# Cover/Transmittal Letter

October 1, 2024

Castulo Estrada
Utilities Manager
Coachella Sanitary District
87075 Avenue 54
Coachella, California 92236

**Subject:** **Coachella Water District and Sanitary District: Sewer System Management Plan 2024 Audit**

Dear Castulo Estrada:

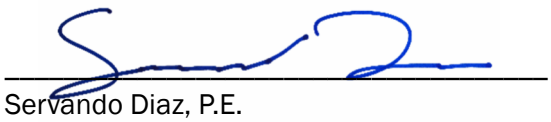
Dudek appreciates the opportunity to provide the following proposal to the Coachella Sanitary District (District) for the above-referenced project. The following sections of this proposal outline Dudek's understanding, approach, scope of services, experience in completing SSMPs, proposed team, fee estimate, and schedule for this project.

Dudek states that this proposal and fee are valid 90 days from the above submission date.

The Proposal Authorization follows this page. Bob Ohlund, Dudek Vice President of Engineering, is authorized to bind the firm.

We appreciate the District's consideration of our proposal to provide consulting services for the Sanitary Sewer Management Plan Audit. We hope that our proposed project approach, highly experienced team, and relevant experience will favor your consultant selection. If you have any questions or wish to discuss our qualifications, don't hesitate to contact Servando Diaz at 949.373.8327 or sdiaz@dudek.com.

Sincerely,



Servando Diaz, P.E.
Project Manager

**DUDEK AT A GLANCE**

- *Multidisciplinary environmental and engineering services*
- *Founded in 1980*
- *12 California offices*
- *900+ employees*
- *100% employee-owned*
- *Top 110 U.S. Environmental Firms (Engineering News-Record, 2023)*
- *Top California Design Firm, No. 54 (Engineering News-Record, 2023)*
- *Top 47 Trenchless Design Firm (Trenchless Technology, 2023)*

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## APPENDIX

# Project Approach and Scope of Services

## Project Understanding and Approach

As a requirement of the reissued State Water Resource Control Board (State Water Board) Waste Discharge Requirements (WDR Order WQ 2022-0103-DWQ), which became effective on June 5, 2023, each public agency that owns or operates a sanitary sewer system must maintain an up-to-date SSMP and auditing program and report all spills to the State Water Board online database, also known as the California Integrated Water Quality System (CIWQS). This program aims to provide a consistent statewide requirement for notification and reporting of spills and sewer system management to reduce both the number of spills and the volume of wastewater spilled in the State. As a requirement of the State Water Board, the SSMP must undergo an internal audit every three (3) years and must be updated every six (6) years to include any significant program changes. The State specifies the dates for each audit and update, which can be looked up for your particular agency here: https://www.waterboards.ca.gov/water_issues/programs/sso/lookup/. The District has not yet performed internal audits of its SSMPs. The District's next audit is due within six months of August 2024 or no later than February 2, 2024.

Following State Board guidelines, the SSMP is intended to be a parent document, documenting the protocol or standard operating procedure for various services and programs required to establish, operate, and maintain a sanitary sewer system. Internal audits are used to assess an agency's SSMP implementation and the effectiveness of the SSMP itself.

The audit proposed for this project will investigate whether modifications to the District's current SSMP procedures and/or implementation are needed. It will also inform the changes that need to be made to the District's next SSMP Update, which will be due August 2, 2025.

## Scope of Work

### TASK 1: PROJECT MANAGEMENT

In addition to general project budget and schedule controls, Dudek assumes one kickoff meeting and three (3) status meetings for this project.

#### Assumptions

- The fee assumes one kickoff meeting and three (3) status meetings.
- All meetings are assumed to be virtual via Zoom or similar.

#### Deliverables

- Meeting agendas
- Meeting minutes
- Updated schedules
- Monthly progress reports

## TASK 2: DATA REVIEW AND ASSESSMENT

Dudek proposes a comprehensive review of the District's current SSMP, any past SSMP audits, historical spill reports, system performance metrics, goals accomplished during the audit period, O&M accomplishments, current budgets (FOG, O&M), training records, updated enhanced maintenance area list, legal District and organizational structure and other relevant documents and data to support the audit of the current SSMP and conformance to the reissued WDR.

Dudek will interview key District staff to solicit their assessment of the program's performance and recommendations they may have for improvement. Dudek finds these interviews most valuable when done in a group setting, as this often instigates meaningful conversations between staff members and upper management that may not happen otherwise.

### Assumptions

- Data is readily available to aid in meeting project deliverable timelines.
- All interviews will occur virtually via Zoom or similar.

### Deliverables

- Ongoing and updated data request list to track data requests.
- Results of interviews will inform the audit and recommendations for the next SSMP Update.

## TASK 3: DRAFT AND FINAL AUDIT REPORT

Draft and final audit reports will be prepared that detail the audit findings, including existing performance metrics and recommendations for improvement. A draft audit will be provided to the District for review and comment. District comments will be incorporated into the final audit report.

The audit will include a checklist of recommendations to support the District in making the necessary modifications indicated in the report and a list of recommended changes to comply with the reissued 2022 WDR.

The final audit report will be submitted to the District for uploading to the CIWQS website.

### Assumptions

- District to provide one set of consolidated comments on the Draft SSMP Audit report.

### Deliverables

- Draft and Final SSMP Audit reports in electronic format

# Project Team and Organizational Diagram

## Proposed Project Team

Dudek proposes to utilize the following in-house personnel for the Sanitary Sewer Management Plan Audit project. Servando Diaz, PE, will serve as Project Manager throughout the project. He will oversee the development and execution of the project, track the budget and schedule, and serve as the main point of contact for the District's project manager. Mr. Diaz has 15 years of experience in water infrastructure and planning and has personally performed SSMP Audits and Updates over the last year. Supporting Mr. Diaz in the project engineer role is Julia Arvizu, who has two years of experience working with Mr. Diaz and Ms. Caliva.

Elizabeth Caliva, PE, will support Mr. Diaz as Principal in Charge and provide Quality Control leadership. Ms. Caliva has 19 years of experience in master planning and has personally performed SSMP Audits and Updates for over seven years. Servando and Elizabeth will facilitate the flow of information and deliverables among the team and with the District project manager.

*Figure 1. Project Organization Chart*


This team has the expertise and technical resources necessary to provide the required services, as shown in **Table 1** on the following page. All staff are fully available and committed to this project's extent.

## Table 1. Project Team

| Team Member & Role | Years of Experience | Familiarity with Project Work |
|---|---|---|
| **Servando Diaz, PE**<br>**Project Manager**<br>*Office Location: Mission Viejo*<br>*Availability: 50%* | 15 | ▪ Santa Ana Watershed Project District SSMP Audit<br>▪ City of El Centro SSMP Audit & Update<br>▪ Recent 2022 WDR Online Trainings |
| **Elizabeth Caliva, PE**<br>**Principal in Charge/QA/QC**<br>*Office Location: Encinitas*<br>*Availability: 25%* | 19 | ▪ City of Compton SSMP Audit & Update (ongoing)<br>▪ Santa Ana Watershed Project District SSMP Audit<br>▪ Victor Valley Wastewater Reclamation District SSMP Audits (2022 and 2024)<br>▪ City of El Centro SSMP Audit & Update<br>▪ City of Placentia SSMP Audit & Update<br>▪ WMWD and WRCRWA SSMP Audits and Updates<br>▪ City of Pasadena SSMP Update<br>▪ City of San Marino SSMP Update & SERP Update<br>▪ City of Avalon SSMP Audits<br>▪ City of Monterey SSMP Audits<br>▪ Town of Apple Valley SSMP Audit |
| **Julie Arvizu**<br>**Project Engineer**<br>*Office Location: San Diego*<br>*Availability: 65%* | 2 | ▪ City of Compton SSMP Audit & Update (ongoing)<br>▪ Victor Valley Wastewater Reclamation District SSMP Audit (2024)<br>▪ City of El Centro SSMP Audit & Update<br>▪ Recent 2022 WDR Online Trainings |

# Proposed Lines of Communication

The most effective project manager facilitates the continuous flow of information, data, instructions, and guidance between the District and Dudek team members. When maintaining this flow, we utilize resources efficiently and minimize wasteful rework. We achieve constant communication through the following:

- Regularly calling or emailing the District's key contact staff person to discuss project milestones, activities, and potential issues
- Holding regular project management meetings with key project staff to coordinate work efforts, monitor task completion, and review budget conformance
- Updating, as necessary, the project description, schedule, work progress reports, and inventories of available data so that all team members are aware of information that may affect their work products and schedules
- Meeting with District staff at design milestones and other strategic junctures
- Diligent documentation of issues, action items, and decisions

# Similar Projects and References

Dudek has been at the forefront of WDR compliance and SSMP preparation since before the final WDR was even promulgated. Dudek sat on the steering committee that assisted the State Water Board draft the original order into something the regulated community could comply with. We assisted agencies with preparing the first SSMPs and first SSMP audits. As such, engineers at Dudek have completed numerous updates to and audits of our client's SSMPs since the inception of the SSMP. Examples of recent experience are included herein.

## CITY OF EL CENTRO SSMP AUDIT AND UPDATE AND SPILL MONITORING PLAN

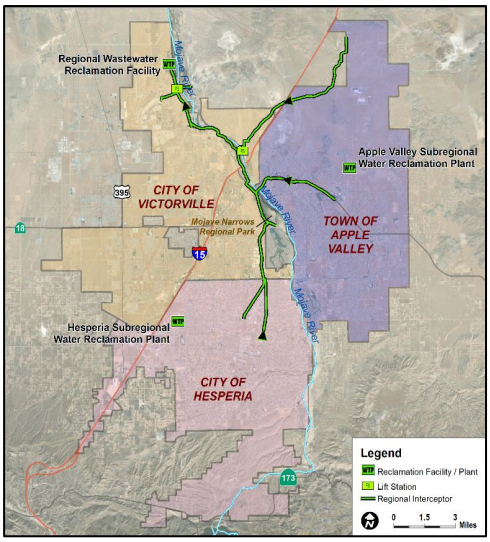
**Client:** City of El Centro, 307 W. Brighton, El Centro, CA 92243
**Reference:** Abraham Campos, City Engineer, 760.337.5182, acampos@cityofelcentro.org
**Key Team Members:** Russ Bergholz, Elizabeth Caliva, Servando Diaz, Shannon Brown
**Cost:** $71,740 (SSMP Audit and Update) and $36,995 (Spill Monitoring Plan)
**Completion Date:** 3/2024

The City of El Centro (City) sewer collection system consists of over 125 miles of gravity sewer, 13 lift stations, and a wastewater treatment plant. The City had never formally adopted its SSMP and was behind on its audits. An audit was performed to evaluate their current SSMP and operations against the requirements in the reissued WDR. Additionally, the audit recommended revisions to the City's SSMP to comply with the latest WDR. A comprehensive review and staff interviews were conducted during this audit process. Recent management changes supported a more significant commitment to consistency with sewer system management. The audit produced a checklist with several key recommendations and modifications. The recommendations were brought forward into the City's SSMP Update, which did receive Council approval. The Dudek Stormwater group also developed a new spill monitoring plan to satisfy the Spill Emergency Response Plan requirements of the reissued WDR.

## VICTOR VALLEY WASTEWATER RECLAMATION DISTRICT 2022 AND 2024 SSMP AUDITS

**Client:** Victor Valley Wastewater Reclamation District (VVWRA), Victorville, CA 92394
**Reference:** Latif Laari, Environmental Compliance Manager, 760.954.5083, llaari@vvwraca.gov
**Key Team Members:** Russ Bergholz, Elizabeth Caliva, Servando Diaz
**Cost:** $22,400 (2022 Audit) and $16,750 (2024 Audit)
**Completion Dates:** 12/2022 (2022 Audit) and 7/2024 (2024 Audit)

Dudek supported VVWRA with their 2022 and 2024 Audits. VVWRA operates a regional trunk sewer system for four member agencies consisting of 47 miles of pipeline from 8- to 48 inches in diameter. The scope included a comprehensive review of the District's current SSMP, past SSMP Audits, goals, O&M activities, budgets, training records, legal District, and other documents. Staff interviews were conducted with key staff, including the general manager, supervisors, and operations and maintenance workers, to solicit their assessment of the program's performance and to make recommendations for improvement. The 2022 audit resulted in key recommendations, which the District implemented during the most recent Audit period. Dudek just completed the District's 2024 Audit in July 2024.




## WESTERN MUNICIPAL WATER DISTRICT AND WESTERN RIVERSIDE COUNTY REGIONAL WASTEWATER DISTRICT 2019 SSMP AUDITS AND UPDATES

**Client:** Western Municipal Water District and Western Riverside County Regional Wastewater District, Riverside, CA 92518
**Reference:** Lyndy Lewis, Environmental and Regulatory Compliance Manager, 951.571.7288, llewis@wmwd.com
**Key Team Members:** Russ Bergholz, Elizabeth Caliva
**Cost:** $59,000 (Combined)
**Completion Date:** 6/2021

WMWD operates two collection systems—its system (the "Western system") and the system owned by the Western Riverside County Regional Wastewater District (WRCRWA) joint powers District (the "WRCRWA system"). Because Western operates both systems, there is significant overlap in the procedures and processes used to implement the SSMPs. As part of this contract, Dudek performed audits and updates for each system and updated stand-alone reference documents, including the Overflow Emergency Response Plan, FOG Program, and the Collection System Maintenance Standard Operating Procedures. This contract also included the development of completed Sewer Collection System Pre-Inspection Questionnaires for each agency. The project included workshops with District staff and coordination between multiple departments. Work was completed on time and under budget.

## CITY OF MONTEREY 2019 AND 2021 AUDITS

**Client:** City of Monterey, 580 Pacific Street, Monterey, CA 93940
**Reference:** Tricia Wotan, Environmental Regulations Manager, 831.646.3895
**Key Team Members:** Russ Bergholz, Elizabeth Caliva
**Cost:** $18,790 (2021 Audit)
**Completion Date:** 5/2021

Dudek performed the SSMP audits for the City of Monterey for 2019 and 2021. Tasks included reviewing the City's current SSMP, reviewing SSO-related documentation (e.g., spill histories, preventative operations, maintenance plans, maintenance records, collection system upgrade/rehab reports, budgets, training records, etc.), interviewing City personnel, and drafting the audit report, including recommendations for improvement. The project was completed on time and budget.

# Project Schedule

We estimate the following milestones for the tasks described in the Scope of Work.

| Milestone | Tentative Date |
|---|---|
| Notice to Proceed | 10/28/24 |
| Data Review | 10/28/24 – 11/11/24 |
| Kickoff Meeting | 11/05/24 |
| Staff Interviews | 11/12/24 |
| Submit Draft Audit | 12/10/24 |
| Receive City Review Comments on Audit | 12/27/24 |
| Submit Final Audit | 1/10/25 |

# Estimated Level of Effort per Scope Task

The Fee Proposal, included in Attachment A, presents Dudek's estimated level of effort and the associated fee.

**City of Coachella**
SSMP 2024 Audit
DUDEK FEE ESTIMATE
October 1, 2024

**ATTACHMENT A**

| Dudek Labor Hours and Rates | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Project Team Role:* | PIC - QA/QC | Project Manager | Project Engineer | Admin | TOTAL DUDEK HOURS | DUDEK LABOR COSTS | OTHER DIRECT COSTS | TOTAL FEE |
| | *Team Member:* | E. Caliva | S. Diaz | J. Avizu | M. Kinney | | | | |
| | *Billable Rate :* | $265 | $240 | $180 | $155 | | | | |
| **Task 1** | **Project Management** | | | | | | | | |
| 1.1 | Kick Off Meeting (Virtual) | 2 | 4 | 2 | | 8 | $ 1,850 | | $ 1,850 |
| 1.2 | Virtual Status Meetings (3 Assumed) | | 6 | 3 | | 9 | $ 1,980 | | $ 1,980 |
| 1.3 | Project Management | | 4 | | 2 | 6 | $ 1,270 | | $ 1,270 |
| | **Subtotal Task 1** | **2** | **14** | **5** | **2** | **23** | **$ 5,100** | **$ -** | **$ 5,100** |
| **Task 2** | **Data Review & Assessment** | | | | | | | | |
| 2.1 | Review of Current SSMP, Audits, SOPs, Spill Reports, Regulations, etc. | 4 | 20 | 24 | | 48 | $ 10,180 | | $ 10,180 |
| 2.2 | Comparison against Resissued WDR | | 8 | 16 | | 24 | $ 4,800 | | $ 4,800 |
| 2.3 | Operations Staff Interviews (Virtual) | | 8 | 8 | | 16 | $ 3,360 | | $ 3,360 |
| | **Subtotal Task 2** | **4** | **36** | **48** | | **88** | **$ 18,340** | **$ -** | **$ 18,340** |
| **Task 3** | **Draft and Final Audit Report** | | | | | | | | |
| 3.1 | Draft Audit (Basic) | 2 | 8 | 16 | 2 | 28 | $ 5,640 | | $ 5,640 |
| 3.2 | Final Report | 2 | 2 | 4 | 2 | 10 | $ 2,040 | | $ 2,040 |
| | **Subtotal Task 3** | **4** | **10** | **20** | **4** | **38** | **$ 7,680** | **$ -** | **$ 7,680** |
| | **Total Non-Optional Hours and Fee** | **10** | **60** | **73** | **6** | **149** | **$ 31,120** | **$ -** | **$ 31,120** |
| | *Percent of Hours:* | *7%* | *40%* | *49%* | *4%* | *100%* | | | |

# Appendix A

Resumes

# Elizabeth Caliva, PE

**PRINCIPAL AND QA/QC**

Elizabeth Caliva is a professional engineer with 19 years' experience specializing in water, wastewater, and recycled water planning projects. Ms. Caliva has extensive hydraulic modeling experience and is proficient in several modeling sofware packages, the most commonly used being InfoWater, InfoSewer, and InfoSWMM by Innovyze and Bentley's WaterCAD and SewerCAD. In addition to planning studies and master plan projects, her background includes Sanitary Sewer Management Plans (SSMPs) and SSMP audits, treatment plant design, pump station design, sewer pipe line design, urban stormwater compliance, and federal environmental cleanup.

***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

**Sanitary Sewer Management Plan Update, Western Municipal Water District, Riverside, California.** Served as project manager. Western Municipal Water District operates two collection systems: its system (the "Western system") and the system owned by the Western Riverside County Regional Wastewater Authority joint powers authority (the "WRCRWA system"). Because Western operates both systems, there is significant overlap in the procedures and processes used to implement the SSMPs. Dudek supported the District in updating its SSMPs for the Western and WRCRWA systems. As part of the update process, audits were performed on both systems' SSMPs to better identify recommendations and modifications to the 2019 updates.

**Sanitary Sewer Master Plan Update, City of Placentia, California.** Ms. Caliva performed modeling for the project, which included hydraulic model development, calibration, evaluation, and CIP development for the 84-mile sewer collection system for the City. The system, which comprises 44 separate sewer sheds and contains interties with other agencies, was modeled in InfoSewer to check for capacity deficiencies and improvements associated with the redevelopment of the transit-oriented development zone.

**SSMP Audits, Various Clients, California.** Served as project manager responsible for leading audits of SSMPs for the City of Placentia (2018), the City of Avalon (2015, 2017, and 2018), and the Town of Apple Valley. The projects included a review of the Cities'/Town's SSMPs review of sanitary sewer overflow–related documentation (e.g., spill histories, preventative operations and maintenance plans, maintenance records, collection system upgrade/rehabilitation reports, budgets, and training records), interviews with City/Town personnel, and development of the audit reports, which included recommendations for improvement.

**Sewer Master Plan and GIS Update, City of Chino, California.** Project Manager. Dudek is in the process of updating the City of Chino's Sanitary Sewer Master Plan and providing a comprehensive geographic information system (GIS) update. The City's sewer collection system consists of more than 220 miles of gravity pipeline, 4,200 manholes, one sewer lift station (with one more currently in construction), and approximately 2,500 feet of sewer force main. With anticipated growth projected at over 20% by 2035, the City is in a unique position among more built-out cities in the region: It needs to focus heavily on both condition assessment of aging sewer system assets

and capacity analysis to accommodate future growth. The study includes hydraulic model development, flow monitoring, and manhole surveys. Dudek will evaluate existing and future sewer system capacity and assess conditions for developing a phase capital improvement program (CIP). Additionally, Dudek's GIS department will create a dynamic GIS database to be leveraged for multiple operational and project-planning purposes, including integration into an asset management system.

**Citywide Wastewater System Master Plan, City of Redlands, California.** Project Manager. Dudek is supporting the City of Redlands in an update to its 1998 Sewer Master Plan. The city's wastewater collection system includes a sewer pipeline that is 240 miles long and has one sewer lift station. Wastewater is treated at a City-owned 9.5 million gallons per day (mgd) wastewater treatment plant that utilizes two parallel treatment systems: a 6.0 mgd membrane bioreactor treatment process and a 3.5 mgd conventional process. This master plan update will result in a new hydraulic model, an updated capacity analysis of the City's collection system, a process evaluation of the wastewater treatment plant, and a list of recommended CIP projects for the long-term reliability of the City's wastewater system.

**2020 Riverside Facilities Master Plan, Western Municipal Water District, California.** Water/Recycled Systems Task Lead. Dudek's goal for the project is to develop a clear and usable document that addresses the short- and long-term needs associated with the District's potable water, sewer, and recycled water systems within its Riverside service area. The project includes review and validation of the District's water and recycled water hydraulic models, construction and calibration of a sewer hydraulic model, review and evaluation of the capacity of the District's treatment facilities, and development of a program environmental impact report and financial strategy to update connection and capacity charges. Potable water, recycled water, and wastewater collection system CIP projects will be integrated, and their timing will be based on growth projections. Dudek is developing a browser-based tool to track the CIP and evaluate project triggers to forecast and update project timing.

**Wastewater Master Plan and Condition Assessment, City of San Marino, California.** Served as project manager. The City of San Marino needed assistance understanding its sewer collection system needs and establishing its first sewer master plan. The City is completely built out; therefore, Dudek's work focused on the condition assessment of pipelines and lift stations rather than capacity analysis. The pipeline condition assessment work included a review of approximately 20 miles of pipeline (40% of the system) and identifying areas needing rehabilitation, primarily consisting of cured-in-place pipe lining of aging sewer pipelines. The lift station condition assessment work included site visits and inspections of three lift stations. Redundancy, bypass improvements, and frequent maintenance schedules were recommended in the sewer master plan. An updated SSMP was developed as part of this project, which focused on improving procedures for reducing sanitary sewer overflows in the collection system.

**Wastewater Treatment and Collection System Master Plan, Crestline Sanitation District, California.** Served as task lead, leading the development and analysis of the District's wastewater collection for the project. A hydraulic model for the District's 73 miles of gravity sewer and two lift stations was developed in InfoSewer. Flow monitoring was performed, and the resultant data was used to calibrate the model within 5% of field conditions. Project build-out loading was estimated using flow generation factors and District development data. The model analyzed both current and build-out peak dry and peak wet weather (25-year storm) loading conditions to assess current and future capacity limitations in the system. A master plan report was developed, which presented findings and provided recommendations for CIP development.

# Servando Diaz, PE

**PROJECT MANAGER AND POINT OF CONTACT**

Servando Diaz is a senior engineer with 16 years' experience focused on water, wastewater, and recycled water projects, with an emphasis on infrastructure planning and improvements. Mr. Diaz's project experience includes pipelines, pump stations, treatment facilities, and reservoirs. He has been involved in all stages of the engineering process, from conceptual planning, preliminary design, and final design to construction assistance services.

***Education***

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

***Certifications***

*Professional Civil Engineer (PE), CA No. 90015*

***Professional Affiliations***

*Orange County Water Association*

*Engineers without Borders – USA*

## Project Experience

**Sanitary Sewer Management Plan Audit, Santa Ana Watershed Project Authority, Riverside, California.** Served as project engineer for the development of an internal audit to assess the Agency's implementation of its SSMP, as well as the effectiveness of the SSMP itself per the 2022 updated General WDR for sanitary sewer systems. The audit investigated and recommended modifications to the Agency's current SSMP procedures and implementation. The final audit was used to inform the changes to made to the Agency's next SSMP update, in addition to the new WDR changes.

**SSMP Audit and Update, City of El Centro, California.** Served as project engineer for the revision of El Centro's Sanitary Sewer Management Plan (SSMP) per the 2022 updated General Waste Discharge Requirements (WDR) for sanitary sewer systems. As part of the update process, an internal audit was used to assess the City's implementation of its SSMP, as well as the effectiveness of the SSMP itself. This audit investigated and recommended modifications to the City's current SSMP procedures and implementation. The final audit was used to inform the changes made to the City's SSMP Update, in addition to the new WDR changes. The update focused on improving the City's spill tracking and preventative maintenance program.

**Capital Improvement Program Development, Joshua Basin Water District, Joshua Tree, California.** Served as project engineer for the development of a District-wide water system Capital Improvement Program document that details individual project descriptions and cost estimates for improvements to 13 reservoirs, 8 booster pump stations, and 5 wells and the construction of two new reservoir tanks with access roadway upgrades to all sites.

**Capital Improvement Plan, Olivenhain Municipal Water District, Encinitas, California.** Part of the project team for the Capital Improvement Plan for the 4S Ranch and Rancho Cielo wastewater systems. The Capital Improvement Plan identified capital projects through asset management, condition assessment, operational evaluation, and failure modes and effects analysis. The project identified over 70 projects, from annual replacement projects to multimillion-dollar process upgrades, over a 20-year planning horizon.

**Western Riverside County Regional Wastewater Authority Condition Assessment - Phase 2, Western Riverside County Regional Wastewater Authority, Riverside, California.** Project engineer for the preparation of a

condition assessment of mechanical and electrical equipment assets from the 1998 construction of the Western Riverside County Regional Wastewater Authority wastewater treatment plant (Phase 1) and mechanical and electrical assets from the 2016 expansion (Phase 2). Performed data collection, analyses, operations and maintenance workshops, and field inspections, and developed a custom methodology to assign a condition rating and estimate the remaining useful life of each asset. In total, I inspected and assessed over 200 mechanical and electrical assets.

**Arlington Desalter Condition Assessment, Western Riverside County Regional Wastewater Authority, Riverside, California.** Project engineer for preparing a condition assessment of mechanical and electrical equipment assets of the Arlington Desalter groundwater treatment plant. Performed data collection, analyses, operations and maintenance workshops, and field inspections, and developed custom methodology to assign a condition rating and estimate the remaining useful life of each asset. In total, I inspected and assessed over 90 mechanical and electrical assets.

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

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

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

**San Jacinto Valley Enhanced Recharge and Recovery Program, Eastern Municipal Water Department, San Jacinto, California.** Served as project engineer responsible for the preliminary design of a treatment facility for iron and manganese removal and the blending, disinfection, and storage of extracted groundwater. The centralized treatment facility was designed to process up to 18,300 gpm from 11 groundwater extraction wells constructed across three phases. The design includes chemical oxidation of the iron and manganese for removal by media filtration. The treatment system also included blending high-quality water (low iron and manganese concentration) with poor-quality water (high iron and manganese concentrations).

# Julia Arvizu

**PROJECT ENGINEER**

*Education*

*San Diego State University*
*BS, Civil Engineering, 2022*

*Certifications*

*EIT, NCEES No. 178986*
*Issued May 2023*

Julia Arvizu is a project engineer with two years' professional experience as a planner and designer. Specialized in fire flow modeling and CAD design for pipeline infrastructure and rehabilitation projects. As a planner, Julia has assessed the client's existing practices and system to ensure they comply with State Water Board requirements regarding sewer system management plan (SSMP) work. Regarding fire flow modeling, she has ensured that proposed connections to the client's existing system are not severely impacted. For design work, Julia has assisted in the alignment and profiles of the proposed infrastructure, ensuring that the placement of the proposed infrastructure causes minimal disturbance and complies with the client's design standards.

## Dudek Project Experience

**SSMP Audit, City of Monterey, California.** Auditor for the City of Monterey's SSMP, reviews the City's operations and maintenance practices and all other SSMP requirements, such as implementation and effectiveness in spill prevention and deficiencies in addressing ongoing spills, and updates these practices to comply with the State Water Resource Control Boards' Waste Discharge Requirements.

**SSMP Update and Audit, City of Compton, California.** Auditor for the City of Compton's SSMP, reviewing the City's operations and maintenance practices and all other SSMP requirements, such as implementation and effectiveness in spill prevention and deficiencies in addressing ongoing spills, and updates these practices to comply with the State Water Resource Control Boards' Waste Discharge Requirements.

**Vail Ranch Neighborhood Potable Water Pipeline Replacement, Rancho California Water District, Temecula, California.** Researcher on this project for the planning and alternatives analysis for the water distribution system in Vail Ranch neighborhoods, assessing pipeline failure and potential causes for this failure.

**Knott-Miller Holder Artesia Branch Rehabilitation Project, Orange County Sanitation District, Buena Park, California.** CAD designer and researcher for the rehabilitation of approximately 3,900 linear feet (LF) of 18-inch to 42-inch diameter pipe by cured-in-place pipe (CIPP) lining, rehabilitation of 43 utility holes, addition of 2 new manholes and a new siphon air jumper, review of CCTV data, creation of CAD exhibits, and attendance of lining manufacturers conferences for rehabilitation solutions.

**Recycled Water Conversion Project, Temescal Valley Water District, Corona, California.** Researcher for the design of approximately 1,173 LF of recycled water pipeline and recycled water laterals and conversion of potable water line to recycled water line, created exhibits and reviewed corrosion data provided by the client.

**PRV Relocation Project, Ramona Municipal Water District, Ramona, California.** CAD designer for removing and relocating existing below-ground pressure-reducing stations to proposed aboveground locations. Responsible for the CAD design of the alignment of new stations and mechanical piping.

**16-inch Transmission Main Project, Ramona Municipal Water District, Ramona, California.** CAD designer for the design of approximately 7,150 LF of 16-inch diameter water pipeline alignment, connections to existing Ramona Municipal Water District waterlines, replacement of existing services, modifications at pump station for pressure zone modification, creating CAD exhibits, specifications, and cost estimates.

**As-Needed Fire Flow Testing, Eastern Municipal Water District, Perris, California.** Fire flow modeler for an ongoing contract with the Eastern Municipal Water District (EMWD). InfoWater Pro is used for hydraulic modeling of connections proposed by developers in the existing system. Based on scenarios of proposed connections to the existing water system, ensure that the EMWD standards for pressure and velocity are met.