)	8			8			16	$ 3,968
PE1 Deliverable (Draft)	5			10		2	17	$ 3,683
Subtotal	31	2	2	58	0	2	95	$ 21,959
Project Element 2: Technical Feasibility Assessment								
Alternatives Figures (4)	8			16	8		32	$ 6,896
Infrastructure Calculations/Summary			8	12	4		24	$ 5,120
Cost Sharing/Savings (i.e., NCI, flow allocation)				4	4		8	$ 1,464
OCWD Water Supply	4						4	$ 1,212
Recycled Water Impacts				5	5		10	$ 1,830
Non-Infrastructure Impacts/Risks	3		3	3			9	$ 2,280
SCWD Tunnel Evaluation	2		2	2			6	$ 1,520
PE2 Deliverable (Draft)	2			8		2	12	$ 2,388
Subtotal	19	0	13	50	21	2	105	$ 22,710
Project Element 3: Cost Evaluation								
Capital Costs	4	4	6	8			22	$ 5,552
Operating Costs	2		2	8			12	$ 2,678
Cost Comparison (30-year Present Day)	5			8	4		17	$ 3,751
PE3 Deliverable (Draft)	4			6	4	2	16	$ 3,300
Subtotal	15	4	8	30	8	2	67	$ 15,281
Project Element 4: Analysis and Recommendations								
Alternative Analysis	4		2	6	4		16	$ 3,590
Recommendations/Regional Integration	4			6	4		14	$ 3,062
Implementation Timeline	3			6		2	11	$ 2,305
Subtotal	11	0	2	18	8	2	41	$ 8,957
Project Element 5: Reporting and Deliverables								
Assemble Report/Executive Summary	3			5		2	10	$ 2,112
QA/QC (5 deliverables)		16					16	$ 4,848
Draft/Final Report	6			8	2	2	18	$ 3,946
Subtotal	9	16	0	13	2	4	44	$ 10,906
Project Element 6: Project Management								
Project Management (4 months)	12						12	$ 3,636
Monthly Coordination Meeting/Progress Reports (4)	4			4			8	$ 1,984
Deliverable Review Meetings (4 total)	8			8			16	$ 3,968
Subtotal	24	0	0	12	0	0	36	$ 9,588
TOTAL BUDGET	109	22	25	181	39	12	388	$ 89,401
Optional Board Workshops (2)	8	4		16			28	$ 6,724

Agenda Item 6.D.

Board of Directors Meeting	
Meeting Date: March 5, 2026	

TO: Board of Directors

FROM: Amber Boone, General Manager

STAFF CONTACT: Jim Burror, Deputy General Manager/Chief Engineer

SUBJECT: CTP Facility Planning Assessment [Project Committee 15]

Overview

The CTP Facility Planning Assessment (FPA) is intended to be a forward-looking framework for facility modernization and long-term reliability. Key goals include completing a 30-year capacity utilization and peaking analysis, conducting high-level process-by-process evaluations of existing assets, and identifying opportunities for capacity right-sizing. The effort will also assess facility resiliency and reliability under varying flow and loading conditions, regulatory uncertainty, flooding risks, and operational constraints, while evaluating biosolids management options, energy efficiency improvements, resource recovery opportunities, and long-term regulatory compliance needs.

The project CTP master planning program is structured as a two-phase approach, with this solicitation limited to Phase 1: the Facility Planning Assessment. Phase 1 will focus on identifying and evaluating viable, high-level project alternatives and associated regulatory considerations to inform decision-making and determine whether to advance to Phase 2. Phase 2, if pursued in the future, would build upon the Phase 1 findings to develop a comprehensive Facility Master Plan, including recommended improvements and implementation strategies. Firms responding to this request may propose refinements to the Phase 1 scope based on their professional judgment and experience, and participation in Phase 1 will not preclude eligibility for Phase 2.

Proposals

SOCWA solicited proposals through PlanetBids on November 7, 2025. Fifteen (15) firms were contacted during this process (in alphabetical order):

- AECOM Technical Services, Inc.
- Arcadis
- Black & Veatch
- Brown and Caldwell
- Carollo Engineers
- CDM Smith
- Civiltech
- Dudek
- Hazen and Sawyer

- HDR Engineering, Inc.
- JACOBS
- MKN & Associates, Inc
- Tetra Tech
- TYLin
- West Yost Associates

Two (2) proposals were received. The proposals and associated labor efforts are attached here.

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

Table 1 – Summary of Proposals (in alphabetical order)

Firm	**AECOM**	**Hazen and Sawyer**
Project Manager	Ganesh Rajagopalan	Hallie Thornburrow
Labor Hours(*)	2,160	3,092
Proposed Fee	$494,821	$723,445
Staff Ratings	95	80

*Subconsultants' hours are included in the total hours.

Initial Proposal Review for Minimum Requirements

An initial review of the proposals determined that both submissions were responsive to the Request for Proposals. Based on the proposals' content, SOCWA staff recommended that both firms advance to the interview stage. Interviews were conducted during the first week of February.

Rating of Responsive Proposals

The firms were rated using the following weighted criteria:

- Understanding of the Work - 25%
- Approach to the Project - 30%
- Experience and Technical Competence - 25%
- Completeness of Proposal - 20%

Table 1 – Proposal Average Score Ratings (in alphabetical order)

Firm	Understanding (up to 25%)	Approach (up to 30%)	Experience (up to 25%)	Completeness (up to 20%)	Total (up to 100%)
AECOM	24.0	27.5	23.5	20.0	95.0
H&S	20.0	20.0	20.0	15.0	75.0

- Understanding of the Work: AECOM demonstrated the strongest understanding of SOCWA's objectives, constraints, and long-term regulatory, operational, and resiliency considerations. The proposal reflected a clear grasp of the complexities associated with facility planning, regulatory compliance, future system uncertainties, and the interdependencies among treatment, biosolids management, and beneficial reuse.

- Approach to the Project: AECOM proposed the most comprehensive and well-structured methodology aligned with SOCWA's planning needs and project objectives. The approach incorporates advanced technical analyses, including integration of digital and AI-enabled tools and modeling techniques, and presents a logical, phased framework to support informed decision-making and future implementation.

- Experience and Technical Competence: AECOM's proposed team demonstrated superior qualifications and depth of expertise in advanced wastewater treatment processes, solids and biosolids management, regulatory compliance, and large-scale facility planning. The firm's relevant project experience, estimated hours, and the expertise of key personnel directly align with the technical complexity and scope of services required.

- Completeness of Proposal: AECOM submitted a clear, thorough, and well-organized proposal that fully addressed all elements of the Request for Proposals. The proposal included a detailed work plan, defined management structure, schedule controls, and quality assurance measures, providing confidence in the firm's ability to deliver the project within the required timeframe.

Thus, the Selection Committee determined that AECOM is the most qualified firm to perform the requested professional services. Following this determination, the proposed fees were evaluated and found to be fair, reasonable, and commensurate with the scope of services, representing the best overall value to SOCWA.

The following are the cost allocations for the contract costs by Member Agency in Table 2.

Table 2 - Cost Allocation by Member Agency

Agency	PC 15 Liquids
City of Laguna Beach	$268,687.80
Emerald Bay Service District	$14,844.63
South Coast Water District	$211,288.57
Total	$494,821.00

Prior Related Project Committee or Board Action(s)

None

Budget

The CTP FPA effort will be funded using PC-15 non-cap engineering funds. Staff is also requesting a 10% contingency, in the amount of $49,482, for a total project authorization of $544,303 to address any unforeseen conditions encountered during the work.

Prior Related Project Committee or Board Action (s)

This item was reviewed and discussed by the Engineering Committee on February 19, 2026.

Recommended Action

The Engineering Committee recommends that the PC 15 Board of Directors:

1. Authorize the General Manager to execute a contract with AECOM in the amount of \$494,821 upon the CTP Regional Flow Study reaching Project Element 4, and
2. Approve a contract contingency of \$49,482, for a total project authorization \$544,303, to address any unforeseen conditions encountered during the work.

Attachments: AECOM proposal and fee
Hazen proposal and fee

PROPOSAL

Coastal Treatment Plant (CTP) Facility Planning Assessment Effort

January 15, 2026

AECOM

Prepared for: South Orange County Wastewater Authority

Table of Contents

Cover Letter

January 15, 2026

AECOM

999 Town & Country Road
Orange, CA 92868

aecom.com

Ms. Roni Young Grant
Capital Improvement Program Manager
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629

Re: Coastal Treatment Plant Facility Planning Assessment Effort (ENG 25-08)

Dear Ms. Grant and Members of the Selection Committee:

SOCWA is proactively planning for upgrading and right-sizing of aging coastal wastewater treatment plant (CTP) infrastructure to provide high quality effluent for reuse and ocean discharge while ensuring long-term regulatory compliance, environmental protection, and operational resilience. AECOM Technical Services, Inc. (AECOM) understands your challenges and views this as an opportunity to work side by side with you, leveraging the collective expertise of our experienced team.

Why AECOM?

Unbiased Fresh Perspective. With a fresh, independent perspective, AECOM offers a flexible roadmap that builds on CTP's existing processes while preparing not only for future challenges but also future opportunities. Our holistic approach includes evaluation of innovative but proven concepts as for example, nutrient removal at low DO (i.e. low energy) to take advantage of plant capacity, right sizing the plant for process efficiency, use of any excess aeration tank capacity for solids treatment and innovative approaches for salinity removal to increase reuse.

Multidisciplinary Expertise. Our fully in-house experienced team consisting of local staff ably supported by national leaders delivers end-to-end capabilities in all aspects of the project. This enables seamless communication, greater adaptability, and efficient execution tailored to SOCWA's specific needs.

Tailored Expertise for SOCWA's Success. CTP's unique features include remote location, narrow access road, limited space, high salinity water, and flow lower than design capacity. AECOM's seasoned team will tailor global best practices into customized strategies for SOCWA. Our multidisciplinary team assesses each solution's full impact to align with plant operations and regulatory goals.

Project Management and Local Experience. AECOM has selected Ganesh Rajagopalan as Project Manager based on his more than 20 years of local experience planning and right-sizing wastewater and water treatment facilities. His familiarity with regulatory agencies and established working relationships with SOCWA will support efficient coordination and a collaborative, well-informed planning process.

AECOM is very excited for this opportunity to work with SOCWA. We have a long history of working with small and large utilities in southern California, and we will use these experiences to support SOCWA's mission "to collect, treat, beneficially reuse and dispose of wastewater in a manner that protects and respects the environment, maintains the public's health, and meets local, state and federal regulations." AECOM has worked with SOCWA in the past, and we look forward to this opportunity to become your trusted consultant for planning for the future of CTP.

Ganesh Rajagopalan, PhD, PE, BCEE
Project Manager
M: 949.697.7748
E: ganesh.rajagopalan@aecom.com

J. Gundarlahalli

Jagadish (Jack) Gundarlahalli, PE
Vice President | Principal-in-Charge
M: 562.843.4183
E: jagadish.gundarlahalli@aecom.com

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

ADDENDUM No. 1

TO: REQUEST FOR PROPOSAL

FOR CTP FACILITY ASSESSMENT PLANNING

THE PROPOSER SHALL EXECUTE THE CERTIFICATION AT THE END OF THE ADDENDUM AND SHALL ATTACH THE ADDENDUM TO THE PROPOSAL (NOT TO BE INCLUDED AS PART OF THE PAGE COUNT).

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1. The proposal page limit is 20 pages, not including the cover letter or attachments.
2. See the attachment for the directions to CTP.
3. See the attachment for the Pre-Proposal Meeting sign-in sheet.
4. See the attachment for the Pre-Proposal Meeting presentation.

DATED: 11/20/2025

Roni Young Grant

Roni Grant
CIP Manager

BIDDER'S CERTIFICATION

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

DATED: 12/30/25

BIDDER: AECOM Technical Services, Inc.
BY: Jack Gundarlahalli, PE, Vice President

J. Gundarlahalli

Identification of Responder

AECOM Technical Services, Inc. (Corporation)

Corporate Office:
300 South Grand Avenue, Suite 900
Los Angeles, CA 90071

Local Office:
999 Town and Country Road
Orange, CA 92868

Point of Contact:
Ganesh Rajagopalan, Project Manager
949.697.7748
ganesh.rajagopalan@aecom.com

Project Understanding and Approach to the Work

Project Understanding

South Orange County Wastewater Authority (SOCWA) is proactively planning for upgrading and right-sizing of aging coastal wastewater treatment plant (CTP) infrastructure to provide high quality effluent for reuse and ocean discharge while ensuring long-term regulatory compliance, operational efficiency, environmental protection, and operational resilience.

CTP, located in Laguna Niguel was built in 1983. The plant has a design capacity of 6.7 million gallons per day (MGD). Due to recent changes in its membership, CTP currently receives a daily average flow of approximately 3.2 MGD and it appears that little additional growth will occur within the CTP's service area. Briefly, the process consists of chemically enhanced primary treatment, activated sludge for carbonaceous removal, secondary clarification, advanced water treatment (AWT) consisting of sand filters and disinfection for partial flow for non-potable reuse. A portion of the AWT effluent is further treated through the Aliso Creek Water Reclamation Facility (ACWRF) consisting of ultrafiltration (UF) and reverse osmosis (RO) processes to blend with remaining AWT effluent for salinity reduction of the reuse water. The primary and secondary solids are thickened in a dissolved air floatation (DAF) and pumped to Moulton Niguel Regional Treatment Facility where it is anaerobically digested.

Facility Planning Study Goals and Objectives

The ultimate goal of this planning effort for SOCWA is to develop a phased roadmap for upgrading and right-sizing CTP that is realistic to implement; provides confidence to SOCWA, its member agencies and their rate payers regarding long-term (30 year) regulatory compliance; operational efficiency and resilience; and environmental protection. In particular, SOCWA is interested in finding answers to the following questions:

- How can CTP economically implement nutrient removal to produce high quality effluent for reuse and ocean discharge?
- What is the most cost and energy efficient way to increase the quality and quantity of recycled water?
- How best to right size the plant for the reduced flow to minimize operational inefficiencies?
- How can the above goals be achieved in an energy efficient and cost effective manner?

- Can solids be treated on-site to produce Class B or better biosolids for beneficial use?
- What measures are needed to address the resiliency of CTP?
- The proposed study (Phase 1) will focus on identifying and evaluating a range of project alternatives. The next phase (Phase 2) will build on Phase 1 findings to develop a detailed facility master plan.

Considerations of CTP-specific Features and Requirements during Facility Planning

From our discussions with SOCWA staff during multiple site visits AECOM has understood some key CTP-specific operational features and requirements. CTP's several unique features and conditions must be carefully considered in the planning for future. Some of these features are listed below:

- The secondary treatment at CTP operates at a mixed liquor suspended solids (MLSS) of just 400 to 600 mg/L which is significantly lower than that at typical wastewater treatment plants (~ 2000 to 3500 mg/L). Hence, there is inherent capacity flexibility and creativity available with existing basin assets.
- CTP receives wastewater through two force mains. The wastewater from some sources is "aged" due to collection system/lift station configurations and is likely to have different characteristics (e.g. higher odor) than typical wastewater influents.
- The salinity of CTP wastewater (~1,200 mg/L) is higher than typical wastewaters, which limits water reuse. Elimination of chemical use could help to minimize any additional TDS added to the effluent.
- CTP has excess capacity compared to the flow and loads received. This could be advantageously used to identify treatment processes with lower energy needs and higher nutrient removal potential.
- CTP desires to have some residual ammonia in the treated effluent for chloramine residual generation for water reuse. New dosing strategies can be explored that allow substantial nitrogen removal while retaining chloramine disinfection.
- The remoteness of the plant and access road conditions may render options involving frequent trucking of chemicals and waste products challenging to implement. Evaluation of treatment alternatives during planning can weigh this as a decision criteria driver.
- CTP is located in a fire-prone, wooded area. It needs special considerations in the resiliency plan.

CTP Water Quality

The typical COD and ammonia levels in CTP influent are approximately 250 and 35 mg/L, respectively. The effluent BOD and ammonia levels are approximately <10 mg/L and 20 mg/L, respectively. Discharge permit levels for cBOD are 25 (average month) and 40 mg/L (average week). In addition, the permit has discharge limits for Total Suspended Solids, Oil & Grease, turbidity and pH. Currently, there are no discharge limits for ammonia. Another parameter of significance is the total dissolved solids (TDS). The TDS in the plant flow is approximately 1,200 mg/L. While currently in compliance with discharge limits, SOCWA is interested in lowering effluent ammonia and TDS levels to improve the quality of effluent discharged to the ocean and to increase the recycled water use.

Exhibit 1 summarizes the objectives and key features of this study. It also presents our understanding of key CTP-specific issues, challenges, and available opportunities for innovations during facility planning for the next 30 years.

Exhibit 1 – Some Key Features, Challenges and Opportunities to Consider for Facility Planning of CTP

1 CTP has aging infrastructure

Need facility planning to meet demand, current & future regulations, risks, and operational resilience.

2 Secondary Treatment needs to be right-sized and reconfigured for nutrient removal

Flow lower than design capacity. Need to right-size to improve process efficiency. Longer SRT, lower energy nutrient removal process can be considered to take advantage of excess capacity. Current MLSS of 400 – 600 mg/L significantly lower than typical concentration. Implementation of nutrient removal may increase MLSS and hence, solids production.

3 On-Site Solids Treatment for Resource Recovery and Long-term Security

Approximately 1 acre available for solids treatment. Need considerations for higher truck traffic, recent/impending CARB rules limiting biogas use, higher O&M requirements. Centrate from anaerobic digestion may increase ammonia load to the plant. Any unused capacity from aeration tanks may be repurposed for aerobic digestion.

4 ACWRF – High Energy and Low Yield due to High TDS

Very high TDS (1200 – 1400 mg/L) in CTP flows, resulting in high energy use & low permeate yield. Needs energy efficient treatment that produces more recycle water.

5 Primary Treatment Uses CEPT

Currently uses ferric chloride for suspended particle and organics (BOD) removal. If nutrient removal is implemented, the ferric chloride dosing may have to be lowered to deliver more BOD to secondary.

6 Review Existing Odor Control System

The existing odor control system is sized to treat the entire headworks building. With covers on the screens and channels, odor control can be limited to the odor sources. Conventional ventilation of the building will reduce the demand on the odor control system, with lower energy use and chemical requirements.

7 Sand Filters May Need to be Replaced Soon

The existing sand filters have a large footprint, and require separate backwash system, air scour and media replacement. New technologies like cloth disc filtration have a small footprint, low head loss, and integral backwashing capability. They can provide equal performance with less maintenance.

8 Disinfection – Consider Potential for adding UV to Decrease TDS level and allow for Increased Ammonia Removal

Potential for incorporation of UV as primary disinfection strategy will be evaluated. Use of UV in lieu of chloramination will lower incremental TDS levels and allow for additional ammonia removal. This can also reduce truck traffic for chemical delivery.

9 CTP is Located in Wooded Area

CTP is located in a somewhat remote and wooded area. Careful consideration is needed to protect the plant from potential fire and other hazards. Risks regarding flare for anaerobic digesters or high temperature processes such as THP need to be carefully addressed.

10 Community Considerations:

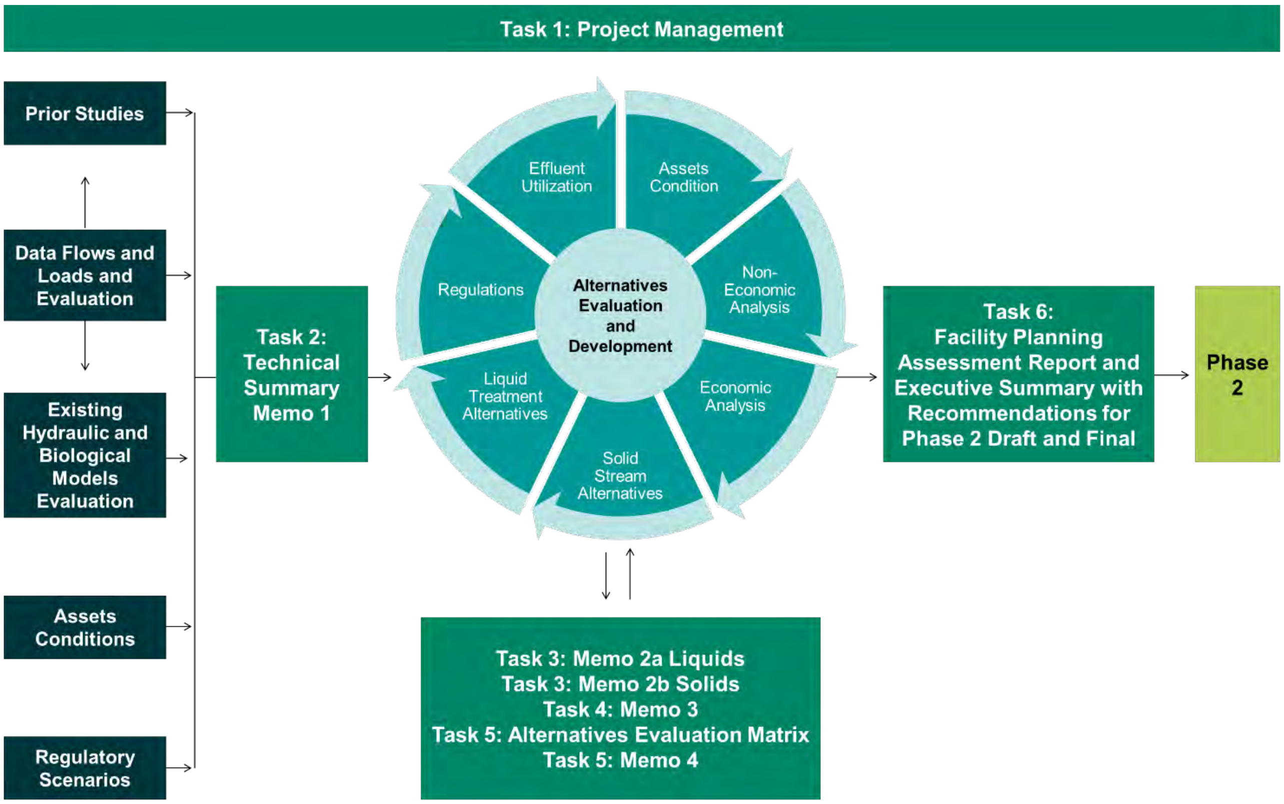
- Desire to improve quality of effluent discharged to ocean
- Increase recycled water production and use
- Truck traffic to CTP
- Construction Impact
- More resilient treatment

Project Approach

Overall Approach

The Phase 1 Facility Planning Assessment (FPA) for CTP will be executed through a structured, collaborative, and decision-focused planning process to address the plant's needs for the next 30 years, as shown **in Exhibit 2**.

Exhibit 2 – Overview of Project Approach



Task 1. Work will begin with project initiation and management, including development of a Project Control Plan, detailed report outline, schedule, and communication protocols to align the work with SOCWA and PC 15 Member Agencies on objectives, decision points, and deliverables.

Task 2. Our team will establish a baseline by evaluating existing facilities, reviewing prior studies, analyzing historical and projected flows and loads, updating hydraulic and process models, and performing a high-level condition assessment of major treatment assets. These efforts will define current and future capacity constraints, asset condition, and operational risks.

Tasks 3 and 4. Assessment from Task 2 will form the basis for treatment alternatives evaluation for the future. This Task will start with setting treated water quality goals based on current and future regulations and end uses. **Liquid, solids and recycled water treatment are interdependent and hence, will be performed concurrently.** For example, implementing nutrient removal will increase solids production; anaerobic digestion, if selected for solids treatment will deliver nutrient rich centrate to headworks. Hence, concurrent evaluation enables **holistic understanding** of process alternatives. Alternatives evaluation will include considerations for **resource recovery, resilience, vulnerability and future regulations**.

Tasks 5 and 6. Findings from all tasks will then be integrated into up to four combined, planning-level project alternatives with layouts, cost estimates, and triple-bottom-line evaluation. The effort will conclude with the preparation of a comprehensive Facility Planning Assessment Report **to support informed decision-making and transition to Phase 2 Master Planning**.

Existing Facility Evaluation

The first step in developing upgrade alternatives for the Coastal Treatment Plant (CTP) is establishing projected influent flows and pollutant loadings consistent with SOCWA's 30-year planning horizon and Member Agency growth projections. AECOM will develop influent design criteria that reflect anticipated changes in population, land use, wastewater generation rates, and regulatory drivers, while capturing the full range of operating conditions required to support reliable treatment, operational flexibility, and long-term compliance.

Influent flows and loadings will be evaluated using a structured, three-step approach: (1) statistical analysis of historical CTP flow records to characterize diurnal, seasonal, wet-weather, and peak conditions; (2) evaluation of historical influent mass loadings, including biological oxygen demand (BOD), total suspended solids (TSS), total nitrogen (TN), and total phosphorus (TP); and (3) comparison with regional wastewater data and SOCWA planning assumptions to validate trends and projected growth. The resulting flow and load projections will be paired with hydraulic and biological modeling of the existing and future CTP facilities to assess capacity constraints, process performance, and operational flexibility under projected conditions.

AECOM subject matter lead will perform a walkthrough of the plant and discuss and receive input from plant staff for preliminary assessments on the condition of structural, process, electrical and instrumentation and mechanical aspects of major units. Preliminary assessment of the upgrades needed, and their useful life will be made, and this will be used as a criterion in identifying treatment alternatives.

Treated effluent from the upgraded CTP is anticipated to be managed through a combination of ocean discharge and recycled water uses. AECOM will account for applicable permit requirements, including monthly, weekly, daily, and instantaneous limits, and will evaluate treatment alternatives for compliance across the full range of projected flow and loading conditions. Statistical evaluation of historical data, combined with hydraulic and biological model results, will be used to define the Basis of Design conditions, ensuring that recommended alternatives provide sufficient capacity, resilience, and compliance reliability throughout the planning horizon.

Wastewater Treatment Alternatives Evaluation

Alternatives evaluation for wastewater liquid and solids streams (as well as recycled water) treatment will involve a structured multi-criteria decision matrix and will be compared with the existing baseline condition. This framework will support a transparent, consistent, and defensible outcome and will be used to identify the most promising alternatives for advancement to Phase 2 of the project.

The evaluation criteria will be tailored to SOCWA's planning and operational objectives and will reflect the key attributes required for a reliable and resilient wastewater treatment system. Criteria will address, as applicable, regulatory risk and compliance flexibility, system resilience, treatment performance and process robustness, capacity and peaking considerations, opportunities for process optimization, operational complexity and performance, footprint, resource recovery and the condition and adaptability of existing assets within each alternative. Social and environmental considerations will be incorporated to support a comprehensive triple-bottom-line assessment. **In order to prepare CTP for the next 30 years, we will also include Artificial Intelligence (AI)-ready infrastructure as a criterion for evaluation.**

Alternatives will be evaluated using a comparative ranking approach in which each option is assessed relative to the other alternatives for each criterion. Weighting factors developed using input from SOCWA staff will be applied to reflect the relative importance of individual criteria, allowing the evaluation to focus on the attributes most critical to SOCWA's long-term objectives. This approach provides a clear audit trail from qualitative and quantitative inputs to the final ranking outcomes.

This evaluation methodology has been successfully applied by AECOM on comparable wastewater planning and technology selection efforts for LABOE/LASAN, Metropolitan Water District, and East County–Padre Dam and other projects. The approach is inherently flexible and can be refined to incorporate any SOCWA-preferred scoring conventions or decision-making frameworks. Evaluation criteria and weighting factors will be developed collaboratively with the SOCWA working group to ensure alignment with agency goals, regulatory context, and stakeholder priorities.

Liquid Stream Evaluation

The current liquid treatment train at SOCWA has excess capacity. SOCWA is interested in lowering the nutrient levels and right-sizing the liquid stream treatment process. **CTP's excess capacity can be beneficially used for nutrient removal at a lower energy use and/or repurposed for solids treatment, storage or other beneficial uses**. The liquid stream alternative evaluation will holistically investigate all liquid stream process units (primary, secondary and tertiary treatment). A high-level visual condition assessment will be performed and needed upgrades will be identified, and their impact will be included in the multi-criteria decision matrix. **Exhibit 3** presents a representative list of nutrient removal processes, their benefits, limitations and their suitability to CTP. While these and other treatment process alternatives will be evaluated during the study.

Exhibit 3 – Representative Liquid Stream Treatment Alternatives for Nutrient Removal

Option	Benefits	Limitations	Suitability to SOCWA
Conventional Biological Nutrient Removal (MLE) with Primary Treatment	• No new construction • Simple operation	• Energy for mixed liquor (ML) pumping • May need alkalinity addition	• Able to meet nutrient goals • Right-sizes treatment to existing capacity
Conventional Biological Nutrient Removal (MLE) <u>without</u> Primary Treatment	• No new construction • Less sludge and no primary sludge • Retains alkalinity for secondary	• Energy for ML pumping • Needs better grit removal	• Able to meet nutrient goals • Right-sizes treatment to existing capacity • Less solids for on-site treatment
Low DO with Primary Treatment	• No new construction • No ML recycle • Lowest energy	• Complex to operate • Requires tight DO control • Slight sludge settleability issues	• Able to meet nutrient goals • Right-sizes treatment to existing capacity
Membrane Bioreactors	• High-quality effluent • Easy transition to DPR • Repurpose excess clarifier volumes	• High energy demand and very high capital costs • Operational complexity • Requires fine screening	• Likely not needed if nutrient reduction is the only goal • Does not right-size treatment to capacity • Very Expensive
Sequencing batch reactors without Primary Treatment	• Flexible operation • Repurpose existing primary/Sec clarifier • Retains alkalinity for secondary	• Complex process controls • More mechanical equipment • Needs better grit removal	• Repurpose excess capacity in aeration tanks for solids treatment
Aerobic granular sludge	• Process intensification • Repurpose existing primary/Sec clarifier	• Needs deeper tanks for granulation • More complex operation	• Need to identify simpler configurations
MBBR	• Process intensification • Robust and simpler operation	• Increased screening • Needs higher DO • Higher energy demand	• Need to identify simpler configurations
Tertiary PdNA in Deep Bed Filters	• Process intensification	• Complex upstream aeration control • Requires supplemental carbon	• Fit only if effluent nitrogen goal < 10 mg N/L

Option	Benefits	Limitations	Suitability to SOCWA
Sludge densification with hydrocyclones	• Process intensification	• Cost of hydrocyclones	• Does not right-size treatment
Calcium carbonate buffering with hydrocyclones	• Maintain optimum bicarbonate for maximum nitrification rates	• Cost of hydrocyclones	• Minimize acidification impact on receiving waters • Adaptable to all potential CTP nutrient removal configurations
Mobile biofilms	• Process intensification	• Cost of media and retention mechanism	• Does not right-size treatment

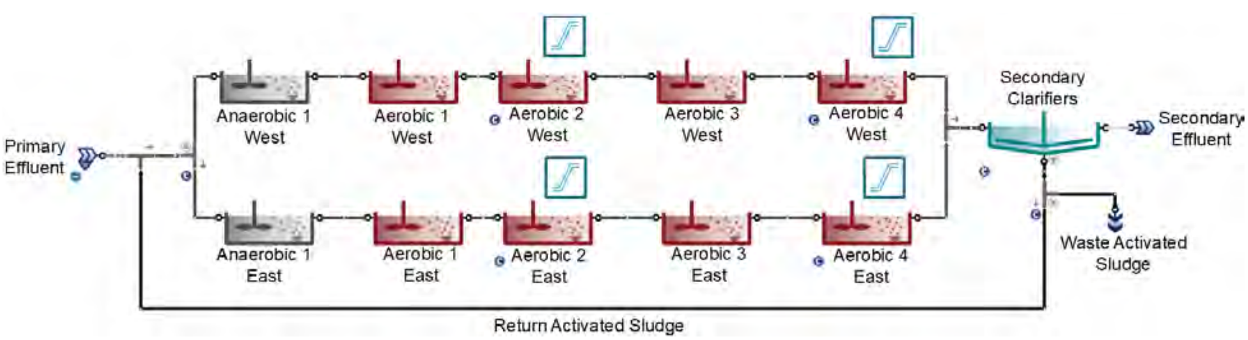
In order to address future regulations and demand, as appropriate, a phased implementation strategy for liquid stream treatment will be developed. AECOM adopted this strategy for wastewater treatment planning for the Nancy Wright Water Reclamation Facility, Desert Hot Springs, CA. The initial treatment plant for the 1.5 mgd facility was designed as a sequencing batch reactor (SBR) facility with percolation pond disposal. As the need for reuse grows, the plant was designed for conversion to a 3.0-mgd MBR facility with Title 22 reuse capability.

Process modeling will be used to support SOCWA's planning and decision-making by providing a practical, science-based means to evaluate and optimize biological treatment performance before capital investments are made. The models will be calibrated using available plant data and informed by **input from CTP operations staff** to make reasonable, transparent assumptions where data gaps exist and to identify performance limitations or knowledge gaps. Modeling will be applied to inform facility and master planning by defining process sizing, layout, and phasing under realistic operating conditions, and by optimizing reactor volumes, aeration demand, recycle flows, chemical usage, and energy consumption. **Hydraulic modeling will be used alongside biological modeling to assess system capacity, identify bottlenecks, and refine process performance**. Applied early in the planning process, this integrated modeling approach will reduce technical risk, support right-sizing of infrastructure, and enable flexible, cost-effective solutions that can adapt to future regulatory requirements, water reuse objectives, and climate-driven variability.

An example of our process modeling approach is the preliminary SUMO model we built previously for CTP to evaluate a potential conversion to low dissolved oxygen (DO) operation. Low DO operation could be well suited for SOCWA, as it enables right-sizing of the wastewater treatment infrastructure while significantly reducing aeration energy demands by as much as 50%. In addition, this approach eliminates the need for mixed liquor recycle, which is typically required to achieve nutrient removal objectives. **Exhibit 4** shows the process configuration for the Low DO process for CTP developed from preliminary SUMO modeling.

Low DO operation can potentially right-size CTP, reduce energy use and reduce nutrient levels.

Exhibit 4 – CTP Low DO SUMO Model Used for Water Research Foundation Proposal with SOCWA



A preliminary layout of several treatment process options, their suitability and impacts to CTP are shown in **Exhibit 5.**

Exhibit 5 – Preliminary Concept Layouts of liquid and solids stream treatment technologies developed using CTP flows and loads

EXAMPLE LIQUID STREAM OPTIONS

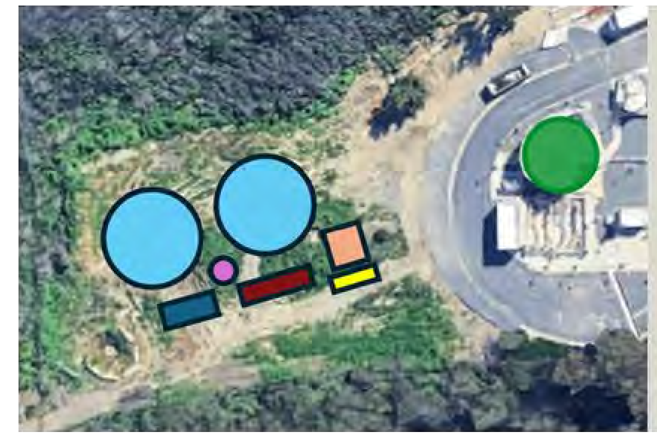
High SRT Extended Aeration
- Bypass Primary Tanks
- Extended Aeration
- 6 Secondary Clarifiers

Low DO BNR
- All Primary Tanks in Use
- A/O activated sludge
- 7 Secondary Clarifiers

Sequencing Batch Reactors
- No Primary Tanks
- SBR activated sludge
- No Secondary Clarifiers

Aeration Tanks | **Anoxic Tanks** | **Anaerobic Tanks** | **Inactive Tanks**

EXAMPLE SOLIDS STREAM OPTIONS



Anaerobic Digestion and Dewatering (Class B)
- Thickening
- Anaerobic Digestion
- Dewatering
- Energy Recovery

Aerobic Digestion and Dewatering (Class B)
- Thickening
- Aerobic Digestion
- Dewatering

Chemical Conversion (Class A)*
- Sludge Storage
- Dewatering
- Thermal/Chemical Conversion
- Fertilizer Production

* - Sizing provided by vendor

All highlighted tanks except grey are active.

Solids Stream Treatment

CTP currently thickens the primary and secondary sludge in the DAF unit to about 1% solids and pumps approximately 100,000 gallons per day (gpd) to the MNWD Regional Treatment plant. However, SOCWA is interested in evaluating on-site sludge treatment options for CTP to potentially take ownership of its solids handling process, provide long-term reliability and avoid accidental raw sewage spills (leakage) in the neighborhood from the main during transmission. SOCWA has identified approximately one acre of open area at the north side of the plant as potential site for installation solids handling facility. SOCWA would like to consider opportunities for production of Class B (or better) biosolids, that have potential for resource recovery.

Alternatives for solids treatment should consider short and long-term regulatory impacts and options for **phased development of biosolids treatment.** For example, while currently there are no regulations regarding PFAS in biosolids, PFAS regulations may be implemented in the future. Further, technologies to destroy PFAS are still emerging and are lacking widespread installation and long-term operational details. If PFAS regulations are eventually implemented, depending on the regulatory levels and implementation timeline, a phased biosolids treatment approach may be needed for CTP. For example, traditional technologies such as aerobic or anaerobic digestion may be selected for near-term treatment. In the future, integration of emerging technologies such as gasification or supercritical water oxidation that can destroy PFAS can be considered.

Exhibit 6 shows a representative range of technologies that can be used for sludge treatment and their current state of development. However, **selection of biosolids treatment option must include CTP-specific considerations**. For example, the relatively smaller size of the plant may pose challenges with the cost of installation and operation of several advanced technologies. Further, the plant is in a remote wooded location with narrow access roads which may introduce challenges to trucking chemicals and treated biosolids to or from the plant.

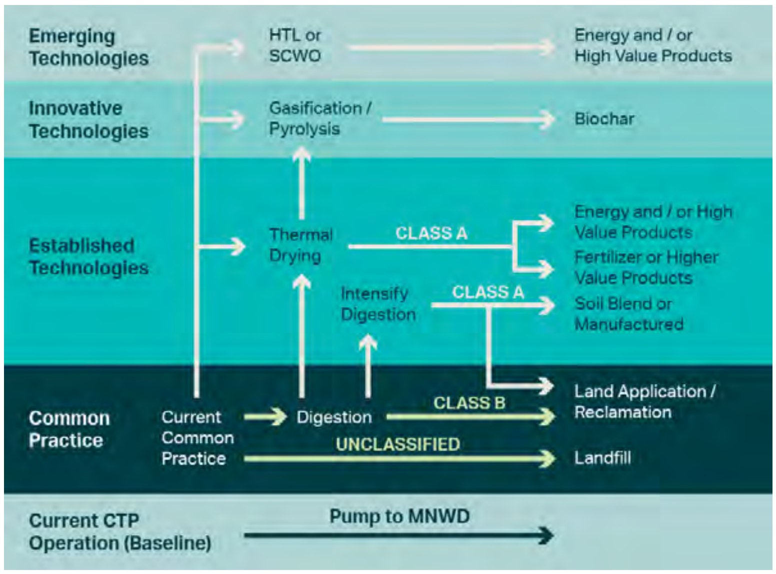


Exhibit 6 - Representative Range of Technologies and Development Status for Biosolids Treatment

While a wide range of technologies will be evaluated for screening and selection of solids treatment at CTP, based on AECOM's experience, some technologies that are suitable for sludge treatment and handling for plants of comparable size to SOCWA include:

- Dewatering and sludge drying
- Aerobic digestion
- Anaerobic digestion (including options such as organic waste co-digestion, high solids digestion)
- Alkaline treatment (e.g. Lystek)
- Drying with or without pyrolysis

Exhibit 7– presents the suitability as well as limitations of various technologies at CTP. Technologies for solids treatment will be benchmarked against CTP's existing practice of pumping sludge to MNWD Regional Plant. **Exhibit 5**– (page 8) shows the layout of few potential technologies on the site identified at CTP for solids treatment.

Exhibit 7 - Select Benefits, Limitations and Suitability to SOCWA of Typical Sludge Treatment and Handling Processes

Option	Benefits	Limitations	Suitability to SOCWA
Pump sludge to MNWD RTP (Baseline)	• No new construction • Less operational challenges	• Long-term reliability issues	• Good for short-term • Higher % solids may lower pumping volume
Dewatering and Drying	• Less complex operation	• No Class B products.	• Available area may not be sufficient. Need to verify.
Aerobic Digestion	• Suitable for smaller plants • Can produce Class B biosolids	• Requires energy • Higher cost than current operation • Future PAFS regulation • Transport of cake solids	• Viable option • Possible to repurpose unused aeration tanks
Anaerobic Digestion (Organic Waste Co-digestion)	• Produces Class B sludge • Biogas recovery • Possible organic waste co-digestion	• Higher cost/ more infrastructure • More O&M • Air quality permit • Cake solids transport • Organic waste management issues	• High cost due to smaller size • Biogas flare near wooded area • Organic waste management issues
Alkaline Treatment (e.g. Lystek)	• Can produce Class A product	• Chemical treatment • More unit processes Requires product storage	• Wider application of Class A product. • No biogas cleaning or co-gen • Pumpable product.

Resiliency Assessment of Alternatives

Our Resilience Assessment Lead, **Grant Davies** co-authored the **NIST Resilience Guidance Manual.**

AECOM will perform a vulnerability and resilience assessment of shortlisted alternatives and develop a resilience plan addressing hazards such as fire, flooding, earthquakes, and other risks. A structured **Hazard–Risk–Contingency methodology** will be used to identify threats to critical process trains, evaluate operational, regulatory, and safety impacts, and assess the likelihood and severity of potential failures. **The resilience plan will prioritize** critical functions and recommend backup systems and process controls based on review of plant data, design documents, site investigations, and **input from SOCWA staff**. **ArcGIS Survey123 or similar tools** will be used to assess vulnerabilities and prioritize upgrades, with recommendations organized into urgent, near-, and long-term improvements.

AECOM has successfully used this approach at LASAN's Hyperion Water Reclamation Plant. **AECOM's Resilience Assessment Lead, Grant Davies—water sector technical lead for NIST (National Institute of Standards and Technology) resilience guidance**—will apply this experience to develop a robust and defensible resilience plan for the CTP.

Incorporation of Digital/AI Compatibility in Alternatives Assessment

The 30-year planning horizon for the Coastal Treatment Plant presents a critical opportunity to **evaluate for compatibility with the digital optimization/AI technologies rapidly transforming water-sector operations**. AECOM's Facility Planning Assessment will evaluate each alternative for compatibility with advanced monitoring, data-driven decision support, and automated process control, ensuring recommended improvements are adaptable, implementable, and do not constrain future operational or technological upgrades.

Liquid and solids treatment alternatives will be assessed for their ability to support **real-time operational optimization** of aeration, chemical dosing, and biological processes under varying influent conditions. AECOM will evaluate the applicability of digital twin and scenario modeling tools—building on SOCWA's existing aeration cost optimization efforts—to support capacity validation, stress-testing of projected flows and loads, and reduction of capital and operational risk before implementation. **These considerations will be incorporated into the alternatives evaluation matrix alongside established criteria,** including performance, lifecycle cost, reliability, operability, and maintainability.

Consistent with SOCWA's emphasis on practical and scalable solutions, AECOM's recommendations will focus on targeted use cases that enhance operational efficiency, maintenance planning, and workforce effectiveness. Drawing on experience with SCADA modernization, predictive maintenance, and process optimization for wastewater agencies, AECOM will identify solutions that are feasible, cost-effective, and aligned with SOCWA's operational capabilities. The result will be a Facility Planning Assessment that supports near-term decision-making while preserving long-term adaptability and resilience for CTP. AECOM has successfully implemented these strategies for City of Thousand Oaks (CA), City of Akron (OH), Hampton Road Sanitation District (VA), South Essex Sewerage District (MA) among others.

Recycle Water Facilities Evaluation

Our team will evaluate recycled water operations and future opportunities at CTP, beginning with a review of existing Title 22 facilities, their integrated operation with the ACWRF, and the need to construct a new AWT to support IPR or DPR. **The evaluation will assess current recycled water infrastructure, existing uses, operational performance, and key constraints, while accounting for potential changes in influent and product water quality (such as increasing salinity), regulatory requirements, and water reuse objectives.** Based on this assessment, the analysis will identify capital improvements needed to maintain compliance with current commitments and to support future recycled water demands. ***Exhibit 8*** **-** shows the general area of the recycled water treatment.

Exhibit 8 -General area - currently occupied by tertiary filters, chlorine contact tanks, and RO - available for a future AWT.

As part of this effort, **the project will evaluate reverse osmosis (RO) process alternatives with a focus on operational simplicity, site and system constraints, and opportunities to reduce energy consumption**. The findings will support the selection of a RO process that is efficient, resilient, and practical for long-term operation. Strategies and improvements required to address identified impacts will be incorporated into the FPA project alternatives.

Reuse alternatives to be considered will include Title 22 tertiary treated water for unrestricted use, indirect potable reuse (IPR), and direct potable reuse (DPR), including any enhancements required to the AWT and/or ACWRF systems. **Each alternative will be evaluated for technical feasibility, regulatory requirements, environmental impacts, and cost-effectiveness, considering existing plant operations, applicable regulations, required infrastructure improvements, and life-cycle cost implications**. ***Exhibit 9*** provides an overview of recycled water use and key considerations for SOCWA.

Exhibit 9 – Overview of Recycled Water Use

Reuse Alternative	SOCWA-Specific Application / Baseline	Applicable Treatment Configuration (AWT / ACWRF)	Key Regulatory Status & Permitting Considerations
Title 22 Tertiary Treated Water (Unrestricted Use)	• Existing and expanded non-potable reuse applications	• Secondary biological treatment at CTP • Tertiary filtration and disinfection consistent with Title 22 requirements	• Title 22 recycled water criteria • Requires RWQCB recycled water permit compliance and updates • Ongoing compliance with pathogen log-reduction and reliability requirements
Indirect Potable Reuse (IPR)	• Advanced treated recycled water for augmentation of potable supplies via an environmental buffer	• AWT: Ultrafiltration (UF), Reverse Osmosis (RO), and UV/AOP • ACWRF: UF and RO for salinity management and treatment of Aliso Creek flows • Post-treatment stabilization	• Title 22 Advanced Water Treatment • RWQCB permitting for discharge to the environmental buffer • Evolving IPR regulations and monitoring requirements
Direct Potable Reuse (DPR)	• Advanced treated recycled water for potable reuse	• AWT: UF, RO, UV/AOP as core advanced treatment • ACWRF: UF and RO for salinity management and treatment of harvested Aliso Creek flows • Post-treatment stabilization • Additional monitoring and control systems	• Subject to California DPR regulatory • Requires enhanced reliability, multiple barriers, and continuous monitoring • Extensive DDW review and approval process • Additional permitting, public outreach, and environmental review requirements
Salinity Management (for Title 22 Irrigation Application)	• Management of increasing salinity in recycled water	• ACWRF: UF and RO for salinity reduction • Integration of operations for blending and operational flexibility	• Subject to RWQCB effluent limitations and basin plan objectives

Develop Project Alternatives and Recommendations for Phase 2

Using the findings developed through the liquid treatment, solids treatment, recycled water, and ocean discharge evaluations, AECOM will complete **Task 5 – Develop Project Alternatives** by developing and evaluating a range of future project alternatives for CTP. The treatment trains will be conceptualized considering the interdependency and impact of liquid, solids and recycled water treatment on each other process. This effort will summarize both immediate and future treatment needs by comparing current and projected flows and loadings with the capacity of each process unit, including liquid treatment, solids treatment, energy, and other supporting systems. Risk and resilience elements, potential impacts from regulatory requirements, treatment technologies, capacity needs, peaking, process optimization, operational performance, and the condition of existing assets will be considered.

Alternatives will be evaluated, screened, and a maximum of four combined alternatives will be selected using technical, economic, social, and environmental criteria, including a triple bottom line evaluation.

Planning-level facility descriptions, layouts, site plans, cost estimates, and preliminary design criteria will be developed. **Task 6 – Prepare Facility Planning Assessment Report and Documents**, will document the results, culminating in a comprehensive FPA report and executive summary that summarizes key findings, recommendations, and conclusions, and provides SOCWA and the PC 15 Member Agencies with a clear, defensible basis for advancing selected alternatives into **Phase 2** of the project.

Project Management Approach

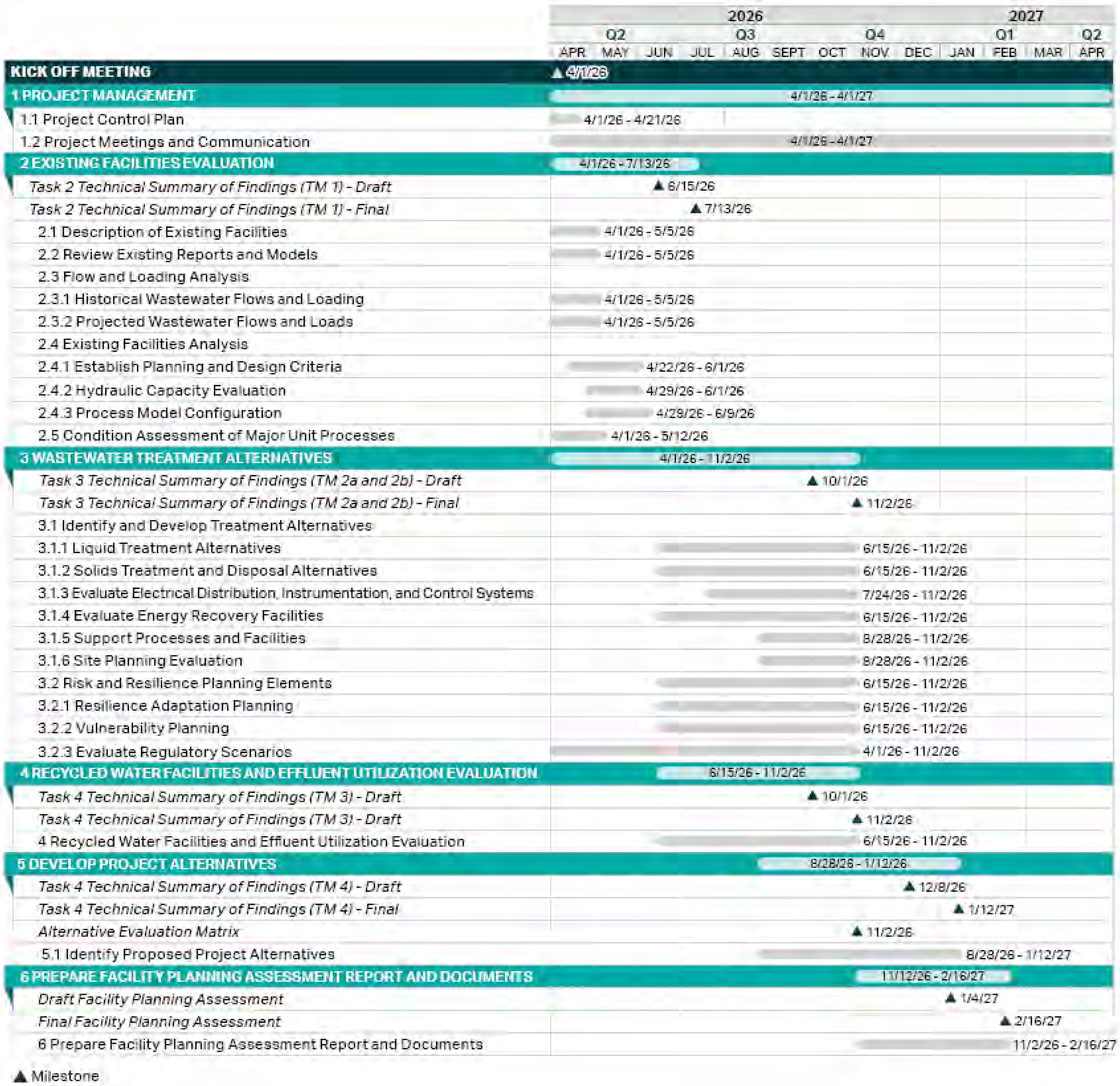
Project Schedule Management.

AECOM's project management approach will be focused on adherence to the project schedule and proactive management of the critical path. A detailed critical path schedule will be developed at project initiation and refined following the kickoff meeting with SOCWA to incorporate agency input and priorities. The schedule will be updated regularly with actual completion dates to track progress against the baseline and forecast upcoming activities. This approach allows the project team to identify potential schedule risks early and implement mitigation measures immediately to avoid impacts to key milestones. Our proposed project schedule (**Exhibit 10)** will serve as the primary tool for coordinating tasks, monitoring progress, and maintaining schedule discipline throughout the project.

Budget Control and Quality Management.

Project budgets will be monitored and tracked using AECOM's in-house Oracle accounting system, which generates weekly cost reports broken down by work item and activity. These reports provide real-time visibility into cumulative expenditures and comparisons to the approved project budget, supporting accurate forecasting and timely, transparent invoicing. In parallel, AECOM will implement its ISO 9001-certified Quality Management System to ensure that all deliverables meet uniform standards of quality. A project-specific QA/QC Plan will be developed to define roles, coordination protocols with SOCWA, milestone reviews, and procedures for comment resolution and closure. Designated quality management personnel will perform independent reviews of deliverables to confirm completeness, consistency, and compliance with quality requirements before submittal.

Exhibit 10 – Proposed Project Schedule – This schedule was developed considering a project duration of up-to twelve months as suggested in the RFP. This can be expedited to meet any SOCWA's requirements.



Experience and Technical Competence

The benefits of AECOM's management and technical team are the range of skills, experience, and expertise available to SOCWA for efficient project administration, strong technical and quality control direction, and focused attention on your requirements and needs.

Our primary professional focus is to present a multi-disciplinary team that provides creativity and technical expertise for optimum benefit to SOCWA. This approach is based on our core values of integrity (we keep our commitments), innovation (we continually look for better ways to apply our expertise to our work), and excellence (we pride ourselves on bringing outstanding results to everything we do).

Relevant Experience

AECOM has completed numerous projects for clients locally and nationally that cover the scope of work elements requested by SOCWA. A demonstration of our successes is reflected in the signature projects descriptions below - 1, 2 and 3 and additional relevant AECOM projects presented in **Exhibit 11**.

Client References

During SOCWA's evaluation, we invite the Selection Committee to contact our references for the following three relevant projects.

❶ WWTP No. 2 and No. 3 Upgrade and Expansion Evaluations

Bakersfield, California

Client
City of Bakersfield

Start Date
August 2025

Completion Date
March 2026

Overall Value
Study Only

Fee Value
$1.05M

Services Provided
Hydraulic Capacity Analysis
Process Analysis
Odor Evaluation
Condition Assessment
Deficiencies Determination
Future Treatment and Capacity Requirements
Alternatives Development
Service Area & Design Flowrate
Planning and Design Criteria
Regulatory Requirements
Treatment Technology
Effluent Disposal
Biosolids Management
Site Requirements

Key Team Members
Ganesh Rajagopalan
Nick Cooper
Simon Baker
Grant Davies
Alex Franchi

Client Reference
Evette Roldan, Wastewater Manage
City of Bakersfield
6901 Mc Cutchen Road
Bakersfield, California, 93313
E: eroldan@bakersfieldcity.us
T: (661) 326-3249

Description. The City of Bakersfield has initiated a comprehensive long-term planning effort to shape the future of its wastewater treatment facilities. This evaluation and accompanying feasibility study represent the first phase of a multi-year program aimed at rehabilitating, expanding, and developing new treatment capacity to meet community needs for decades to come.

The City currently operates two treatment facilities. Wastewater Treatment Plant No. 2, a 25-mgd trickling filter plant producing secondary effluent stored in dams for agricultural irrigation. Solids are processed through anaerobic digesters and drying beds, yielding Class B biosolids applied to City-owned farmland. Current influent flow is approximately 12-mgd.

Wastewater Treatment Plant No. 3 is a 32-mgd activated sludge facility producing both secondary and tertiary effluent. Secondary effluent is directed to percolation ponds for agricultural irrigation, while tertiary effluent is stored in a 3 MG above-ground tank for landscape irrigation and limited on-site use. Solids are treated in anaerobic digesters and dewatered via centrifuges, producing Class B biosolids for land application on City property. Current influent flow is approximately 21-mgd.

AECOM completed condition assessments and is currently developing alternative options for upgrade and expansion of Plants 2 and 3 with multiple liquid stream processes. Additionally, a preliminary planning report for a potential future Plant 4 is being developed.

❷ Nancy Wright Water Reclamation Facility Planning and Design

Desert Hot Springs, California

Client
Mission Springs Water District

Start Date
July 2017

Completion Date
April 2024

Overall Value
$44M

Fee Value
$2.7M

Services Provided
Preliminary Design
Detailed Design
WDR Permitting
Air Quality Permitting
Bidding Services
Construction Services
Startup & Commissioning
O&M Manual Preparation

Key Team Members
Nick Cooper
Alex Franchi
Allen Randall

Client Reference
Steve Ledbetter, PE, Program Manager
Mission Springs Water District
6675 2nd Street
Desert Hot Springs, CA 92240
T: 951.680.0440
E: sledbetter@tkeengineering.com

Description. The Mission Springs Water District provides water and sewer services to Desert Hot Springs and adjacent communities. This area is expected to undergo major development over the next 15 years. To accommodate future growth and development, the District retained AECOM to provide planning, design, and construction services for a new water reclamation facility (WRF). Initial needs were for the relief of the existing wastewater treatment plant and the expansion of service area capacity. Ultimately, the plant will provide reclaimed water for groundwater replenishment and new developments and commercial interests in the area.

AECOM prepared a master site plan for the ultimate build-out of the site as a 20-mgd Membrane Bioreactor (MBR) wastewater treatment plant. A phased conceptual plan was developed for the WRF to address the initial projected flows up to 3 mgd.

The initial treatment plant is a 1.5-mgd sequencing batch reactor (SBR) facility, designed to be converted to a 3.0-mgd MBR facility. The new facility, sited on 60 acres, is compact and encompasses one acre of the site. An administration/operations building provides offices, electrical, aeration blowers, dewatering systems, chemical storage and maintenance areas.

The initial treatment plant includes an influent pump station, screening and grit removal, four SBR tanks, a decant channel, and gravity discharge to three percolation ponds. No disinfection is required for discharge to the ponds, but nutrient removal provides nitrate concentrations less than 8 mg/L. Waste biosolids are aerated in storage tanks before dewatering in a belt filter press. The capacity of the aerobic digesters will provide Class B stabilization.

Additional facilities include plant water (3W) pumping and distribution for irrigation and process needs. Chemicals are provided for supplemental alkalinity and disinfection of 3W water.

❸ Regional Water Reclamation Facilities Aeration Diffuser Replacement Study and Design

Perris, California

Client
Eastern Municipal Water District (EMWD)

Start Date
2023

Completion Date
2026

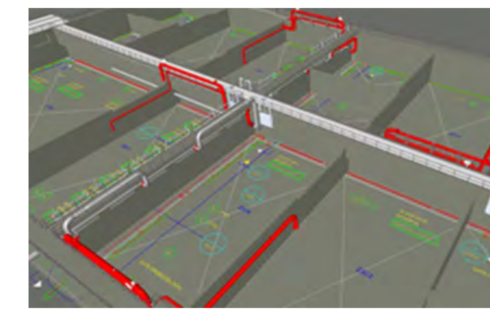
Overall Value
$40M

Fee Value
$3.5M

Services Provided
Planning
Aeration capacity evaluation
Condition Assessment
Technical Analysis
Preliminary and Final Design
3-D Design

Key Team Members
Alex Franchi
Ganesh Rajagopalan
Allen Randall
Nick Cooper

Client Reference
William Chen, PE, Project Manager
EMWD
2270 Trumble Road
Perris, CA 92572-8300
E: chenw@emwd.org
T: 951.928.3777



Description. AECOM led a comprehensive aeration system planning effort to define future capacity needs and support phased capital improvements at four of the District's Regional Water Reclamation Facilities (RWRFs). The effort focused on modeling projected flows and loadings to inform long-term aeration requirements and establish a defensible basis for project definition and design.

The first step was the completion of the Diffuser Replacement Study, which evaluated aeration diffuser technologies for each facility within the context of future conditions. Using updated BioWin process models, AECOM projected plant-specific flow and loading scenarios and assessed aeration performance under ultimate planning conditions. This master-planning analysis evaluated diffuser alternatives based on future capacity requirements, oxygen transfer efficiency, constructability, reliability, lifecycle cost (20-year), serviceability, and long-term availability, allowing EMWD to prioritize investments and sequence implementation across facilities.

Based on the planning results, AECOM advanced full design for aeration diffuser replacement and control system upgrades at four step-feed BNR facilities ranging between 9 and 13 mgd.

Design services included updating and calibrating BioWin models for all facilities, developing future-condition aeration demand calculations, and defining infrastructure upgrades required to meet projected loads. The designs addressed extensive piping reconfiguration and were delivered using coordinated 3-D modeling to support constructability and phasing.

Basin-specific condition assessments of structural, mechanical, electrical, and instrumentation systems were conducted to support risk management, constructability, and lifecycle cost control for the proposed upgrades.

At the Perris Valley RWRF, the master-planning effort identified additional future aeration capacity needs beyond diffuser replacement. As a result, AECOM incorporated the design of a new single-stage process blower and associated piping upgrades into the Perris Valley contract, ensuring the facility is positioned to reliably meet projected future flows and loadings. Construction of diffuser replacements across all four facilities is currently ongoing.

Exhibit 11 – Additional Relevant AECOM Projects (#1, 2, 3 detailed above)

Project Name/Client	Planning	Design	Liquid Stream	Solids Stream	Reuse
❶ **WWTP No. 2 and No. 3 Upgrade and Expansion Evaluations** City of Bakersfield	●	●	●	●	●
❷ **Nancy Wright Water Reclamation Facility** Mission Springs Water District	●	●	●	●	●
❸ **Regional Water Reclamation Facilities Aeration Diffuser Replacement Study and Blower Addition Design** Eastern Municipal Water District (EMWD)	●	●	●		
WWTP Recycled Water Upgrades PDB 2025-2027 - Phase I Design & GMP Development City of Banning	●	●	●	●	●
East County Advanced Water Purification Project Progressive Design-Build (PDB) and Pilot Testing Padre Dam Municipal Water District	●	●	●	●	●
Davis Wastewater Treatment Plant Secondary and Tertiary Improvements Design Build City of Davis	●	●	●	●	
S1 Wastewater Treatment Plant Improvements Project Rialto Water Services	●	●	●	●	
Tertiary Treatment Facility San Bernardino Municipal Department	●	●	●		●
OneWater Nevada Advanced Purified Water Facility City of Reno	●	●	●		●
Sacramento Tertiary Treatment Facility Sacramento Sewer	●	●	●		●
Needs Assessment and Upgrades Kern Sanitation Authority	●	●		●	●
SLC Water Reclamation Facility Salt Lake City	●	●	●	●	

Key Personnel and Sub-Consultants

We recognize that the foundation of a successful project is a committed, cohesive, and fully available team aligned by a shared vision and work ethic. AECOM is proud to provide a highly accessible and responsive project team, supported by a deep bench of multidisciplinary specialists who are ready to meet project demands and quickly address urgent needs. AECOM will provide end-to-end support for this project with no sub-consultants.

Project Manager

Leading the AECOM team is our **Project Manager, Ganesh Rajagopalan, PhD, PE, BCEE**, who will serve as SOCWA's primary point of contact. Ganesh and key team members have already visited CTP multiple times and met with SOCWA management and plant staff, building strong familiarity with site operations and priorities. This proactive engagement ensures a smooth start and informed decision-making. **Ganesh's**

collaborative management style promotes stakeholder alignment and delivers tailored, results-driven solutions that meet SOCWA's goals.

Ganesh is a seasoned professional engineer with nearly 35 years of experience leading complex, multidisciplinary initiatives in the water and wastewater sectors. He brings in-depth expertise in facilities planning, nutrient removal, biosolids and wastewater management, and resource recovery. He was the technical lead for the City of Lompoc facility planning study to comply with the stringent California Toxicity Rule limits for 10 metals. He is also the project manager for an ongoing Department of Energy-funded project to develop engineering design for energy efficient, low footprint nutrient removal process, and partial denitrification deammonification (PdNA).

Ganesh was the technical lead for the centrate equalization study for the Eastern Municipal Water District to manage nutrient load to the secondary from centrate (daytime-only dewatering). He was the Project Manager/technical lead for multiple studies (Santa Margarita Water District, Orange County Sanitation District, City of Petaluma, Silicon Valley Clean Water) to enhance energy recovery through co-digestion.

Ganesh's strategic leadership has driven successful outcomes for utilities navigating emerging regulations, contaminants, and innovative technologies.

Key Personnel

To ensure seamless project execution, Ganesh has selected key personnel with the availability, capacity, and commitment to prioritize this contract. AECOM's team integrates strong local knowledge with national technical depth, providing the specialized expertise required for this project. As shown in **Exhibit 12 –** AECOM Key Personnel and **Exhibit 13 -** Organization Chart, the team is structured to be responsive, flexible, and positioned to deliver the highest level of technical support to SOCWA. Resumes for all personnel are included in **Appendix A**. It is not anticipated that specialized subconsultants will be necessary at this time.

Nick Cooper, PE*, BCEE - Wastewater Analyses Lead. Nick's experience includes biological nutrient removal, water reclamation, and biosolids management for municipal facilities for 50 years. He has designed more than 15 new wastewater treatment facilities and upgraded more than 30 others. He has been Design / Project Manager for nutrient removal, filtration, ultraviolet (UV) disinfection and membrane bioreactors (MBR) facilities. He directs AECOM's Water Academy course in wastewater treatment design.

Terry Goss, PE* – Solids Stream Analyses Lead. Terry is AECOM Global Biosolids Practice Lead. He has more than two decades of hands-on experience with biosolids process design. Terry specializes in equipment integration, project delivery, and plant commissioning. He assisted with updating the biosolids chapters for the 5th edition of the Metcalf & Eddy / AECOM *Wastewater Engineering* textbook.

Grant Davies, PE - Resiliency Evaluation Lead. Grant has nearly forty years of experience and he has provided expert guidance and solutions for major clients across the country addressing aging infrastructure challenges coupled with evolving regulations to meet level of service needs with increased resiliency from hazards and climate change. He was a contributing editor to the Metcalf & Eddy / AECOM Wastewater Engineering, 5th Edition textbook, and a co-author for NIST Resilience Guidance Manual.

Alex Franchi, Ph.D., PE, BCEE - Recycle Water Analyses Lead. Alex brings over 30 years of experience in the water / wastewater industry, specifically, in the planning, design, and management of water/wastewater treatment, and recycled water. Alex was the lead designer for East County's Advanced Water Purification Program. Alex has written more than 30 professional publications and papers on various aspects of water treatment and energy recovery from wastewater.

Sarah Schoepflin – Nutrient Removal Evaluation. Sarah has six years of experience in wastewater treatment and research. For her graduate thesis she did extensive research on advanced nutrient removal processes at Hampton Road Sanitation District. She has a strong practical background in project design, operation, and data analysis.

Brett Wagner, Ph.D., PE* – Nutrient Removal Evaluation. Brett is a wastewater process engineer with extensive experience in research, design, and analysis of wastewater treatment. Brett is skilled in process modeling, field studies and greenhouse gas quantification. His work has focused on anammox processes, MABRs, and life cycle analyses.

Jim McQuarrie, PE* – Technical Advisor: Jim brings nearly 30 years of hands-on operations and engineering experience split between public and private sector roles. His specialization is in wastewater facilities planning, process design, nutrient removal, and facility operations with a consistent emphasis on promoting creative solutions that leverage innovation to maximize the value of already existing assets.

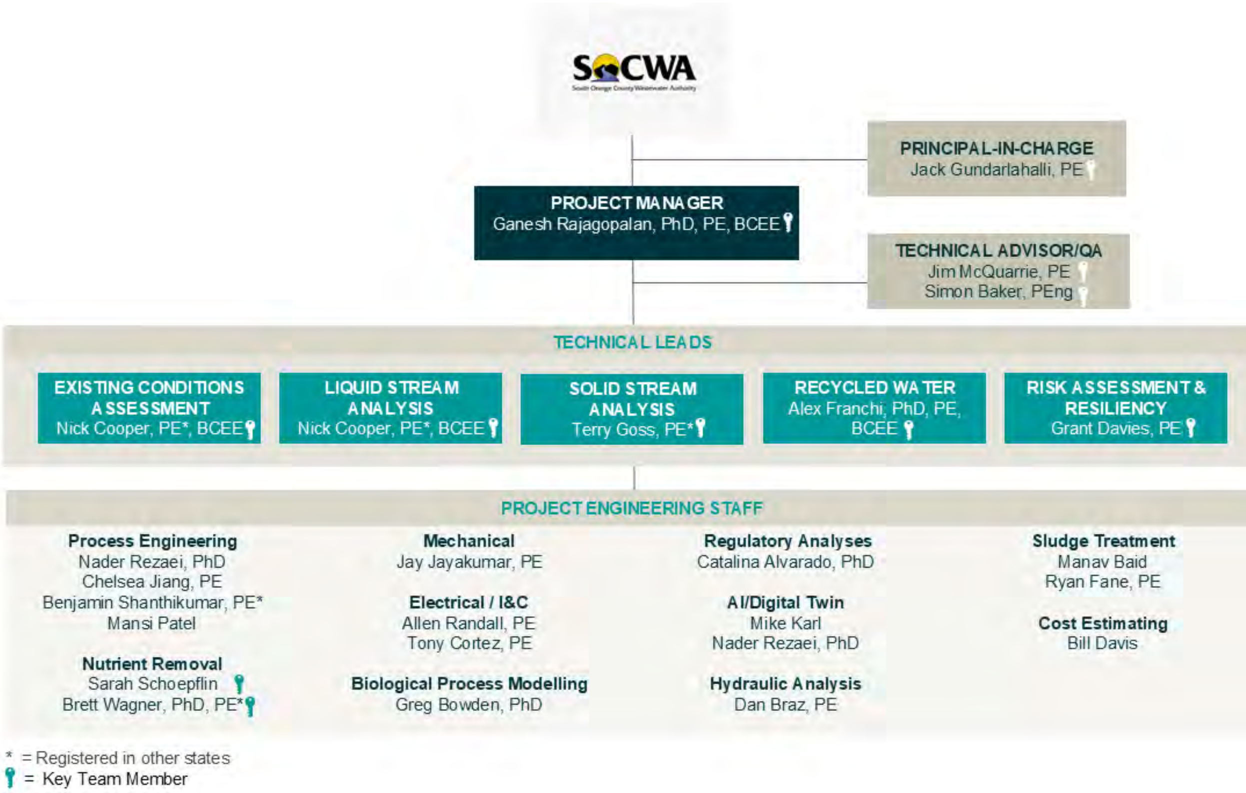
Simon Baker, P. Eng* – Technical Advisor: Simon is the Wastewater Community of Practice lead for AECOM. Simon is a process engineer and project manager with over 30 years of design, construction and commissioning experience of municipal wastewater treatment facilities. Simon brings his "lessons learned" from extensive treatment facility work and innovative technologies such as biological aerated filtration (BAF), moving bed biofilm reactors (MBBR), enhanced nutrient removal (ENR), and hydrolysis of solids.

Jack Gundarlahalli, PE - Principal in Charge: Jack has served in this role on numerous projects and is sensitive to the needs of LACSD. He delivers on their expectations for quality technical work, responsiveness and cost-effectiveness. He will be responsible for monitoring performance of the Team; legally obligating the corporation; and client satisfaction check-ins.

Exhibit 12 - AECOM Key Personnel

Key Team Members/Role ★	Yrs Exp. (Total | AECOM)	Planning	Liquid Treatment	Solids Treatment	Reuse	Condition Assessment	Design	Regulatory Compliance
Ganesh Rajagopalan, PhD, PE, BCEE Project Manager	34 | 4	●	●	●	●			●
Nick Cooper, PE*, BCEE Existing Conditions Assessments; Liquid Stream Analysis	52 | 32	●	●	●	●	●	●	●
Terry Goss, PE* Solid Stream Analysis	21 | 14	●		●		●	●	●
Alex Franchi, PhD, PE, BCEE Recycled Water	34 | 9	●	●	●	●	●	●	●
Grant Davies, PE Risk Assessment & Resiliency	41 | 37	●	●	●	●	●	●	●
Sarah Schoepflin Nutrient Removal	6 | 3	●	●		●		●	●
Brett Wagner, PhD, PE* Nutrient Removal	4 | 4	●	●		●		●	●
Jim Mc Quarrie, PE* Technical Advisor/QA	26 | 2	●	●	●	●	●	●	●
Simon Baker, P.Eng* Technical Advisor/QA	34 | 25	●	●	●	●	●	●	●
Jack Gundarlahalli, PE **Principal in Charge**	33 | 33	●	●	●	●	●	●	●

Exhibit 13. Organization Chart



Pricing

We have provided our costs and fees in a separate file.

Conflicts of Interest

AECOM is unaware of any personal or organization conflicts of interest that would preclude us from providing the services proposed in this submittal.

Scope of Work (Attachment A)

A detailed scope of work provided by SOCWA is included in Appendix B. **AECOM's assumptions, clarifications, and other general conditions are provided at the end of Attachment A**.

Non-Collusion Affidavit

ATTACHMENT B
NON-COLLUSION AFFIDAVIT

The undersigned declares:

I am the Vice President of AECOM Technical Services, 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 12/30/25, at Orange,CA.

Signature: J. Gundarlahalli

Title: Vice President, Principal-in-Charge

Certifications

AECOM 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.

AECOM certifies that it is willing and able to obtain all insurance required by the form contract included as Attachment C.

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

AECOM acknowledges and agrees with all terms and conditions stated in the RFP. While there may be discussions between AECOM's Legal Group and the Authority about contract terminology, AECOM is fully committed to executing a contract with SOCWA.

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

FEE PROPOSAL

Professional Services - CTP Facility Planning Assessment Effort Fee Proposal

January 15, 2026

AECOM

Submitted to: South Orange County Wastewater Authority

SOCWA - Professional Services – CTP Facility Planning Assessment Effort Fee Proposal

Task No.	Task Description	AECOM Labor Hours and Fee														
		PIC/Technical Advisor	Project Manager	Technical Leads	Senior Project Engineer	Mechanical / Electrical Principal Engineer	Engineer II	Engineer I	Cost Estimator	Drafter/CADD	Admin Assistant	Total Hours - AECOM	Total Labor AECOM	Other Direct Costs	Total AECOM	TOTAL
	Hourly Billing Rate	**$335**	**$336**	**$321**	**$220**	**$330**	**$182**	**$165**	**$237**	**$123**	**$135**					
Task 1 - Project Management																
1.1	Project Control Plan	1	8	8							4	22	$ 6,131		$ 6,131	$ 6,131
1.2	Project Meetings and Communications	4	96	32							32	164	$ 48,188	$ 6,000	$ 54,188	$ 54,188
	Task 1 - Subtotal	**5**	**104**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**36**	**186**	**$ 54,319**	**$ 6,000**	**$ 60,319**	**$ 60,319**
Task 2 - 3	**Existing Facilities Evaluation**															
2.1	Description of Existing Facilities		4	4				40				48	$ 9,228		$ 9,228	$ 9,228
2.2	Review Existing Reports and Models		4	4	16			44				68	$ 13,408		$ 13,408	$ 13,408
2.3	Flow and Loading Analysis	2	8	8	16			24		4		62	$ 13,898		$ 13,898	$ 13,898
2.4	Existing Facilities Analysis		4	8	16			24		16		68	$ 13,360		$ 13,360	$ 13,360
2.5	Condition Assessment of Major Unit Processes		8	16		32		16		8		80	$ 22,008		$ 22,008	$ 22,008
	Task 2 - Subtotal	**2**	**28**	**40**	**48**	**32**	**0**	**148**	**0**	**28**	**0**	**326**	**$ 71,902**	**$ -**	**$ 71,902**	**$ 71,902**
Task 3 - Wastewater Treatment Alternatives																
3.1	Identify and Develop Treatment Alternatives												$ -		$ -	$ -
3.1.1	Liquid Treatment Alternatives	4	12	44	36		84	154	30			364	$ 75,224		$ 75,224	$ 75,224
3.1.2	Solids Treatment and Disposal Alternatives	4	44	34	44			74	24			224	$ 54,616		$ 54,616	$ 54,616
3.1.3	Evaluate Electrical Distribution, Instrumentation, and Control Systems		4			16	20	32		8		80	$ 16,528		$ 16,528	$ 16,528
3.1.4	Evaluate Energy Recovery Facilities	2	12	16	12		40					82	$ 19,758		$ 19,758	$ 19,758
3.1.5	Support Processes and Facilities		4	24				44		40		112	$ 21,228		$ 21,228	$ 21,228
3.1.6	Site Planning Evaluation		6	32				54	36	40		168	$ 34,650		$ 34,650	$ 34,650
3.2	Risk and Resilience Planning Elements		4	12				40				56	$ 11,796		$ 11,796	$ 11,796
3.2.1	Resilience Adaptation Planning		4	16				32				52	$ 11,760		$ 11,760	$ 11,760
3.2.2	Vulnerability Planning		4	18				36				58	$ 13,062		$ 13,062	$ 13,062
3.2.3	Evaluate Regulatory Scenarios		8	16			36					60	$ 14,376		$ 14,376	$ 14,376
	Task 3 - Subtotal	**10**	**102**	**212**	**92**	**16**	**180**	**466**	**90**	**88**	**0**	**1,256**	**$ 272,998**	**$ -**	**$ 272,998**	**$ 272,998**
Task 4 - Recycled Water Facilities and Effluent Utilization Evaluation																
4.1	Recycled Water Facilities and Effluent Utilization Evaluation		4	36	32		44	56	20	16		209	$ 43,896		$ 43,896	$ 43,896
	Task 4 - Subtotal	**0**	**4**	**36**	**32**	**0**	**44**	**56**	**20**	**16**	**0**	**209**	**$ 43,896**	**$ -**	**$ 43,896**	**$ 43,896**
Task 5 - Develop Project Alternatives																
5.1	Identify Proposed Project Alternatives	1	12	32				40				86	$ 21,239		$ 21,239	$ 21,239
	Task 5 - Subtotal	**1**	**12**	**32**	**0**	**0**	**0**	**40**	**0**	**0**	**0**	**86**	**$ 21,239**	**$ -**	**$ 21,239**	**$ 21,239**
Task 6 - Prepare Facility Planning Assessment Report and Documents																
6.1	Prepare Facility Planning Assessment Report and Documents	1	12	40				44				97	$ 24,467		$ 24,467	$ 24,467
	Task 6 - Subtotal	**1**	**12**	**40**	**0**	**0**	**0**	**44**	**0**	**0**	**0**	**97**	**24,467**	**$ -**	**$ 24,467**	**$ 24,467**
	TOTAL	**19**	**262**	**400**	**172**	**48**	**224**	**754**	**110**	**132**	**36**	**2,160**	**$ 488,821**	**$ 6,000**	**$ 494,821**	**$ 494,821**

SOCWA
South Orange County Wastewater Authority

Proposal for

Coastal Treatment Plant Facility Planning Assessment

January 15, 2026

Hazen

Table of Contents

Hazen and Sawyer
11260 El Camino Real, Suite 102
San Diego, CA 92130 | 858.764.5520

January 15, 2026

Roni Young Grant
Capital Improvement Program Manager
South Orange County Wastewater Authority
34156 Del Obispo Street
Dana Point, CA 92629

Re: Request for Proposals for Coastal Treatment Plant Facility Planning Assessment Effort ENG-25-08

Dear Roni,

Hazen is pleased to submit our proposal for the Coastal Treatment Plant Facility Planning Assessment Effort. We appreciate the opportunity to partner with SOCWA on this critical initiative and. We are teaming with Dudek to bring our combined unmatched proven expertise of the Coastal Treatment Plant to support your long-term vision for resiliency, sustainability, and operational excellence.

Our team offers a unique combination of experience, technical depth, and local presence that sets us apart.

The Hazen team highlights include:

Extensive SOCWA Experience: A proven track record of successful collaboration with SOCWA, including prior work at the Coastal Treatment Plant, and other facilities ensuring familiarity with your systems and priorities.

Comprehensive Master Planning Expertise: Proven methodology for condition assessments, capacity analysis, and phased improvements tailored to SOCWA's strategic objectives.

Innovative and Sustainable Solutions: Advanced treatment technologies and energy efficiency strategies that deliver resilient, future-ready infrastructure.

Local Presence and Collaborative Approach: A dedicated Southern California team committed to responsiveness, transparency, and stakeholder engagement. We have demonstrated this approach at several other local utilities like Long Beach, San Bernardino Water Department and Encina Water Authority.

We look forward to the opportunity to work closely with SOCWA and deliver a master plan that is practical, defensible, and aligned with your long-term goals. Please feel free to contact Hallie Thornburrow at (760) 223-5666 or HThornburrow@hazenandsawyer.com with any questions or to discuss our approach further.

Thank you for considering Hazen for this effort.

Hallie Thornburrow, PE
Associate

Cindy Miller, PE
Vice President

Legal Name and Address

Hazen and Sawyer, PC
498 Seventh Avenue, 11th Floor
New York, NY 10018
(212) 777-8400

Local Office

11260 El Camino Real, Suite 102
San Diego, CA 92130
(858) 764-5521

Project Understanding and Approach to Work

Project Understanding and Approach to the Work

Hazen's approach to this project will leverage unmatched institutional knowledge of the Coastal Treatment Plant Treatment Process. This assessment will take a broad approach to assess a wide range of alternatives in order to anticipate the unknowns and plan for the future. This forward-looking approach will incorporate continual collaboration with all SOCWA Stakeholders, to receive input from all parties to make sure all options are properly vetted.

COMPREHEND

Project Confidence

Unmatched Institiutional Knowledge Lays Foundation for Project Success

Dave Jones, project technical advisor, on-site with CTP operations staf

Our prior work at the Coastal Treatment Plant, our existing process models, and our time spent in the field with your operators will be supplemented with conditions assessments to fully **COMPREHEND** your facility and the drivers for this project.

We hit the ground running and deliver project confidence

- BioWin Models
- CTP Future Alternatives Feasiblity Study
- On site time spent with Operations
- Secondary Treatment Evaluations and Design

This prior work **sets the foundation** for our proposed approach, highlighted on this page, to efficiently evaluate treatment plant alternatives and provide a roadmap for Phase 2 of the Master Plan.

EXPLORE

Innovation

A Combination of Collaboration and Innovative Thinking will Identify Best Value Alternatives

We will **EXPLORE** the world of alternatives that can achieve your capacity and treatment goals using powerful modeling tools and, most importantly, your input on the success criteria. Those criteria may include:

- Delayed Capital Investments
- Process Complexity
- Robustness
- Capital and O&M costs
- Redundancy
- Flexibility for Future Changes in Flows

BioWin

Hazen workshop

CONVERGE

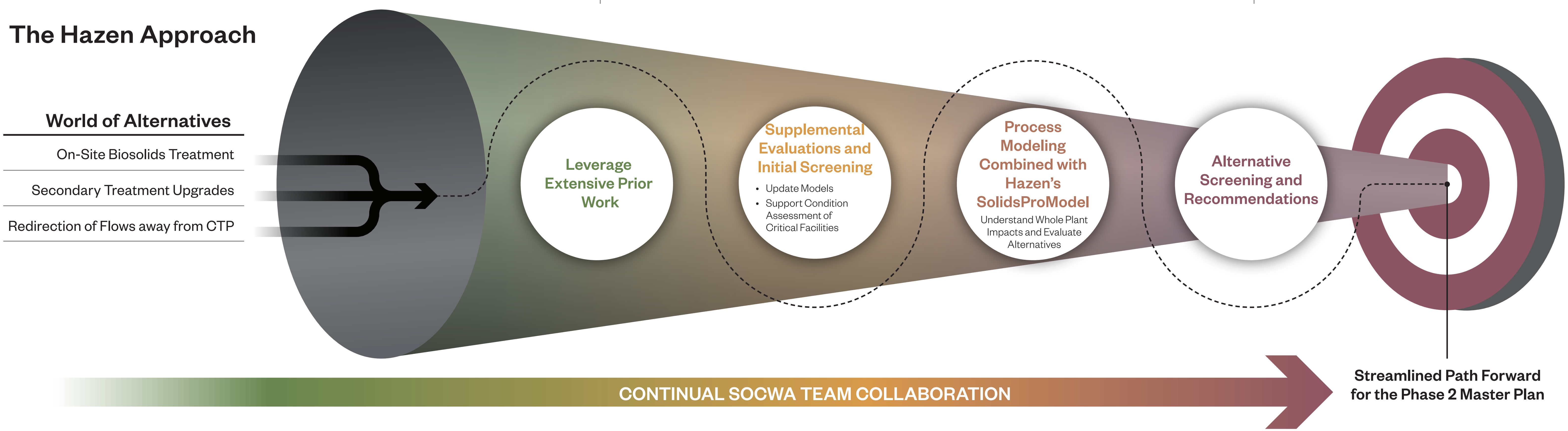
Solutions

Approach to Final Screening of Alternatives

Armed with the results from our analysis and your input on success criteria, we will **CONVERGE** upon the most beneficial solution.

To be proactive, we have already progressed technical evaluations of multiple alternatives, as noted in our past project experience.

The Hazen Approach



Our Approach to Facility Planning

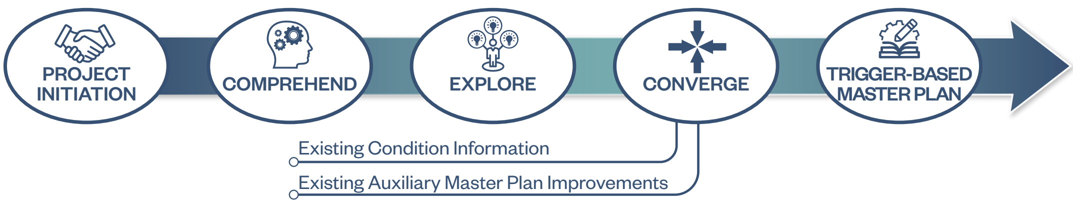
Hazen brings a unique headstart to this project through the delivery of the CTP Future Alternatives Feasibility Study Plan project work delivered in 2021. Through this project, Hazen developed facility alternatives for the future CTP upgrades, focused on addressing aging infrastructure, increasing water reuse, and preparing the CTP for the pending ocean nutrient regulations. This work included site plan development, historical data review, high-level process modeling, and cost estimation. The tools (initial process model, calculations, etc) enable Hazen to deliver an alternative evaluation that is comprehensive, consistent, and aligned with SOCWA and stakeholder agency goals and objectives.

The purpose of the Coastal Treatment Plant Facility Planning Assessment (Phase 1) is to provide the technical foundation to support a complete the master plan to be completed in Phase 2. The key components of Phase 1 are a comprehensive condition assessment of the facility, optimization of the secondary treatment process and evaluation of solids treatment/disposal and effluent reuse alternatives. We will follow the Hazen Comprehend-Explore-Converge approach for this project. The previous CTP Alternatives Feasibility Study will serve as a solid basis to update the treatment process evaluation. The diagram to the left provides an overview of evaluation of the solids treatment and disposal alternatives.

We will use our proven process for facility planning to ensure comprehensive evaluation and inclusion of current/near-term needs, as well as future needs, and the identification of triggers for the potential future scenarios.

Project Initiation

The Project Initiation phase is designed to ensure the process starts with a fully aligned team. The outcome of this phase is accepted clear expectations about objectives, project schedule and well-defined lines of communication



Comprehend

This will establish the foundation for a successful Facility Plan.

Leveraging Our Understanding of the Facility Means No Ramp Up Time

A solid comprehension of the existing facilities by the consultant team is paramount to complete an effective plant roadmap, documenting the existing conditions will set the stage for the next phase of the Master Plan. Hazen will conduct site visits that will include all boots on the ground to properly understand the condition of the plant to feed into the alternative evaluation.

Hazen and Dudek both have dedicated asset management groups with SOCWA experience and several other local facilities that will be performing the condition assessment and work hand-in-hand with the discipline experts to develop a plan to recommended upgrades and any specialized condition assessments as part of Phase 2.

Our planned on-site work will combine with Dudek's recent exhaustive report to establish conditions and consequence of failure. Hazen's and Dudek's combined first hand knowledge of the CTP will inform and accelerate solutions to address aging infrastructure.

The Importance of O&M Considerations

While the priority of the condition assessment is to understand and document the feasibility of reusing existing assets, we also understand operational ease and accessibility for maintenance is a very important consideration. We will report tight areas and other qualitative input from the operators. Proper maintenance will extend the life of equipment and a properly designed plant with operations in mind means happy operators, both are key to the successful longevity of a plant.


The sludge pump area at the CTP includes many O&M constraints, we will identify other locations for O&M redesigns.

Hazen has a Diverse in House Staff. In addition to the Civil/Environmental all support disciplines mentioned in this proposal are part of the direct Hazen team. We have experience with this consistent team which saves schedule and budget.

Structural | Condition Assessment | Communications | Electrical

Teaming with Dudek

The Dudek team will be leading the general mechanical portion of the facilities assessment. Dudek's team will document the current condition, criticality, and estimated remaining useful life of equipment expected to remain in service under potential project alternatives. This analysis will provide concise, actionable inputs to support risk assessment, resiliency planning, and lifecycle cost evaluations

Capacity Assessment and Deficiencies

Hazen's previous work with SOCWA included a high-level process model evaluation of the liquid treatment process. This institutional knowledge will be applied to expand upon the previous hydraulic and loading capacity assessment. Through Hazen's work and review of RFP materials, we understand well the previously performed condition assessments. Once this understanding has been developed, we will combine the asset assessments with our updated calibrated process models to identify bottlenecks and risks while developing preliminary alternatives.

LEAF
Leverage Existing Assets First

Hazen's goal for this Task is to LEAF where beneficial for the CTP. We will incorporate this approach during the alternatives evaluation to highlight solutions that:

- Can be implemented with existing infrastructure
- Are synergistic with long term solutions
- Increase capacity
- Reduce cost and operator complexity

Condition Assessment

Following the high -level facilities evaluation, initial functional evaluation of the processes, and risk assessment, we will develop a "Focused" visual condition assessment plan in collaboration with SOCWA's O&M staff. Unlike traditional approaches that assess every asset regardless of criticality, our methodology strategically prioritizes the assessment effort. The focused assessment will concentrate exclusively on critical assets that are considered high risk for plant operations.

This approach maximizes value to SOCWA by directing resources toward assets that genuinely require attention, reducing assessment costs and timeline, and delivering actionable information for evaluating alternatives.

Explore

This phase ensures best-fit holistic solutions are identified.

Planning for the Unknowns

Our team understands that there are several uncertainties which could affect the planning trajectory for the Coastal Treatment Plant, but a plan needs to start somewhere. Our Approach is to develop a plan for the future around the current design approach, but accommodate 'decision trigger points' in the event of anticipated unknowns. Some of these unknowns could include political decisions, new regulations, stakeholder changes, etc.

Hazen and Dudek will take the baton from the programming team and start conceptual design of the upgrades. Our leads will work very closely together to ensure consistency between the project phasing, design features, and controls. This will result in the new treatment facilities operating smoothly and logically according to operator preferences and in a manner that reduces overall O&M.

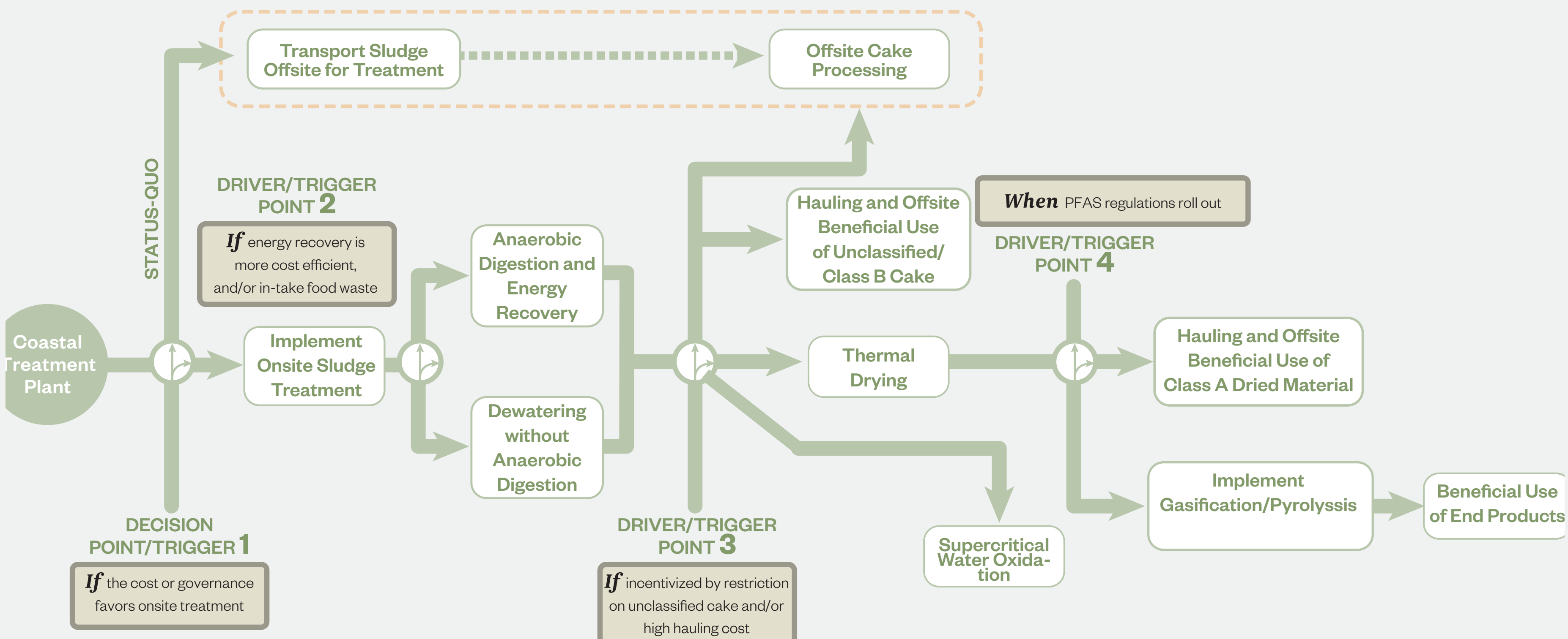
Biosolids Assessment

Definition of the biosolids project requires a comprehensive evaluation of the current wastewater solids systems and processes from SOCWA. We applied our current understanding of your facility to develop a preliminary trigger based roadmap for the solids facility. This is the type of graphic that we will develop for each of the major streams at the CTP.

Recycled Water Facilities and Effluent Evaluation

Similar to Task 3, a baseline scenario will be created for the existing AWT (tertiary filtration and disinfection) and the ACWRF (UF/RO) to support SOCWA's current and projected recycled water. The baseline will evaluate the impacts of water quality such as potential salinity increase and regulatory changes, and identify capital improvements necessary to ensure facility capacity to meet existing and future recycled water demands while addressing impacts. An analysis of additional beneficial reuse of treated effluent will include IPR (lead by the Dudek team) and DPR (lead by the Hazen team) alternatives for the purpose of maximizing recycled water utilization and minimizing or eliminated discharge to the ocean. The analysis will include various technical, regulatory, environmental, cost, and other suitable factors as part of a multi-criteria evaluation and comparison of the alternatives against the baseline scenario. Technical feasibility will need to address multibarrier treatment requirements, brine handling and discharge, energy use and availability, use of existing treatment system where possible, and other factors. The Task will focus on treated effluent utilization at the existing CTP, AWT, and ACWRF.

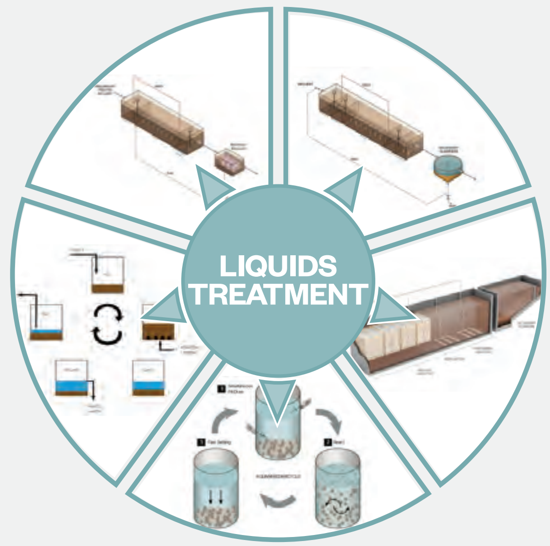
Proposed Approach to Solids Treatment and Disposal Alternatives



Liquids Assessment

Hazen brings a unique headstart to this project through the delivery of the CTP Future Alternatives Feasibility Study Plan project work delivered in 2021. Through this project, Hazen developed facility alternatives for the future CTP upgrades, focused on addressing aging infrastructure, increasing water reuse, and preparing the CTP for the pending ocean nutrient regulations. This work included site plan development, historical data review, high-level process modeling, and cost estimation. The tools (initial process model, calculations, etc) enable Hazen to deliver an alternative evaluation that is comprehensive, consistent, and aligned with SOCWA and stakeholder agency goals and objectives.

Previous Feasibility Study completed an In-depth investigation of Liquid Treatment Alternatives



Pulling together the key findings from the Feasibility study previously completed by Hazen, nutrient removal upgrade alternatives, we will develop a overall liquids train roadmap developed as part of the Converge Phase. This roadmap outlines the SOCWA's long-term effluent strategy, including baseline upgrades and triggers for future expansion to the secondary treatment system related to nutrient removal. Definition of the biosolids project requires a comprehensive evaluation of the current wastewater solids systems and processes from SOCWA.

Preliminary Costs + Site Layouts + Future Reuse Considerations + O&M Considerations

Public Outreach (Optional)

While public outreach is not specifically mentioned in the RFP, we present this an optional task for consideration. It is essential that the shortlisted alternatives receive buy in from the SOCWA member agencies, key stakeholders and the public in order for the project to become a success and to avoid delays. Hazen has an internal communications team with decades of public outreach experience for water and wastewater projects throughout the US. While Report Executive summaries are a useful tool to communicate the key ideas to the public, however Hazen has internal staff to take this one step further. Our communication team can create a brochure specifically tailored to the project to communicate the shortlisted project alternatives and increase stakeholder and public buy in.

We build & manage Public Outreach Programs

Support Can Be At Any Point Throughout The Project's Life Cycle

Strategic Communications Planning Communication plans, engagement schedules, key messages, brand and logo development	✓
Outreach Materials Writing and editing, graphic design, videos, website interactives, animation	✓
Website and Social Media Content Content and posts, videos, updates, recommendations	✓
Event Coordination Logistics planning, agenda development, recommendations	✓
Stakeholder Engagement Meetings workshops, events, school partnerships, public information lines, construction relations	✓

Project Management

Hallie Thornburrow will serve as Hazen's Project Manager, collaborating closely with the Technical Advisors, Dave Jones and Bryce Danker, to develop and execute the project in accordance with the Project Management Plan (PMP). The PMP will define success criteria and establish project controls essential for achieving our goals.

Project Controls, Budget, and Schedule Tracking

The Hazen Project Management Dashboard provides an easy means to understand overall project health (e.g. budget, schedule, risks, meetings, etc.) at a glance and can be tailored to the specific needs of SOCWA.

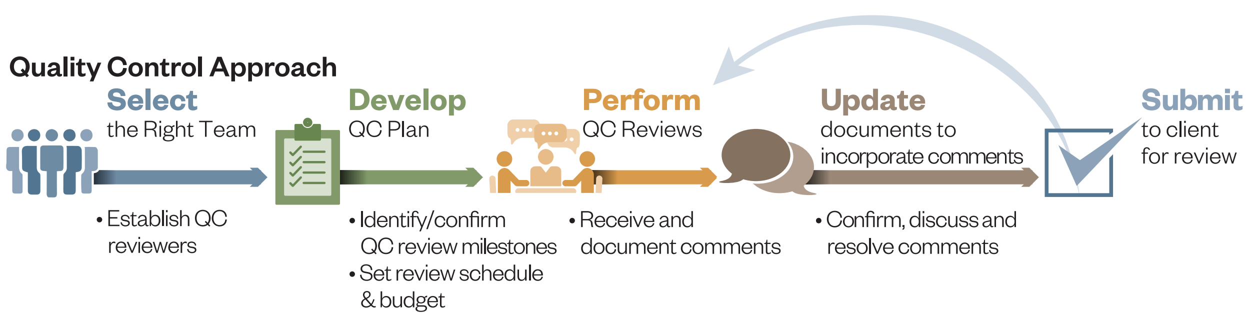
We can utilize this dashboard during this project if desired by the SOCWA team.

Quality Assurance/Quality Control

At Hazen, a commitment to Quality Assurance (QA) and Quality Control (QC) is integral to our project delivery ethos. We have developed comprehensive Quality Control and Quality Assurance Manuals to ensure effective project completion with the highest standards of quality. This framework emphasizes early engagement of experts and robust collaboration throughout all project phases.

Strong collaboration, facilitated through meetings and workshops, will capture input and preferences from your engineering, operations, maintenance, safety, and compliance teams. Our QA/QC process guarantees high-quality deliverables, with responsive handling of feedback from SOCWA staff.

We prioritize the early identification of qualified reviewers who will actively participate in project development from initial evaluation through final deliverables. QC protocols ensure that technical reviews are conducted by experienced staff before each milestone submission, with thorough incorporation of client feedback.

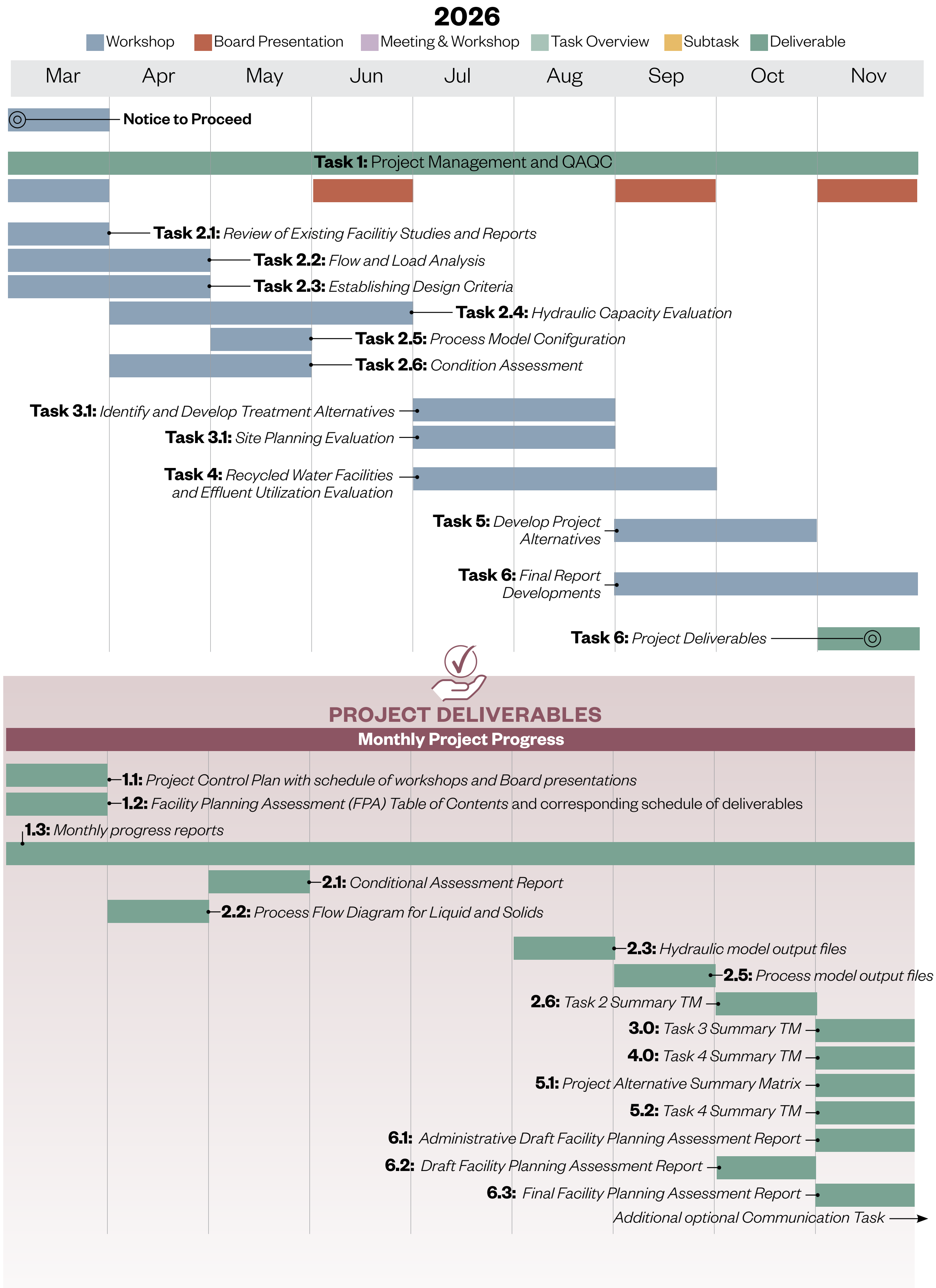


Schedule

We understand efficient delivery of this facility plan is crucial to the future of the Coastal Treatment Plant Facility.

Our preliminary project schedule aims to balance project efficiency with technical thoroughness to set a solid foundation for Phase 2 of the Master Plan. This schedule relies on the efficient delivery of submittal milestones in order to maximize review time such that all stakeholder voices can be accommodated. This optimized schedule is possible thanks the Hazen's institutional knowledge and industry-leading experience.

Project Schedule

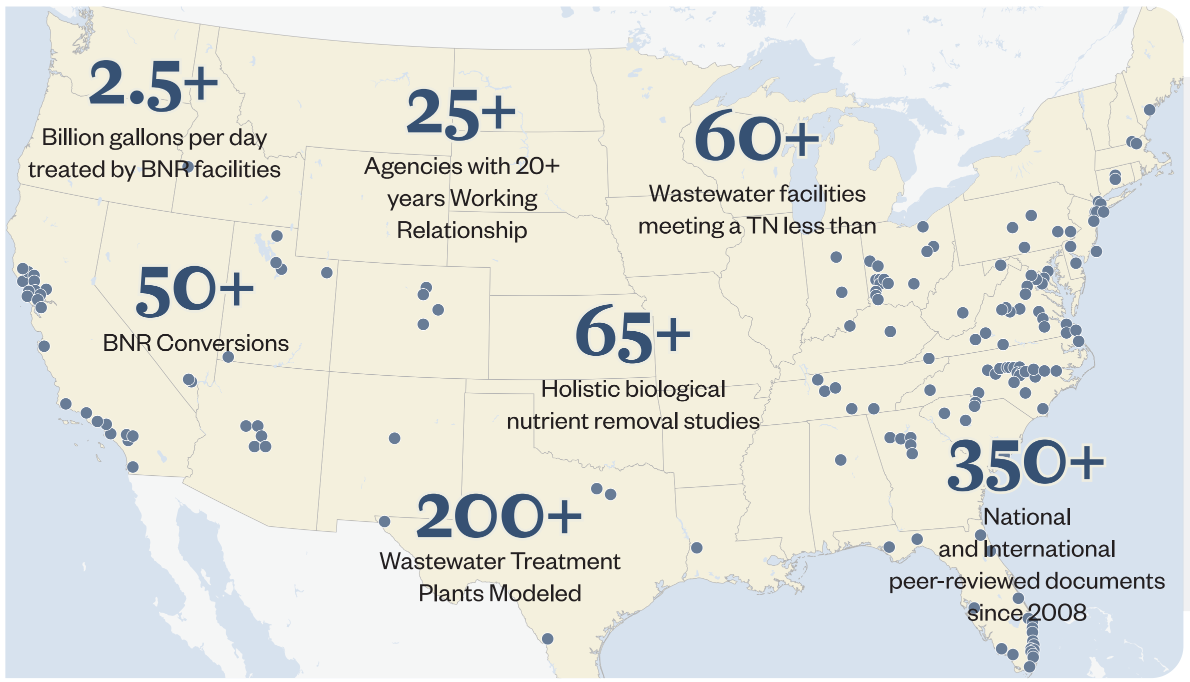


Experience and Technical Competence

Experience and Technical Competence

Hazen is an industry leader in wastewater evaluations and designs.

This sampling of projects demonstrates a long history of successfully applying a holistic look to determine the full suite of impacts and costs to support clients in selecting the best alternative to meet their unique challenges and drivers. SOCWA can leverage our decades of experience, covering all aspects of this project, to have full confidence in selecting the best value solution for your WWTP.



Our Past Experience ensures an efficient path forward to the future. The Hazen team spent extensive time reviewing historical data and developing a conceptual design basis for the liquids treatment upgrades. We have already worked with your team to develop alternatives and performed an evaluation to choose the best option. We will apply what we learned during our past projects to eliminate the learning curve and hit the ground running.

Experience with South Orange County Wastewater Authority

CTP Facility Improvements Design

SOCWA hired Hazen in 2017 to upgrade the CTP, a conventional activated sludge plant with a 6.7 MGD secondary treatment capacity. The project aimed to enhance safety, reliability, and performance by replacing outdated equipment and facilities. Key improvements included aeration system upgrades, electrical and instrumentation enhancements, ferric chloride system updates, headworks improvements, structural upgrades, and plant-wide fall protection measures.

CTP Feasibility Study

Hazen provided support for a comprehensive planning study to identify and evaluation potential future secondary treatment alternatives for the CTP. This work included historical data review, process modeling and potential alternatives, conceptional sizing and layouts, cost estimations and future considerations. Alternatives included MBR, AGS, Five-Stage BNR, MABR, and SBR. This document sets the foundation for this new planning effort that will be delivered are part of this project.

CTP Aeration Improvements

Hazen was selected to provide the detailed design documents and services during construction for this project. This work included development of demolition and mechanical plans to replaced the existing Parkson Panels with new 9-inch disk diffusers. Hazen provided a foward thinking design, including seperate of zones to enable transition to nutrient removal efficiently, as identified in teh CTP Feasibility Study. This forward thinking saves SOCWA significant time and capital costs.

PLANT	CAPACITY (mgd)	Process Hydraulic Modeling	BNR Conversions	Operations Support	Planning Studies & CIP	Design/ Construction
Joint Water Pollution Control Plant, Carson, CA	450	■	■	■	■	
Robert W. Hite TF, Denver, CO	220	■	■	■	■	■
Plant No 1. & Plant No. 2, Fountain Valley, CA	180	■	■	■	■	■
Bowery Bay WPCP, New York, NY	150	■		■	■	■
North Regional WWTP, Broward County, FL	95	■		■	■	■
26th Ward WWTP, New York, NY	85	■		■		■
Neuse River WRF, Raleigh, NC	75	■	■	■	■	■
Henrico County WRF, Richmond, VA	75	■	■	■	■	■
East Central Regional WRF, West Palm Beach, FL	70	■	■	■	■	■
Valley Creek, Jefferson County, AL	60	■	■	■	■	■
T.Z. Osborne WRF, Greensboro, NC	56	■	■	■	■	■
Roanoke WPCP, Roanoke, VA	55	■	■	■	■	■
Plum Island WWTP, Charleston, SC	36	■		■	■	■
Nansemond Treatment Plant (HRSD), Suffolk, VA	30	■	■	■	■	■
Northern TP, Denver CO	28	■	■	■	■	
T.P. Smith WRF, Tallahassee, FL	26.5	■	■	■	■	■
Eastside WWTP High Point, NC	26	■	■	■	■	■
Arlington East WWTP, Jacksonville, FL	25	■	■	■	■	■
Alvarado Wastewater Treatment Plant, Union City, CA	22	■	■	■	■	■
South Durham WRF, Durham, NC	20	■	■	■	■	■
East End WWTF, Portland, ME	19.6	■	■	■	■	■
Plantation Regional WWTP, Plantation, FL	19	■		■	■	■
Broad Run WRF, Ashburn, VA	16.5	■	■	■	■	■
Crooked Creek WRF, Gwinnett County, GA	16	■	■	■	■	■
Napa Sanitation District, Napa, CA	10	■		■		■

Napa Sanitation District

Wastewater Treatment Master Plan

NapaSan engaged Hazen to develop a 20-year Master Plan for the Soscol Water Recycling Facility, addressing short-term decisions and long-term strategies. The plan covers condition assessment, capacity, nutrients, biosolids, energy, recycled water, and climate vulnerabilities. It includes integrated biosolids and energy roadmaps, leading to the installation of the first Mainspring Linear Generator at a wastewater facility using biogas from anaerobic digestion.

Client Contact:
Matt Lemmon, PE
Engineering Director
(707) 258-6004
mlemmon@napasan.com

Date Initiated:
2020

Date Completed:
2022

San Bernardino Municipal Water Department

Water Reclamation Plant (WRP) Facilities Assessment and Master Plan

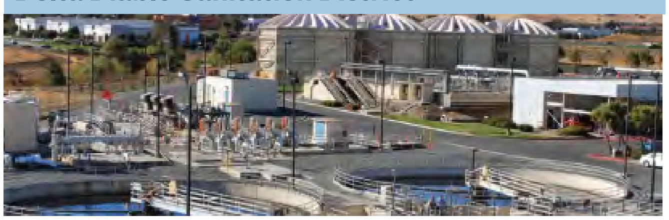
SBMWD selected Hazen to develop a dynamic, data-driven master plan for its 33-MGD Water Reclamation Plant, originally built in 1958. Facing aging infrastructure, stricter regulations, and reduced flows and revenue from an upstream scalping plant, Hazen is integrating asset management into the planning process. The approach includes asset inventory, risk and condition assessments, remaining useful life analysis, valuation, and interactive dashboards to guide short- and long-term improvements.

Client Contact:
Francisco Lopez-Jiminez
Associate Engineer
(909) 453-6169
Francisco.Jimenez@sbmwd.org

Date Initiated:
2019

Date Completed:
2020

Delta Diablo Sanitation District



Wastewater Treatment Master Plan

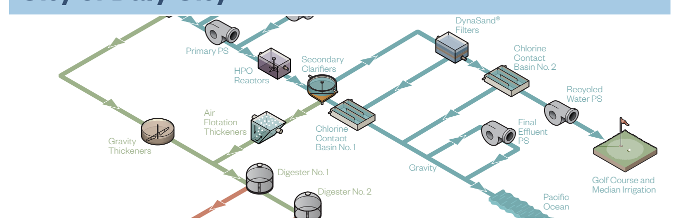
Delta Diablo's 31-mgd Resource Recovery Facility serves 214,000 customers in Antioch, Pittsburg, and Bay Point. Facing aging infrastructure and future regulatory demands, the District engaged Hazen to develop a comprehensive master plan covering all treatment processes, biosolids, and recycled water systems. The plan will deliver a trigger-based roadmap for near- and long-term capital improvements, ensuring strategic, cost-effective investments aligned with future needs.

Client Contact:
Mr. Vince De Lange
General Manager
(925) 756-1920
vinced@deltadiablo.org

Date Initiated:
2020

Date Completed:
2022

City of Daly City



NSMCSD Wastewater Treatment Facility Master Plan

NSMCSD operates a 6.0 mgd wastewater treatment facility serving the San Francisco Peninsula. Hazen is developing the first Facilities Master Plan, assessing aging infrastructure and planning major upgrades to meet future flows and regulatory needs. The plan will provide a 10-year capital improvement roadmap plus a long-term outlook for resource and compliance planning.

Client Contact:
Greg Krauss
Chief of Operations
(650) 991-8204
gkrauss@dalycity.org

Date Initiated:
2023

Date Completed:
Ongoing

SOUTH COAST WATER DISTRICT

Client Contact:

Taryn Kjolsing, PE
Director of Engineering
tkjolsing@scwd.org
949-342-1154

Date Initiated:
2022

Date Completed:
2022

Recycled Water Roadmap

Dudek developed the South Coast Water District (SCWD) Recycled Water Roadmap to advance the District's recycled water program, originally outlined in its Integrated Water Resources Plan (IWRP) with a goal of full system expansion by 2035. The District had prioritized existing potable water irrigation customers for conversion to recycled water in six phases, with Phases 0, 1, and 2 implemented or scheduled between 2020 and 2025. Dudek's work focused on planning the timing and implementation strategy for Phases 3 through 6, scheduled for 2026 through 2035.

Dudek updated recycled water hydraulic model demands and scenarios, confirmed pipeline sizing and delivery pressures, evaluated infrastructure needs and timing, and prepared planning-level cost estimates. The roadmap identified phased infrastructure improvements, evaluated alternative storage scenarios, including contingency plans for potential loss of the Joint Reservoir, and recommended pipeline and facility upgrades to ensure reliable service delivery.

Key Personnel and Sub-Consultants

Section No.

Key Personnel and Sub-Consultants

We have assembled an accomplished and cohesive team of experts that will form a collaborative partnership with SOCWA to map out multiple pathways to achieve your short- and long-term objectives

SOCWA
South Orange County Wastewater Authority

PROJECT MANAGER
Hallie Thornburrow, PE

PRINCIPAL IN CHARGE
Cindy Miller, PE

TECHNICAL ADVISORS
Dave Jones, PE, BCEE
Bryce Danker, PE

QC Leads
Joe Rohrbacher, PE
Rion Merlo, PhD, PE, PMP
Wyatt Dressler, PE
Mohammad Abu-Orf, PhD

BIOSOLIDS
Anne Sun, PhD, PE

WASTEWATER FACILITIES
Hallie Thornburrow, PE

Process Support
Zayneb Mohamed
Desarae Tasnady, PE
Angel Ortiz

CONDITION ASSESSMENT & OPERATIONS AND MAINTENANCE
Sean Pour, PhD, PE
Ian Mackenzie, PE

MECHANICAL
Brian Robertson, PE, QSD

EFFLUENT UTILIZATION
Joel Bowden, PE
Elizabeth Calvia, PE

SUPPORTING DISCIPLINES
Energy
Jamie Ferro, MELP
Structural
Arief Purnoko, PE
Electrical
Alan Mlakar, PE
Funding, Permitting and Public Relations
Trapa Barua, AICP
Megan Drummey

Hallie Thornburrow, PE

Project Manager

Hallie brings 15 years of experience as a resourceful engineer, with a proven ability to solve problems. She has planned and designed wastewater infrastructure, blending technical expertise with business analysis and pragmatism. She also has extensive technical expertise and will serve a technical role leading the hydraulic modeling and flows and loads analysis.

Hallie is an enthusiastic, local, technical Project Manager. Her knowledge of Southern California's unique challenges promotes quick, informed decisions.

Cindy Miller, PE

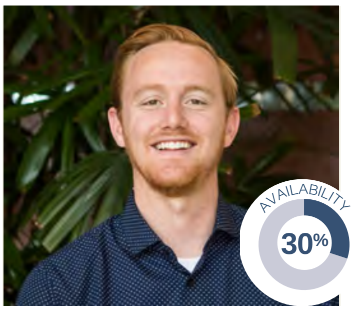
Principal-in-Charge

Cindy is a seasoned leader in water infrastructure, known for guiding complex projects with technical expertise and clear vision. Her experience and collaborative approach drive successful outcomes for clients and communities.

Dave Jones, PE, BCEE

Technical Advisor

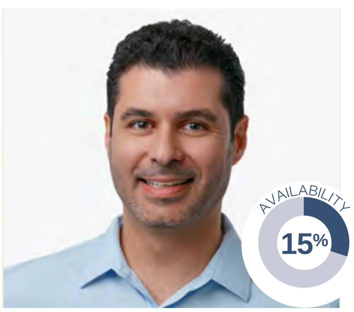
Dave is an expert in wastewater treatment and facility planning, with decades of experience advising on complex infrastructure projects. Combined with his extensive experience at the CTP, his technical insight supports innovative and practical solutions tailored to the needs of the Coastal Treatment Plant.



Bryce Danker, PE

Technical Advisor

Bryce specializes in process engineering and system optimization for water and wastewater facilities. His hands-on approach and deep technical knowledge help drive efficiency and reliability throughout project delivery. He was led the CTP Alternative Feasibility Study and Aeration Improvements projects.



Sean Pour, PhD, PE

Condition Assessment

Sean specializes in prioritizing critical assets and integrating condition data into digital platforms for real-time decision-making. Sean has delivered condition assessment programs for major California utilities, ensuring actionable insights that drive CIP development and long-term reliability. remaining asset life calculation, risk assessment, life cycle cost projection, and project validation and prioritization.

Joe Rohrbacher, PE

QC Lead -Liquid Stream

Joe brings a strong background in quality control and regulatory compliance for large-scale water projects. His attention to detail and commitment to best practices safeguard project integrity from planning through execution. He has worked closely with Bryce on all the treatment process evaluations at the CTP.

Wyatt Dressler, PE

QC Lead - Structural

Wyatt is known for his expertise in quality assurance and process improvement. He leverages his experience to maintain high standards and deliver consistent, dependable results for every phase of the project.

Mohammad Abu-Orf, PhD

QC Lead - Solids

Mohammad combines advanced technical expertise with a rigorous approach to quality management. His leadership in research and practical application ensures robust solutions and continuous improvement for complex water infrastructure projects.

Jamie Ferro, MELP

Energy

Jamie specializes in energy optimization for water and wastewater facilities. With a background in sustainable systems, Jamie develops strategies that reduce operational costs and environmental impact, supporting efficient performance at the Coastal Treatment Plant.

Anne Sun, PhD, PE

Biosolids

Anne has extensively worked on applied research on life cycle analysis and greenhouse gas emission from innovative biosolids treatment technologies, and fate of contaminants of emerging concerns. Her particular area of expertise involves biosolids process master planning and design, technology piloting and evaluation, and process modeling.

Ian Mackenzie, PE

Wastewater Facilities

Ian brings extensive experience in the planning and design of wastewater treatment plants. His technical expertise and practical approach contribute to reliable, high-performing facility upgrades and expansions. He was the Project Engineer on the CTP Facilities Improvement Design Project.

Trapa Barua, AICP

Permitting

Trapa's particular focus is on all aspects of environmental quality review and grand funding including: air permitting, and various environmental audits.

Acknowledgment of Addenda

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

ADDENDUM No. 1

TO: REQUEST FOR PROPOSAL

FOR CTP FACILITY ASSESSMENT PLANNING

THE PROPOSER SHALL EXECUTE THE CERTIFICATION AT THE END OF THE ADDENDUM AND SHALL ATTACH THE ADDENDUM TO THE PROPOSAL (NOT TO BE INCLUDED AS PART OF THE PAGE COUNT).

1. The proposal page limit is 20 pages, not including the cover letter or attachments.
2. See the attachment for the directions to CTP.
3. See the attachment for the Pre-Proposal Meeting sign-in sheet.
4. See the attachment for the Pre-Proposal Meeting presentation.

DATED: 11/20/2025

Roni Young Grant
Roni Grant
CIP Manager

BIDDER'S CERTIFICATION

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

DATED: 1/15/2026

BIDDER: Hazen and Sawyer
BY: Cindy
Cindy Miller, PE
Vice President

Conflicts of Interest

Hazen confirms there are no actual, apparent, direct or indirect, or potential conflicts of interest that may exist with respect to our firm, employees, or other persons identified in the Proposal relative to the services to be provided under the Agreement Services to be awarded pursuant to this RFP.

Non-Collusion Affidavit

ATTACHMENT B
NON-COLLUSION AFFIDAVIT

The undersigned declares:

I am the Vice President of Hazen and Sawyer, 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 1/14/26[date], at Irvine [city], California[state].

Signature: ______________________

Title: Vice President

Certifications

Certifications

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.
2. Respondent certifies that it is willing and able to obtain all insurance required by the form contract included as Attachment C.
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 respondent to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided.
4. Respondent acknowledges and agrees with all terms and conditions stated in the RFP.
5. Respondent certifies that all information provided in connection with its proposal is true, complete, and correct.

Authorized Signature:

Cindy Miller - Vice President

South Orange County Wastewater Authority

Fee Proposal for

Coastal Treatment Plant Facility Planning Assessment

January 15, 2026

Hazen

Fee Schedule

Hazen

	Vice President	Senior Associate	Associate	Senior Principal Engineer	Principal Engineer	Engineer	Senior Administrator	Designer	Hours	Labor	ODCs	Dudek Hous	Dudek Fee	Total
Hazen and Sawyer	$430	$370	$290	$235	$220	$180	$155	$215						
1. Project Management														
1.1 Project Control Plan	7	4	16	0	0	0	3	0	30	$ 9,595		2	$ 575	$ 10,170
1.2 Project Meetings and Communications	72	134	69	16	32	72	0	0	395	$ 124,310		15	$ 4,690	$ 129,000
Facility Planning Assessment (FPA) Table of Contents and corresponding schedule of deliverables	5	2	4	0	0	0	0	0	11	$ 4,050			$ -	$ -
Monthly progress reports	8	0	24	0	0	0	0	0	32	$ 10,400		8	$ 1,760	$ -
TASK 1 TOTALS	92	140	113	16	32	72	3	0	468	$ 148,355	$ 3,000	25	$ 7,025	$ 158,380
2. Existing Faculties Evaluation														
2.1 Description of Existing Facilities	0	16	8	0	0	48	0	8	80	$ 18,600		6	$ 1,515	$ 20,115
2.2 Review of Existing Reports and Models	0	0	8	0	16	24	0	0	48	$ 10,160		6	$ 1,510	$ 11,670
2.3 Flow and Loading Analysis	8	12	12	0	0	74	0	0	106	$ 24,680		1	$ 275	$ 24,955
2.4 Existing Facilities Analysis	0	16	24	0	8	100	0	0	148	$ 32,640		1	$ 275	$ 32,915
2.5 Condition Assessment of Major Unit Processes	0	64	24	0	0	0	0	0	88	$ 30,640		1	$ 275	$ 30,915
Task 2 Summary TM	2	56	16	0	0	16	8	0	98	$ 30,340		30	$ 7,925	$ 38,265
QAQC of TM2	28	0	0	0	0	0	0	0	28	$ 12,040		36	$ 8,920	$ 20,960
TASK 2 TOTALS	38	164	92	0	24	262	8	8	596	$ 159,100	$ 1,000	81	$ 20,695	$ 180,795
3. Wastewater Treatment Alternatives														
3.1 Indentify and Develop Treatment Alterantives	46	160	24	0	40	72	0	16	358	$ 111,140			$ -	$ 111,140
3.2 Risk and Resilience Planning Elements	0	48	0	80	0	72	0	0	200	$ 49,520			$ -	$ 49,520
Task 3 Summary TM	16	72	8	0	0	48	8	0	152	$ 45,720			$ -	$ -
QAQC of TM3	0	0	0	0	0	0	0	0	0	$ -			$ -	$ -
	0	0	0	0	0	0	0	0	0	$ -			$ -	$ -
TASK 3 TOTALS	62	280	32	80	40	192	8	16	710	$ 206,380	$ -		$ -	$ 206,380
4. Recycled Water Facilities and Effluent Utilization Evaluation														
Determine Current and Projected Recycled Water Uses	0	0	0	0	0	0	0	0	0	$ -		23	$ 6,130	$ -
Indentify Offsite Alternative Options	0	0	0	0	0	0	0	0	0	$ -		42	$ 11,420	$ -
Develop Effluent Utilization Alterantives	0	0	0	0	0	0	0	0	0	$ -			$ 15,040	$ -
Develop Onsite Utilization Alternatives	0	60	8	0	0	24	0	0	92	$ 28,840		54	$ -	$ -
Task 4 Summary TM	0	16	4	0	0	24	8	0	52	$ 12,640		54	$ 15,340	$ -
QAQC of TM4	8	4	0	0	0	0	0	0	12	$ 4,920			$ -	$ -
TASK 4 TOTALS	8	80	12	0	0	48	8	0	156	$ 46,400	$ -	173	$ 47,930	$ 94,330
5. Develop Project Alternatives														
5.1 Indentify Proposed Project Alterantives	0	4	0	0	0	0	0	0	4	$ 1,480			$ -	$ 1,480
Project Alternative Summary Matrix	0	12	8	0	0	8	0	0	28	$ 8,200			$ -	$ -
Summary TM	0	0	8	0	0	24	8	0	40	$ 7,880			$ -	$ -
QAQC of TM 5	16	0	0	0	0	0	0	0	16	$ 6,880			$ -	$ -
TASK 5 TOTALS	32	176	40	0	0	128	24	0	400	$ 24,440	$ -		$ -	$ 24,440
6. Prepare Facility Planning Assessment Report and Documents														
Administrative Draft Facility Planning Assessment Report	6	32	8	0	8	24	8	0	86	$ 24,060			$ -	$ -
Draft Facility Planning Assessment Report	0	16	8	0	0	24	8	0	56	$ 13,800			$ -	$ -
Final Facility Planning Assessment Report	0	0	8	0	0	0	8	0	16	$ 3,560			$ -	$ -
Report	22	16	8	0	0	0	0	0	46	$ 17,700			$ -	$ -
TASK 6 TOTALS	28	64	32	0	8	48	24	0	204	$ 59,120	$ -		$ -	$ 59,120
TASKS 1-6 GRAND TOTALS	260	904	321	96	104	750	75	24	2534	$ 643,795	$ 4,000	279	$ 75,650	$ 723,445

Agenda Item 7.A.

Board of Directors Meeting
Meeting Date: March 5, 2026

TO: Board of Directors

FROM: Amber Boone, General Manager

STAFF CONTACT: Dina Ash, Human Resources Administrator

SUBJECT: SOCWA's Insurance Programs

Discussion/Analysis

SOCWA's current insurance provider is the California Sanitation Risk Management Authority (CSRMA). The coverage currently placed through CSRMA include Pooled Liability, Workers' Compensation and Employer's Liability, Master Crime, Property, Pollution and Remediation Liability, and Mobile Vehicle.

Both the Special District Risk Management Authority (SDRMA) and the Association of California Water Agencies Joint Powers Insurance Authority (ACWA JPIA) offer Property Liability and Workers' Compensation programs. SOCWA staff have requested applications from both authorities for consideration.

SDRMA Membership and Quotation Process:

Once the application is approved, SDRMA will issue a formal quotation accompanied by the following membership documents, all of which require Board of Directors approval:

- JPA Agreement
- Resolution
- Initial three-program-year commitment
- Membership with the California Special Districts Association (CSDA) – currently active
- Crime coverage application and Certificate of Consent to Self-Insure

Upon approval of SOCWA's membership by the SDRMA Board of Directors, the Agency will be required to pay its applicable pro-rata contributions. The SDRMA Board of Directors may also levy additional assessments as determined necessary.

ACWA JPIA Membership and Application Process:

Membership dues for ACWA JPI are calculated based on the Agency's two most recent years of financial data (membership is a prerequisite for participation in JPIA programs). The application undergoes a comprehensive risk assessment and is then presented to the JPIA Executive Committee for review and approval. The entire process typically requires 12–18 months prior to the desired effective date.

CSRMA Withdrawal Provisions:

A CSRMA member agency may withdraw from any program only at the end of the program's policy year and only after providing CSRMA with advance written notice as follows:

Program	Advance Notice Required	End of Policy Year
Pooled Liability	Six (6) months	December 31
Property	Two (2) months	July 1
Workers' Compensation	Four (4) months	July 1

A notice of withdrawal may not be rescinded unless the member submits a written request at least sixty (60) days prior to the effective date of withdrawal and receives subsequent approval from the CSRMA Executive Board.

Recommended Action: Board Discussion, Direction, or Action

Agenda Item 7.B.

Board of Directors Meeting
Meeting Date: March 5, 2026

TO: Board of Directors

FROM: Amber Boone, General Manager

SUBJECT: FY 26-27 Final Draft O&M Budget & Capital Budget

Summary/Discussion

Table 1 provides the total O&M, Administration, General Fund and UAL/OPEB budgetary results. Staff assumed 3% COLA plus a 3% employee merit. The Employee MOU requires a 12 month average CPI for COLA, but official numbers will not be published until Mid-April for COLA. Current available CPI for January, 2026 is 3.0%. Table 2 provides the FY 26-27 Capital Improvement 10-year budget. The CIP Budget focuses on safety, compliance, obsolescence, or safety projects. Compared to FY 25-26, the CIP budget is reduced ~$4.5M for FY 26-27, reflected by member agency in Table 3.

Table 1: Summary FY 26-27 Budget

Project Committee	FY 2026-27 ($)	FY 2025-26 ($)	Difference ($)	Change (%)
PC2	$8,921,939	$8,616,078	$305,861	3.55%
PC5	$927,756	$944,588	($16,831)	-1.78%
PC8	$297,963	$289,662	$8,301	2.87%
PC12	$111,320	$88,769	$22,551	25.40%
PC15	$3,624,246	$3,822,519	($198,272)	-5.19%
PC17	$640,116	$576,240	$63,876	11.08%
PC21	$24,208	$27,589	($3,381)	0.00%
PC23	$10,298	$17,500	($7,202)	0.00%
PC24	$805,340	$807,995	($2,655)	-0.33%
Total Operating	**$15,363,187**	**$15,190,939**	**$172,248**	**1.13%**
Administration & General Fund	$1,790,860	$1,801,514	($10,654)	-0.59%
Subtotal O&M_Admin	$17,154,046	$16,992,453	$161,594	0.95%
UAL/OPEB	$2,513,396	$2,477,818	$35,578	1.44%
TOTAL BUDGET	**$19,667,442**	**$19,470,271**	**$197,172**	1.01%

Table 2: FY 26-27 CIP Budget

FY26-27 Proposed Cash Requests	Current Project Phase
$4,573,340	In Construction/Implementation
$1,801,736	In Design
$1,482,000	Planned FY26-27 start
$1,370,000	Planned small capital
$3,053,000	Non-cap studies
$12,280,076	Total FY26-27 Budget

Table 3: CIP Comparison for FY 26-27 vs. FY 25-26

Current FY26-27 Versus FY26-27 Planned in FY25-26

Member Agency	Proposed FY26-27 Cash Request	FY26-27 Cash Request in FY25-26 Budget	Delta
CLB	$2,500,510	$3,532,670	($1,032,160)
CSC	$14,542	$31,578	($17,036)
EBSD	$138,283	$195,390	($57,107)
ETWD(1)	$720,771	$941,871	($221,100)
IRWD (c/o ETWD)(2)	$714,245	$941,194	($226,949)
MNWD(3)	$386,256	$1,901,678	($1,515,422)
SCWD(1)	$4,754,032	$4,746,273	$7,759
SMWD(1)	$3,051,437	$4,534,241	($1,482,804)
Total	$12,280,076	$16,824,895	($4,544,819)

1) Includes agency MNWD billings per December 2024 Exit Agreements.
2) Per 2023 IRWD Exit Agreement.
3) MNWD Direct billings

Recommended Action: Board Discussion, Direction, Action

Agenda Item 7.C.

Budgeted: N/A	
Legal Counsel Review: Yes	
Meeting Date: March 5, 2026	

TO: Board of Directors

FROM: Amber Boone, General Manager

SUBJECT: Draft Cost Allocation Policy

Summary

Based on the discussion at the January and February SOCWA Board meetings, staff is bringing back this updated policy to the Board for discussion. SOCWA staff worked with the SOCWA Finance Committee and Engineering Committee on respective items in the policy.

Recommended Action: Board Discussion, Direction, and Action

Attachment: Draft Cost Allocation Policy

Cost Allocation Policy

Purpose

This policy establishes the methodology for allocating costs associated with the operation, maintenance, administration, and unfunded liabilities of the South Orange County Wastewater Authority (SOCWA). It ensures fair, transparent, and consistent distribution of costs among member agencies and project committees and shall govern the allocation of costs reflected in SOCWA's Budgets, including costs related to administration, operation, and maintenance, capital projects, information technology, fringe benefits, Unfunded Accrued Liabilities (UAL), and Other Post-Employment Benefits (OPEB).

Budget Components

SOCWA's budget consists of four principal components outlined below.

1. **Capital Improvement Plan (CIP) Budget** – The CIP Plan is a multi-year plan outlining SOCWA's planned investments in public facilities and infrastructure, and more specifically, the financing, location, and timing of capital improvement projects. The CIP Budget is created with input from the Engineering Committee. The CIP Budget includes maintenance costs not directly related to use of the Project facilities, including necessary capital improvements, repairs, adjustments, replacements, and extraordinary or standby maintenance, and incidental accounting and administrative costs in connection therewith. Any change to the cost allocation methodology for the CIP Budget set forth in this Policy must be made by the unanimous consent of all the SOCWA Board of Directors in accordance with Section 6.3.1 of the SOCWA Joint Powers Agreement.
2. **Operations and Maintenance (O&M) Budgets** – Operations and maintenance budgets are prepared for each Project operated and maintained by SOCWA and approved at or prior to each June meeting of the Board for the ensuing Fiscal Year. Operations and maintenance costs directly related to the use of the Project facilities, including necessary improvements, repairs, adjustments, and replacement costs in connection therewith, are paid by each Member Agency using the Project facilities in proportion to its use, consistent with Section 6.3.1 of the SOCWA Joint Powers Agreement. The O&M Budgets include (a) the estimated expenses of operating the Project; (b) the estimated expenses of maintaining the Project, (c) an estimate of income from operations, if any; and (d) the allocation of operation and maintenance expenses among the Member Agencies in each particular Project Committee (the "Participating Member Agencies") in accordance with the formulas set forth in this Policy. O&M Budgets must be approved by a two-thirds (2/3) vote of the Participating Directors in that Project in accordance with Section 6.3 of the SOCWA Joint Powers Agreement. The O&M Budget includes two departments:
   - Department 01: Operations and Maintenance
   - Department 02: Environmental Services

3. **Administration Budget**: The Administrative Budget contains the administrative and incidental accounting costs arising specifically from the operations and maintenance of the Project facilities, as well as the allocation among the Member Agencies of the amounts necessary to cover the Administrative Budget expenditures. Because the Administrative Budget is a Project; the O&M costs for a Project, the Administrative Budget also must be approved by a two-thirds (2/3) vote of the Participating Directors in that Project in accordance with Section 6.3 of the SOCWA Joint Powers Agreement. The Administration Budget includes the following:

   - Department 03: Engineering. Greater than 60% of non-labor expenses (residual engineering) in this department are administrative in nature, which were combined with administrative expenses. Engineering labor is billed directly to Capital projects in the CIP Budget with minimal time billed to administration.
   - Department 04: Administration. Includes administration and incidental accounting costs arising specifically from the operations and maintenance of the Project facilities.
   - Department 05: Information Technology - Expenses are budgeted as direct costs where technology services or equipment are needed at SOCWA facilities or as indirect costs based on the IT pool of expenses. Department 05 expenses are distributed to all project committees and departments based on the "where labor worked" methodology.

4. **General Fund Budget**: The General Fund Budget includes the general administrative expenses of SOCWA and the allocation among the Member Agencies of the amounts necessary to cover the General Budget expenditure. The General Fund Budget is allocated evenly among the six participating Member Agencies. If the General Fund Budget provides an allocation to the Member Agencies on some basis other than equal amounts, the General Fund Budget must be approved by the unanimous consent of all the Member Agencies in accordance with Section 6.1 of the SOCWA Joint Powers Agreement. Certain expenses are split between the General Fund Budget and the Administrative Budget.”. Items included in the General Fund Budget include portions of the following categories, as allocated in Table 1 and described below Table 1 for clarity.

   Please note that the percentages in Table 1 are the General Fund percentage allocations, and the remaining percentage allocations for each category of expense are allocated entirely to the Administration Budget. For example, Regular Salaries of the General Manager shall be split 50% into the General Fund (allocated equally to the SOCWA member agencies) and 50% into the Administration budget, which is allocated based on where labor worked, following O&M expenses.

Table 1: **General Fund Expenses and Percentage Allocations**

General Fund Allocation	
Salary and Fringe	
Regular Salaries-Admin	50% (General Manager)
Assistant Clerk	50%
Comp Time - Admin	50%
Other Expenses	
Car Allowance (General Manager)	50%
Public Notices	100%
Public Relations	Board Directed
Contract Labor/Part-Time Labor	25%
Audit	100%
Legal Fees	40%
Memberships, Conferences, Training, and Travel	75%
Small Purchases and Consumables	5%
IT Allocations into PC's & Depts.	5%

Definitions of the General Fund:

Audit: Annual audit shall be filed with the State Controller, Orange County Auditor and each Member Agency within six (6) months of the end of the Fiscal Year under examination. All costs associated with this requirement shall be included in this category.

Car Allowance: Monthly allowance for vehicle expense per the General Manager’s contract.

Contract Labor/Part-Time Labor: Board approved budget for this additional work as needed.

General Fund: Also known as the General Budget as described in the SOCWA: "(i) "General Budget" means the approved budget applicable to the expenses of administration of the Authority."

IT Allocations into PC's & Depts: IT allocations follow O&M labor.

Legal: For matters related to conducting Board-related business for labor and general counsels.

Public Notices: Expenses incurred related to any public notices required for the business of the Authority.

Public Relations: Expenses incurred to support Public Relations efforts based on Board-directed or Member Agency requests. Public Relations expenses may be funded or co-funded through Member Agency partnerships. Public Relations expenses shall be allocated on a case-by-case basis at the direction of the SOCWA Board. Public Relations expenses shall first be presented to the SOCWA Board for discussion regarding whether the expense, or a portion of the expense, belongs in the General Budget, or whether the expense should be subject to a different allocation. Upon the unanimous vote of the SOCWA Board, a Public Relations expense may be added to the General Budget (and thereby allocated evenly among the six participating Member Agencies) or allocated on some basis other than equal amounts among all Member Agencies. If there is not unanimous consent regarding the proposed allocation by the SOCWA Board, then that Public Relations expense may be funded by one or more Project Committees, or by two or more Member Agencies, subject to the unanimous consent of the Participating Directors representing the Member Agencies that will fund the expense.

Regular Salaries-Admin: Regular salary of the SOCWA General Manager

Small Purchases and Consumables: Small tools and supplies, subscriptions, postage, office supplies in admin, miscellaneous, and shipping/freight that support Board-related business.

5. **Other Budget Components**:

  - UAL - "UAL" is an abbreviation for Unfunded Actuarial Liability, which is the gap between a pension plan's total obligations to employees and the assets it has on hand to pay for those benefits. This liability represents the portion of accumulated benefits that an organization is committed to paying but for which it has not yet set aside sufficient funding. For example, in the UAL calculation for a public agency, the UAL represents the amount of promised benefits that is greater than the plan's assets.
  - OPEB - An OPEB liability is an accounting term for the financial obligation an employer has to pay for Other Postemployment Benefits (OPEB) provided to its retired employees and their beneficiaries. These benefits are non-pension benefits earned during an employee's service period but paid after employment has ended.

Cost Allocations

The following sections provide the allocations by each component outlined above.

Engineering Allocations

Capital costs are considered projects that maintain the SOCWA facilities and follow Section 6.3.1 of the SOCWA JPA agreement, which states that capital costs "shall be paid by the Participating Member Agencies in proportion to their respective percentage share of the ownership of capacity in said Project facilities." The December 2024 reorganization agreements contain the most current cost allocations for capital projects and are utilized in the budget creation.

The capital portion of the O&M Budget is presented to the SOCWA Board's Engineering Committee for review, comment, and incorporation by consensus of each project committee member.

Administrative Cost Allocation

Administrative costs follow Section 6.2 of the SOCWA JPA agreement. The methodology divides costs per agency by the total Operations and Maintenance budget (Departments 01 & 02) without including Admin, UAL, or OPEB costs. This ensures administrative costs remain proportional to services received, as identified in the annual budget. Any changes to this methodology require unanimous consent from all Participating Member Agencies per Section 6.3.1 of the SOCWA JPA.

Fringe Benefit Allocation

SOCWA utilizes a fringe benefit pool methodology that is applied to salaries with a utilization rate. The fringe benefit pool encompasses costs for accrued leave, group insurance, PERS Normal Costs, and other paid benefits. The utilization rate is the pay-for-time-worked rate based on the number of hours on leave divided by the total number of hours available to work. SOCWA plans to transition from the fringe pool method to an actual cost allocation approach to better accommodate labor changes throughout the fiscal year.

Information Technology Allocation

IT costs are distributed using a labor-based ("where labor worked") allocation methodology, distinguishing between:

- Direct costs: Technology services or equipment needed at specific SOCWA facilities.
- Indirect costs: Distributed across project committees and departments based on labor allocation.

Unfunded Liabilities Allocation

The allocation of Unfunded Accrued Liability (UAL) requires annual payments based on actuarial distributions. Distribution adheres to a proportional methodology based on labor services received by each Member Agency and is updated by an actuarial firm, when necessary, to account for structural changes at the agency. Employer retirement costs are allocated according to labor distribution and agency participation levels, reviewed and updated periodically by an outside consulting firm. Certain agencies (referred to as Contract Agencies as defined herein) are contractually obligated to cover certain UAL and OPEB costs based on terms set forth in individual agreements, such as withdrawal or continuing services agreements.

Contracted Services Allocations

SOCWA may contract from time to time with partners to provide those partners with certain specialty services, such as recycled water permitting, permitting compliance services (such as NPDES and master recycled water permits), pretreatment program services, and/or laboratory services using the same general facilities and standard of care as provided to SOCWA's Member Agencies. Generally, SOCWA provides these services and invoices for the contracted partners, such as the Trabuco Canyon Water District and the Moulton Niguel Water District, on a quarterly or annual basis for actual costs, plus reasonable administration and overhead costs, which are calculated proportionately based on the same overhead and administration methodology used for Member Agencies.

De minimis contracts that provide revenue sources of under $100k annually will have a flat overhead and administration rate, which will be set and reviewed annually, and these revenues will be used to offset costs associated with the specific Project Committee applicable to the service provided, if applicable, and shall be reconciled and credited as appropriate during the use audit process.

SOCWA will defer to agreed-upon contract language from previous member agencies negotiated as part of subsequent withdrawal agreements related to unfunded public system liability while agencies were members of the Authority.

SOCWA will provide notice to each contracted services partner no later than March 1 each year to determine whether they desire to continue using SOCWA's services for the following fiscal year, to determine inclusion in the budget, where and as applicable.

Project Committee Allocation

SOCWA operates through a series of Project Committees (PCs), each with specific operational responsibilities and Participating Member Agencies. The Project Committee costs are inclusive of facility usage, operational needs, special studies determined by Engineering or Finance Committees, permit requirements, regulatory drivers, labor, and utility operational costs. Specific allocation methodologies vary by Project Committee. SOCWA will utilize the capacity ownership amounts set forth in the December 2024 Reorganization Agreements as normal budgeted costs and resolve the usage in the Use Audit process.

Table 2 sets forth the current SOCWA Project Committees, Member Agencies, and Contract Agencies. "Contract Agencies" are agencies that have contracted capacity through other SOCWA Member Agencies and/or otherwise receive services through contracts directly with SOCWA.

Table 2: SOCWA Project Committee Participating Member Agencies and Contract Agencies

Project Committee	Description	SOCWA Participating Member Agencies	Contract Agencies
PC 2	JB Latham WWTP	SCWD, SMWD	MNWD
PC 5	San Juan Creek Ocean Outfall (SJCOO)	CSC, SCWD, MNWD, SMWD	MNWD
PC 8	Pre-Treatment Program	CLB, CSC, EBSD, ETWD, SCWD, SMWD	IRWD, MNWD
PC 12	Recycled Water Permit	SCWD, SMWD	MNWD, TCWD
PC 15	Coastal WWTP	CLB, EBSD, SCWD	N/A
PC 21	Effluent Transmission Main (ETM)	ETWD	IRWD, MNWD
PC23	North Coast Interceptor (NCI)	CLB, EBSD	N/A
PC 24	Aliso Creek Ocean Outfall (ACOO)	CLB, EBSD, ETWD, SCWD	IRWD, MNWD

Agency Abbreviations:

- CLB: City of Laguna Beach
- CSC: City of San Clemente
- EBSD: Emerald Bay Service District
- ETWD: El Toro Water District
- IRWD: Irvine Ranch Water District (a Contract Agency, not a Member of SOCWA)
- MNWD: Moulton Niguel Water District (a Contract Agency, not a Member Agency of SOCWA)
- SCWD: South Coast Water District
- SMWD: Santa Margarita Water District
- TCWD: Trabuco Canyon Water District (a Contract Agency, not a Member Agency of SOCWA)

PC 2 (JB Latham WWTP)

PC 2 O&M costs are budgeted and allocated based on the capacity rights specified in the Assignment and Assumption Agreement (PC 2) (Agreement No.5/Agreement #7 to PC 2, effective December 12, 2024), as outlined in Table 3. Please note that, based on the agreement, *MNWD costs are combined with SCWD costs, effective December 12, 2024:*

"MNWD's 23.08% liquids treatment capacity allocation in (and effluent from) the JB Latham Treatment Plant, totaling 3.00 mgd; and (ii) MNWD's 21.62% solids treatment capacity allocation in the JB Latham Treatment Plant, totaling 8,340 lbs/day ((i))".

Table 3: PC 2 Capacity Summary (Owned and Operated by SOCWA)

PC 2 - SOCWA JBL Capacity Summary (Owned and Operated by SOCWA)					
Agency	Liquids (mgd)	Solids (mgd) (1)	Solids (lbs)(1)	Common-S (%)	Common - L (%)
SCWD	6.75	7.70	16055	41.62%	51.92%
SMWD	6.25	10.80	22518	58.38%	48.08%
Total	13.00	18.50	38573	100%	100%

PC 5 (San Juan Creek Ocean Outfall)

PC 5 O&M costs are budgeted and allocated based on the hydraulic capacity ownership amounts set forth in the Assignment and Assumption Agreement (Agreement No.6, effective December 12, 2024) and represent fixed costs as noted in Table 4. Please note that, based on the agreement, *MNWD costs are combined with SMWD costs effective December 12, 2024:* "MNWD hereby permanently assigns to (a) SMWD and SMWD hereby accepts 59% of MNWD's assigned Outfall Capacity, and (b) SCWD and SCWD hereby accepts 41% of MNWD's Assigned Outfall Capacity and 100% of MNWD's Assigned Pumping Capacity."

Table 4: PC 5 - SOCWA San Juan Creek Ocean Outfall Capacity Summary (Owned and Operated by SOCWA)

Agency	Ownership (%)	Hydraulic Capacity (mgd)
CSC	16.620%	13.296
SCWD	18.829%	15.063
SMWD	64.551%	51.64
Total	100.000%	80.00

PC 8 (Pretreatment Costs)

PC 8 costs remain in the budget with direct costs billed to Contract Agencies based on where labor worked.

PC 12 (Water Reclamation Permits)

The PC 12 costs are volume based (recycled water produced) and are allocated by Agency in the following manner.

- MNWD: The amount of reclaimed water produced from the Regional Treatment Plant (RTP) and the 3A Treatment Plant (split with SMWD).
- South Coast Water District (SCWD): The total reclaimed water produced from the Coastal Treatment Plant (CTP).
- Santa Margarita Water District (SMWD): The combined sum of reclaimed water produced from the Oso Creek Water Reclamation Plant (OCWRP), the Chiquita Water Reclamation Plant (CWRP), and the Nichols Water Reclamation Plant (NWRP), the acre-foot sum of the Rosembaum well, the Mission Street Well, and the total reclaimed water from the SMWD/CSJC intertie.
- Trabuco Canyon Water District (TCWD): Reclaimed water produced from the Robinson Ranch Water Reclamation Plant (RRWRP).

PC 15 (Coastal Treatment Plant) Allocation

PC 15 O&M costs are budgeted and allocated according to the Liquids, AWT, and Common capacity amounts set forth December 12, 2024, Coastal Treatment Plant Capacity Rights Transfer Agreement (Agreement No.3MNWD Capacity Rights in Project Committee 15), as noted in Table 5.

Table 5: PC 15 - Coastal Treatment Plant Capacity Summary (CTP Owned and Operated by SOCWA: AWT is owned by SCWD but operated by SOCWA)

Agencies	Liquids (mgd)	AWT (%)	Common (%)
CLB	3.64	0	54.30%
EBSD	0.2	0	3.00%
SCWD	2.86	100	42.70%
Total	6.7	100	100.00%

PC 21 (Effluent Transmission Main) Costs

PC 21 O&M costs are budgeted and allocated according to hydraulic capacity ownership as set forth in the Assignment and Assumption Agreement (Agreement No.7, effective December 12, 2024) (Project Committees 21 and 24) as noted in Table 6. Please note that *IRWD costs are combined with ETWD costs, effective July 1, 2023, with 50% capacity rights to IRWD and 50% capacity rights to ETWD for ETM reach B/C/D, and IRWD and MNWD costs are combined with ETWD costs, effective December 12, 2024, with 23.29% allocated to ETWD, 23.29% allocated to IRWD, and 53.43% allocated to MNWD for Reach E.*

Table 6: PC 21 - Effluent Transmission Main (ETM) Capacity Summary Reach B/C/D/E (Owned and Maintained by SOCWA)

Agency	Hydraulic Capacity	Ownership Percentage (%)
ETWD - B/C/D	15	100%
ETWD - E	32.2	100%

PC 23 North Coast Interceptor Costs

PC 23 O&M costs are budgeted and allocated according to hydraulic capacity ownership as set forth in the November 22, 2006, Amendment No. 3 to the Agreement for Design, Construction, Use, Operation, Maintenance, Repair, and Replacement of Phase I North Coastal Interceptor Sewer Pipeline and Pumping Stations for AWMA for and on Behalf of PC No. 7-A as noted in Table 7.

Table 7: PC23 North Coast Interceptor

Agency	Capacity Ownership Percentage (%)
CLB	95.88
EBSD	4.12

PC 24 (Aliso Creek Ocean Outfall) Costs

PC 24 O&M costs are budgeted and allocated according to hydraulic capacity ownership as set forth in the December 12, 2024, Assignment and Assumption Agreement (Agreement No.7) (Project Committees 21 and 24) as noted in Table 8. As noted in the Agreement: "*Note MNWD costs are combined with ETWD costs, effective December 12, 2024.* Assignment and Acceptance of MNWD's Assigned Capacity and Rights and Obligations. MNWD hereby permanently assigns to ETWD, and ETWD hereby accepts from MNWD, (1) MNWD's 53.42% capacity allocation in Reach E of the Effluent Transmission Main; (2) MNWD's 43.848% capacity allocation in the ACO Outfall ((1) and (2) are collectively referred to herein as "MNWD's Assigned Capacity"). Note that IRWD transferred capacity rights to ETWD effective July 1, 2023 via an Assignment and Assumption Agreement.

Table 8: PC 24 - Aliso Creek Ocean Outfall (ACOO) Capacity Summary (Owned and Operated by SOCWA)

Agency	Hydraulic Capacity (mgd)	Ownership Percent (%)
CLB	5.500	11.00%
EBSB	0.390	0.78%
ETWD	37.955	75.91%
SCWD	6.155	12.31%
Total	50.000	100.00%

Cost Allocation Principles for SOCWA Wastewater Treatment Facilities

The following principles guide SOCWA's cost allocation methodologies and are applicable to PC 2 & PC 15. The other PCs have fixed cost distribution (PC 5 & PC 24), and are based on production (PC 12), or labor allocation (PC 8). Additional allocation categories are described below. Cost allocations are used in the Use Audit to reconcile actual use in the facilities.

Treatment Plant Cost Allocation Categories

1. Process-Based Allocation: Costs are allocated based on operational processes (Liquids, Solids, Common, AWT).
2. Facility-Specific Considerations: Each facility has a unique allocation structure reflecting its operational characteristics.
3. Direct vs. Shared Costs: Direct costs are allocated to specific processes; shared resources are allocated proportionally.
4. Labor Distribution: Based on actual time spent supporting each facility or project committee.
5. Utility-Specific Allocation: Based on metering data and operational requirements.
6. Chemical Usage Tracking: Based on actual usage by treatment process, resolved in the use audit.
7. Equipment-Based Allocation: Based on the primary function of equipment (solids, liquids, or common costs).

PC 2 Cost Allocation Structure

PC 2 operates with a four-way allocation system distributing costs among Liquids (55.1%), Solids (43.4%), Common/Liquids (0.8%), and common Solids (0.8%) treatment processes. This allocation structure applies to regular labor costs, benefits, and most operational expenditures. Notable variations include:

- Electricity: 65.0% Liquids, 25.0% Solids, 5.0% Common/Liquids, 5.0% Common/Solids

- Natural Gas: 65.0% Liquids, 25.0% Solids, 5.0% Common/Liquids, 5.0% Common/Solids
- Chlorine/Sodium Hypochlorite: 50.0% Liquids, 50.0% Solids
- Polymer Products: 100% Solids
- Ferric Chloride: 100% Liquids
- Other Chemicals: 54.0% Liquids, 46.0% Solids
- Non-Control Chemicals: 50.0% Common/Liquids, 50.0% Common/Solids
- Laboratory Services: 75.0% Liquids, 25.0% Solids
- Grit Hauling: 100% Solids
- Capital projects follow the ownership allocations, depending on the type of project, that are presented as the Common-L or Common-S.

PC15 Cost Allocation Structure

PC 15 employs a different allocation structure than PC 2, with costs distributed among Liquids (55.4%), Common/Liquids (3.4%), and AWT (41.2%) treatment processes. This reflects the facility's distinct operational focus. Key allocation patterns include:

- Regular Salaries: 76.4% Liquids, 18.2% Common/Liquids, 5.4% AWT
- Overtime Salaries: 64.9% Liquids, 21.9% Common/Liquids, 13.2% AWT
- Electricity: 100% Liquids
- Natural Gas: 50.0% Liquids, 50.0% Common/Liquids
- Water: 90.0% Liquids, 10.0% AWT
- Chlorine/Sodium Hypochlorite: 100% Liquids
- Ferric Chloride: 100% Liquids
- Laboratory Supplies: 75.0% Liquids, 25.0% AWT
- Petroleum Products: 50.0% Liquids, 3.4% Common/Liquids, 41.2% AWT
- Uniforms: 55.4% Liquids, 3.4% Common/Liquids, 41.2% AWT
- Maintenance Equipment & Facilities (Liquids): 100% Liquids
- Maintenance Equipment & Facilities (Common): 100% Common/Liquids
- Maintenance Equipment & Facilities (AWT): 100% AWT
- Solids Pumping Costs (discussion item with Engineering Committee)
- Capital projects follow the ownership allocations, depending on the type of project, that are presented as Common or AWT

PC 5, 21, 23, and 24 Cost Allocation Structure

All budgeted capital and O&M costs for PCs 5, 21, 23, and 24 are allocated based on the Member Agencies' ownership of hydraulic capacity of the pipelines.

Contract Agency Services

SOCWA provides services for Contract Agencies through contractual agreements, such as laboratory and permitting services. The budget for these services is provided to the Contract Agencies by March of each year for approval of continuation of services.

Budget Allocations

Once the total cost of providing staffing and services on behalf of MAs is completed by SOCWA staff and approved by the Board, the following standardized methodology allocates costs to project committees (PCs) and ultimately rolled up to each SOCWA Member Agency. It ensures equitable distribution of operations and maintenance (O&M) expenses, administrative costs, general fund (GF) contributions, unfunded actuarial liability (UAL), and other post-employment benefits (OPEB) liabilities. All allocations shall be based on verifiable data sources, such as capacity rights, labor utilization, or flow percentages, and shall adhere to board-approved guidelines and reorganization agreements. SOCWA staff shall provide Member Agency staff with the raw data for the allocations and methodology employed with a statement of quality assurance in adherence with the allocation steps below with the annual SOCWA Budget.

The steps for cost allocation are as follows:

1. Allocation Based on Capacity Rights: Utilize established capacity rights to determine the proportional contribution per agency for each PC and MA.
2. Alternative Allocation Methods: In instances where capacity rights are unavailable, employ labor utilization metrics (e.g., "where employee worked") or flow percentages to calculate the proportional utilization by each agency.
3. Calculation of MA Operating Cost Percentages: Determine the percentage that each MA's operating costs represent relative to the total O&M budgeted expenses. This calculation excludes administrative costs, GF contributions, UAL, and OPEB liabilities.
4. Determination of Administrative Costs per MA: Multiply the percentage derived in Step 3 for each MA by the draft budget amount to compute the total administrative cost attributable to that MA.
5. Computation of Administrative Cost Allocation Percentage: Divide the O&M cost per facility or service budget by the total MA budget to establish the administrative cost allocation percentage.
6. Allocation of General Fund: Calculate the percentage of costs based on Table 1, subtract that amount from the administrative costs and divide equally between the six member agencies.
7. Allocation of Administrative Costs per PC or Service: Multiply the percentage from Step 5 by the total administrative cost from Step 4 to allocate administrative costs to each PC or service.
8. Allocation of UAL and OPEB Liabilities: Use the admin cost allocation percentages per PC (that follows where labor worked) for the liability distribution of the UAL and OPEB. The total liability is the sum of the PCs that the MA is a member of based on UAL Methodology established by the SOCWA Board in 2018[1].
9. Total Budget per Agency: Sum all allocated costs (including O&M, administrative, GF (if applicable), UAL, and OPEB) to derive the total budget attributable to each agency.

This procedure shall be reviewed as needed to incorporate any updates to board methodologies, reorganization agreements, or budgetary frameworks. All calculations must be documented and auditable, with supporting data retained as required by the SOCWA Records Retention Policy.

[1] Actuaries Marilyn Jones of Nyhart and Mary Beth Redding of Bartel Associates provided the updated UAL methodology at the June 17, 2018 Finance Committee meeting. The Finance Committee recommended to use the methodology on August 29, 2018, further discussion at the September 19, 2018 Finance Committee meeting, final action to approve the methodology for use in the audited financial statements on October 4, 2018 by the Finance Committee. This methodology was used in the distribution of liability in FY 2017-2018 audited financials that was brought to the Board to receive and file at the December 6, 2018 SOCWA Board meeting. The SOCWA Board voted to receive and file the audited financial statements and approved the methodology in the approval of the FY 2017-18 Annual Use Audit.

Use Audit Allocation

The Use Audit is completed by applying established flow allocation methodologies, circulated annually for review to SOCWA member agencies, which distribute costs among member agencies based on their proportional usage of treatment facilities. The process involves collecting actual flow data (measured in million gallons per day) and solids loading data (calculated from BOD and TSS measurements) for each Member Agency during the fiscal year, then comparing these actual values against budgeted amounts to determine each agency's percentage share of total system usage.

The allocation methodology varies by project committee - some use average flows over multiple years, others incorporate solids loading calculations, and some account for special agreements between agencies (like the 2018 MNWD-SMWD agreement for solids allocation). Once the actual usage percentages are calculated and compared to budgeted percentages, any differences result in either disbursement of funds to agencies that were overcharged or collection of additional funds from agencies that were undercharged, with the final results reviewed through the Engineering and Finance Committees and recommended to the SOCWA Board of Directors before implementation. Table 9 provides a summary of the Use Audit Methodology with PC descriptions below Table 9.

Table 9: Use Audit Methodology Table

Project Committee (PC)	Method	O & M Costs - Variable	O & M Costs - Fixed	Capital Costs
PC 2	Variable	Liquids-related costs are based on each agency's prior calendar year flows to prepare the budget. Solids-related costs are based on each agency's three (3) year prior pounds (BOD + TSS)/2) to prepare the budget. The Use Audit process utilizes the actual FY totals for Liquids and the actual FY solids, along with the two prior FY solids totals.	Common costs are allocated based on the average ownership of liquids and solids capacity percentages, or ((L% + S%)/2).	For facilities or equipment with a service life equal to or greater than 5 years, or a value in excess of $1,000, costs are allocated on the basis of liquid treatment capacity ownership and/or solids treatment capacity ownership as may be applicable.
PC 5	Fixed	Allocated to PC members based on fixed ownership.	Allocated to PC members based on fixed ownership.	Allocated to PC members based on fixed ownership.
PC 8	Variable	Allocated based on percentage of staff time.	Shared equally among all member agencies.	Shared equally among all member agencies.

Table 9: Use Audit Methodology Table (Continued)

Project Committee (PC)	Method	O & M Costs - Variable	O & M Costs - Fixed	Capital Costs
PC 12	Variable	Total costs are split 50/50 between fixed and variable. Allocated proportionally to each PC member based on non-potable water production and projections.	Total costs are split 50/50 between fixed and variable. Divided equally between each PC member. Insurance is allocated equally amongst the Participating Member Agencies.	Not applicable
PC 15	Variable	Liquids related costs are allocated based on the agency's prior calendar year's flows to prepare the budget. The Use Audit process uses the actual FY totals for Liquids. 100% of the AWT costs are attributed to SCWD.	Common costs are allocated to the PC members based on their liquids ownership allocations.	Plant Liquids and Common capital costs are allocated to the PC members based on their liquids ownership allocations. 100% of the AWT capital costs are allocated to SCWD.
PC 17*	Variable	All costs are allocated to MNWD unless otherwise stated in the Budget/Use Audit.	All costs are allocated to MNWD unless otherwise stated in the Budget/Use Audit.	Any designated capital costs will be allocated to the Budget/Use Audit based on the accompanying agreement.
PC 21	Fixed	Not applicable.	Allocated to each PC member based on percentage of ownership.	Allocated to PC members based on percentage of ownership.
PC 23	Fixed	None or NA - All Costs are considered to be allocated using the Fixed method	All O&M Costs are allocated by ownership percentages per PC23 agreements (see Section 7 of the 11-4-1976 agreement).	All Capital O&M Costs are allocated by ownership percentages per PC23 agreements (see Section 7 of the 11-4-1976 agreement).

Table 9: Use Audit Methodology Table (Continued)

Project Committee (PC)	Method	O & M Costs - Variable	O & M Costs - Fixed	Capital Costs
PC 24	Fixed	Allocated to PC members based on fixed ownership.	Allocated to PC members based on fixed ownership.	Allocated to PC members based on fixed ownership.

*Included to complete the FY 24-25 Use Audit and will be no longer after the FY 24-25 Use Audit is completed.

The following provides the method for the Use Audit by PC:

PC 2

Member Agency average flows for the FY were used in the flow allocation and applied proportionally from the total combined flow from each tributary trunk line. The PC 2 uses FY flows and three-year FY average solid loadings to reconcile the budgeted amounts. Solids loadings are calculated from adding the average FY BOD and TSS and, dividing by 2, and then multiplying the result by the flow and the 8.34 pounds conversion factor. In March 2018, PC2 members Moulton Niguel Water District (MNWD) and Santa Margarita Water District (SMWD) came to an agreement on how to allocate solids for budgeting and use audit purposes. The new method captures the influent loading at Plant 3A, as it was recognized that this allocation would isolate MNWD's solids contributions to JBL to a single variable. SMWD solids to JBL would then be the balance of solids contributed by the Oso Creek Water Reclamation Plant, 3A, and any other discharges to the Oso Trabuco line to JBL.

PC 5

Fixed costs based on ownership capacity per Member Agency.

PC 8

Allocation is based on timecard (where labor worked).

PC 12

The PC 12 method of production is detailed by Member Agency in the following narrative. San Juan Capistrano is the acre-foot sum of the Rosembaum well, the Mission Street Well, and the total reclaimed water from the SMWD/CSJC intertie. For MNWD, it is the amount of reclaimed water produced from the Regional Treatment Plant (RTP) and the 3A Treatment Plant (split with SMWD). South Coast Water District (SCWD) is the total reclaimed water produced from the Coastal Treatment Plant (CTP). The Santa Margarita Water District (SMWD) is the combined sum of reclaimed water produced from the 3A Treatment Plant (split with MNWD), the Oso Creek Water Reclamation Plant (OCWRP), the Chiquita Water Reclamation Plant (CWRP), and the Nichols Water Reclamation Plant (NWRP). The Trabuco Canyon Water District (TCWD) is reclaimed water produced from the Robinson Ranch Water Reclamation Plant (RRWRP).

PC 15

Due to the lack of solids handling capacity at the Coastal Treatment Plant (CTP), allocation methodology is based on flows to the treatment plant. In addition, there are no current flow meters installed to account for any flow sent to CTP from MNWD, so no flow is being accounted for in this PC flow allocation methodology, unless for emergency use as needed through authorization by the PC15 members, with billing based on use, reconciled in the annual use audit. The City of Laguna Beach (CLB) is the average annual flow into CTP (metered). The Emerald Bay Services District (EBSD) is the average annual flow into CTP (calculated from monthly meter read from the lift station divided by the days in the month). The South Coast Water District (SCWD) is the average annual flow into CTP (metered). The meter calibration is performed annually in June.

PC 17

The final use audit will be for FY 24-25 due to the reorganization agreements. The method is therefore included in this policy for memorialization.

PC 17 has liquid and solids contribution. The liquid flow allocation is based on influent flow to the plant. The influent flow is solely contributed by the MNWD. The export sludge line transports solids to RTP from CTP for further processing. The liquid flow from CTP's export sludge line is divided by five and distributed to each agency, then summed up to create a total liquid flow to RTP. The flows are then distributed on a proportional basis. The solids contribution is based on the total daily average pounds contributed by each agency distributed proportionally. The meter calibration is performed annually in June.

PC 24

Fixed costs based on ownership capacity per Member Agency.

Review and Adjustment

Budgeted administrative costs may be adjusted mid-year as necessary to ensure accurate cost allocation, with all adjustments promptly communicated to member agencies. This policy undergoes periodic review during the budget development process, allowing for modifications based on operational changes, financial circumstances, or evolving Member Agency needs. Changes to this policy may only be made by the unanimous consent of all the Participating Member Agencies as set forth in Section 6.3.1 of the SOCWA Joint Powers Agreement.

Policy Approval and Adoption

This Policy has been reviewed by the Authority Board of Directors and adopted by Resolution No. 2026-02 on March 05, 2026, superseding all previous versions.

Agenda Item 7.D.

Board of Directors Meeting	
Meeting Date: March 5, 2026	

TO: Board of Directors Meeting

FROM: Amber Boone, General Manager

SUBJECT: PC2 Orbis Affairs Contract

Summary/Discussion

Public Relations was discussed briefly at the December 11, 2025 and January 8, 2026 SOCWA Board meetings. The discussions focused on the procedural aspect of retaining government and public affairs contract. Those discussions were included in the cost allocation policy included in item 7.C of this SOCWA Board packet. SOCWA staff has attached the scope of work for review and discussion by Project Committee 2.

Recommended Action: Board Discussion, Direction, or Action

Attachment: Orbis Public Affairs Scope of Work and Contract

SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

CONSULTANT SERVICES AGREEMENT

THIS CONTRACT is made this 5th day of March, 2025 between **South Orange County Wastewater Authority (SOCWA)** a Joint Powers Authority (hereinafter referred to as "Authority"), and **Orbis Public Affairs** a subsidiary of Orbis Capital Inc. a California Corporation (hereinafter referred to as "Consultant"), for services described in addendum A as "Proposal ".

In consideration of the mutual covenants and agreements herein contained, the parties hereto agree as follows:

Upon execution by both parties, the Contract will be binding on the parties for good and sufficient consideration and for the Consultant's compensation hereinafter stipulated, subject to the following conditions. It is mutually agreed that there shall be no modification of the Contract except by mutual approval and written order signed by and/or on behalf of both Authority and Consultant, and that the Contract consists of this agreement only.

<u>Scope of Work and Compensation</u>

The Scope of Work and Compensation as described in the attached “Proposal” dated 3/5/2025 as initialed by Consultant and Authority shall be wholly incorporated into this document as addendum “A”. On January 1 of each year, Consultant’s rate shall increase by the published not seasonally adjusted CPI rate as published by the U.S. Bureau of Labor Statistics.

<u>Term</u>

The term of this contract shall be for a period of six months from March 5, 2025 to August 6, 2026, with the option to renew upon written agreement of both parties.

1. Consultant shall provide professional services for Authority as listed above in the Scope of Work except as otherwise written in this Contract. Consultant shall perform its services under this Contract to the best of Consultant’s ability and skill, in the most expeditious and economical manner consistent with Authority’s best interests.

2. Consultant may utilize the services or employ such other experts as it deems necessary and desirable in the performance of the Consultant's Work and each of such experts or persons retained or employed by Consultant shall be agents of Consultant for all purposes of this Contract. Consultant shall be solely responsible for all fees and costs associated with these experts or persons, and any such utilization of other experts or persons shall not increase the cost of this Agreement without the prior written authorization of the Authority as set forth more fully in Section 15 of this Agreement.

3. Authority understands that even with the best efforts of Consultant, any or all of the desired outcomes may be unattainable and that regardless of outcome, retainers are considered earned at the time each invoice or retainer reflecting those rates is submitted.

4. Provided Consultant is not in default, and no fact or circumstance exists, which, with the giving of notice, the passing of time, or both, would constitute a default under this Contract, in the event all or any portion of Consultant's Work is suspended, abandoned, or terminated, the Authority shall pay the Consultant for the work actually performed on a prorated basis.

5. a. This Contract may be terminated without cause and for any reason by the delivery of ten (10) days written notice by either party, in which event Authority will pay Consultant for the work actually performed (including allowable reimbursable expenses) through the termination date. After receipt of such payment, Consultant shall have no further claims against Authority with respect thereto excepting any success fees under section 14 of this contract which will remain due subject to the conditions of that section. In the event of termination, Consultant shall submit a final invoice to Authority within fifteen (15) days following the termination date.

This Contract may also be terminated by Authority as follows:

b. Upon 24 hours' written notice,

i. upon the death or disability of Consultant;

ii. Consultant’s habitual neglect, personal dishonesty, or willful misconduct in the performance of Consultant’s work; or

iii. by mutual agreement of Consultant and Authority.

c. Upon any breach of Consultant’s representations and warranties set forth in this Contract or Consultant's breach of any provision of this Contract and Consultant's failure to cure such breach within 5 days of Authority providing a written notice to cure.

Upon Termination under sections 5b and 5c, Authority’s obligations under this Agreement shall cease and Consultant shall be entitled to receive only the compensation earned up to and including the date of termination.

6. This Contract shall be governed by the laws of the State of California. In the event that suit is brought hereunder or a claim or action is asserted that allegedly arises out of the obligations, rights, or liabilities set forth in this Contract, the parties agree that such suit shall be brought before a court of competent jurisdiction within the County of Orange, and that said County shall constitute, for all purposes contemplated hereby, a proper venue and convenient forum for the filing of the same.

7. The parties are fully committed to working with each other throughout the term of this contract and agree to communicate regularly with each other at all times in order to avoid or minimize disputes or disagreements. If disputes or disagreements do arise, Consultant and Authority each commit to resolving such disputes or disagreements in an amicable, professional and expeditious manner so as to avoid unnecessary costs, losses, delays or disruptions to the Consultant's work.

8. To the extent not resolved after engaging informal dispute avoidance and resolution discussions, Authority and Consultant shall participate in mediation conducted by a mutually agreeable neutral party in an attempt to resolve their disputes and/or disagreements prior to, and as a condition precedent to, either party initiating a lawsuit arising out of this Contract.

9. If a dispute arises between the parties with respect to this Contract, or if any action is brought to enforce or interpret any part of this Contract or to seek damages by reason of the breach of this Contract, the "prevailing party" shall be entitled to recover attorneys' fees, costs and expenses incurred in investigating, preparing, or enforcing such party's rights under this Contract.

10. Time is of the essence with respect to Consultant's obligations set forth in this Agreement. The Consultant shall perform its services as expeditiously as is consistent with professional skill and care and the orderly progress of the execution of Consultant's work.

11. All notices, demands, requests, approvals or other communications which either party pursuant to the terms of this Contract is required or desires to give, make or communicate, shall be in writing and shall be addressed as follows:

To:	South Orange County Wastewater Authority	To:	Orbis Public Affairs
At:	34156 Del Obispo Street	At:	650 N. Rose Drive Suite 363
	Dana Point, CA 92629		Placentia, CA 92870
	Attention: Amber Boone		Attention: Chad Wanke
	amberb@socwa.com		cwanke@orbispublicaffairs.com
	949-234-5400		714-606-1973

Either party may change its address for notices by giving written notice of such change to the other party. All notices shall only be effective upon receipt by the other party.

12. Authority may designate, from time to time, by written notice to Consultant, one or more of Authority's employees, agents, representatives or other parties to deal with

Consultant in all matters pertaining to the administration and carrying out of the provisions of this Contract.

13. Conformance to Applicable Requirements. All work materials prepared by consultant for use in conformance with the duties of this contract are subject to the approval of the Authority.

14. Neither Authority or Consultant will, for any reason, disclose or use at any time, either during the term of this Contract or subsequent to the termination thereof, any information deemed confidential by either party, or use such information directly or indirectly to Authority or Consultant's detriment in any way. Both parties shall make the other party aware in writing of any information disclosed that is deemed confidential. Confidential materials shall be designated as such either by written notice or by designation of such status by a mark, stamp or other identifier upon said materials.

Expenses

15. Reimbursable expenses shall be approved in advance and in writing by Authority, and reimbursed to Consultant at cost and shall only include actual expenditures made by the Consultant and Consultant's employees and/or agents in the interest of the Authority for the following items:

a. Expense of transportation and living expenses in connection with overnight out-of-area travel that is authorized, required or requested by Authority. Out-of-area shall be defined as any area more than fifty miles from Consultant's address for notice as shown in this contract. Allowable expenses shall include actual mileage, transportation, meals and lodging costs. Consultant shall provide receipts to Authority. Mileage shall be calculated using the most current published IRS rates.

b. Fees paid by Consultant on behalf of Authority for securing permits or other approvals of private or governmental agencies.

c. Expenses related to community or other public meetings including food and beverages, catering, facility rental, audio visual services and equipment rental, security,

d. Vendor Costs when incurred with prior Authority authorization will be billed at cost plus a 15% administrative fee. Vendor Costs include but are not limited to;

i. Reproductions, excluding for office use;

ii. Models or renderings requested by the Authority;

iii. CAD plotting;

iv. Outside messenger and delivery services;

v. Outside blueprinting;

vi. Inspections, surveys and plans;

vii. Design, copyediting, layout and publishing of communication materials both printed and electronic.

viii. Audio visual services and equipment rental.

ix. Security services.

x. Catering and food services.

16. The following items shall not be considered as Reimbursable Expenses and should be included in the Consultant’s fee:

a. Computer time and other computer related expenses.

b. In-house copying.

c. In-house blueprinting for office use.

d. Fax, telephone and internet services.

e. Travel and mileage requiring air, rail or professionally driven auto conveyance and lodging expenses which are not approved by Authority.

f. All other costs of doing business not specifically listed above.

<u>Terms of Payment</u>

17. Consultant shall provide Authority with an invoice for each monthly retainer, which monthly retainer shall be in the amount of $4,000/month for the term of this Contract. Periodically, Consultant may also submit to Authority an invoice for services, fees paid on behalf of Authority, reimbursable expenses or other items that have been preapproved by the Authority in writing. Authority shall verify and accept the correctness of each invoice as of the date it is received by Authority unless Consultant is notified in writing of a dispute with the Consultant's billing within five (5) business days of Authority's receipt of the invoice. Each invoice shall be due and payable as indicated on each invoice, but no later than 30 days (net 30) of the billing date as noted on the invoice. Invoice submission shall be by U.S. mail, courier or electronically by email. Invoices shall be paid in US Dollars by check, cash, ACH or EFT or in Bitcoin or Ethereum at the rate in effect on the date of invoice. Unpaid balances shall incur compounding interest at the rate of 10% per annum.

18. Authority shall make payment on Consultant's properly submitted invoice or invoices within 15 days of Authority's receipt of Consultant's final invoice following

Consultant's receipt of written notice of its termination or Authority's termination and/or abandonment of the Project.

General

19. This represents the entire integrated agreement between Authority and Consultant with respect to Consultant's work and the rights and obligations of both parties in connection with such services and duties.

20. Any prior promises, negotiations, representations, and agreement (whether oral or written) not expressly set forth in this Contract are superseded and have no further force or effect. This Contract may be amended only by written instrument signed by both Authority and Consultant. If any discrepancy exists between this Contract and any amendments to this Contract, this Contract will take precedence.

21. Each individual executing this Contract on behalf of Authority and Consultant represents and warrants that he or she is duly authorized to sign and deliver this Contract on behalf of said Authority or Consultant.

22. This Contract may be executed in one or more counterparts, each of which shall be deemed an original and all of which taken together shall constitute one agreement.

23. Authority and Consultant bind themselves, their partners, successors, assigns, and legal representatives to the other party to this Contract and to the partners, successors, assigns, and legal representatives of such other party with respect to all covenants of this Contract.

Miscellaneous

24. Authority and Consultant agree to cooperate with each other in every way in the execution of the duties imposed by this contract. It is recognized that the Authority may have entered into separate agreements with other service providers such as attorneys, engineers, architects, etc. Consultant agrees to cooperate and coordinate fully with all of Authority's service providers.

25. Authority authorizes Consultant to act and present themselves as its local lobbyist and representative when interacting with public and private entities, the public and staff, elected or appointed government officials.

26. Consultant is and will perform its services under this Contract as an independent Contractor only and not as an employee of Authority. Therefore, Authority shall not withhold state or federal income taxes or any other form of payroll deduction. The provisions of this paragraph shall survive the expiration or earlier termination of this Contract.

27. Any waiver of any breach of this Contract shall not be effective unless it is in writing and signed by the party sought to be bound thereby. Furthermore, no waiver shall be deemed to be a continuing waiver or, consent to, any subsequent breach on

the part of either Consultant or Authority. No failure to exercise, and no delay in exercising, any right or remedy hereunder shall operate as a waiver thereof. All rights and remedies provided herein are cumulative and the exercise of a particular right or remedy at any time or from time to time shall not preclude the exercise of the same or any other right or remedy hereunder, at law or in equity.

28. Under no circumstances will either party be liable to the other for any consequential, indirect, special or punitive damages, including but not limited to lost profits.

29. All parties acknowledge and accept that Orbis Capital, Inc., a California corporation is doing business as Orbis Public Affairs.

30. **Non-exclusivity of Consultant.** Authority understands, acknowledges, and agrees that Consultant and entities affiliated with Consultant are engaged in projects throughout California and that neither Consultant nor its affiliated entities are bound hereby to exclusive dealings with Authority.

31. Consultant shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of their Services, including all labor laws and Cal/OSHA requirements, and shall give all notices as required by law. Consultant shall be liable for all violations of such laws and regulations in connection with Services. If Consultant knowingly performs any work contrary to such laws, rules and regulations, Consultant shall be solely responsible for all costs arising therefrom. Consultant shall defend, indemnify and hold Authority, its officials, directors, officers, employees, agents, and volunteers free and harmless, pursuant to the indemnification provisions of this Agreement, from any claim or liability arising out of any failure or alleged failure to comply with such laws, rules or regulations.

32. .

Insurance

33. Insurance requirements as described in the attached Addendum “B” shall be wholly incorporated into this document.

Authority: South Orange County Wastewater Authority (SOCWA)	**Consultant: Orbis Public Affairs**
Signed: ____________________	Signed: Chad Wanke ____________
Name: ____________________	Name: Chad Wanke ____________
Title: ____________________	Title: Principal ____________

Addendum "B" Insurance

1. Time for Compliance. Consultant shall not commence work under this Agreement until it has provided evidence satisfactory to the Authority that it has secured all insurance required under this section. In addition, Consultant shall not allow any subconsultant to commence work on any subcontract until it has provided evidence satisfactory to the Authority that the subconsultant has secured all insurance required under this section.

2. Types of Insurance Required. As a condition precedent to the effectiveness of this Agreement for work to be performed hereunder, and without limiting the indemnity provisions of the Agreement, the Consultant, in partial performance of its obligations under such Agreement, shall procure and maintain in full force and effect during the term of the Agreement the following policies of insurance. If the existing policies do not meet the insurance requirements set forth herein, Consultant agrees to amend, supplement or endorse the policies to do so.

(A) Commercial General Liability: Commercial General Liability Insurance which affords coverage at least as broad as Insurance Services Office "occurrence" form CG 0001, or the exact equivalent, with limits of not less than $1,000,000 per occurrence and no less than $2,000,000 in the general aggregate. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions

(1) limiting coverage for contractual liability;

(2) excluding coverage for claims or suits by one insured against another (cross-liability); or

(3) containing any other exclusion(s) contrary to the terms or purposes of this Agreement.

(B) Automobile Liability Insurance: Automobile Liability Insurance with coverage at least as broad as Insurance Services Office Form CA 0001 covering "Any Auto" (Code 1), or if Consultant has no owned autos, "Hired Auto" (Code 8) and "Non- Owned Auto" (Code 9), or the exact equivalent, covering bodily injury and property damage for all activities with limits of not less than $1,000,000 combined limit for each occurrence.

(C) Workers' Compensation/Employer's Liability: Workers' Compensation Insurance, as required by the State of California and Employer's Liability Insurance with a limit of not less than $1,000,000 per accident for bodily injury and disease. If Consultant has no employees or agents, Consultant shall not be required to maintain Workers' Compensation Insurance. However, in the event that Consultant hires employees or agents during the term of this Agreement, Consultant shall obtain and maintain Workers' Compensation/Employer's Liability Insurance in accordance with this Section.

(D) Professional Liability (Errors & Omissions): Professional Liability insurance or Errors & Omissions insurance appropriate to Consultant's profession with limits of not less than $1,000,000. Covered professional services shall specifically include all work to be performed under the Agreement and delete any exclusions that may potentially affect the work to be performed (for example, any exclusions relating to lead, asbestos, pollution, testing, underground storage tanks, laboratory analysis, soil work, etc.). If coverage is written on a claims-made basis, the retroactive date shall precede the effective date of the initial Agreement and continuous coverage will be maintained or an extended reporting period will be exercised for a period of at least three (3) years from termination or expiration of this agreement.

3. Insurance Endorsements. Required insurance policies shall contain the following provisions, or Consultant shall provide endorsements on forms approved by the Authority to add the following provisions to the insurance policies:

(A) Commercial General Liability:

(1) Additional Insured: The Authority, its officials, officers, employees, agents, and volunteers shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the Agreement.

Additional Insured Endorsements shall not (1) be restricted to "ongoing operations"; (2) exclude "contractual liability"; (3) restrict coverage to "sole" liability of Consultant; or (4) contain any other exclusions contrary to the terms or purposes of this Agreement. For all policies of Commercial General Liability insurance, Consultant shall provide endorsements in the form of ISO CG 20 1O 10 01 and 20 37 10 01 (or endorsements providing the exact same coverage) to effectuate this requirement.

(2) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the Authority except ten (10) days shall be allowed for non-payment of premium.

(B) Automobile Liability Insurance: Automobile Liability Insurance with coverage at least as broad as Insurance Services Office Form CA 0001 covering "Any Auto" (Code 1), or if Consultant has no owned autos, "Hired Auto" (Code 8) and "Non- Owned Auto" (Code 9), or the exact equivalent, covering bodily injury and property damage for all activities with limits of not less than $1,000,000 combined limit for each occurrence.

(C) Workers' Compensation/Employer's Liability: Workers' Compensation Insurance, as required by the State of California and Employer's Liability Insurance with a limit of not less than $1,000,000 per accident for bodily injury and disease. If Consultant has no employees or agents, Consultant shall not be required to maintain Workers' Compensation Insurance. However, in the event that Consultant hires employees or agents during the term of this Agreement, Consultant shall obtain and maintain Workers' Compensation/Employer's Liability Insurance in accordance with this Section.

(D) Professional Liability (Errors & Omissions): Professional Liability insurance or Errors & Omissions insurance appropriate to Consultant's profession with limits of not less than $1,000,000. Covered professional services shall specifically include all work to be performed under the Agreement and delete any exclusions that may potentially affect the work to be performed (for example, any exclusions relating to lead, asbestos, pollution, testing, underground storage tanks, laboratory analysis, soil work, etc.). If coverage is written on a claims-made basis, the retroactive date shall precede the effective date of the initial Agreement and continuous coverage will be maintained or an extended reporting period will be exercised for a period of at least three (3) years from termination or expiration of this agreement.

(1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the Authority except ten (10) days shall be allowed for non-payment of premium.

(E) Workers' Compensation:

(1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the Authority except ten (10) days shall be allowed for non-payment of premium.

(2) Waiver of Subrogation: A waiver of subrogation stating that the insurer waives all rights of subrogation against the Authority, its officials, officers, employees, agents, and volunteers.

(F) Professional Liability (Errors & Omissions):

(1) Cancellation: Required insurance policies shall not be canceled or the coverage reduced until a thirty (30) day written notice of cancellation has been served upon the Authority except ten (10) days shall be allowed for non-payment of premium.

(2) Contractual Liability Exclusion Deleted: This insurance shall include contractual liability applicable to this Agreement. The policy must "pay on behalf of' the insured and include a provision establishing the insurer's duty to defend.

4. Primary and Non-Contributing Insurance. All policies of Commercial General Liability and Automobile Liability insurance shall be primary and any other insurance, deductible, or self- insurance maintained by the Authority, its officials,

officers, employees, agents, or volunteers shall not contribute with this primary insurance. Policies shall contain or be endorsed to contain such provisions.

5. Waiver of Subrogation. All policies of Commercial General Liability and Automobile Liability insurance shall contain or be endorsed to waive subrogation against the Authority, its officials, officers, employees, agents, and volunteers or shall specifically allow Consultant or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. Consultant hereby grants to Authority a waiver of any right to subrogation which any insurer of said Consultant may acquire against the Authority by virtue of the payment of any loss under such insurance. Consultant agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation, but this provision applies regardless of whether or not the Authority has received a waiver of subrogation endorsement from the insurer. Consultant shall require similar written express waivers and insurance clauses from each of its subconsultants.

6. Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be approved in writing by the Authority and shall protect the Authority, its officials, officers, employees, agents, and volunteers in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention.

7. Evidence of Insurance. The Consultant, concurrently with the execution of the Agreement, and as a condition precedent to the effectiveness thereof, shall deliver either certified copies of the required policies, or original certificates on forms approved by the Authority, together with all endorsements affecting each policy. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the Authority for approval. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. At least fifteen (15 days) prior to the expiration of any such policy, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the Authority. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Consultant shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the Authority evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies.

8. Failure to Maintain Coverage. In the event any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced immediately so as to avoid a lapse in the required coverage, Authority has the right but not the duty to obtain the insurance it deems necessary and any premium paid by Authority will be promptly reimbursed by Consultant or Authority will withhold amounts sufficient to pay premium from Consultant payments. In the alternative, Authority may cancel this Agreement effective upon notice.

9. Acceptability of Insurers. Each such policy shall be from a company or companies with a current AM. Best's rating of no less than A:VII and authorized to transact business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law.

10. Enforcement of Agreement Provisions (non estoppel). Consultant acknowledges and agrees that actual or alleged failure on the part of the Authority to inform Consultant of non-compliance with any requirement imposes no additional obligation on the Authority nor does it waive any rights hereunder.

11. Requirements Not Limiting. Requirement of specific coverage or minimum limits contained herein are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance. If the Consultant maintains higher limits than the minimums contained herein, the Authority requires and shall be entitled to coverage for the higher limits maintained by the Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Authority.

12. Claims Made Policies. If any of the required policies provide coverage on a claims-made basis:

(A) The Retroactive Date must be shown and must be before the effective date of the Agreement or the beginning of work under this Agreement.

(B) Such insurance must be maintained, and evidence of insurance must be provided for at least five (5) years after completion of all services under this Agreement.

(C) If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the effective date of the Agreement, the Consultant must purchase "extended reporting" coverage for a minimum of five (5) years after completion of all services under this Agreement.

13. Special Risks or Circumstances. Authority reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

14. Insurance for Subconsultants. Consultant shall include all subconsultants engaged in any work for Consultant relating to this Agreement as additional insureds under the Consultant's policies, or the Consultant shall be responsible for causing subconsultants to purchase the appropriate insurance in compliance with the terms of these Insurance Requirements, including adding the Authority, its officials, officers, employees, agents, and volunteers as additional insureds to the subconsultant's policies. All policies of Commercial General Liability insurance provided by Consultant's subconsultants performing work relating to this Agreement shall be endorsed to name the Authority, its officials, officers,

employees, agents and volunteers as additional insureds using endorsement form ISO CG 20 38 04 13 or an endorsement providing equivalent coverage. Consultant shall not allow any subconsultant to commence work on any subcontract relating to this Agreement until it has received satisfactory evidence of subconsultant's compliance with all insurance requirements under this Agreement, to the extent applicable. The Consultant shall provide satisfactory evidence of compliance with this section upon request of the Authority.

ORBIS

PUBLIC AFFAIRS

Government Affairs Proposal to South Orange County Wastewater Authority (SOCWA)

Chad Wanke- Principal
ORBIS PUBLIC AFFAIRS
650 N. Rose Drive Suite 363 Placentia, CA 92870
714-606-1973

Summary

Thank you for the opportunity to present this proposal on behalf of Orbis Public Affairs**.**

We have significant experience with complex environmental, water and wastewater issues. Our extensive relationships in Orange County and the state at both the elected and staff levels provide insight into current policy issues and potential roadblocks. The intent and goal of the services presented here is to provide strategic advice, advocacy, outreach and government affairs services on behalf of SOCWA.

We appreciate your consideration and are available to answer any questions you might have.

This proposal is for the sole use of **South Orange County Wastewater Authority,** their officers, and/or agents and shall be considered confidential.

Scope of Work-

- Monitor and report on meetings of relevant public agencies, private companies and key water/ wastewater industry stakeholders.
- Facilitate and participate in meetings with members of relevant public agencies, private companies and key water/ wastewater industry stakeholders.
- Monitor and report on discussed, proposed or prepared legislation, programs, proposals, discussions or any other items that may affect SOCWA.
- Monitor and provide strategic guidance and advocacy related to agreements, mergers, consolidation, annexation, or similar items that may impact SOCWA.
- Based on the above tasks and regularly or upon request, provide activity reports to the Board that include actionable data and information.
- Directly advocate for or against items based on specific guidance provided by the Board.

Client Initials: Consultant Initials: CW

Compensation:

Consultant's compensation for the performance of this work and for compliance with the terms of this Contract shall be;

a) An initial six-month contract with a monthly retainer of $4,000/month, due and payable on the first day of each month. At the conclusion of this period, the agreement may be extended with the concurrence of both parties.

Complete contract to follow pending approval of these initial terms.

Client Initials: Consultant Initials: CW

Agenda Item 7.E.

Budgeted: N/A	
Legal Counsel Review: Yes	
Meeting Date: March 5, 2026	

TO: Board of Directors

FROM: Amber Boone, General Manager

SUBJECT: SOCWA Policy Handbook

Summary

On November 13, 2024, SOCWA Executive Committee met and provided direction to update the SOCWA policies. SOCWA staff reviewed the SOCWA policies, compared to Member Agency policies, and provided updates to legal counsel for review. Where appropriate, SOCWA staff removed procedures from policies for a future update to an administrative manual for the agency. On April 8, 2025, the SOCWA Executive Committee met to review the SOCWA Policy Handbook. The Executive Committee recommended that the SOCWA Finance Committee review the SOCWA Policies that have a financial impact on the organizational standard business practices. Underlined policies in the discussion below are policies that the SOCWA Finance Committee reviewed with summaries of changes included in the staff report. Agenda Item 7C is provided for review by the Board for inclusion into the Policy Handbook.

Discussion:

The following list represents the policies included in the draft Policy Handbook:

1. Artificial Intelligence
2. <u>Capitalization and Depreciation of Facilities & Equipment</u>
3. CEQA Compliance
4. Conflict of Interest Code
5. <u>Cost Allocation Policy</u>
6. <u>Disposal of Surplus Property</u>
7. Document Management
8. <u>External Auditor Policy</u>
9. Fraud Prevention and Reporting
10. Government Claims Act Policy
11. Interim Dry Weather Nuisance Flow
12. Investment Policy for Public Funds
13. Public Records Disclosure
14. <u>Travel and Expense Reimbursement</u>
15. Uniform Purchasing Policy
16. <u>Vehicle Charging Policy</u>

Included in this staff report is a list of SOCWA policies and a summary of the changes in the policies presented in a draft policy handbook.

1. Artificial Intelligence

Board adopted in October 2024. Added training requirement related to requirements completed with labor which was previously adopted by the Board in the MOU Labor Agreement in June 2025.

2. Capitalization and Depreciation of Facilities & Equipment

Added sections for Technology Assets, Intangible Assets, Asset Tracking, and Disposition while maintaining the $5,000 capitalization threshold. Incorporated GASB compliance references (34, 42, 51) and California Government Code citations relevant to JPAs. Enhanced asset safeguarding language and added a five-year policy review recommendation.

3. CEQA Compliance

Transformed technical procedures into a formal board policy emphasizing governance and oversight roles. Streamlined language while maintaining compliance elements including greenhouse gas analysis and tribal cultural resources. Clearly defined Board and Staff responsibilities for environmental review processes.

4. Conflict of Interest Code

Formalized comprehensive policy with clear purpose statements, disclosure categories, and filing requirements. Added training provisions, enforcement information, and established a regular review cycle. Created a professional format with placeholders for policy number, adoption date, and signatures.

5. Cost Allocation

New policy for the Authority establishing policy directive for budgeting and use audit reconciliation in a single policy. Articulation of participating agencies, contract agencies, and how the Authority tracks/manages costs in a detailed manner to avoid ambiguity in cost management. Inclusion of historical practices, government affairs costs, and summaries of methods are included.

6. Disposal of Surplus Property

Increased General Manager's approval threshold from $25,000 to $50,000. Added dedicated procedures for technology equipment with data security requirements and environmental compliance provisions. Enhanced documentation requirements and added annual reporting to the Board.

7. Document Management

Updated to include cloud storage security requirements and digital signature protocols. Added comprehensive email management section with classification and retention guidelines. Enhanced definition of electronic records to include current technologies. Added specific provisions for permanent records in compliance with Government Code Section 60201(d).

8. External Auditor Policy

Maintained multiyear agreement provisions and six-year partner limit with Government Code citation. Preserved internal control deficiency correction timeframe. Updated RFP criteria for competitive selection.

9. Fraud Prevention and Reporting

Updated gender-specific pronouns to gender-neutral language and increased FPPC gift limit to $590. Enhanced whistleblower protections with references to California Labor Code Section 1102.5. Improved formatting and fixed numbering inconsistencies.

10. Government Claims Act Policy

Enhanced policy structure with improved numbering and expanded definitions. Added clear delegation of authority and policy review procedures. Redesigned claim form with improved fields and instructions.

11. Interim Dry Weather Nuisance Flow

The policy has been updated to remove references to former member agencies (Moulton Niguel Water District, Irvine Ranch Water District, City of San Juan Capistrano, and Trabuco Canyon Water District) while retaining current SOCWA members. It clarifies the definition of non-stormwater discharge and adds "dust control overwetting" as an example of such discharge.

12. Investment Policy for Public Funds

Added California Asset Management Program, U.S. Government Agency Securities, and Money Market Mutual Funds to authorized investments. Increased LAIF maximum deposit limit from $40 million to $75 million. Enhanced regulatory compliance sections and strengthened delegation of authority.

13. Public Records Disclosure

Clarified definition of public records and streamlined request process. Updated exemptions, security provisions, and copy service pricing. Improved formatting for better readability.

14. Travel and Expense Reimbursement

Increased allowable maximums to reflect current costs and reasonable travel allowances as overseen by the Department Head and General Manager. Added provisions for technology reimbursement and rideshare services. Referenced California Government Code and Public Records Act for compliance.

15. Uniform Purchasing Policy

Board approved December 2024 with formatting changed to be consistent with all policies. No content was modified in the policy.

16. Vehicle Charging Policy

New policy for the agency related to current and future vehicle charging. South Coast Water District provided a copy of their policy, as discussed at the 11/18/25 Finance Committee meeting and staff included those updates into the policy.

Recommended Action: Board Discussion, Direction and Action

Attachment: Policy Handbook

RESOLUTION NO. 2026-02

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY APPROVING THE UPDATED SOCWA POLICY HANDBOOK

WHEREAS, the South Orange County Wastewater Authority (SOCWA) is a joint powers authority formed pursuant to the California Government Code Section 6500 et seq., and operates under the governance of its Board of Directors; and

WHEREAS, on November 13, 2024, the SOCWA Executive Committee provided direction to update the SOCWA policies to ensure alignment with current best practices, Member Agency policies, and legal requirements; and

WHEREAS, SOCWA staff reviewed the existing policies, compared them to Member Agency policies, and provided updates to legal counsel for review, removing procedures where appropriate for inclusion in a future administrative manual; and

WHEREAS, the updated Policy Handbook has been reviewed by legal counsel and is recommended for adoption to promote efficient, compliant, and effective operations of SOCWA; and

WHEREAS, the Board of Directors has considered the staff report, and public input, if any, and finds that adoption of the updated Policy Handbook is in the best interest of SOCWA and its Member Agencies.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the South Orange County Wastewater Authority as follows:

1. The updated SOCWA Policy Handbook, incorporated herein by reference, is hereby approved and adopted.

2. The General Manager is authorized and directed to implement the policies contained therein, including any necessary administrative procedures.

3. All prior policies inconsistent with the updated Policy Handbook are hereby repealed or superseded to the extent of such inconsistency.

4. This Resolution shall take effect immediately upon its adoption.

ADOPTED this 5th day of March, 2026, by the Board of Directors of the South Orange County Wastewater Authority.

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Frank Ury, Chairman

(Seal)

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Amber Boone, General Manager, and Board Secretary

STATE OF CALIFORNIA)
) ss.
COUNTY OF ORANGE)

I, AMBER BOONE, Secretary of the Board of Directors of the SOUTH ORANGE COUNTY WASTEWATER AUTHORITY ("SOCWA"), do hereby certify that the foregoing Resolution No. 2026-02 was duly adopted by the SOCWA Board of Directors at their Board Meeting held on the 5th day of March 2026 and that it was so adopted by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Dated: March 5, 2026

____
Amber Boone, Secretary/ General Manager
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

STATE OF CALIFORNIA)
) ss.
COUNTY OF ORANGE)

I, AMBER BOONE, Secretary of the Board of Directors of the SOUTH ORANGE COUNTY WASTEWATER AUTHORITY ("SOCWA"), do hereby certify that the foregoing is a full, true, and correct copy of Resolution No. 2026-02 of said Board and that the same has not been amended or repealed.

Dated: March 5, 2026

____
Amber Boone, Secretary/Acting General Manager
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

(Seal)

Agenda Item 7.F.

Legal Counsel Review: No	
Meeting Date: March 5, 2026	

TO: Board of Directors

FROM: Amber Boone, General Manager

SUBJECT: General Manager's Report

Master Schedule for CTP and JBL Master Planning Efforts

At the February SOCWA Board meeting, Board members requested that the master planning schedule be separated into respective facilities with a completion date added to the master planning schedule. The following table represents activities planned and completed for the JB Latham (JBL) Facility Planning Assessment (FPA).

EVENTS	PROJECT	DATE	COMPLETION DATE
Kick-Off Meeting	JBL FPA	14-Jan-26	14-Jan-26
Task 1 - Project Management (start)	JBL FPA	14-Jan-26	14-Jan-26
Workshop 1	JBL FPA	27-Jan-26	27-Jan-26
Workshop 2	JBL FPA	17-Mar-26	
Task 2 - Existing Facility Evaluation	JBL FPA	31-Mar-26	
Workshop 3	JBL FPA	23-Apr-26	
Task 4 - Effluent Utilization Evaluation	JBL FPA	30-Apr-26	
Task 3 - Wastewater Treatment Alternatives	JBL FPA	30-Jun-26	
Task 5 - Develop Project Alternatives	JBL FPA	31-Aug-26	
Task 6 - Facility Planning & Assessment	JBL FPA	31-Aug-26	

The following table represents activities planned and completed for the Coastal Treatment Plant (CTP) Facility Planning Assessment (FPA) and CTP Regional Flow Study.

EVENTS	PROJECT	DATE	COMPLETION DATE
Deadline for Questions and Supplemental Information	CTP Regional Flow Study	8-Jan-26	8-Jan-26
Proposal Submission Deadline	CTP FPA	15-Jan-26	15-Jan-26
Interviews	CTP FPA	29-Jan-26	29-Jan-26
Proposal Submission Deadline	CTP Regional Flow Study	29-Jan-26	29-Jan-26
Interviews	CTP Regional Flow Study	February 9-10, 2026	11-Feb-26
Engineering Committee - Contract Award Review	CTP FPA/ Regional Flow Study	12-Feb-26	19-Feb-26
SOCWA Board Meeting – Contract Award Review	CTP Regional Flow Study and CTP FPA	5-Mar-26	5-Mar-26
Kick-Off Meeting	CTP Regional Flow Study	11-Mar-26	
Project Element 1 Due	CTP Regional Flow Study	26-Mar-26	
Kick-Off Meeting	CTP FPA	1-Apr-26	
Task 1 - Project Management (start)	CTP FPA	1-Apr-26	
Project Element 1 Due	CTP Regional Flow Study	12-Apr-26	
Project Element 2 Due	CTP Regional Flow Study	30-Apr-26	
Project Element 3 Due	CTP Regional Flow Study	30-May-26	
Task 2 - Existing Facility Evaluation	CTP FPA	15-Jun-26	
Project Element 4 Due	CTP Regional Flow Study	30-Jun-26	
Project Element 5 Due	CTP Regional Flow Study	31-Jul-26	
Task 3 – Wastewater Treatment Alternatives	CTP FPA	1-Oct-26	
Task 4 – Recycled Water Facilities and Effluent Utilization Evaluation	CTP FPA	1-Oct-26	
Task 5 - Develop Project Alternatives	CTP FPA	8-Dec-26	
Task 6 - Facility Planning & Assessment	CTP FPA	4-Jan-27	

Purchases over $25,000 but under $100,000

Per the SOCWA December 2024 Uniform Purchasing Policy, the General Manager will report authorized purchases to the Board that were over $25,000 but under $100,000. The following items were authorized since the last Board meeting report:

Purchase	Amount
JBL Plant 1 Blower Building HVAC Replacement Final Design	$59,500.00
NPDES required offshore trawling at SJCOO	$53,708.00
JBL Storm Water Pump Station Drain Sump Replacement Final Design	$51,000.00
Exfiltration Workshop and Stormwater- Wastewater Work Group	$46,200.00
JBL RAS and RSP Wet Well Condition Assessment	$42,685.00
Madison AI	$30,000.00

SOCWA Administrative Building Restoration Project Update

SOCWA has submitted all the necessary information to our insurance provider to process the claim from the work completed by Preferred Restoration Incorporated (PRI) due to the mold restoration at the JB Latham Administrative building. The total cost of the renovation was $159, 139.80. The settlement claim was $149,120.30. SOCWA paid the $10,000 insurance claim deductible and paid $10,019.50 for the mold portion ($300,000 deductible). The proposed loss claim of $139,120.30 has been submitted to CSRMA. $49,120.30 has been received from the Alliant Property Insurance Program (APIP) and the remaining $90,000 has been processed by CSRMA and a check will be cut on their next check run.

DWR Water Conservation Impacts Survey

If February, SOCWA staff submitted its survey regarding potential water conservation impacts to the JBL and CTP plants. The Department of Water Resources (DWR) survey effort, supported by CASA, will help the State better understand measures being implemented in the wastewater industry to avoid adverse effects occurring, or expected, from increased water conservation.

Industry Presentations Update

Staff provided the following industry presentations:

- Association of the San Bernadino County Special Districts: February 23, 2026 "AI Hype to High Productivity" focusing on the capacity of AI technology vs. the diffusion rate in public organizations.
- California Water Environment Association, Santa Ana River Basin Section: February 26, 2026 "AI Basics to Building" which provided an primer on AI technologies and an introduction of building applications for the wastewater sector.

SOCWA FY 24-25 Financial Audit Review

The PUN group provided the FY 24-25 Financial Audit presentation to the Finance Committee Members at the February 17, 2026, Finance Committee meeting. The PUN group provided answers to the committee and reiterated that there were no quantitative findings associated with SOCWA financials. SOCWA will continue to work on internal control and other related procedures as part of the new Financial Manual to make clear the procedures and processes that SOCWA has in place in compliance with GASB and GAAP accounting principles.

Biosolids Workshop

SOCWA Staff convened technology providers, owners, operators, and engineers to discuss the trends in biosolids technology, available capacity, and maturity of associated technologies to help inform master planning efforts for SOCWA member agencies.

Artificial Intelligence (AI) Practical Guide

SOCWA staff have been working with staff members from the Orange County Water District (OCWD) to create a practical guide for the water and wastewater community to help the community upskill in a rapidly evolving technology landscape. The practical guide is included as an attachment to this report.

Recommended Action: Board Discussion, Direction and Action

AI for Water Professionals

A Practical Guide

AI for Water Professionals:

A Practical Guide

Author:

Amber Boone, South Orange County Wastewater Authority

Contributors:

Dani Berch, Orange County Water District

Lisa Haney, Orange County Water District

Book Design:

Michelle Diaz, Orange County Water District

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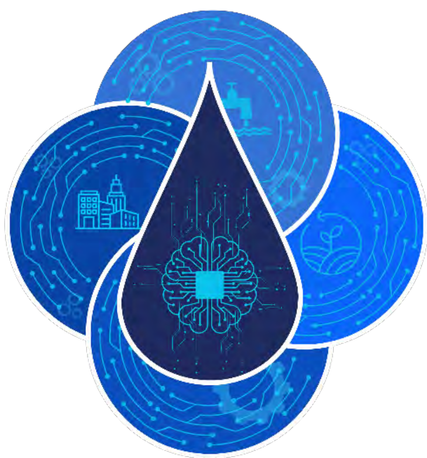


This guide is built to introduce large language models (LLMs) into the workforce, provide best practices for using LLM technology, decide how to use the content created by LLMs, incorporate the content into bigger project work, and provide the reader with a strategy to grow with the rapidly changing technology landscape. The authors' goal is to provide a useful resource for fellow professionals and to augment and support others in the field. Each chapter ends with actionable prompts that you can use to help you practice what you have learned.

Executive Summary: AI for Water Professionals: A Practical Guide

AI for Water Professionals equips water and wastewater utility professionals with a clear, actionable framework for integrating Large Language Models (LLMs) into daily workflows. Amid escalating challenges – global water demand projected to exceed supply by 40% by 2030, aging infrastructure, workforce shortages, regulatory complexity, and climate pressures – the guide positions LLMs as assistive tools that amplify human expertise in language-heavy tasks (drafting reports, summarizing data, organizing communications, stakeholder engagement). Rooted in public service motivation (PSM), it emphasizes that AI adoption must enhance community resilience, public health protection, and environmental stewardship while preserving human judgment, ethics, and accountability. The AI market in water management is forecasted to grow from $7.54 billion (2024) to $53.85 billion (2032), offering new technology tools to augment public service delivery, only when humans guide integration.

Chapter Highlights

- **Chapter 1: The Business of AI** builds the macroeconomic and operational case for artificial intelligence adoption. It links AI to public service motivation (PSM), risk mitigation, and human centric governance, while also addressing drawbacks such as data-center water demands.
- **Chapter 2: LLM Fundamentals** defines LLMs as token-based statistical systems ideal for drafting, summarization, and reorganization. It surveys foundational models and stresses the importance of guardrails: protect sensitive data, verify outputs, and treat models as collaborators.
- **Chapter 3: Effective Prompting** introduces a transferable prompt framework consisting of Task + Audience + Context + Format + Constraints, supported by water sector examples across departments, including safety talks, regulatory summaries, engineering brainstorming, and public outreach. Prompting is framed as professional communication that is iterative, audience tailored, and aligned with internal, board, and public communication types.
- **Chapter 4: Human Judgment** details ethical principles such as transparency, equity, accountability, and content verification to counter hallucinations. It addresses user liability, disclosure, and common pitfalls including overreliance and privacy breaches. Human-in-the-loop (HITL) overrides and structured decision frameworks are presented as essential.
- **Chapter 5: Project Work** explores workspace features in leading LLMs that enable structured, iterative projects such as demand forecasting, governance analysis, and infrastructure planning.
- **Chapter 6: Responsive Growth** synthesizes a vision of responsive, strong, and aspirational progress, emphasizing efficiency gains, workforce augmentation (MIT Iceberg Index: $1.2T wage-equivalent skills), ethical innovation, and human-AI synergy that honors public service motivation (PSM) and supports equitable, resilient outcomes.

- **Chapter 7: Conclusion** consolidates the guide into a forward-looking roadmap. It recaps the human-AI partnership as the enduring foundation of responsible adoption and outlines concrete next steps, including starting with one daily prompt, launching a pilot project in a workspace, practicing ethical review checklists, experimenting with the companion Prompt Comparator Hub for side-by-side prompt and model testing, and drafting organizational guardrails. The chapter includes curated 2025–2026 resources and reflective prompts to support personal 90-day action plans and team roadmaps. It concludes with a call to action, emphasizing that LLMs accelerate routine work so professionals can focus on strategic oversight and community impact, positioning utilities for equitable and resilient water futures.

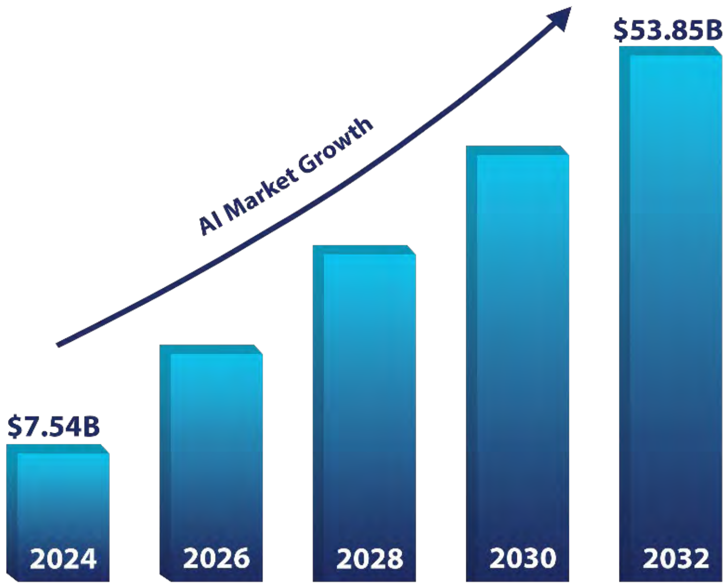
In summary, chapters 1 and 2 build a shared understanding of AI tools and their implications. Chapters 3 through 5 provide a practical toolkit for approaching prompting and applied AI work. Chapter 6 establishes a growth mindset perspective, and Chapter 7 delivers an implementation roadmap that guides agencies in planning next steps and looking forward.

Core Themes and Takeaways

LLMs do not replace expertise – they accelerate routine language work, freeing professionals for strategic judgment. Success depends on clear prompting, rigorous verification, ethical guardrails, project organization for continuity, and human oversight. Each chapter ends with ready-to-use prompts tailored to utilities. The guide reframes rapid technological evolution as manageable: workflows remain stable even as models improve. Water professionals who master these skills gain capacity to address scarcity, cut costs, fill skill gaps, improve communication, and lead ethical innovation, which will ultimately strengthen public trust and long-term community impact.

By starting small (pilot projects, verified prompts) and scaling thoughtfully, utilities can harness AI as a collaborative partner for sustainable water management and professional fulfillment in an era of transformation. This resource provides the stable foundation needed to grow confidently with the rapidly evolving technology landscape.

Chapter 1: Business of AI: Why it Matters for Water and Wastewater Utilities



Chapter Purpose:

Artificial intelligence (AI) represents one of the most transformative technologies in human history, offering water and wastewater utilities a pathway to greater efficiency, resilience, and sustainability amid pressing global challenges. While AI can automate routine tasks and optimize operations, its true value emerges through human-AI collaboration where skilled professionals guide its integration, interpret outputs, and ensure ethical application. This chapter highlights why AI adoption is essential, drawing on public service motivation, macroeconomic trends, factual data, and insights from academic and business sources to inform and empower water professionals to explore and augment their work.

Public Service Motivation and Balancing AI Adoption Risks

Public service motivation (PSM) is a foundational driver for workers in the water and wastewater sector, characterized by a deep-seated desire to make a strong, positive impact on their communities through resilience-building, public health protection, and environmental stewardship. Surveys like the 2025 State and Local Government Workforce Survey reveal that PSM attracts professionals to roles in utilities, where they prioritize societal well-being over personal gain, with positions including water operators and environmental specialists emphasizing community service. The American Water Works Association's (AWWA) 2025 State of the Water Industry Report, based on nationwide surveys of water professionals, underscores this motivation amid challenges like aging infrastructure and workforce shortages, highlighting a commitment to ensuring safe water and essential services. EPA reports further affirm that the water workforce views their roles as critical to public health, driving them to innovate in sustainable practices that fortify community resilience against environmental and operational threats. This intrinsic motivation fosters a sector where employees are dedicated to long-term environmental protection, aligning personal fulfillment with broader public good.

The desire to impact communities is evident in how water professionals navigate sector-specific challenges, such as PFAS contamination and regulatory shifts, as noted in the 2025 Water Report, which flags a "crisis of readiness" while emphasizing workforce dedication to technological upgrades for resiliency. Black & Veatch's perspectives on U.S. water challenges show that 63% of respondents cite aging infrastructure as a top issue, yet PSM propels workers to seek opportunities in resiliency efforts that directly benefit local environments and health. Michigan's public service surveys, including those on energy and waste, reflect similar motivations in utilities, where professionals are drawn to roles that enable meaningful contributions to community sustainability. This impact-oriented mindset is reinforced by AWWA's compensation and efficiency surveys, which link job satisfaction to the ability to address public needs effectively. Ultimately, PSM in this sector manifests as a proactive drive to protect vulnerable populations through reliable water services.

AI adoption amplifies this PSM by enabling workers to achieve greater community impact, such as through predictive tools that enhance water management and reduce risks, but it requires balancing potential drawbacks to align with core motivations. While AI offers innovations like optimized irrigation and wastewater treatment, reports highlight risks including high energy and water demands from data centers, potentially exacerbating the very scarcity issues utilities combat. Organizational barriers, such as practical implementation challenges and cybersecurity threats, further complicate adoption, as detailed in the 2025 Water Report and Water Online analyses. Ethical concerns, including accountability and bias in AI decisions, pose risks to public trust, affecting the sector's ability to fulfill PSM-driven goals. Balancing these involves strategic planning to ensure AI supports rather than undermines community-focused outcomes.

Macroeconomic Trends Driving AI Adoption in the Water Sector

Global water scarcity, intensified by climate change and rapid urbanization, is compelling utilities to embrace AI for sustainable management. Projections indicate that by 2030, water demand could outstrip supply by 40% in many areas, with industrial expansion adding further strain. The AI market in water management, valued at approximately $7.54 billion in 2024, is anticipated to surge to $53.85 billion by 2032, fueled by advancements in smart infrastructure and predictive tools. In regions like Asia-Pacific, where urbanization in nations such as India and China is accelerating, AI is increasingly applied for leak detection and demand forecasting, with the global AI in water and sanitation market expected to reach $24.45 billion by 2031 at a 26.8% compound annual growth rate (CAGR).

Broader economic shifts are amplifying this momentum, as AI promises a $15.7 trillion increase in global productivity by 2030, with 70% of companies adopting the technology worldwide. For water utilities, this aligns with addressing workforce shortages, including the retirement of experienced personnel and skill gaps, through AI platforms that enhance operational decision-making. However, AI's own resource demands—such as data centers projected to withdraw an additional 4.2–6.6 billion cubic meters of water by 2027—underscore the imperative for utilities to pioneer sustainable AI implementations. These trends reflect a macroeconomic pivot toward digital resilience, where water sectors must integrate AI to maintain economic viability amid environmental pressures.

Public interest surveys highlight how these trends resonate with government workers' motivations in the water sector, where professionals are driven by a commitment to public service, resilience, and environmental protection. A 2025 State and Local Government Workforce Survey revealed that public service motivation (PSM)—the desire to contribute to societal well-being—is a key attractor, with 12% of respondents emphasizing campaigns built around serving the public interest. This aligns with broader findings from MissionSquare Research Institute, which identified differentiating motivations between public and private sectors, noting that government roles appeal to those prioritizing community impact over financial incentives. In water utilities, this PSM manifests in efforts to build resilient systems that safeguard public health, as evidenced by EPA reports on the vital role of the water workforce in protecting infrastructure and the environment.

The transformation enabled by AI in this context is profound, shifting utilities from reactive to proactive models. Macroeconomic analyses, including those from Deloitte, stress cross-sector collaboration to tackle water crises, where AI facilitates innovative strategies for resource allocation and risk mitigation. Academic studies on water governance, such as those in the Journal of Water Resources Planning and Management, illustrate how AI integrates with human-led approaches to automate complex systems, fostering economic growth through enhanced efficiency. This transformation not only addresses scarcity but also amplifies the public service rationale, enabling workers to extend their impact on community resilience by leveraging AI for data-driven environmental stewardship.

Finally, surveys like those from the Partnership for Public Service indicate that federal workers, with 74% of early-career professionals planning long-term stays, are motivated by opportunities to innovate in public health and environmental roles. In the water sector, this translates to AI adoption as a means to fulfill these motivations, with global reports from UNESCO's youth surveys emphasizing the attractiveness of public service professions that incorporate technology for sustainable outcomes. As macroeconomic trends evolve, AI positions utilities at the forefront of a resilient economy, where human-driven public service meets technological transformation.

Key Benefits for Water and Wastewater Utilities

AI provides substantial economic advantages by slashing costs, mitigating risks, and elevating service delivery in water utilities. Predictive analytics, for example, can anticipate sewer flows to avert overflows, optimizing pump storage during storms and yielding 20–30% reductions in operational expenses. Machine learning algorithms detect pipe defects, prioritize maintenance, and prolong asset longevity, with utilities achieving 15–25% decreases in non-revenue water losses via advanced leak detection systems. Generative AI further boosts energy efficiency in demanding processes like treatment and distribution, potentially saving millions in annual utility costs.

A Cornell University study demonstrates AI's transformative potential, showing how modeling can design water partnerships that deliver up to 50% improvements in supply benefits and financial risk reduction. Case studies, such as Fluid Analytics monitoring over 400 million gallons of urban wastewater daily, highlight AI's role in mapping drainage to prevent flooding, directly enhancing service reliability. In the UK, a wastewater utility reported a 15% drop in operational expenses through AI adoption, illustrating cost savings that translate to better resource allocation for public health initiatives. These benefits extend to broader service delivery, where AI optimizes water quality and distribution, ensuring equitable access in underserved communities.

MIT's Iceberg Index offers insight into AI's economic ripple effects, estimating that AI can perform skills worth 11.7% of U.S. wages ($1.2 trillion), or 16% of workforce skills, with utilities poised to capture hidden efficiencies in cognitive tasks. In water sectors, this "iceberg" reveals untapped potential for transformation, such as AI-driven platforms at Hampton Roads Sanitation District that optimize wastewater treatment, reducing energy use and improving environmental outcomes. Academic reviews confirm AI's automation of intricate systems, as seen in early adopters achieving cost savings in drinking water operations while bolstering resilience against climate impacts.

The impact on service delivery is particularly notable, with AI enabling predictive maintenance that minimizes disruptions and enhances customer reliability, leading to lower price increases through operational efficiencies. Reports from Arcadis and Trinnex detail how AI addresses workforce gaps by automating routine tasks, allowing human experts to focus on strategic improvements in water equity and public health protection. This transformation aligns with public service motivations, as AI amplifies efforts to make communities more resilient by integrating sensor data for real-time demand forecasting and contamination prevention.

Moreover, AI's role in energy optimization at wastewater plants, as per Rockwell Automation studies, adapts to plant-specific needs, yielding significant savings that fund expanded services. Surveys on public sector motivations reinforce that workers enter these fields to protect the environment, and AI supports this by reducing contaminants and promoting equitable distribution, as noted in Sandtech insights. Ultimately, these benefits create a virtuous cycle, where cost reductions enable investments in infrastructure, fulfilling the core rationale of public service in the water sector.

The Essential Human Role

AI's effectiveness in water utilities hinges on human oversight, where professionals craft prompts, validate AI outputs, and adapt strategies to local nuances. Frameworks like aiWATERS advocate for human-centric governance to ensure AI aligns with ethical standards and utility objectives. The Water Research Foundation's AI adoption projects emphasize building human capacity alongside technology, recognizing that success stems from collaborative integration rather than automation alone. This role is rooted in the motivations of public servants, who join government to foster community resilience, as surveys from US Digital Response highlight barriers and attractions for technologists in public roles.

Public interest surveys, such as the 2025 MissionSquare report, identify PSM as a core driver, with workers seeking to protect public health and the environment through meaningful contributions. In water governance, qualitative studies from Montana reveal how social and environmental dimensions motivate utility managers, emphasizing human judgment in balancing economic factors with sustainability. AI transformation augments this by providing tools for better decision-making, but humans remain pivotal in interpreting data to prevent biases and ensure equitable service delivery. This synergy allows public servants to extend their impact, turning motivations into tangible resilience enhancements.

The rationale for entering public service, building resilient communities and safeguarding health, is amplified by AI, as seen in EPA calls for workforce initiatives that position water professionals as frontline defenders. Surveys from the Partnership for Public Service show high retention intent among federal workers committed to long-term public impact, particularly in innovative fields like AI-integrated utilities. Transformation here involves humans guiding AI to address challenges like urbanization, ensuring technologies serve environmental goals without supplanting ethical oversight.

Increased service delivery through AI relies on human expertise to deploy tools that predict demands and optimize resources, as in case studies where utilities achieve lower costs and higher reliability. Public sector research from ICMA notes recruitment challenges but highlights how AI can attract talent by offering roles that fulfill PSM through advanced problem-solving for public good. Humans thus drive the transformation, using

AI to protect ecosystems and health, aligning with surveys showing motivations centered on community betterment.

In essence, humans in public service view AI as an enabler for their core mission, with global reviews like those from IWA stressing accountability in water interventions to maximize advocacy and outcomes. This human-AI partnership ensures transformative benefits, such as equitable access outlined in US Water Alliance reports, while preserving the intrinsic drive to enhance resilience and environmental protection.

In summary, AI is a business imperative for water utilities, offering cost efficiencies and resilience amid macroeconomic pressures. By leveraging it thoughtfully, with humans at the helm, utilities can navigate scarcity, drive innovation, and secure long-term viability.

Chapter 1 Prompt Examples:

This chapter builds the business case for AI adoption, emphasizing macroeconomic trends, benefits like cost savings and resilience, and the human role in integration. Use cases focus on leveraging AI for economic and operational gains amid water scarcity, with prompts that incorporate data or trends for analysis.

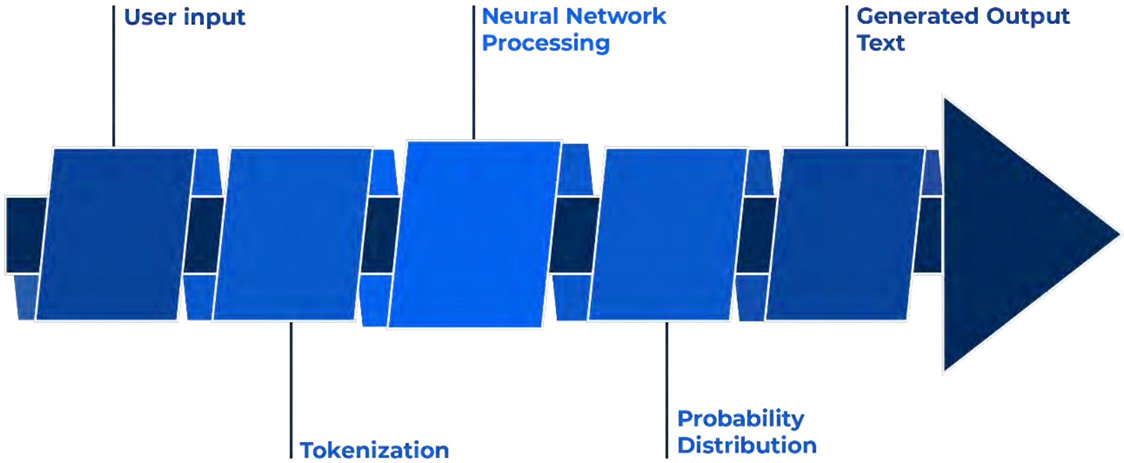
- Predictive Maintenance for Infrastructure: A utility manager uploads sensor data files and enters a prompt like: "Based on macroeconomic trends like a 40% demand-supply gap by 2030, analyze this uploaded sensor data for pipe failure risks and suggest optimizations to reduce non-revenue water losses by 15 to 25%." The LLM outputs risk forecasts and maintenance plans, enabling responsive cost savings and strong resilience, while supporting equitable community service.

- Demand Forecasting Amid Urbanization Pressures: Planners input trend data and prompt: "Incorporate projections of water scarcity (e.g., 40% gap by 2030 due to urbanization) and analyze this regional demand dataset to forecast needs and design partnerships for up to 50% better supply benefits." The LLM generates forecasts and strategies, fostering aspirational growth in sustainable resource allocation.

- Workforce Augmentation for Skill Gaps: HR teams upload training materials and prompt: "Address workforce shortages by simulating knowledge transfer from retiring experts using this uploaded expertise document, suggesting AI platforms for skill-building aligned with public service motivations." Outputs provide training modules, building strong human capacity for long-term health safeguards.

- Sustainable AI Implementation: Utilities input consumption data and prompt: "Evaluate AI's environmental footprint (e.g., data centers withdrawing 4.2 to 6.6 billion cubic meters by 2027) against this utility operations data, recommending sustainable adoption strategies." The LLM suggests balanced implementations, inspiring ethical stewardship.

Chapter 2: Introduction to LLMs in Water Professionals' Work



<u>Chapter Purpose:</u>

This chapter introduces large language models (LLMs) as they are increasingly encountered in professional water and wastewater environments. It is designed to equip water professionals with a clear, shared understanding of what LLMs are, how they function at a practical level, and how they are used to support everyday work. As LLM capabilities become embedded in workplace software and routine processes, professionals are increasingly interacting with AI-generated content, often without formal training or shared guidance.

The focus of this chapter is to ground LLM use in familiar professional practices. Rather than treating these systems as abstract or experimental technologies, this chapter positions LLMs as tools that support writing, review, organization, and communication, and other activities already central to water sector work. By establishing this foundation, the chapter helps clarify the groundwork needed for more complex discussions later on, including governance, ethics, human judgment, and long-term integration.

Navigating Rapidly Evolving Technologies in a Reliability-Focused Sector

The water sector has long adopted technology through deliberate and highly structured processes. Infrastructure investments, analytical tools, and operational systems are typically introduced through pilots, standards development, regulatory review, and phased implementation. This approach reflects the sector's responsibility to protect public health, maintain reliability, and manage risk.

Large language models do not follow this familiar pattern. They evolve rapidly, update frequently, and are often released into broad use while standards and best practices continue to develop. For many professionals, this creates uncertainty and discomfort, particularly when compared to the measured adoption cycles typical of the water industry.

At the same time, the conditions under which water professionals operate are changing. Workloads continue to increase, documentation requirements expand, and expectations for timely communication, transparency, and coordination grow. Many of these pressures fall not on physical infrastructure, but on the language-based work that surrounds it (e.g. reports, plans, public communications, training materials, regulatory responses, and internal coordination).

This is where LLMs become significant. They do not introduce new categories of work, but they materially change the efficiency with which existing work can be performed. Tasks such as drafting, reviewing, summarizing, and organizing information have always been important components of water sector practice. LLMs reduce the time and effort required to complete these tasks, allowing professionals to focus more of their attention on judgment, decision-making, and oversight.

Despite their rapid evolution, effective professional use of LLMs does not require constant adaptation. Once a workflow is established, it remains useful even as the models improve. The speed of technological change does not negate the stability of professional needs.

Recognizing this distinction reframes adoption. Engaging with LLMs is not about keeping pace with technology for its own sake. It is about addressing persistent capacity constraints in a sector where expertise is limited, responsibilities are high, and institutional knowledge is critical. When LLM use is anchored to stable workflows and governed by professional standards, adoption becomes manageable rather than disruptive.

In this context, the question is not whether LLMs will continue to appear in professional environments – they already are – but how deliberately and responsibly they are integrated into existing practices. Thoughtful adoption allows water professionals to maintain control, uphold standards, and use these tools to support the reliability and continuity that define the sector.

What Is a Large Language Model?

A large language model (LLM) is a software system trained to identify patterns in written language and generate text based on those patterns. It does not possess understanding, reasoning, or judgment in the human sense. Instead, it predicts likely sequences of words based on statistical relationships learned during training.

In professional environments, LLMs are most valuable for routine, language-based tasks. These commonly include translating complex or technical material into clearer language, summarizing long documents or meeting records, producing structured drafts, organizing background information, and supporting internal or public-facing communication. In each case, the output generated by an LLM represents a starting point rather than a final product.

Professional responsibility remains unchanged. Outputs must be reviewed, verified, and refined using domain expertise before being relied upon or shared.

How Large Language Models Work and What They Can Do

Large language models support professional work by generating text in response to written prompts. They do this by identifying patterns in language and predicting what text should come next based on what has already been provided. This is why they can produce drafts, summaries, outlines, and reorganized content that read as coherent, human-like writing.

Technically, LLMs operate on tokens, not full sentences. A token is a small chunk of text – often a word, part of a word, a number, or punctuation. When a prompt is submitted, the text is converted into a sequence of tokens. The model then generates its response one token at a time, repeatedly selecting the most likely next token given the tokens it has already seen.

This also explains why context length matters. Every model has a maximum number of tokens it can consider at once, including the user's prompt and any prior conversation or reference text. If the combined text exceeds that limit, earlier content may be dropped from what the model can "see," which can affect continuity and accuracy.

Because of this capability, LLMs are particularly effective at assisting with routine, language-based tasks that are common across the water sector. These include translating complex or technical material into clearer language, summarizing long documents or meeting records, organizing background information, and creating structured drafts for reports, presentations, or internal communications. When used appropriately, LLMs can reduce manual effort, accelerate early stages of work, and help professionals focus their time on review, decision-making, and refinement.

At the same time, it is essential to understand the limits of these systems. LLMs do not retrieve verified facts from authoritative sources unless they are explicitly connected to such tools. They do not independently confirm accuracy, interpret regulations, or assess real-world consequences. Instead, they generate text that is statistically plausible, not text that is guaranteed to be correct, complete, or appropriate for a given professional context.

This explains why LLM outputs can sound confident even when they are incorrect or incomplete. Although models continue to improve, they are optimized to produce fluent, coherent language rather than to guarantee truth, compliance, or risk evaluation. They may still fill gaps with invented details, combine concepts incorrectly, or present assumptions as facts, particularly when prompts lack sufficient context or when authoritative sources are not provided. This behavior reflects how the technology operates and is why professional verification remains essential.

LLMs also do not exercise judgment or responsibility. They cannot weigh ethical considerations, recognize the sensitivity of a decision, or understand how an output will be used unless the user provides explicit guidance. They do not know whether a response will be shared internally, released publicly, or relied upon for operational decisions. Responsibility for how LLM-generated content is interpreted, validated, and applied rests entirely with the professional using the tool.

Because LLMs generate responses probabilistically, the same prompt may produce different results at different times. This variability is expected and does not indicate instability. For professionals accustomed to repeatable systems, this reinforces the importance of review and oversight. LLMs are best used as drafting and support tools rather than as sources of final or authoritative answers.

The most productive way to think about LLMs is as collaborators that assist with language work under human direction. They can help organize information, explore phrasing, and accelerate early drafts, but they do not replace domain expertise, accountability, or professional judgment. When treated as assistive tools rather than authorities, LLMs can be integrated into water sector workflows in a way that improves efficiency while preserving the standards of accuracy, reliability, and public trust that define the profession.

The Current LLM Landscape

The current LLM landscape includes a range of platforms with overlapping capabilities but differing strengths, integrations, and governance characteristics. Some models are accessed through standalone tools, while others are embedded directly within enterprise productivity environments.

Below is a summary table of the major LLM Platforms:

LLM / Model Family	Access	Typical Use	Level of Technical Setup	Fit for Water Utility Work
ChatGPT (OpenAI GPT family)	Accessed directly through a web interface or integrated into third-party tools	Drafting, summarization, outlining, content organization, general analysis	Low	Well suited for communications, planning, and general document work.

Microsoft Copilot	Embedded within Microsoft 365 applications such as Word, Outlook, Excel, PowerPoint, and Teams	Drafting, meeting summaries, document refinement, spreadsheet explanations	Low (within Microsoft environment)	Strong fit for agencies already standardized on Microsoft tools.
Google Gemini	Embedded within Google Workspace tools such as Docs, Sheets, and Slides	Cross-document organization, drafting, spreadsheet-based work	Low (within Google environment)	Strong fit for organizations using Google Workspace.
Claude (Anthropic)	Accessed through a standalone interface or integrated into select platforms	Long-document review, analytical writing, policy and planning support	Low	Useful for reviewing reports, policies, and complex planning materials.
Grok (xAI)	Accessed through a standalone interface or platform integrations	Exploratory analysis, synthesis, conversational review	Low to Moderate	Situational fit; suitability depends on governance and integration requirements.
Mistral (Mistral / Mixtral families)	Accessed via enterprise platforms or managed deployments	Controlled drafting, internal tools, structured text generation	Moderate	Useful where organizations seek greater control over deployment.
Llama (Meta, open-weight models)	Deployed through internal systems or hosting platforms	Custom applications, internal knowledge tools	High	Best suited for agencies with technical teams managing internal systems.

Selecting an LLM for Professional Use

Effective use of LLMs depends on matching tools to tasks and organizational context rather than identifying a single “best” model. In practice, selection should begin with governance requirements (data handling, retention, and access controls) and then narrow to the tools that fit the task. General drafting and everyday communication can often be handled by broadly capable platforms. Reviewing long or complex documents may benefit from models optimized for extended context, while spreadsheet- and presentation-centered work often aligns best with tools embedded in office productivity suites.

Organizational environment also plays a critical role. Agencies operating primarily within Microsoft ecosystems may find Copilot integrates most naturally, while those using Google Workspace may prefer Gemini. For internal or sensitive material, enterprise configurations or internally managed deployments may be required. Where possible, organizations can evaluate tools using pilot tasks that reflect real workflows and compare time saved, clarity improved, and review effort required.

Professional Responsibility in Everyday LLM Use

As LLMs become more accessible, responsible use depends less on technical expertise and more on applying the same professional discipline that already governs other tools and processes in the water sector.

In practice, using LLMs responsibly is not fundamentally different from managing other forms of professional risk. Just as utilities rely on established procedures such as public records compliance, data security protocols, and safety programs, LLM use benefits from clear guardrails that define appropriate use and expected review.

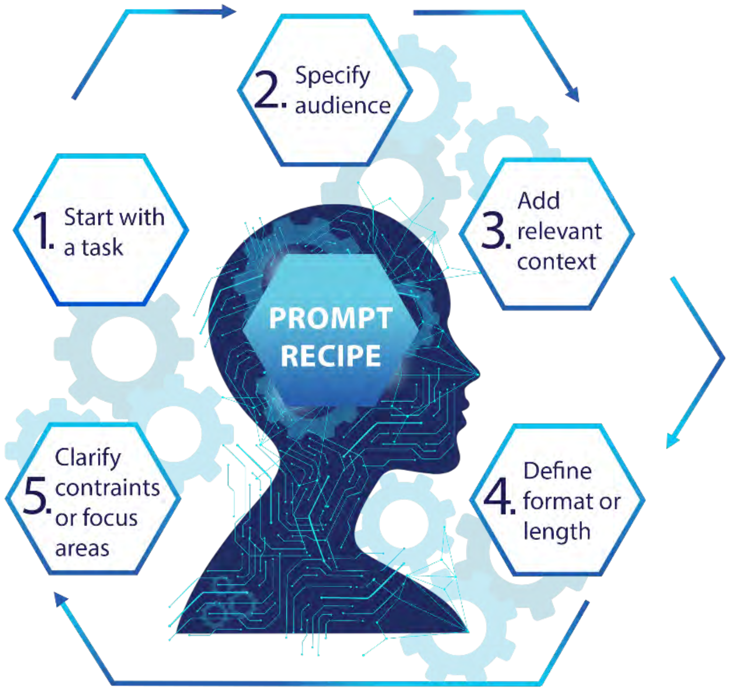
Organizational guidelines and internal policy play a critical role in establishing these guardrails. Effective guidance typically clarifies what types of information may be used with LLM tools, what content requires additional review or approval, and how AI-assisted work should be documented when appropriate. This reduces inconsistent use across teams and helps ensure that AI-assisted outputs align with regulatory obligations, records requirements, and organizational standards.

Several core practices apply broadly across LLM use. Sensitive, confidential, or protected information should not be entered into LLM tools unless the platform and deployment have been explicitly approved for that purpose. This includes personally identifiable information, security-sensitive infrastructure details, legal matters, and non-public operational data. Treating LLMs with the same caution applied to email, shared drives, or external consultants helps prevent inadvertent disclosure.

Fact-checking and verification remain essential. LLM outputs should be reviewed against authoritative sources, internal knowledge, and professional judgment before being relied upon or shared. This is particularly important for numerical data, regulatory references, and statements that could influence operational decisions or public understanding. Verification is not a sign of mistrust in the tool; it is a continuation of standard professional review practices.

When guardrails are in place, professionals can use LLMs with confidence, knowing where flexibility exists and where caution is required. This approach supports safe adoption, protects public trust, and ensures that AI-assisted work strengthens the standards and responsibilities that define water sector practice.

Chapter 3: Using Large Language Models Effectively in Water Utility Work



<u>Chapter Purpose:</u>

This chapter provides water professionals with practical guidance for using Large Language Models (LLMs) effectively across departments and leadership roles within a water utility. The focus is on transferable prompting skills that work across AI tools and real-world water challenges.

Introduction: Why This Chapter Matters

Large Language Models (LLMs) are becoming part of daily professional workflows across the water sector. Tools such as ChatGPT, Claude, Gemini, and others are all examples of LLMs. While their interfaces and features may differ, they operate in fundamentally similar ways.

For water professionals, the opportunity is not about choosing the “right” AI tool. The real value comes from learning how to communicate effectively with these tools. When used well, LLMs help save time, surface insights, support problem-solving, and navigate increasingly complex technical, regulatory, and operational challenges.

This chapter is a practical how-to guide. Its focus is on skills that transfer across tools, job functions, and water disciplines.

What LLMs Are and What They Are Not

Large Language Models are systems trained on vast amounts of text to recognize patterns in language. They generate responses based on probability, context, and instruction, not understanding or intent in the human sense.

LLMs generate language, not truth.

They predict likely responses based on patterns.

They reflect the quality of the input they receive.

LLMs do not independently verify facts, understand regulatory nuance without guidance, or replace professional responsibility or accountability.

Because ChatGPT, Claude, Gemini, and similar tools are all LLMs, they respond best to the same fundamentals: clear instructions, relevant context, defined outcomes, and iteration. The tool may change, but the skill does not.

Water-Sector Prompt Examples

Drinking Water

Prompt:

"Summarize this water quality report."

Improved:

"Summarize this water quality report for a drinking water operations manager. Focus on compliance status, emerging trends of concern, and actions needed in the next quarter."

Wastewater

Prompt:

"Explain nutrient removal."

Improved:

"Explain biological nutrient removal for a City Council audience, focusing on receiving water protection and regulatory compliance."

Environmental Planning

Prompt:

"Summarize habitat monitoring results."

Improved:

"Summarize these habitat monitoring results for environmental planners, highlighting trends, stressors, and implications for management decisions."

Prompting as Professional Communication

A prompt is not simply a question. It is a set of instructions.

In professional settings, prompting is best understood as briefing a consultant, assigning a task to a staff member, or framing the scope of a memo or analysis. The quality of the output depends on how clearly the task is defined.

This principle applies across all LLM platforms. Learning how to prompt well allows professionals to move between tools without starting over.

When water professionals use LLMs, they are giving direction, setting expectations, and shaping how information is framed and delivered. Prompting is professional communication, and it works best when you are clear about three things: the purpose, the audience, and the style.

Types of Communication in Water Agencies

Water agencies communicate constantly, and each communication type serves a different function. Effective prompting starts with naming what kind of communication you are creating.

Common communication types include:

1. internal working communication
2. leadership and executive communication
3. external public-facing communication
4. regulatory and compliance communication
5. consultant and contractor communication
6. community and stakeholder engagement

Each type has different expectations for tone, level of detail, and formality. When prompting an LLM, naming the communication type helps the model align with professional norms.

Know Your Audience

Audience awareness is one of the most important skills in both human and AI-assisted communication. The same information can be correct and still be ineffective if it is delivered in the wrong way.

Before writing a prompt, it helps to ask:

- Who will read this?
- What do they care about most?

- What decisions or actions will this support?
- What level of technical detail is appropriate?
- What tone builds trust with this audience?

Examples of common audiences in water agencies include:

- board members and elected officials
- general managers and executive leadership
- internal technical staff
- field crews and operators
- regulators and permitting agencies
- community members and ratepayers
- media and external stakeholders

Naming the audience in the prompt dramatically improves relevance.

Prompting for Common Communication Outputs

Internal emails and working communication

Example prompt:

“Draft an internal email to engineering and operations staff summarizing the upcoming maintenance outage, expected impacts, and next steps. Keep the tone direct and collaborative.”

Executive and Board communication

Example prompt:

“Summarize this project update for a Board audience. Focus on key decisions needed, schedule and cost risks, and recommended actions. Limit to one page.”

Consultant and contractor communication

Example prompt:

“Draft a scope clarification email to a consulting firm outlining expectations for deliverables, schedule, and coordination with agency staff. Maintain a professional and neutral tone.”

Regulatory and compliance communication

Example prompt:

“Summarize these monitoring results for a regulatory agency. Use formal language, avoid speculation, and clearly distinguish between observed data and interpretation.”

External public information and community outreach

Example prompt:

“Rewrite this technical description of water treatment for a general public audience. Use plain language, avoid jargon, and emphasize safety and reliability.”

Social media and informal outreach

Example prompt:

“Draft a short social media post explaining stormwater capture benefits during rainy seasons. Keep the tone friendly, informative, and non-technical.”

Prompting for Personal and Organizational Style

Beyond audience and function, communication also reflects personal and organizational style. Some agencies prefer formal language. Others use a more conversational tone. Some leaders favor brevity, while others prefer narrative explanation.

LLMs can adapt to style when it is described clearly. Ways to encode style in a prompt include:

- describing tone preferences
- referencing prior examples
- stating what to avoid
- specifying length and structure

Example prompt:

“Write this in a professional but conversational tone, similar to an internal leadership update. Avoid overly technical language and keep sentences concise.”

Responsible Communication and Human Oversight

Because LLMs generate confident language, professional review is always required, especially for public, regulatory, or leadership-facing communication.

Water professionals remain responsible for:

- accuracy
- appropriateness
- compliance with policy
- alignment with agency values

LLMs support drafting and structuring communication, but accountability remains with people.

Tailoring Outputs to Different Audiences

Example prompts:

- “Explain PFAS treatment for engineers.”
- “Explain PFAS treatment for elected officials.”
- “Explain PFAS treatment for community outreach audiences.”

Prompt once, adapt many times.

A Simple Recipe for Prompting

Many readers learn fastest with a repeatable structure.

The recipe below works across LLM tools and across water-agency roles.

1. Start with the task
2. Specify the audience
3. Add relevant context
4. Define format or length
5. Clarify constraints or focus areas

If the output isn’t right, adjust one ingredient and try again.

Copy-Paste Prompt Templates

General template

“Act as a [role]. Complete the following task: [task].

Audience: [who this is for].

Context: [key background].

Format: [bullets, paragraph, table, diagram].

Focus on: [key priorities].”

Board summary

“Summarize the following content for a Board audience. Highlight decisions needed, risks, and recommended next steps. Limit to one page.”

Public communication

“Rewrite this content for a general public audience using plain language. Emphasize transparency, safety, and community benefit.”

Technical review

“Act as a technical reviewer. Identify assumptions, uncertainties, and data gaps in the following material.”

Core Prompting Principles for Water Professionals

With the basic recipe, these principles help improve quality and consistency.

Clarity of outcome

Before writing a prompt, define what you need, who it is for, and how it will be used.

Planning example

Prompt: “Summarize this planning document.”

Improved: “Summarize this planning document into five key takeaways for executive leadership, focusing on risks, opportunities, and decisions needed in the next year.”

Context matters

Water decisions are shaped by geography, regulation, infrastructure constraints, funding conditions, and community expectations. Context reduces generic outputs.

Flood management example

Prompt: “List benefits of floodplain restoration.”

Improved: “List benefits of floodplain restoration for an urban watershed, considering flood risk reduction, habitat value, permitting challenges, and community impacts.”

Role-based prompting

Assigning a role helps shape tone, depth, and perspective.

Wastewater example

Prompt: “Review this project proposal.”

Improved: “Act as a wastewater utility director reviewing this project proposal. Identify operational risks, cost considerations, regulatory concerns, and long-term maintenance implications.”

Breaking down complex tasks

Complex challenges benefit from stepwise prompting.

Recycled water example

Step 1: Summarize the program in plain language.

Step 2: Identify benefits and constraints.

Step 3: Identify regulatory or public perception risks.

Step 4: Suggest key questions to address before expansion.

Prompting for Visuals and Diagrams

LLMs can support early visual thinking when prompted clearly. This is particularly useful in the water sector, where diagrams help explain systems, processes, and decisions.

Diagram Prompt Examples

Drinking water

“Create a simple text-based flow diagram showing source water, treatment, storage, and distribution.”

Wastewater

“Create a step-by-step process diagram of a conventional wastewater treatment plant from influent to effluent.”

Stormwater

“Create a decision tree showing when stormwater is infiltrated, conveyed, or released based on rainfall intensity and system capacity.”

Prompting Is Iterative, Not Instant

The first response is rarely the final one. Prompting works best as a conversation.

Example

Initial: “Summarize this drought response plan.”

Follow-up: “Revise the summary to focus on customer impacts, communication needs, equity considerations, and near-term actions. Limit to one page.”

Iteration is not a failure. It is how prompts improve and outputs become more aligned with real decision-making.

Common Water-Agency Use Cases for Prompting

Large Language Models can support nearly every department in a water agency when used thoughtfully and responsibly. These examples illustrate how prompting can help staff save time, improve clarity, and navigate complex responsibilities without replacing professional judgment.

Use Cases Across a Water Agency

- Safety and risk management

“Create a toolbox safety talk for field crews focused on confined space entry at pump stations. Keep it practical and short.”

“Summarize this incident report and identify contributing factors, lessons learned, and recommended preventative actions. Present in bullet form.”

“Draft a high-level emergency response checklist for a water main break affecting a hospital service area.”

- Human Resources

“Draft a job description for a Senior Water Systems Operator. Include responsibilities, required certifications, and physical requirements.”

“Rewrite these performance notes into a professional, balanced performance review summary highlighting strengths and growth areas.”

“Create a 30-60-90 day onboarding outline for a new environmental compliance specialist at a water utility.”

- Public outreach and communications

“Rewrite this boil water notice in plain language for the general public. Emphasize clarity, safety steps, and reassurance.”

“Create a short FAQ explaining why water rates are increasing, written for a community newsletter.”

“Draft three social media posts explaining stormwater capture benefits during wet years.”

- Engineering

“Brainstorm potential engineering approaches to increase treatment capacity at an existing wastewater facility, listing pros and cons.”

“Summarize this 60-page design report into key issues and questions for a multidisciplinary review meeting.”

“Explain how pressure zones work in a drinking water distribution system for a non-technical audience.”

- Regulatory compliance

“Summarize key compliance requirements from this NPDES permit and identify upcoming reporting deadlines.”

“Create a checklist of documents and data typically requested during a regulatory compliance audit.”

"Summarize recent regulatory changes affecting recycled water use and explain implications for operations."

- Water quality

  "Summarize water quality trends from these monitoring results and flag parameters that may require follow-up."

  "Draft a plain-language explanation of these water quality results for inclusion in a Consumer Confidence Report."

  "Summarize potential causes of elevated turbidity and suggest follow-up monitoring steps."

- Research and innovation

  "Summarize recent research on PFAS treatment technologies, focusing on effectiveness, cost, and operational considerations."

  "Brainstorm potential pilot projects for improving drought resilience in urban water systems."

  "Summarize examples of stormwater capture programs implemented internationally and lessons learned."

- Finance and administration

  "Draft a budget justification for a capital improvement project, focusing on risk reduction, regulatory compliance, and long-term cost savings."

  "Explain this financial summary for non-financial staff, focusing on key takeaways and trends."

  "Outline a grant application narrative for a water efficiency project, aligned with common funding priorities."

- Information Technology

  "Draft a short cybersecurity awareness briefing for water utility staff focusing on phishing risks, password hygiene, and reporting suspicious activity."

  "Summarize this IT security incident report and outline key impacts, response actions taken, and recommended prevention measures."

  "Create a comparison framework for evaluating SCADA system upgrades, including cybersecurity, interoperability, vendor support, and long-term maintenance considerations."

“Outline key considerations for integrating GIS, asset management, and water quality databases into a unified data environment for a water agency.”

“Rewrite this system outage notification for non-technical staff, clearly explaining what happened, expected impacts, and next steps.”

· Cross-departmental leadership

“Outline potential operational and financial impacts of a multi-year drought under three severity scenarios.”

“Summarize this project status update for executive leadership, highlighting risks, schedule concerns, and decisions needed.”

“Draft a neutral meeting agenda for a cross-departmental workshop on climate resilience.”

Chapter Summary: The Transferable Skill

ChatGPT, Claude, Gemini, and similar tools are all examples of LLMs. While platforms will continue to evolve, effective prompting is a durable professional skill.

At its core, this chapter is not about mastering a specific AI product or keeping up with the latest technology trend. It is about developing a transferable professional skill that strengthens how water agencies think, communicate, and make decisions.

ChatGPT, Claude, Gemini, and similar tools are all examples of Large Language Models. They will continue to evolve. New platforms will emerge. Features will change. Interfaces will improve. Some tools will fade while others become standard.

What will endure is the ability to communicate clearly with intelligent systems.

Effective prompting is not a technical trick. It is a disciplined way of thinking that mirrors the best practices water professionals already use every day:

- defining purpose before action
- providing context before analysis
- tailoring information to audience
- breaking complex challenges into manageable parts
- reviewing, refining, and improving outputs over time

When water professionals learn how to prompt well, they unlock the real value of LLMs across any platform. They gain the ability to:

- move faster from information to insight
- synthesize large volumes of technical, regulatory, and operational material
- explore options and tradeoffs before committing resources

- draw on global knowledge and experience to inform local decisions
- communicate more clearly across disciplines, departments, and stakeholders

This skill matters because the challenges facing water agencies are becoming more complex, not less. Climate variability, aging infrastructure, regulatory change, workforce transitions, public trust, and funding constraints all demand better—not faster—thinking.

LLMs do not replace expertise, judgment, or accountability. Instead, when used responsibly, they act as force multipliers. They expand cognitive capacity, support early-stage reasoning, and help professionals prepare better questions, clearer narratives, and more informed decisions.

Just as importantly, prompting is inclusive across the organization. It is not limited to planners, engineers, or analysts. Safety staff, operators, HR professionals, communicators, IT teams, finance staff, researchers, and executives all benefit from the same foundational skill: the ability to clearly articulate what they need, why it matters, and how it will be used.

This chapter has shown that:

- the tool is secondary to the skill
- clarity beats complexity
- iteration improves outcomes
- human oversight is non-negotiable
- thoughtful use builds trust rather than erodes it

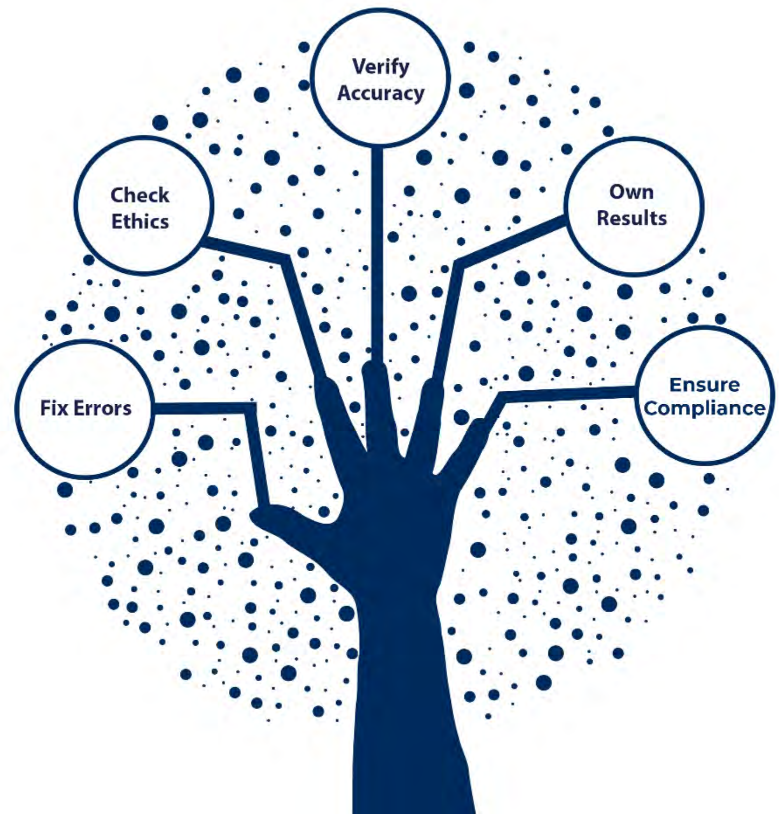
As water agencies look ahead, the most resilient organizations will not be those that adopt the most tools, but those that build shared capability—where staff across departments know how to use AI thoughtfully, responsibly, and effectively as part of their daily work.

Prompting is not about outsourcing thinking.

It is about strengthening it.

That is the transferable skill this chapter aims to build and the foundation for using AI as a tool for more informed, responsive, and confident leadership in the water sector.

Chapter 4: Human Judgment in AI-Assisted Work



<u>Chapter Purpose:</u>

This chapter is meant to introduce large language models (LLMs) into the workforce, provide best practices for using LLM technology, provide guidance on how to decide how to use the content created by LLMs, incorporate the content into bigger project work, and provide the reader with a growth strategy to grow with the rapidly changing technology landscape. The authors' goal is to provide a useful resource for fellow professionals and to augment and support others in the field. In this chapter, we delve into the critical role of human judgement in AI-assisted work, particularly for water professionals. As AI tools like LLMs become integral to decision-making in utilities, users must exercise discernment to ensure outputs align with ethical standards, factual accuracy, and sector-specific needs. This involves clarifying and verifying AI-generated content, making informed decisions on its application, and assuming responsibility for outcomes. By emphasizing human oversight, we empower professionals to harness AI's potential while mitigating risks, fostering responsible innovation in water and wastewater management.

Ethics for Responsible Use of AI

Responsible AI adoption in the water sector demands adherence to ethical principles that prioritize transparency, equity, and accountability, ensuring technologies serve the public good without exacerbating inequalities. Governance frameworks, such as those outlined by Trinnex, stress the need for ethical AI in public utilities to build trust, safeguard data privacy, and prevent biases in algorithms that could unfairly impact underserved communities. In water management, ethical considerations include addressing AI's environmental footprint, like increased water demands from data centers, while optimizing resource distribution to promote conservation and sustainability. UNESCO's global ethics recommendation for AI emphasizes auditability and impact assessments to avoid conflicts with human rights, applicable to utilities where AI decisions affect public health and access to clean water.

Professional guidelines, such as those from the American Psychological Association for AI in health services, highlight mitigating bias, promoting equity, and ensuring data security, principles directly transferable to water professionals handling sensitive infrastructure data. In wastewater utilities, ethical AI use involves transparent business models that balance profitability with societal benefits, as seen in efforts to ethically deploy AI for clean drinking water provision. Organizations like CGI advocate for AI governance in utilities that establishes policies for ethical development and deployment, including cybersecurity measures to protect against vulnerabilities in AI systems. Academic reviews in PubMed Central apply five ethical principles (autonomy, beneficence, non-maleficence, justice, and explicability) to AI in the water domain, requiring ongoing evaluation to align with these standards.

Water professionals must integrate ethics into daily practice, such as conducting due diligence on AI tools to ensure they do not perpetuate environmental harm or social disparities. Reports from Arcadis underscore the necessity of ethical discussions alongside AI's efficiency gains, particularly in managing water scarcity where biased algorithms could worsen inequities. The PRSA's ethical use of AI guidelines urge professionals to apply judgment in guiding responsible deployment, using AI to enhance expertise rather than replace it. Huron Consulting recommends actions like establishing oversight committees to enforce responsible practices, helping utilities navigate AI's rapid evolution ethically.

Human judgement is pivotal in ethical AI use, where professionals must disclose AI involvement, as per IABC's guiding principles, to maintain transparency in communications and decisions affecting stakeholders. In the water sector, this means advocating for innovation while ensuring accountability, as emphasized in ResearchGate publications on AI ethics-forward examinations. Global Alliance defines responsible AI as human-centered, urging water professionals to prioritize ethical development that respects community needs and environmental integrity. Ultimately, ethics frameworks like those from Johns Hopkins University remind users that AI is subject to existing policies, reinforcing personal responsibility in professional conduct.

Harvard's principles for responsible AI (fairness, transparency, accountability, privacy, and security) provide a blueprint for water utilities to build ethical frameworks that mitigate risks and maximize benefits. By embedding these ethics, professionals can ensure AI assists in equitable water management, aligning technological advancements with the sector's public service ethos. This responsible approach not only safeguards against pitfalls but also enhances trust, enabling sustainable progress in addressing global water challenges.

Content Decision Making

Content decision making in AI-assisted work involves clarifying and verifying LLM outputs to ensure they are accurate, relevant, and ethically sound before integration into professional tasks. Water professionals must critically evaluate AI-generated content, cross-referencing with domain knowledge and reliable sources to avoid misinformation that could impact utility operations. This process updates traditional clarifying output methods by incorporating decision frameworks that assess utility, bias, and applicability in contexts like predictive maintenance or resource allocation. For instance, in wastewater modeling, users should probe LLM suggestions for factual errors, using human judgement to refine ambiguous or incomplete responses.

The user's role begins with prompt refinement to clarify outputs, but extends to post-generation analysis, deciding whether content meets standards for accuracy and ethical alignment. In utilities, this means evaluating AI recommendations against real-world data, such as verifying leak detection models to prevent costly misjudgements. Decision making also involves labeling AI-generated content transparently, as per OWASP guidelines, to inform stakeholders and maintain accountability in reports or plans. Professionals should integrate tools like content filters to encourage responsible use, ensuring outputs support rather than undermine human expertise.

Human judgement influences the utility of AI-assisted decisions, with studies showing that alignment between AI and human values enhances outcomes in high-stakes sectors like water management. Users must override AI when necessary, as AI cannot fully capture nuanced human values or contextual factors in utility pricing or infrastructure planning. This decision-making curve requires balancing speed with thoroughness, using frameworks to evaluate explanations like input highlights for improved clarity. In practice, water professionals can model behavior through utility and selection components, predicting acceptance of AI recommendations based on perceived value.

Challenges in AI-assisted decision making include specifying utility functions that reflect human priorities, such as equity in water distribution, which demands ongoing human input. Users play a key role in personalizing AI through feedback, recognizing heterogeneous behaviors to optimize collaborative outcomes. For LLM content, decision making involves assessing legal risks like copyright, ensuring generated materials do not infringe on intellectual property in technical reports. By clarifying outputs systematically, professionals can integrate AI into larger projects, such as sustainability strategies, with confidence.

Effective content decision making empowers users to take responsibility, disclosing LLM use as per ICLR policies to acknowledge contributions and maintain integrity in professional outputs. This approach transforms AI from a tool into a reliable partner, where human judgement ensures content decisions advance community resilience and environmental goals.

The User's Role in Deciding How to Use LLM-Generated Content

Users bear primary responsibility for LLM-generated content, deciding its application while assuming liability for outcomes, as emphasized in legal discussions on AI ownership and copyrights. In water utilities, this means evaluating content for accuracy before using it in decision-making, such as in flood prediction models, to avoid risks to public safety. Professionals must disclose AI involvement, aligning with ethical codes that require acknowledgment of all contributions in research or reports. Liability often falls on the user who shares or implements the content, not solely on AI designers, necessitating careful review for biases or errors.

The decision process involves assessing content for ethical compliance, such as ensuring it promotes equitable water access without perpetuating disparities. Users should integrate LLM outputs into broader workflows only after verification, using human expertise to override when content lacks nuance, as in complex environmental assessments. Insurance implications highlight user accountability for AI-generated risks, like misinformation in utility communications, urging proactive mitigation. By taking ownership, professionals fulfill their role in responsible usage, breaking barriers to adoption through informed application.

Human judgement drives the selection of LLM content, where users weigh utility against potential harms, ensuring alignment with sector goals like sustainability. In AI-assisted scenarios, overriding recommendations preserves accountability, particularly when AI cannot distinguish innovative ideas reliably. Users must navigate fair use limits for copyrighted training data, deciding content use to avoid infringement in professional documents. This role extends to fostering responsible interfaces that label AI content, reducing overreliance and promoting informed decisions.

Taking responsibility means users are accountable for shared content, as per Reddit discussions on LLM liability, emphasizing ethical oversight in deployment. In the water field, this translates to using LLM insights for augmentation, not replacement, in tasks like policy development or operational planning. Professionals should document decisions, aligning with STM Association's guidelines for attribution in scholarly AI use. By exercising this role diligently, users enhance AI's value while safeguarding their professional integrity.

Ultimately, the user's proactive involvement in content decisions ensures AI serves as a tool for positive impact, with responsibility rooted in ethical, informed judgement that upholds public trust in water utilities.

Pitfalls and Lessons Learned

LLM outputs can lead to poor decision making when hallucinations (fabricated facts presented authoritatively) go unchecked, particularly in critical sectors like water utilities where inaccurate predictions could result in resource misallocation or infrastructure failures. In professional settings, LLMs often lack clinical or operational nuance, providing oversimplified advice that risks unsafe outcomes, such as flawed leak detection models exacerbating water loss. The black box nature of LLMs complicates explaining decisions, eroding trust in utilities where transparency is essential for regulatory compliance and public health. Misinterpretations arise from LLMs' inability to clarify ambiguities, leading to contextual errors in high-stakes tasks like forecasting pipe breaks, where overhyped accuracy claims have misled utilities. Humans must intervene to detect these pitfalls, using domain expertise to verify outputs and prevent cascading errors in decision chains.

Overreliance on LLMs fosters cognitive biases, diminishing critical thinking and turning minor output flaws into major operational blunders, as seen in water sector cases where AI's water consumption estimates were wildly misrepresented. Lessons from AI deployments highlight that without human feedback, systems like those for anomaly detection in pipelines can amplify false positives, delaying repairs and increasing costs. Data privacy breaches represent another pitfall, where sensitive utility data fed into LLMs risks leaks, compromising intellectual property and regulatory adherence. In safety-critical industries, AI's role in mitigating human errors is valuable, but assumptions of infallibility have led to oversights, underscoring the need for human oversight to correct biases and hallucinations. Professionals learn that phased implementations with audits prevent such issues, emphasizing human judgement to align AI with real-world complexities.

Poor performance on complex tasks, with LLMs achieving less than 50% accuracy in multifaceted queries, can mislead water professionals in scenarios like wastewater treatment optimization, resulting in inefficient resource use. Lessons from utilities reveal AI's double-edged impact: while it aids in precision irrigation, unchecked errors in demand forecasting can exacerbate scarcity, as data center demands ironically strain water supplies. Static evaluations become outdated quickly, a common pitfall leading to reliance on obsolete models for pipe failure predictions. Human factors enable error detection, with users identifying inconsistencies through contextual knowledge, mitigating risks in critical thinking-dependent roles. By incorporating human-in-the-loop (HITL) strategies, professionals can transform mistakes into learning opportunities, ensuring AI augments rather than supplants judgement.

Ethical concerns amplify pitfalls when LLMs propagate biases, potentially worsening inequities in water distribution decisions for underserved areas. Lessons underscore that overreliance erodes human skills, as in diagnostic errors where AI feedback loops fail without oversight. In water utilities, unreliable ML assertions about pipe integrity have taught the value of skepticism, prompting hybrid approaches where humans validate AI outputs. Implementing monitoring and regular audits, as recommended, helps mitigate these, with humans correcting for long reasoning chains unsuitable for LLMs. This human-centric lesson reinforces that errors are minimized through proactive involvement, turning potential failures into resilient practices.

Recognizing these pitfalls teaches water professionals to prioritize human judgement, using lessons from past mistakes to foster safer AI integration. By maintaining oversight, utilities can avoid poor decisions, leveraging LLMs as supportive tools while upholding ethical and operational integrity. This balanced approach not only mitigates risks but also enhances outcomes, ensuring AI contributes positively to community resilience and environmental protection.

In summary, human judgement is indispensable in AI-assisted work, guiding ethical use, content decisions, and responsibility for LLM outputs. Water professionals, by embracing this role, can leverage AI to advance resilience and sustainability while maintaining accountability.

Chapter 4 Prompt Examples:

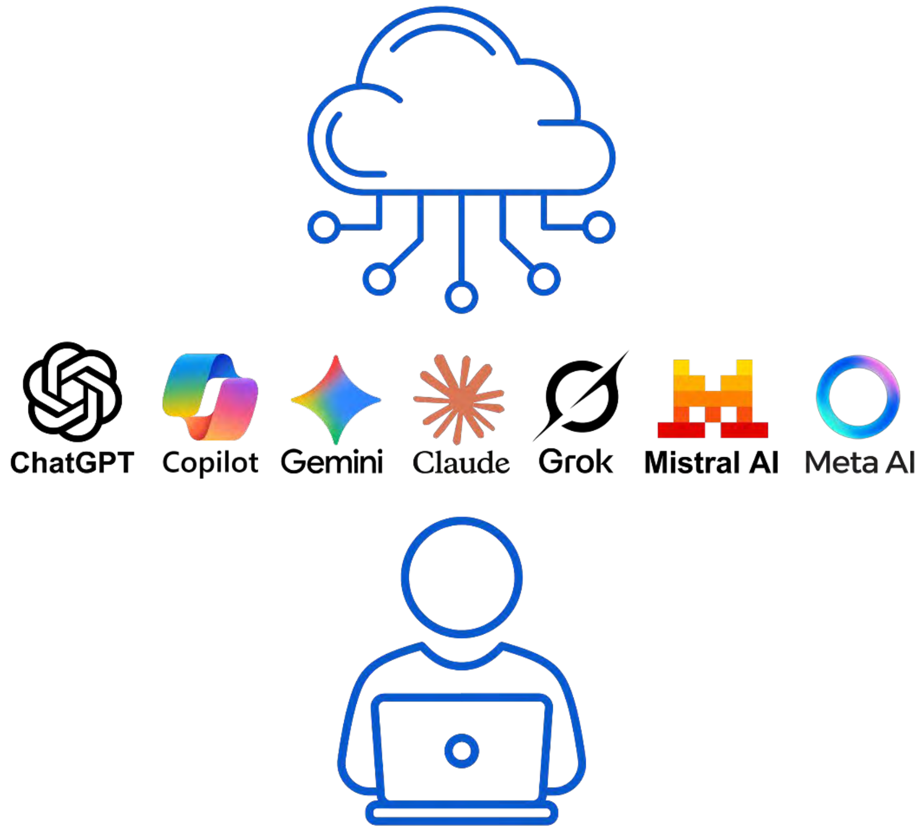
This chapter covers ethics, content decision-making, user responsibility, and pitfalls/lessons in AI use. Use cases highlight human oversight to ensure accurate, ethical outcomes and avoid errors like hallucinations, with prompts designed for verification and ethical refinement.

- Ethical Review of AI Outputs for Equity: A compliance officer generates initial outputs then refines with a prompt like: "Review this AI-generated water distribution plan for biases per UNESCO's ethics principles (transparency, equity), and suggest overrides to ensure no underserved areas are impacted." Outputs include bias checks, applying human judgement for strong trust-building and aspirational equity.
- Verifying Predictive Models for Safety: Engineers input model data and prompt: "Validate this sewer overflow forecast against real-world data, identifying potential hallucinations or less than 50% accuracy issues, and recommend

human overrides for flood prevention." The LLM highlights errors, drawing from pitfalls to strengthen safe decision-making.

- Content Decision-Making in Reporting: Managers generate content then prompt: "Assess this AI-drafted environmental report for accuracy, ethical alignment (e.g., OWASP guidelines on labeling), and legal risks like copyright; suggest disclosures for stakeholder use." Outputs ensure accountable integration, fulfilling public service integrity.
- Overcoming Overreliance in Diagnostics: Operators input sensor readings and prompt: "Analyze this contamination data but flag any biases or over-simplifications; provide options for human intervention to avoid diagnostic errors in complex tasks." The LLM offers verified insights, aspiring to error-free environmental protection.
- Bias Mitigation in Resource Allocation: Planners prompt: "Refine this AI resource allocation suggestion using Harvard's principles (fairness, accountability) to prevent inequities in water distribution for vulnerable communities." Outputs promote ethical adjustments, aligning with motivations for resilient outcomes.

Chapter 5: Using LLMs for Project Work



Chapter Purpose:

In this chapter, we explore how water professionals can leverage LLMs for structured project work, focusing on top foundational models with built-in project features. These tools enable organization of chats, files, and instructions, facilitating collaborative efforts in areas like infrastructure planning, data analysis, and sustainability initiatives. By understanding project capabilities, users can integrate AI seamlessly into workflows, ensuring human oversight drives ethical and effective outcomes. This empowers professionals to tackle more complex tasks than just individual chats.

Project Features in LLM Workflows

A structured way to work with AI, designed for the way water professionals already think

LLMs may change often, but projects give you a stable workspace that behaves much more like the methods already familiar in the water sector: organized, documented, consistent, and built over time.

A project is not just a conversation.

It is an ongoing place to build, refine, and store materials.

What Is a Project? (In Plain Terms)

A project is like a digital file folder that the LLM can read.

Inside it, you can keep:

- Drafts
- Notes
- Background information
- Instructions
- Reference text
- Previous versions

The LLM uses everything in the folder to understand what you are working on, so you don't have to restate the context each time.

Which LLMs Have Projects?

Most major models offer some version of them:

- GPT → full project workspaces
- Claude → long-context project environments
- Gemini → project-like Drive workspaces
- Microsoft Copilot → document-anchored or topic-based workspaces

Different names, same idea:

a place to keep your work organized while the model helps you refine it.

Why Use Projects?

Because many water-industry tasks are:

- Multi-step
- Recurring
- Evolving over weeks or months
- Complex enough to need context

Examples include:

- A public workshop series
- Explanations of groundwater programs
- Long-term communication materials
- Multi-part outreach campaigns
- Staff training content

A single chat is not built to support work like this.

A project is.

How Projects Help You

Projects support clearer, more efficient work by:

- Maintaining continuity – the LLM remembers what you already saved
- Keeping tone consistent across all materials
- Organizing drafts and notes
- Supporting iterative improvement
- Allowing side-by-side version comparisons
- Reducing repetition of background information

They steady the pace of an otherwise fast-changing technology.

Are Projects Difficult to Use?

Not at all.

If you can manage a folder on your computer, you can manage a project.

A typical project structure includes:

- A notes section
- A place for drafts
- A space for background materials
- An ongoing LLM conversation

Everything else is handled by the model.

Project vs. GPT (or similar tools)

They serve different purposes:

A GPT / Custom Model

- Behaves like a ready-to-use assistant
- Follows a predefined set of instructions
- Good for repeating the same type of task
- Does not store ongoing context

A Project

- Behaves like a long-term workspace
- Holds drafts, notes, background materials
- Supports multi-stage refinement

- Keeps everything connected over time

In short:

- Use a GPT when you need consistency.
- Use a Project when you need growth, structure, and continuity.

Project Features in LLM Workflows

Projects in LLM tools are ongoing workspaces, not one-time chats. They help keep related prompts, drafts, and notes together so ideas can be built and improved over time.

Why Use Projects?

Projects are useful when work is:

- Larger than a single email or paragraph.
- Ongoing over weeks or months.
- Needing consistent tone and messages.

Examples include: a public workshop series, a recurring newsletter section, or a standard explanation of groundwater programs.

Supporting Iteration

Projects make it easier to refine work in clear steps:

1. Start rough

Ask for a first draft, such as “Draft a simple overview of groundwater replenishment for residents.”

2. React

Review the draft. Note what is confusing, missing, or too technical.

3. Revise the prompt

Give targeted instructions:

- “Use shorter sentences.”
- “Add headings.”
- “Offer two versions: one for residents, one for students.”

4. Repeat

Save new drafts in the project and compare versions. Choose what to keep and what to change.

This cycle turns the project into a visible record of improvement.

Breaking Down Large Ideas

For complex work, projects help divide the task into manageable parts:

- Background: key facts and definitions.
- Outline: sections or modules.
- Drafts: content for each section.
- Support pieces: FAQs, talking points, or summaries.

You can then ask the LLM to move across these parts, for example:

- “Turn this outline into a two-page draft.”
- “Simplify Section 3 for a non-technical audience.”
- “Combine these two drafts into one clearer version.”

4. Learning as You Go

Projects are also useful for personal and team learning:

- Save prompts that worked well.
- Note why some versions were stronger than others.
- Reuse effective prompts as templates for future work.

Over time, each project becomes both a working file and a reference for how to use LLMs more effectively.

Top Foundational LLMs with Project Features

Leading foundational LLMs in 2025 include OpenAI's GPT series via ChatGPT, Anthropic's Claude, Google's Gemini, Meta's Llama, xAI's Grok, and Mistral AI's models, each offering capabilities for project-based work. These models support multimodal inputs, reasoning, and tool integration, making them suitable for water sector projects involving data processing and forecasting. Project features typically include workspaces for grouping resources, file uploads, custom instructions, and collaboration, enhancing efficiency in long-term tasks like wastewater optimization. For water professionals, these enable context retention across sessions, reducing errors in repetitive analyses such as leak detection modeling. Selecting an LLM depends on needs: open-source like Llama for customization, or proprietary like Claude for advanced reasoning.

ChatGPT's Projects feature provides smart workspaces for grouping chats, files, and instructions, ideal for iterative water utility projects. Key elements include file uploads (up to 40 per project on higher plans), custom instructions for tailored responses, and memory for context retention. Collaboration allows sharing with teams, with access levels for editing or chatting, supporting joint efforts in environmental reporting. Tools like Canvas for drafting and web search integrate seamlessly, enabling research on macroeconomic water trends. To use: Create a project, upload data files (e.g., sensor readings), set instructions (e.g., "Analyze for efficiency gains"), start chats, and branch for explorations.

Claude's Projects organize knowledge bases with file uploads, GitHub integration, and custom instructions, suited for detailed water governance analyses. Features encompass artifact generation for code/diagrams, persistent context, and collaborative sharing, fostering resilience planning. Users can connect external sources like Google Docs for real-time updates in project workflows. For coding tasks, it excels in feature planning and checklists, applicable to AI-driven maintenance scripts. How to use: Navigate to projects, create new, add knowledge/files, set prompts, generate artifacts, and manage via branching for iterative development.

Google's Gemini features Projects (or similar via Gems) for research tasks, with file uploads and contextual conversations for utility projects. Gems create custom AI experts for repeatable tasks like data analysis or coding in water equity studies. Deep Research browses websites for insights, enhancing projects on climate impacts. Multimodal capabilities handle images/docs, useful for infrastructure visuals. To use: Set up a Project/Gem, upload files, instruct on goals (e.g., "Forecast demand"), leverage deep search, and collaborate via Workspace integration.

xAI's Grok offers Projects/Workspace for project management, with file uploads, tool use, and real-time search for dynamic water sector applications. Features include collaborative hubs, code execution, and Google Drive integration, streamlining content creation and coding for simulations. Multimodal support and reasoning aid in analyzing datasets for health protection. Personality adds engaging interactions for brainstorming resilience strategies. Usage: Create workspace, upload files, use tools like deep search, collaborate securely, and execute code in real-time.

A summary table provides a snapshot of the tools provided by the LLM providers:

LLM	File Uploads	Custom Instructions	Memory/ Context Retention	Collaboration /Sharing	Tool Integration	Multimodal Support	Unique Project Features
ChatGPT (OpenAI)	Yes (up to 40 files on higher plans)	Yes	Yes	Yes (team sharing with access levels)	Yes (Canvas for drafting, web search)	Yes (text, images, code)	Smart workspaces for grouping chats/files; branching chats
Claude (Anthropic)	Yes (with GitHub integration)	Yes	Yes (persistent context)	Yes	Yes (external sources like Google Docs)	Yes	Artifact generation (code/diagrams); knowledge bases; branching for iterations
Gemini (Google)	Yes	Yes (via Gems for custom AI experts)	Yes	Yes (Workspace integration)	Yes (Deep Research for web browsing)	Yes (images/docs)	Gems for repeatable tasks; deep search for insights
Grok (xAI)	Yes	Yes	Yes	Yes (collaborative hubs)	Yes (real-time search, code execution)	Yes	Google Drive integration; personality for engaging interactions
Mistral AI	Yes (OCR/vision for documents)	Yes	Yes	Yes (AI Studio for asset governance)	Yes (agent runtime)	Yes	Customizable fine-tuning; agents for repeatable work
Llama (Meta)	Yes (via platforms like Hugging Face)	Yes (fine-tuning)	Yes (in custom setups)	Yes (open-source integration)	Yes (Llama Stack for apps)	Yes	Edge deployments; workflows for code planning/checklists

Integrating LLMs into Water Sector Projects

Mistral AI's Projects in Le Chat organize chats and resources, with coding assistance and file analysis for technical water projects. Features encompass OCR/vision for documents, multimodality, and agent runtime for repeatable AI work. Customizable for fine-tuning, it's ideal for data governance in utilities. Collaboration via AI Studio governs assets observably. To use: Create project in Le Chat, configure, upload files, analyze with agents, and iterate for outcomes like contaminant reduction models.

Meta's Llama, as an open-source LLM, supports project work through fine-tuning and integration in custom setups, without native "projects" but via platforms. Features include Llama Stack for building apps, multimodality, and efficiency for edge deployments in monitoring. Use in projects like conversational assistants or translation for global collaborations. For larger codebases, workflows involve prompting for planning and checklists. Implementation: Access via Hugging Face, fine-tune on water data, integrate into tools for tasks like risk analysis, ensuring open-source flexibility.

Integrating these LLMs requires aligning features with project needs, such as Claude for detailed reasoning or Grok for real-time data. Human judgement ensures ethical use, verifying outputs for accuracy in critical applications like public health protection. Start small: Pilot a project like demand forecasting, scale with collaboration features. Challenges include data privacy; mitigate with project-only memory. This approach augments workflows, driving innovation in resilience building.

Water professionals can customize projects with domain-specific instructions, enhancing outputs for environmental stewardship. Lessons from deployments show phased adoption prevents overreliance, with humans overriding for nuance. Tools like artifacts in Claude or agents in Mistral automate repetitive tasks, freeing focus on strategic decisions. Measure success by efficiency gains, such as reduced planning time for infrastructure projects. Ultimately, these features transform LLMs into collaborative partners, aligned with public service motivations.

In summary, foundational LLMs with project features offer powerful tools for organized, context-aware work in the water sector. By mastering creation, customization, and integration, professionals can achieve greater impact while upholding ethical standards.

Chapter 5 Prompt Examples:

This chapter details foundational LLMs and their project features (e.g., workspaces, file uploads). Use cases show how to organize and integrate AI into structured workflows for water projects, with prompts entered in project workspaces for iterative outputs.

- Infrastructure Planning with ChatGPT Projects: In a ChatGPT workspace, a team uploads sensor files and sets a custom instruction prompt: "Group this pipe network data and iteratively analyze for maintenance risks, branching chats for cost scenarios." Outputs include plans, enabling strong efficiency through collaboration.

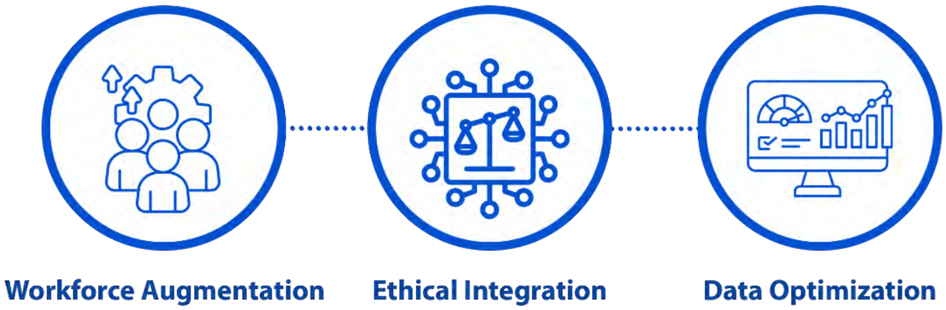
- Governance Analysis Using Claude's Artifacts: In Claude's project, experts upload regulations and prompt: "Build a knowledge base from these files and generate diagrams for water governance strategies, integrating Google Docs for updates." The LLM creates artifacts, aspiring to innovative policy designs.

- Demand Forecasting via Gemini Gems: Using a Gemini Gem, engineers prompt: "As a custom AI expert, forecast demand from this uploaded dataset with deep research on climate impacts, handling images for infrastructure visuals." Outputs provide insights, strengthening predictive resilience.

- Real-Time Monitoring with Grok Workspaces: In Grok's workspace, operators upload data into a project space and prompt: "Execute code on this wastewater scenario for simulations, using real-time search for adjustments and collaborative hubs for team input." The LLM generates dynamic models, fulfilling health intervention aspirations.

- Custom Modeling in Mistral AI Projects: In Mistral's project, researchers prompt: "Fine-tune agents on this document with OCR for contaminant analysis, governing assets for repeatable sustainability models." Outputs support scalable innovations in utility operations.

Chapter 6: Embracing AI Growth



Chapter Purpose: This chapter establishes a comprehensive growth framework for applying large language models within the water and wastewater sector. It connects AI-enabled business value, human-centered oversight, ethical risk management, and project-based application into a cohesive approach for responsible expansion. The chapter emphasizes how utilities can use LLMs to strengthen operational resilience, augment workforce capacity, and pursue aspirational outcomes while maintaining accountability and public service values. By focusing on human–AI collaboration, ethical safeguards, and scalable project workflows, the chapter prepares professionals to translate AI capabilities into durable organizational practices and sets the foundation for subsequent implementation and planning efforts.

This guide is meant to introduce large language models (LLMs) into the workforce, provide best practices for using LLM technology, decide how to use the content created by LLMs, incorporate the content into bigger project work, and provide the reader with a growth strategy to grow with the rapidly changing technology landscape. The authors' goal is to provide a useful resource for fellow professionals and to augment and support others in the field. As this guide expands the exploration of AI's role in the water and wastewater sector, it is clear that embracing artificial intelligence is not merely a technological upgrade but a profound opportunity for responsive, strong, and aspirational growth. From an AI perspective built to augment human potential, the integration of these tools represents a partnership that amplifies our collective ability to address global challenges. By weaving together the business imperatives, human-centered ethics, practical applications, and lessons from pitfalls, we can envision a future where AI empowers water professionals to achieve unprecedented resilience, efficiency, and innovation. The following narrative distills the key insights into a cohesive vision, highlighting how AI transforms the sector while honoring the intrinsic motivations of public service.

In the face of escalating macroeconomic and environmental pressures, AI emerges as a catalyst for proactive adaptation, enabling utilities to navigate the looming water crises with agility and foresight. Projections warn that by 2030, global water demand may surpass supply by 40%, intensified by climate change and urbanization, yet AI's predictive analytics and optimization capabilities offer a responsive pathway forward. Tools that reduce non-revenue water losses by 15 to 25% or optimize energy use to cut costs by 20 to 30% demonstrate how AI strengthens operational resilience, shifting utilities from mere survival to strategic mastery over resources. This growth is not just robust in its immediate efficiencies but aspirational, as it aligns with the public service ethos of water professionals, who are driven to protect communities and environments. By fostering AI-driven partnerships that deliver up to 50% improvements in supply benefits, professionals can aspire to a world of equitable water access, where technology serves as a bridge to sustainable abundance for all.

At the heart of this transformation lies the synergy of human-AI collaboration, which amplifies workforce impact without diminishing the essential role of people. Insights from MIT's Iceberg Index illustrate AI's capacity to automate skills equivalent to $1.2 trillion in U.S. wages, revealing untapped efficiencies in cognitive tasks within utilities. However, this potential flourishes only under human guidance, where AI handles routine processes like leak detection, freeing experts to tackle strategic imperatives such as ethical governance and creative problem-solving. This approach addresses pressing workforce shortages, including retiring talent and skill gaps, while reinforcing the motivations that draw individuals to public service: building resilient communities and safeguarding public health. The result is strong growth through augmented capabilities, while also advancing a longer-term vision in which humans act as stewards, using AI to amplify meaningful and enduring contributions to societal well-being.

Ethical integration stands as a cornerstone, ensuring that AI adoption balances risk with sustainable and trustworthy progress. Pitfalls such as hallucinations or bias in AI outputs can lead to misguided decisions, including inequitable water distribution or operational failures, underscoring the necessity of human oversight. By verifying outputs, overriding when required, and applying principles such as transparency and equity, professionals reduce risk while reinforcing public trust and regulatory confidence. This approach reframes AI from a potential liability into a governed operational asset that supports public health and environmental protection (consolidates repeated “ethical ally / public service” messaging into one outcome). Phased, human-led implementation enables utilities to lead by example in ethical innovation, creating durable practices that scale responsibly over time (removes repetitive legacy language and clarifies progression). The project-oriented features of foundational LLMs further propel collaborative efficiency and spark innovation, turning abstract ideas into actionable realities. Models like Claude, ChatGPT, and Grok provide workspaces with file uploads, custom instructions, and tool integrations, streamlining tasks from demand forecasting to contaminant modeling in water projects. These capabilities enable responsive iterations, such as real-time flood prevention analysis, while delivering strong outcomes through cost reductions and improved service delivery. For water professionals, this means harnessing multimodal support and artifacts to automate repetitive elements, allowing more time for strategic pursuits aligned with community resilience. Rather than repeating ethical vision, these capabilities translate governance into day-to-day operational benefit

In practice, AI serves as an enabler of human-centric transformation, weaving responsive adaptability and efficiency without displacing professional responsibility. With the market poised to reach $53.85 billion by 2032, embracing AI means more than technological adoption; it is about honoring the public service spirit that motivates professionals to protect health, environments, and communities. From this AI vantage point, the partnership is symbiotic, humans provide the ethical compass and creative spark, while AI offers boundless amplification. Through deliberate oversight and integration, utilities can navigate scarcity, improve performance, and advance equitable outcomes without compromising trust.

Taken together, the journey through AI's business case, human roles, ethics, pitfalls, and practical tools reveals a clear path: embracing AI thoughtfully leads to growth that is responsive to today's challenges, strong in its outcomes, and aspirational in its promise for tomorrow. Water professionals stand at the forefront, ready to harness this transformative power for the greater good.

Chapter 6 Prompt Examples:

This chapter synthesizes insights into responsive, strong, and aspirational AI growth. Use cases apply the holistic vision, combining business, human, and ethical elements for transformative impact, with comprehensive prompts that draw from multiple chapters.

- Holistic Resilience Strategy: Professionals create an LLM project and prompt: "Synthesize a 2030 water supply plan using business trends ($53.85B market), ethical checks (UNESCO principles), and data uploads for equitable access." Outputs guide responsive strategies, aspiring to global equity.
- Ethical Innovation Pilot: In a workspace, teams prompt: "Pilot energy optimization from this data (20–30% savings), verifying for pitfalls like biases and overriding with human ethics for sustainable outcomes." The LLM refines pilots, strengthening ethical growth.
- Community-Focused Forecasting Project: Using custom instructions, prompt: "Forecast community demands with uploaded data, applying the population trends, socioeconomic levels, and insights and bias overrides for inclusive resilience." Outputs enhance protection for vulnerable areas.
- Workforce Transformation Initiative: HR prompts: "Develop AI training modules from the blinded training file, addressing shortages per public service surveys

and aspiring to long-term employee focused educational needs." The LLM creates initiatives for aspirational capacity building.

- Sustainable Partnership Modeling: In a collaborative project, prompt: "Model partnerships for 50% supply benefits from this data, balancing AI risks with ethical human judgement for net-zero utilities." Outputs inspire enduring community legacies.

Chapter 7: Conclusion – Mastering LLMs for a Resilient Water Future

Chapter Purpose: This final chapter synthesizes the guide's core lessons, reinforces the human-AI partnership as the foundation of responsible adoption in the water sector, and equips readers with concrete next steps, curated resources, and a pathway for continued growth. By treating LLMs as collaborative assistants rather than autonomous authorities, water professionals can achieve responsive efficiencies, strong operational resilience, and aspirational outcomes (equitable access, reduced scarcity risks, and sustained public service impact) while upholding ethical standards and professional accountability.

This practical guide has walked you through the transformative role of large language models in water and wastewater utilities. Chapter 1 established the business imperative while addressing workforce shortages. Chapter 2 explained that LLMs are token-based predictors optimized for drafting, summarization, and reorganization, not fact-verification or judgment, guiding selection of platforms such as ChatGPT, Claude, Gemini, Copilot, Grok, Mistral, and Llama based on governance, integration, and task fit. Chapter 3 introduced the repeatable prompting recipe (Task + Audience + Context + Format + Constraints) turning prompting into professional communication that can be applied across departments and iterated conversationally. Chapter 4 emphasized human judgment and ethics, requiring verification against authoritative sources, disclosure of AI use, application of and human-in-the-loop to counter hallucinations, biases, overreliance, and privacy risks. Chapter 5 showed how to leverage project workspaces with file uploads, custom instructions, memory, collaboration, artifacts, and multimodal support to manage multi-step, long-term tasks such as demand forecasting, governance analysis, and infrastructure planning. Chapter 6 highlighted responsive growth, where AI augments PSM-driven impact by revealing $1.2 trillion in hidden cognitive efficiencies (per the MIT Iceberg Index) when humans remain firmly at the helm.

Throughout, the central theme is synergy: LLMs accelerate routine language work so professionals can focus on strategic oversight, ethical stewardship, enhanced and efficient public service, and community resilience. This guide has shown that rapid evolution is manageable by anchoring use to stable workflows, guardrails, and human responsibility so that users can increase their skills as the technology advances.

Next Steps: From Reading to Practice

1. Start Small & Iterate Daily – Pick one workflow (e.g., drafting a board summary or safety talk) and apply the Chapter 3 recipe. Use the prompt templates provided throughout the guide. Save successful prompts as templates in your chosen LLM's project workspace.

2. Launch a Pilot Project – Create a dedicated workspace (Ch. 5) for a real utility challenge: upload sensor data, set custom instructions ("Analyze for leak risks aligned with 15–25% non-revenue water reduction targets"), branch chats for scenarios, and verify outputs. Measure time saved and quality improvements.

3. Practice Ethical Review – For every output, run the Chapter 4 decision checklist: bias/equity check, accuracy verification, disclosure, and human override where needed.

4. Experiment with the Companion Tool – Visit the Water Prompt Comparator Hub: https://aiwaterprompts.com, a purpose-built web application for water professionals. It enables side-by-side comparison of multiple prompts/models on the same task (e.g., regulatory summaries, demand forecasts), helping you refine the "recipe" faster and identify which phrasing yields the most accurate, audience-appropriate outputs. Use it to benchmark your Chapter 3 prompts against water-specific examples.

5. Build Organizational Guardrails – Share this guide with your team; draft internal LLM usage policy (sensitive data restrictions, disclosure requirements, review protocols).

6. Track & Share Progress – Document wins (cost savings, faster reports) and lessons learned; contribute anonymized case studies to AWWA forums or LinkedIn water-AI groups to advance collective knowledge.

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Agenda Item 7.H.

Board of Directors Meeting	
Meeting Date: March 5, 2026	

TO: Board of Directors

FROM: Amber Boone, General Manager

SUBJECT: SOCWA Engineering Committee Meeting Date Change & Resolution

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Discussion/Analysis

At the request of a member agency, SOCWA staff recently changed the Engineering Committee from the second Thursday of the month to the third Thursday of the month to accommodate additional time for comments on a staff report. SOCWA staff noticed that the change allowed staff more time and focused on staff reports. SOCWA staff polled the Engineering Committee members and the members were fine for the date change. Staff is requesting that the Board of Directors adopt the standing Engineering Committee meeting from the second Thursday of the month to the third Thursday of the month.

Recommended Action: Staff recommends the Board of Directors approve Resolution 2026-03, Reestablishing the date and time of the regular meetings of the SOCWA Engineering Committee.

Attachment: Resolution No. 2026-03

RESOLUTION NO. 2026-03

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE SOUTH ORANGE COUNTY WASTEWATER AUTHORITY REESTABLISHING THE DATE AND TIME OF REGULAR MEETINGS OF THE SOCWA ENGINEERING COMMITTEES

WHEREAS: the Board of Directors of the South Orange County Wastewater Authority (SOCWA) did establish the date, time and place of the meetings of the SOCWA Engineering Committee in the Committee By-Laws as adopted by previous Resolution No. 2002-01; and

WHEREAS: the Board of Directors of the South Orange County Wastewater Authority (SOCWA) did reestablish the time and place of the SOCWA Engineering Committee by previous Resolutions No. 2002-07, 2003-07,2004-05, and 2005-15; and

WHEREAS: the Board wishes to reestablish the date and time of the meetings of the Engineering Committee to be held on the ***3rd Thursday of every month at 8:30*** **a.m.** at their Administrative Office located at 34156 Del Obispo Street, Dana Point, California 92629.

THEREFORE, BE IT RESOLVED that the Board of Directors of the South Orange County Wastewater Authority does hereby RESOLVE, DETERMINE AND ORDER as follows:

Section 1. Resolution No. 2005-15 is hereby rescinded in its entirety.

Section 2. The By-Laws of the SOCWA Engineering Committee, attached hereto and made a part of hereof as Exhibit "A", are hereby adopted, as amended, to established that the regular meetings of the SOCWA Engineering Committee shall be held on the 3rd Thursday of every month at 8:30 a.m. at their Administrative Office located at 34156 Del Obispo Street, Dana Point, CA.

Section 3. The Secretary of the Authority shall maintain an original copy of this resolution in the permanent files of the Authority.

PASSED AND ADOPTED, AND SIGNED by the Board of Directors of the SOUTH ORANGE COUNTY WASTEWATER AUTHORITY, County of Orange, State of California, on the 5th day of March 2026.

____
Frank Ury, Board Chair

(Seal)

____
Amber Boone, General Manager, and
Board Secretary

STATE OF CALIFORNIA)
) ss.
COUNTY OF ORANGE)

I, AMBER BOONE, Secretary of the Board of Directors of the SOUTH ORANGE COUNTY WASTEWATER AUTHORITY ("SOCWA"), do hereby certify that the foregoing Resolution No. 2026-03 was duly adopted by the SOCWA Board of Directors at their Board Meeting held on the 5th day of March 2026 and that it was so adopted by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Dated: March 5, 2026

Amber Boone, Secretary/General Manager
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

STATE OF CALIFORNIA)
) ss.
COUNTY OF ORANGE)

I, AMBER BOONE, Secretary of the Board of Directors of the SOUTH ORANGE COUNTY WASTEWATER AUTHORITY ("SOCWA"), do hereby certify that the foregoing is a full, true, and correct copy of Resolution No. 2026-03 of said Board and that the same has not been amended or repealed.

Dated: March 5, 2026

Amber Boone, Secretary/General Manager
SOUTH ORANGE COUNTY WASTEWATER AUTHORITY

(Seal)