PROFESSIONAL SERVICES CONTRACT BETWEEN
THE CITY OF HUNTINGTON BEACH AND
TETRA TECH, INC.
FOR
ON-CALL CIVIL ENGINEERING
& PROFESSIONAL CONSULTING SERVICES

THIS AGREEMENT ("Agreement") is made and entered into by and between the City of Huntington Beach, a municipal corporation of the State of California, hereinafter referred to as "CITY," and TETRA TECH, INC., a California Corporation hereinafter referred to as "CONSULTANT."

WHEREAS, CITY desires to engage the services of a consultant to provide On-Call Civil Engineering & Professional Consulting Services; and

Pursuant to documentation on file in the office of the City Clerk, the provisions of the Huntington Beach Municipal Code, Chapter 3.03, relating to procurement of professional service contracts have been complied with; and

CONSULTANT has been selected to perform these services,

NOW, THEREFORE, it is agreed by CITY and CONSULTANT as follows:

1. SCOPE OF SERVICES

CONSULTANT shall provide all services as described in **Exhibit "A,"** which is attached hereto and incorporated into this Agreement by this reference. These services shall sometimes hereinafter be referred to as the "PROJECT."

CONSULTANT hereby designates Molly Mell who shall represent it and be its sole contact and agent in all consultations with CITY during the performance of this Agreement.

2. CITY STAFF ASSISTANCE

CITY shall assign a staff coordinator to work directly with CONSULTANT in the performance of this Agreement.

3. TERM; TIME OF PERFORMANCE

Time is of the essence of this Agreement. The services of CONSULTANT are to commence on _____, 20____ (the "Commencement Date"). This Agreement shall automatically terminate three (3) years from the Commencement Date, unless extended or sooner terminated as provided herein. All tasks specified in **Exhibit "A"** shall be completed no later than three (3) years from the Commencement Date. The time for performance of the tasks identified in **Exhibit "A"** are generally to be shown in **Exhibit "A."** This schedule may be amended to benefit the PROJECT if mutually agreed to in writing by CITY and CONSULTANT.

In the event the Commencement Date precedes the Effective Date, CONSULTANT shall be bound by all terms and conditions as provided herein.

4. COMPENSATION

In consideration of the performance of the services described herein, CITY agrees to pay CONSULTANT on a time and materials basis at the rates specified in **Exhibit "B,"** which is attached hereto and incorporated by reference into this Agreement, a fee, including all costs and expenses, not to exceed Two Million Dollars ($2,000,000.00).

5. EXTRA WORK

In the event CITY requires additional services not included in **Exhibit "A"** or changes in the scope of services described in **Exhibit "A,"** CONSULTANT will undertake such work only after receiving written authorization from CITY. Additional compensation for such extra work shall be allowed only if the prior written approval of CITY is obtained.

6. METHOD OF PAYMENT

CONSULTANT shall be paid pursuant to the terms of **Exhibit "B."**

7. DISPOSITION OF PLANS, ESTIMATES AND OTHER DOCUMENTS

CONSULTANT agrees that title to all materials prepared hereunder, including, without limitation, all original drawings, designs, reports, both field and office notices, calculations, computer code, language, data or programs, maps, memoranda, letters and other documents, shall belong to CITY, and CONSULTANT shall turn these materials over to CITY upon expiration or termination of this Agreement or upon PROJECT completion, whichever shall occur first. These materials may be used by CITY as it sees fit.

8. HOLD HARMLESS

A. CONSULTANT hereby agrees to protect, defend, indemnify and hold harmless CITY, its officers, elected or appointed officials, employees, agents and volunteers from and against any and all claims, damages, losses, expenses, judgments, demands and defense costs (including, without limitation, costs and fees of litigation of every nature or liability of any kind or nature) arising out of or in connection with CONSULTANT's (or CONSULTANT's subcontractors, if any) negligent (or alleged negligent) performance of this Agreement or its failure to comply with any of its obligations contained in this Agreement by CONSULTANT, its officers, agents or employees except such loss or damage which was caused by the sole negligence or willful misconduct of CITY. CONSULTANT will conduct all defense at its sole cost and expense and CITY shall approve selection of CONSULTANT's counsel. This indemnity shall apply to all claims and liability regardless of whether any insurance policies are applicable. The policy limits do not act as limitation upon the amount of indemnification to be provided by CONSULTANT.

B. To the extent that CONSULTANT performs "Design Professional Services" within the meaning of Civil Code Section 2782.8, then the following Hold Harmless provision applies in place of subsection A above:

"CONSULTANT hereby agrees to protect, defend, indemnify and hold harmless CITY and its officers, elected or appointed officials, employees, agents and volunteers, from and against any and all claims, damages, losses, expenses, demands and defense costs (including, without limitation, costs and fees of litigation of every nature or liability of any kind or nature) to the extent that the claims against CONSULTANT arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of CONSULTANT. In no event shall the cost to defend charged to CONSULTANT exceed CONSULTANT's proportionate percentage of fault. However, notwithstanding the previous sentence, in the event one or more other defendants to the claims and/or litigation is unable to pay its share of defense costs due to bankruptcy or dissolution of the business, CONSULTANT shall meet and confer with CITY and other defendants regarding unpaid defense costs. The duty to indemnify, including the duty and the cost to defend, is limited as provided in California Civil Code Section 2782.8.

C. Regardless of whether subparagraph A or B applies, CITY shall be reimbursed by CONSULTANT for all costs and attorney's fees incurred by CITY in enforcing this obligation. This indemnity shall apply to all claims and liability regardless of whether any insurance policies are applicable. The policy limits do not act as a limitation upon the amount of indemnification to be provided by CONSULTANT.

9. PROFESSIONAL LIABILITY INSURANCE

CONSULTANT shall obtain and furnish to CITY a professional liability insurance policy covering the work performed by it hereunder. This policy shall provide coverage for CONSULTANT's professional liability in an amount not less than One Million Dollars ($1,000,000.00) per occurrence and in the aggregate. The above-mentioned insurance shall not contain a self-insured retention without the express written consent of CITY; however an insurance

policy "deductible" of Ten Thousand Dollars ($10,000.00) or less is permitted. A claims-made policy shall be acceptable if the policy further provides that:

A. The policy retroactive date coincides with or precedes the initiation of the scope of work (including subsequent policies purchased as renewals or replacements).

B. CONSULTANT shall notify CITY of circumstances or incidents that might give rise to future claims.

CONSULTANT will make every effort to maintain similar insurance during the required extended period of coverage following PROJECT completion. If insurance is terminated for any reason, CONSULTANT agrees to purchase an extended reporting provision of at least two (2) years to report claims arising from work performed in connection with this Agreement.

If CONSULTANT fails or refuses to produce or maintain the insurance required by this section or fails or refuses to furnish the CITY with required proof that insurance has been procured and is in force and paid for, the CITY shall have the right, at the CITY's election, to forthwith terminate this Agreement. Such termination shall not effect Consultant's right to be paid for its time and materials expended prior to notification of termination. CONSULTANT waives the right to receive compensation and agrees to indemnify the CITY for any work performed prior to approval of insurance by the CITY.

10. CERTIFICATE OF INSURANCE

Prior to commencing performance of the work hereunder, CONSULTANT shall furnish to CITY a certificate of insurance subject to approval of the City Attorney evidencing the foregoing insurance coverage as required by this Agreement; the certificate shall:

A. provide the name and policy number of each carrier and policy;

B. state that the policy is currently in force; and

C. shall promise that such policy shall not be suspended, voided or canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice; however, ten (10) days' prior written notice in the event of cancellation for nonpayment of premium.

CONSULTANT shall maintain the foregoing insurance coverage in force until the work under this Agreement is fully completed and accepted by CITY.

The requirement for carrying the foregoing insurance coverage shall not derogate from CONSULTANT's defense, hold harmless and indemnification obligations as set forth in this Agreement. CITY or its representative shall at all times have the right to demand the original or a copy of the policy of insurance. CONSULTANT shall pay, in a prompt and timely manner, the premiums on the insurance hereinabove required.

11. INDEPENDENT CONTRACTOR

CONSULTANT is, and shall be, acting at all times in the performance of this Agreement as an independent contractor herein and not as an employee of CITY. CONSULTANT shall secure at its own cost and expense, and be responsible for any and all payment of all taxes, social security, state disability insurance compensation, unemployment compensation and other payroll deductions for CONSULTANT and its officers, agents and employees and all business licenses, if any, in connection with the PROJECT and/or the services to be performed hereunder.

12. TERMINATION OF AGREEMENT

All work required hereunder shall be performed in a good and workmanlike manner. CITY may terminate CONSULTANT's services hereunder at any time with or without cause, and whether or not the PROJECT is fully complete. Any termination of this Agreement by CITY shall be made in writing, notice of which shall be delivered to CONSULTANT as provided herein. In the

event of termination, all finished and unfinished documents, exhibits, report, and evidence shall, at the option of CITY, become its property and shall be promptly delivered to it by CONSULTANT.

13. ASSIGNMENT AND DELEGATION

This Agreement is a personal service contract and the work hereunder shall not be assigned, delegated or subcontracted by CONSULTANT to any other person or entity without the prior express written consent of CITY. If an assignment, delegation or subcontract is approved, all approved assignees, delegates and subconsultants must satisfy the insurance requirements as set forth in Sections 9 and 10 hereinabove.

14. COPYRIGHTS/PATENTS

CITY shall own all rights to any patent or copyright on any work, item or material produced as a result of this Agreement.

15. CITY EMPLOYEES AND OFFICIALS

CONSULTANT shall employ no CITY official nor any regular CITY employee in the work performed pursuant to this Agreement. No officer or employee of CITY shall have any financial interest in this Agreement in violation of the applicable provisions of the California Government Code.

16. NOTICES

Any notices, certificates, or other communications hereunder shall be given either by personal delivery to CONSULTANT's agent (as designated in Section 1 hereinabove) or to CITY as the situation shall warrant, or by enclosing the same in a sealed envelope, postage prepaid, and depositing the same in the United States Postal Service, to the addresses specified below. CITY and CONSULTANT may designate different addresses to which subsequent notices, certificates or other communications will be sent by notifying the other party via personal delivery, a reputable overnight carrier or U. S. certified mail-return receipt requested:

TO CITY:

City of Huntington Beach
ATTN: Director of Public Works
2000 Main Street
Huntington Beach, CA 92648

TO CONSULTANT:

Tetra Tech, Inc.
Attn: Molly Mell
3475 E. Foothill Blvd., Suite 300
Pasadena, CA 91107

17. CONSENT

When CITY's consent/approval is required under this Agreement, its consent/approval for one transaction or event shall not be deemed to be a consent/approval to any subsequent occurrence of the same or any other transaction or event.

18. MODIFICATION

No waiver or modification of any language in this Agreement shall be valid unless in writing and duly executed by both parties.

19. SECTION HEADINGS

The titles, captions, section, paragraph and subject headings, and descriptive phrases at the beginning of the various sections in this Agreement are merely descriptive and are included solely for convenience of reference only and are not representative of matters included or excluded from such provisions, and do not interpret, define, limit or describe, or construe the intent of the parties or affect the construction or interpretation of any provision of this Agreement.

20. INTERPRETATION OF THIS AGREEMENT

The language of all parts of this Agreement shall in all cases be construed as a whole, according to its fair meaning, and not strictly for or against any of the parties. If any provision of this Agreement is held by an arbitrator or court of competent jurisdiction to be unenforceable, void, illegal or invalid, such holding shall not invalidate or affect the remaining covenants and provisions of this Agreement. No covenant or provision shall be deemed dependent upon any other unless so expressly provided here. As used in this Agreement, the masculine or

neuter gender and singular or plural number shall be deemed to include the other whenever the context so indicates or requires. Nothing contained herein shall be construed so as to require the commission of any act contrary to law, and wherever there is any conflict between any provision contained herein and any present or future statute, law, ordinance or regulation contrary to which the parties have no right to contract, then the latter shall prevail, and the provision of this Agreement which is hereby affected shall be curtailed and limited only to the extent necessary to bring it within the requirements of the law.

21. DUPLICATE ORIGINAL

The original of this Agreement and one or more copies hereto have been prepared and signed in counterparts as duplicate originals, each of which so executed shall, irrespective of the date of its execution and delivery, be deemed an original. Each duplicate original shall be deemed an original instrument as against any party who has signed it.

22. IMMIGRATION

CONSULTANT shall be responsible for full compliance with the immigration and naturalization laws of the United States and shall, in particular, comply with the provisions of the United States Code regarding employment verification.

23. LEGAL SERVICES SUBCONTRACTING PROHIBITED

CONSULTANT and CITY agree that CITY is not liable for payment of any subcontractor work involving legal services, and that such legal services are expressly outside the scope of services contemplated hereunder. CONSULTANT understands that pursuant to *Huntington Beach City Charter* Section 309, the City Attorney is the exclusive legal counsel for CITY; and CITY shall not be liable for payment of any legal services expenses incurred by CONSULTANT.

24. ATTORNEY'S FEES

In the event suit is brought by either party to construe, interpret and/or enforce the terms and/or provisions of this Agreement or to secure the performance hereof, each party shall bear its own attorney's fees, such that the prevailing party shall not be entitled to recover its attorney's fees from the nonprevailing party.

25. SURVIVAL

Terms and conditions of this Agreement, which by their sense and context survive the expiration or termination of this Agreement, shall so survive.

26. GOVERNING LAW

This Agreement shall be governed and construed in accordance with the laws of the State of California.

27. SIGNATORIES

Each undersigned represents and warrants that its signature hereinbelow has the power, authority and right to bind their respective parties to each of the terms of this Agreement, and shall indemnify CITY fully for any injuries or damages to CITY in the event that such authority or power is not, in fact, held by the signatory or is withdrawn.

28. ENTIRETY

The parties acknowledge and agree that they are entering into this Agreement freely and voluntarily following extensive arm's length negotiation, and that each has had the opportunity to consult with legal counsel prior to executing this Agreement. The parties also acknowledge and agree that no representations, inducements, promises, agreements or warranties, oral or otherwise, have been made by that party or anyone acting on that party's behalf, which are not embodied in this Agreement, and that that party has not executed this Agreement in reliance on any representation, inducement, promise, agreement, warranty, fact or circumstance not expressly set forth in this

Agreement. This Agreement, and the attached exhibits, contain the entire agreement between the parties respecting the subject matter of this Agreement, and supersede all prior understandings and agreements whether oral or in writing between the parties respecting the subject matter hereof.

29. EFFECTIVE DATE

This Agreement shall be effective on the date of its approval by the City Council. This Agreement shall expire when terminated as provided herein.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by and through their authorized officers.

CONSULTANT,
TETRA TECH, INC.

By: _____
Jason Fussel
print name
ITS: *(circle one)* Chairman/President/Vice President

AND

By: _____
Molly Mell
print name
ITS: *(circle one)* ~~Secretary/Chief Financial Officer/Asst. Secretary - Treasurer~~ Vice President

CITY OF HUNTINGTON BEACH, a municipal corporation of the State of California

_____
Mayor

_____
City Clerk

INITIATED AND APPROVED:

_____
Director of Public Works

REVIEWED AND APPROVED:

_____
City Manager

APPROVED AS TO FORM:

_____
for City Attorney

EXHIBIT "A"

A. STATEMENT OF WORK: (Narrative of work to be performed)

Provide On-Call Civil Engineering and Professional Consulting Services. If Consultant chooses to assign different personnel to the project, Consultant must submit names and qualifications of these staff to City for approval before commencing work.

B. CONSULTANT'S DUTIES AND RESPONSIBILITIES:

See Attached Exhibit A

C. CITY'S DUTIES AND RESPONSIBILITIES:

1. Furnish Scope of Work and provide a request for proposal for each project.

2. City shall issue a task order for each project based upon scope of services, work schedule, and fee proposal submitted.

D. WORK PROGRAM/PROJECT SCHEDULE:

A project schedule will be developed for each project assigned by the City.

EXHIBIT A

EXHIBIT A

A: COVER LETTER

TETRA TECH

March 13, 2025

City of Huntington Beach
2000 Main Street
Huntington Beach, CA 92648

RE: REQUEST FOR PROPOSAL FOR ON-CALL CIVIL ENGINEERING PROFESSIONAL CONSULTING SERVICES

Dear City of Huntington Beach Public Works Department Members and Selection Committee:

Tetra Tech is excited to submit our Statement of Qualifications for On-Call Civil Engineering Professional Services to the City Huntington Beach (City). We are proud of our previous work as one of the City's on-call consultants. The opportunity to remain a part of the elite group of consultants serving the City is of great importance to everyone at Tetra Tech. The strength of our team is multifaceted but boils down to four main elements: leadership, service, technical ability, and depth of resources. We have assembled a team that will continue to provide you with the exemplary level of service that we have shown on the current on-call services contract and are eager to continue to work with you on your future projects.

- **Leadership:** We have assigned **Jason Fussel, PE as the Project Manager.** He will manage the contract with the City and be directly involved in the projects as part of this contract. Mr. Fussel has over 21 years of experience in public works design and construction.
- **Service:** Over the years, our team has successfully completed and implemented a variety of projects for the City. Though we have the backing of a large company, we will respond to your requests with the speed and efficiency of a 20 person office. We consider it is a privilege to be part of an on-call contract, and we are committed to providing the City with responsive service to successfully complete your task orders.
- **Technical Ability**: Jason Fussel, PE, the Project Manager, will be supported by a talented group of technical leads who have worked together for over a decade and will be able to provide you coordinated, seamless service. These technical leads include:
  - » **Justin Smith, PE** – General Civil Engineering
  - » **Ken Berard, PE** – Water/Sewer/Stormwater Engineering
  - » **Rafael Holcombe, PE** – Ocean Engineering
- **Depth of Resources:** Tetra Tech is a 30,000-associate strong, $5+ billion company. We have hundreds of staff located in Southern California, including **61 in Irvine**, who can be deployed to support your projects. Staff from our Irvine office will primarily lead your projects. The Irvine staff will be supported by other California Tetra Tech offices, whom have been focused on work in Orange County and Los Angeles County. The depth of resources at Tetra Tech allows us to accommodate accelerated schedules and multiple projects, but the service you will receive from us will be from faces you recognize.

We are proud of our association with the City and look forward to working with you on your many upcoming project assignments. We have reviewed the City's contract agreement and accept the terms and will provide insurance requirements upon notice to proceed. Our price proposal will be valid for a period of at least 180 days. Please feel free to contact either of us if you have further questions or need any additional information.

Sincerely,

Molly Mell, PE
Vice President/Principal-in-Charge
949-809-5205
molly.mell@tetratech.com

Jason Fussel, PE
Vice President/Project Manager
805-305-0150
jason.fussel@tetratech.com

A. VENDOR APPLICATION FORM

REQUEST FOR PROPOSAL

VENDOR APPLICATION FORM

TYPE OF APPLICANT: ☐ NEW ☒ CURRENT VENDOR

Legal Contractual Name of Corporation: Tetra Tech, Inc

Contact Person for Agreement: Molly Mell

Corporate Mailing Address: 3475 E. Foothill Blvd., Suite 300

City, State and Zip Code: Pasadena, CA 91107

E-Mail Address: molly.mell@tetratech.com

Phone: 949.809.5205 Fax: 949.809.5010

Contact Person for Proposals: Jason Fussel

Title: Vice President E-Mail Address: jason.fussel@tetratech.com

Business Telephone: 805.542.8630 Business Fax: 949.809.5010

Year Business was Established: 1966

Is your business: (check one)

☐ NON PROFIT CORPORATION ☒ FOR PROFIT CORPORATION

Is your business: (check one)

☒ CORPORATION
☐ INDIVIDUAL
☐ PARTNERSHIP
☐ LIMITED LIABILITY PARTNERSHIP
☐ SOLE PROPRIETORSHIP
☐ UNINCORPORATED ASSOCIATION

Names & Titles of Corporate Board Members
(Also list Names & Titles of persons with written authorization/resolution to sign contracts)

Names	Title	Phone
Dan Batrack	CEO/Chairman	626.351.4664
Lauren Springer	President	770.738.6056
Molly Mell	Vice President	949.809.5205
Jason Fussel	Vice President	805.542.8630

Federal Tax Identification Number: 95-4148514

City of Huntington Beach Business License Number: A133500
(If none, you must obtain a Huntington Beach Business License upon award of contract.)

City of Huntington Beach Business License Expiration Date: 12/31/2025

SERVICE APPLICATION FORM & SELECTION

Disciplines of Civil Engineering Services Application Form

Circle all that apply

Civil Engineering Service Area	Bidding? Y/N (circle)
• Water/Sewer/Storm Water Engineering	(Yes) / No
• General Civil Engineering	(Yes) / No
• Ocean Engineering	(Yes) / No
• Environmental/Water Quality	Yes / (No)

B: BACKGROUND AND PROJECT SUMMARY SECTION

The Scope of Work outlined in the RFQ aligns perfectly with Tetra Tech's decades of experience. In this section we will illustrate our understanding of the City goals and objectives, our approach to innovation on similar projects, and our techniques for client satisfaction.

UNDERSTANDING OF THE CITY

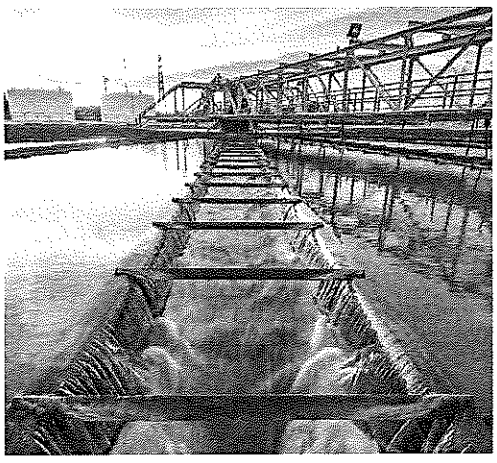
A major key to understanding the City of Huntington Beach goals can be found by studying the City's General Plan and focusing on the Capital Improvements Program (CIP). The CIP addresses elements in the City's General Plan, as well as City Council adopted planning documents and master plans. Listed below are potential projects for fiscal years 2024/25 through 2028/29 from the Huntington Beach CIP that align with your specified categories: transportation, green streets, pathways, low-impact development, stormwater, bike path, park, Active Transportation Project (ATP), ADA, water treatment, PFAS, conveyance, pipeline, or pump station design services.

- Drainage & Storm Water – Tide Check Valves to Harbour Storm Drains - $300k
- Sewer Projects – McFadden Sewer Lift Station, Wet Well -$2M
- Streets & Transportation – Citywide Mobility and Corridor Improvements - $155k
- Streets & Transportation – ADA Improvement Program - $250k
- Streets & Transportation – Arterial Rehabilitation Program - $6M
- Streets & Transportation – Bridge Preventative Maintenance Program (BPMP) - $655k
- Parks & Pathways – Edison Park Reconfiguration - $2M
- Parks & Pathways – Bluff Top Pathway Area Lighting - $64k
- Water & Treatment Projects – Water Treatment for Well 3A - $2.2M
- Water & Treatment Projects – Peck Reservoir Roof Replacement - $500k
- Water & Treatment Projects – Well 14 Drilling and Casing Project - $250k
- Water & Treatment Projects – WOCWB OC9 CP Retrofit - $3.7M
- Water & Treatment Projects – OC35 Seal Beach Vault Relocation - $50k

Tetra Tech will target these projects and any other projects that are on the City's priority list. We believe Huntington Beach will find that our past project experience aligns very well with the City's priority lists.

OBJECTIVES TO BE ACCOMPLISHED

Goals and objectives identified in the CIP include Improving Infrastructure, Long-term Financial Sustainability, and Economic Development. We understand that projects falling under these categories will range in scale from providing technical expertise by answering a question via email or phone, to providing the full range of engineering services on a single or multidisciplinary project. We are here to support you no matter the level of effort.



C: METHODOLOGY

INNOVATIVE/ADVANCED TECHNIQUES FOR DESIGN SERVICES

New technologies and state of the science practices are constantly being developed and introduced to the water, sewer, transportation, and storm drain fields. Relationships with academia, similar municipalities, and proprietary vendors provide continued learning and knowledge of the most recent practices being implemented throughout the state and nation. We pride ourselves in staying informed of the state of the science and share our experiences with others through publication and conferences to further those relationships.

TECHNICAL ABILITY AND METHODOLOGY

Tetra Tech provides a broad range of civil engineering services in support of public works agencies, transportation departments, water agencies, and private clients around the world. Tetra Tech has experience in all phases of planning, design, construction, and operation for water, wastewater, ocean, and transportation infrastructure projects. Tetra Tech is knowledgeable in public outreach and stakeholder coordination for large, complex, and multi-phase infrastructure repair and new construction projects. Our projects incorporate resilient measures and features to support efficient asset management. We also design retrofits and additions in heavy industrial and manufacturing settings.

Tetra Tech has established a dedicated, qualified and experienced team of professionals which will provide the City of Huntington Beach with the technical and managerial qualifications, specialized expertise and professional resources required to successfully complete development and capital improvement projects under this On-Call contract.

Members of the Tetra Tech team have earned a reputation for providing quality projects for our clients. We have achieved our success by being selective with the projects we pursue and ensuring that our team capabilities meet and exceed the project's requirements and client's expectations.

The strength of Tetra Tech lies in its client-focused service, staff qualifications, firm commitment, and desire to successfully complete each assignment to the satisfaction of all clients. Tetra Tech is a full-service, multi- disciplinary A/E consulting firm, specializing in site development, transportation infrastructure, water resources and environmental engineering.

TETRA TECH RELEVANT
Areas of Expertise

- Civil/Transportation Engineering
- Roadway and Highway Design
- Bridges, Streets, and Parking Lots Improvements
- Street Lighting and Electrical Systems
- Surveying/Mapping/ROW Services
- Geotechnical Engineering
- Coastal Resilient Infrastructure
- Grading and Drainage
- Storm Drain/Hydrology and Hydraulics Design
- Water/Wastewater Systems
- Potable Water Wells, Reservoirs, and Booster Stations
- Watershed Management
- Structural Design
- Mechanical Engineering
- Electrical, I&C, & SCADA
- Architectural Engineering
- Plans, Specifications, and Estimates
- Construction Engineering Support

PROPOSED IMPLEMENTATION PLAN TO ACHIEVE SCOPE OF WORK

Successful on-call engineering services task order contracts require both a diverse and highly talented team of engineering professionals, incorporating specific engineering and design disciplines. The Project Manager, and support team will be responsible for the successful delivery of the project. This will be achieved by:

- Delivering the project within budget
- Coordinating activities with the appropriate City representatives
- Providing a project schedule with regular updates
- Implementing a QA/QC Plan
- Participating in scheduled project meetings with the necessary project stakeholders

Assignments of this type place a premium on the depth of staff talent offered by the consultant and its availability to tailor the project team to the diverse needs of the individual tasks. The Tetra Tech team offers

a blend of experienced professionals who will apply their specialized skills to the technical tasks detailed in the Scope of Services. We have carefully examined the capabilities of each team member based on their qualifications and experience. The Tetra Tech team will provide all skills needed to conduct each assignment in accordance with the schedule for each project.

COST CONTROL

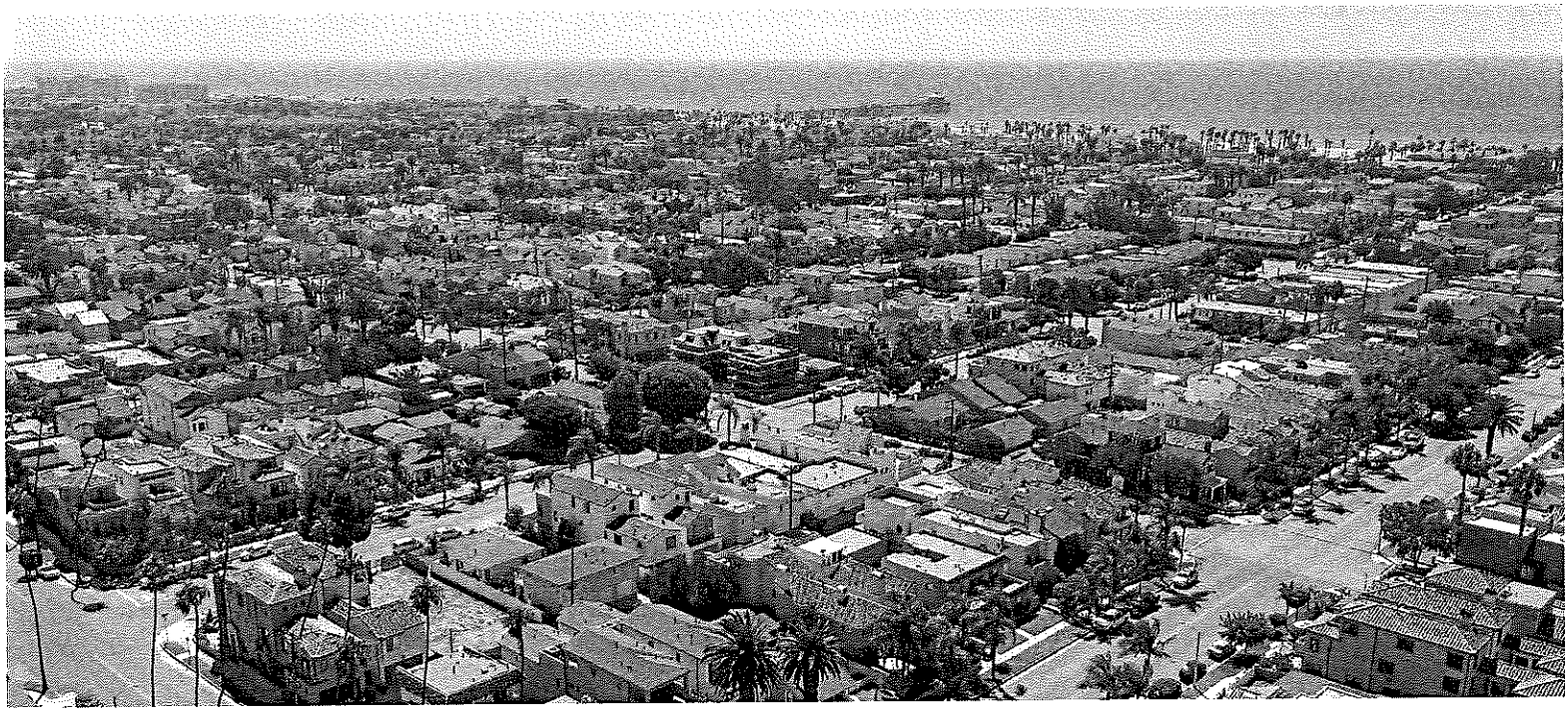
Tetra Tech is committed to delivering a project that not only meets or exceeds the performance criteria established by the City of Huntington Beach and the public at large, but to accomplish this within the allocated budgets. The effectiveness of our team's cost control capability is best demonstrated through our performance on previous relevant projects. Negotiating collaboratively on scopes of work, carefully preparing cost estimates, and strictly adhering to schedules have been our most effective tools for controlling cost on municipal contracts.

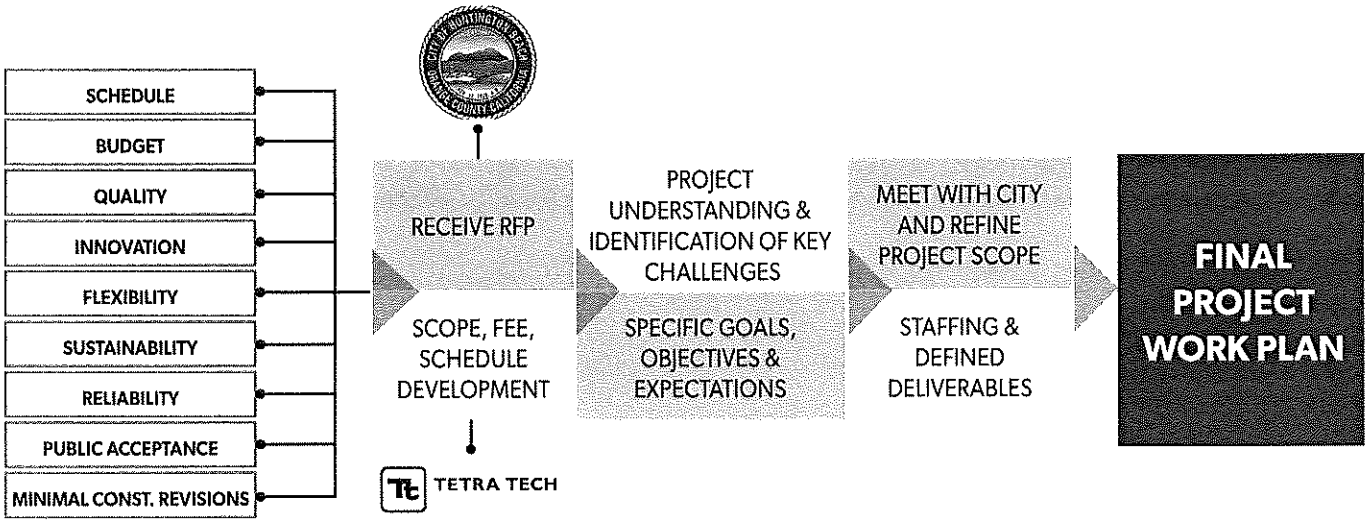
COORDINATING ACTIVITIES WITH CITY REPRESENTATIVE

The Tetra Tech team is committed to ensuring that the City's designated representative is fully informed of all project activities and progress towards completion. This will be achieved through project correspondence as well as as-needed progress reports that will allow the City's representative to measure the actual versus planned work in-progress. In addition, Tetra Tech utilizes a project collaboration "sharepoint" website that allows City Staff, subconsultants and other stakeholders to share information on a central web-based system that will include progress drawings, base files, AutoCAD files, and a calendar of deadlines and listing of critical tasks. The Tetra Tech Project Manager will serve as the Team's and the City's single point of contact. This will allow the City's representative to obtain pertinent project information without extra effort of locating the right person to contact within the firm.

ROLE OF CITY STAFF

The City's engineering and support staff also play a crucial role in the implementation of any potential task order. A single City point of contact for each task order will be suggested in order to provide a simplified and direct conduit of information between the City and the Tetra Tech Project Manager. The City point of contact will be responsible for providing support in obtaining as-built information and record drawings for the areas adjacent to potential projects. The single City point of contact will also be counted on to set-up necessary meetings with City staff and communicate as needed with the various City departments. A detailed description of the Tetra Tech respective roles is included in the staffing section of this proposal.





PROJECT TIMELINE SCHEDULE

Tetra Tech will work closely with the City immediately upon issuance of a notice to proceed for a specific project in order to reach an agreement on general project definitions, objectives and to finalize the scope and budget as appropriate. Tetra Tech will develop a preliminary Critical Path Method (CPM) schedule that is consistent with the phasing plan for the project. Microsoft Project software will be used to construct the schedule. The degree of activity detail will cover the major phases of the project. Task predecessors, float time, and task dependency will be indicated, as well as a highlighted critical path for the project. The schedule will serve as a planning tool and will be regularly updated to measure actual progress.

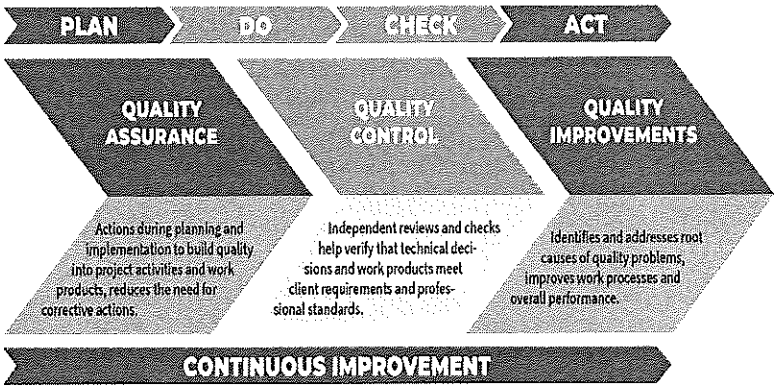
Tetra Tech has a long-standing commitment with our clients to deliver projects on schedule and within the project budget. However, throughout the course of any given project, there may be occasions where project schedules slip for a variety of reasons outside the control of Tetra Tech. We have successfully mitigated project schedule delays in the past by increasing the available staff assigned to a project and by assisting our clients with thorough and timely reviews of deliverables. We understand that most City and public projects are driven by funding measures that may expire or be reallocated if projects are not advertised or constructed by a given date. That is why we work with our clients to identify a realistic timeline for projects and use our extensive experience to identify potential delays at the beginning of projects and not during the course of them. Tetra Tech will always strive to work with the City to bring delayed projects back on schedule at no additional cost.

QUALITY MANAGEMENT

Tetra Tech has a long history of providing quality design services to all of our clients. This has been achieved by implementing an effective Quality Assurance/Quality Control (QA/QC) program. Tetra Tech's internal Project Management Manual requires that every project include a QA/QC plan in place prior to kick-off. For this contract, each Task Order will include a specific QA/QC program that not only meets the requirement of Tetra Tech's Project Management Manual, but that also meets the requirements set by the City. The program will be prepared specifically for each Task Order by the Project Manager, and it will be reviewed and approved by the QA/QC Manager.

The successful implementation of our QA/QC program means that we do not use the client as "plan checkers" for our work. Our philosophy is that quality control starts at the beginning of the project, strongly emphasizing planning and controls. Our approach employs a comprehensive quality management plan for controlling and ensuring the quality of our services.

We recently updated our Quality Control Manual to incorporate new ideas, techniques, and procedures further solidifying our commitment to quality control for our project teams. It is important to our firm that our staff have the state-of-the-practice guidelines available as quality management is a priority on every project.



D: STAFFING

Our approach to supporting the City's infrastructure projects engages the expertise of our interdisciplinary in-house team of knowledgeable and seasoned engineers and professional staff. Our goal is to provide the City of Huntington Beach with a team that can support the steady amount of design and construction activity the City anticipates over the next 3 years, or more, if applicable.

Tetra Tech has 12 offices in Southern California, and all of our key staff are local. In addition, we have over 1100 staff members within the footprint of the Southwest Region of California that could be called upon for specialty expertise as needed. We employ experienced, trained, and knowledgeable personnel in all of the key disciplines required for this on-call contract, providing our team the ability to offer hundreds of A/E resources located locally or nationwide.

Having this depth in all of your key disciplines allows us to achieve consistent on-time delivery of every project executed, regardless of size. Our local presence and vast pool of resources will provide benefit and peace of mind to the City and other key stakeholders that we can successfully complete all tasks efficiently, on-time and within budget.

We have provided an organization chart below and key staff bios on the following pages. Resumes for our staff are provided as an appendix.

ORGANIZATION CHART

PRINCIPAL-IN-CHARGE
Molly Mell, PE, ENV SP

PROJECT MANAGER
Jason Fussel, PE, PLS, ENV SP, LEED AP, QSD/P

QA/QC
Steve Tedesco, PE, BCEE

WATER/SEWER/ STORMWATER ENGINEERING	GENERAL CIVIL ENGINEERING	OCEAN ENGINEERING
Ken Berard, PE *(Task Lead)*	Justin Smith, PE *(Task Lead)*	Rafael Holcombe, PE *(Task Lead)*
Molly Lovegren, PE	Craig Ziel, PE, QSD/P	Russell Boudreau, PE*
Elias Sebhatu, PE	Devin Newton, PE	Gregory Hearon, PE*
Amanda Taylor, PE	Elva Pangilinan, PE, CDT, ENV SP	

SUPPORT SERVICES

STRUCTURAL	ELECTRICAL/ SCADA	MECHANICAL	ARCHITECTURAL	SURVEY	GEOTECHNICAL
Eric Yuen, PE, SE	Mazen Kassar, PE	Ken Kulonis, PE	Marcel Bodsky, RA	Dan Helt, PE, PLS	Peter Skopek, PhD, PE, GE
Mike Olsen, PE	Johnson Le	Luke Ramirez, PE, PMP		Jesus Guzman, PLS	Fernando Cuenca, PhD, PE, GE

**Subconsultant: Coastal Frontiers*

SUMMARY OF KEY PERSONNEL QUALIFICATIONS

We have assembled a team that is local, experienced, and has over a 15-year history of cohesively working together to meet project deadlines, enhancing quality, and providing design alternatives for the City of Huntington Beach. The management team will be led by Jason Fussel out of Tetra Tech's Irvine office, located approximately 11 miles from the City. To complement Mr. Fussel's leadership role in this contract and to successfully complete future task orders, a qualified and dedicated team of civil engineers and support staff will directly support the project.

The following lists the key personnel and their years of experience relevant to the scope of services under this contract.

TETRA TECH TEAM EXPERIENCE SUMMARY

NAME	PROJECT ROLE	YEARS OF RELEVANT EXPERIENCE	General Civil	Survey	Ocean	Water/Sewer/Stormwater	Transportation	Structural	Electrical/SCADA	Hydraulic Modeling	Geotechnical	Mechanical	Architectural
Molly Mell, PE, ENV SP	Principal-in-Charge	32	✓	✓	✓	✓	✓	✓					
Jason Fussel, PE, PLS	Project Manager	21	✓	✓		✓	✓			✓			
Steve Tedesco, PE, BCEE	QA/QC	41	✓	✓		✓	✓	✓	✓	✓			
Justin Smith, PE	General Civil Engineer	12	✓	✓			✓	✓					
Craig Ziel, PE	General Civil Engineer	19	✓	✓	✓	✓	✓	✓					
Devin Newton, PE	General Civil Engineer	24	✓	✓		✓	✓	✓					
Elva Pangilinan, PE	General Civil Engineer	17	✓			✓	✓						
Ken Berard, PE	Water/Sewer/Stormwater Engineer	39	✓			✓				✓			
Molly Lovegren, PE	Water/Sewer/Stormwater Engineer	19	✓			✓				✓			
Elias Sebhatu, PE	Water/Sewer/Stormwater Engineer	10	✓			✓				✓			
Amanda Taylor, PE	Water/Sewer/Stormwater Engineer	16	✓			✓	✓			✓			
Rafael Holcombe, PE	Ocean Engineer	24	✓	✓	✓	✓	✓	✓					
Russell Boudreau, PE	Ocean Engineer	34			✓	✓		✓					
Gregory Hearon, PE	Ocean Engineer	30	✓		✓	✓		✓					
Dan Helt, PE, PLS	Surveyor	21	✓	✓	✓	✓	✓			✓			
Jesus Guzman, PLS	Surveyor	26		✓									
Eric Yuen, PE, SE	Structural Engineer	18	✓	✓		✓	✓	✓					
Mike Olsen, PE	Structural Engineer	15	✓	✓		✓	✓	✓					
Mazen Kassar, PE	Electrical/SCADA Engineer	32				✓			✓				
Johnson Le	Electrical/SCADA Engineer	10				✓			✓				
KEN KULONIS, PE	Mechanical Engineer	48										✓	
Luke Ramirez, PE, PMP	Mechanical Engineer	19										✓	
Marcel Bodsky, RA	Architectural Engineer	41											✓
Peter Skopek, PHD, PE, GE	Geotechnical Engineer	35									✓		
Fernando Cuenca, PHD, PE, GE	Geotechnical Engineer	16									✓		

MOLLY MELL, PE, ENV SP
Principal-in-Charge

During Ms. Mell's 32 years in the civil engineering field, she has provided management, coordination, and detailed design on a broad range of projects and has proven experience to pull together successful teams to complete these projects on schedule and within budget. Ms. Mell has strong leadership capabilities and builds strong client relationships through communication. She has been a valuable asset in program management, coordinating between her internal team and the client. Ms. Mell will be responsible for ensuring Mr. Fussel has the resources needed to execute the projects to the City's satisfaction.

JASON FUSSEL, PE, PLS, ENV SP, LEED AP QSD/P
Project Manager

Mr. Fussel has over 21 years of experience and a broad knowledge of civil engineering stemming from his involvement in a variety of residential, educational and federal projects. His experience includes work on both public and private sector jobs of varying size and construction material types including the design of sewer transmission systems, water distribution systems, street and storm drain improvements and grading activities. Mr. Fussel's professional strengths and key areas of expertise include project management, QA/QC, peer review, cost estimating, stormwater analysis and studies, design, preparation of specifications, bid documents and cost estimates, and construction support services.

STEVE TEDESCO, PE, BCEE
QA/QC

Mr. Tedesco has four decades of experience in QA/QC, planning, analysis, design, and construction of civil engineering related projects. He brings a unique perspective to the overall project, as he is well accustomed to not only reviewing deliverables for quality, but also for constructability. Mr. Tedesco has served as Design Manager on over 20 design-build projects. He has extensive design experience in the advanced water and wastewater field. His experience includes water master planning, water/wastewater design, construction management, design-build delivery methods, and construction management.

JUSTIN SMITH, PE
Lead Civil Engineer

Mr. Smith brings over a decade of relevant civil engineering design experience including parking lot and roadway geometrics, pedestrian accessibility improvements (ADA compliant sidewalks, curb ramps), cross walks, and ramps), bike trails, construction and post-construction BMPs, storm drain improvements including hydrologic and hydraulic design, overall utility plans, structural calculations, and grading activities varying from mass grading to final precise grading plans. Additional experience includes cost estimating, preparation of special provisions, utility research, and coordination with the project team and outside agencies.

KEN BERARD, PE
Lead Water/Sewer/Stormwater Engineer

Mr. Berard has extensive experience in many facets of water engineering over his 39-year career. He has performed numerous studies ranging from complete water master plans to efficiency studies. His design experience includes preparing bid documents for reservoirs, pump stations, wells, pipelines, chlorination facilities, and pressure reducing facilities. Mr. Berard's experience includes inspection, construction administration, shop drawing review, and plan checking.

RAFAEL HOLCOMBE, PE
Lead Ocean Engineer

Mr. Holcombe is experienced in design, engineering analysis, preparation of construction documents, and construction administration of multi-disciplinary waterfront developments, including dredging, marinas, revetments, wave attenuators, piers, retaining walls, parks and special projects. He is also responsible for compliance with all environmental concerns including endangered species monitoring, turbidity monitoring, and contaminated materials remediation. He has extensive experience in the marine industry as a Project Engineer, responsibilities including dredging plans and specifications, hydrographic and land surveys, quantity computations, scheduling, and production analysis and reporting.

E. FIRM QUALIFICATIONS

Tetra Tech is a full-service, multidisciplinary engineering consulting firm specializing in planning, engineering, design, and construction services. Founded in 1966, Tetra Tech has 12 offices in Southern California, with performance in the engineering industry consistently ranked by *Engineering News-Record (ENR)* as among the leaders in a broad range of fields. Tetra Tech's *ENR* rankings include #1 in Water Treatment and Desalination for 11 years in a row and #3 in Top Design Firms. We are a California-based company (headquartered in Pasadena from company inception) and consider ourselves to be a local firm that is deeply knowledgeable of California regulations and special requirements. We focus on providing additional value to clients by collaborating and sharing best practices.

TETRA TECH SNAPSHOT

WORKS IN **125** COUNTRIES

7 CONTINENTS

Publicly traded on NASDAQ as **TTEK**

$5.2 billion ANNUAL REVENUE

WORKS ON **110,000** PROJECTS ANNUALLY

550 OFFICES WORLDWIDE

ENR RANKINGS

- #1 Water Treatment/Desalination
- #1 Environmental Management
- #1 Wind Power
- #1 Hydro Plants

25,000 CLIENTS

30,000 EMPLOYEES

A. DEMONSTRATED CAPABILITIES

CIVIL ENGINEERING

Tetra Tech is excited for the opportunity to assist the City of Huntington Beach in its future development and capital improvement projects. Tetra Tech has successfully worked with the City on multiple projects, both public and private, which are directly relevant to the types of projects outlined in the Scope of Work section of the Request for Qualifications (RFQ). We are familiar with the City staff and unique design challenges associated with highly visual projects within Huntington Beach. We will demonstrate below our vast experience supporting the five civil engineering disciplines outlined in the RFP scope of work.

The tables and projects on the following pages provide an overview of Tetra Tech's relevant on-call projects.

- **CIVIL ENGINEERING EXPERTISE:** Within the last 10 years, our project team has completed hundreds of projects in Southern California.
- **EXISTING RELATIONSHIP WITH HUNTINGTON BEACH:** Tetra Tech has supported City staff on projects and through our on-call contracts with the City since 2004.
- **LOCAL EXPERIENCE:** Our team has dedicated our careers to Civil Engineering projects in the Southern California counties including Orange, Los Angeles, San Bernardino and Riverside.
- **RELEVANT ON-CALL EXPERIENCE:** Similar on-call engineering services for 20+ Southern California clients.

MAIN OFFICE
17885 Von Karman Avenue
Suite 500
Irvine, CA 92614
(503) 684-9097

GENERAL CIVIL

Tetra Tech has decades of experience working closely with Southern California cities in the design and construction of city facilities including street improvements, parking lots, sidewalk and curb ramps, pedestrian facilities, and bikeway improvements to name a few. Tetra Tech is well versed in all aspects of design, engineering, surveying, and administration including project controls, cost estimating, scheduling and planning, QA/QC, change control, and risk management as well as with the latest version of APWA's GreenBook. We have an established relationship with the City of Huntington Beach having completed over 16 projects for the City since 2004 providing a variety of services. This gives our team unique insight and understanding of standard City design, quality standards, locale, and personnel.

GENERAL CIVIL EXPERIENCE

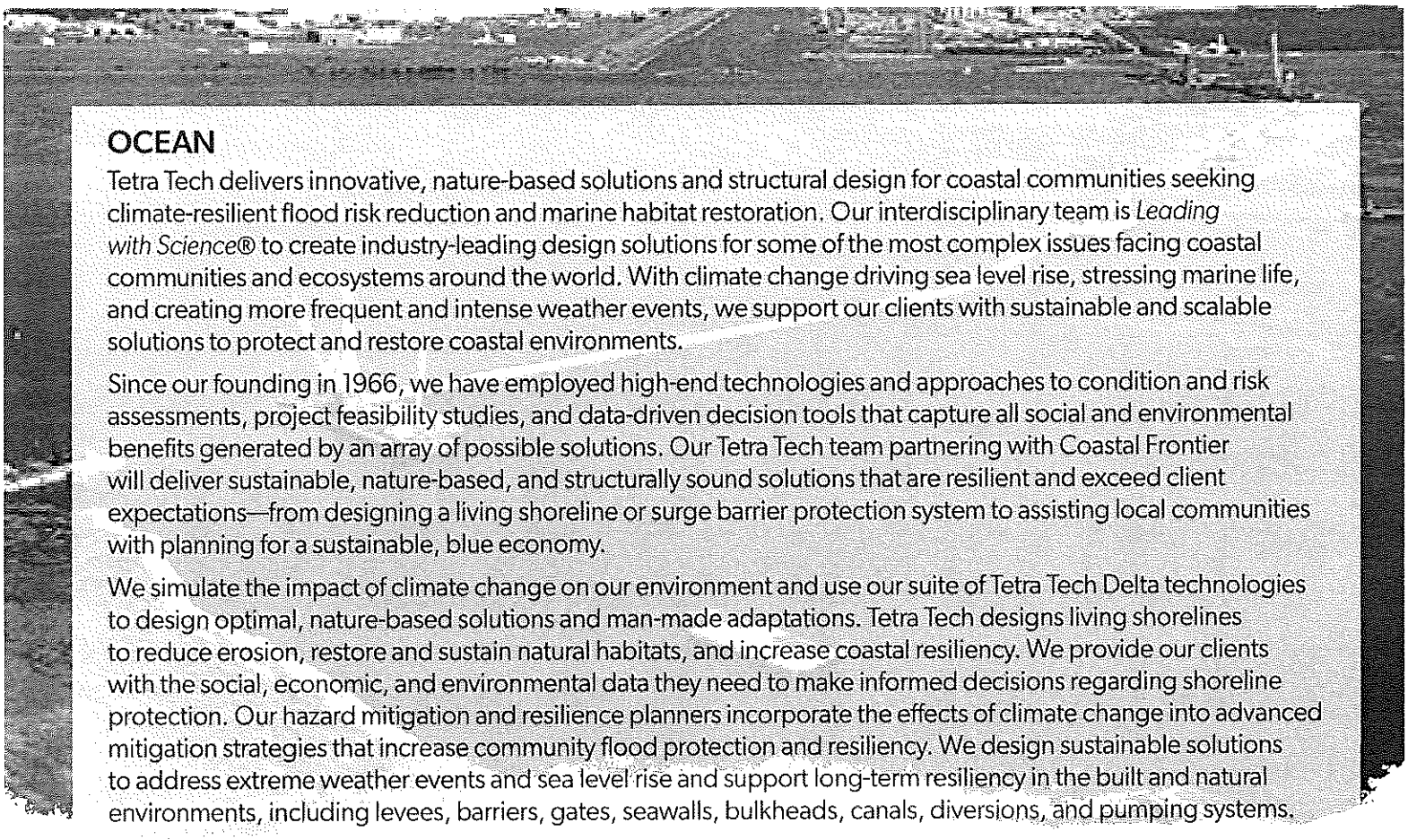
PROJECT	COST	Design/Engineering	Survey	Project Controls	APWA's Greenbook	PS&E Packages – Street Improvements	PS&E Packages – Parking Lots/ADA Compliance	NPDES/SWPPP/WQMP	Construction Support
Huntington Beach Pavement Resurfacing Design Plans for State Beach Parking Lot	$1.2M	✓	✓	✓		✓	✓		✓
Atlantic Avenue Streetscape & Lighting, 56th & 59th Avenue	$275k	✓		✓	✓	✓			✓
5301 Long Beach Blvd. Parking Lot Design	$275k	✓	✓	✓	✓		✓		✓
Bixby Park Bluff Improvements	$2.2M	✓	✓	✓	✓	✓	✓	✓	✓
Adventure Park Multi-Benefit Stormwater Capture	$29M (est.)	✓	✓	✓	✓		✓	✓	✓
East Garden Grove-Wintersburg Channel	$2.5M	✓		✓	✓	✓	✓	✓	✓
FDA Parking Lot Mitigation	$620k	✓		✓			✓		✓
Santa Fe Dr. Corridor Bike & Pedestrian Improvements	$903k	✓	✓	✓	✓	✓		✓	✓
Lower Mission Creek Channel Improvements & Restoration	$1.1M	✓		✓		✓		✓	✓
Long Beach Electric Vehicle Charging Station Design	$50k (design)	✓		✓			✓		✓
Orange County Public Works Flood Control (On-Call Contract)	$2.5M	✓	✓	✓	✓	✓	✓	✓	✓
Long Beach Public Works (On-Call Contract)	$3M	✓	✓	✓	✓	✓	✓	✓	✓
Los Angeles Dept. Beaches & Harbors (On-Call Contract)	$3M (aggregate/3 yrs.)	✓	✓	✓	✓		✓		✓
Los Angeles County Public Works (On-Call Contract)	$60M	✓	✓	✓	✓	✓	✓	✓	✓
Santa Monica Clean Beaches Initiative	$6.7M	✓		✓		✓	✓	✓	✓
South El Monte Merced Ave.Greenway	$422k (design)	✓	✓	✓	✓	✓			✓
Santa Ana Lincoln Avenue Pedestrian Pathway	$1M	✓	✓	✓		✓	✓	✓	✓

SURVEY

Tetra Tech routinely performs site surveys for siting analysis and design. Surveys can consist of topographical surveying, geotechnical investigations (initial site characterization and detailed geotechnical investigations), utility surveys, and engineering surveys to determine utility (power, water, sewer, communications, gas, or fuel) availability and interface locations. A detailed site survey is performed to use as the basis for design. In addition to determining how a complex of facilities or a facility would be integrated into an existing location, information such as construction requirements/limitations; shipping logistics; local requirements, codes, and standards; power plant operations; other utility operations; fuel supply; haul routes; borrow pits; and existing housing is also captured in order to plan the complete integration of the mission to the location. One of Tetra Tech's more comprehensive aerial surveys was a $4M task order for LiDAR mapping of hundreds of miles of the Rio Grande along the Texas border, for the USIBWC.

SURVEY EXPERIENCE

PROJECT	Design & Topographic	Aerial Surveys	Boundary Surveys	Records Of Survey	Centerline Surveys	Preparing Records	Reviewing of Maps/ Title Reports	Construction Staking
Culver City Culver Blvd. Realignment	✓	✓	✓		✓			
Santa Ana First Street Pedestrian Improvements	✓		✓					
Santa Monica Clean Beaches Initiative	✓		✓					
L.A. DTLA Arts District Pedestrian & Cyclist Safety Active Transportation Project (ATP 3)	✓	✓	✓					
L.A. Bureau of Engineering Skid Row Neighborhood Survey	✓		✓		✓			
Pacific Gas & Electric (PG&E) San Francisco ADA Ramps	✓		✓		✓			
South Orange County J.B. Latham Treatment Plan Hydraulic Modeling Survey			✓		✓	✓		
Santa Barbara County Bonita School Road Bridge Replacement Survey	✓	✓	✓					✓
PG&E R-1200 Survey	✓		✓					✓
L.A. Dept. Of Water & Power As-Built Drawing Pump Stations				✓		✓	✓	
NAVFAC Records Research & Mapping Services for Defense Fuel Supply Point				✓		✓	✓	
PG&E Survey & Mapping of Mission Road		✓					✓	✓
Arroyo Grande Huasna Tract 3045, Coastal Community Builders				✓		✓		✓
PG&E Diablo Canyon Power Plant Boundary & Title Survey		✓	✓	✓		✓	✓	
County of Santa Barbara As Needed Survey Services	✓		✓	✓		✓		✓
City of Los Angeles Albion Riverside Park	✓	✓	✓				✓	
City of Buellton Engineering Services	✓	✓					✓	✓
City of Lakewood Mayfair Park Stormwater and Runoff Capture	✓	✓	✓				✓	✓



OCEAN

Tetra Tech delivers innovative, nature-based solutions and structural design for coastal communities seeking climate-resilient flood risk reduction and marine habitat restoration. Our interdisciplinary team is *Leading with Science*® to create industry-leading design solutions for some of the most complex issues facing coastal communities and ecosystems around the world. With climate change driving sea level rise, stressing marine life, and creating more frequent and intense weather events, we support our clients with sustainable and scalable solutions to protect and restore coastal environments.

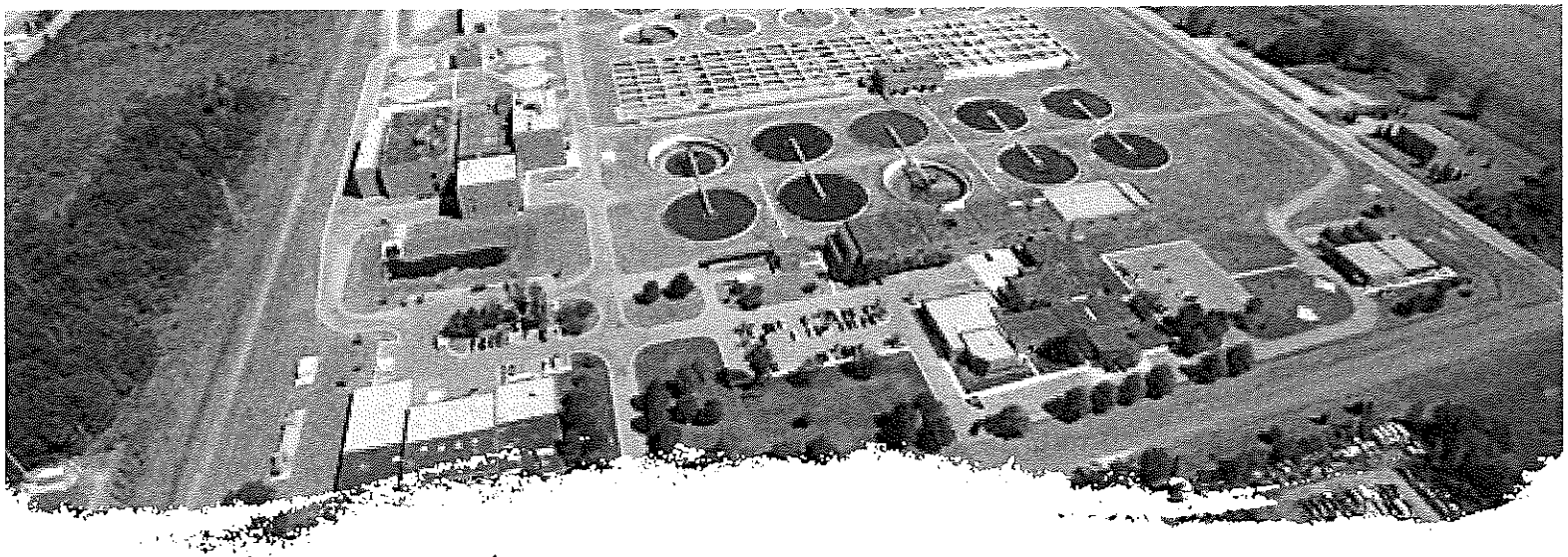
Since our founding in 1966, we have employed high-end technologies and approaches to condition and risk assessments, project feasibility studies, and data-driven decision tools that capture all social and environmental benefits generated by an array of possible solutions. Our Tetra Tech team partnering with Coastal Frontier will deliver sustainable, nature-based, and structurally sound solutions that are resilient and exceed client expectations—from designing a living shoreline or surge barrier protection system to assisting local communities with planning for a sustainable, blue economy.

We simulate the impact of climate change on our environment and use our suite of Tetra Tech Delta technologies to design optimal, nature-based solutions and man-made adaptations. Tetra Tech designs living shorelines to reduce erosion, restore and sustain natural habitats, and increase coastal resiliency. We provide our clients with the social, economic, and environmental data they need to make informed decisions regarding shoreline protection. Our hazard mitigation and resilience planners incorporate the effects of climate change into advanced mitigation strategies that increase community flood protection and resiliency. We design sustainable solutions to address extreme weather events and sea level rise and support long-term resiliency in the built and natural environments, including levees, barriers, gates, seawalls, bulkheads, canals, diversions, and pumping systems.

OCEAN EXPERIENCE

PROJECT	COST	Design & Engineering	Plans & Specifications	Preserving Coastal Resources	Ocean Studies	Surveys	Permitting
Orange Co. Flood Control East Garden Grove-Wintersburg Channel	$2.3M (D); $60M (C)	✓	✓	✓		✓	✓
Long Beach Davies Launch Ramp	$330k (D); $3.9M (C)	✓	✓	✓	✓	✓	✓
Long Beach Belmont Pier Replacement 30% Design	$1.6M (D)	✓	✓	✓	✓		✓
Long Beach Dock 10 Replacement	$300K (D); $2.25M (C)	✓	✓	✓	✓	✓	✓
Long Beach Naples Seawall Repair	$2.9M (D); $29M (C)	✓	✓	✓		✓	✓
Long Beach Bixby Park Bluff Improvement	$360K (D); $2.2M (C)	✓	✓	✓		✓	✓
USACE L.A. District Pismo Beach Bluff Protection	$379K	✓	✓	✓	✓	✓	✓
Oxnard Mandalay Bay Seawall Investigations	$200K	✓	✓	✓	✓	✓	✓
Long Beach Bayshore Swim Dock Replacement	$155K (D); $400K (C)	✓	✓	✓	✓	✓	✓
*Huntington Bluffs Shore Protection Study	NA	✓	✓	✓		✓	✓
*Malibu Broad Beach Living Shoreline Project	NA	✓	✓	✓	✓	✓	✓
*Capistrano Beach Park Shore Protection Study	NA	✓	✓	✓		✓	✓
*City of Avalon Cabrillo Mole Ferry Terminal Pier	NA	✓	✓	✓	✓	✓	✓
*Southern California Regional Shoreline Monitoring Programs	NA	✓	✓	✓	✓	✓	✓

** Subconsultant: Coastal Frontiers Project Experience*



WATER/WASTEWATER/STORMWATER

Tetra Tech's industry-leading One Water practice delivers innovative and sustainable solutions to support resilient water futures for our communities. We bring together the expertise of talented engineers and scientists from around the world to partner with our clients to capture, treat, distribute, and recycle the essential resource of water.

WATER – Tetra Tech provides innovative, sustainable, and cost-effective water supply and treatment solutions to protect public health and improve quality of life. Our engineers and scientists have been *Leading with Science®* to help local governments and municipal utilities provide safe, secure drinking water to their clients for more than 50 years. Tetra Tech's drinking water experts provide comprehensive, cost-effective water solutions to address our clients' challenges, including maintaining or improving existing water supply infrastructure, planning new construction to expand capacity or enhance water quality, or minimizing life-cycle costs through the use of digital technology. Our integrated approach to water supply management and water facility design uses best practices and innovation to create a reliable, modern road map for clients' potable water systems.

WASTEWATER – Tetra Tech provides sustainable wastewater solutions for our clients relying on our abilities for innovation, optimization, and development of the best allocation and prioritization of economic resources. Tetra Tech is a global leader in the technology and engineering of wastewater solutions. We listen and work with each client to develop innovative solutions to their unique challenges. Our full life-cycle services include master planning, asset management, rehabilitation, design, permitting, and construction administration with a focus on sustainability and resilience. Leveraging more than 30 years of proven experience and our Tetra Tech Delta technology solutions, we provide a full breadth of wastewater services. Tetra Tech's wastewater treatment specialists combine expertise in design and operation of biological, physical, and chemical processes to meet our clients' needs for effective and efficient treatment facilities. Our engineers regularly perform hands-on process energy audits, comprehensive performance evaluations, and plant optimization.

Tetra Tech works with our clients to evaluate, rehabilitate, and design improvements to their gravity sewer, force main, and pumping systems to get the most out of existing assets and optimize their systems. Our services include hydraulic modeling; sewer system evaluation surveys; condition assessments; and in addition to the planning, design, and permitting of improvements.

STORMWATER – Tetra Tech's diverse suite of stormwater management solutions supports clients facing regulatory, operations, and climate resiliency challenges. Tetra Tech has led the industry for more than 50 years in stormwater management and helped pioneer the use of green stormwater infrastructure (GSI) in the 1990s. Creating, adapting, and maintaining a successful stormwater management program requires a breadth and depth of knowledge not commonly found in a single consulting firm. Tetra Tech is well-known for providing in-house, diverse services to solve our clients' stormwater needs. Our long history of supporting large, on-call stormwater contracts for major municipalities has enabled our staff to sustain effective programs.

Our multidisciplinary teams provide cutting-edge stormwater management approaches to support clients in meeting evolving regulatory, environmental, resilience, and community improvement goals. Tetra Tech prepares stormwater management plans that provide direction with flexibility, meeting the latest requirements with approaches that provide long-term benefits to communities. Using our Tetra Tech Delta technologies, we have developed innovative modeling and decision-support tools to manage stormwater quantity and quality strategically and effectively.

Tetra Tech designs solutions focused on performance, ease of maintenance, cost-effectiveness, and aesthetics. To achieve our clients' objectives, we employ a mix of traditional and innovative approaches, including water harvesting and reuse, stream stabilization, urban drainage control, real-time control technology, and integration with community enhancement projects, including parks and streetscapes.

WATER EXPERIENCE

PROJECT	TOTAL YEARS OF SERVICE	CONTRACT CAPACITY	Local	WTPs	Pipeline	Wells	Reservoirs	Facilities
Huntington Beach On-Call Engineering (Water)	8	$1.5M	✓	✓	✓	✓		✓
L.A. Dept. of Water & Power As-Needed Engineering	15	$60M	✓	✓	✓	✓		✓
Santa Ana As-Needed Engineering Services	24	$8M	✓	✓	✓	✓	✓	✓
Yorba Linda Water District On-Call Engineering: Water	13	$810K	✓	✓	✓			✓
Moulten Niguel Water District On-Call Professional Engineering Services	23	$10M	✓	✓	✓	✓	✓	✓
L.A. Co. As-Needed Engineering	11	$3.1M	✓	✓	✓	✓		✓

WASTEWATER EXPERIENCE

PROJECT	TOTAL YEARS OF SERVICE	CONTRACT CAPACITY	WWTPs	Pipeline	Facilities
Oceanside On-Call Engineering	7	$1.5M	✓	✓	✓
Santa Ana As-Needed Engineering Services	21	$8M	✓	✓	✓
Moulten Niguel Water District On-Call Professional Engineering Svc.	20	$10M	✓	✓	✓
L.A. Co. On-Call Engineering	11	$3.1M	✓	✓	✓
L.A. Dept. of Water & Power As-Needed Engineering	15	$60M	✓	✓	✓
L.A. Co. As-Needed Engineering	11	$3.1M	✓	✓	✓

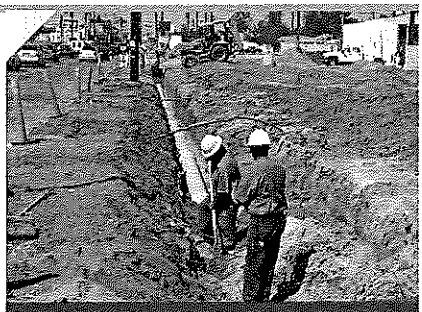
STORMWATER EXPERIENCE

PROJECT	REGIONAL VOLUME	On-Call	Pre-Design / Feas.	Hydrology / WQMP	Sampling / Monitoring	Utility Research	Geotech Studies	Const. Support
L.A. Albion Riverside Park	5.1	✓	✓	✓	✓	✓	✓	✓
Bellflower Caruthers Park Stormwater Capture	9.7		✓	✓	✓	✓	✓	✓
Lakewood Bolivar Park Stormwater Capture	8.9		✓	✓	✓	✓	✓	✓
Orange County Public Works Multi-discipline Watershed & Regulatory Support	N/A	✓	✓	✓	✓	✓		
L.A. San Fernando Valley Stormwater Capture Parks Programs (4 Park Locations)	165.2 (Total)	✓	✓	✓		✓	✓	

As-Needed Engineering Services – Water Main Replacements | *Santa Ana, CA*

Since 1999, Tetra Tech has been involved in the design of various projects for the City of Santa Ana including the preparation of plans, specifications, and cost estimates for various water main replacement projects. Recent water main replacement projects include:

- Centennial Park Neighborhood Water Main Improvements. Design of approximately 20,000 linear feet (LF) of 8-inch PVC water main to replace existing water mains.
- Central City Water Main Improvement. Design of approximately 6,600 LF of 8-inch PVC water main to replace existing water mains.
- Pico-Lowell Neighborhood Water Main Improvements. Design of approximately 8,200 LF of 8- and 12-inch PVC water main to replace existing water mains.
- Mid-City Neighborhood Water Main Replacement Project. Design of approximately 9,000 LF of 12- and 8-inch PVC water main replacements.



REFERENCE:
City of Santa Ana
Rudy Rosas, PE
714.647.3379
rrosas@santa-ana.org

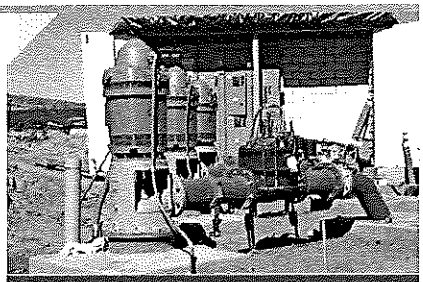
DATES/VALUE:
10/1999–Ongoing
$12M (Construction)

KEY PERSONNEL:
Project Manager: Mark Bush
Others: Molly Mell, Molly Lovegren, Ken Berard, Mazen Kassar

On-Call Professional Engineering Services | *Moulton Niguel Water District, CA*

Since 2000, Tetra Tech has completed more than 85 water, wastewater, and recycled water projects for MNWD. The vast majority of these projects occurred in an on-call capacity and covered improvements to MNWD's water, recycled water and sewer systems and facilities. This work has involved work on 30+ potable water facility and 15+ wastewater facility projects: with the goal of improving water quality/quantity, and conveyance. Projects include:

- Reservoir Management Systems Replacement
- Diemer Pipeline Emergency Repair
- ETWD Intertie Construction Support
- Recycled Water System Extension
- Wastewater Flow Study
- Regional Treatment Plant Southerly Influent Sewer Improvements
- Regional Lift Station Enhancements



REFERENCE:
Moulton Niguel Water District (MNWD)
Rodney Woods
949.831.2500
rwoods@mnwd.com

DATES/VALUE:
05/2000–Ongoing
$10M (Contract Capacity)

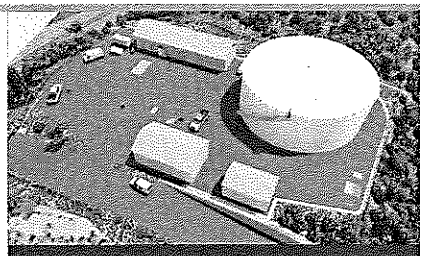
KEY PERSONNEL:
Project Manager: Tom Epperson
Others: Mark Bush, Mazen Kassar

Fleming Tank and Pump Station Improvements | *Irvine Ranch Water District, CA*

Tetra Tech was selected to provide design, permitting, and construction services for the Irvine Ranch Water District's 1.3-million-gallon (MG) Fleming Zone 8 Reservoir and Zone 8 to 9 Pump Station. Construction phasing was critical for this project, since the new construction took place at an existing facility that was the sole source of water to numerous subareas. The work included demolishing existing facilities and designing a 1.3 MG prestressed concrete reservoir, grading into a rocky hillside for the pump station, three 670-gallon-per-minute pumps, a surge tank, a Reservoir Management System chemical feed system, inlet and outlet piping, overflow and drain piping to an open channel, and a stormwater biofiltration system. In addition, our team coordinated with AT&T to remove and relocate the cellular tower to a temporary location during construction and provide a location for the permanent facility.

Scope Elements Included:

- Civil Engineering
- Survey
- Electrical/SCADA
- Structural Engineering
- Geotechnical
- Cost Estimating



REFERENCE:
Irvine Ranch Water District
Rich Mori
949.453.5571
mori@irwd.com

DATES/VALUE:
2019–2021
$927K

KEY PERSONNEL:
Project Manager: Tom Epperson
Others: Eric Yuen, Mazen Kassar

Belmont Pier Replacement, 30% Design | *Long Beach, CA*

In partnership with the City of Long Beach, Tetra Tech is leading a multi-discipline team to replace the Long Beach Belmont Pier ahead of the 2028 Summer Olympics.

PHASE 1A: TECHNICAL STUDIES + EARLY DESIGN: Tetra Tech is currently providing a review of existing information relevant to the project and developing a Risk Register to identify possible factors that might create risks to schedule, design, program, project performance, constructability, cost, and public safety/security. This design validation is a collaborative process with City staff and will ensure full project team is aware of identified risks and mitigation strategies. Concurrently with this design validation, Tetra Tech is preparing to conduct a technical analyses/study of the existing site area that will be crucial to defining future design and permitting parameters as well as meeting CEQA requirements.

PHASE 1B: CONCEPT DESIGN DEVELOPMENT TO PERMIT APPLICATION: At this phase, Tetra Tech will engage each of our technical engineering and environmental disciplines to align them with the design direction, project parameters, and design constraints. Each technical discipline will work in parallel and closely together throughout this phase to develop coordinated structure and system designs.

REFERENCE:
City of Long Beach
Charlene Angsco
562.547.1123
charlene.angsco@longbeach.gov

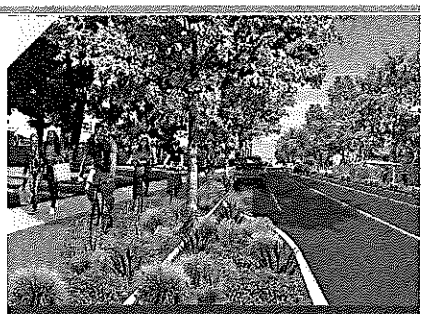
DATES/VALUE:
2024–Ongoing
$1.6M (30% Conceptual Design)

KEY PERSONNEL:
Project Manager: Rafael Holcombe

Merced Avenue Greenway | *South El Monte, CA*

This urban greening project entails planning and design for a retrofit of a 1.1 mile stretch of the Merced Avenue corridor in the City of South El Monte to implement surface and subsurface stormwater flow Best Management Practices, improve active transportation access, and increase urban greenery. Improvements to the 1.1-mile section of Merced Avenue included the reconfiguration of traffic lanes to accommodate water quality improvements and LID/BMP infrastructure retrofits, native revegetation, and planned active transportation components to increase pedestrian safety and mobility throughout the corridor.

The primary goal of the project was to manage stormwater runoff at its source in order to meet regulatory compliance by improving water quality and enhancing watershed health. Water Quality LID/BMPs included curbside bioretention facilities to reduce pollutant loads, and permeable pavers and below-grade infiltration galleries to promote groundwater recharge. Active transportation components included elevated Class IV Cycle Tracks, ADA compliant curb extensions and ramps, improved crosswalks, and improved pedestrian linkages.



REFERENCE:
City of South El Monte
Eileen Alduenda
213.229.9959
eileen@watershedhealth.org

DATES/VALUE:
5/2018–6/2020
$422,000 (Fee)
$11M (Construction)

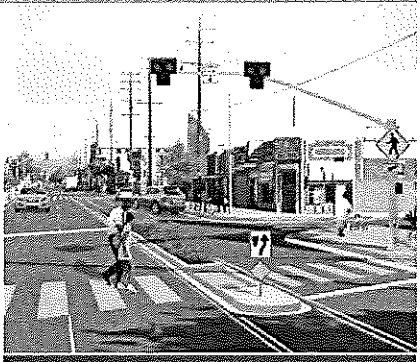
KEY PERSONNEL:
Project Manager: Jason Fussel
Others: Elva Pangilinan, Dan Helt

Western Our Way Walk and Wheel Improvements | *Los Angeles, CA*

Tetra Tech provided Project Approval & Environmental Document (PA&ED) services for the Western Our Way: Walk and Wheel Improvements Project. The project includes 4.5 miles of pedestrian and transit rider improvements in the heart of South Los Angeles. Extensive pedestrian improvements including traffic calming along Western Avenue will provide safer and more direct access for disadvantaged community members to transit lines and local destinations in contrast to the current conditions of the high-speed vehicular oriented corridor. Addition of street trees, pedestrian lighting, widened sidewalks, and bus bulbs will improve pedestrian safety and user comfort. Adjacent local streets will be improved to create neighborhood bike network streets along Gramercy Place and Denker Avenue which will create an exclusive path for bikes connecting to the greater South Los Angeles bike network and Rail to Rail Active Transportation Corridor.

Project Highlights:

- Traffic Calming Measure Design
- Multimodal Street Design
- Curb Extensions
- Curb Ramps
- Bus Bulbs
- Pedestrian Lighting
- Stakeholder Engagement
- Environmental Planning
- Mobile Mapping
- Landscaping
- Pedestrian Hybrid Flashing Beacons



REFERENCE:
City of Long Angeles
Mark Wissa
213.887.1065
mark.wissa@lacity.org

DATES/VALUE:
08/2023-02/2025
$2.5M (Fee)

KEY PERSONNEL:
Principal-in-Charge: Jason Fussel
Others: Mike Olsen

San Francisco ADA Ramps | *San Francisco, CA*

Pacific Gas and Electric Company (PG&E) contracted Tetra Tech through an existing Master Services Agreement to perform Survey and Civil Design Services on curb access ramps in San Francisco. The City of San Francisco has a master plan of all American with Disabilities Act (ADA) intersection ramp improvements, and has required that PG&E upgrade the intersections that are affected by the natural gas line construction work to insure they are ADA compliant.

In support of this effort, Tetra Tech has performed right-of-way research, monument research, topographic and construction survey for more than 700 ramps on 140 intersections in San Francisco. Tetra Tech prepared civil site design improvement drawings for approval by the City of San Francisco.

Project Highlights:

- ADA Compliance
- Street and Sidewalk Rehabilitation
- Survey and Mapping Services
- Horizontal and Vertical Control
- Monument Preservation
- Record Survey Documents
- Expedited Schedule
- Final Design Solutions

REFERENCE:
Pacific Gas and Electric (PG&E)
Christopher Chu
415.973.7894
clcq@pge.com

DATES/VALUE:
2015-Ongoing
$471k (Design)

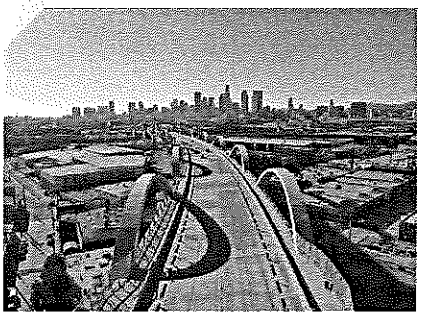
KEY PERSONNEL:
Project Manager: Dan Helt

Sixth Street Park, Arts, River and Connectivity (PARC)| *Los Angeles, CA*

The Sixth Street Viaduct, also known as the Sixth Street Bridge, spans nearly 3,500 feet connecting the historic Boyle Heights community to the east of the Los Angeles River with the Arts District and Downtown to the west. Just 20 years after construction of the bridge, the cement supports began to deteriorate due to a chemical reaction known as Alkali Silica Reaction (ASR), creating cracks in the concrete and significantly reducing the bridge's capacity to resist earthquake loads. In addition to its seismic vulnerability, the Sixth Street Viaduct also had geometric design and safety deficiencies.

The City of Los Angeles selected Tetra Tech, along with subconsultants Hargreaves Associates, and Michael Maltzan Architecture, to develop a unique landscape design and river improvements as part of the Sixth Street Viaduct Replacement Project. The Tetra Tech team is providing schematic and final design, environmental documentation and permitting, public presentations, construction support services, and post-construction services for nearly 12 acres of recreational and open spaces beneath and around the new bridge. The project includes approximately ¼ mile of improvements within the Los Angeles River. These improvements will include bike trails, pedestrian access, and softening of the existing concrete lined channel.

These improvements were originally envisioned in the Los Angeles River Revitalization Master Plan that Tetra Tech completed. The City's goal is to make the landscape component under the new bridge a world class public space that will include an Arts Plaza, several performance stages, synthetic sports fields, river terracing, and bicycle and pedestrian pathways.



REFERENCE:
City of Los Angeles, Bureau of Engineering
John Saldin
213.485.5875
john.saldin@lacity.org

DATES/VALUE:
2016-Ongoing
$3.2M (Design)
$18M (Construction Estimate)

KEY PERSONNEL:
Technical Advisor: Jason Fussel
Others: Mike Olsen, Justin Smith

REFERENCES OF WORK PERFORMED

As one of the largest consulting engineering firms in the United States, our team's success has been built on technical expertise, quality design, fiduciary duty, and development of practical solutions that meet industry standards for good engineering practices. We encourage potential clients to contact our references listed below to get a firsthand account of the level of service and expertise our team provides.

References of Work Performed Form

(List 5 Local References)

Comany Name: Tetra Tech

1. Name of Reference: Irvine Ranch Water District

Address: 15600 Sand Canyon Ave., Irvine, CA 92618

Contact Name: Tiffany Foo, PE Phone Number: 949-453-5329

Email: foo@irwd.com

Dates of Business: 2024

2. Name of Reference: City of Los Angeles, Bureau of Street Services

Address: 1149 S. Broadway, 4th Floor, Los Angeles, CA 90015

Contact Name: Al M Bazzi, PE Phone Number: 213-847-0962

Email: al.bazzi@lacity.org

Dates of Business: 2022 - Present

3. Name of Reference: El Toro Water District

Address: 24251 Los Alisos Blvd., Lake Forest, CA 92630

Contact Name: Rory Harnisch, PE Phone Number: 949-837-7050, ext. 251

Email: rharnisch@etwd.com

Dates of Business: 2024

4. Name of Reference: Moulton Niguel Water District

Address: 26161 Gordon Road, Laguna Hills, CA 92653

Contact Name: Bryan Hong, PE Phone Number: 949-425-3554

Email: bhong@mnwd.com

Dates of Business: 2023

5. Name of Reference: City of Los Angeles, Bureau of Engineering

Address: 1149 S. Broadway, Suite 700, Los Angeles, CA 90015

Contact Name: Bryan Powell, PE Phone Number: 213-485-5908

Email: bryan.powell@lacity.org

Dates of Business: 2019 - Present

UNIQUE QUALITIES/OVERALL BENEFITS

GENERAL CIVIL: Tetra Tech has completed over 16 projects for the City of Huntington Beach since 2004, giving our team unique insight and understanding of City design, quality standards, and personnel. We have decades of experience working closely with Southern California cities in the design and construction of facilities including streets, parking lots, sidewalk and curb ramps, pedestrian facilities, and bikepaths.

SURVEY: For more than two decades, Tetra Tech has been an industry leader in the innovative use of GIS database automation, applications programming, spatial modeling, 3D modeling, advanced image analysis, and interactive web mapping. We have experts in aerial survey such as LiDAR, land survey, and hydrographic survey.

OCEAN: For over 20 years, Tetra Tech has successfully completed all aspects of waterfront and coastal projects. Our work spans marine, estuarine, riverine, and wetland environments. Our clients include national, state, and local governments.

SEWERS/PIPELINES: For 50+ years, Tetra Tech has provided design and construction support services of more than 100,000 feet of relining and or rehabilitation of existing sewer mains and over 325 miles of water and recycled water pipelines.

PUMP STATION/WELLS: For 50+ years, Tetra Tech has provided design and construction services on more than 40 water/recycled water pump stations and 25 water wells. We are among a select few who can make that claim.

RESERVOIRS: For 50+ years, Tetra Tech has provided design and construction support services for 65+ water/ recycled water reservoirs (steel and concrete).

TRANSPORTATION: Tetra Tech provides the complete range of services to the transportation sector including residential streets, bridges, major interchanges, and corridor studies. Our regional approach and consistent delivery has resulted in the majority of our projects being repeat work with longstanding clients.

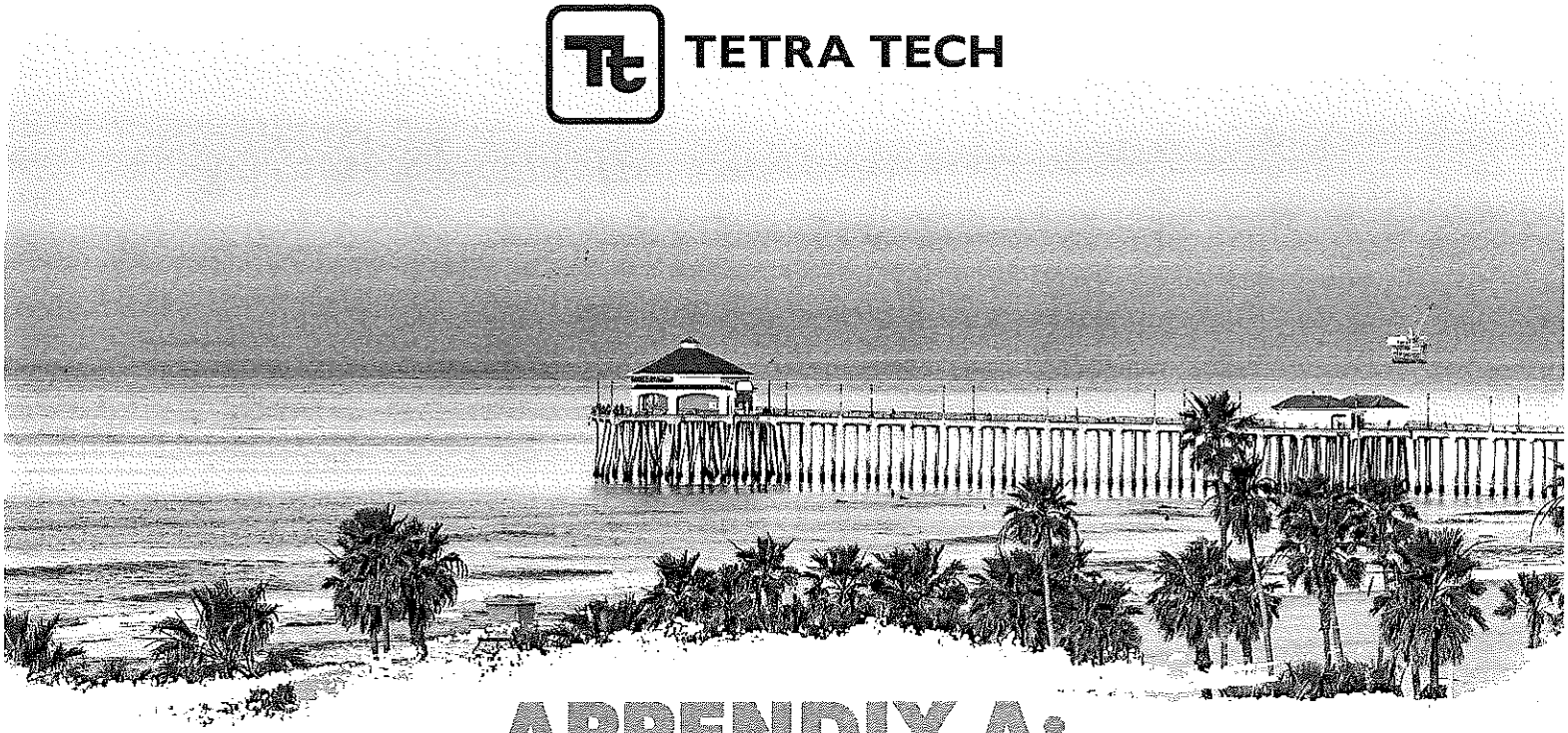
STRUCTURAL: Tetra Tech has the capability to provide all structural analysis and design services in-house. This includes numerous seismic retrofits throughout Southern California. Seismic analysis includes a 3-D finite element analysis, member stress analysis, and foundation stability assessment.

ELECTRICAL/SCADA: Our in-house electrical group has extensive experience on utility, industrial, residential, commercial, governmental and military projects providing SCADA, transmission, distribution, programmable logic controller, PID control, and telecommunications.

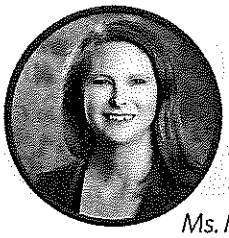
PLANNING/STUDIES: Tetra Tech has provided over 15 master plans, hydraulic modeling, and engineering studies in Southern California.

WATER QUALITY: During the last 20 years, Tetra Tech has provided design for 20+ treatment (process/membrane) facilities in Southern California. In addition, we have designed disinfection facilities at 10+ well and reservoir facilities.

TETRA TECH



APPENDIX A: TEAM RESUMES



Molly Mell, PE, ENV SP

PRINCIPAL-IN CHARGE

32 Years of Experience
BS Civil Engineering, University of Redlands
PE California Professional Engineer, No. 59104
ENV SP Envision™ Sustainability Accredited Professional

Ms. Mell has a diverse base of knowledge of the elements necessary to successfully execute large-scale, multi-disciplinary projects. She has had significant roles providing management, coordination, and detailed design on a broad range of project types. Her project management experience includes both public and private projects of varying size that include multiple sources of funding, including federal, state, and local transportation funding, Security Grant Funding, and private sources. Her management skills include project scheduling, cost estimating, building consensus, strong presentation skills, and innovative thinking. Ms. Mell has been a valuable asset in project execution for her clients.

RELEVANT PROJECTS

Pavement Resurfacing of Beach Parking Lot, City of Huntington Beach, Huntington Beach, CA. Project Manager. Project Manager for the rehabilitation of a beach parking lot encompassing two different structural elevation sections. Tetra Tech prepared base maps, design survey and data collection, survey verification during construction, and utility surveys. The Team also provided final plan set improvement plans, signing and striping plans, and PS&E.

Community Involvement for Clean Water Program (TOS SN 85), City of Los Angeles Bureau of Sanitation, City, CA. Senior Project Manager. Provided public outreach materials and services to neighbors and stakeholders for Hyperion Water Reclamation Plant (HWRP) projects. Outreach materials included development, production, and maintenance of informational collateral materials such as construction notices, fact sheets, brochures, videos, and information for use on websites and social media platforms including Facebook, Twitter, and Instagram. Served as the liaison for residents, businesses, community organizations, elected officials and staff, and other stakeholders to provide information about wastewater infrastructure programs and any potential implementation impacts. Provided community outreach services in support of the city's ongoing program to rehabilitate the 6,500 miles of sewers citywide. Proactively addressed program concerns by coordinating meetings and communication with stakeholders. Developed/Coordinated presentation skills training workshops. Additional services included administrative support, photography, videography, and graphic design.

Golden Valley Road Bike Trail Connection, City of Santa Clarita, CA. Project Manager. Tetra Tech was contracted by The City of Santa Clarita to complete a connection between the existing bike path along Golden Valley Road and the bike ramp at the Santa Clara River Bridge. This connection will give cyclists traveling to and from Soledad Canyon Road access to the Golden Valley Road Bridge, allowing them to cross the Santa Clara River and connecting them to the existing bike trail network. As Project Manager, Ms. Mell oversaw the Tetra Tech team to conduct site inspection and survey reviews of the area of the proposed work as well as an area 10'-25' beyond the area to understand how the proposed improvements tie into the existing site. Survey data was also collected for sidewalks, curb and gutter, cross slope, trees greater than 4-inches in diameter, surface features of underground utilities and location of above ground utilities. Additional tasks included: site preparation plan, 100% PS&E, and bid phase support.

Planning Area 26 (Bonita Canyon Village) Sub Area Master Plan, Irvine, CA. Design Engineer. This project involved planning of potable water, wastewater collection, and non-potable facilities for several residential, institutional, commercial, and recreational (parks and golf course) developments within the City of Irvine Planning Area 26 for 2,800 dwelling units, golf course, and commercial use on approximately 500 acres. The work included analysis of existing and proposed on-site and related off-site systems, economic analysis of various non-potable water and wastewater collection alternatives, preliminary design of water and sewer facilities, and report preparation. The project was coordinated closely with Irvine Ranch Water District and The Irvine Company planning staff to streamline the review process to meet fast-track schedule.

Public Works Infrastructure Improvement Program, City of Santa Clarita, CA Program Manager. Ms. Mell served as the Program Manager for Public Works Infrastructure Improvement Program contract with Tetra Tech. Her program management duties included working with the City to determine the required improvements, ensured the project was in compliance with federal guidelines and safety requirements, overseeing the design/construction phase, 100% Plans, Specifications, and Estimates (PS&E), field reconnaissance, utility research, topographic survey, and conceptual design report, site preparation plan, 100% PS&E, and bid phase support.

On-Call Bridge/Civil Engineering Design and Support, Bureau of Engineering, City of Los Angeles, CA. Program Manager. Ms. Mell served as the Program Manager for the Bridge Division's On-Call Contract with Tetra Tech. Her program management duties included overseeing the technical design, coordinating with subconsultants, stakeholders, and agencies, providing regular schedule updates, reviewing project quality, and holding progress meetings to review contract objectives and milestones.

Jason Fussel, PE, PLS, QSD/P, LEED AP, ENV SP

PROJECT MANAGER

21 Years of Experience
BS Civil Engineering, Cal Poly University, San Luis Obispo
PE California Professional Engineer, No. 70879
PLS California Professional Land Surveyor, No. 9006
Qualified SWPPP Developer (QSD) and Qualified SWPPP Practitioner (QSP), No. 20231

Mr. Fussel has more than 21 years of engineering experience that includes work on both public and private sector jobs. Jason's strengths include stormwater analysis, studies, design, preparation of specifications, bid documents, cost estimates, and construction support services. His experience also includes conducting topographic surveys, utility surveys, Record of Surveys, ALTA surveys, and coordination of aerial topography. Jason's professional strengths and key areas of expertise include project management, QA/QC, peer review, cost estimating, stormwater analysis and studies, design, preparation of specifications, bid documents and cost estimates, and construction support services.

RELEVANT PROJECTS

Santa Monica Clean Beaches Initiative, City of Santa Monica, Santa Monica, CA. Engineering Design Lead and Engineer of Record. Mr. Fussel was responsible for the design of the site improvements, diversion structure, pretreatment, underground storage reservoirs, and piping systems. The project objective was to improve Santa Monica Beach water quality by increasing the diversion capacity at the Santa Monica Pier and Pico-Kenter storm drain outfalls. The 85th percentile storm event volume will be treated and diverted from the Pier watershed to the Santa Monica Urban Runoff Recycling Facility (SMURRF) or the sanitary sewer. The project included storm drain diversion and runoff storage systems at two separate storm drain outfalls, routed to two subsurface storage areas. 1.6 million gallons will be stored at the historical Deauville Beach Club site and an additional 80,000 gallons will be stored at the Pico-Kentor storm drain outfall.

Culver Boulevard Realignment Project, City of Culver City, CA. Principal-In-Charge/Engineer of Record. Mr. Fussel served as the Principal-in-Charge and Engineer of Record for the development of PS&E documents for the realignment of Culver Boulevard between Sepulveda Boulevard and Elenda Street. The new road included a 58-foot-wide raised landscape median, complete with buffered bicycle and pedestrian paths. Street improvements included the reconfiguration of existing traffic lanes, new and reconstructed landscape medians, traffic signal additions and modifications, bus stops, signal interconnects, new lighting, utility adjustments, relocation of existing catch basins, and the design of a parking lane with innovative buffer treatment to separate it from the eastbound high-speed travel lanes on Culver Boulevard. Tetra Tech also led a series of outreach meetings with the Community Advisory Committee and the residents to obtain input and consensus in the design process.

Camp Roberts Perimeter Road, California Army National Guard, San Miguel, CA. QA/QC Manager. Mr. Fussel was responsible for coordinating geotechnical investigations and the site survey, which included setting control around the 17-mile perimeter loop, as well as the mobile mapping of the roadway. Additionally, through the design process, Mr. Fussel provided quality assurance and quality control reviews throughout to ensure that the project team met the goals and needs of the client. The goal of the project is to bring the roadways up to modern asphalt standards, provide a safe, reliable and usable environment for soldier training and improve operability and maintainability of roadways. Tetra Tech was responsible for conducting a pavement condition assessment, topographic survey services (traditional ground and mobile LiDAR), and preparing conceptual and detailed design plans, specifications, and calculations to allow the Government to assemble a bid package for repair of the perimeter range roads.

San Francisco ADA Ramps, Pacific Gas and Electric (PG&E), San Francisco, CA. QA/QC Manager. Mr. Fussel is responsible for quality control of land surveying services in support of PG&E's Land Management Department, on an as-needed basis. PG&E contracted Tetra Tech to perform Survey and Civil Design Services on curb access ramps in San Francisco. This work order was to support the ongoing work that PG&E is undertaking in the City of San Francisco where they intend to repair and replace all the existing medium pressure natural gas infrastructure. The City of San Francisco has a master plan of all American with Disabilities Act (ADA) intersection ramp improvements, and has required that PG&E upgrade the intersections that are affected by the natural gas line construction work to insure they are ADA compliant. In support of this effort, Tetra Tech has performed right-of-way research, monument research, topographic survey and construction survey for more than 2,000 at 300 intersections in San Francisco. In addition, Tetra Tech also prepared civil site design improvement drawings for the purpose of obtaining ADA ramp construction encroachment permits with the City of San Francisco.

Merced Avenue Greenway Project, Council for Watershed Health for City of South El Monte, CA. Project Manager. Mr. Fussel was responsible for overseeing planning and design services for a stormwater retrofit project along the Merced Avenue corridor. The scope of services included assessing existing conditions, consulting with agencies on regulations for planning and design, evaluating pre-design monitoring data and analyzing urban heat island mitigation strategies, providing a preliminary design report, presenting at community design workshops and meetings in collaboration with various stakeholders to create designs for the retrofit.

Steve Tedesco, PE, BCEE

QA/QC

41 Years of Experience
BS Civil Engineering, Polytechnic Institute of New York
PE California Professional Engineer, No. 39261
BCEE Board Certified Environmental Engineer California, No. 11-20037

Mr. Tedesco is experienced in the planning, analysis, design, and construction of water supply, water treatment, water distribution, and collection systems. His background includes water master planning, water treatment plant design, construction management, and design-build delivery methods. He has extensive design experience in the advanced water and wastewater field, including desalination, membrane filtration, reverse osmosis, nanofiltration, ultraviolet treatment, and waste disposal projects. He has led membrane system design teams and managed complete design and construction of membrane desalination and membrane filtration plants. Mr. Tedesco has authored several master plans and infrastructure planning studies for sewer, water, and reclaimed water programs.

RELEVANT PROJECTS

Design-Build of Well 21 and 22 and Reverse Osmosis Treatment Plant, Irvine Ranch Water District, Irvine, CA. Design Manager. Served as Design Manager for the Wells 21 and 22 Reverse Osmosis Treatment Plant providing overall design management and client coordination for a brackish groundwater treatment facility. The water treatment plant consisted of: cartridge filters, pretreatment chemical systems, high pressure feed pumps, reverse osmosis treatment trains, membrane clean-in-place system, decarbonators, post treatment chemical systems, concentrate disposable system, supervisory control and data acquisition, clearwell, product water pump station, plant discharge system to storm drain, treatment plant building, auxiliary building structures, and electrical and instrumentation. The Reverse Osmosis Treatment Plant is sized to produce 6.27 MGD of product water. Water will be treated to remove salts (total dissolved solids [TDS]) and nitrates. The project included design of plans, specifications, and engineer's cost estimate.

The Huntington Beach Seawater Desalination Project, Poseidon Water, Huntington Beach, CA. Project Manager. Project Manager for preliminary design (30 percent) for the largest seawater desalination facility planned for the United States. This facility will produce 50 MGD of potable drinking water to serve communities in Orange County, California. Co-located within the existing Huntington Beach Generating Station, the Desalination Plant takes water from the existing power plant and discharges brine to the power plant's existing ocean outfall pipe. The project includes two off-site pumping stations and a large diameter transmission pipeline through busy Orange County streets.

Shady Canyon Pipelines, Irvine Ranch Water District, Irvine, CA. Project Director. Project Director for the design and construction support services for about 25,000 linear feet of 12- to 24-inch potable and recycled water transmission mains as part of the Shady Canyon Development.

Springdale Reservoir, City of Huntington Beach, Huntington Beach, CA. Project Director. Project Director for this project which included a new 9.0 MG concrete partially buried, conventionally reinforced hopper bottom reservoir with a wood roof, site improvements, pump station modification, and minor modifications to the existing adjacent Peck Reservoir.

The La Salina Wastewater Treatment Plant, City of Oceanside, CA. Project Director. Project Director for preliminary and final design. The La Salina Wastewater Treatment Plant (LSWWTP), originally constructed in 1948, has been expanded and rehabilitated over the years. LSWWTP serves as the connection point for multiple regional discharge pipelines including treated effluent from Fallbrook, Camp Pendleton, and the San Luis Rey Water Reclamation Facility (SLRWRF). This project consists of demolishing the LSWWTP and replacing it with a new 5.0 MGD raw wastewater lift station to convey wastewater from the LSWWTP collection area to San Luis Rey Water Reclamation Facility. The scope of work also includes the relocation of an existing 1.0 MGD ultraviolet storm water treatment facility and preliminary design of a new 24-inch HDPE force main to convey the raw wastewater to the SLRWRF.

Well #1 PFAS WTP, City of Bell Gardens, CA. Principal-in-Charge. This project involved the final design for providing PFAS treatment at the City of Bell Gardens Well #1. The plant was designed to treat flow from one well with a total capacity of 2.9 MGD. The treatment processes included 5-micron cartridge filters, ion exchange pressure vessel contactors, and new chemical feed facilities for sodium hypochlorite.

On-Call Engineering Services for PFAS Treatment Systems Design, Orange County Water District, Orange County, CA. Project Manager. Tetra Tech was selected by OCWD to design the first three PFAS projects (six affected wells) as part of their program to construct treatment facilities for 66 affected wells in Orange County. Projects included:

- Serrano Water District Well #5 and #9 (Completed Design)
- Kimberly Well 1A (Completed Design)
- Yorba Linda Water District Headquarters Plant (Completed Design)
- Fullerton Main Water Treatment Plant (Completed Design)

Ken Berard, PE

WATER/SEWER/STORMWATER ENGINEERING LEAD

39 Years of Experience
BS Civil Engineering, California State Polytechnic University, Pomona
PE California Professional Engineer, No. 45499

Mr. Berard has extensive experience in many facets of water/wastewater engineering. He has performed numerous studies ranging from complete water master plans to efficiency studies. His design experience includes preparing bid documents for sewers, reservoirs, pump stations, wells, pipelines, chlorination facilities, and pressure reducing facilities. Ken also has extensive experience in hydraulic modeling and is familiar with numerous software packages in addition to open channel flow software.

RELEVANT PROJECTS

RWQCP Levee Rehabilitation, City of Riverside, Riverside, CA. Project Engineer. The Regional Water Quality Control Plant is adjacent to the Santa Ana River and is subject to potential flooding from the river. The project strengthened the levee along the Plant boundary for over 1000'. A bike lane was included on the top of the levee. The levee improvements also required relocation of an 8-inch recycled water line and miscellaneous other infrastructure such as lighting.

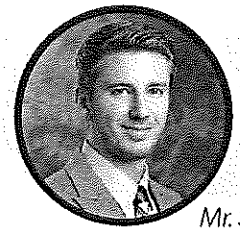
20 MG Memorial Park Underground Reservoir and Booster Pump Station, City of Santa Monica. Santa Monica. CA. Project Manager. Project manager for a feasibility study, predesign report, and final design for their recycled water system. The study focused on the development and selection of viable alternatives that would provide the required storage and pumping while causing the least impact to Memorial Park. The feasibility study recommended that the reservoir be constructed entirely below grade, underneath the existing tennis courts. The pump station would be located under the existing parking lot with the only impact being a loss of a couple of parking lot trees. During the development of the Preliminary Design Report, a location for the pump station adjacent to the park became available and allowed for above ground construction in order to reduce project costs. The PDR addressed items such as environmental documentation, facility configuration and layouts, construction grading/shoring, and construction staging areas as well as construction costs and schedule.

City of Santa Monica Equipping of Three Wells, Santa Monica, CA. Project Manager. Tetra Tech is providing preliminary and final design, permitting, bidding, and construction services for three municipal drinking water wells, ranging from 300 to 800 gpm. This project consists of two potable water extraction wells and one water injection/extraction well. All three wells are located within the large, grassy median of Olympic Boulevard at separate sites in the city of Santa Monica. The wells are located thousands of feet apart, and each well site is configured to contribute to the aesthetics and function of the area. Tetra Tech's design left adequate room within the median for public access past the well sites without getting too close to traffic. We addressed project security and aesthetics by including a wall around the site, which was designed with the assistance of a local artist to emulate the water aquifer, sedimentary materials, and water wells and provide security, improved aesthetics, and public awareness for the City's water supply.

I-5 Water Main Relocation Carmenita Road Segment, Santa Fe Springs, CA. Project Manager for design, construction management, and construction inspection services for relocation of approximately 13,500 linear feet of 12-inch and 16-inch water main. This project was required due to the widening of the I-5 Freeway and the impacts on frontage streets and ramps. The project included three bore and jacks for construction under the I-5 Freeway, under Carmenita Road, and under the railroad. Many issues made this project very complex including hydrocarbon contaminated soils, other simultaneous construction, congested utilities, moving existing streets in various phases of construction, and heavy truck traffic on Carmenita Road.

Trenchless Sewer System Repairs, City of Norwalk, Norwalk, CA. Project Manager for the design of the repair for 12 sewer segments totaling 5,800 linear feet of 8-inch pipe. Preliminary Design Report evaluated traditional cut and cover replacement, pipe bursting, slip lining, cured-in-place pipe, cut and cover spot repairs, mechanical spot repairs, and cured-in-place spot repairs. Design was completed for cured-in-place pipe, cut and cover spot repairs, and mechanical spot repairs. Projects were located in areas varying from a highly congested State Highway to residential easements with sheds, walls, and other superstructure encroaching the easements.

Central Water Integration Project (CWIP), San Antonio Water System, TX. Project Engineer. Project consists of treatment facilities, conveyance pipelines, and improvements to existing pump stations and distribution facilities to integrate a new 48.0 MGD potable water supply source into the utility's potable water distribution system. The supply source for this project consisted of a $900 million P3 water supply project that will import groundwater from a wellfield that is 140 miles from the City of San Antonio. The designed treatment facilities include pressurized solution injection of carbon dioxide for pH adjustment, lime storage and batch slaking, lime saturators (solids contactors) for calcium remineralization, dual media pressure filters, a sodium hypochlorite on-site generation system, fluoride storage and feed, backwash recovery, filtered solids and lime sludge gravity thickener, sludge handling and dewatering using centrifuges, and associated polymer storage and feed systems.



Justin Smith, PE, QSD

GENERAL CIVIL ENGINEERING LEAD

12 Years of Experience
BS Civil Engineering, University of California, Irvine
PE California Professional Engineer, No. 85736

Mr. Smith brings extensive knowledge in civil engineering from his involvement in a variety of municipal projects of varying size and funding. His design experience includes parking lot and roadway geometrics, pedestrian accessibility improvements, bike trails, parks, construction and post-construction stormwater BMPs, storm drain improvements including hydrologic and hydraulic design, overall utility plans, structural design, and grading activities varying from mass grading to final precise grading plans. His additional experience includes cost estimating, preparing specifications, providing construction/post-construction support, performing utility research, and coordinating with the project team and outside agencies.

RELEVANT PROJECTS

Bristol-Tolliver Street Urban Greening Project, City of Santa Ana, CA. Project Manager and Civil Design Lead. The Bristol Tolliver Street Urban Greening Project involved the construction of a new public park on a vacant lot at the corner of Bristol and Tolliver Streets in Santa Ana. The project included landscaping, a skate park, basketball court, fitness equipment, children's play areas, shade structures, pathways, signage, lighting, benches, picnic tables, and stormwater management features. A storm drain system was designed to capture, store, and reuse stormwater for irrigation, supplemented by potable water when needed.

Golden Valley Road Bike Trail Connection, City of Santa Clarita, CA. Project Designer. Responsible for the preparation of plans, specifications, and estimates (PS&E), and survey services. The City of Santa Clarita's goal is to complete a connection between the existing bike path along Golden Valley Road and the bike path ramp at the Santa Clara River Bridge. This project will give cyclists traveling to and from Soledad Canyon Road access to the Golden Valley Road Bridge, allowing them to cross the Santa Clara River and connecting them to the existing bike trail network.

CSULB Lot 7 Parking Area Renovations, Lehrer Architects LA, California State University Long Beach, Long Beach, CA. Project Designer. Responsible for assisting in the preparation of demolition plans, precise grading plans, existing utility plans, water line plan and profile plans, storm drain plan and profile plans, retaining wall plans, and Best Management Practices (BMPs) designs to meet Low Impact Development (LID) requirements for the parking lot reconstruction. The University developed a conceptual plan showing the reconfiguration and reconstruction of Parking Lot 7 to increase the total number of spots, improve circulation, and create an enhanced entrance to the southeast portion of the campus. Tetra Tech was contracted by Lehrer Architects LA to provide final construction plans including demolition, precise grading, storm drain improvement plans, water line improvement plans, retaining walls plans, preparation of hydrology, hydraulic, and LID calculations for the site drainage, curb, gutter, ramp, and sidewalk designs.

Naples Sea Wall Phase 1 Replacement, City of Long Beach, Long Beach, CA. Design Engineer. Responsible for assisting in the preparation of the civil pathway and drainage system improvement plans, along with the supporting hydrology and hydraulics studies for the installation of the new proposed storm drain system. The existing sea walls were constructed in the 1930s and modified throughout the decades to strengthen and raise the height of the walls. The sea walls were at the end of their design life and in need of replacement. Project tasks included the complete design of the canal pathway, associated landscaping, and other pathway improvements. Tetra Tech was responsible for the structural design of the sea walls in addition to the civil design of the pathway reconstruction.

Second Street Bridge at Warm Creek, City of San Bernardino, CA. Project Engineer. Responsible for assisting in performing the field survey, preparing the civil roadway plans, and preparing the Hydrology and Hydraulics Report for the project. The City of San Bernardino contracted Tetra Tech for the design of the replacement of the Second Street Bridge, built in 1952 and widened in 1965, over Warm Creek between Arrowhead Avenue and Mt View Avenue in the City of San Bernardino. The Second Street Bridge is founded on timber piles that have been driven into the earth, and extend approximately 10 feet below the natural invert of the Creek. The Creek is a well-defined, unimproved, natural channel between the outlet of Town Creek Tunnel and the Second Street Bridge. In August 2006, a Bridge Inspection Report (BIP) was prepared by Caltrans for the Second Street Bridge. The BIP assigned the bridge a sufficiency rating of 48 and it was flagged structurally deficient with a health index of 51.3. The City of San Bernardino initiated a field review of the bridge, which was performed in June 2010 to identify and document deterioration and/or damage to the existing bridge structure. Through the design, Tetra Tech improved the longevity of the bridge, reduce maintenance, improve seismic performance, and bring the design into compliance with AASHTO standards. The purposed bridge replacement was designed to conform to the alignment, profile, and cross section of the existing bridge, except that the sidewalks would be six feet wide and bridge barrier railings conforming to AASHTO standards would be included. The project tasks include: PS&E, bridge type selection report, utility research and coordination, surveying and mapping, geotechnical/foundation reports, pavement design reports, hydrology and hydraulics study reports, scour analysis, cultural resources, and noise assessment. In addition, the project requires environmental documents, including: biologic services, plant/wildlife surveys, environmental studies/assessment, jurisdictional delineation, and permit processing.

Rafael Holcombe, PE, QSD

OCEAN ENGINEERING LEAD

24 Years of Experience
BS Civil Engineering, Ohio State University
PE California Professional Engineer, No.C67956

Mr. Holcombe is a project manager with experience in design, engineering analysis, preparation of construction documents, and construction administration of multi-disciplinary waterfront developments, including dredging, marinas, revetments, wave attenuators, piers, retaining walls, parks, and special projects. He is also responsible for compliance with all environmental concerns including endangered species monitoring, turbidity monitoring, and contaminated materials remediation. Rafael has extensive experience dredging plans and specifications, hydrographic and land surveys, equipment positioning, quantity computations, scheduling, production analysis, production reporting, subcontract management, and quality control.

RELEVANT PROJECTS

Queen's Gate Deepening Project, Port of Long Beach, CA. Project Engineer. Provided construction management and engineering support for dredging operations of a hopper dredge deening project to -53 mllw. Responsible for hydrographic surveying, endangered species monitoring and water quality sampling at the dig and disposal sites. Partnered in a joint venture with a major scientific firm to implement the Palos Verde Contaminated Sediments Capping Project.

Cerritos Bahia Marina Dredging Project, Long Beach, CA. Project Engineer. Developed plans, specifications and cost estimate for dredging the existing marina. Performed topographic and bathymetric surveys to develop the site plan. Completed permits for the Army Corps of Engineers, California Coastal Commission, and the State Water Resources Control Board. The project utilized a proprietary technology to de-water the dredge material prior to disposal. Disposal of material was beneficial reuse as daily cover at a local landfill.

Castaic Lake Dredging and Debris Removal, Los Angeles, CA. Project Engineer. Project engineer for an emergency dredging operation at the Castaic Lake Power Generation Plant for the Los Angeles Department of Water and Power (LWDWP). The project involved specialized dredging techniques to dredge the face of the power plant. 100 foot water depth and limited access were key obstacles in removing sediment and debris from the penstocks.

Catalina Cruises Terminal and South Shore Launch Ramp Dredging Project, Long Beach, CA. Project Manager. Project Manager responsible for preparing plans, specifications and permits in a condensed time frame for emergency dredging of the Catalina Cruise Terminal Basin. This included a bathymetric survey, volume computations, sediment sampling and analysis. The topographic survey served as the baseline for the plans and volume computations. The project is located in an urban setting and required the use of an electric dredge and sediment separation equipment. The sediment to be dredged in this project is to be separated into fine grained sediment for upland disposal and course grained sediment for beach disposal.

Port of Los Angeles Berths 171 – 173 Environmental Site Remediation Project, Los Angeles, CA. Project Engineer. Prepared plans and specifications for the cleanup of a former petroleum storage and handling facility with petroleum hydrocarbon impacted soils. Project includes thermal treatment of hydrocarbon impacted soils at an off-site facility and disposal of lead impacted soils. Excavation trenches will be left open and skimming equipment will be used to remove hydrocarbon sheen on the water prior to backfilling.

Poche Beach Wave Run-up Study, San Clemente, CA. Project Engineer. Mr. Holcombe assisted in the preparation of a Wave Run-up Study to be used in a Storm Water Treatment Project design. Mr. Holcombe conducted hydrographic survey to supplement the land survey data and a numerical model to estimate the probable wave run up height at the project site.

Lido Peninsula Bulkhead Replacement Project, Newport Beach, CA. Project Engineer. Mr. Holcombe Provided construction management and engineering support for the replacement of 300 feet of steel sheet pile retaining wall. He developed design change recommendations during construction to account for differing field conditions. He prepared out of scope work plans and obtained permitting. Mr. Holcombe provided project engineering services during construction that included design changes, response to RFI's and contractor submittals and structural inspection.

5th Place, 7th Place and 12th Place Bluff Erosion Control Projects, Long Beach, CA. Project Engineer. Developed plans, technical specifications, cost estimates and engineering for bluff erosion control projects at 5th Place, 7th Place and 12th Place that included retaining walls, grading, street/curb/gutter, railing and landscaping. Performed a topographic survey and geotechnical investigation to support plan development. Conducted community meetings with surrounding community to gain public support and input. Supported the client during the public bid process. Acted as Engineer of Record throughout the project. Responded to requests for information and reviewed construction submittals.

Craig Ziel, PE, QSD/P

GENERAL CIVIL ENGINEER

19 Years of Experience
BS BioResource & Agricultural Engineering, Cal Poly, San Luis Obispo
PE California Professional Engineer, No.74743
Qualified SWPPP Developer (QSD/Practitioner)

Mr. Ziel's experience involves the planning, analysis, and design for residential, commercial, and municipal development projects, including the design and preparation of construction documents for sewer, water, and storm drains, and improvement plans for the geometric design of roads, highways, bike paths, and parking areas. He also has experience preparing grading and drainage plans for roads, mass grading, finish grading, and grading for LID projects. Craig has implemented State Water Board requirements for preventing and mitigating stormwater pollutants, including preparing traditional and linear SWPPPs to eliminate pollutant discharges during construction. He prepares WQMPs for development and redevelopment projects and incorporates his knowledge of hydraulic/hydrologic analysis and Low Impact Design Best Management Practices to mitigate post-development impacts to the environment.

RELEVANT PROJECTS

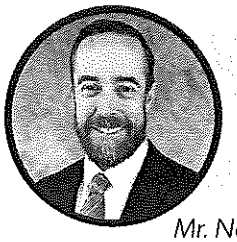
Sand Canyon Trail Phases IV - VI, Alta Planning + Design for the City of Santa Clarita, Santa Clarita, CA. Project Engineer. Mr. Ziel was responsible for preparing planning and construction documents for project which consisted of the installation of a multi-use trail along Sand Canyon Road in the City of Santa Clarita. The proposed trail is approximately 1.6 miles in length, and is separated from motor vehicular traffic by fencing, providing a safe route for pedestrian and equestrian use. Tetra Tech worked with Alta Planning + Design to provide the City of Santa Clarita design, plans and engineer's estimates for Phases IV through VI of the project, which was a continuation of the completed Phase III trail. The project scope included preliminary conceptual trail design, preliminary environmental analysis, right-of-way mapping, civil engineering, bridge design, specifications, and construction cost estimates.

DTLA Arts District Pedestrian and Cyclist Safety Active Transportation Project (ATP 3), City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Project Engineer. Mr. Ziel is providing pre-design and preparation of plans, specifications and estimates for this active transportation project, funded by a CalTrans ATP grant. The project area is characterized by a complex street system of very long blocks with few safe crossing locations, complicated intersections, and very limited bike facilities that create mobility challenges for residents, workers and visitors to the district. The project improvements will provide pedestrian and cyclist improvements including new cycle tracks, bike lanes, bike routes, new and widened sidewalks with curb extensions, new traffic-controlled intersections, a new shared street connecting to the new Sixth Street Viaduct Arts Plaza, as well as green street elements. The goal of this Caltrans Local Assistance Program funded project is to increase the mobility and safety for non-motorized users to achieve the regional agency's greenhouse gas reduction goals, and aid in the enhancement of the public's health.

Shell Beach Road Streetscape Phase I Project, City of Pismo Beach, Pismo Beach, CA. Project Engineer. Responsible for preparing utility and site layout exhibits for the design of a "total street" reconstruction of 18 blocks of Shell Beach Road in the City of Pismo Beach. The project entails incorporating a new Class 1 bikeway along an existing Caltrans right-of-way (Highway 101). In addition, the project aims to replace aging utilities, including: a new 12-inch water line, new 12-inch reclaimed water line, undergrounding power and communication lines, and new storm drain improvements. The project will incorporate new way-finding and streetscape enhancements including pavement enhancements at crosswalks and intersections, full ADA compliance, street furniture and landscape improvements (incorporating Low Impact Development techniques).

TOS 33 67th Street and West Boulevard Civil Improvements, City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Project Engineer. Responsible for the design and production of improvement plans, calculations, and estimates. Tetra Tech is providing pre-design and detailed design services for this street improvement project. The project entails street improvements for approximately six city blocks, along 67th Street from 11th Avenue to West Boulevard, and along West Boulevard from 67th Street to 71st Street. Project elements include sidewalk improvements, curb ramp upgrades, driveway approach reconstructions, roadway resurfacing, tree pruning, and curb and gutter reconstruction. Tetra Tech is providing pre-design and design services, including 100% PS&Es, survey services, public outreach/stakeholder engagement, and environmental documentation (CEQA).

San Luis Obispo Stormwater Plan Check, County of San Luis Obispo, CA. Project Manager. Project Manager responsible for overseeing on-call plan check services for projects required to meet post construction requirements as set forth in the Central Coast Regional Water Quality Control Board (RWQCB) order R3-2013-0032. Mr. Ziel managed the review services contract and provided final QA/QC to reviews performed by Tetra Tech. Additionally, Mr. Ziel met with County staff and third-party engineers to discuss review findings and recommendations for achieving PCR compliance. On-call services provided under this contract included the review of Storm Water Management Plans (SWMP), audit of existing County SWMP documents, and in-field inspections of installed storm water Best Management Practices (BMPs).



Devin Newton, PE

GENERAL CIVIL ENGINEER

24 Years of Experience
BS Engineering, Cal Poly University, San Luis Obispo
PE California Professional Civil Engineer, No. 72952

Mr. Newton is highly skilled in infrastructure design and is able to provide timely, cost-effective design solutions for his clients. His civil engineering experience totals more than two decades focused on public works projects throughout California, with a focus on roadway, sidewalk, and curb ramp improvements. He serves in increasingly significant roles providing project management, coordination, and detailed design on small and large scale multidisciplinary projects. Devin has a proven track record of managing capital improvement projects on time and within budget, with a high degree of client satisfaction.

RELEVANT PROJECTS

StreetsLA Sidewalk Repair Program, City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Project Manager overseeing surveying and engineering services in support of the City of Los Angeles's Sidewalk Repair Program (SRP). Services include survey and design for the reconstruction of inaccessible and damaged pedestrian facilities throughout the City's public right-of-way to ensure ADA compliance pursuant to the City's obligations under the Willits Settlement Agreement. Along with addressing accessibility of sidewalks, the SRP also addresses related elements such as curb ramps, street trees, utilities, driveways, curb and gutter, roadway transitions, and crosswalks.

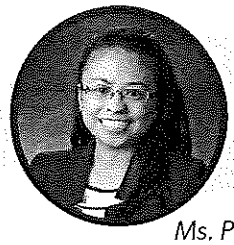
67th Street and West Boulevard Civil Improvements, City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Project Manager overseeing pre-design and detailed design services for this street improvement project. The project entails street improvements for approximately six city blocks, along 67th Street from 11th Avenue to West Boulevard, and along West Boulevard from 67th Street to 71st Street. Project elements include sidewalk improvements, curb ramp upgrades, driveway approach reconstructions, roadway resurfacing, tree pruning, and curb and gutter reconstruction. Tetra Tech is providing pre-design and design services, including 100% PS&Es, survey services, public outreach/stakeholder engagement, and environmental documentation (CEQA).

StreetsLA Ramp Design, City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Project Manager overseeing survey and engineering design services in support of StreetsLA's Pavement Preservation Program which maintains a street network of 23,000 lane miles and keeps all improved streets and related throughways in good to excellent condition. Tetra Tech's scope of services includes topographic survey, engineering design, design support during construction, and construction management services for various access ramps throughout the City, in compliance with the Americans with Disabilities Act (ADA).

Templeton to Atascadero Connector, County of San Luis Obispo, Templeton, CA. Project Manager. Mr. Newton is responsible for overseeing design services during construction for a multi-use pathway including completing the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) processes, right-of-way acquisition, permits, construction documents and grant administration. The ultimate goal of the pathway network is to provide connectivity between Templeton and Atascadero, facilitating safe and attractive transportation between these two towns and encouraging alternative transportation modes.

Boyle Heights Pedestrian Linkages Active Transportation Project (ATP 2), City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Project Manager and Engineer of Record. Mr. Newton is responsible for overseeing the project design and preparation of final plans, specifications and estimates for this active transportation project, funded by a CalTrans ATP grant, aims to improve pedestrian safety. The project focuses on pedestrian transportation improvements which includes sidewalk enhancements, ADA ramps, new and enhanced crosswalks, and safety features that include curb pedestrian signals and new pedestrian lighting along all new/improved walkways. The project will provide nearly 4,000 linear feet of new, replaced, and reconstructed sidewalk. The sidewalk improvements will include new and reconstructed ADA ramps and crosswalks, providing connectivity to various key community features and adjacent neighboring locations. Vehicle traffic calming improvements will consist of installing a new traffic signal at the intersection of 4th Street and Clarence Street.

Camp Roberts Perimeter Road, California Army National Guard, San Miguel, CA. Project Manager. Mr. Newton is responsible for overseeing engineering services for upgrades to approximately 17.1 miles of roadway along the East and West Perimeter Range Roads at Camp Roberts. The goal of the project was to bring the roadways up to modern asphalt standards, provide a safe, reliable, and usable environment for soldier training and improve operability and maintainability of roadways. Tetra Tech was responsible for conducting a pavement condition assessment, topographic survey services (traditional ground and mobile LiDAR), and preparing conceptual and detailed design plans, specifications, and calculations to allow the Government to assemble a bid package for repair of the perimeter range roads. Tetra Tech also provided construction support services.



Elva Pangilinan, PE, CDT, ENV SP

GENERAL CIVIL ENGINEERING

17 Years of Experience
BS Engineering, Cal Poly University, San Luis Obispo
PE California Professional Engineer, No. 81113
Construction Documents Technology (CDT) Certified
Envision™ Sustainability Professional

Ms. Pangilinan has experience in designing and preparing improvement plans, specifications, and estimates for both municipal and federal projects. She has extensive knowledge in BMP and LID implementation through her involvement in various stormwater capture projects throughout Southern California. Additionally, Elva's experience includes design and construction support of various street improvement projects, including design of bikeway and pedestrian improvements, right-of-way improvements, ADA compliant facilities, underground utilities, grading design, erosion control, and green street infrastructure projects. Elva is a Construction Documents Technology (CDT) Certified Professional, as well as a certified EnvisionTM Sustainability Professional.

RELEVANT PROJECTS

Santa Monica Clean Beaches Project for Pier and Pico-Kenter Watersheds, City of Santa Monica, Santa Monica, CA. Civil Engineer responsible for the design of the site improvements, diversion structure, pretreatment, underground storage reservoirs, and piping systems. The objective of the project is to improve Santa Monica beach water quality by increasing the diversion capacity at the Santa Monica Pier and Pico-Kenter storm drain outfalls. The 85th percentile storm event volume would be treated and diverted from the Pier watershed to the Santa Monica Urban Runoff Recycling Facility or the sanitary sewer. The project proposes storm drain diversion and runoff storage systems at two separate storm drain outfalls.

Stormwater Capture Parks Program, City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Project Engineer/ Assistant Project Manager. Currently leading the preparation of PS&Es for four stormwater capture projects as part of the second largest stormwater program undertaken in the state's history. The Program will capture up to 2,912 acre-feet of stormwater and urban runoff per year from a 5,686-acre drainage area and divert runoff into subterranean infiltration galleries, or other stormwater capture and infiltration infrastructures located under the City's parks, for infiltration into the underlying San Fernando Groundwater Basin. The goal of the Program is to alleviate local flooding, increase water supplies through stormwater capture, improve water quality, and provide recreational, social, and economic benefits.

StreetsLA Ramp Design Program, City of Los Angeles, Bureau of Street Services, Los Angeles, CA. Civil Engineer responsible for performing internal review of designs as well as completing the specifications for the bridging documents. Tetra Tech is providing survey and engineering design services in support of StreetsLA's Pavement Preservation Program which maintains a street network of 23,000 lane miles and keeps all improved streets and related throughways in good to excellent condition. Tetra Tech's scope of services includes topographic survey, engineering design, design support during construction, and construction management services for various access ramps throughout the City, in compliance with the Americans with Disabilities Act.

67th Street and West Boulevard Civil Improvements, City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Civil Engineer responsible for drainage study and design of street improvements. Tetra Tech is providing pre-design and detailed design services for this street improvement project. The project entails street improvements for approximately six city blocks. Project elements include sidewalk improvements, curb ramp upgrades, driveway approach reconstructions, roadway resurfacing, tree pruning, and curb and gutter reconstruction. Tetra Tech is providing pre-design and design services, including 100% PS&Es, survey services, public outreach/stakeholder engagement, and environmental documentation (CEQA).

Culver Boulevard Realignment, City of Culver City, Culver City, CA. Design Engineer. Prepared specifications and bid documents for realignment of Culver Boulevard which included a 58-foot-wide raised landscape median with buffered bicycle and pedestrian paths. Street improvements included the reconfiguration of existing traffic lanes, new and reconstructed landscape medians, traffic signal additions and modifications, bus stops, signal interconnects, new lighting, utility adjustments, relocation of existing catch basins, and design of a parking lane with innovative buffer treatment to separate it from the eastbound high-speed travel lanes. Tetra Tech also led a series of outreach meetings with the Community Advisory Committee and the residents to obtain input and consensus in the design process.

Shell Beach Road Streetscape, City of Pismo Beach, Pismo Beach, CA. Project Engineer responsible for the preparation of final PS&Es for reconstruction of 18 blocks of Shell Beach Road. Specific tasks included performing a study to determine optimal areas for LID improvements, grading study at crosswalks and intersections to achieve ADA compliance, vehicle turning study, and a study to maintain clear sight lines. The project incorporated new wayfinding and streetscape enhancements including pavement enhancements at crosswalks and intersections, full ADA compliance, street furniture and landscape improvements. The project also replaced aging utilities, including a new 12-inch water line, new 12-inch reclaimed water line, undergrounding power and communication lines, and new storm drain improvements.

Molly Lovegren, PE

WATER/SEWER/ STORMWATER ENGINEERING

19 Years of Experience
BS Civil & Environmental Engineering, University of California, Los Angeles
PE California Professional Engineer, No. 73957

For 19 years, Ms. Lovegren has provided design engineering in various water and wastewater projects, including domestic and reclaimed water pipelines, water main replacements, gravity sewer mains, pump stations, lift stations, reinforced concrete reservoirs, flow control facilities, and pressure reducing valve vaults. She is responsible for preparing construction plans and specifications, performing design calculations, and creating project memorandums.

RELEVANT PROJECTS

Newport Boulevard Water Main Rehabilitation, City of Newport Beach, CA. Design Engineer. Provided engineering support for the replacement and rehabilitation of the existing 20- to 16-inch cast iron pipeline constructed in the mid-1920s. The pipeline is vital as it provides water and fire flow protection to the businesses and residents in the Newport Bay and Peninsula area.

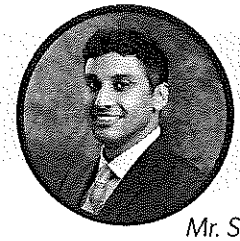
The La Salina Wastewater Treatment Plant, City of Oceanside, CA. Project Engineer. This project consisted of demolishing the plant and replacing it with a new 5 MGD sewer lift station to convey wastewater from the collection area to the San Luis Rey Reclamation Facility, benefiting future reclaimed water treatment expansion and indirect or direct potable reuse. Tetra Tech prepared a preliminary design report that included evaluation of several site plan layouts, evaluation of several alternative force main discharge alignments, geotechnical investigation, EIR preparation, 30 percent discharge force main design plans, and final design plans for the new lift station. The new lift station will be equipped with a load equalization tank to accommodate peak flows, a two-hour emergency standby tank, a standby generator, and odor control facilities. In addition, the project will demolish, redesign, and reconstruct an existing 1 MGD dry weather flow stormwater treatment facility that conveys dry weather flows from Loma Alta Creek.

Design-Build of Well No. 21 and Well No. 22 and Reverse Osmosis Treatment Plant, Irvine Ranch Water District, Irvine, CA. Design Engineer. Wells No. 21 and No. 22 Reverse Osmosis Treatment Plant was constructed to provide a new potable water source. The work consisted of providing all design-build services required to design and construct a fully operational reverse osmosis water treatment plant including, but not limited to cartridge filters, pretreatment chemical systems, high pressure feed pumps, reverse osmosis treatment trains, membrane clean-in-place system, decarbonators, post treatment chemical systems, concentrate disposable system and pipeline, supervisory control and data acquisition, 120,000 gallon clearwell, product water pump station, plant discharge system to storm drain, treatment plant building, auxiliary building structures, and electrical and instrumentation. The Reverse Osmosis Treatment Plant is sized to produce 6.27 mgd of product water. Water will be treated to remove salts (TDS) and nitrates. The project included design of plans, specifications, and engineer's cost estimate.

Warner Industrial Park Sewer Replacement, City of Santa Ana, CA. Design Engineer. Responsible for the design and construction support of a sewer and water pipeline replacement and upgrade project. The project entailed construction of approximately 8,200 feet of 8-inch water main, approximately 7,200 feet of 8- to 15-inch sewer pipe, a double barrel HDPE siphon, 28 manholes, and 61 lateral connections. The scope also included performing flow monitoring analysis and condition assessment to determine the best pipe sizing and developing specs for sewer bypass pumping during construction. Key to successful completion of this project was adhering to the schedule throughout the project duration in order for the City's street paving project to remain on schedule as well.

North Hollywood Operable Unit Permanent Intertie Pipeline Design Services, Lockheed Martin, Los Angeles County, CA. Project Engineer. Part of a larger plan that expands the amount of groundwater extracted and treated from the San Fernando Valley Basin, which is an important source of drinking water for the Los Angeles metropolitan area. Upon completion, the proposed 18-inch intertie pipeline will meet potable water delivery requirements of 4,670 acre-feet per year while operating at a flow velocity of less than seven feet per second (FPS) and will have an average working flow rate of 3,500 GPM and maximum rate of 5,500 GPM. The pipeline will connect an existing 20-inch BWP water main to a 16-inch buried vertical riser (intertie) connected to a 78-inch LADWP water main RSC currently being constructed approximately 25 feet below grade.

Carlsbad Seawater Desalination Conveyance Pipeline, Conveyance Pipeline Design-Build Project, KSD Joint Venture, Carlsbad, CA. Design Engineer. Mr. Lovegren oversaw pipeline and manhole rehabilitation for the project to design approximately 10 miles of 54-inch welded steel pipe. The pipeline is being installed in existing city streets and right-of-way through the cities of Carlsbad, Vista, and San Marcos. Large diameter tunnels are being used to cross a major commuter rail line, an Interstate Highway, and protected wetlands at the entrance to a seawater lagoon. The 54-inch transmission main was sized for 54 million gallons per day of desalinated seawater. Pressures range from 250 psi at the point of connection to 500 psi at the seawater desalination plant.



Elias Sebhatu, PE

WATER/SEWER/ STORMWATER ENGINEERING

10 Years of Experience
BS Civil Engineering, California State Polytechnic University, Pomona
PE California Professional Engineer, No. 91276

Mr. Sebhatu has provided design engineering in various water and wastewater projects including domestic water pipelines, water main replacements, gravity sewer mains, gravity force mains, pump stations, lift stations, reinforced concrete reservoirs, steel tank reservoirs, flow control facilities, and pressure reducing valve vaults. Responsibilities have included preparation of construction plans, specifications, and design calculations; assisted supervisors in preparing project memorandums and project schedules; and organized office technical library.

RELEVANT PROJECTS

Newport Boulevard Water Main Rehabilitation, City of Newport Beach, CA. Design Engineer. Provided engineering support for the replacement/rehabilitation of the existing 20/16-inch cast iron pipeline constructed in the mid-1920s within Newport/Balboa Boulevard from the intersection of Via Oporto and Central Avenue to the intersection of Balboa Boulevard and 19th Street. This pipeline is vital as it provides water and fire flow protection to the businesses and residents in the Newport Bay and Peninsula area.

Beacon Hill Pump Station Rehabilitation, Moulton Niguel Water District, City of Laguna Niguel, CA. Project Engineer. Total station rehabilitation including replacement of all mechanical/ electrical components; a diesel engine-driven high-flow pump/standby generator; on-site potable water piping, and site restoration. Evaluated two design options from a conceptual level prior preliminary design. Alternative 1: Replace Beacon Hill with a temporary bypass at either Bear Brand or Golden Lantern RW Pump Station. Recommended Alternative 2: construct a new station at Bear Brand. Scope included project administration, QA/QC, potholing, geotechnical exploration, design survey, preliminary and final design, asset register, permit support, bidding phase services, and construction phase services.

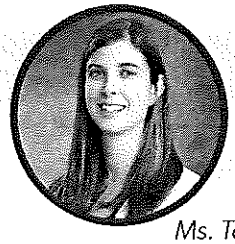
Mid-Basin Injection: Centennial Park Design Services, Orange County Water District, Santa Ana, CA. Design Engineer. Design Engineer responsible for the design of four injection wells to be located within Centennial Park in the City of Santa Ana for Orange County Water District. In addition to the engineering services for the four injection wells, the project includes the design of the supply pipeline, backflush pipeline, bridge crossing, two shared facility sites, a monitoring well site, site improvements, and paving of park access roads and parking lots.

Recycled Water Distribution System Expansion, El Toro Water District, Laguna Woods, CA. Design Engineer. Design Engineer for the design of over 20 miles of recycled water pipelines for the El Toro Water District's - Recycled Water Distribution System Expansion Project. The pipelines range in size from 4-inch to 20-inch in diameter, and convey up to 775 acre-feet of tertiary treated recycled water per year. The major customer being served recycled water is the Laguna Woods Village Home Owners Association (formerly Leisure World).

Peters Canyon Channel Water Capture and Reuse Pipeline, Irvine Ranch Water District, Irvine, CA. Design Engineer. Design Engineer for over 17,000 linear feet of 10-inch to 16-inch steel and PVC pipeline. This was a joint project with the City of Irvine, City of Tustin, County of Orange, and Caltrans. Project included three storm drain diversion structures and intake design, hanging the pipeline from two bridges, bore and jack under the railroad and backpressure vault.

Regional Lift Station Force Main Replacement, Moulton Niguel Water District, Moulton Niguel, CA. Design Engineer. Design Engineer providing engineering services for the replacement of approximately 15,000 linear feet of 20-inch and 24-inch Techite sewer force main with Laguna Niguel Regional Park. Regional Lift Station and Force Mains are critical wastewater facilities that pump flow from MNWD sewer collection system to South Orange County Wastewater Authority Regional Treatment Plant. The replacement force main consists of dual 24-inch pipeline approximately 8,000 feet length and will be constructed with Laguna Niguel Regional Park. Scope of services include preliminary design, final design and construction phase services.

City of Santa Monica Equipping of Three Wells, Santa Monica, CA. Civil Engineer. Tetra Tech is providing preliminary and final design, permitting, bidding, and construction services for three municipal drinking water wells, ranging from 300 to 800 gpm. This project consists of two potable water extraction wells and one water injection/extraction well. All three wells are located within the large, grassy median of Olympic Boulevard at separate sites in the city of Santa Monica. The wells are located thousands of feet apart, and each well site is configured to contribute to the aesthetics and function of the area. Tetra Tech's design left adequate room within the median for public access past the well sites without getting too close to traffic. We addressed project security and aesthetics by including a wall around the site, which was designed with the assistance of a local artist to emulate the water aquifer, sedimentary materials, and water wells and provide security, improved aesthetics, and public awareness for the City's water supply..



Amanda Taylor, PE

WATER/SEWER/ STORMWATER ENGINEERING

16 Years of Experience

MS Environmental Engineering and Science, Johns Hopkins University

BS Biological Systems Engineering, Virginia Polytechnic Institute and State University

PE California Professional Chemical Engineer, No. 6700

Ms. Taylor is a skilled professional with extensive experience in the analysis and process design of municipal and industrial water and wastewater projects. Her expertise spans both traditional and advanced treatment systems, including Title 22 compliance, microfiltration, ultrafiltration, reverse osmosis, and UV treatment. She also has specialized experience in designing adsorptive media processes for trace organic and PFAS removal. Additionally, she is proficient in designing control systems for municipal plants.

RELEVANT PROJECTS

SGU PFAS Treatment Plant, Irvine Ranch Water District, Irvine, CA. Process Engineer. Design and construction support for 12 shallow wells affected by very high VOC levels and PFAS on site of former El Toro Marine Base. Design included GAC treatment and replacement of an air stripper system. City required permitting on pipeline.

PFAS Study for Wells ET-1, ET-2, and 78, Irvine Ranch Water District, Irvine, CA. Lead Process Engineer. Study to determine options to add PFAS treatment to an operating VOC air stripper. Well ET-1 operates at 2.0 MGD through a tray air stripper that discharges into a small wet well with a single booster pump station. Plant is on a small lot with limited space. Provided water quality analysis, options for IX or GAC treatment, and analysis of adding Wells ET-2 and 78 to project if affected by PFAS. Prepared capital and O&M costs.

Pure Water Oceanside Advanced Water Purification Facility, City of Oceanside, CA. Process Engineer. To counteract growing reliance on imported water supply while increasing local water supplies and to meet city's long-term goal of 50% water independence by 2030, designed a new Advanced Water Purification Facility (AWPF). Proposed AWPF provides highly treated water supply to recharge MGB in the upper San Luis Rey recycled water service area through indirect potable reuse as a component of an overall project titled Pure Water Oceanside. AWPF built on a former recycled water storage pond at the San Luis Rey WRF. AWPF process designed as a multi-barrier treatment process including microfiltration, reverse osmosis (RO), and ultraviolet advanced oxidation processes (UVAOP). AWPF also includes chemical storage and feed equipment for conditioning, stabilizing, and membrane cleaning. Influent flow storage, flow diversion, and associated pumping included in facilities design. Provided detailed process design P&IDs and developed detailed process control plant narrative, including direct-coupled UF-RO system which operated without a break tank, chemical systems, feed, and product water pump stations. Provided construction support.

John Garthe Reservoir PFAS Treatment, City of Santa Ana, CA. Process Engineer. Final design for providing PFAS treatment at site supplied by five wells producing up to 13.8 MGD. New centralized treatment plant designed to remove PFAS from well supply line before storage at reservoir. Treatment equipment included 5-micron cartridge filters, ion exchange pressure vessel contactors, and new on-site generation, storage, and feed facilities for sodium hypochlorite. Evaluated well pumps individually and replaced or modified to meet new plant and system demands.

SJVWB-ERRP Phase 1 Well Equipping and Treatment Facilities, Eastern Municipal Water District, San Jacinto, CA. Project Engineer. Design of a new 8.64-MGD centralized treatment plant based on recommendations offered during preliminary design report prepared under a separate task order. Central groundwater treatment plant includes greensand plus pressure filters for iron and manganese removal and disinfection and option to expand to four double-the-flow capacity to iron and manganese removal equipment and triple-the-flow to disinfection system. Design included a backwash reclaim system and bulk sodium hypochlorite storage and dosing facilities.

Well No 1 PFAS WTP, City of Bell Gardens, CA. Process Engineer. Final design to provide PFAS treatment at Well #1. Plant designed to treat flow from one well with a total capacity of 2.9 MGD. Treatment processes included 5-micron cartridge filters, ion exchange pressure vessel contactors, and new chemical feed facilities for sodium hypochlorite.

Hyperion WWTP, Los Angeles Wastewater Integrated Network Systems, Playa Del Rey, CA. Lead Process Engineer. Upgraded DCS controls for LA Bureau of Sanitation wastewater infrastructure. Process included documenting over 60,000 wire terminations and design control strategies of new applications. Directed a team in design of Hyperion WWTP new Honeywell DCS control strategy and field verification of equipment and instrumentation processes and controls at Terminal Island Water Reclamation Plant.

Domestic Water Temporary Treatment System, Metropolitan Water District of Southern California, Los Angeles, CA. Project Engineer. As part of a design-build team, contributed to development of two temporary water treatment systems for district. These systems, essential during demolition of existing infrastructure and construction of a new permanent facility, included components such as a membrane filtration unit, granular activated carbon vessels, booster pump station, sodium hypochlorite feed system, compressed air system, water quality monitoring equipment, and controls. Mobile skid-mounted systems designed to be easily installed and removed with external connections for influent and effluent ensuring required flow rates maintained throughout project.

Russell Boudreau, PE

OCEAN ENGINEERING

34 Years of Experience
BA Applied Mechanics University of California, San Diego
MS Coastal and Ocean Engineering University of California, Berkeley
PE California Professional Engineer, No. 041810

Mr. Boudreau is a principal coastal engineer with over 34 years of relevant experience, serving as both project engineer and project manager on a wide range of projects involving coastal processes, environmental restoration, and shore protection. Mr. Boudreau's experience in these areas ranges from planning and design through permit acquisition, preparation of final design documents and construction management. He brings tested coastal engineering solutions to accelerating coastal erosion and sea level rise. He has served as a project manager and principal for studies and projects that support coastal and waterfront clients seeking planning strategies to manage the threat of sea level rise, including living shoreline projects to protect critical infrastructure including a major coastal highway and wastewater treatment facility. Prior to joining Coastal Frontiers in October 2020, Mr. Boudreau supervised the coastal engineering department at Moffatt & Nichol in Long Beach, California.

RELEVANT PROJECTS

Capistrano Beach Park Shore Protection Study, Capistrano Beach, CA. Project manager and engineer for a project to evaluate shoreline protection alternatives using sand-filled geotextile containers in lieu of stone, as required by the California Coastal Commission Coastal Development Permit. Coastal Frontiers Corporation has developed reliable sand-filled geotextile shore protection based on decades of successful application in Alaska and California.

Sea Level Rise Vulnerability Assessments and Coastal Development Permit Support, Long Beach, CA. Mr. Boudreau has been working closely with the City of Long Beach Tidelands staff to evaluate the vulnerability to and adaptation strategies for accelerating sea level rise for various coastal capital improvement and/or restoration projects including a new public pool/aquatic facility and the rebuild of an existing junior lifeguard building. Planning efforts included including close coordination with the California Coastal Commission staff at the staff level through senior management.

General Plan Update – Sea Level Rise Assessment, Huntington Beach, CA. Mr. Boudreau was lead coastal engineer as part of a planning team tasked with updating the City's General Plan. High priority items included the SLR vulnerability assessment and adaptive management strategies. Threatened infrastructure includes world class beaches and pier, pedestrian and bike access ways, parking lots, Pacific Coast Highway, power plant and others. A key element of the General Plan Update was focused public outreach including establishment of a Sea Level Rise Task Force comprising a broad range of public and private stakeholders. Deliverables included preparation of the Vulnerability Assessment and the Coastal Resiliency Plan. The reports prepared under Mr. Boudreau's guidance acted as "bridge documents" for that effort, and were prepared using the latest guidance from the California Coastal Commission on SLR studies for LCP updates.

Huntington Bluffs Shore Protection Assessment, City of Huntington Beach, CA. Project manager and engineer the investigation of shore protection alternatives for the eroding bluffs on the City shoreline which is resulting in upland land loss including threat to public access and utilities. Mr. Boudreau developed an innovative approach to salvage remnant revetment stone along the shoreline which has no current shore protection value and is considered a negative impact on the public beach. By removing the remnant stone and relocating it landward to the bluff toe and constructing a more engineered revetment would result in arresting future bluff failures and reduce the "footprint" of rock shore protection on the existing beach.

P-224/226 Causeway, Boat Channel, Turning Basin and Ammunition Pier, Naval Weapons Station Seal Beach, Seal Beach, CA. Lead coastal engineer for planning through design of a major naval port infrastructure improvement project. Key project elements included a new relocated and expanded ammunition wharf, construction of a new wharf access causeway, and construction of a new public navigation channel to accommodate the large public vessel fleet which utilized that same ocean entrance location at Anaheim Bay. Coastal engineering studies included vulnerability assessment and adaptation for sea level rise, circulation and water quality modeling, dredging design, environmental mitigation design, and boat traffic studies for the new public navigation channel.

Dana Point Harbor Dredging and Beach Nourishment, Dana Point, CA. Project manager who provided a full range of services for maintenance dredging of Dana Point Harbor for the County of Orange. Project elements included initial planning, coordination of all permits, preparing construction documents, bid assistance and construction support. Identified beach quality dredged material to be placed on the adjacent down-coast beach and the interior harbor swimming beach. Finer-grained material was specified to be disposed offshore at a designated offshore disposal site.

Cardiff Beach Living Shoreline, City of Encinitas. Project engineer for a living shoreline project to protect transportation infrastructure (Coast Highway 101), environmental resources (San Elijo Lagoon), public access and utilities. The project comprises a buried rock revetment, constructed of both salvaged from the beach and imported stone, covered by a planted dune constructed beach/dune quality sediment from the adjacent San Elijo Lagoon restoration project. The project will beneficially re-use dredged sediment from ongoing lagoon maintenance dredging to adaptively manage the dune and fronting beach volumes, which will be critical element of the project under future sea level rise.

Gregory Hearon, PE

OCEAN ENGINEERING

30 Years of Experience
BS Ocean Engineering, Florida Institute of Technology
MS Civil Engineering, Oregon State University
PE California Professional Engineer, No. 60328

Mr. Hearon has extensive experience in the fields of coastal engineering, coastal oceanography, and oceanographic data acquisition. His project involvement includes field data acquisition and analysis, project design, construction advisory, and performance monitoring. He routinely undertakes both office and field studies for projects in temperate and Arctic environments. While serving as the project engineer for the Corps' Coast of California Storm and Tidal Waves Study - Orange County, Mr. Hearon analyzed beach and nearshore survey data encompassing a 32-year period to quantify historical shoreline and volume changes in the Huntington Beach and Seal Beach Littoral Cells. The study included a comprehensive evaluation of beach nourishment operations at Surfside-Sunset and West Newport and the development of a budget of sediment. Mr. Hearon is a member of the American Shore and Beach Preservation Association. He was a co-author for the California Beach Restoration Study. As a certified SCUBA diver, he has performed underwater inspections and deployed oceanographic instrumentation both in California and the Alaskan Arctic. He is a licensed professional engineer in the states of California and Alaska.

RELEVANT PROJECTS

CA Department of Boating and Waterways - California Beach Restoration Study, CA. Primary Investigator reporting on the California Public Beach Restoration Program on behalf of the Dept. of Boating and Waterways; Objectives were to detail the program activities, assess the need for continued beach restoration, and evaluate the effectiveness of the program.

US Army Corps of Engineers-Oceanside Feasibility Study, San Diego County, CA. Project manager for a two-phase numerical modeling effort conducted for the US Army Corps of Engineers to quantify the influence of Oceanside Harbor on historical shoreline change, forecast future shoreline evolution and coastal storm impacts, and assess the effectiveness of a variety of shore protection alternatives. Coastal storm effects, consisting of wave overtopping, bore propagation, wave forces associated with the bore, and revetment damage, were calculated concurrently with shoreline evolution.

Coastal Trail Access Ways, City of San Clemente, CA. Conducted a detailed coastal engineering analysis to support design of the San Clemente Coastal Trail Access Ways. The evaluation included developing design oceanographic conditions (25-yr and 100-yr waves and water levels); Beach response to storms, Wave runup and overtopping; Wave induced scour, Wave forces; and revetment armor stability.

SANDAG Regional Beach Monitoring Program San Diego County, CA. Conducting ongoing shoreline monitoring program for the region. Semi-annual beach profiling on up to 47 transects between Oceanside and Mexican Border; coastal lagoon entrance assessment; Oblique aerial photography at RBSP sites and lagoons; Detailed analysis of coastal changes and evaluation of natural events (El Niño) and human intervention (beach nourishment); Program conducted annually since 1996.

Baby Beach Water Circulation Study, Dana Point Harbor, CA. Performed a fluorescent dye tracer study to assess the effectiveness of Oloid water circulation devices at Baby Beach located in Dana Point Harbor. The objective was to provide suitable calibration data for a numerical model and to determine if mechanical circulation could improve the water quality. Dye was released at the project site and tracked throughout the harbor with a flourometer operated from a small boat equipped with a precision GPS positions.

Port San Luis Breakwater Comprehensive Condition Survey and Repairs, San Luis Obispo County, CA. Lead engineer for a US Army Corps of Engineers comprehensive condition survey of the Port San Luis Breakwater in Avila Beach, CA. Evaluated the condition of the rubble mound breakwater based on bathymetric and topographic surveys, site inspections, and assessment of construction/repair records. In addition, the functional effectiveness and structural integrity of the breakwater were assessed in terms of wave overtopping, wave transmission, and armor stability. Recommendations for repairs were developed and a plan set and specifications were prepared.

Los Angeles County Offshore Sand Characterization Study, Los Angeles County, CA. Conducted sediment sampling program to characterize potential offshore sand sources for a proposed beach nourishment program. Sites in Los Angeles County included Zuma Beach, Corral Canyon, Dockweiler and Manhattan Beach. Twenty foot cores were obtained at multiple locations at each investigation area, and the physical and chemical properties of the material were documented.

Eric Yuen, PE, SE

STRUCTURAL ENGINEERING

18 Years of Experience

MS Structural Engineering, California State Polytechnic University, Pomona

PE California Professional Engineer, No. 75983

SE California Professional Structural Engineer, No. 6177

Mr. Yuen has 17 years of experience in the design, analysis, and detailing of structures with special emphasis on the design of water storage/water containment and water conveyance-related structures, including reservoirs, design water/wastewater treatment plants, booster pump stations, flow control facilities, pressure reducing stations and pipelines. He is knowledgeable in all types of construction including reinforced concrete, masonry, structural steel, and wood frame design. He also has extensive experience with seismic evaluation, assessment, strengthening, retrofit, and replacement of existing structures.

RELEVANT PROJECTS

Well Site Improvements, Irvine Ranch Water District, Irvine, CA. Structural Engineer. Designed site improvements and construction for groundwater Wells 6, 12, 14, and 15 including assessments of mechanical, structural, civil, and instrumentation and control systems. Conducted a field visit to sites and prepared a conditional assessment memorandum of all equipment and site features required to properly operate them.

Pure Water Oceanside, Advanced Water Purification Facility, City of Oceanside, CA. Structural Engineer. To counteract the growing reliance on imported water supply while increasing local water supplies, and to meet the City's long-term goal of 50% water independence by 2030, the City has selected a team led by Tetra Tech to design a new Advanced Water Purification Facility (AWPF). The newly proposed AWPF will provide highly-treated water supply with the specific purpose to recharge the MGB in the upper San Luis Rey recycled water service area through indirect potable reuse as a component of the overall Pure Water Oceanside project. The AWPF will be built on an existing former recycled water storage pond at the San Luis Rey Water Reclamation Facility. The AWPF process will be designed as a multi-barrier treatment process including microfiltration, reverse osmosis, and ultraviolet advanced oxidation process. In addition to these three main unit treatment processes, the AWPF will include chemical storage and feed equipment for conditioning, stabilizing and membrane cleaning. The facilities design also includes influent flow storage, flow diversion, and associated pumping.

John Garthe Reservoir PFAS Treatment, City of Santa Ana, CA. Structural Engineer. Final design for PFAS treatment at John Garthe site, supplied by five wells to produce up to 13.8 MGD. New centralized treatment plant removes PFAS from well supply line prior to storage at reservoir. Treatment equipment includes 5-micron cartridge filters, ion exchange pressure vessel contactors, new on-site generation, and storage and feed facilities for sodium hypochlorite. Evaluated well pumps on an individual basis and will replace or modify as needed to meet new plant and system demands.

SGU PFAS Treatment Plant, Irvine Ranch Water District, Irvine, CA. Structural Engineer. Design and construction support for 12 shallow wells affected by very high VOC levels and PFAS located on site of former El Toro Marine Base. Design included GAC treatment and replacement of an air stripper system. City required pipeline permitting.

Kimberly 1A PFAS, Orange County Water District, Fullerton, CA. Structural Engineer. Prepared plans and specifications for construction of a PFAS system. Fullerton Main Plant treats six on-site wells with a total capacity of 10,100 GPM. PFOS, PFOA, and VOCs removed using 6- to 12-foot-diameter, 40,000 lb. GAC vessels discharge into a forebay, then pumped into distribution system. Remaining wells treated with an Ion Exchange system consisting of eight vessels and bag filters for pre-treatment. New wellhead construction requires demolition of light frame metal pump building and concrete pump pedestal.

As-Needed Structural Engineering Services, San Diego County Water Authority, San Diego, CA. Project Engineer for the following task orders: San Diego 12 Flow Control Facility (Q0333); Carlsbad 5 Flow Control Facility and Pressure Reducing Facility (K0307); San Vicente Dam Low Level Outlet Structure (N0406); Fallbrook 4/Rainbow 7 Flow Control Facility (Q0303); Hubbard Hill North (Q0204); Hubbard Hill North – Geotechnical; and MTFRS CL2 System-Facility Improvement Design.

San Lorenzo Sewer Lift Station, City of Santa Ana, CA. Structural Engineer. Design engineering for preparation of plans, specifications, and cost estimates to construct a new sewer lift station on San Lorenzo Avenue. New lift station replaces a smaller submersible lift station located within Bristol Street, a heavily traveled arterial. Project included preliminary design including pump selection, hydraulic analysis, pipeline alignment, and site and building layout studies. Prepared an environmental impact report and incorporated mitigation measures into final design. Challenges included deep excavation (approximately 35 feet), a tight site requiring vertical shoring, heavily traveled streets, adjacent residences and businesses, and maintaining flow within sewer system.

Mike Olsen, PE

STRUCTURAL ENGINEERING

15 Years of Experience

MS Civil Engineering (Structural Emphasis), California State Polytechnic University, Pomona

BS Civil Engineering, California State Polytechnic University, Pomona

PE California Professional Engineer, No. 81944

With over 15 years of structural engineering experience, Mr. Olsen is a structural project manager with expertise spanning design, analysis, and detailing for reinforced concrete, masonry, steel, and wood frame structures. Mike's diverse portfolio includes stormwater infrastructure, water and wastewater treatment facilities, pedestrian bridges, reservoirs, and seismic retrofits. His leadership in managing multidisciplinary teams and delivering complex projects—from the development of stormwater capture systems to regional transportation infrastructure—demonstrates his technical acumen and project management capabilities.

RELEVANT PROJECTS

Huntington Beach Bridge Preventative Maintenance, City of Huntington Beach, CA. Project Manager responsible for overseeing preparation of plans, specifications, and estimates (PS&E) to rehabilitate the Golden West Street bridge (No. 55C0124). The project involved various work items including joint seal assembly replacement, methacrylate application to bridge decks, epoxy injection of concrete cracks, and spalled concrete repair with polyester polymer patching systems. The repair plan for each structure was field verified with City representatives to confirm County recommended repairs and identify any additional repair items to be included in the work plan. Tetra Tech staff worked closely with City staff to accelerate the design process and meet the City's budgetary needs. The City has awarded construction contracts to rehabilitate several sets of bridges in the last few years. Repairs were completed successfully. Tetra Tech is currently providing construction support through field meetings, clarification to the contractor, and submittal review.

Santa Ana Downtown Flood Reduction and Stormwater Infiltration, City of Santa Ana, CA. Structural Design Lead and Engineer of Record . Developed design documents, hydrology calculations, and coordinated various project disciplines. Located in downtown, the City of Santa Ana is reconstructing the 3rd Street parking lot to incorporate Best Management Practices (BMPs). Surrounding catch basins and storm drains are being reconstructed to divert stormwater into the parking lot for treatment and infiltration. The improvement in drainage and treatment alleviates flooding that occurs in the surrounding area and reduces pollutants being discharged into the watershed. The project captures runoff from the 23-acre drainage area into the infiltration system located underneath the parking lot, eventually recharging the groundwater table.

Santa Monica Clean Beaches Initiative for Pier and Pico-Kenter Basins, City of Santa Monica, Public Works Department, Santa Monica, CA. Structural Design Lead. Mr. Olsen was responsible for the structural design of the site improvements, diversion structure, pretreatment, underground storage reservoirs, and piping systems. The project objective was to improve Santa Monica Beach water quality by increasing the diversion capacity at the Santa Monica Pier and Pico-Kenter storm drain outfalls. The 85th percentile storm event volume will be treated and diverted from the Pier watershed to the Santa Monica Urban Runoff Recycling Facility (SMURRF) or the sanitary sewer. The project proposes storm drain diversion and runoff storage systems at two separate storm drain outfalls, routed to two subsurface storage areas. 1.6 million gallons will be stored at the historical Deauville Beach Club site and an additional 80,000 gallons will be stored at the Pico-Kentor storm drain outfall.

Sand Canyon Trail Pedestrian Bridges for the City of Santa Clarita, Santa Clarita, CA. Project Manager and Engineer of Record. Mr. Olsen served as Engineer of Record (EOR) and Project Manager for the design and construction phase portions of this project. Tetra Tech provided detailed bridge design engineering services including crossing plans, foundation details, performance specifications for pre-fabricated bridge elements, cost estimates and specifications. The Sand Canyon Trail Corridor provides access for cyclists, hikers, and equestrians and connects the Santa Clarita Valley to the northeast San Fernando Valley. In order to preserve the natural environment, the 0.8-mile extension of the multi-use trail will require two (2) prefabricated steel bridges. The project started and was successfully completed by June of 2024.

Arroyo Park Pedestrian Bridge Replacement, City of Santa Clarita, Santa Clarita, CA. Engineer of Record and Project Manager. The City of Santa Clarita in conjunction with the Landscape Maintenance District, maintains 25 pedestrian bridges and 5 under crossings that link the paseo system in the Valencia North and South neighborhoods in the City of Santa Clarita. The City proposes to replace the last timber bridge located on Arroyo Park Drive, 0.6 miles west of McBean Parkway, with a pre-fabricated steel truss structure. Tetra Tech was hired to finalize the design and complete detailed construction Plans, Specifications, and Estimate (PS&E) of the proposed bridge replacement and additional support services as needed by the City. The biggest challenge that faces the Arroyo Park Pedestrian Bridge Replacement project is Arroyo Park Drive itself. Arroyo Park Drive is a residential roadway and has traffic throughout the day. Coordination during the demolition of the existing bridge and during final assembly and erection of the new pre-fabricated bridge will be key to the project success. These major construction activities will most likely require full closure of Arroyo Park Drive. Tetra Tech is experienced in the preparation of traffic control plans within the City and will work once again to minimize the impact to the public.

Mazen Kassar, PE

ELECTRICAL/SCADA

32 Years of Experience
BS Electrical Engineering,California State University, Long Beach
PE California Professional Electrical Engineer, No. 15809
General Construction, Class B, California, No. 777845
Class C – Specialty, No. 777845

Mr. Kassar is experienced in electrical engineering and industry standards that include electrical engineering staff management, project management, construction management and supervision, water and wastewater treatment, petro-chemical design, and environmental soil and groundwater treatment. His background includes designing medium and low voltage power distribution,designing instrumentation, control systems and SCADA systems for a wide-variety of projects, and the installation of electrical systems for remediation projects, including soil vapor extraction systems and groundwater pump-and-treat systems. Other experience includes, working with utility companies to provide new electrical service to new projects, working with local Building and Safety Departments to obtain Plan Check and construction permits, field trouble shooting of electrical and mechanical systems, system commissioning and startup, problem solving, and managing an operation and maintenance department.

RELEVANT PROJECTS

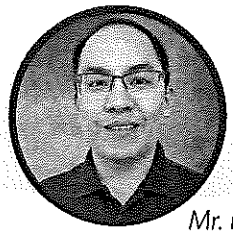
Well Site Improvements, Irvine Ranch Water District, Irvine, CA. Electrical/SCADA. Designed site improvements and construction for groundwater Wells 6, 12, 14, and 15 including assessments of mechanical, structural, civil, and instrumentation and control systems. Conducted a field visit to sites and prepared a conditional assessment memorandum of all equipment and site features required to properly operate them.

Santa Monica Clean Beaches Initiative, City of Santa Monica, Santa Monica, CA. Electrical Engineer. Mr. Kassar was responsible for providing electrical engineering design services in support of site improvements, a diversion structure, pretreatment, underground storage reservoirs, and piping systems for this stormwater management project. The project objective is to improve Santa Monica Beach water quality by increasing the diversion capacity at the Santa Monica Pier and Pico-Kenter storm drain outfalls. The 85th percentile storm event volume would be treated and diverted from the Pier watershed to the Santa Monica Urban Runoff Recycling Facility (SMURRF) or the sanitary sewer. The project proposes storm drain diversion and runoff storage systems at two separate storm drain outfalls, routed to two subsurface storage areas. 1.6 million gallons will be stored at the historical Deauville Beach Club site and an additional 80,000 gallons will be stored at the Pico-Kentor storm drain outfall.

City of Santa Monica Equipping of Three Wells, Santa Monica, CA. Electrical Engineering Manager. Tetra Tech is providing preliminary and final design, permitting, bidding, and construction services for three municipal drinking water wells, ranging from 300 to 800 gpm. This project consists of two potable water extraction wells and one water injection/extraction well. All three wells are located within the large, grassy median of Olympic Boulevard at separate sites in the city of Santa Monica. The wells are located thousands of feet apart, and each well site is configured to contribute to the aesthetics and function of the area. Tetra Tech's design left adequate room within the median for public access past the well sites without getting too close to traffic. We addressed project security and aesthetics by including a wall around the site, which was designed with the assistance of a local artist to emulate the water aquifer, sedimentary materials, and water wells and provide security, improved aesthetics, and public awareness for the City's water supply.

Bolivar Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA. Electrical Engineer. Mr. Kassar was responsible for providing electrical engineering design services in support of preparation of final plans, specifications, and estimates. Tetra Tech was contracted to evaluate the potential site location and develop this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Del Amo channel through a pretreatment system to remove trash, debris, and sediment. A pump station and drainage pipeline will convey the water into a large, buried multi-chambered storage/infiltration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas. The system will monitor the weather conditions and the facility through a secured cloud-based system. The underground storage system is 2.8 million gallons (8.7 ac-ft). The goal of the project is to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies.

Loma Linda University Anderson No 4 Well, Loma Linda, CA. Electrical Engineer. Created electrical plans, specifications, electrical load schedules, panel schedules, conduit and wire sizing, electrical details, emergency standby generator sizing, creation of pump control schematics, drafting technical specifications, and preforming electrical power system studies including load flow, short circuit, and arc flash calculations. Design included a new pump, new PLC system to control well pump, and a lighting system.



Johnson Le

ELECTRICAL/SCADA

10 Years of Experience

BS Electrical Engineering, California State Polytechnic University, Pomona

Mr. Le has experience in electrical engineering and industry standard that include water and wastewater treatment, system studies, power distribution, emergency power supply, and motor and instrumentation control. His background includes designing medium and low-voltage power distribution, microgrids, instrumentation, control systems and SCADA systems, and the installation of electrical systems for remediation projects. Other experience includes, working with utility companies to provide new electrical service to new projects and problem solving

RELEVANT PROJECTS

Well 9 Roof Replacement, City of Huntington Beach, Long Beach, CA. Electrical Engineer. Mr. Le provided the electrical engineering design for the project's power system and lighting which includes the preparation of electrical site plans, single line diagrams, and electrical details. The wood roof was replaced with metal to provide fire protection and sound attenuation. The existing HVAC system builds up excessive heat if the door of the engine room is left open, so in response the HVAC was improved with a roof-mounted exhaust fan.

Beacon Hill Pump Station Rehabilitation, Moulton Niguel Water District, City of Laguna Niguel, CA. Project Engineer. Total station rehabilitation including replacement of all mechanical/ electrical components; a diesel engine-driven high-flow pump/ standby generator; on-site potable water piping, and site restoration. Evaluated two design options from a conceptual level prior preliminary design. Alternative 1: Replace Beacon Hill with a temporary bypass at either Bear Brand or Golden Lantern RW Pump Station. Recommended Alternative 2: construct a new station at Bear Brand. Scope included project administration, QA/QC, potholing, geotechnical exploration, design survey, preliminary and final design, asset register, permit support, bidding phase services, and construction phase services.

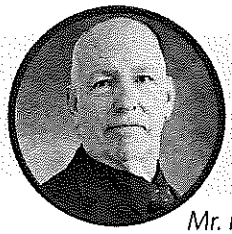
Tract 349 Well 3 and 4 Water Treatment Plant, Water Replenishment District of Southern California, Cudahy, Huntington Park, CA. Electrical Engineer. Mr. Le provided support for the electrical design of the iron and manganese treatment systems at well 3 and well 4. Mr. Le created the single line diagram and panel schedule for the existing wells and added the backwash return pump, air compressor, and chemical metering pump to the load.

Signal Hill Well 8 and 10, City of Signal Hill, Signal Hill, CA. Electrical Engineer. Mr. Le created the record drawings and visited the site to confirm the equipment layout. Well 8 was demolished and replaced with well 10. The site had a new main switchboard, panelboard, automatic transfer switch, transformer, control panel, variable frequency drive, thermostat, and lighting installed.

Oceano Airport Campground Project, Mead & Hunt, Oceano, CA. Electrical Engineer. Provided electrical engineering design services in support of preparation of final plans, specifications and estimates. The work involved coordinating with Pacific Gas & Electric to provide utility power to the new panelboard. Conduits were installed to provide power to the new pilot's lounge and restroom as well as the future wash rack, campsite, and modular units.

Apollo DSS-23 Antenna Facilities Design, Goldstone Deep Space Communications Complex, Jet Propulsion Laboratories (JPL), Goldstone, CA. Electrical Engineer. Mr. Le provided support in preparation for the electrical engineering design for the project's power system which includes preparation of electrical site plans, single-line diagrams, and electrical details. The electrical system included design and product selection for medium and low-voltage switchgear and transformers. Power was distributed via underground and overhead conduits to HVAC, lighting, receptacles, fans, pumps, VFDs, controls, security and antenna power system main switchboard. Voltage-drop calculations were performed to determine power wiring sizing. Wire and conduit sizes were determined to distribute power, controls and communications across the site. Lighting photometric calculations were performed to determine the best lighting distribution for exterior site lighting.

Mitsubishi Microgrids for San Diego Gas and Electric (SDG&E) substations, Design-Build, Morrow Meadows Corporation, San Diego County, CA. Electrical Engineer. Tetra Tech is providing 30-percent, 90-percent, and issued-for-construction civil, structural, electrical, and communication design for four new SDG&E microgrids, located adjacent to the Boulevard, Clairemont, Elliot, and Paradise SDG&E substations. The electrical and communication design focus is on the equipment selection coordination, power supply and communication design, conduit routing, conduit and wire sizing, site lighting, and site security. The project involved working with medium voltage, AC/ DC inverters, and DC power. Voltage-drop calculations were performed to determine power wiring sizing. Wire and conduit sizes were determined to distribute power, controls and communications across the site. Lighting photometric calculations were performed to determine the best lighting distribution for exterior site lighting.



Ken Kulonis, PE

MECHANICAL

48 Years of Experience

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

PE California Professional Engineer, No. M27379

Mr. Kulonis has more than 45 years of experience designing mechanical and plumbing portions of construction projects in the commercial, residential, federal, institutional and industrial market segments. His expertise ranges from the design of various types of HVAC and plumbing systems for facilities from pharmaceutical cleanrooms to aircraft hangars, shopping malls, and multi-family residential buildings. Mr. Kulonis' expertise includes energy analysis, LEED analysis, forensic engineering, construction administration, and project management. Mr. Kulonis has worked on projects for the Department of Defense, the General Services Administration, The State of California, large retail companies, large food service companies, and several school districts in California.

RELEVANT PROJECTS

Military Ocean Terminal (MOTCO) General Purpose Maintenance Shop, US Army Corps of Engineers, CA. Mechanical Engineer. Mr. Kulonis was responsible for preparing design-build plans and specifications for the installation of new HVAC and plumbing systems. Tetra Tech was contracted to provide final construction documents and specifications for the renovation of an existing building and construction of a new military operations building. The new building will replace an existing paved driveway and include the construction of a parking lot, driveway, and an 11,765 square-foot maintenance facility to perform general maintenance. Project included the design of thick pavement slabs using Pavement-Transportation Computer Assisted Structural Engineering (PCASE) software to accommodate heavy vehicle loading. Project achieved LEED certification through implementation of Low Impact Development (LID) design strategies for site layout and storm water management. This project was awarded LEED Gold

Facilities Rehab and Enlargement of Building 510, Air Force Plant 42, NAVFAC SW, CA. Mechanical Engineer. Mr. Kulonis was responsible for preparing Design-Bid-Build plans and specifications for an upgraded communications hub. Project scope included topographic survey of existing site, civil upgrades for a new parking lot and upgraded security fencing. Structural upgrades included a new concrete shell for blast protection and seismic upgrades, upgraded mechanical systems, electrical, communications, dry type fire protection, and fire alarm design services for the rehabilitation and enlargement of Building 510.

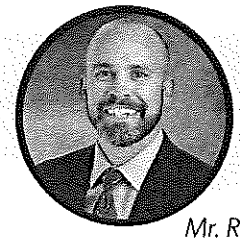
South Gate and Commercial Vehicle Inspection Facilities, Travis Air Force Base, US Navy c/o NAVFAC SW, Desert IPT, CA. Mechanical Engineer. Mr. Kulonis was responsible for comprehensive design services for a new 13-acre South Gate facility for commercial vehicle inspection and private vehicle processing at Travis AFB. The project consisted of a truck inspection facility that contained administrative space for security forces along with a kennel for military working dogs. The site layout contained new roads to incorporate passive AT/FP design, including berms, swales and other traffic obstacles, as well as comprehensive upgrade of existing utilities (water, sewer, storm drain, gas, electrical and communication).

City of Kotzebue, Construction Administration Services, Kotzebue, AK. Mechanical Engineer. Tetra Tech provided construction administration assistance services for the City of Kotzebue Water Treatment Plant. Tetra Tech, in association with DOWL, designed the new plant and improvements to the water distribution system and provided construction administration services. The new WTP will have a production capacity of 300 gpm with the space to expand its capacity to 450 gpm.

WRRF Administration Building Feasibility Study, City of East Lansing, MI. Mechanical Engineer. WRRF Administration Building constructed as part of the original facility in 1965 and expanded in 1973. Building housed influent raw sewage pump station, sludge storage tanks and pumping, incinerators, sludge dewatering equipment, laboratory, maintenance shop, locker room, and staff offices. Evaluated feasibility of reprogramming building interior after four recent major WRRF construction projects were completed.

Anchorage Solid Waste Services (SWS) Central Transfer Station (CTS), Anchorage AK. Mechanical Engineer. Conceptual design, final design, and construction support services for the new CTS campus. Tetra Tech scope includes site layout, structural, mechanical, electrical, and plumbing engineering for eight facility buildings, including the new 75,000 sf transfer station building, maintenance building, overhead bridge crane, warm storage facility for collection vehicles, and underground tunnel with warm storage for vehicles overnight.

Construct CE Pavement and Grounds Facility B3223, Eielson AFB, National Guard Bureau, AKB. Mechanical Engineer. Mr. Kulonis is responsible for preparing design documents for the construction of the mechanical and plumbing systems for a new vehicle storage facility. The mechanical systems include radiant in-floor heating. Heating hot water is generated by a vertical heat exchanger which uses district steam as the primary source of heat. Code required ventilation is provided through a heat recovery unit, which recovers heat from the air being exhausted from the facility and preheats the makeup air from this exhaust air.



Luke Ramirez, PE, LEED AP, PMP

MECHANICAL

19 Years of Experience
BS Mechanical Engineering, University of Washington
PE California Professional Engineer, No. 36190
PMP Project Management Professional, No. 2210468

Mr. Ramirez provides clients with a variety of HVAC and plumbing designs as well as life-cycle assessment of systems and products. His projects have included designs for municipal, industrial, and commercial facilities, construction administration services for water and wastewater treatment plants, energy audit reports, quality assurance measurement for a utility provider in Colorado, pump replacement analyses and design for the U.S. Fish and Wildlife Service, and mechanical renovation of dorms at Misawa Air Force Base in Japan. In addition, he has designed petroleum systems for hatcheries and mines in Alaska, Colorado, and Nevada.

RELEVANT PROJECTS

Well Site Improvements, Irvine Ranch Water District, Irvine, CA. Mechanical Engineer. Designed site improvements and construction for groundwater Wells 6, 12, 14, and 15 including assessments of mechanical, structural, civil, and instrumentation and control systems. Conducted a field visit to sites and prepared a conditional assessment memorandum of all equipment and site features required to properly operate them.

Water Treatment Plant Design, Lockheed Martin, Beaumont, CA. Mechanical Engineer. Design of a water treatment plant to treat chlorinated solvents, perchlorate, and other contaminants. HVAC and plumbing designs.

WISE Denver International Airport (DIA) Connection, Denver Water, CO. Mechanical Engineer. Project includes engineering design, permitting, and construction management services for the new six-mile pipeline and flow control facility. As part of a partnership between Denver Water, the Aurora Water, and South Metro WISE Authority (SMWSA), this new pipeline will deliver up to 5.9 MGD of water supply through 32,370 feet of 18-inch diameter PVC pipeline, enhancing water resource efficiency for several communities south of Denver.

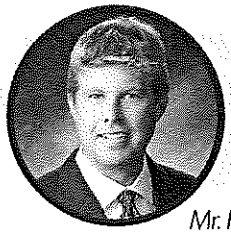
Canyons and Ridgegate Well House Designs and Construction, Parker Water and Sanitation District, Parker, CO. HVAC and Plumbing Engineering Lead. Design of two new well houses that utilized the CMAR contract process. Mechanical design of well houses and supported construction observation, submittal review, and RFI response. HVAC and plumbing designs included energy modeling, well house, sodium hypochlorite room, and electrical room design. The District wishes to operate these well houses at 1 MGD initially, but will treat up to 5 MGD within 15 years. Secondary project goal is to provide a standard well house design for the District to use in streamlining future well house development and to recognize efficiencies in the future. Supported permitting and construction activities with Cities of Lone Tree and Castle Pines, South Metro Fire District, Douglas County, Xcel, and IREA.

South Boulder Dam Trunnion Bearing Improvements, Denver Water, CO. Project Engineer. Conceptual design and design criteria memorandum, opinion of probable cost, 30-, 60-, 90-percent and final design documents for construction. Dam includes a 17 by 20-foot Tainter gate to divert water for downstream storage and treatment. Design included a review of the loads, acceptance criteria, alternatives analysis of proposed pin and bushing materials, a review of nondestructive demolition options, and construction phasing options to complete during a short four-week duration.

North Mercer Pump Station, King County, WA. Mechanical Engineer. Alternatives evaluation, predesign, and future phases of final design and construction support services for the improvement of this major conveyance system between Mercer Island and Bellevue. Projected peak flows are 16 MGD. Facilities consist of a pump station and 17,000 feet of force main, gravity sewers both on land and in water, and two inverted siphons, one to be installed by trenchless methods. HVAC, plumbing, and fuel oil designs for the pump station and new generator building.

Fruita WWTP Headworks Improvements, City of Fruita, CO. Mechanical Engineer. Completed designs and assisted during construction of the headworks improvements. Designs included installation of an odor control system, new screens, and improvements to concrete structures. Design of ionizing odor control system to mitigate concrete degradation caused by the unusually high hydrogen sulfide concentration in the influent stream.

Wastewater Treatment Plant Major Capital Improvements, Delta Charter Township, MI. Project Engineer. Conducted an extensive evaluation of WWTP and developed a comprehensive master plan to address identified issues with condition and process capacities. Township completed a Project Plan to prioritize system improvements to allow the community to apply for SRF financial assistance to design and construct projects. Project Plan provides the basis for recommended projects for WWTP improvements. Selected improvements will provide the WWTP with the firm design capacity of 8.0 MGD average day, 20.0 MGD max day, and 28.0 MGD peak hour. Provided design services for phased WWTP improvements. Project goal is to design and construct the improvements to rehabilitate critical unit processes and infrastructure, increase treatment capacity, and gain additional operational efficiency.



Dan Helt, PE, PLS

SURVEY

21 Years of Experience
BS Civil Engineering, Cal Poly University, San Luis Obispo
PE California Professional Civil Engineer, No. C69347
PLS California Professional Land Surveyor, No. 8925

Mr. Helt has a diverse base of knowledge of the elements necessary to successfully execute both small and large scale multidisciplinary projects. During his 21 years in the civil engineering field, he has had significant roles providing management, coordination and detailed design on a broad range of capital improvement projects. Dan has strong leadership capabilities in team development, communication within the team, and builds strong client relationships through communication. Mr. Helt has performed field boundary and topographic surveys, as well as construction staking, certification and monitoring, and ALTA/ACSM surveys. He has considerable experience researching boundary and chain of title information, and preparing legal descriptions.

RELEVANT PROJECTS

County of Santa Barbara As-Needed Survey, County of Santa Barbara, Santa Barbara, CA. Program Manager. Mr. Helt is overseeing field and office survey services for the County of Santa Barbara under an Indefinite Delivery-Indefinite Quantity (IDIQ) Survey contract. The services provided are important to assist the County with its transportation project delivery goals, which are vital for meeting the Transportation Division's ongoing mission to provide a clear path, smooth ride, and a safe trip to the traveling public. To date, Tetra Tech has performed topographic surveys, right-of-way research and stakeout for storm damage repairs, and monument perpetuation and preservation services.

Survey Services for South County Overlay, County of San Luis Obispo, CA. Program Manager. Responsible for overseeing survey services as part of an On-Call Professional Survey Services Contract. Tetra Tech provided topographic and right-of-way surveys for ADA curb ramp and other survey locations, and monument preservation for asphalt overlay of various south county roads. Topographic surveys were performed at 14 intersections and six areas of drainage concern. Field work included a control survey for the topographic survey and the monument preservation. Boundary monuments, sufficient to establish right-of-way were located and observed. Base map files including topographic survey information and right-of-way were prepared. 63 separate monuments within the intersection construction areas and the remainder of the overlay project were observed. Two separate Records of Survey were prepared: a pre-construction condition and location of survey monuments and the right-of-way establishment. When overlay project is complete, an additional record of survey for post construction monument condition and position will be prepared.

Ramp Design, City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Survey Manager. Responsible for overseeing survey services in support of engineering design for the StreetsLA's Pavement Preservation Program which maintains a street network of 23,000 lane miles and keeps all improved streets and related throughways in good to excellent condition. Tetra Tech's scope of services includes topographic survey, engineering design, design support during construction, and construction management services for various access ramps throughout the City, in compliance with the Americans with Disabilities Act (ADA).

Redondo Beach Upper Walkway Boundary Survey, County of Los Angeles, CA. Survey Manager. Responsible for overseeing survey services. Tetra Tech performed a topographic boundary survey of the project site. Aerial acquired photogrammetric data from an Unmanned Aerial Systems (UAS) was used in combination with GPS acquired ground data for base mapping. The survey services were in support of the development of an Engineering Study performed by Tetra Tech which included a prioritized list of short and long-term projects intended to improve the upper pedestrian walkway paving surface, drainage, ADA compliance and bluff stabilization. A scope of work and cost estimate for each project was prepared and presented in a spreadsheet, and a base plan was prepared to identify each project location and site utilities.

Merced Avenue Greenway, Council for Watershed Health for City of South El Monte, CA. Survey Manager. Mr. Helt oversaw survey services for this stormwater retrofit project along the Merced Avenue corridor in South El Monte. The scope of services included assessing existing conditions on Merced Avenue, consulting with agencies on regulations for planning and design, evaluating pre-design monitoring data and analyzing urban heat island mitigation strategies, providing a preliminary design report, presenting at community design workshops and meetings in collaboration with various stakeholders to create designs for the retrofit. Tetra Tech also provided final permitting, construction drawings, cost estimates, and a bid package. The goal of the project was to manage stormwater runoff at its source to meet regulatory compliance by improving water quality and enhancing watershed health. Additional benefits include reducing the urban heat island effect and its carbon footprint, creating new safe bike and pedestrian connections, enhancing public health and beautifying the neighborhood. In addition, the project included active transportation programming and incorporated a community-based approach that provides opportunities for watershed education and neighborhood involvement in designing the project.

Jesus Guzman, PLS

SURVEY

26 Years of Experience
Math studies, California State at Fullerton
PLS California Professional Land Surveyor, No. 8648

Mr. Guzman is a licensed surveyor with 26 years of experience providing office and field survey support for projects involving engineering, construction, and mapping for highways, utility infrastructure, airport runways, schools, water pipeline tunnels, dams, rivers, and lake improvements. He is experienced with preparation, agency submittal, and recordation of tract maps, parcel maps, final maps, Records of Surveys, tentative maps, corner records, lot mergers, lot line adjustments, ALTA documents, and public roadway abandonments. Mr. Guzman has managed and participated in various land survey activities including field surveying for municipalities, county, state, and federal agencies, and the armed services.

RELEVANT PROJECTS

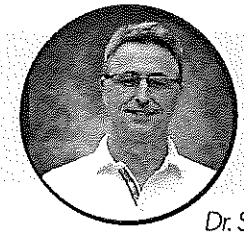
Lankershim Boulevard and Oro Vista Avenue Local Area Urban Flow Management, City of Los Angeles, CA. Project Surveyor. Responsible for overseeing field crews and office staff related to topography data collection, processing, and base sheet development. The project aims to infiltrate stormwater runoff to improve water quality and increase underground water supplies, provide community enhancements with the addition of greening elements, reduce flooding along the corridor with the installation of new piping and catch basin inlets, install new concrete curb and gutter, and construct new sidewalks to improve pedestrian accessibility throughout the corridor.

Western Our Way Walk and Wheel Improvements Project (ATP 6), City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Project Surveyor. Responsible for coordinating and performing survey activities related to the development of site topography, including survey research, site survey control network for aerial mapping, ground LiDAR mapping, conventional and RTK surveys, and data collection by field crews. Also managing the development of centerline and ROW from existing survey monumentation, and efforts relating to drafting base maps using AutoCAD Civil 3D. The project includes 4.5 miles of pedestrian and transit rider improvements in the heart of South Los Angeles. Extensive pedestrian improvements including traffic calming along Western Avenue will provide safer and more direct access for disadvantaged community members to transit lines and local destinations in contrast to the current conditions of the high-speed vehicular oriented corridor. Addition of street trees, pedestrian lighting, widened sidewalks, and bus bulbs will improve pedestrian safety and user comfort. Adjacent local streets will be improved to create neighborhood bike network streets along Gramercy Avenue and Denker Avenue which will create an exclusive path for bikes connecting to the greater South Los Angeles bike network and Rail to Rail Active Transportation Corridor.

StreetsLA Ramp Design, City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Senior Land Surveyor. Responsible for preparing centerline alignments and Right-of-Ways in support of ADA compliant ramp designs. Tetra Tech was contracted by the City of Los Angeles to provide survey and engineering design services in support of StreetsLA's Pavement Preservation Program which maintains a street network of 23,000 lane miles and keeps all improved streets and related throughways in good to excellent condition. Tetra Tech's scope of services includes topographic survey, engineering design, design support during construction, and construction management services for various access ramps throughout the City, in compliance with the Americans with Disabilities Act (ADA).

StreetsLA Sidewalk Repair Program, City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Project Surveyor. Tetra Tech is providing surveying and engineering services in support of the City of Los Angeles, Bureau of Engineering, Sidewalk Repair Program (SRP). Services include survey and design for the reconstruction of inaccessible and damaged pedestrian facilities throughout the City's public right-of-way to ensure ADA compliance pursuant to the City's obligations under the Willits Settlement Agreement. Along with addressing accessibility of sidewalks, the SRP also addresses related elements such as curb ramps, street trees, utilities, driveways, curb and gutter, roadway transitions, crosswalks.

Merced Avenue Greenway Project, Council for Watershed Health for South El Monte, South El Monte, CA. Project Surveyor. Responsible for overseeing field crews and office staff related to topography data collection, processing, and base sheet development. Tetra Tech provided pre-design and design services and is currently providing construction support services for a stormwater retrofit project along the Merced Avenue corridor. The goal of the project is to manage stormwater runoff at its source to meet regulatory compliance by improving water quality and enhancing watershed health. Additional benefits include reducing the urban heat island effect and its carbon footprint, creating new safe bike and pedestrian connections, enhancing public health, and beautifying the neighborhood. In addition, the project will include active transportation programming and incorporate a community-based approach that provides opportunities for watershed education and neighborhood involvement in designing the project.



Peter Skopek, PhD, PE, GE

GEOTECHNICAL

35 Years of Experience
PhD Geotechnical Engineering, University of Alberta, Edmonton Canada
PE California Professional Engineer, No. 59242
GE California Geotechnical Engineer, No. 2635

Dr. Skopek has executed a variety of geotechnical engineering projects for a broad range of clients. These projects include transportation infrastructure, commercial, industrial, and redevelopment, design of tailings and earthen dams and reservoirs, deep and shallow foundation design, slope assessment and stabilization design, ground stabilization, design of retaining walls and excavations, liquefaction assessment and geotechnical seismic design, forensic geotechnical engineering, geotechnical review, performance reviews, geotechnical site investigation, design and implementation of laboratory programs, field inspections, and provision of quality assurance and engineering services during construction.

RELEVANT PROJECTS

On-Call Geotechnical and Environmental Engineering, City of Los Angeles, Bureau of Engineering, CA. Project Manager responsible for geotechnical and geological services on an task order solicitation (TOS) basis. Task orders include various services such as observation and certification, geophysical surveys, construction, development, sampling of groundwater wells, geotechnical laboratory testing of soil and/or bedrock samples, geotechnical analyses, project plan preparation and/or review, infiltration testing, seismic ground motion studies, geotechnical and/or geologic report preparation, specification preparation or review, constructability review of plans and specifications, as well as geotechnical/geologic support in response to emergencies, project or technical presentations for City staff, regulators, or the public, participation in meetings with regulatory agencies and the public in support of or on behalf of the City.

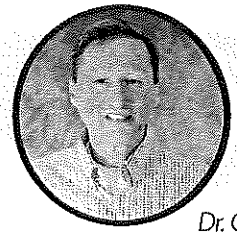
Geotechnical Engineer and Geologist Services, City of West Hollywood, CA. Project Manager responsible for performing reviews of seismic hazards reports, fault studies, and geotechnical reports for development projects in the City of West Hollywood. Specific tasks have included review of fault hazard evaluation studies, geotechnical reports, and methane studies for projects within the City. Used in depth knowledge of the varied geologic and geotechnical conditions within the City and the surrounding Los Angeles basin to update the Geologic and Seismic Technical Background Report for inclusion in the City's General Plan Update.

Geotechnical Consulting, City of Anaheim, Geologic Hazard Abatement District, CA. Project Director responsible for geotechnical consulting services to assess potential water restriction measures that could be implemented to help reduce surface water infiltration within the much larger watershed boundaries that encompass an existing Geologic Hazard Abatement District (GHAD) within the Anaheim Hills area of East Anaheim. The dewatering facilities include multiple vertical dewatering wells, horizontal dewatering wells, groundwater observation wells, piezometers, and inclinometers that were installed by previous consultants and subcontractors at various locations within Santiago Landslide and various locations beyond the limits of the landslide (within the Abatement District boundaries).

Santa Ana River Channel Improvements, Reach 9 Phase 3, Orange County, CA. Senior Technical Reviewer during development of plans and specifications for improvements to the Santa Ana River Channel in eastern Orange County. The project involves the stabilization and protection of the left bank of the Santa Ana River between Gypsum Canyon Road and Coal Canyon Road. Proposed improvements include over-excavation of the existing riverbank and riverbed, placement of a soil cement slope buttress, re-construction of storm drain outlets through the slope and restoration of the bike trail above the re-configured slope. Geotechnical issues that required evaluation for this project included the stability of the soil-cement slope during periods of design flood conditions, sudden drawdown, and earthquake loading. Subdrainage behind the soil-cement slope also needed to be considered to mitigate the potential for unbalanced seepage forces during sudden drawdown and scour conditions.

Bolivar Park Stormwater and Runoff Capture, City of Los Angeles, CA. Geotechnical Engineering Lead for this regional stormwater capture project. The project components included a diversion structure to divert water from one of the major flood control channels, a pretreatment structure to remove debris from the runoff, an underground structure to infiltrate or capture the water that will be treated for landscape irrigation use, and a rehabilitated park surface with new picnic areas. The goal of the project is to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies.

Santa Monica Clean Beaches Initiative, Santa Monica, CA. Geotechnical Design and Construction Quality Assurance (CQA) for this project to improve beach water quality and increase the City's drought resilience. Services provided thus far have included site characterization, seismic hazard evaluation, foundation design for the proposed tanks and conveyance pipelines, and shoring design including dewatering considerations for the construction of the proposed facilities. CQA services will include observation of the installation of the shoring system, excavation, subgrade preparation, placement of pipelines, asphalt replacement, and as-built reporting.



Fernando Cuenca, PhD, PE, GE

GEOTECHNICAL

16 Years of Experience
PhD Geotechnical Engineering, University of Texas, Austin
PE California Professional Engineer, No. 50097
GE California Geotechnical Engineer, No. 3128

Dr. Cuenca's experience includes research on the stability of reinforced embankments incorporating coupled analysis including pore water pressures in unsaturated soils and water flow movement with slope deformations, using finite element formulations. Fernando also has extensive experience in cyclic behavior of soils, liquefaction evaluation, lateral spreading assessments, linear and non-linear site response analysis, ground motions and time history selection and development, estimation of lateral seismic earth pressures, and foundation design for seismic conditions. He has worked on several projects including design of rigid and flexible pavements, as well as design of permeable pavements for green street projects requiring stormwater infiltration, as well as projects requiring pavement rehabilitation including the use of glass-grid interlayer to mitigate against reflective cracking and increase durability.

RELEVANT PROJECTS

Wintersburg Channel, Huntington Beach, CA. Project Engineer in charge of the design of a replacement levee at the Wintersburg Channel consisting of sheet pile walls and a Soil Cement Mix to mitigate against effects of liquefaction. The project includes widening the channel from upstream of Edwards Street to Warner Street for a length of approximately 5,050 feet. The design for the improvements includes the installation of 2 rows of hydraulically pressed (Giken method) sheet pile walls on both the right and the left banks of the channel. This will allow for removal of significant portions of the existing levees and result in widening of the existing channel to convey the flows for the 100-year design storm event. The soil in between the sheet pile walls will be improved throughout the entire depth of 46 feet by constructing Soil Cement Mixing (SCM) columns that will mitigate the liquefaction potential under the design seismic events considered. Dr. Cuenca performed numerical analyses including one-dimensional on-linear site response evaluations using DEEPSOIL and soil-structure interaction evaluations using dynamic Finite Element program PLAXIS.

Manix, Dola, and Lanzit Bridge Replacements, San Bernardino, CA. Project Engineer assigned with the task of designing the pile foundations for these three timber bridges in the County of San Bernardino, historical landmarks. Analyses included evaluation of scour conditions, lateral and axial load capacity evaluations, design of deadman and tieback rods, and submittal to Caltrans for review.

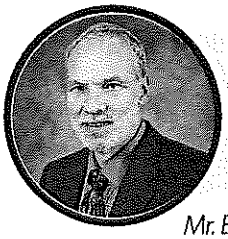
Lake Gregory Dam Rehabilitation, Crestline, CA. Assisting with the development of seismic response spectrum and selection of ground motion time histories, numerical modeling with the GeoStudio Suite (including SEEP/W, SLOPE/W, QUAKE/W, and SIGMA/W) for evaluation of rehabilitation alternatives.

Ventura River and Santa Clara River Levees, County of Ventura, CA. Project Engineer in charge of certification and rehabilitation of existing levees along the Ventura River and Santa Clara River. Evaluation of seepage using finite element models considering transient and unsaturated flow.

Riverside Levees 1 and 2, Santa Ana River – Riverside, CA. Dr. Cuenca served as design engineer for the levee rehabilitation project of Levees 1 and 2 on the Santa Ana River in Riverside, California. The project involved the construction of grouted stone protection along the landside slope of the existing levees. The protection extends to the design scour depth which is up to approximately 20 feet below the channel invert. The construction will involve extensive dewatering to install the grouted stone. The geotechnical investigation included drilling of 10 rotary wash borings along the levee and within the channel and performance of 10 Cone Penetration Tests. Field permeability of the subsurface soils was evaluated by slug testing in selected wells installed in some of the exploratory borings. Recommendations were provided for dewatering, including estimated extraction rates, shoring and temporary slopes. In addition, recommendations were provided for slurry trench excavation in the area of one of the bridge crossings. In this area spatial constraints did not allow enough room for a shored excavation and the slope protection had to be provided with a vertical mass concrete wall installed in the slurry trench.

USFS and USACE San Francisquito Fire Station and Barracks (USACE), Santa Clarita, CA. Project Engineer in charge of evaluating the subsurface conditions, to assess key geotechnical constraints and geologic hazards at 2 alternative sites within the Los Angeles National Forest considered for the design and construction of a fire station, barracks and associated improvements. Several geotechnical/geologic factors impacted differently both sites, including recommended building setbacks from slopes and faults, and the suitability for Onsite Wastewater Treatment System (OWTS).

Adventure Park, City of Whittier, CA. Project Engineer in charge of the infiltration testing and geotechnical exploration for the design of large stormwater infiltration and storage underground vaults, including shoring design for soil nails and soldier piles with tiebacks, foundation design for diversion structures, pump stations, and pretreatment units.



Marcel Bodsky, RA

ARCHITECTURAL

41 Years of Experience
MA Architecture, California Polytechnic University San Luis Obispo
BA Architecture, University of Washington
RA California Registered Architect, No. C35520

Mr. Bodsky has 41 years of design experience with a variety of building types and clients. His experience designing multi-building facilities is extensive; his designs for public works infrastructure include rail and bus transit facilities, parking garages and maintenance facilities. His experience covers all phases of project development, including planning, programming, design, and construction. Marcel's expertise in managing contracts, dealing with contract issues and delivering on projects ranges from multiple on-call work order contracts

RELEVANT PROJECTS

Everett Transit Parking Garage, City of Everett, Everett, WA. Project Architect. Tetra Tech teamed with KPFF on the design of the Everett Transit Parking Garage project, which is currently at 30% design stage. Tetra Tech provided Transit design coordination and integration, architectural site design, electrical, lighting and mechanical design for the project. Marcel directed the transit integration and site design aspects of the project. The City of Everett is currently pursuing Federal construction funding.

Juneau Parking Garage and Transit Center, City and Borough of Juneau, Juneau, AK. Project Architect. Tetra Tech Provided project management, civil, mechanical and electrical design services for this award winning parking garage and transit center in Juneau, AK. Marcel provided initial concept planning and concept level architectural design and transit station integration, and provided architectural QC for the project. Because of its size and key location it was one of the most significant architectural additions to the downtown area in the last 10 years. The project included the redesign of the intersection of Main Street and Egan drive, as well as pedestrian upgrades to both streets.

Architectural Services for Transit Projects on a Work-Order Basis, King County Department of Transportation, Metro Transit Division, Seattle, WA. Project Manager and Project Architect for design on multiple architectural and mechanical vehicle maintenance upgrades to various Metro bases. Marcel negotiated and managed the contracts for all 22 work orders totaling approximately $750,000 in design work. Many of the work orders were performed simultaneously and fast-track. Projects included a predesign study for a table lift replacement for Metro's existing paint facility, installation of four parallelogram lifts, design of a steam clean facility and predesign for the Ryerson Base Operations Improvements.

Architectural Services for Transit Projects on a Work Order Basis, King County Department of Transportation, Metro Transit Division, Seattle, WA. Project Manager for design of multiple architectural, civil, electrical and security work orders for Metro Transit. Marcel negotiated and managed all 9 projects totaling $484,000. To date, the work orders have ranged from: construction management services, emergency road repair design, security improvements at Ryerson Transit Base, security improvements at Atlantic Central Metro Base, lighting improvements at Green Lake Park, structural improvements at the downtown bus tunnel, and support services for roof and green roof redevelopment. Projects have been both fast track and ongoing.

Ryerson and Bellevue Base Improvements, King County Dept. of Transportation, Metro Transit Division, Seattle, WA. Project Manager for significant mechanical and architectural upgrades for two Metro bases. Ryerson Base capacity will be increased by providing more driver and administrative functions within the existing building footprint. All lighting and mechanical systems were also replaced, with special emphasis on energy savings and sustainability. Indoor air quality monitoring in the maintenance bays allows reduction of heated air, providing tremendous energy savings. The work includes complete phasing of the project to maintain operation of all aspects of the bases on site during construction, either through trailers or phased construction of necessary components, as well as integration of security and communication upgrades.

EXHIBIT "B"

Payment Schedule (Hourly Payment)

A. Hourly Rate

CONSULTANT'S fees for such services shall be based upon the following hourly rate and cost schedule:

SEE ATTACHED EXHIBIT B

B. Travel Charges for time during travel are not reimbursable.

C. Billing

1. All billing shall be done monthly in fifteen (15) minute increments and matched to an appropriate breakdown of the time that was taken to perform that work and who performed it.

2. Each month's bill should include a total to date. That total should provide, at a glance, the total fees and costs incurred to date for the project.

3. A copy of memoranda, letters, reports, calculations and other documentation prepared by CONSULTANT may be required to be submitted to CITY to demonstrate progress toward completion of tasks. In the event CITY rejects or has comments on any such product, CITY shall identify specific requirements for satisfactory completion.

4. CONSULTANT shall submit to CITY an invoice for each monthly payment due. Such invoice shall:

   A) Reference this Agreement;
   B) Describe the services performed;
   C) Show the total amount of the payment due;
   D) Include a certification by a principal member of CONSULTANT's firm that the work has been performed in accordance with the provisions of this Agreement; and
   E) For all payments include an estimate of the percentage of work completed.

   Upon submission of any such invoice, if CITY is satisfied that CONSULTANT is making satisfactory progress toward completion of tasks in accordance with this Agreement, CITY shall approve the invoice, in which event payment shall be made within thirty (30) days of receipt of the invoice by CITY. Such approval shall not be unreasonably withheld. If CITY does not approve an invoice, CITY shall notify CONSULTANT in writing of the reasons for non-approval and the schedule of performance set forth in **Exhibit "A"** may at the option of CITY be suspended until the parties agree that past performance by CONSULTANT is in, or has been brought into compliance, or until this Agreement has expired or is terminated as provided herein.

5. Any billings for extra work or additional services authorized in advance and in writing by CITY shall be invoiced separately to CITY. Such invoice shall contain all of the information required above, and in addition shall list the hours expended and hourly rate charged for such time. Such invoices shall be approved by CITY if the work performed is in accordance with the extra work or additional services requested, and if CITY is satisfied that the statement of hours worked and costs incurred is accurate. Such approval shall not be unreasonably withheld. Any dispute between the parties concerning payment of such an invoice shall be treated as separate and apart from the ongoing performance of the remainder of this Agreement.

EXHIBIT "B"

TETRA TECH – 2025
STANDARD HOURLY BILLING RATES AND EXPENSE REIMBURSEMENT SCHEDULE
NOTE: Rates subject to change annually

MANAGEMENT	
Project Manager 1	$220.00
Project Manager 2	$270.00
Project Manager 3	$290.00
Senior Project Manager	$315.00
QA/QC Manager	$320.00
Program Manager	$375.00
Principal-In-Charge	$375.00
ENGINEERS	
Engineering Technician	$100.00
Engineer 1	$115.00
Engineer 2	$135.00
Engineer 3	$155.00
Project Engineer 1	$175.00
Project Engineer 2	$195.00
Project Engineer 3	$205.00
Senior Engineer 1	$240.00
Senior Engineer 2	$250.00
Senior Engineer 3	$275.00
Principal Engineer	$365.00
SURVEYING	
Survey Tech 1	$105.00
Survey Tech 2	$115.00
Survey Tech 3	$135.00
Survey Crew Chief	$155.00
Surveying Specialist	$175.00
Land Surveyor	$190.00
Senior Land Surveyor	$240.00
Survey Crew (Non-Prevailing)	
1-person Survey Crew	$175.00
2-person Survey Crew	$295.00
3-person Survey Crew	$395.00
Survey Crew (Prevailing)	
1-person Survey Crew	$210.00
2-person Survey Crew	$365.00
3-person Survey Crew	$515.00
DESIGNERS/TECHNICIANS	
CAD Designer 1	$125.00
CAD Designer 2	$135.00
Senior CAD Designer	$150.00
GIS Analyst 1	$100.00
GIS Analyst 2	$120.00
OUTREACH	
Outreach Specialist 1	$135.00
Outreach Specialist 2	$150.00
Graphic Designer	$160.00
PROJECT ADMINISTRATION	
Project Assistant 1	$75.00
Project Assistant 2	$85.00
Project Administrator	$115.00
Senior Project Administrator	$135.00

CONSTRUCTION	
Construction Technician	$100.00
Assistant Construction Manager	$140.00
Senior Construction Manager	$190.00
Construction Inspector	$130.00
Senior Construction Inspector	$155.00
GEOTECHNICAL	
Soils Field Technician (Standard)	$116.00
Soils Field Technician (Prevailing Wage)	$145.00
Sr. Soils Field Technician (Standard)	$122.00
Geotechnical Drafter	$140.00
Engineer/Geologist 1	$130.00
Engineer/Geologist 2	$140.00
Engineer/Geologist 3	$150.00
Project Engineer/Geologist 1	$160.00
Project Engineer/Geologist 2	$175.00
Project Engineer/Geologist 3	$240.00
Senior Engineer/Geologist 1	$210.00
Senior Engineer/Geologist 2	$225.00
Senior Engineer/Geologist 3	$240.00
Supervising Engineer/Geologist	$250.00
Principal Engineer/Geologist	$250.00
Principal/Geotechnical	$300.00
OCEAN ENGINEERING	
Senior Ocean Engineer	$300.00
Ocean Engineer 3	$150.00
Ocean Engineer 2	$135.00
PLANNERS/SCIENTISTS	
Planner/Scientist 1	$125.00
Planner/Scientist 2	$135.00
Planner/Scientist 3	$145.00
Sr. Planner/Scientist 1	$155.00
Sr. Planner/Scientist 2	$170.00
Sr. Planner/Scientist 3	$185.00

Reimbursable In House Costs	
Photo Copies (B&W 8.5"x11")	$ 0.20/Each
Photo Copies (B&W 11"x17")	$ 0.50/Each
Color Copies (up to 8.5"x11")	$ 2.00/Each
Color Copies (to 11"x17")	$ 3.00/Each
Compact Discs	$10/each
Large format copies	$0.50 S.F.
Mileage-Company Vehicle	$0.80/mile
Mileage-POV	$0.67/mile*

*Current GSA POV mileage is subject to change.

All ODCs and any other services performed by subcontractors will be billed at cost plus 10%

EQUIPMENT GEOTECHNICAL	
Field vehicle usage (geotechnical engineers/geologists only)	$0.85/mile
Field vehicle usage (geotechnical field services)	$20/hr.
Sand Cone or Nuclear Density Gauge	$16/hr
Hand auger and soil sampling equipment	$70/day
BAT Permeameter	$275/day
Double Ring Infiltrometer	$250/day
Inclinometer data collection system	$400/day
Floor level manomenter	$80/day
Infiltration test flowmeter	$130/per day-test
Per diem	$300/day
Field vehicle usage (geotechnical engineers/geologists only)	$0.85/mile
Field vehicle usage (geotechnical field services)	$20/hr.
Sand Cone or Nuclear Density Gauge	$16/hr
Hand auger and soil sampling equipment	$70/day
BAT Permeameter	$275/day
Double Ring Infiltrometer	$250/day

Geotechnical Notes, Conditions, and Limitations

REGULAR HOURS: Fees for field technician's services are based on a standard 8-hour workday that is between 6:00 AM and 5:00PM Monday through Friday. Premium rates will be charged for work outside of these hours.

OVERTIME RATES: Overtime rates of 1.35 times of the standard rates will be charged for the first 4 overtime hours on weekdays, and for the first 8 hours on Saturdays. Premium rates of 1.7 times of the standard rates will be charged for hours worked in excess of 12 hours on weekdays, 8 hours on Saturdays, and all hours worked on Sundays and holidays.

SPECIAL SHIFTS: A surcharge of 50% will be added to personnel charges for personnel working during non-regular hours, e.g., night shift.

MINIMUM HOURS: For field inspection duration between 0 and 4 hours, 4 and 6 hours, and 6 and 8 hours, a minimum charge of 4 hours, 6, hours, and 8 hours, respectively, will be applied.

CANCELLATIONS: A minimum of 24 hours' notice is required to schedule or cancel field personnel. If less than 24 hours cancellation notice is provided, a show-up charge equivalent to 4 hours of work will be assessed.

HAZARDOUS ENVIRONMENT: A minimum surcharge of 20% will be added to personnel charges for personnel working with hazardous materials or in hazardous environments requiring Level C or better personal protection equipment.

MARKUP: Cost plus 15% will be charged for requested materials and services not listed on the above schedule associated with geotechnical support.

RATE ADJUSTMENTS: Unless otherwise agreed upon, the rates will be adjusted to the then current prevailing rates on the anniversary date of the project contract.

COASTAL FRONTIERS CORPORATION

2025 RATE SCHEDULE

Direct Labor Costs

Direct labor charges are made for project-related consulting services performed on behalf of the Client. These services may include engineering, technical typing, as in the preparation of reports and project documentation, duplicating, and shipping. Such charges are not made for office management, accounting, general secretarial services, and maintenance, as these are included in our overhead.

Effective January 1st, 2025, hourly rates for Coastal Frontiers personnel engaged in the performance of consulting services are as follows:

Job Classification	Hourly Rate (U.S. $)
Principal Engineer	$285.00
Associate Principal Engineer	$253.00
Senior Engineer/Senior Scientist	$223.00
Engineer II/Scientist II	$203.00
Engineer I/Scientist I	$190.00
Technician	$132.00
Word Processor/Drafter	$100.00
Support Services	$90.00

Overtime will be charged at the standard hourly rates. Time spent travelling on behalf of the Client also will be charged at the standard hourly rates, with the exception that no more than eight hours of travel will be charged in any one calendar day. When expert witness testimony is provided, time spent under oath, as in the case of depositions and court appearances, will be charged at 1.5 times the standard hourly rates.

These rates are not subject to escalation or adjustment until January 1st, 2026. If Coastal Frontiers desires to utilize additional personnel whose classifications are not listed above in the performance of a project, their qualifications and hourly rates shall be submitted to the Client for prior approval of participation.

Other Direct Costs

Costs relating directly to the performance of a project, other than Direct Labor Costs, will be charged at the billing or cost rate times 1.10. Such costs may include outside services, subconsultants, third-party equipment rentals, duplication, printing and photographic work, third-party computer time, special insurance, travel and transportation, subsistence or room and board, long distance communications, and exceptional postage.

In-House Equipment Rental

In-house equipment rental charges are made for the use of company-owned equipment dedicated to the performance of the Client's project. Rates are as shown on the following page.

Invoices

Invoices are submitted monthly and all fees are payable in U.S. Dollars within 30 days of date of invoice. Direct Labor charges will be invoiced by employee, charge rate, and hours worked. Other Direct Costs will be itemized and copies of receipts will be furnished. In-House Equipment Rental charges will be invoiced by item, charge rate, and period of use. Late payments are subject to an interest charge of 10% per annum, compounded monthly, on the unpaid balance.

IN-HOUSE EQUIPMENT RENTAL RATES

ITEM	DAILY RATE
DIVING	
• Arctic Diving Equipment, per Diver	$150
• Non-Arctic Diving Equipment, per Diver	55
• Dry Suit (Without Other Diving Gear)	50
HYDROGRAPHIC SURVEY	
• Odom Hydrotrac Echosounder	95
• CeeEcho Shallow Water Echosounder	100
• Inflatable Boat and Motor	225
• Aluminum Boat and Motor	500
• TSS DMS2-05 Motion Sensor	160
• SBG Ellipse Inertial Navigation System	160
• Hemisphere VS-110 GNSS/Heading System	125
• Hemisphere R-110 GNSS	90
• Garmin GPSMap 196/78SC GPS	40
• Castaway CTD	100
• Ruggedized Data Acquisition Computer	60
• Hypack Navigation Software	100
• Hysweep Multi-Beam Sonar Software	100
• Hypack-Hysweep Combination Software	150
• Tilt Adapter Multi-Beam Sonar Mount	50
• Chesapeake SonarWiz Side Scan Sonar Software	150
SURVEY	
• GNSS RTK Base/Rover Set	400
• GNSS RTK Rover	200
• GNSS GSM Network Rover	300
• GNSS Differential-Only Rover	100
• GNSS 35W Radio	150
• Survey Data Collector	50
• Electronic Total Station	150
• UAV Mapping System	750
• Mavic Mini UAV	200
• Survey Equipment (Automatic Level, Rod, and Tripod)	20
• Hand-Held VHF Radio	15
• Satellite Telephone	20
• All-Terrain Vehicle	50
• Survival Pack	50
• Switlik Aviation Survival Suit with ACR PLB Beacon	50

IN-HOUSE EQUIPMENT RENTAL RATES (cont.)

ITEM	DAILY RATE
MEASUREMENT	
• Valeport Tidemaster Tide Gauge	50
• Petit Ponar Sediment Sampler	25
• YSI 63-10 Water Quality Meter	60
• Hatch TSS Portable Meter	80
• RM Young Marine Wind Monitor and Data Collector	25
COMPUTING	
• Laptop (Field Use)	45
• Color Printing (per 8½" x 11" page equivalent)	0.60