

PROVIDING SAFE, RELIABLE WATER.



**SWEETWATER
AUTHORITY**

REQUEST FOR QUALIFICATIONS FOR
PROFESSIONAL ENGINEERING CONSULTING SERVICES



June 6, 2025



Leading with Science®

Submitted by:



TETRA TECH

1230 Columbia Street, Suite 1000
San Diego, CA 92101

1. INTRODUCTORY LETTER

Sweetwater Authority
505 Garret Avenue
Chula Vista, CA, 91910

Subject: REQUEST FOR QUALIFICATIONS FOR PROFESSIONAL ENGINEERING CONSULTING SERVICES – PFAS - JUNE 6, 2025

To Whom it May Concern:

Pursuant to the above-referenced RFQ, Tetra Tech, Inc. (Tetra Tech) submits the following to demonstrate the outstanding qualifications of the Tetra Tech Team. Tetra Tech is a leading provider of consulting, engineering, and technical services worldwide. We are a diverse company consisting of individuals with expertise in all phases of environmental sciences, ranging from permitting and planning to management, engineering, science, construction, information technology and research, among others. Our strength is in collectively providing integrated services and delivering the best solutions to meet our clients' needs. In a complex world with competing demands for limited resources, Tetra Tech offers clear solutions made possible with sound science, understanding, innovation, and industry-leading approaches. We have significant client representative environmental consulting contract experience, which is proudly demonstrated herein.

Tetra Tech understands that, since 1977, the Sweetwater Authority (Authority) has been providing safe, reliable water service to approximately 200,000 people within a 36-square-mile area that includes the City of Bonita, National City, and portions of the City of Chula Vista (western and central).

As requested for this RFQ, Tetra Tech provides this Statements of Qualifications (SOQs) presenting our extensive and exemplary professional engineering capabilities to serve as the Authority's representative. As requested Tetra Tech is ready to guide the Authority in selecting an engineering firm to develop a basis of design memorandum that will provide the most efficient and effective mitigation strategy to address per- and polyfluoroalkyl substance (PFAS) compounds for the Authority to meet the U.S. Environmental Protection Agency's (EPA) National Primary Drinking Water Standard (NPDWS) Maximum Contaminant Levels (MCLs) by April 2029.

Furthermore, raw water tests from Sweetwater Reservoir (SWR) and treated water tests from the Authority's Perdue Water Treatment Plant (WTP) have resulted in PFAS detections exceeding EPA's future MCLs and current California Notification Levels (NLs) and Response Levels (RLs). The Authority is not mitigating PFAS levels with the current treatment processes. Any potential mitigation strategies should be able to integrate with the existing Perdue WTP and be designed to reduce the PFAS levels to below all state and future federal standards (less than detectable levels) for all Perdue WTP operational conditions.

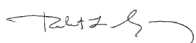
Tetra Tech's focus will be to provide responsive, highly technical, innovative, and quality-based services for the Authority. We understand that, while supporting a dynamic organization of member entities, such as the Authority, we must perform to the highest level, leveraging our team's significant expertise to meet schedules, financial commitments, and public scrutiny. Our locally based Tetra Tech Team will meet these requirements and more. All resources identified in this proposal are fully committed to supporting the Authority for this contract and have confirmed their availability.

Billing Rates and Costs have been submitted under separate cover, as required per this RFQ.

Proposal Authorization: As requested in the RFQ, Ms. Kathy Vandenheuvel, PE, Vice President, has the signatory authorization to bind Tetra Tech, Inc. and this submittal is in effect for ninety (90) days.

Should you have any questions, please feel free to contact the undersigned.

TETRA TECH, Inc.



Rob Manriquez, PG, QSD/QISP
Principal / Proposed Program Manager



Kathy Vandenheuvel, PE
Vice President

Longstanding Environmental Consulting Experience

- ▶ 34 years supporting the environmental needs of our clients with On-Call Contract Vehicles.
- ▶ Expert in San Diego County footprint and relevant regulatory agencies
- ▶ Proven history with small business partners
- ▶ Team of experts in all elements of the scope of work with capability to support any Authority environmental need.
- ▶ Innovative state-of-the-art tools provide opportunities to work creatively, efficiently, and economically.
- ▶ Local office in downtown San Diego
- ▶ Fully committed and ready to perform the work.

2. RESPONDER – TETRA TECH, INC.

Tetra Tech, Inc. (Tetra Tech) is a publicly owned, full-service environmental science and engineering consulting firm formed in 1966. Tetra Tech was incorporated in Delaware on February 4, 1988, and was authorized to do business in California on March 21, 1988. We operate over 550 offices worldwide with approximately 30,000 employees in many professional disciplines. Tetra Tech is a corporation with \$5.2 billion+ in annual revenue, and trades on the NASDAQ Exchange (TTEK). During 2024, our engineers and scientists worked on more than 110,000 projects and Engineering News Record (ENR), rated Tetra Tech as #1 for Environmental Management and Site Assessment and Compliance, and #2 in Environmental Science and Consulting/Studies. The ENR rankings indicate Tetra Tech's high standing in the environmental consulting industry. Tetra Tech is a national leader in environmental and engineering management services, providing state-of-the-practice technical support services for a multitude of clients. As regulatory pressures increase, our clients face technical issues that pose significant evolving challenges, and Tetra Tech is well poised to support these needs.

Tetra Tech's San Diego offices employ more than 70 environmental professionals, providing the Authority with the capabilities and proximity of staff able to support the project responsively with any environmental site services. Tetra Tech has experience supporting similar clients on multiple contracts, as demonstrated within this submittal.

Tetra Tech, Inc. (Corporation) - San Diego

- 70 employees in San Diego County
- San Diego County business Since 1990 (34 yrs.)
- 1230 Columbia Street, Suites 750 and 1000, San Diego CA, 92101
- 9444 Balboa Av. Suite 215, San Diego CA, 92123
- 2640 Financial Ct. Suite G, San Diego CA, 92117
- Department of Industrial Relations (DIR) Contractor Registration No. PW-LR-1001081170

Primary Point of Contact for Proposal Submittal

Rob Manriquez, P.G. Program Manager
(Cell) 858.527.8803

1230 Columbia St., Suite 1000, San Diego CA, 92101
Rob.Manriquez@tetrattech.com

3. FINANCIAL RELATIONSHIPS DISCLOSURES

Tetra Tech, Inc. and the Tetra Tech Team members presented for this RFQ, do not have any existing or past financial relationships with any current members of the Authority's Governing Board, staff, or entities for which said members are employed or have an interest, to disclose.

4. REQUIRED QUALIFICATIONS AND EXPERIENCE

As mentioned above Tetra Tech was established in 1966 and is a national leader and global provider of environmental and engineering management services, providing state-of-the-practice technical support services for a multitude of clients. Our local offices were established in 1990, and we have been leaders in the local environmental consulting industry since.

We are differentiated by Leading with Science® to provide innovative technical solutions to our clients. We support global commercial and government clients focused on water, environment, sustainable infrastructure, renewable energy, and international development. Tetra Tech provides clear solutions to complex problems.

Our services include all elements of the scope of services listed in the RFQ and many more. The Tetra Tech Team provides best-in-class services, ranging from environmental design and permitting, environmental consulting, monitoring, remediation, innovative solutions, and more. We work collaboratively with clients as partners to evaluate how to incorporate industry best practices and newest proven technologies into projects.

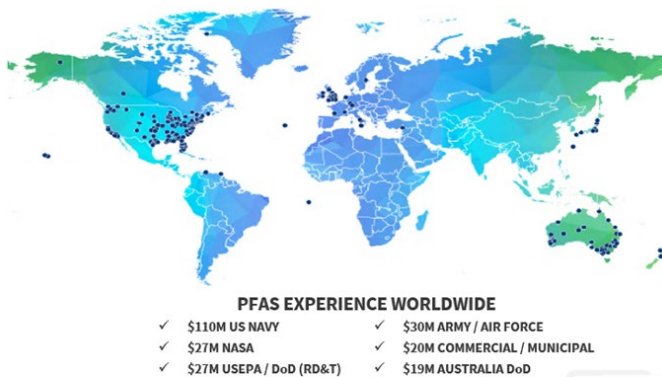
Highlights of our experience for some of the key elements of this RFQ directly follow. Additional detail and requested information are provided in the *Past and Ongoing Qualifying Project Examples* further below in this section.

In 2024, Tetra Tech received the Environmental Business Journal (EBJ) Project Merit Award for our work with the City of Dayton, Ohio, to address proposed regulations for per- and polyfluoroalkyl substances (PFAS) in the City's water supply. In addition to the PFAS Project Merit Award, Tetra Tech received four additional awards for excellent performance, innovation, and industry leadership in climate change, environment, and sustainable infrastructure. ■



Emerging Contaminants of Concern: These are a significant focus for our clients and PFAS in soil, groundwater, and (most recently) surface water top the list. Tetra Tech is currently working on several large-scale PFAS assessment, sampling and remediation efforts for clients around the world.

PFAS Assessment and Remediation: Tetra Tech has over 50 years of experience conducting site investigations and remediation for a broad range of contaminants. PFAS, an emerging contaminant with many unique properties, requires an experienced contractor with a strong environmental foundation and the ability to innovate. Tetra Tech has built a strong reputation for our site investigation and remediation practice using a science-based approach to technical excellence and project execution. Our engineers and scientists place an emphasis on optimizing treatment processes, minimizing operations and maintenance requirements, and implementing adaptive design methods to reduce overall life cycle costs. The concepts and highlighted project descriptions provided herein illustrate our non-routine site characterization and innovative treatment solutions for PFAS.



PFAS Treatability/ Pilot Tests: Tetra Tech has designed, constructed, and operated a multi-column treatability/pilot testing system for the treatment of PFAS from two waste streams. The treatability tests were conducted in response to PFAS concentrations detected in the effluent from a wastewater treatment plant (WWTP) and the former fire training area groundwater. The treatability/pilot testing system consisted of four parallel treatment trains to compare four different treatment media for PFAS removal. The results indicated successful removal of multiple PFAS with different breakthrough bed volumes for each PFAS compound.

PFAS Treatment in Seeps & Streams: Tetra Tech has completed several tasks to mitigate off-site migration of PFAS via surface water. At one outfall, Tetra Tech designed, constructed, installed, and operated a 1-gallon-per-minute (gpm) SeepSorber™ system to remove high concentrations of PFAS in seep water. The seep water flows through a treatment system containing PFAS adsorbents. The system is currently operating and has reduced PFAS concentrations in the effluent seep water by more than 99.99 percent.

Destruction of PFAS in Soil/ Sediments using Electron Beam Technology: Tetra Tech has been collaborating with Texas A&M University on the research, development, and commercialization of Electron Beam (eBeam) technology for the destruction of PFAS in soil, sediments, biosolids, leachate, and high concentration liquids. The development of a field-deployable system is underway with support from SERDP-ESTCP and other entities

Treatment of PFAS from Storm Water Basin: Tetra Tech designed and constructed a 50-gallon-per-minute PFAS treatment system to address PFAS-contaminated water that accumulates in tank berms from precipitation. Tetra Tech conducted treatability studies to determine the efficacy of removal of PFAS associated with colloidal particles. The innovative, state-of-the-art mobile treatment system is operating in a refinery combustion safety zone setting and is successfully treating a complex mix of petroleum and PFAS constituents.

Biota Sampling for PFAS Risk Assessments: Tetra Tech collected shellfish (clams and mussels) and fin fish (brook trout and black crappie) for PFAS analysis in tissue to support human health and ecological risk assessments at a DoD site. The sample design included co-located sediment and shellfish samples to assess PFAS uptake. Samplers followed Tetra Tech-developed SOPs to avoid cross contamination of these ubiquitous chemicals. The U.S. Environmental Protection Agency (EPA) Method 1633 was used for tissue analysis of up to 40 PFAS compounds.

Project Experience

Tetra Tech is conducting multiple PFAS projects in California and across the United States, including the following:

- NASA
- The Navy (multiple sites at 46 facilities), including Naval Base San Diego
- Army National Guard (490 drinking water samples collected at 93 facilities nationwide)

The experiences described below provide the Authority an owner's representative with subject matter experts readily available to address these emerging chemicals and other upcoming substances that are being discussed in the regulatory world. Our direct connection to the EPA Regional Water Quality Control Boards (RWQCB), California EPA / Department of Toxic Substances Control (DTSC), and others provides the Authority with a consultant who is not only in the know but is also helping to develop the science and regulations of the future. This experience will provide the Authority an opportunity to look forward in preparation for what is to come.

The following project descriptions are relevant to the requested scope of work and provide examples of Tetra Tech's technical capabilities to support the Authority as their representative for all things PFAS.

OTTAWA WATER TREATMENT PLANT, END OF PIPE TREATMENT

Location: 3210 Chuck Wagner Lane, Dayton, OH 45414

Client: City of Dayton, OH Division of Water Supply & Treatment

Period of Performance: October 2019 to Present

Total Dollar Value: \$3.5M

Client Contact: Liz Zelinski, PE, WTP Engineer, liz.zelinski@daytonohio.gov

Phone: 937-333-6093 [Alt. Phone: 937.333.6134]

Contract Duration: July 2023 to December 2026

The Project is: Ongoing, On-Time, and On Budget

Award: Project Merit, Environmental Business Journal® (EBJ), 2025

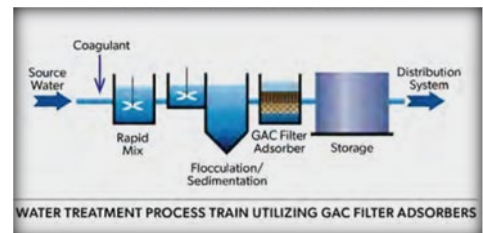
The Division of Water Supply & Treatment (WS&T) provides clean drinking water to more than 430,000 residents in Montgomery and Greene Counties. The Ottawa Water Treatment Plant (OWTP) with a rated capacity of 96 million gallons per day (MGD), is being impacted by a plume of PFAS in the Mad River well field. The contamination, which has been caused by others, has forced the City of Ottawa to temporarily decommission eight wells that are closest to the plume. Even with these eight wells out of service, the OWTP has recorded PFAS levels ranging from approximately 3 parts per trillion (ppt) to 14 ppt in the finished water. It is understood that the Mad River well field recharge water has PFAS concentrations at similar levels.

The City faces PFAS contamination at the WTP from a plume in the Mad River well field. Planning and engineering evaluations were conducted to identify cost-effective PFAS treatment system to mitigate PFAS levels below detection limits in WTP's finished water. We also evaluated storage, blending, adsorptive media selection, siting, and exploring alternative delivery methods. Key considerations include adequacy of existing storage, blending analysis to achieve 80 percent treatment levels, bench testing for media selection, and evaluating site options for minimal impact. The project aims to enhance water treatment and storage, while minimizing operational costs and providing safe drinking water to the Dayton area. Once completed, the PFAS treatment facility will be the largest in the United States.

Tetra Tech was selected to perform a planning and engineering evaluation to identify a cost-effective PFAS treatment system to mitigate PFAS levels to below detection limits in the finished water from OWTP.

The following outlines the project elements:

- **Storage Evaluation.** Tetra Tech performed an evaluation to determine if the existing 10 MG of reservoir storage was sufficient to meeting regulatory, operational, and risk management needs. The analysis evaluated fire flow needs for the downtown area, operational needs for chlorine contact and dead storage due to hydraulics, and emergency reserve for treatment/pumping disruption events. Two recent water main breaks resulted in significant disruptions to the service. The storage evaluation concluded that existing storage was sufficient for fire flow and operational requirements. Risk mitigation for service disruption would require 2.2 MG to 6.5 MG of additional storage.
- **Blending Evaluation.** A blending analysis was performed to identify a range of potential PFAS treatment capacities under different well usage conditions or use to the 48-inch interconnect from the Miami well field. The analysis shows that a treatment PFAS capacity of 60 MGD and blending an additional 36 MGD of finished water would achieve a treatment level of 80 percent of expected MCLs.
- **Adsorptive Media Bench Testing and Selection.** We developed a work plan for performing a rapid small scale column test (RSSCT) to evaluate two types of granular-activated carbon (GAC) and two types of ion exchange (IX), and Fluoro-Sorb. The work plan was submitted to Ohio EPA for review. The RSSCT results will be used to perform a life-cycle cost analysis to select the best media for the City to provide safe drinking water to the Dayton area and minimize O&M costs.
- **Siting Evaluation.** The OWTP site is congested with no unused space for new facilities. The analysis evaluated potential locations that could site the new PFAS treatment, reservoir storage, influent pump station, and yard piping with the least impact to WS&T and other City divisions. The analysis included developing facility layouts for each type of adsorptive media using vessels and contactors (GAC only).
- **Alternative Delivery.** The City is moving toward alternative delivery for large infrastructure projects and the tight regulatory schedule for completion by April 2029 is leading the City to consider an alternative delivery. An evaluation is being performed to identify potential delivery methods, including the specific steps/processes for each and pros/cons.
- **Preliminary Design Report.** The primary deliverable is a 30 percent Design Report that includes drawings and specifications of proposed improvements. The 30 percent design will include plans, sections, and/or plan/profile drawings for all proposed improvements, including an influent pump station, yard piping, PFAS treatment process and building, and additional reservoir storage. The package will be used as the foundation for completing the design and implementing the construction under the selected delivery method.



COMPREHENSIVE PFAS INVESTIGATIONS AT NASA ARMSTRONG FLIGHT RESEARCH CENTER (AFRC)

Location: NASA AFRC, Edward Air Force Base, CA

Client: NASA Headquarters, Period of Performance: October 2019 to Present

Total Dollar Value: \$2,494,985

Client Contact: David Liu, PE, Regional Restoration Project Manager; david.liu-1@nasa.gov, 757.824.2141;

The Project is: Ongoing, On-Time, and On Budget

Tetra Tech is providing NASA comprehensive PFAS and related environmental engineering services that includes: development of a PFAS sampling plan (based on site history, use of PFAS-containing products, site topography/hydrogeology, PFAS physicochemical properties, and potential transport mechanisms); and sampling of groundwater, soil, drinking water, and surface water at NASA's Armstrong Flight Research Center (AFRC) on Edwards Air Force Base (EAFB) and at NASA Armstrong Building 703 in Palmdale, both in California.

Tetra Tech is conducting preliminary assessment (PA), site inspection (SI) (PA/SI), and Phase I remedial investigation (RI) at AFRC and a PA at NASA Armstrong Building 703 in Palmdale, California. The PA documented and evaluated potential sources and releases of PFAS at AFRC and at Building 703. PA activities included identification and source characterization, evaluation of evidence of PFAS releases, determination of potential receptors and migration pathways, development of a detailed conceptual site model (CSM), and identification of areas requiring further investigation under the PFAS SI. Tetra Tech developed a sampling plan and a Uniform Federal Policy Quality Assurance Project Plan (UFP-QAPP) to determine whether PFAS is present in soil or groundwater at the eight areas of potential concern (AOPC) identified in the PA for AFRC.

Tetra Tech completed the field sampling activities for the SI at AFRC in 2022. Because of the sampling site's proximity to the active flight line, all staff and subcontractors were required to complete NASA AFRC/ EAFB flightline training. Field activities included conducting geophysical surveys to detect and map underground utilities, performing borehole optical and high-resolution acoustic televiwer surveys, installing groundwater monitoring wells using sonic drilling, installing soil borings using direct-push technology, sampling soil and groundwater, and characterizing and disposing of investigation-derived wastes. All field work was coordinated with the Base to ensure no impact to scheduled flights and mission-critical activities. Work was completed safely without any incidents. Because of the low (parts per trillion) regulatory criteria, all staff were trained specifically for sampling of PFAS compounds to ensure that no PFAS-containing materials were brought on site or used during sampling to avoid any cross-contamination issues. In addition, as part of this project Tetra Tech also conducted sampling of drinking water at six locations at Building 703 at the Palmdale Facility to determine if PFAS had migrated to groundwater in the vicinity of the on-site drinking water wells. These activities, as well as recommendations for further investigation, were documented in the final SI report. Tetra Tech is currently in the process of finalizing the UFP-QAPP and sampling plan for the Phase I RI. Field activities were performed in late 2024/early 2025.



ON-CALL CONSULTING SERVICES FOR PFAS TREATMENT SYSTEMS

Location: Orange County, CA

Client: Orange County Water District, Period of Performance: March 2020 to Present

Total Dollar Value: Project Construction Costs Range from \$2M to \$32.5M

Client Contact: Chris Olsen, PE, Director of Engineering, 714.378.3232, olsen@ocwd.com

The Project is: Ongoing, On-Time, and On Budget

Tetra Tech was contracted by the Orange County Water District (OCWD) for on-call consulting services for PFAS treatment systems, providing design services to OCWD and the Orange County Producers to resolve the PFAS issues in the Orange County groundwater basin. These projects are critical because each month the Producers are unable to use their wells, they must use imported water at an additional cost to the Producers of between \$2.5 to \$4.0 million per month. The program involves the design and construction of multiple large-scale complex water treatment facilities for 66 affected wells in Orange County. As part of OCWD's program, Tetra Tech has completed the design for the four projects listed below.



Virtual tours: As part of this program, Tetra Tech hosted several virtual tours / walkthroughs of the new facilities. Our design team engineered solutions using 3D Building Information Modeling (BIM), which could then be easily transmitted to a virtual reality platform and stored on a secure cloud for participants to access. This allows for multiple users from remote locations to access the same model. Tetra Tech delivered virtual reality headsets to the client and scheduled the virtual tour, providing training and navigating clients and stakeholders through the tour. These virtual tours allow clients to have a more thorough understanding of the design, improves collaboration, and enables quality feedback to validate decisions.

Testimonial: Chris Olsen, Director of Engineering for OCWD said: "Tetra Tech has done a great job of providing high quality PFAS Treatment designs in a short period of time and has proven to be flexible and responsive in dealing with requested changes throughout the process. It has and continues to be a successful partnership."

Serrano Water Treatment Plant (In Operation): This project consists of a 3,000 GPM ion exchange (IX) system with a bag filter pre-treatment, 3,000-GPM booster pump station and new chemical feed system for disinfection. Tetra Tech is providing design and construction services for the Serrano PFAS water treatment plant, including the following:

- Connections to Well No. 5 and Well No. 7
- A treatment system of 3 pairs of IX vessels (6 total) or 8 pairs (16 total) for GAC
- A prefilter system for an IX option
- Provisions to deal with the high dissolved oxygen in well water at the plant
- A GAC backwash tank and GAC waste tank for the GAC option
- Pipeline connections to the distribution system and the sanitary sewer system
- Connection of system instrumentation to Serrano Water District's existing Supervisory Control and Data Acquisition (SCADA) system

Awards:

- ASCE Orange County Branch – Water Treatment Project of the Year – Serrano PFAS Plant 2020
- ASCE Orange County Branch – Project of the Year – Yorba Linda Water District PFAS Plant 2021
- ASCE Los Angeles Chapter – Project of the year - Yorba Linda Water District PFAS Plant 2022

The Tetra Tech Team prepared the Engineer's Report and Operating Plan for the State of California Division of Drinking Water (DDW) for each of the projects.

Solutions for each project conducted to date are as follows:

- **Serrano Water District Wells #5 and #9:** Treatment of 3,000-GPM IX system with a bag filter pre-treatment, 3,000 GPM booster pump station and new chemical feed system for disinfection. Treatment equipment was camouflaged with landscaping and grading to protect expensive vistas of local residents. Estimated Construction Cost - \$6.2M.
- **Kimberley Well 1A:** Treatment of 3,000-GPM IX system with a bag filter pre-treatment and new chemical feed system for disinfection. Estimated Construction Cost - \$3.7M.
- **Fullerton Main Plant:** Centralized treatment of six (6) onsite wells with a total capacity of 10,100 GPM. PFOS, PFOA, and VOCs will be removed using 6-to 12-foot diameter, 40,000-pound GAC vessels that will discharge into an existing forebay and will then be pumped into the distribution system. Estimated Construction Cost - \$11.3M.

Yorba Linda Water District Headquarters Plant: Centralized treatment of 10 wells with a total capacity of 17,400 GPM. An IX system consisting of 11 pairs of lead/ lag vessels (22 vessels total), bag filter pre-treatment, booster pump station, and new on-site generation system for chlorine disinfection. To construct the system on the existing site, an extensive analysis of the site improvements was completed. Estimated Construction Cost - \$32.5M.

PROPOSED PROJECT MANAGER

Rob Manriquez, PG, QISD/QSP is our proposed Tetra Tech Project Manager, will provide corporate support to the program, meet with Authority staff to help establish the gram plan, and manage all contractual and financial aspects of the program. He will ensure Tetra Tech's three-step quality control process is being enforced and will maintain communications with Authority staff to ensure top performance. He will ensure that staff are executing all aspects of each task order and work closely with team personnel and appropriate Authority personnel to carry out all phases of work on time and on budget while exceeding client expectations. He will oversee responses to task order requests and assign a Task Order Manager, as appropriate. He will coordinate with all subcontractor partners to ensure appropriate distribution of work, as agreed. Details on his extensive environmental expertise are presented in Section 5 (and throughout) and Section 2 included his contact information.

PAST AND ONGOING QUALIFYING PROJECT EXAMPLES

The following brief project summaries highlight our contract and project experience in performing similar scopes of work. These Project *Snapshots* further demonstrate our extensive technical expertise, bench strength, and capability to perform any PFAS project undertaken by the Authority. If needed, we can call upon additional professionals using our unrivaled national and international experts. Table 4.1 below provides a list of similar PFAS environmental consulting projects performed by Tetra Tech.

ELLM'S MEADOW - PFAS TREATABILITY AND DESIGN

Town of Cohasset, MA, Client/Owner: Cohasset Water Department, 39 King Street, Cohasset, MA 02025
Client Contact: Jason Federico, Engineer: 781.383.0057, Engineering Fee: \$182,000: 03/2021 – 09/2021

Tetra Tech supported the Town of Cohasset's implementation of a MassDEP PFAS grant, under the PFAS Grant/Reimbursement Program Round 2. Our scope of work included technical support, engineering design, and permitting for the investigation, development, and implementation of PFAS treatment alternatives at the Ellms Meadow well field, which provides approximately 15 percent of the town's water supply.



The goal of the Ellms Meadow PFAS treatability and design project was to reduce the PFAS6 levels in the finished well field water from nearly 20 nanograms per liter (ng/L) down to less than 10 ng/L. This reduction will benefit residents in proximity to the Ellms Meadow well field and improve overall service to area residents and the interconnected Hingham and Hull communities by further reducing blended PFAS6 levels throughout the system. It will also minimize environmental impacts in the Ellms Meadow watershed.

Tetra Tech took a unique scientific approach to the scope of work. Our firm evaluated the 'best' alternatives for addressing the issue, rather than just proposing a pilot or demonstration evaluation using standard piloting techniques that could potentially underperform or miss the grant funding deadline. We conducted a rapid small-scale column test (RSSCT) to evaluate and determine the treatment efficiency, sizing, and operational requirements of alternative advanced PFAS treatment technologies, including GAC and IX. In conjunction with the RSSCT testing, and before finalizing the treatment selection, Tetra Tech performed preliminary and final design, and site planning activities. This concurrent timeline enabled the project to meet the grant schedule.

Key Features:

- Evaluated PFAS treatment alternatives
- Conducted concurrent RSSCT testing, design, and site planning activities to meet aggressive grant schedule
- Developed treatability design to reduce health risks to residents and minimize environmental impacts in the Ellms Meadow watershed

CITY-WIDE PFAS STUDY, DOWNEY, CA

Client/Owner: City of Downey, 11111 Brookshire Avenue, Downey, CA 90241
Engineering Fee: \$198,700: Project Duration: July 2021

Project was a city-wide PFAS study for the City of Downey, CA. Tetra Tech's role was to study 18 wells affected by PFOS and PFOA. The study included analysis of water quality, siting, comparison of IX and GAC treatments, evaluation of piping wells to a central location for treatment, capital cost and O&M estimates, and lifecycle cost analysis. Our report was used as an attachment to the City's funding application to Water Replenishment District. Total Capacity: 13,900 GPM



WELL ET-1 PFAS STUDY AND DESIGN, Irvine, CA

Client/Owner: Irvine Ranch Water District: **Engineering Fee:** Study: \$19,870: **Design:** \$658,598:
Construction Cost: \$3M: 2020 - 2023

Tetra Tech developed ET-1 (capacity of 1,100 GPM), to increase utilization of the Irvine sub-basin through recovery and treatment of VOC-impaired, poor-quality groundwater. The project cleaned up contaminated VOCs with the treated water used for non-potable purposes. Water extracted from inside the VOC plume was treated using GAC and air stripping technologies. We analyzed project water quality and developed three options for treating PFAS discovered at ET-1. The options included adding wells ET-1 and 78 into the project if PFAS was found at those wells. Tetra Tech determined if IX or GAC treatment should be used and developed capital and operations costs. We also prepared the final design, schedule, and cost estimate. The scope of work of the project included:

- Analyzing project water quality
- Developing three options for treating the PFAS discovered at ET-1
- Developing three options to include wells ET-1 and 78 into the project if PFAS is found at those wells
- Determined if IX or GAC treatment should be used
- Developed capital and operations cost
- Prepared final design, schedule, and cost estimate

Coordination of Trades & Subconsultants, & the QA Process: Tetra Tech coordinated with our subconsultants, including survey, traffic, and geotechnical engineering, on the project. We prepared a Design QA/QC plan for the project and followed it through the entire design process. The project has not been bid yet so we have not yet interacted with trades.



Accuracy on Engineer's Estimate: Our initial study cost estimate compared favorably with our detailed estimate at the 100 percent design level. The estimate was also compared to recently bid similar projects and found to be very accurate.

Record of Meeting Schedules and Controlling Costs: To date, Tetra Tech has met all schedule requirements. We have closely compared our costs during the study with similar sized projects that have been bid to find that our estimates, even during study projects, are accurate. Our team has also used lessons learned from our first PFAS design projects to reduce costs on our subsequent projects.

Project Benefits:

- GAC was used because of the presence of VOCs and PFAS in the groundwater
- Designed to be built on an existing operating well site
- Layout included planning for future expansion
- City permits were required for piping connection

Table 4.1 includes a summary of similar projects.

Table 4.1 – Summary of Projects with Similar Scope of Work Elements

Scope Element As Per RFQ	Ottawa Water Treatment Plant End of Pipe Treatment	Comprehensive PFAS Investigations at NASA Armstrong Flight Research Center	Orange County Water District PFAS Treatment Systems	Elms Meadow PFAS Treatability and Design	City of Downey PFAS Study	Irvine Ranch Water District Well ET-1 PFAS Study and Design	City of South Gate PFAS Compliance Study	Yorba Linda Water District Headquarters PFAS Treatment Plant	City of Ann Arbor, MI Filter Backwash Improvements
1 – Perform a desktop alternatives analysis for compliance with the EPA's future MCLs and California NLS and RLS (including but not limited to watershed management, source water blending, and treatment technologies); and provide a total project cost estimate for the recommended improvements	X	X	X	X	X	X	X	X	X
2 – Make a recommendation for a pilot study to evaluate the effectiveness of various treatment technologies (including granular activated carbon (GAC), ion exchange (IX), reverse osmosis (RO), and nanofiltration (NF)) for PFAS removal at the Perdue WTP based on best available information including water quality and operational data	X	X	X	X	X	X	X	X	X
3 – Develop a pilot test protocol and assist the Authority with the execution and operation of the pilot	X	X	X	X	X	X	X	X	X
4 – Prepare a pilot test report that, based upon the study results, makes a recommendation for full scale treatment. Estimate capital costs and ongoing operation and maintenance (O&M) costs	X	X		X					X
5 – Prepare a preliminary design report for PFAs treatment removal. Submittals will be at key milestones as proposed by the consultant and agreed upon by the Authority	X	X	X	X	X	X	X	X	X
6 – Additional Services (Preliminary Assessment / Site Investigation, Risk Assessment, Geophysics / Remote Sensing / UAV / GIS, 3D Modeling / Database and Web-based Design, and Community Relations)	X	X	X	X	X	X	X	X	X

5. PROPOSED ORGANIZATION AND KEY PERSONNEL

Team Overview

As mentioned earlier in this submittal, Tetra Tech's 34 years in San Diego has involved assisting private, local, state, and federal clients on a wide variety of engineering and environmental projects, while partnering with local technical partners. To support this contract, we have once again assembled the very best San Diego-based talent with unmatched expertise to specifically address the Authority's scope of work outlined in the RFQ. Our significant experience in similar settings is ideally suited for the environmental services anticipated for this contract. Our team is well seasoned with direct local experience and is the preferred choice for working on the most complex environmental issues on behalf of the Authority.

Tetra Tech Team Organizational Structure

Tetra Tech's proposed organizational structure is based on our proven success in executing a wide range of environmental contracts for government clients. We understand the RFQ's requirements and propose a simple, flexible management structure that is based on (1) an established Project Management team overseeing program execution and coordinated contract-wide administrative and technical activities; (2) Task Order Managers providing specific as-needed support under each task order, leading day-to-day coordination and the execution of specific activities, coordinating and directing on-site activities, and assigning technical staff required to meet objectives; (3) Subject Matter Experts supporting specific task orders, as needed; and (4) a comprehensive reach-back network of additional SMEs to provide specialized expertise when needed.

Project Team Personnel

Our proposed team was developed to address all *Scope of Work* items outlined in the RFQ. Table 5.1 below lists the roles and qualifications of anticipated personnel.

Table 5-1 - Project Team Personnel Qualifications per Scope of Work

Proposed Staff	Firm Name	Role	Scope Item	Location	Yrs Exp.	Education	Licenses/ Certifications
Preliminary Assessment / Site Investigation (PA/SI)							
Jeff Eddo	Tetra Tech	Senior Geophysicist	6	San Diego	22	B.S. Geophysics and Geological Sciences M.S. Geophysics and Geological Sciences	Registered Professional Geophysicist (PG) #1080 (CA) and #13020 (TX) Registered Professional Geologist (PG) #9381 (CA)
Dave Bloom	Tetra Tech	Geologist	6	San Diego	30	B.A., Geology, Pomona College	Professional Geologist California #6192 Certified Hydrogeologist California #585 Certified Engineering Geologist California #2111
James Brady	Tetra Tech	Environmental Engineer	6	San Diego	20	B.S. Environmental Engineering M.S. Civil Engineering	Professional Civil Engineer, California (C74676), 2009 Qualified SWPPP Developer (QSD) Qualified SWPPP Practitioner (QSP) (20918), 2011 Qualified Industrial Storm Water Practitioner (QISP), 2016
Jack Wada	Tetra Tech	Project Manager	6	San Diego	7	B.S. Environmental Earth Science	40-Hour HAZWOPER 40-Hour EM-385-1-1 USACE Safety & Health
Alternatives Analysis / Desktop Studies							
James Christopher	Tetra Tech	Vice President	1	Orlando	45	B.S. Chemistry M.S. Environmental Engineering and Science	Board Certified Environmental Engineer Professional Engineer: Florida, No. 34204, 1984 Georgia, No. 40943, 2016 Texas, No. 134780, 2019
Crisna Raymond	Tetra Tech	Project Engineer	1	Irvine	29	B.S. Civil Engineering	Registered Civil Engineer – California No. 69403, 2006
Pilot Studies / Treatment Technologies							
Stephen Del'Homme	Tetra Tech	Vice President / Engineering Director	2	Houston	43	B.S. Civil Engineering MBA	Professional Engineer, AL, AZ, DC, FL, GA, HI, IN, KS, LA, MI, MS, NV, NJ, NM, OH, OK, TN, TX, UT, WY Registered LPST Corrective Action Project Manager FAA Drone Remote Pilot #3991040
Peter Yu	Tetra Tech	Project Engineer	2	Irvine	18	B.S. Mechanical Engineering	Professional Civil Engineer #88056 (CA), 2017
Amanda Taylor	Tetra Tech	Project Engineer	2	Irvine	16	B.S. Biological Systems Engineering M.S. Environmental Engineering and Science	Professional Engineer: Chemical, #6700 (CA), 2015, #0402050760 (VA), 2013

Proposed Staff	Firm Name	Role	Scope Item	Location	Yrs Exp.	Education	Licenses/ Certifications
Preliminary Design Report							
Mazen Kassar	Tetra Tech	Project Manager	3, 4, 5	Irvine	35	B.S. Electrical Engineering	Professional Engineer #15809 (CA 1998), #112073 (TX 2012), #88270 (OH 2022), #21208 (AR 2022) General Construction Class B #777845 (CA 2008) C-10 Electrical Contractor Class C #777845 (CA 2008) ETAP Electrical Power Modeling, 2010 GE/Intellution and Wonderware SCADA Programming, 1998 Vapor extraction and Groundwater Treatment, 1991
Eric Yuen	Tetra Tech	Structural Project Manager	3, 4, 5	San Dimas	18	B.S. Civil Engineering M.S. Structural Engineering	Professional Engineer #75983 (CA 2009), #63246 (MT 2020), #56159 (OR 2019) Professional Structural Engineer #6177 (CA 2014), #94532 (OR 2019)
Kara Buttacavoli	Tetra Tech	Project Engineer	3, 4, 5	Irvine	10	B.S. Environmental Engineering B.S. Civil Engineering	Registered Civil Engineer #60452 (CA 2000)
Risk Assessment							
Robert Tisdale	Tetra Tech	Environmental Chemist	6	Denver	28	A.B. Chemical Physics Ph.D. Chemistry	
Geophysics / Remote Sensing / UAV / GIS							
Aaron Puente	Tetra Tech	Geophysicist / Geologist	6	San Diego	16	B.S. Geology	
Grace Ashmore	Tetra Tech	Geophysicist / Environmental Scientist	6	San Diego	8	B.S. Environmental Science	DOD Advanced Geophysical Classification Accreditation Program (DAGCAP) Part 107 Remote Pilot Certificate Part 141 Private Pilot Certificate 40-hour EM 385-1-1
Clarke Smith	Tetra Tech	GIS Analyst	6	San Diego	25	B.S. Media Communications	Geographic Information Systems Certification
3D Modeling / Database and Web-based Design							
Jody Edwards	Tetra Tech	Principal Hydrogeologist	6	Chantilly	38	B.S. Geology M.S. Geology	
Gustavo Orozco	Tetra Tech	GIS Analyst / Python Developer	6	Tampa	26	B.S. Surveying Engineering M.S. Environmental and Urban Geosciences A.C. Geographic Information Systems (GIS) V.C. Construction Management M.S., Natural Resources & Environmental Management	Certified Geographic Information Systems Professional #160722 Project Management L1, L2 ICS-200 to ICS-400
Community Relations							
Carolyn Hunter	Tetra Tech	Communications Manager	6	San Diego	25	B.A. Communication / Media Relations	National Registered Environmental Manager 12176017577190430 International Association for Public Participation (IAP2)

Availability and Geographic Location

As-needed contracts require a team that is not only technically excellent, but one that can respond quickly, and our local presence and knowledge ensures the Authority of such a team. As requested, the primary locations for our personnel are indicated in Table 5.1 above.

Roles and Responsibilities

The following primary roles include professionals with the expertise and experience to guide the Authority through its environmental program and to meet its technical needs, as outlined in the RFQ.

Project / Contract Manager – Rob Manriquez, PG, QISD/QSP will provide corporate leadership to the program, meet with Authority staff to help establish the program plan, and manage all contractual and financial aspects of the program. He will confirm that Tetra Tech's three-step quality control process is being enforced and will maintain communications with Authority staff to facilitate top performance and ensure that Tetra Tech staff are executing all aspects of each task order. He will work closely with Tetra Tech Team personnel and the Authority to support all phases of work and ensure that work is on time and on budget while exceeding client expectations. He will work with the Technical Director and monitor task assignments as appropriate. His direct experience includes addressing Porter Cologne Water Quality Act issues throughout California. Mr. Manriquez specializes in creating diverse technical teams to address complex environmental issues for Tetra Tech clients.

He is an innovation leader, integrating state-of-the-art technology, electronic field data collection, and web mapping applications (WMA) with GIS and SCADA systems. These integrated interactive solutions currently facilitate real-time data mining and analysis for the San Diego County Regional Airport Authority and the Port of San Diego. His abbreviated resume is provided below.

Technical Manager – Steve Tedesco, PE Tetra Tech Technical Director will provide technical leadership to the program, Mr. Tedesco will use his 40 years of experience in water treatment design to supporting this project to oversee task orders, and he will engage appropriate SMEs and technical staff to execute the requested scope of work at the highest quality. He will manage the Team's day-to-day efforts. As shown in his abbreviated resume, Steve has been involved in the successful design of numerous California PFAS treatment plants.

Quality Control Manager – Steve Bradley, PG, CEG, will oversee the quality control process on all deliverables, including a technical review, editorial review, and a final quality control coordinator review (or other technical reviews as appropriate) to ensure high quality deliverables.

Subject Matter Experts (SMEs) – Along with the Technical Manager, SMEs will be the technical backbone to our program, providing decades of experience to each task and interacting with the Authority to achieve project objectives. SMEs initially anticipated for the program are presented in the organization chart with brief bios presented further below. SMEs provide specific extensive expertise to the contract, which is paramount to providing the Authority with the utmost technical knowledge as the owner's representative.

Tetra Tech's proposed organization chart is shown below.



Leading with Science®



Subject Matter Experts & Technical Staff			
Preliminary Assessment / Site Investigation Jeff Eddo, PGp, PG Dave Bloom, PG, CEG James Brady, PE, QSD, QISP Jack Wada	Alternatives Analysis / Desktop Studies James Christopher, PE, BCEE Crisna Raymond, PE	Pilot Studies / Treatment Technologies Stephen Del'Homme, PE Peter Yu Amanda Taylor	Preliminary Design Report Mazen Kassar, PE Eric Yuen, PE, SE Kara Buttacavoli, PE
Risk Assessment Rob Tisdale, Ph.D.	Geophysics / Remote Sensing / UAV / GIS Aaron Puente, PgP Grace Ashmore, Certified Pilot Clarke Smith	3D Modeling / Database and Web-base Design Jody Edwards, ESMS Gustavo Orozco, GISP, M.S.	Community Relations Carolyn Hunter, REM

The Tetra Tech Team has a pool of over 100 professionals locally and over 27,000 employees globally to support Sweetwater Authority.

ABBREVIATED RESUMES OF KEY PERSONNEL

The following abbreviated resumes introduce the technical expertise and experience of some of the key Tetra Tech Team. Complete resumes are available upon request.

ROB MANRIQUEZ, PG, QISP/QSD, PRINCIPAL GEOLOGIST - PROJECT MANAGER / CONTRACT MANAGER EXPERIENCE SUMMARY

Mr. Manriquez, is a California-licensed Professional Geologist with over 35 years of experience in the San Diego environmental industry, including 10 years with environmental laboratories and over 20 years as an environmental consultant. His expertise includes Program Management roles for multi-year on-call environmental contracts for Sweetwater Authority (environmental consulting services), the Unified Port of San Diego (environmental consulting and stormwater), San Diego County Regional Airport Authority (industrial hygiene), SeaWorld Entertainment (NPDES) and the City of San Diego Environmental Consulting Services (recently awarded) and City of Carlsbad geotechnical services (recently awarded). Rob is exceptional at building diverse technical teams to address client's most complex issues. His regulatory experience includes successes in negotiations with EPA, RWQCB, CalEPA, and SD County Environmental Health & Quality for projects across California and the western United States. He provides strategic environmental expertise in a wide range of settings, addressing surface water, potable water, groundwater, soil, sediment, and air issues. His human health and ecological risk assessment and Porter Cologne Water Quality Act expertise offers sound options for site cleanup and redevelopment. He has 20 years of consulting with the Unified Port and Airport Authority, demonstrating a history of client trust, and technical and program management excellence.

RELEVANT EXPERIENCE

On-Call Environmental Consulting Services, Sweetwater Authority, San Diego: 2024 to present. As Program Manager, he is responsible for all elements of contract and project execution, communications and supporting multiple simultaneous projects for the Authority. Projects range from CEQA permitting, biological surveys, and environmental impact reports to support projects being conducted in the Authority's footprint.

On-Call Environmental Consulting Services, San Diego Unified Port District, San Diego: 2010 to 2021, 2025 to Present. He is the Program Manager, responsible for all elements of contract and project execution, communications, and support of multiple simultaneous projects. Projects include supporting nearshore redevelopment; conducting environmental site assessments and site investigations (Phase I, II) of soil, groundwater, sediment, indoor air and potable water; and performing remedial actions for regulatory compliance involving San Diego RWQCB, County San Diego SAM Program. He provided strategic planning and risk management input for various departments, including legal, real estate, and engineering. He also developed a Web-based Data Access and Visualization tool to display project sample data and reports via a secure web-based ArcGIS-SharePoint platform. *Projects included each Port member city, including National City, and Chula Vista, and environmental projects included Goodrich Aerostructures, SDG&E South Bay Power Plant and more.*

EDUCATION:

B.S. Geological Sciences, San Diego State University, San Diego, CA, 1993

AREAS OF EXPERTISE

Program Management
Preliminary Assessments / Site Investigation
/Remediation, Compliance / Stormwater, Due Diligence

REGISTRATIONS/AFFILIATIONS

Professional Geologist, CA, No. 7407
CBPELGS – QSD / QISP
Society of American Military Engineers
San Diego Environmental Professional Association

KEY TRAINING/ CERTIFICATIONS

Radiation Chemistry Site Worker Health Physics 2018
40-hour OSHA HAZWOPER with 8-hour Refreshers,

OFFICE / YEARS OF EXPERIENCE

San Diego, CA / 35+

On-Call Stormwater Expertise, San Diego Unified Port District. San Diego: 2018 to present. Rob is the Program Manager for expert stormwater consulting service for the Port of San Diego. Activities include program assessment, development and implementation, industrial general permit (IGP) and MS4 compliance, performance assessment, source tracking and identification, and design solutions. He has been a Port environmental consultant since 2000.

On-Call Industrial Hygiene Services San Diego County Regional Airport Authority, San Diego: 2010 to Present: He is the Program Manager for contractual obligations, task authorization performance, day-to-day activities and working with Environmental Affairs Department. He conducted surveys on Airport properties for hazardous building materials, asbestos-containing materials (ACMs), lead-based materials, universal and hazardous waste surveys, green chemistry, environmental site assessments, site characterizations (Phase I, II) and remediation, emergency response for worker exposures to wastewater (pathogens). He also developed the Authority's Web-based Data Access and Visualization tool to map sample results via a secure web-based ArcGIS- SharePoint platform solution.

NPDES Monitoring / Discharge, Receiving waters and Fireworks, SeaWorld Entertainment, Inc., San Diego: April 2024 and ongoing. Rob is the Program Manager for this complex NPDES program for this national aquatic theme park and amusement park. The program involves monthly influent and effluent monitoring of receiving waters (Mission Bay) off the coast of San Diego, and the annual post-fireworks monitoring of ecological conditions in Mission Bay, including the assessment of sediment and water. The analytical program includes chronic toxicity testing of select aquatic species; as well as a chemical evaluation of influent and effluent waters used for aquatic animal tanks on a monthly, quarterly, and annual basis. He provides routine reports to the RWQCB, documenting the results of each monitoring event, including evaluations for compliance to regulatory chemical action levels and toxicity performance.

STEVE TEDESCO, PE, BCEE – TECHNICAL DIRECTOR
EXPERIENCE SUMMARY

Mr Tedesco brings over 40 years of experience in advanced water treatment, desalination, and drinking water systems, specializing in design upgrades for complex infrastructure projects. In his experience Steve has served as QA/QC Lead for the H2Oaks Brackish Groundwater Desalination Facility, where he reviewed innovative process concepts for treating brackish water from the Wilcox aquifer at capacities up to 25 MGD. He specializes in developing design solutions that ensure existing facilities remain fully operational, while upgrading infrastructure to meet evolving demands. He is also an expert in the advanced water treatment, having led membrane system design teams and managed complete design and construction of membrane desalination projects and membrane filtration plants.

RELEVANT EXPERIENCE

Ottawa WTP End Pipe of Treatment, City of Dayton, OH. Steve is the Design Manager for the City facing PFAS contamination at WTP due to a plume in the Mad River well field. He provides planning and engineering evaluations to identify a cost-effective PFAS treatment system to mitigate PFAS levels to below detection limits in the plant's finished water. The project involves evaluating storage, blending, adsorptive media selection, siting, and exploring alternative delivery methods. Key considerations include storage adequacy, blending analysis to achieve 80 percent treatment levels, bench testing for media selection, and evaluating site options for minimal impact. The project enhances water treatment and storage, while minimizing operational costs and providing safe drinking water to the Dayton area. Once complete, PFAS treatment facility will be largest in the United States.

John Garthe Reservoir PFAS Treatment, City of Santa Ana, CA. As the Principal-in-Charge, he developed a final design to provide PFAS treatment at the site, which is supplied by five wells, to produce up to 13.8 MGD. The new centralized treatment plant will remove PFAS from the well supply line prior to storage at reservoir. Treatment equipment includes 5-micron cartridge filters, ion exchange pressure vessel contactors, and new on-site generation, storage and feed facilities for sodium hypochlorite. Steve evaluated well pumps on an individual basis and provided recommendations for their replacement or modification to meet new plant and system demands.

Well ET-1 PFAS Study, Irvine Ranch Water District, Irvine, CA. Mr. Tedesco is the Engineer of Record for this project. ET-1 was developed to increase utilization of Irvine Subbasin through recovery and treatment of VOC-impaired, poor-quality groundwater. The project cleaned up contaminated VOCs with treated water used for non-potable purposes. Water extracted from inside the VOC plume was treated using GAC and air stripping technologies. PFAS was found in product water from plant. Steve developed options for treating PFAS at ET-1 and conducted site planning for future addition of wells ET-2 and 78 if PFAS is found at these wells.

Fullerton Main WTP, PFAS Treatment Systems Design, Orange County Water District, CA. Steve is the Project Manager for design and construction services for the site that includes Well 3A (2,250 GPM), Well 4 (1,400 GPM), Well 5 (1,500 GPM), Well 6 (1,400 GPM), Well 7 (1,700 GPM off-line), Well 8 (2,500 GPM), and Well 7A (proposed). Five wells (4, 5, 6, 7, and 8) produce water with TCE and other VOCs. Wells with higher concentrations of TCE blended with wells with lower concentrations of VOCs in a blending forebay structure. Fullerton has approved blending as part of Division of Drinking Water permit. Well 3A pumps directly to distribution system and Well 7 can pump to either forebay or distribution system. Steve provided design and construction services.

Albert Robles Center for Water Recycling and Environmental Learning, Design-Build, Water Replenishment District of Southern California, Pico Rivera, CA. 2016 – 2019. Steve was the Design Manager for a facility producing 13,000 acre-feet per year of fully advanced treated recycled water. The facility was designed to allow for a 100 percent future capacity expansion to a production capacity of 30.0 MGD. The tertiary-treated recycled water meets all current regulatory standards for drinking water. Treatment processes include influent facilities, microfiltration system, reverse osmosis system, ultraviolet advanced oxidation system, post-treatment/stabilization/disinfection, product water wet well, and brine/waste disposal connection. Two buildings were also included; a 48,148-square-foot process building houses the filters and treatment equipment, electrical room, control room, and water sample room; and a 24,880-square-foot administration/learning center includes a theater room, entrance greeting station, conference rooms, catering kitchen, and a roof top garden. The administration building received a LEED Platinum Certification.

EDUCATION:
B.S., Civil Engineering, Polytechnic Institute of New York
AREAS OF EXPERTISE
Engineering design and construction of advanced water treatment systems, PFAS water treatment
REGISTRATIONS
Professional Engineer, California #39261
Board Certified Environmental Engineer, California #11-20037
CERTIFICATONS / AFFILIATIONS
40-Hour HAZWOPER
8-Hour HAZWOPER Supervisor Training
American Society of Civil Engineers
American Water Works Association
Water Re-use Association
Southwest Membrane Operators Assoc.
OFFICE / YEARS OF EXPERIENCE

AMANDA TAYLOR, PE – SUBJECT MATTER EXPERT EXPERIENCE SUMMARY

Ms. Taylor is a skilled Project Engineer with 16 years of experience specializing 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 has specialized experience in designing adsorptive media processes for trace organic and PFAS removal, as well as membrane technologies, such as GAC, IX, and advanced oxidation for addressing emerging contaminants.

Her leadership is further exemplified in projects like the Pure Water Oceanside Advanced Water Purification Facility and Cypress Lake WTP, where she tackled complex water quality challenges with state-of-the-art technologies.

RELEVANT EXPERIENCE

PFAS Ottawa WTP End Pipe of Treatment, City of Dayton, OH. As the Lead Design Engineer for a city facing PFAS contamination at WTP due to a plume in the Mad River well field, she was tasked with planning and engineering evaluation to identify cost-effective PFAS treatment system to mitigate PFAS levels to below detection limits in finished water. She assisted in evaluating storage, blending, adsorptive media selection, siting, and exploring alternative delivery methods. Key considerations include storage adequacy, blending analysis to achieve 80 percent treatment levels, bench testing for media selection, and evaluating site options for minimal impact. The project aims to enhance water treatment and storage, while minimizing operational costs to provide safe drinking water to the Dayton area. Upon completion, the PFAS treatment facility will be largest in the United States.

Well No 4 PFAS WTP, City of Downey, CA. Amanda is the Process Engineer for this project. Well No. 4 targets PFOS and PFOA concentrations in treated water effluent that is non-detect (less than 2 ng/L). The operational goal for water entering distribution system is below current PFOS and PFOA notification levels of 6.5 ng/L and 5.1 ng/L. The treatment used four IX vessels in lead-lag configuration as two trains. She selected dual pass configuration to meet overall water quality goal. Lead change out is initiated when a sample above reporting level of 2.0 ng/L is detected. Residual PFOA or PFOS was detected between lead and lag vessels adsorbed by lag vessel.

Lily Pond WTP GAC and Sodium Hypochlorite Addition, Cohasset Water Department, MA. She is the Project Engineer for the Department, serving 7,523 residents and nearby Linden Ponds senior living community. The Department faced challenges with disinfection byproducts (DBPs) because of natural organic matter in surface and groundwater sources. The Lily Pond WTP treats surface water through conventional processes, while groundwater from Ellms Meadow well field is chlorinated and pumped directly into distribution system. To address potential exceedances of DBPs, particularly total trihalomethanes, evaluated and recommended alternative DBP control strategies. Findings highlighted need for at least 50 percent removal of organic DBP precursors to improve water quality. She identified GAC as an effective solution, capable of also removing PFAS compounds. Following a successful pilot study, a full-scale treatment plant was designed, incorporating GAC and to upgrade chlorine gas system to a bulk sodium hypochlorite system.

DAVE BLOOM, PG, CHG, CEG – SUBJECT MATTER EXPERT EXPERIENCE SUMMARY

Mr. Bloom is a senior environmental geologist (PG) and Certified Hydrogeologist (CHG) and Certified Engineering Geologist (CEG) with over 30 years of experience performing geological and hydrogeologic environmental investigations, addressing Porter Cologne Water Quality Act issues throughout San Diego County, supporting redevelopment projects for government and private clients with a unique wealth of historical and firsthand knowledge of subsurface and historical environmental conditions with nearshore investigations around the San Diego Bay. He has conducted PAs and SIs for PFAS; Phase I ESAs, characterizations (Phase II); and site cleanup. He has consulted for the San Diego Unified Port of San Diego, and the San Diego County Regional Airport Authority for over 20 years, providing technical guidance, oversight on a variety of environmental assessment, remediation, and regulatory compliance projects for impacts to soil, groundwater, soil vapor, stormwater, stream and marine sediment, and wildfire recovery.

RELEVANT EXPERIENCE

PFAS Base-wide Preliminary Assessment (PA) and Site Inspection (SI), Naval Base San Diego and Associated Facilities, CA, NAVFAC, 2018-2022. Mr. Bloom was the Senior hydrogeologist for comprehensive base-wide PA and SI for Naval Base San Diego at current and former firefighting training areas, fire stations, landfills, wastewater treatment plants, burn areas, machine shops, automotive repair facilities, and other industrial facilities. He was responsible for project management; historical document reviews; QAPP development; sampling; logging borings; installing monitoring

EDUCATION:

MS, *Environmental Engineering and Science, Johns Hopkins University*
BS, *Biological Systems Engineering, Virginia Polytechnic Institute and State University*

AREAS OF EXPERTISE

Analysis and process design of municipal and industrial water/wastewater projects.

REGISTRATIONS/AFFILIATIONS

Professional Engineer Chemical California #6700

KEY TRAINING/ CERTIFICATIONS

American Society of Civil Engineers,

OFFICE / YEARS OF EXPERIENCE

Invine, CA / 16

EDUCATION:

B.A., *Geology, Pomona College*

AREAS OF EXPERTISE

PA/SI; Environmental Investigation Due Diligence

REGISTRATIONS/AFFILIATIONS

Professional Geologist CA #6192
Certified Hydrogeologist CA #585
Certified Engineering Geologist CA #2111

KEY TRAINING/ CERTIFICATIONS

40-Hour Hazardous Waste Operation /Emergency Response
8-Hour Hazardous Waste Operations Site Supervisor Training
8-Hour Confined Space Training
UCSD Professional Certificates in Hazardous Materials Management and Site Assessment and Mitigation

OFFICE / YEARS OF EXPERIENCE

San Diego, CA / 30+

wells, and soil sampling. Mr. Bloom provided guidance on potential impacted areas for well installations to ensure consistent and high-quality representative data collection. Provided technical review of groundwater flow calculations used to evaluate downgradient risk to sensitive receptors including surface water in the bay.

Goodrich Aerospace Structures, San Diego Unified Port District Legal Department, 2010 to present. Mr. Bloom provides as-needed expert consulting and litigation support services to the San Diego Unified Port District for investigation, remediation, and demolition of the South Campus facility. Services include data gap field investigations; oversight of contractor activities, third-party reviews of consultant services and existing reports and data; preparing work plans, health and safety plans, and technical summary reports; planning and project management; interfacing with environmental agencies; and providing redevelopment support. Mr. Bloom has led field teams for evaluating soil and groundwater for the presence of PCBs, metals, and petroleum hydrocarbons in fill soil, burn ash, bay mud, and native formation.

Phase I and II Environmental Site Assessments (ESA) for Parcels 1 Through 4, San Diego International Airport, California, San Diego Regional Airport Authority, 2021. He was the senior geologist/hydrogeologist for Phase I and II ESAs where former industrial and commercial activities had taken place, including UST, PCB transformers, and buried debris, on four parcels in the vicinity of San Diego International Airport. Groundwater was investigated. Mr. Bloom provided technical review of hydrogeological conditions within the vadose and saturated zones, and provided professional opinions on the nature, extent, fate, and transport of risk drivers to onsite workers and adjacent sensitive receptors.

KARA BUTTACAVOLI, PE – SUBJECT MATTER EXPERT EXPERIENCE SUMMARY

Ms. Buttacavoli has over 27 years of experience in the analysis, design, and construction management of various public works projects, including water and wastewater treatment plants, water pipeline distribution systems, wastewater collection mains, water booster pump stations, reservoirs, hydraulic analysis, storm drainage systems, and site improvement design. Ms. Buttacavoli has a strong focus on maintaining operational continuity during complex infrastructure upgrades. As an expert in Maintenance of Plant Operations (MOPO), she has successfully managed projects requiring integration of new treatment systems into active facilities, such as the Fullerton Main Plant PFAS WTP. Her expertise spans hydraulic modeling, system assessments, pipeline rehabilitation, and the design of multi-contaminant treatment systems for PFAS, VOCs, and other contaminants. Her experience in planning construction phasing and temporary treatment solutions positions her to lead MOPO strategies effectively while balancing operational demands and project delivery.

EDUCATION:
BS, Civil Engineering, BS, Environmental Engineering, University California, Irvine
AREAS OF EXPERTISE
Analysis, Design and Construction of water projects, PFAS water treatment
REGISTRATIONS/AFFILIATIONS
Registered Civil Engineer California #60452
KEY TRAINING/ CERTIFICATIONS
American Society of Civil Engineers,
American Water Works Association
Tau Beta Pi (All Engineering)
Chi Epsilon (Civil Engineering)
Pi Beta Kappa
OFFICE / YEARS OF EXPERIENCE
Irvine, CA / 27

RELEVANT EXPERIENCE

Ottawa WTP End Pipe of Treatment, City of Dayton, OH. She is the Process Mechanical Engineer for a city facing PFAS contamination at WTP due to a plume in the Mad River well field. She conducts planning and engineering evaluations to identify cost-effective PFAS treatment systems to mitigate PFAS levels to below detection limits in the plant's finished water. The project involves evaluating storage, blending, adsorptive media selection, siting, and exploring alternative delivery methods. Key considerations include storage adequacy, blending analysis to achieve 80 percent treatment levels, bench testing for media selection, and evaluating site options for minimal impact. The project enhances water treatment and storage, while minimizing operational costs and providing safe drinking water to Dayton area.

Pure Water Oceanside Advanced Water Purification Facility, City of Oceanside, CA. She is the Project Engineer on a project to counteract growing reliance on imported water supply while increasing local water supplies, and to meet city's long-term goal of 50 percent water independence by 2030; she assisted in the design of a new Advanced Water Purification Facility (AWPF). AWPF provides highly treated water supply with specific purpose to recharge MGB in upper San Luis Rey recycled water service area through indirect potable reuse as a component of the Pure Water Oceanside project. The AWPF was built on a former recycled water storage pond at San Luis Rey WRF. The AWPF process was designed as a multi-barrier treatment and includes microfiltration, reverse osmosis, and ultraviolet advanced oxidation. The AWPF also includes chemical storage and feed equipment for conditioning, stabilizing and membrane cleaning. Facilities design includes influent flow storage, flow diversion, and associated pumping.

On-Call Engineering Services for PFAS Treatment Systems Design, Orange County Water District, CA. As the Project Engineer, she designed IX/GAC treatment for PFOS and PFOA for 18 affected wells in the Main Orange County Basin. The project included design, estimating of capital and operating costs, coordinating with vessel suppliers, and construction management for the following:

- **Serrano Water District Wells Nos 5 and 9 (In Operation).** A 3,000-GPM IX system with a bag filter pre-treatment, 3,000-GPM booster pump station, and new chemical feed system for disinfection.
- **Kimberley Well 1A (In Operation).** A small site with a single well, facility designed to produce 3,000 GPM using an IX system with a bag filter pre-treatment and new chemical feed system for disinfection.
- **Fullerton Main Plant (Completed Design).** Treatment of six on-site wells with a total capacity of 10,100 GPM. PFOS, PFOA, and VOCs were removed using 6- to 12-foot-diameter, 40,000 lb. GAC vessels discharged into a forebay, then pumped into distribution system. Remaining wells are treated with an IX system consisting of 8 vessels and bag filters for pre-treatment.

CRISNA RAYMOND, PE – SUBJECT MATTER EXPERT EXPERIENCE SUMMARY

Ms. Raymond has 29 years of engineering expertise in design and construction support, specializing in both water/wastewater and transportation projects. Her extensive experience in water/wastewater projects encompasses pressure and gravity pipelines, wells, pump stations, water treatment plants, and reservoirs.

RELEVANT EXPERIENCE

Title XVI PFAS Feasibility Study Assistance, Water Replenishment District of Southern California, Lakewood, CA. As the Project Manager, she assisted with U.S. Bureau of Reclamations Title XVI funding feasibility study. Study area focused on service areas of seven public water systems (Golden State Water Company, La Habra Heights County Water District, City of Norwalk, City of Pico Rivera, Pico Water District, San Gabriel Valley Water Company, and South Montebello Irrigation District), all of which extract groundwater from Central Basin and have detected PFAS concentrations above acceptable levels.

Well Improvements and Treatment, City of Compton, CA. She was the Project Engineer on a task order contract to analyze water infrastructure and evaluate its water production, conveyance, storage, and distribution infrastructure, including its production wells and associated groundwater quality. She also provided design, permitting, and construction management services. The first task evaluates city's eight production wells for water quality, including potential contaminants such as VOCs, 1,4-dioxane, PFAS, and other organic and inorganic substances. She assessed well production capacity, integrity, and condition, and provided recommendations for rehabilitation and repairs to meet and exceed state and federal water quality standards. Additionally, her evaluation extends to the City's water-related infrastructure, encompassing security, safety, distribution systems, storage facilities, and SCADA systems, with recommendations for necessary upgrades or replacements.

EDUCATION:

BS, Civil Engineering, University of Washington, Seattle

AREAS OF EXPERTISE

Evaluations of design and construction water/wastewater

REGISTRATIONS/AFFILIATIONS

Registered Civil Engineer California #69403

KEY TRAINING/ CERTIFICATIONS

American Society of Civil Engineers,

OFFICE / YEARS OF EXPERIENCE

Irvine, CA / 29

Well ET-1 PFAS Study and Design, Irvine Ranch Water District, Irvine, CA. As the Project Engineer, she assisted in developing ET-1 to increase utilization of Irvine Subbasin through recovery and treatment of VOC-impaired, poor-quality groundwater. The project cleaned up contaminated VOCs with treated water used for non-potable purposes. Water extracted from inside the VOC plume was treated using GAC and air stripping technologies. Water quality was analyzed. She developed three options for treating PFAS discovered at ET-1 and options to include wells ET-1 and 78 into project if PFAS found at those wells. She also determined whether IX or GAC treatment should be used; developed capital and operations costs; and prepared final design, schedule, and cost estimates.

ADDITIONAL SUBJECT MATTER EXPERT (SME) BRIEF BIOGRAPHIES

James Christopher, PE, BCEE. Mr. Christopher is a vice president and practice leader for water treatment for Tetra Tech. His knowledge of water chemistry and water infrastructure design makes him highly qualified in defining, evaluating, and implementing water quality solutions to the most challenging problems. He has 44 years of professional engineering experience and is highly qualified in environmental engineering, with special expertise in wastewater treatment, effluent reuse/utilization/disposal, water resources, water quality and treatment, reverse osmosis and nanofiltration, granular activated carbon, pumping system analysis/station design, facility planning, construction administration.

Mazen Kassar, PE. Mr. Kassar has more than 35 years of experience in electrical engineering and industry standards that include electrical engineering staff management, project management, construction management and supervision, water and wastewater treatment, petrochemical design, and environmental soil and groundwater treatment. His background includes designing medium- and low-voltage power distribution, designing instrumentation and control 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.

Robert Tisdale, PhD. Dr. Tisdale has 28 years of experience in the chemistry and environmental consulting fields. He conducts human health risk assessments for EPA, DoD, and other clients. His experience includes human health risk assessment studies, statistical analysis of environmental data, air quality, data validation, chemical demilitarization projects, method validation studies, instrument development and testing studies, and routine trace/ultra-trace chemical analysis programs. Dr. Tisdale has performed extensive statistical analysis of analytical data in support of risk assessment, method validation, and routine analytical programs. He has written and reviewed sampling and analysis plans and standard operating procedures.

Man Hong (Eric) Yuen, PE, SE. Mr. Yuen is a professional licensed structural engineer (SE) with 18 years of experience in the design, analysis, and detailing of structural engineering. He is knowledgeable in reinforced concrete, masonry, structural steel and wood frame design, and construction for a variety of building and infrastructure projects including reservoirs and water/wastewater treatment facilities, as well as seismic retrofit of existing structures. He has prepared plans and specifications for a wide range of structures, including the construction of PFAS, GAC, and IX treatment plants; and various other structural water/wastewater treatment facilities.

Peter Yu, PE. Mr. Yu is a detail-oriented engineer with over 18 years of experience in the water and wastewater industry. He is an expert in water and wastewater systems, water and wastewater regulatory requirements, and water reduction strategies. He has experience with indirect potable reuse, advanced water purification systems, pump stations, conveyance systems, injection and monitoring wells, and wastewater systems and plants. His expertise also includes designing IX/GAC treatments for PFOS and PFOA for wells; estimating capital and operating costs; coordinating with vessel suppliers; and performing construction management and other project-related technical tasks.

Dave Brown, BSCP, CHST, Senior Safety Manager. Mr. Brown is a Board-Certified Safety Professional (BCSP) and Certified Construction Health and Safety Technician (CHST) with more than 20 years of experience serving as a Senior Health and Safety Program Manager while supporting contracts for the California Department of Transportation (Caltrans), EPA, U.S. Navy Facilities Engineering Command Southwest, and the U.S. Army Corps of Engineers. His experience includes developing and reviewing and approving general industry health and safety plans and construction health and safety plans in compliance with 29 CFR 1910.120 and 29 CFR 1926, and USACE EM 385-1-1. His duties also include conducting 40-HR and Annual 8-HR HAZWOPER refresher training seminars and he provides technical expertise to project managers working to design site-specific HASPs to reduce exposure to various hazardous work conditions and contaminants.

Steve Delhomme, PE. VP – Engineering Director. Mr. DelHomme has over 43 years of experience in preparing a wide range of corrective actions, including permits, operation and construction documents and bid evaluations. This includes the design of remediation systems for both government and private-sector projects under MMRP, CERCLA, RCRA and TSCA; TRRP remediation and O&G sites; hazardous, radiological and non-hazardous landfills; design of freshwater and inter-tidal wetlands; sediment remediation (dredging and beneficial use); design of hazardous waste treatment storage and disposal facilities; design and permitting of water and wastewater treatment systems; development of integrated contingency plans, mitigation plans, NPDES permits, and pollution prevention plans; design of irrigation, drainage, and flood control facilities; and site utility designs.

Steve Bradley, PG, CEG, Quality Control Manager. Mr. Bradley has over 33 years of operations and program management experience on private, public, and governmental programs. Mr. Bradley has served as the deputy program manager for \$200 million environmental services work in support of Naval Facilities Southwest and as the Contract Manager for the San Diego Unified Port District On-Call Environmental Services Contract. He has managed over \$150 million in multiple federal Small Business Architect Engineer contracts that involved execution of over 300 task orders. His technical background includes management of multi-site environmental site assessments, environmental and geotechnical investigations, natural resource management contracts, disaster response programs and oversight of facility closures under federal and state agency control.

Carolyn Hunter, Public Communications - International Association for Public Participation (IAP2). Ms. Hunter has over 25 years of experience as a communication manager/facilitator with community outreach, media relations, risk communication, event planning expertise, and project management experience. Ms. Hunter has provided community involvement support to a variety of internal and external project teams in the development of newsletters, press releases, media debriefs, community involvement plans, fact sheets, and public notices. Ms. Hunter has managed on-site community involvement for high-profile emergency response projects, managing outreach for on-scene staff. Ms. Hunter has organized and executed an array of diverse community education events, including an award-winning Kids Day at Hunters Point Shipyard. Carolyn is knowledgeable on writing and designing effective visual aids for presentations and educational tools.

6. APPROACH TO COMPLETE TASKS IDENTIFIED IN THE SCOPE OF SERVICES

This section presents our ability to execute any work anticipated for this contract. Our contract management structure is the result of decades of project execution and working with client organizations for thorough and results-oriented action. We will provide efficient, comprehensive, hands-on project management, seamlessly with team members, providing the Authority with an effective and responsive environmental consultant partner.

OVERARCHING PHILOSOPHY

Dedicated Program Management – We have assembled a team of highly experienced professionals who understand the importance of maintaining staffing continuity throughout the life of a contract. Tetra Tech Senior staff average 15+ years with the company. Team member companies have longstanding employment histories, ensuring consistent staffing over this contract. Our Project Manager, Rob Manriquez (PG, QSD, QISP), has been with Tetra Tech for over 15 years, is a licensed California Professional Geologist with over 35 years of experience. Rob has been managing on-call contracts over the past 20 years for government and private clients for some of the largest decommissioning projects in southern California (Boeing C-1 Long Beach, Teledyne Ryan Aeronautical, San Diego, Goodrich Aerostructures and South Bay Power Plant, Chula Vista). Rob's seasoned program management skills will be focused on providing the Authority with an environmental consulting team that is technically sound, financially fiscal, communicative, on schedule, and a committed partner. Mr. Manriquez is 100 percent committed to the Authority's contract.

Capacity – With over 200 Tetra Tech Team members in Southern California, including over 70 staff in San Diego, comprised of California Registered Professionals, Tetra Tech has the capacity to support multiple Authority projects at once. In addition, our partners expand this capability almost two-fold, providing the Authority an impressive team of qualified professionals to support any project that may be implemented.

Effective Communications and Coordination – Every project requires consistent and effective coordination among team members and clients to ensure success. Mr. Manriquez will establish and maintain routine team communications and coordination that will keep the Authority well informed, track work progress, and monitor assignment activities and milestones. Monthly progress reports will summarize each assignment, outlining project progress, milestones, and anticipated upcoming goals. Financial reporting for each assignment will be at a frequency requested by the Authority, and any issues with appropriate resolutions discussed proactively. As desired by the Authority, weekly and/or monthly status conference calls will be conducted and include discussions of current assignments, milestones, upcoming assignments, and any critical issues affecting assignment completion, with meeting notes prepared.

Total Responsiveness – Team members can engage virtually or in person within a short time. We will be ready to initiate or discontinue assignment activities immediately upon notification from the Authority. We pride ourselves on giving our clients top priority, and because unexpected issues arise, our policy is to be available and provide as-needed and on-call services immediately. Our clients have expressed they highly value our responsiveness.

Sensitivity to Public and Regulatory Concerns – Tetra Tech recognizes the importance of public outreach and regulatory compliance. Community awareness staff (Carolyn Hunter), if requested, are certified with International Organizations for Public Outreach. Staff have over 20 years of experience supporting Department of Defense, EPA, public agencies, and private clients with challenging environmental projects while undergoing public and regulatory scrutiny when supporting client community outreach teams.

Knowledge of Environmental Regulations. Key personnel average over 15 years of experience in developing long-trusted relationships working with local regulatory agencies such as County of San Diego Dept. of Environmental Quality Site Assessment and Mitigation, RWQCB, California EPA, DTSC, USFWS, USFG, and more. These relationships provide opportunities to work in partnership and trust, helping to facilitate smooth negotiations and approvals with oversight agencies, supporting project success.

Established Subcontractor Engagement Process. Tetra Tech's subcontractor screening process ensures the highest qualified subcontractors are engaged by reviewing; history of performance with client interviews, appropriate and valid licensing / certifications, and acceptable health and safety records. Our High-Risk Work Contractor Screening Process notifies the project manager and eliminates any suspect vendor from engaging on Tetra Tech projects.

Strict Financial and Schedule Management. Tetra Tech's on-line Project Management Financial system, "TetraLinx," is used daily to manage financials. Weekly Contract Status Reports (CSRs) are provided with financial updates. Project Financial Managers (FMs) are assigned to support project managers and ensure compliance to contract terms and conditions, billing rates, monthly invoicing, and overall financial compliance.

OVERVIEW OF TECHNICAL WORK APPROACH

Tetra Tech's technical experience covers all elements of the requested RFQ Scope of Work for supporting the Authority as the Owner's Representative. Our approach to executing these type contracts is built on decades of experience working within the structured contractual and project execution framework of clients, such as the Department of Defense (US Navy, Marine Corps, Army, Air Force), EPA, NASA, and fortune 500 companies across the country. This section presents Tetra Tech's standard project delivery and management methods and describes how project success is ensured.

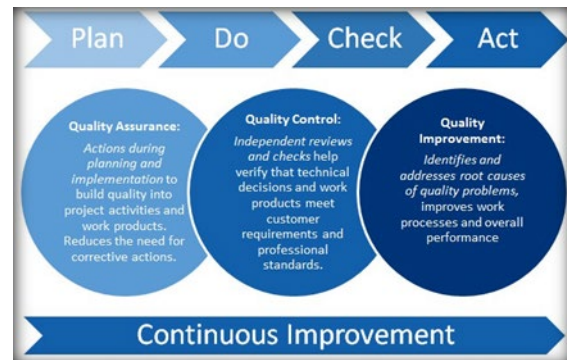
Our team fully understands that this project is not just a PFAS treatment project. We have reviewed the Authority's Master Plan and understand that Sweetwater has many other improvements planned for the Perdue water treatment plant. We will make sure that our team and all consultants contracted to work on the PFAS project will always include the future planned improvements in our work. We will look for ways to select PFAS treatments that can also improve some of the other issues at the existing facility. In our work at the Ottawa water treatment plant in Dayton, Ohio, we saved space by installing new more efficient clarifiers and then using the saved space for the PFAS treatment and an additional 6.0 million gallons of treated storage.

PROJECT MANAGEMENT

Using our proven project management approach, Tetra Tech will prepare a program plan (PP) to incorporate all task orders, contractual obligations, services, deliverables, scheduling, and staffing requirements in close coordination with the Authority. Our management approach starts with building a positive working relationship with the Authority to reach a common understanding of technical, operational, and programmatic requirements and goals. Cost and schedule estimates will be prepared to determine costs and resource loading required which are then aligned to the budget to develop the resource loaded schedule, resource allocation plan, and staffing plan. Our Project Manager will ensure that all work is assigned appropriately, including staffing levels, and he will monitor budget, schedule, and technical performance. By working closely with the Authority, Tetra Tech can continuously monitor program progress, adjust based on actual conditions encountered in the field and mitigate any issues before they become problems.

QUALITY ASSURANCE/QUALITY CONTROL

Tetra Tech is committed to providing the highest quality services. With our QA/QC processes evolving over decades based on rigorous requirements of our government clients (US Navy, USMC, USACE, USAF, NASA, EPA and others). Our QA/QC policies cover all aspects of project performance, technical quality, with peer reviews to ensure quality of project-related strategies, implementation, and documentation. This process is tailored to client needs per assignment, and we propose our standard three-tiered review process that involves the Program Manager, a technical editor, and a QA/QC specialist. All work will be performed in accordance with local, state, and federal laws and regulations by appropriately licensed / certified and experienced professionals, as appropriate. All deliverables will be reviewed, signed, and validated by Tetra Tech staff appropriately registered, certified or accredited as required per the work being performed. Our QA/QC officer, Mr. Steven Bradley (PG, CEG), was selected based on his extensive technical experience and working knowledge of regulatory agencies. Mr. Bradley is a trained Tetra Tech Corporate QA/QC officer and will ensure that our services are consistent with established quality standards, validity, and legal defensibility.



SCHEDULE CONTROLS

Work assignment schedules will be managed for Authority projects at several levels. The Project Manager will be responsible for overall program performance. Work will be assigned to the Technical Manager and the Task Managers, who will be responsible for scope development, work performance and schedule. Scope and costing will be discussed between the Authority and Tetra Tech's Project Manager and Technical Manager to align any work with Authority expectations. Task execution and schedule will be the responsibility of the Technical Manager and those will be routinely reported to the Project Manager, who will communicate with the Authority Project Manager regarding project and deliverables progress. Internal schedules of critical milestones and deliverable due dates will be established before initiation of every task order to allow sufficient time for QA/QC review and Authority schedule. Tetra Tech will inform the Authority of current progress, deliverables status, upcoming activities, and any issues affecting schedule.

BUDGET CONTROLS

Our Program Manager will use Tetra Tech's Oracle-based project management software, to monitor and track labor and other project charges on weekly, monthly or quarterly basis. This software can determine if project charges are tracking with technical progress, permitting identification, and implementation of any adjustments necessary to conform to the overall budget. Budget control is accomplished by closely monitoring labor and direct expenses for each work assignment. Work reports are completed for staff, with the Project Manager approving labor hours and the Task Manager approving expense reports and other direct expenses. The following bi-weekly budget control reports are an example of what can be generated for project management review:

- Labor Report – Identifies task-specific personnel, budgeted labor hours, current week's hours, cumulative hours expended, and hours remaining for each task.
- Contract Cost Detail Report – Provides a record of all direct expenses and labor costs and indicates overall work assignment status including hours and expenses budgeted, current and cumulative charges, and remaining balance.

SUBCONTRACTOR MANAGEMENT

If required, the Tetra Tech Project Manager is responsible for delegating assignments to subcontractors and ensuring their performance meets quality standards. Subcontractor activities are specifically laid out in scopes of work for costing purposes and scheduled and monitored by the Task Manager. We do not anticipate the use of subcontractors for this Scope of Work. Tetra Tech understands the importance of using specially designated subcontractor companies, who are SBE/MBE/WBE or otherwise designated and will engage these businesses as appropriate.

EXAMPLE WORKFLOW CHARTS FOR TASK ORDER DEVELOPMENT AND EXECUTION

The following Workflow Charts outline the three fundamental Phases of a typical Task Order Development and Execution process. We understand that each work scope (as well as the conditions around the requested work) is unique, based on many. The three phases are discussed below.

Phase 1: Technical and Management Considerations

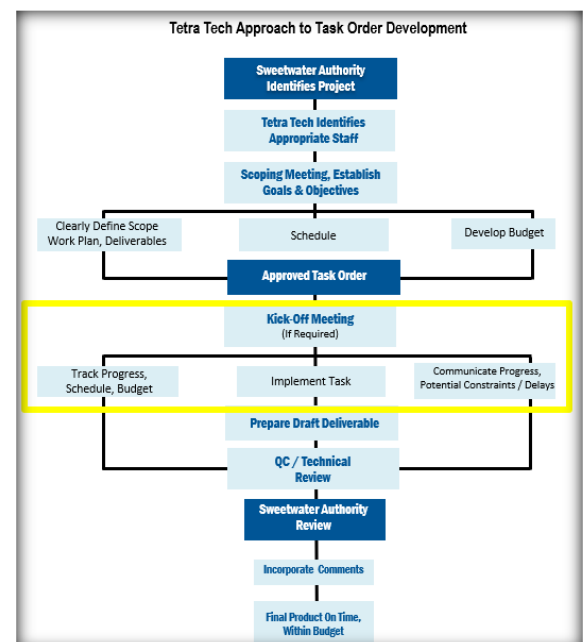
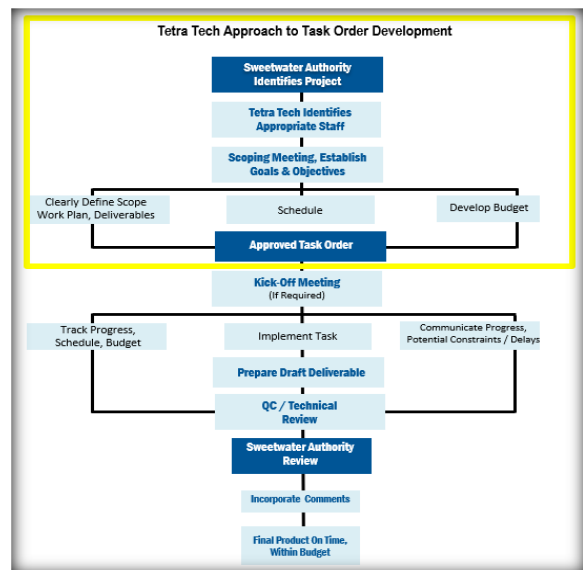
- ✓ Discuss project with Authority Staff at the scoping meeting.
- ✓ Define the project and technical needs.
- ✓ Identify the project team based on technical skill set and project needs.
- ✓ Identify and engage outside resources as subcontractors, as needed.
- ✓ Develop scope of work, work plans, and permits.
- ✓ Establish goals and objectives.
- ✓ Identify regulatory agency involvement and engage as necessary.
- ✓ Develop budget and submit proposal.
- ✓ Prepare and finalize schedule.

RECEIVE APPROVED TASK ORDER

Phase 2: Work Implementation

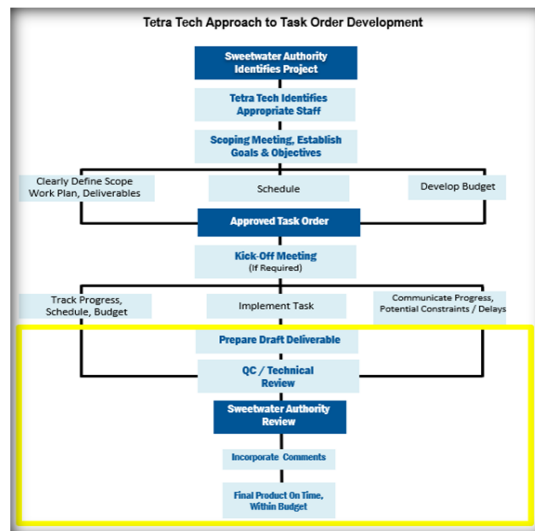
AUTHORIZATION TO PROCEED WITH APPROVED TASK ORDER

- ✓ Attend kickoff meeting, coordinate site access.
- ✓ Receive approvals from agencies if necessary.
- ✓ Scope out investigation areas and clear for work.
- ✓ Implement the work.
- ✓ Monitor schedule and progress.
- ✓ Communicate with Authority staff. Immediately report challenges or changes in scope due to unforeseen conditions. Discuss resolution with City and resolve before moving forward.
- ✓ Manage budget.



Phase 3 Reporting to Completion

- ✓ Receive and summarize data results.
- ✓ Prepare draft deliverables.
- ✓ Develop figures, tables, field reports, data reports, etc.
- ✓ Conduct 3-Tiered QA/QC: Technical Review, Editorial Review Quality Control Check on all deliverables. Also, conduct QA/QC of all analytical and test results.
- ✓ Provide draft deliverables to Authority for review.
- ✓ Meet with Authority to discuss findings and draft deliverables.
- ✓ Incorporate Authority's comments.
- ✓ Finalize deliverables and submit to key stakeholders, Authority, and other agencies, as appropriate.
- ✓ Reconcile budget.
- ✓ Develop Closeout Task Order, if appropriate
- ✓ Review project performance and implement any improvements for future work.



Additional components of our program management support include: (1) attending and participating in project/task-related meetings, (2) drafting meeting agendas and minutes, (3) drafting meeting support documents, and (4) assisting in creation and production of in-house presentation materials in alignment with Authority objectives.

7. COSTS

As instructed, the Tetra Tech Team costs are provided and submitted under separate cover from this proposal and labeled with the file name "Billing Rates and Costs" in Portable Document Format (PDF). The costs include billing rates per hour for each *Position* (job title) of the cost table provided in Section 7 of the RFQ. Escalation costs are also provided as a "percent annual increase" (prime consultant and sub-consultants if proposed). Estimated costs per task are also provided for preliminary scoping for the Authority.

8. EXCEPTIONS TO THE RFQ

Tetra Tech looks forward to supporting Sweetwater Authority. We have carefully reviewed the terms and conditions (T&Cs) associated with the Contract. We would welcome the opportunity to review the exceptions below and their relevance to the scope of work (SOW) we are bidding on if selected. We regularly work with clients to reach mutually agreeable terms based on the scope of work, value, and risks associated with task orders and contracts. We are providing suggested exceptions and suggested language for your consideration as itemized below.

- 1) Regarding Insurance, Tetra Tech requests the following revision:

~~"6.3.1 If the Consultant maintains broader coverage and/or higher limits than the minimums shown above, the Authority requires and shall be entitled to the broader coverage and/or higher limits maintained by the Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Authority."~~

Reasoning: As part of Tetra Tech's risk management policy, Tetra Tech requires a known limit of insurance.

- 2) Regarding Insurance, Tetra Tech requests the following revision:

~~"6.7 Continuation of Coverage -... **Except for Professional Liability**, Consultant further waives all rights of subrogation under this agreement..."~~

Reasoning: Tetra Tech is unable to provide a waiver of subrogation for professional liability coverage.

- 3) Regarding Hazardous Materials, Tetra Tech requests the following revision:

~~"9.4 Consultant is responsible for all costs of clean up and/or removal of hazardous and toxic substances spilled as a result of its services or operations performed under this Agreement to the extent caused by Consultant's negligence. In the event unknown hazardous materials are encountered, Consultant may be entitled to additional compensation for appropriate actions to protect the health and safety of its personnel, and for additional services required to comply with applicable laws. The Authority acknowledges that Consultant is not and shall not be required to be in any way an arranger, generator, operator or transporter of hazardous materials present at or near a Project Site."~~

Reasoning: As part of Tetra Tech's risk management policy, Tetra Tech is not able to assume the sole liability for damages caused by existing hazardous materials or the acts or omissions of other parties.

- 4) Regarding an Overall Limitation on Liability, Tetra Tech requests to add the following provision:

“LIMITATION ON LIABILITY. Neither Party shall be liable to the other for indirect, incidental or consequential liabilities, damages, losses, costs or expenses. To the fullest extent permitted by law, the total liability, in the aggregate, of Consultant, Consultant’s officers, directors, partners, employees, agents, and subconsultants, to the Authority and anyone claiming by, through, or under the Authority for any claims, losses, costs, or damages whatsoever arising out of, resulting from or in any way related to this Agreement from any cause or causes, including but not limited to negligence, professional errors and omissions, strict liability, breach of contract, or breach of warranty, shall not exceed the dollar value of the work performed.”

Reasoning: As part of Tetra Tech’s risk management policy we require a limit of liability in all contracts. We are available to negotiate the amount of the limitation to address any perceived risk associated with the scopes of work to be performed under the Agreement.

9. AMENDMENTS TO THE RFQ

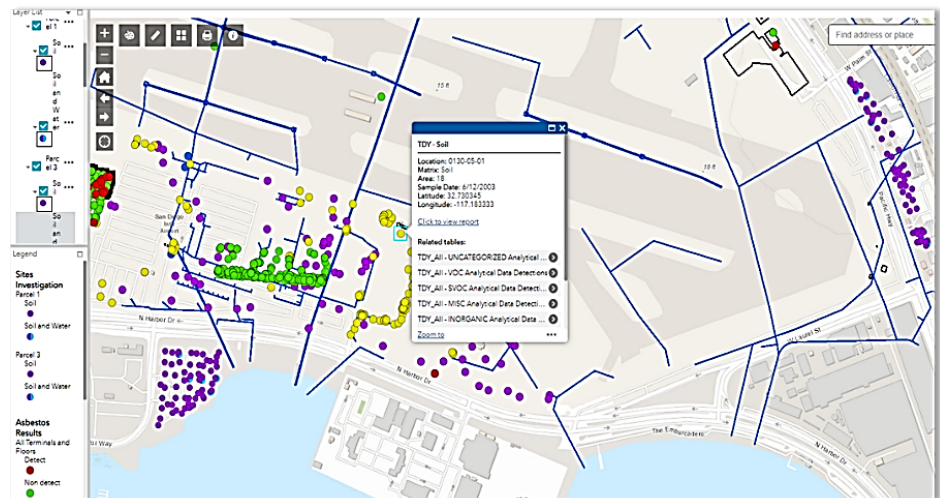
Tetra Tech acknowledges there were no Amendment(s) to the RFQ, however we do note acceptance of the RFQ Q and A set 1 and set 2 dated May 23, 2025.

10. PROPOSAL AUTHORIZATION

This proposal is signed by Ms. Kathy Vandenhuevel, Vice President, who is authorized to bind Tetra Tech and hereby confirms that this submittal is in effect for ninety (90) days. Her signature is on Page 2.

11. VALUE ADDED CAPABILITIES AND WHY TETRA TECH

In addition to the scope of work presented in the RFQ, Tetra Tech’s technical solutions can assist the Authority in innovative and productive ways, such as using electronic field data collection systems, with web-mapping applications (GIS) and dashboards. These processes will make the collection and dissemination of field and geospatial data efficient and accessible to stakeholders with web connectivity. Using cell-based field data collection (Android, IOS) will ensure efficient and accurate data collection minimizing transcription errors.



Why the Tetra Tech Team

- ✓ We offer the Authority a technical team with expertise to address any environmental issue that may be encounter or explored with this contract.
- ✓ Tetra Tech understands the Authority organization and can seamlessly integrate into this important role.
- ✓ Our DoD work has resulted in rigorous financial tracking and reporting systems, a three-tier QA/QC program, and project management and reporting tools based on government business principles, resulting in the collection of technically sound and legally defensible data able to withstand regulatory and public scrutiny.
- ✓ Tetra Tech’s community outreach expertise, which has been used to support US Navy, EPA, DoD, and private sector clients, is available to support the complex public situations that may be created because of PFAS issues.

These items and more make the Tetra Tech Team the logical choice for Sweetwater Authority