

REQUEST FOR COUNCIL ACTION



CITY COUNCIL MEETING DATE:

OCTOBER 20, 2020

TITLE:

APPROVE AGREEMENTS WITH TETRA TECH, INC., CWE, AND STANTEC CONSULTING SERVICES, INC. FOR ON-CALL STORMWATER PROJECT DESIGN SERVICES FOR UP TO A FIVE-YEAR TERM IN AN AGGREGATE AMOUNT NOT TO EXCEED \$2,000,000 FOR THE TERM OF THE AGREEMENT (NON-GENERAL FUND)

/s/ Kristine Ridge

CITY MANAGER

CLERK OF COUNCIL USE ONLY:

APPROVED

- As Recommended
- As Amended
- Ordinance on 1st Reading
- Ordinance on 2nd Reading
- Implementing Resolution
- Set Public Hearing For _____

CONTINUED TO _____

FILE NUMBER _____

RECOMMENDED ACTION

Authorize the City Manager to execute agreements with Tetra Tech, Inc., CWE, and Stantec Consulting Services, Inc., to provide on-call stormwater project design services for a three-year term beginning October 20, 2020 and expiring October 19, 2023, with a two-year extension exercisable by the City Manager and City Attorney, for a total aggregate amount not to exceed \$2,000,000 for the term of the agreement, subject to non-substantive changes approved by the City Manager and City Attorney.

DISCUSSION

Authorized by the Federal Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) Permit Program regulates municipal stormwater discharges to waters of the United States. The Program's goal is to reduce pollutants discharged to the maximum extent practicable. One of the most effective ways in reducing pollutants is via the construction and implementation of stormwater capture and treatment projects. These projects can also provide ancillary benefits such as increasing local water supplies, reducing flooding, responding to climate change, and enhancing recreational opportunities for the community.

On July 16, 2020, the Public Works Agency issued a Request for Proposals (RFP 20-102) for on-call stormwater project design services. These services will be used for project planning/feasibility studies, environmental documentation, to target grant opportunities for project funding, and for the permitting, prioritization and design of specialized stormwater projects.

A five-member panel review committee composed of Public Works Agency staff reviewed and ranked the 12 proposals that were received on the August 12, 2020 RFP due date. The proposal

rankings were based on a combination of relevant project experience, qualifications, understanding of need, and references. The table below summarizes the rank and score for each firm that submitted a proposal:

Firm	Score	Rank
Tetra Tech, Inc.	93.8	1
CWE	93.6	2
Stantec Consulting Services, Inc.	93.0	3
Michael Baker International	90.2	4
Huitt-Zollars	87.0	5
Rick Engineering	86.8	6
TAIT	86.6	8
Kimley-Horn	86.0	7
Fusco Engineering	83.0	9
Lockwood, Andrews & Newman, Inc.	82.4	10
BKF Engineers	82.4	11
Owen Group, LP	76.8	12

In accordance with the Qualifications Based Selection process, the fee schedules were opened after the proposal evaluations were completed. Staff recommends awarding agreements to Tetra Tech, Inc., CWE, and Stantec Consulting Services, Inc., (Exhibits 1-3) to provide on-call stormwater project design services based upon the scope of work and selection criteria outlined in RFP 20-102 (Exhibit 4).

FISCAL IMPACT

There is no fiscal impact at this time. Prior to utilizing any of these on-call services, Public Works Agency staff must receive Finance and Management Services Agency approval of funding and accounts to be used to ensure funds are available under the authorization and shared aggregate limit of \$2,000,000 for these agreements. Upon successful completion of the fiscal review, a corresponding Notice to Proceed containing the specific scope and maximum expenditure for the task order will be issued to a firm.

Submitted By: Nabil Saba, P.E., Executive Director – Public Works Agency

- Exhibits:
1. Tetra Tech, Inc. Agreement
 2. CWE Agreement
 3. Stantec Consulting Services, Inc. Agreement
 4. RFP No. 20-102

**AGREEMENT TO PROVIDE ON-CALL
STORMWATER PROJECT DESIGN SERVICES**

THIS AGREEMENT is made and entered into this 20th day of October, 2020 by and between Tetra Tech, Inc. (“Consultant”), and the City of Santa Ana, a charter city and municipal corporation organized and existing under the Constitution and laws of the State of California (“City”).

RECITALS

- A. On July 16, 2020, the City issued Request for Proposal No. 20-102, by which it sought qualified consultants to provide on-call stormwater project design services for the City’s Public Works Agency.
- B. Consultant submitted a responsive proposal that was among those selected by the City. Consultant represents that it is able and willing to provide the services described in the scope of work that was included in RFP No. 20-102.
- C. In undertaking the performance of this Agreement, Consultant represents that it is knowledgeable in its field and that any services performed by Consultant under this Agreement will be performed in compliance with such standards as may reasonably be expected from a professional contracting firm in the field.

NOW THEREFORE, in consideration of the mutual and respective promises, and subject to the terms and conditions hereinafter set forth, the parties agree as follows:

1. SCOPE OF SERVICES

On an on-call basis, and at the City’s sole discretion, Consultant shall perform the services described in the scope of work that was included in RFP No. 20-102, which is attached as Exhibit A, and as more specifically delineated in Consultant’s proposal, which is attached as Exhibit B and incorporated in full.

2. COMPENSATION

- a. City neither warrants nor guarantees any minimum or maximum compensation to Consultant under this Agreement. Consultant shall be paid only for actual services performed under this Agreement at the rates and charges identified in Exhibit C. Consultant is one of three (3) consultants selected to provide services for stormwater projects on an on-call basis under RFP No. 20-102. The total compensation for these services provided by all such consultants selected under RFP No. 20-102 shall not exceed the shared aggregate amount of \$2,000,000 during the term of the Agreement, including any extension periods.
- b. Payment by City shall be made within forty-five (45) days following receipt of proper invoice evidencing work performed, subject to City accounting procedures. Payment need not be made for work which fails to meet the standards of

performance set forth in the Recitals and Scope of Work, which may reasonably be expected by City.

3. TERM

This Agreement shall commence on the date first written above and terminate on October 19, 2023, unless terminated earlier in accordance with Section 17, below. The term of this Agreement may be extended for one 2-year period upon a writing executed by the City Manager and City Attorney.

4. PREVAILING WAGES

Consultant is aware of the requirements of California Labor Code Section 1720, et seq., and 1770, et seq., as well as California Code of Regulations, Title 8, Section 16000, et seq., (“Prevailing Wage Laws”), which require the payment of prevailing wage rates and the performance of other requirements on “public works” and “maintenance” projects. If the services being performed are part of an applicable “public works” or “maintenance” project, as defined by the Prevailing Wage Laws, and the total compensation is \$1,000 or more, Consultant agrees to fully comply with such Prevailing Wage Laws. Consultant shall defend, indemnify and hold the City, its elected officials, officers, employees and agents free and harmless from any claim or liability arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

5. INDEPENDENT CONSULTANT

Consultant shall, during the entire term of this Agreement, be construed to be an independent Consultant and not an employee of the City. This Agreement is not intended nor shall it be construed to create an employer-employee relationship, a joint venture relationship, or to allow the City to exercise discretion or control over the professional manner in which Consultant performs the services which are the subject matter of this Agreement; however, the services to be provided by Consultant shall be provided in a manner consistent with all applicable standards and regulations governing such services. Consultant shall pay all salaries and wages, employer's social security taxes, unemployment insurance and similar taxes relating to employees and shall be responsible for all applicable withholding taxes.

6. OWNERSHIP OF MATERIALS

This Agreement creates a non-exclusive and perpetual license for City to copy, use, modify, reuse, or sublicense any and all copyrights, designs, and other intellectual property embodied in plans, specifications, studies, drawings, estimates, and other documents or works of authorship fixed in any tangible medium of expression, including but not limited to, physical drawings or data magnetically or otherwise recorded on computer diskettes, which are prepared or caused to be prepared by Consultant under this Agreement (“Documents & Data”). Consultant shall require all subconsultants to agree in writing that City is granted a non-exclusive and perpetual license for any Documents & Data the subconsultant prepares under this Agreement. Consultant represents and warrants that Consultant has the legal right to license any and all Documents & Data. Consultant makes no such representation and warranty in regard to Documents

& Data which were provided to Consultant by the City. City shall not be limited in any way in its use of the Documents and Data at any time, provided that any such use not within the purposes intended by this Agreement shall be at City's sole risk.

7. INSURANCE

Prior to undertaking performance of work under this Agreement, Consultant shall maintain and shall require its subconsultants, if any, to obtain and maintain insurance as described below:

- a. **Commercial General Liability Insurance.** Consultant shall maintain commercial general liability insurance naming the City, its officers, employees, agents, volunteers and representatives as additional insured(s) and shall include, but not be limited to protection against claims arising from bodily and personal injury, including death resulting therefrom and damage to property, resulting from any act or occurrence arising out of Consultant's operations in the performance of this Agreement, including, without limitation, acts involving vehicles. The amounts of insurance shall be not less than the following: single limit coverage applying to bodily and personal injury, including death resulting therefrom, and property damage, in the total amount of \$1,000,000 per occurrence, with \$2,000,000 in the aggregate. Such insurance shall (a) name the City, its officers, employees, agents, volunteers and representatives as additional insured(s); (b) be primary with respect to insurance or self-insurance programs maintained by the City; and (c) contain standard separation of insureds provisions.
- b. **Business automobile liability insurance, or equivalent form, with a combined single limit of not less than \$1,000,000 per occurrence.** Such insurance shall include coverage for owned, hired and non-owned automobiles.
- c. **Worker's Compensation Insurance.** In accordance with the California Labor Code, Consultant, if Consultant has any employees, is required to be insured against liability for worker's compensation or to undertake self-insurance. Prior to commencing the performance of the work under this Agreement, Consultant agrees to obtain and maintain any employer's liability insurance with limits not less than \$1,000,000 per accident.
- d. **If Consultant is or employs a licensed professional such as an architect or engineer: Professional liability (errors and omissions) insurance, with a combined single limit of not less than \$1,000,000 per claim with \$2,000,000 in the aggregate.**
- e. **The following requirements apply to the insurance to be provided by Consultant pursuant to this section:**
 - (i) Consultant shall maintain all insurance required above in full force and effect for the entire period covered by this Agreement.
 - (ii) Certificates of insurance shall be furnished to the City upon execution of this Agreement and shall be approved by the City.
 - (iii) Certificates and policies shall state that the policies shall not be cancelled

or reduced in coverage or changed in any other material aspect, by Consultant, without thirty (30) days prior written notice to the City.

(iv) Consultant shall supply City with a fully executed additional insured endorsement.

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

8. INDEMNIFICATION

Consultant agrees to defend, and shall indemnify and hold harmless the City, its officers, agents, employees, Consultants, special counsel, and representatives from liability: (1) for personal injury, damages, just compensation, restitution, judicial or equitable relief arising out of claims for personal injury, including death, and claims for property damage, which may arise from the negligent operations of the Consultant or its subconsultants, agents, employees, or other persons acting on their behalf which relates to the services described in section 1 of this Agreement; and (2) from any claim that personal injury, damages, just compensation, restitution, judicial or equitable relief is due by reason of the terms of or effects arising from this Agreement. This indemnity and hold harmless agreement applies to all claims for damages, just compensation, restitution, judicial or equitable relief suffered, or alleged to have been suffered, by reason of the events referred to in this Section or by reason of the terms of, or effects, arising from this Agreement. The Consultant further agrees to indemnify, hold harmless, and pay all costs for the defense of the City, including fees and costs for special counsel to be selected by the City, regarding any action by a third party challenging the validity of this Agreement, or asserting that personal injury, damages, just compensation, restitution, judicial or equitable relief due to personal or property rights arises by reason of the terms of, or effects arising from this Agreement. City may make all reasonable decisions with respect to its representation in any legal proceeding. Notwithstanding the foregoing, to the extent Consultant's services are subject to Civil Code Section 2782.8, the above indemnity shall be limited, to the extent required by Civil Code Section 2782.8, to claims that arise of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant.

9. INTELLECTUAL PROPERTY INDEMNIFICATION

Consultant shall defend, indemnify and hold harmless the City, its officers, agents, representatives, and employees against any and all liability, including costs, and attorney's fees, for infringement of any United States' letters patent, trademark, or copyright contained in the work product or documents provided by Consultant to the City pursuant to this Agreement.

10. RECORDS

Consultant shall keep records and invoices in connection with the work to be performed under this Agreement. Consultant shall maintain complete and accurate records with respect to the costs incurred under this Agreement and any services, expenditures, and disbursements charged to the City for a minimum period of three (3) years, or for any longer period required by law, from the date of final payment to Consultant under this Agreement. All such records and invoices shall be clearly identifiable. Consultant shall allow a representative of the City to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement during regular business hours. Consultant shall allow inspection of all work, data, documents, proceedings, and activities related to this Agreement for a period of three (3) years from the date of final payment to Consultant under this Agreement.

11. CONFIDENTIALITY

If Consultant receives from the City information which due to the nature of such information is reasonably understood to be confidential and/or proprietary, Consultant agrees that it shall not use or disclose such information except in the performance of this Agreement, and further agrees to exercise the same degree of care it uses to protect its own information of like importance, but in no event less than reasonable care. "Confidential Information" shall include all nonpublic information. Confidential information includes not only written information, but also information transferred orally, visually, electronically, or by other means. Confidential information disclosed to either party by any subsidiary and/or agent of the other party is covered by this Agreement. The foregoing obligations of non-use and nondisclosure shall not apply to any information that (a) has been disclosed in publicly available sources; (b) is, through no fault of the Consultant disclosed in a publicly available source; (c) is in rightful possession of the Consultant without an obligation of confidentiality; (d) is required to be disclosed by operation of law; or (e) is independently developed by the Consultant without reference to information disclosed by the City.

12. CONFLICT OF INTEREST CLAUSE

Consultant covenants that it presently has no interest and shall not have interests, direct or indirect, which would conflict in any manner with performance of services specified under this Agreement.

13. NOTICE

Any notice, tender, demand, delivery, or other communication pursuant to this Agreement shall be in writing and shall be deemed to be properly given if delivered in person or mailed by first class or certified mail, postage prepaid, or sent by fax or other telegraphic communication in the manner provided in this Section, to the following persons:

To City: Clerk of the City Council
City of Santa Ana
20 Civic Center Plaza (M-30)

P.O. Box 1988
Santa Ana, CA 92702-1988
Fax: (714) 647-6956

Executive Director
Public Works Agency
City of Santa Ana
20 Civic Center Plaza (M-21)
P.O. Box 1988
Santa Ana, CA 92702

To Consultant: Tetra Tech, Inc.
17885 Von Karman Ave, Suite 500
Irvine, CA 92614
Attn: Jason Fussel, PE, PLS, LEED AP, ENV SP, QSD/P
Vice President

A party may change its address by giving notice in writing to the other party. Thereafter, any communication shall be addressed and transmitted to the new address. If sent by mail, communication shall be effective or deemed to have been given three (3) days after it has been deposited in the United States mail, duly registered or certified, with postage prepaid, and addressed as set forth above. If sent by fax, communication shall be effective or deemed to have been given twenty-four (24) hours after the time set forth on the transmission report issued by the transmitting facsimile machine, addressed as set forth above. For purposes of calculating these timeframes, weekends, federal, state, County or City holidays shall be excluded.

14. EXCLUSIVITY AND AMENDMENT

This Agreement represents the complete and exclusive statement between the City and Consultant regarding the subject matter herein, and supersedes any and all other agreements, oral or written, between the parties. In the event of a conflict between the terms of this Agreement and any attachments hereto, the terms of this Agreement shall prevail. This Agreement may not be modified except by written instrument signed by the City and by an authorized representative of Consultant. The parties agree that any terms or conditions of any purchase order or other instrument that are inconsistent with, or in addition to, the terms and conditions hereof, shall not bind or obligate Consultant or the City. Each party to this Agreement acknowledges that no representations, inducements, promises or agreements, orally or otherwise, have been made by any party, or anyone acting on behalf of any party, which are not embodied herein.

15. ASSIGNMENT

Inasmuch as this Agreement is intended to secure the specialized services of Consultant, Consultant may not assign, transfer, delegate, or subcontract any interest herein without the prior written consent of the City and any such assignment, transfer, delegation or subcontract without the City's prior written consent shall be considered null and void. Nothing in this Agreement shall be construed to limit the City's ability to have any of the services which are the subject to this

Agreement performed by City personnel or by other Consultants retained by City.

16. WAIVER

No waiver of breach, failure of any condition, or any right or remedy contained in or granted by the provisions of this Agreement shall be effective unless it is in writing and signed by the party waiving the breach, failure, right or remedy. No waiver of any breach, failure or right, or remedy shall be deemed a waiver of any other breach, failure, right or remedy, whether or not similar, nor shall any waiver constitute a continuing waiver unless the writing so specifies.

17. TERMINATION

This Agreement may be terminated by the City upon thirty (30) days written notice of termination. In such event, Consultant shall be entitled to receive and the City shall pay Consultant compensation for all services performed by Consultant prior to receipt of such notice of termination, subject to the following conditions:

- a. As a condition of such payment, the Executive Director may require Consultant to deliver to the City all work product completed as of such date, and in such case such work product shall be the property of the City unless prohibited by law, and Consultant consents to the City's use thereof for such purposes as the City deems appropriate.
- b. Payment need not be made for work which fails to meet the standard of performance specified in the Recitals of this Agreement.

18. NON-DISCRIMINATION

Consultant shall not discriminate because of race, color, creed, relation, sex, marital status, sexual orientation, age, national origin, ancestry, or disability, as defined and prohibited by applicable law, in the recruitment, selection, training, utilization, promotion, termination or other employment related activities or in connection with any activities under this Agreement. Consultant affirms that it is an equal opportunity employer and shall comply with all applicable federal, state and local laws and regulations.

19. JURISDICTION-VENUE

This Agreement has been executed and delivered in the State of California and the validity, interpretation, performance, and enforcement of any of the clauses of this Agreement shall be determined and governed by the laws of the State of California. Both parties further agree that Orange County, California, shall be the venue for any action or proceeding that may be brought or arise out of, in connection with or by reason of this Agreement.

20. PROFESSIONAL LICENSES

Consultant shall, throughout the term of this Agreement, maintain all necessary licenses,

permits, approvals, waivers, and exemptions necessary for the provision of the services hereunder and required by the laws and regulations of the United States, the State of California, the City of Santa Ana and all other governmental agencies. Consultant shall notify the City immediately and in writing of its inability to obtain or maintain such permits, licenses, approvals, waivers, and exemptions. Said inability shall be cause for termination of this Agreement.

21. MISCELLANEOUS PROVISIONS

- a. Each undersigned represents and warrants that its signature herein below has the power, authority and right to bind their respective parties to each of the terms of this Agreement, and shall indemnify City fully, including reasonable costs and attorney's fees, for any injuries or damages to City in the event that such authority or power is not, in fact, held by the signatory or is withdrawn.
- b. All exhibits referenced herein and attached hereto shall be incorporated as if fully set forth in the body of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the date and year first above written.

ATTEST:

CITY OF SANTA ANA

DAISY GOMEZ
Clerk of the Council

KRISTINE RIDGE
City Manager

APPROVED AS TO FORM
SONIA R. CARVALHO
City Attorney

CONSULTANT

By: John M. Funk
John M. Funk
Assistant City Attorney

Jason L. Fussel
Name: Jason L. Fussel, PE, PLS
Title: Vice President

RECOMMENDED FOR APPROVAL

Nabil Saba
NABIL SABA, PE
Executive Director
Public Works Agency

**Appendix
ATTACHMENT 1
SCOPE OF WORK**

**CITY OF SANTA ANA
REQUEST FOR PROPOSALS
FOR
ON-CALL STORMWATER PROJECT DESIGN SERVICES
RFP NO. 20-102**

INTRODUCTION/BACKGROUND

The City of Santa Ana is 27.2 square miles and is located in central Orange County, California. Santa Ana is the most densely populated city in the county, with a total population of 338,247 and approximately 12,435 people per square mile. Santa Ana sits within three major watersheds: the Newport Bay watershed, the Santa Ana River watershed, and the Anaheim Bay/Huntington Harbour watershed.

The City of Santa Ana is a co-permittee under the North Orange County Municipal Separate Storm Sewer System (MS4) Permit (Order No. R8-2009-0030, as amended by Order No. R8-2010-0062). The Permit presents a series of technical, legal, and regulatory challenges to the City and as a result, the City has established a rigorous stormwater compliance program. The Permit requires the City to reduce the discharge of pollutants in urban stormwater runoff to Waters of the US to the “Maximum Extent Practicable”. One of the most effective mechanisms in reducing pollutants and improving surface water quality is via the construction of structural Best Management Practices (BMPs). Stormwater infiltration, biotreatment, harvest and reuse, and diversion to the sanitary sewer are proven methods to achieve water quality goals and the City seeks to continue its proactive approach in implementing such projects. Additionally, structural BMPs can provide ancillary benefits such as increasing local water supplies, reducing flooding, and providing public education and recreational opportunities for Santa Ana residents.

The City desires to retain Civil Engineering Consultants on an as-needed or “on-call” basis to design complex, regional stormwater capture and treatment projects and perform other stormwater-related tasks as outlined in the Scope of Services below. Professional Services Agreements will be entered into with the selected Civil Engineering Consultants and the selected Consultants will be asked to provide professional engineering services proposals on a project-by-project basis, based on an agreed-upon scope of services and fees. After review of the proposals and associated costs, the City will issue a Notice to Proceed (NTP) for the selected Consultant to begin work on the project/task.

Funding sources for each project may vary. The City intends to seek local, State, and Federal grant moneys to fund regional stormwater projects and the selected firm shall comply with the funding agency’s requirements. Additionally, all work shall be done in accordance with the most

recently adopted North Orange County MS4 Permit and any other applicable local, State, and Federal laws.

Consultants shall utilize in-house staff and/or sub-consultants to complete assignments to meet the City's standards. For specialized work, for which the prime consultant requires a sub-consultant, the prime consultant shall serve as an administrative liaison between the City and the sub-consultant and shall include these administrative costs in their proposed project management fees.

Prime consultant mark-ups for sub-consultant work will not be allowed.

All proposals, plans, drawings, specifications, estimates, grant applications, modeling, studies, presentations, and/or reports will be subject to the final approval and satisfaction of the City. The selected consultants must have the expertise, experience, and demonstrated resources available to perform the work described in this RFP.

The City desires to enter into Agreements with the three top-ranking firms for an initial three (3)-year term, with a City option to exercise one (1), two (2)-year extension period. The annual amount to be expended under the Agreement will vary at the City's discretion and will be dependent on available grant funding opportunities and local match availability.

A. SCOPE OF SERVICES

Work under this Agreement may include, but is not limited to, the following tasks below:

1) Project Planning/Feasibility Studies

Firms shall be capable of performing the following tasks:

- a. Hydraulic computer modeling
- b. Stormwater sampling/monitoring/data analysis
- c. Flow monitoring studies
- d. Mapping services
- e. Hydrologic calculations
- f. Preparation/review of Water Quality Management Plans (WQMP)
- g. Conceptual design/drawing
- h. Percolation rate testing/geotechnical reporting
- i. Coordination with outside agencies
- j. Project presentations
- k. Researching existing field conditions and utilities
- l. Cost benefit analyses
- m. Technical feasibility and project impact analyses
- n. Drafting project planning documents
- o. Monitoring and alerting the City of potential grant funding opportunities

- o. Any other work required to successfully plan for projects and adequately assess project feasibility

2) Environmental Documentation/Permitting

Firms shall be capable of performing the following tasks:

- a. Prepare and file all necessary environmental documents and apply for all required permits including, but not limited to:
 - i. California Environmental Quality Act (CEQA)
 - ii. National Environmental Policy Act (NEPA)
 - iii. Federal Clean Water Act Section 401
 - iv. Federal Clean Water Act Section 404
 - v. California Department of Fish and Wildlife (CDFW) Section 1602
 - vi. Orange County Sanitation District (OCS D) Discharge Permits
 - vii. Orange County Flood Control District (OCFCD) Encroachment Permit

3) Project Design

Firms shall be capable of performing the following tasks:

- a. Land Surveying
- b. Civil-Engineering Design
- c. Structural Design
- d. Geotechnical Design
- e. Architectural Design
- f. Electrical Design
- g. Mechanical Design
- h. Instrumentation and Control Systems Design
- i. Landscape Architecture and Irrigation Design
- j. Detailed Engineering/Cost Estimation
- k. Preparation of construction bid documents and specifications
- l. Any other work required to complete project design

General Requirements and Project Deliverables

Design level survey and base mapping of the project site shall be prepared in US Customary English units by a California licensed Land Surveyor in accordance with the City guidelines and in Microstation V8i Computer Aided Design and Drafting (CADD) format. The horizontal datum shall be NAD 83 and the vertical datum shall be NAVD 88. All survey field notes shall be on forms provided by the City, shall be neatly completed in pencil, and shall become property of the City upon completion of the project. Informal field investigations including marking of removal areas may be required for some of the sidewalk, curb and gutter, and pavement replacement projects.

The Consultants shall contact manufacturers and/or contractors to verify the engineer's estimate prior to submitting to the City. Specifications shall be prepared in Microsoft Word and an electronic copy of the final version shall be furnished to the City. The City will provide the specification boiler plate to the Consultants. If requested, all preliminary and bid sets of plans shall be plotted on bond or velum paper using Microstation V8i CADD software program. All drawings shall be completed per the City of Santa Ana CADD Standards and any special provisions thereof. For interim submittals, the City may opt to receive only PDF versions of the plans for reviewing purposes. If so, the Consultant team will provided plans and/or specifications accordingly. All original plan sheets, the title sheet of the specifications, calculations, and reports shall be signed and stamped by the Consultants' licensed professional engineer responsible/in-charge of the project.

The Consultants shall monitor project progress, maintain project files, and control the quality of the work performed by in-house staff and/or sub-consultants. Incomplete (not meeting targeted completion) or poor quality work will not be accepted. The Consultants shall revise the documents within a revised schedule set by the City, which may require overtime. No additional compensation necessary for the consultant to complete this work to the satisfaction of the City shall be approved by the City for the required revisions. It is the responsibility of the Consultants to produce a professional-level quality of work product.

The Consultants shall coordinate plan check, design topics, permits and any other issues with the City, other Agencies, and all utility companies as required. At the direction of the City, the Consultants shall be the liaison with affected agencies.

The Consultants' services for plans specifications and estimating (PS&E) for engineering project preparation and special studies/investigations shall include and be in conformance with the latest editions of the following: Title 24 of the California Code of Regulations (California Building Standards Code), American Water Works Association, California Department of Transportation, the Americans with Disabilities Act, the City of Santa Ana Municipal Code (SAMC), professional Standards established by the City, and or Federal, State and local guidelines established in the project.

As part of the preparation of the PS&E, the consultant shall prepare the special provisions pertaining to the items of work included in the plans that are not addressed on the latest editions of the applicable standards.

The Consultants shall have complete responsibility for the accuracy and completeness of all documents and plans prepared. The plans will be reviewed by the City for conformity with the requirements of the Agreement. Reviews by the City do NOT include a detailed checking of design or accuracy with which such designs are depicted in the documents and plans. The documents and plans furnished under the Agreement shall be of a quality acceptable to the City of Santa Ana. The criteria for acceptance shall be a product of neat appearance, thoroughly organized, technically and grammatically correct, checked, dated, and having the maker and checker identified.

The Consultants shall have project management control procedures in effect during the entire time work is being performed under the Agreement. This task shall include the following:

- Project Management Plan – at the request of the City, the consultant shall provide a detailed management plan including information and coordination with other agencies to ensure compliance and completion of the (PS&E) packages. This plan shall include all milestones and task breakdown for each of the tasks and subtasks included therein. The Project Management Plan shall be submitted to the Project Manager for review and within 15 calendar days of the issued Notice to Proceed
- Deliverables
- Quality Control/Quality Assurance (QA/QC) Plan
- Project Schedule/Invoicing
- Project Correspondence

In case of conflict, ambiguities, discrepancies, errors, or omissions, the Consultant shall submit the matter to the City for clarification.

The Consultants shall perform engineering design services resulting in contract documents (plans, specifications and cost estimates “PS&E”) for various projects on an as-needed basis. However, work tasks may include studies or a variety of engineering tasks. If requested by the City, the Consultants shall provide a Work Plan, which includes a detailed schedule of the assigned project prior to the issuance of a Notice to Proceed (NTP) and/or Task Order. Specific Task Orders with NTP’s will be provided for project(s) at the discretion of the City. Work required per Task Order shall comply with the Scope of Services and additional provisions in each Task Order and this agreement.

4) Other Requirements

Firms shall be capable of performing the following tasks:

- a. Assistance with local, State, and Federal Grant applications
- b. Construction and bidding phase support including, but not limited to:
 - i. Responding to bidder inquiries during the bidding process, including preparation of any addenda. Following award of the construction contract, the Consultant may attend the pre-construction meeting.
 - ii. Reviewing and approving submittals and shop plan drawings. The Consultant shall complete shop plan drawing reviews within two (2) weeks of receipt. Contract Change Order reviews shall be completed within two (2) working days of receipt.
 - iii. Responding to written Requests for Information (RFI) to provide clarification or resolve discrepancies in the contract documents. Responses shall be completed within three (3) working days.
 - iv. Providing periodic field reviews and bringing to the attention of the City any defects or deficiencies in the work by the construction contractor which the Consultant has observed. The Consultant shall have no authority to issue instruction on behalf of the City, or to deputize another to do so.

- c. Attending meetings with City Staff or on behalf of the City
- d. Development of Project Performance Monitoring Plans, Quality Assurance Project Plans (QAPP), or similar
- e. Conduct site visits during pre-construction, construction, and post-construction project phases
- f. Construction management support
- g. Post-construction phase support including, but not limited to:
 - i. Local, State, and Federal Grant reporting assistance
 - ii. Stormwater sampling/monitoring/data analysis
 - iii. Stormwater quality data upload to California Environmental Data Exchange Network (CEDEN)
 - iv. Project effectiveness assessments
 - v. Provide as-built drawings to the City

B. PROJECT SCHEDULE AND PROGRESS

Upon request by the City, Consultants shall submit detailed project schedules outlining all project tasks and milestones. Progress review meetings shall be held at intervals deemed appropriate by the City. Consultants shall furnish two copies of all completed work or status update of partially completed work since the last progress review meeting. Progress reports shall be submitted monthly in electronic format indicating achievements and project schedule progress.

C. CITY RESPONSIBILITIES

The City will provide information in its possession relevant to the completion of the tasks outlined in this RFP. In general, this includes, but is not limited to:

- Furnish scope of work and provide general direction as needed for the assigned project
- Plan check coordination within the City
- Advertise, award, and administration of construction contract
- Documents, data, maps, or information relevant to the design of the project
- Electronic files (sample plans & specifications, City of Santa Ana's CADD Standards)
- Electronic files for title sheets and sheet borders
- Facilitate meeting space and coordination at City facilities

D. SPECIAL REQUIREMENTS

ADDITIONAL WORK

Upon request by the City, Consultants shall submit supplemental proposals for Additional Work not called for under the Scope of Services of this Agreement. Consultants must obtain written approval prior to commencing any Additional Work.

FEE PROPOSAL:

In addition to Section IV.B.3 (Submittal Requirements: Fee Proposal) the fee schedule shall be structured as follows:

The fee proposal shall include the firm's standard hourly fee schedule. A list of all positions and hourly rates required to perform the services in this RFP shall be described herein. At the request of the City, the Consultant shall provide a more detailed fee proposal when a specific project proposal is requested of the Consultant.

OTHER TERMS AND CONDITIONS:

1. The project will be implemented in compliance with the City of Santa Ana's policies, as well as Prevailing Wage law and applicable State and Federal Requirements.
2. The City regards the inclusion of California based designs, engineering, and construction professionals, facilities, and services as part of a Team to be highly desirable, but is not mandatory.
3. The City reserves the right to amend this Request for Proposal by addendum prior to the final dates of submission.
4. All reports, proposals, or other data or materials which are submitted shall become the sole property of the City of Santa Ana with the exception of the confidential Financial Capacity information and fee proposals.
5. All products used or developed in the execution of any contract resulting from this request will remain in the public domain at the completion of this project.
6. The City has an affirmative action program. The purpose of the affirmative action program is to encourage certified minority business enterprises and women business enterprises. All submitting firms must have established affirmative action programs approvable by the City. During the RFP stage, all firms will need to complete a "Certification of Non-Discrimination by Contractors" for each firm on their team.

SPECIAL REQUIREMENTS (ATTACHMENT 4)

This project may utilize California Department of Transportation (Caltrans) grant funds and shall therefore comply with all state and federal requirements. The below referenced forms included in Attachment 4 (Additional Provisions) of the Appendix must be completed in their entirety and submitted with your proposal:

- LAPM Exhibit 10-H: Sample Cost Proposal
- LAPM Exhibit 10-O1: Consultant Proposal DBE Commitment
- LAPM Exhibit 10-O2: Consultant Contract DBE Commitment

Removed via RFP No. 20-102
Addendum 3

- LAPM Exhibit 10-K: Consultant Certification of Contract Costs and Financial management System

Please reference Caltrans Local Assistance Procedure Manual, Consultant Selection, Chapter 10, for further instructions and guidelines pertaining to the completion of these forms: <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/lapm/ch10.pdf>

COMPLIANCE WITH REQUIREMENTS OF FUNDING AGENCY:

This agreement may be funded with state and/or federal grant funds administered by Caltrans. Proposer shall comply with all requirements as they pertain to the use of these funds. Refer to Attachment 4 for Caltrans required forms, including Exhibit 10-H – Sample Cost Proposal (H2 for On-Call Contracts) in the Appendix of this RFP.

DISADVANTAGED BUSINESS ENTERPRISES (DBE) GOAL:

The Agency has established a DBE goal for this Contract. Proposers are encouraged to obtain DBE participation for this contract. Refer to Exhibit 10-I – Notice to Proposers DBE Information included in the Appendix of this RFP. Proposers must submit Exhibits 10-O1 & 10-O2 – Consultant Proposal & Contract DBE Commitment to demonstrate compliance with Agency's DBE goal.

CONSULTANT AUDIT AND REVIEW PROCESS:

Prior to contract award and dependent on contract award amount, the selected Consultant shall be subject to an audit or review by Caltrans' Audit and Investigations (A&I), other state audit organizations, or the federal government. The selected Consultant shall complete Exhibit 10-K – Consultant Annual Certification of Indirect Costs and Financial Management System for all prime and sub-consultants in the Appendix of this RFP. To independently download any of the Caltrans Exhibits required per this RFP, visit: <https://dot.ca.gov/programs/local-assistance/forms/local-assistance-procedures-manual-forms>

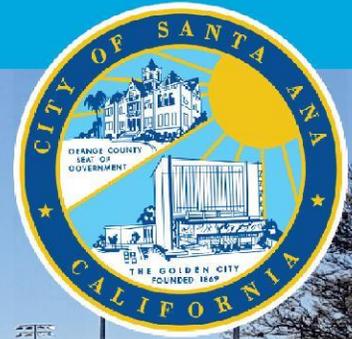


On-Call Stormwater Project Design Services

RFP NO. 20-102



On-Call
Stormwater Project
Design Services



Statement of Qualifications



TETRA TECH

25F-20

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Appendix-1: Resumes

Appendix-2: Non-Collusion Affidavit

Appendix-3: Non-Lobbying Certification

Appendix-4: Non-Discrimination Certification

Appendix-5: Scope of Services & Schedule



August 12th, 2020
Craig Foster, CPSWQ, QSD/P, NPDES Manager
Public Works Agency 20 Civic Center Plz (M-22)
Santa Ana, CA 92701

Reference: RFP No.: 20-102, On-Call Stormwater Project Design Services

Mr. Craig Foster,

Tetra Tech is pleased to submit our proposal to provide On-Call Professional Stormwater Project Design Services for the City of Santa Ana (City). Tetra Tech brings the City a record of distinguished, successful implementation and completion of stormwater services for large regional capture projects and small-scale public works projects involving the preparation of Water Quality Management Plans (WQMP). The efficient execution of this contract requires a talented team that is balanced with technical expertise and effective leadership, which is exactly what Tetra Tech offers. We will provide the most innovative, efficient, and cost-effective solutions to the City based on the following:

Extensive Regional Stormwater Experience: Members of our team bring a wide breadth of stormwater design knowledge. Within the last 5 years, *members of our team have been involved in the design of numerous regional stormwater capture projects throughout Southern California including three (3) fully constructed projects, three (3) projects nearing the end of construction, and one (1) project that recently commenced construction.* Our knowledge depth gives us the ability to identify issues early in the design phase and provide solutions or propose mitigation measures to be incorporated into the Contract Documents to save the City time and money during construction.

Local Staffing and In-house Capabilities: We can best serve the City on this on-call due to our ability to provide most of the key disciplines and services in-house, leading to an efficient and well-coordinated set of construction documents. We can self-perform the project planning, feasibility studies, environmental documentation, permitting, project design excluding landscape architecture and irrigation, bid support, construction support, and post-construction support tasks with top-notch professionals that have built expertise in regional stormwater projects. This brings consistency and the ability to execute with no learning curve. Although we can draw from a large pool of nationwide resources, *our Irvine office has experienced staff ready to mobilize at a moment's notice to meet the City's needs.*

Professional Commitment to the City: The opportunity to be a part of the elite group of consultants serving the City is of great importance to everyone at Tetra Tech. Thus, our approach will be focused on responsive service, flexibility, and a "teamwork and partnering" mindset with your staff. It is this approach that facilitates the exchange of ideas, as well as resolves potential design/construction issues in a timely manner to meet established schedules. *Our goal is to exceed your expectations through hard work, attention to detail, and frequent communication.*

As Principal-in-Charge, I certify that I have the authority to negotiate contracts on behalf of Tetra Tech, and I am authorized to make representations for our organization. Please feel free to contact me at (805) 305-0150, or jason.fussel@tetrattech.com, if you have further questions or requests for additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jason Fussel', written over a white background.

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



SECTION B Contract Agreement Statement

Tetra Tech has reviewed the agreement provided in “Attachment 2” of the Request for Proposals for On-Call Stormwater Project Design Services, and has the ability to meet the contracting requirements and conditions. Below our team has provided a statement outlining our concurrence or concerns with any and all provisions contained in the Agreement.

1. Indemnification (9):

Tetra Tech requests that the Duty to Defend in this provision be eliminated.

Tetra Tech also requests the following text to be deleted: “just compensation, restitution, judicial or equitable relief”; this occurs several times in the Indemnification provision.

changes requested on this page were not accepted or agreed to by the City

2. Limitation of Liability: None.

Tetra Tech requests the City of Santa Ana to add this text.

- a. *Limitation of Liability. In recognition of the relative risks and benefits of the project to both the City and Design Professional, the risks have been allocated such that the City agrees, to the fullest extent permitted by law, to limit the liability of Design Professional and its subconsultants to the City and to all construction contractors and subcontractors on the project for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, so that the total aggregate liability of Design Professional and its subconsultants to all those named shall not exceed \$50,000 or the amount of Design Professional’s total fee paid by the City for services under this Agreement, whichever is the greater. Such claims and causes include, but are not limited to negligence, professional errors or omissions, strict liability, breach of contract or warranty.*
- b. *We are willing to assume responsibility for our work in reasonable measure, but cannot accept unlimited liability or liability grossly out of proportion to our fee.*

3. Termination (21):

Tetra Tech requests that the City of Santa Ana provide mutual rights for termination of the agreement.





SECTION C Firm and Team Experience

Since 1966, Tetra Tech has been addressing our clients' most complex needs. Our mission is to be the premier worldwide consulting and engineering firm. At Tetra Tech, we seek clear sustainable solutions that improve the quality of life. We embrace safety and sustainability in our business and operations.

HISTORY OF TETRA TECH

Tetra Tech has more than 20,000 employees worldwide. Established in 1966 and incorporated in Delaware in 1988, Tetra Tech is a multi-national Corporation and a leading provider of specialized consulting engineering and management services that are complemented by our technical capabilities. The breadth of the Tetra Tech knowledge base encompasses research and development, security, information technology, technical planning, applied science, engineering and architectural design, surveying, construction management, operations, and maintenance.

NATIONAL RECOGNITION AND RELEVANT EXPERTISE

- 40+ years of experience on Stormwater projects
- 20+ On-Call programs currently under contract in Southern California resulting in 240+ task orders over the past 5 years
- Top 3 firm for OC Flood Control District on-call list
- Top 10 firm for the OC Parks Civil Engineering on-call list.
- 2020 Engineering News-Record (ENR) Rankings. Tetra Tech has been
 - No. 1 in Water for 17 consecutive years
 - No. 4 in the Top 500 Design Firms
 - No. 6 in Sanitary & Storm Sewers.



TETRA TECH BY THE NUMBERS

54 years in business

450 offices worldwide

20,000 global personnel

300 local personnel within local area

Services to the City of Santa Ana

\$2.8M

in contracts over 5 years

8 Tetra Tech Southern California Offices

Subconsultant: Sustainable Landesign



Tetra Tech has selected Sustainable Landesign to assist with landscape/irrigation scope. Sustainable Landesign is a certified small business (CA DGS SB) landscape architecture and planning firm that specializes in sustainable/green infrastructure, stormwater capture and treatment design implementation, as well as integration of aesthetic enhancements to civil engineering solutions.

Subconsultant: Richard Watson & Associates, Inc.

Richard Watson & Associates, Inc.

Tetra Tech has selected Richard Watson & Associates (RWA) to assist with funding source support. RWA is an urban planning and development services firm based in Mission Viejo, California. We serve clients locally and internationally, utilizing extensive project experience and a practical, problem-solving approach.



OUR TEAM

As illustrated in the organization chart below Tetra Tech has assembled our personnel based on individual strengths, technical skills, and experience working together. We tailored our team composition to fit specific scopes of work and provide benefits to the City, including:

- One Tetra Tech team, our team is able to self-perform a majority scopes of work required
- Strategically use personnel who have availability, for continuity between task orders
- Providing a team that is local, experienced, and seamlessly transitions into the roles required under each on-call task order
- Select team members with extensive on-call and stormwater experience and expertise



Availability percentage indicated for key personnel below, all other staff will have 80% or greater availability when needed by the City.



*Resume provided. Additional resumes can be provided upon request.



KEY PERSONNEL



NATE SCHREINER, PE, QSD
Project Manager

- 14 years of relevant experience
- Extensive Stormwater and on-call project management experience
- Registered California PE No.C70879 No. 74974

Mr. Schreiner will be the primary point of contact for the City and will manage each on-call task order on behalf of Tetra Tech.

Mr. Schreiner is a civil engineering project manager at Tetra Tech's office in Irvine, California. He manages domestic projects on behalf of government clients, applying a successful 14-year history of project management, hydrologic and hydraulic modeling, civil engineering design, condition assessments of a variety of infrastructure, and cost estimating. He most recently served as project manager for numerous on-call contracts with various public agencies in the Southern California area including Orange County Public Works, L.A. Metro, City of L.A., John Wayne Airport, Riverside County Transportation Commission, and LACDPW. As a Qualified SWPPP Developer (QSD), Mr. Schreiner has ample experience with providing Stormwater Pollution Prevention Plans (SWPPP) for construction activities.



JASON FUSSEL, PE, PLS, ENV SP, QSD/P
Principal-in-Charge

- Registered California PE No.C70879
- Qualified QSD and QSP

Mr. Fussel will act as principal-in-charge on behalf of Tetra Tech. Mr. Fussel's civil engineering experience totals nearly two decades with the majority of it being focused on stormwater projects. His significant involvement in Low Impact Development (LID) and Stormwater Pollution Prevention and reduction projects in Southern California, specifically as Engineer of Record for several important Proposition "O" projects for the City of Los Angeles, Caltrans funded projects, and Proposition 1 projects provide the foundation for his continued leadership in the industry. To date, Mr. Fussel has been the design lead for the design and implementation of more than \$100 million in construction cost, while also providing leadership and technical advice for numerous feasibility and conceptual studies. **He has signed and sealed more engineering drawings for regional stormwater capture projects than any other engineer in Southern California.**



JUSTIN SMITH, PE
Project Engineer

- Exp. with the City of Santa Ana
- Registered California PE No.C85736

Mr. Smith has been a part of the Tetra Tech team for 8 years and brings extensive knowledge in civil engineering from his involvement in a variety of municipal projects of varying size and funding. His design experience includes parking lot and roadway geometrics, pedestrian accessibility improvements, bike trails, parks, construction and post-construction stormwater BMPs, storm drain improvements including hydrologic and hydraulic design, overall utility plans, structural design, and grading activities varying from mass grading to final precise grading plans. His other experience includes cost estimating, preparing specifications, providing construction/post-construction support, performing utility research, and coordinating with the project team and outside agencies. Mr. Smith is currently working with the City on the Lincoln Avenue Pedestrian Pathway and First Street Pedestrian Improvements Projects.



KEY PERSONNEL



AARON YONKER, PE
Quality Control

- Registered California PE No. C77914
- Qualified QSD and QSP

Mr. Yonker provides over 16 years of experience and will act as quality control manager on behalf of Tetra Tech. Mr. Yonker's experience includes municipal stormwater, water, and wastewater system analysis and design, technical specification development, hydraulic analysis modeling and design, drainage analysis modeling and design, construction administration and management, and wastewater regulatory compliance support. Mr. Yonker has worked with FHWA Federal Auditors through the federal audit process on construction and streetscape improvement projects, is Caltrans Resident Engineer Certified, and has extensive knowledge and experience as a resident engineer during his earlier career while employed for MASS DOT.



CLINT BOSCHEN
Mapping/Sampling/
Monitoring/Analysis

- Mapping, Sampling, Monitoring Expertise
- Extensive relevant Orange County exp.

Mr. Boschen has more than 23 years of professional experience providing technical and program management support to federal, state, and local water resource agencies. He leads Tetra Tech's TMDL, water quality, and stormwater management support for municipalities in southern California, USEPA Region 9, State and Regional Water Quality Control Boards, and other organizations. He is also the Program Manager for Tetra Tech's watershed, water quality, monitoring, engineering, and regulatory on-call support to Orange County Public Works. Key projects include Bacteria TMDL development for Orange County watersheds and stormwater BMP analyses to support a regional cost-benefit analysis study, Santa Ana MS4 permit support including recommendations for streamlining the Dry Weather Monitoring (DWM) program, watershed planning, and development of a Comprehensive Human Waste Source Reduction.



PAULA FELL
Environmental/
Permitting

- Extensive CEQA/NEPA expertise
- Previous work with City of Santa Ana

Ms. Fell has over 26 years of experience preparing environmental/permitting documentation and over 22 years in a senior management role. She has prepared and managed California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) documents including Initial Studies (ISs), Mitigated Negative Declarations (MNDs), Environmental Impact Report (EIRs), Environmental Assessments (EAs), and Environmental Impact Statements (EISs), for projects throughout California on behalf of federal, state, regional, and local agencies and private clients. Her expertise also includes data collection and analysis on environmental issues such as visual resources, land use, public services, biological resources, socioeconomics, recreation, and utilities. Ms. Fell provides the added value of working with the City of Santa Ana on the Washington Avenue Lot Well and Facility; Well No. 39; and Well No. 32.



SECTION D Understanding of Need

Our project team brings a strong history in regional stormwater capture projects throughout California. We pride ourselves in our ability to deliver high-caliber, award winning work. In 2016, our team was selected as the City of Lakewood External Service Provider of the Year for our work on the Bolivar Park Regional Stormwater Capture Project – a project that won the 2016 Environmental Business Journal Project Merit Award for Innovative Technology, was featured in the February 2017 edition of Civil Engineering Magazine, won the American Public Works Association (APWA) Southern California Chapter 2018 B.E.S.T. Award for Storm Water Quality, and won the California Stormwater Quality Association’s 2019 Outstanding Regional Stormwater BMP Implementation Project of the Year. Additional awarded projects include the Santa Monica Safe Clean Beaches which secured the Envision Gold Award and the APWA Project of the Year Award, and the Albion Riverside Park with the 2019 Outstanding Park and Recreation Project Award from ASCE.

Our team understands that the City of Santa Ana needs a team that can demonstrate strong performance in the following areas to meet all the demands of the anticipated projects and ultimately to deliver a successful project:

1. Extensive and innovative regional stormwater capture implementation experience
2. Considerable CEQA Experience
3. Staffing with local knowledge and depth of technical expertise
4. Strong project management and quality control

EXTENSIVE AND INNOVATIVE REGIONAL STORMWATER CAPTURE IMPLEMENTATION EXPERIENCE

Developed open spaces serve as integral parts of communities. *Preserving and/or improving these existing uses of the open spaces are a critical element to regional stormwater capture to ensure community and agency acceptance.* These multi-benefits are realized through creative innovations in stormwater capture and open space design that maximize the site efficiency. The design and implementation of regional stormwater capture projects are rife with unique challenges related to their physical location, regulating

agencies, and community acceptance. These unique challenges require an experienced team who have not only navigated these issues first-hand, but also have an array of proven solutions that have pushed projects to construction and completion.

Our team is committed to develop designs that provide multiple benefits that go beyond the simple technical engineering needed for project implementation, utilize innovative techniques and technologies that will increase the project performance, incorporate stormwater treatment efficiency that advance progress towards regulatory compliance, as well as leverage all knowledge learned on the *three (3) fully completed projects, three (3) projects nearly complete, and one (1) project that recently commenced in a heavily utilized urban corridor.*

DESIGN FOR MULTI-BENEFIT

Regional stormwater capture projects are not solely an underground reservoir for water infiltration and/or treatment but also serve as an opportunity to improve/maintain the above ground features for the City and local community. Our team is well versed with the driving stormwater regulations and have implemented multiple



regional stormwater capture projects that incorporate park improvements including, but not limited to, Bolivar Park, Albion Riverside Park, Caruthers Park, and Mayfair Parks. Additionally, our team has implemented projects under parking and maintenance areas including the Santa Monica Clean Beaches Initiative and between two (2) roadways, such as the Culver Boulevard Project. These multi-benefit projects proved successful in their blending of usable open space and water quality improvement which we will carry into the design of any City project.

INNOVATION

New technologies and state of the science practices are constantly being developed and introduced to the stormwater management field. Relationships with academia, similar municipalities, and proprietary vendors provide continued learning and knowledge of the most recent practices being implemented throughout the state and nation. We pride ourselves in staying informed of the state of the science and share our experiences with others through publication and conferences to further those relationships. *The Bolivar Park project is considered the first “smart regional stormwater BMP”* and went on to win the 2016 Environmental Business Journal Award for Innovative Technology and the CASQA Outstanding Stormwater BMP Implementation Project of the Year in 2019.

Combining our experience developing standard details for stormwater capture, optimal design configurations, and full plans and specifications with our intimate knowledge of the policies and procedures of the City, our team is poised to provide cutting-edge, state of the science solutions to integrate stormwater capture facilities with open space development plans.

IMPROVE STORMWATER TREATMENT, REDUCE OPERATIONS AND MAINTENANCE, AND INCREASE THE CAPTURE VOLUME

Our team's extensive experience with stormwater capture projects has led us to the point of innovating stormwater treatment systems and incorporating sedimentation basins into our design. We have implemented state-of-the-art real-time controls used in tandem with inflatable dams to maximize capturing wet- and dry-weather flows successfully on numerous projects. Additionally, our team has widely utilized dry wells to supplement capture volume capabilities and preserve available space.

EFFICIENCY

Stormwater capture projects require an understanding of the flow patterns and property use to generate a design that maximizes efficiency while minimizing cost and protecting the beneficial uses. Efficiency can only be measured through an exhaustive generation of project implementation scenarios that vary diversion rates and chamber volumes while measuring their pollutant removal performance and anticipated costs. Our extensive experience has afforded us the opportunity to develop tools and procedures that allow for creative innovation while also ensuring project delivery efficiency through the modeling of thousands of possible sizing and diversion combinations. *Utilizing these tools, our team successfully lowered the needed size from the initial concepts for the Culver Boulevard Stormwater and Filtration project while still achieving the same pollutant removal efficiency, saving the City millions of dollars.* The availability of these vast amounts of data



inform better decisions and understanding of the impacts of constraints.

Regional stormwater capture projects not only require a thorough understanding of the project site but also need to be understood within the context of the watershed management objectives and TMDL requirements. Projects upstream and downstream of these projects will directly impact the performance of the system and ensuring their inclusion during the concept design analysis will safeguard both project and watershed efficiency. These flow routed, embedded scenarios and designs are unique to our team, pulled from experience in watershed master planning thus leading to a more informed design that considers the larger watershed context. *For the City of Los Angeles Stormwater Capture Parks Program, the Tetra Tech team is leading a programmatic watershed analysis of nine (9) projects to ensure efficient capture and place greater emphasis on the top projects through modeling and optimizing all projects simultaneously.*



CONSIDERABLE CEQA EXPERIENCE

Environmental stewardship must be a key component in the design and implementation of regional stormwater capture projects. The CEQA process and requirements vary significantly from project to project presenting unique challenges in ensuring compliance with all environmental regulations. Additionally, the public comment periods can impact the CEQA process thus lengthening schedules and increasing costs. Our team provides an experienced group who have prepared CEQA documentation on similar types of projects throughout Southern California.

Our public outreach and early intervention and collaboration with the public will assist in identifying red flag community issues early in the project design process, providing the City and project design team the opportunity to address the concerns through design or mitigation before the issues become intertwined with the CEQA process thus speeding up the project adoption and compliance with all CEQA concerns.

Our team is deeply aware of the CEQA analysis impacts to projects of these magnitudes. Two primary qualities our team takes pride in is our attention to detail and breadth of professional knowledge and experience of staff. The CEQA analysts on our team work very closely with project proponents, CEQA lead agencies, and other regulatory agencies to ensure timely completion of environmental documents and permits even under tight schedules. *We know and understand the importance of collaborating between the planning and design teams at the beginning of the project's design life so that environmental impacts and constraints can be taken into consideration early in the planning process.*



STAFFING WITH LOCAL KNOWLEDGE AND DEPTH OF TECHNICAL EXPERTISE

Members of our project team are locally based and are deeply invested in projects that will improve the local water quality and provide beneficial public space.

Having an adequate amount and necessary type of resources are critical to the success of a project. Inadequate resources can result in project delays and/or poor execution of required tasks. Tetra Tech is ready to provide support to the City with our experience and knowledge to quickly resolve technical issues and challenges. *The Tetra Tech team can provide the specialized expertise and the depth of resources necessary to meet or exceed the City's variable project requirements including providing the following services:*

- *Hydraulic computer modeling*
- *Stormwater sampling/ monitoring/data analysis*
- *Flow monitoring studies*
- *Mapping services*
- *Hydrologic calculations*
- *Preparation/review of Water Quality Management Plans (WQMP)*
- *Conceptual design/drawings*
- *Percolation testing/geotechnical reporting*
- *Coordination with outside agencies*
- *Project presentations*
- *Researching existing field conditions and utilities*
- *Cost benefit analyses*
- *Technical feasibility and project impact analyses*
- *Drafting project planning documents*
- *Grant funding support*
- *Environmental documentation*
- *Permitting support*
- *Land surveying*
- *Preparation of plans, specifications, and estimates*

(PS&E) involving civil, structural, architectural, geotechnical, electrical, mechanical, instrumentation & controls, and landscape architecture & irrigation design disciplines

- *Assistance with local, State, and Federal Grant applications*
- *Bid, Construction, and Post-Construction Support*

PROJECT MANAGEMENT PROCEDURES

Successful on-call service contracts require a diverse and highly talented team, made up of specific engineering and design disciplines, as well as responsible project management. No matter the task that is being requested, each project requires:

- *Delivering a project within budget and on schedule*
- *Coordinating with appropriate agency representatives*
- *Implementing a Quality Assurance/Quality Control Plan to increase the excellence of the end product*
- *Teamwork development and meeting participation*





PROJECT/COST CONTROL

For project development, Tetra Tech will use a Project Management/Control System which we have used successfully on numerous municipal projects. The core of this system is a monthly Project Management Report.

CRITICAL PATH METHOD (CPM) SCHEDULES

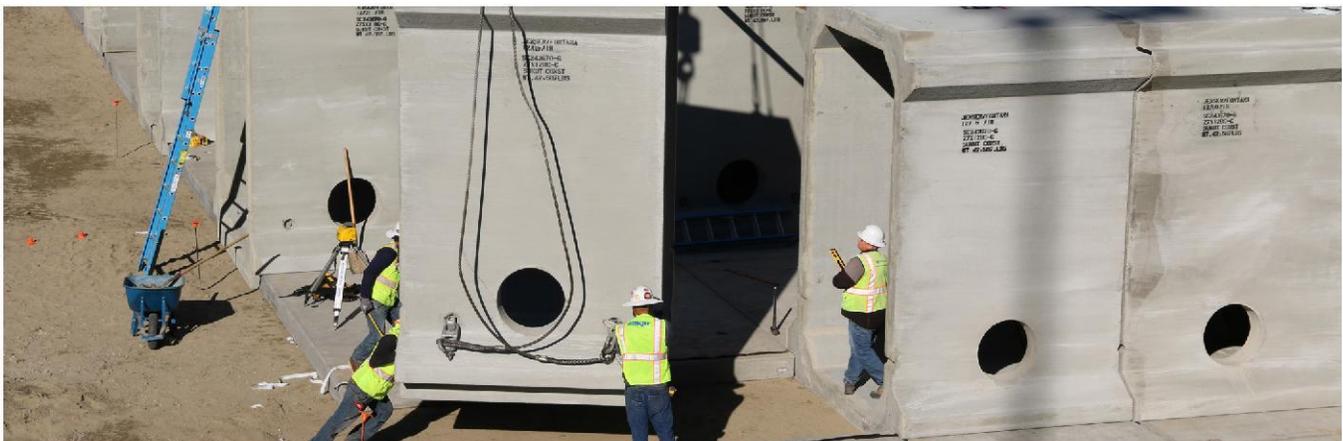
Tetra Tech will approach the development of a detailed work plan very seriously. The project team will meet at project initiation to collectively determine the smaller work tasks required to complete the major work activities as established in the Scope of Services. A sequencing plan of these smaller work tasks, using precedence format, will be developed which in turn will determine the overall schedule. The series of work tasks and resulting schedule will be diagrammatically exhibited as a Critical Path Method (CPM) flow chart. This flow chart, which highlights the critical path, will be used to base our determination of the intermediate project milestones.

QUALITY ASSURANCE/QUALITY CONTROL:

At Tetra Tech, our methods and techniques for Quality Control (QC) are employed in all phases of work to ensure that the quality requirements

are fulfilled for our clients. Quality Assurance (QA) is integral to our culture and processes and is ingrained in each task to be properly implemented. Our Quality Assurance has been responsible for driving down the lead time for Project Delivery and reduces the overall cost of the project by minimizing quality checks, rework and agency delays. The Quality Check process is a formalized step in the delivery process that requires all documents and deliverables to go through an independent review prior to release. The goal is simple: ensure that the product meets the expectations of the client and does not require the City to review the deliverables. This goal keeps rework down and achieves two primary goals: reducing cost and time.

- *First, the QC Manager will conduct a formal review of the deliverable highlighting all reviewed work and redlining the set.*
- *Once the review is finished and verified that all redlines have been addressed, the Project Manager will review the set to look for constructability and interdisciplinary issues.*
- *The final phase is a peer review to produce an independent quality check prior to submittal. This process fixes mistakes, verifies compliance with design criteria and codes, and provides feedback to the design team.*
- *Furthermore, the process is audited to keep the managers accountable for following the quality check process.*





SECTION E Relevant Project Experience

Our team's success has been built on local knowledge, technical expertise, quality design, fiduciary duty, and development of practical solutions that meet industry standards for sound engineering practices. The representative project descriptions provided below serve as a sampling of projects that validate the depth of our team's local expertise in regional stormwater capture, CEQA evaluation, local community knowledge, and public outreach. We strongly encourage you to contact our references provided with each project description to get a firsthand account of the level of service and expertise we provide.

REGIONAL STORMWATER CAPTURE

Table E-1, located on page 13 summarizes large regional stormwater capture projects that have been specifically designed by the individuals on this team to meet TMDL requirements. The table highlights the relevance of each project to the scope of work and demonstrates the depth of regional stormwater capture experience of the Tetra Tech team. It should be noted that a significant portion of our regional stormwater capture experience is located within the County of Los Angeles. The primary reason this is the case is that water quality requirements of the MS4 Permit in Los Angeles County have spurred massive investment in these projects over the past six years. The Los Angeles Regional Water Quality Control Board adopted the MS4 Permit in 2012 which approved development of Watershed Management Programs and associated Reasonable Assurance Analysis for municipalities to demonstrate their pathway towards compliance with the water quality objectives and has been the lead for MS4 compliance throughout California. These programs identified specific regional stormwater capture opportunities that have now transitioned into design and construction. Our goal is to bring our deep bench of experience from the early projects in Los Angeles County to the City of Santa Ana and continue forward in regional stormwater capture through innovative and creative solutions that will be tailored to the City's local conditions and needs.

LOCAL PROJECT EXPERIENCE

Tetra Tech is familiar with the City's processes and expectations through our recent support on the Lincoln Avenue Pedestrian Pathway and First Street Improvements Projects. The First Street Pedestrian Improvements Project includes the preparation of a WQMP and the design of the associated LID stormwater BMPs. Tetra Tech is also currently supporting Orange County Public Works on the Multi-discipline Watershed and Regulatory Support Project.





	Regional Volume (ac-ft)	On-Call	Pre-Design/Feasibility Studies	Public Outreach	Hydrology/Hydraulics/WQMP	Sampling/Monitoring/Analysis	Utility Research	Environmental/Permitting	Geotechnical Studies	Land Surveying	Project Design	Bid, Const., & Post-Const. Support
Bolivar Park Stormwater Capture, City of Lakewood (RC)	8.9		●	●	●	●	●	●	●	●	●	●
Santa Monica Clean Beaches Initiative, City of Santa Monica (RC)	4.9		●	●	●	●	●		●	●	●	●
Albion Riverside Park, City of Los Angeles (RC)	5.1	●	●	●	●	●	●	●	●	●	●	●
Culver Blvd. Stormwater Filtration, City of Culver (RC)	8.0		●	●	●		●	●	●	●	●	●
Mayfair Park Stormwater Capture, City of Lakewood (RC)	14.6		●	●	●	●	●		●	●	●	●
Caruthers Park Stormwater Capture, City of Bellflower (RC)	9.7		●	●	●	●	●	●	●	●	●	●
Carriage Crest Stormwater Capture, Los Angeles Co. San. Dist. (RC)	11.0	●	●	●	●	●	●	●	●	●	●	●
First Street Pedestrian Improvements, City of Santa Ana	N/A				●		●			●	●	●
Multi-discipline Watershed and Regulatory Support, Orange County Public Works	N/A	●		●	●	●						
Alondra/Adventure Park Stormwater Capture, Los Angeles County (RC)	53.5	●	●	●	●		●	●	●	●	●	
Aliso Creek-Limekiln Creek Restoration, City of Los Angeles (RC)	5.7	●	●	●	●		●	●	●	●	●	
Holbrook-Palmer Park Stormwater Capture Project, Town of Atherton (RC)	9.0		●	●	●		●	●	●	●		
San Fernando Valley Stormwater Capture Parks Programs (4 Park Locations), City of Los Angeles (RC)	165.2 Total	●	●	●	●		●	●	●	●	●	
San Fernando Valley Stormwater Capture Parks Programs (5 Park Locations), City of Los Angeles (RC)	88.6 Total	●			●							

* (RC) - Regional Capture Project

Table E-1: Representative Experience

Bolivar Park Stormwater Capture Project

Lakewood, CA

REFERENCE

City of Lakewood
 Lisa Rapp, PE
 Director of Public Works
 562.866.9771
 LRapp@lakewoodcity.org

DURATION/VALUE

Completed: 2018
 Value: \$1.2M (Engineering)
 \$9.0M (Construction)

PERSONNEL INVOLVED

Jason Fussel, Design Lead, Project Engineer
 Justin Smith, Civil
 Timothy Joyce, Pump Station Design
 Elva Pangilinan, Civil
 Mazen Kassar, Electrical
 Mike Olsen, Structural
 Eric Martin, Civil
 Mike Olsen, Structural
 Dan Helt, Survey
 Mauricio Argente, Landscape Architect

RELEVANCY

- The Bolivar Park Stormwater Capture Project's relevancy to this contract is shown in the table on page 13

Tetra Tech was contracted by the City of Lakewood to evaluate two potential site locations for the development of the Lakewood Stormwater and Runoff Capture Project: Mayfair Park site and the Bolivar Park site.

Tetra Tech provided a Project Engineering Study Report (PESR) that represented 10% design completion level and described the evaluation of the two sites with all site investigation, hydrology and hydraulic, and water quality data and analyses to provide a recommendation for site selection.

The Bolivar Park project consisted of an air-inflated rubber dam diversion system to redirect all urban runoff and stormwater runoff from the Del Amo channel through a pre-treatment system to remove trash, debris, and sediment. A pump station and drainage pipeline will then convey the water into a large, buried multi-chambered storage/infiltration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas. The system will monitor the weather conditions and the facility through a secured cloud-based system.

The goal of the project was to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits such as revitalized park infrastructure and augmentation of local water supplies. As one of the first cities to receive stormwater funding to support Caltrans with stormwater compliance units, the success of this project serves as a model for other agencies to follow.

This project received the 2018 APWA Best Award in the Storm Water Quality category, and was selected to receive the CASQA Project of the Year awarded in October 2019.



Santa Monica Clean Beaches Initiative

Santa Monica, CA

REFERENCE

City of Santa Monica
 Selim Eren, PE
 Project Manager
 Phone: 310.458.2200
 x5107
 selim.eren@smgov.net

DURATION/VALUE

Completed: 2018
 Value \$0.6M (Engineering)
 \$15M (Construction)

PERSONNEL INVOLVED

Jason Fussel, Design Lead, Project Engineer
 Elva Pangilinan, Civil
 Timothy Joyce, Pump Station
 Mazen Kassar, Electrical
 Jeff Atijera, Civil
 Mauricio Argente, Landscape Architect

RELEVANCY

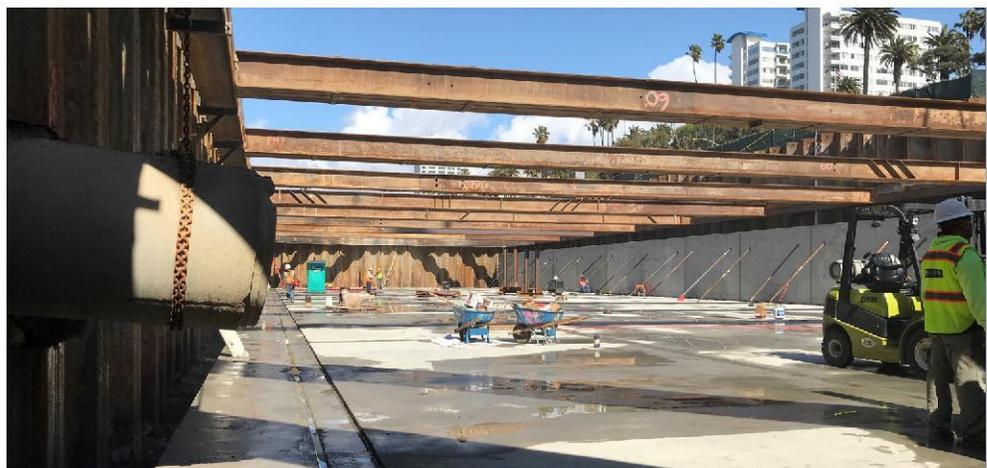
- The Santa Monica Clean Beaches Initiative relevancy to this contract is shown in the table on page 13

Tetra Tech designed and oversaw the construction of the Clean Beaches Initiative Project for two separate drainage basins at the Santa Monica Pier and Pico-Kenter Drainage Basins. This project is a major effort to improve beach water quality from storm water runoff and increase the City's drought resiliency. Wet-weather flows are treated and diverted from the Pier watershed to the Santa Monica Urban Runoff Recycling Facility (SMURRF) or the sanitary sewer.

The Santa Monica Pier watershed improvements includes a flow diversion structure that directs stormwater from the 106-acre Pier watershed into a subsurface storage facility with a storage capacity of 1.6 million gallons. The stored water is pumped to SMURRF and distributed for non-potable uses or to the sanitary sewer. The surface was improved with a new parking lot that is consistent with the City's Zoning and Municipal Code, which included improvements for parking lot lighting, permeable pavement, and landscaping features.

The Pico-Kenter project components consist of a diversion structure to divert 80,000 gallons of the "first flush" of urban runoff for treatment at SMURRF and ultimately distributed for non-potable uses. A portable pump was provided to drain the post-storm pond that forms downstream of the outfall at the beach.

This project was funded by the Proposition 40 Clean Beaches Program, with a local match from the City Clean Beaches and Oceans Parcel Tax Fund. This project was selected for the Envision Gold Award, and the APWA Project of the Year Award.



Albion Riverside Park

Los Angeles, CA

REFERENCE

City of Los Angeles,
Bureau of Engineering
John Saldin
Project Manager
213-485-5875
john.saldin@lacity.org

DURATION/VALUE

Completed: 2019
Value \$1.4M (Engineering)
\$17M (Construction)

PERSONNEL INVOLVED

Jason Fussel, Design Lead, EOR
Timothy Joyce, QA/QC
Elva Pangilinan, Civil
Justin Smith, Civil
Mike Olson, Structural
Eric Martin, Civil
Dan Helt, Survey
Mauricio Argente, Landscape Architect

RELEVANCY

- The Albion Riverside Park relevancy to this contract is shown in the table on page 13

The City of Los Angeles selected Tetra Tech to provide pre-design, design, and construction support services for the Albion Riverside Park Project, located adjacent to the Los Angeles River. The project involved transforming a six-acre site, previously used for dairy warehousing and distribution, into a riverfront park and recreational facility that benefits nearby disadvantaged low-income neighborhoods. This important water quality project is part of the City's overall efforts through the Proposition O Bond Program to improve water quality and reduce pollutant loads that are currently being conveyed to the rivers, lakes, and oceans within the greater Los Angeles area.

The overall project objective was to develop the project site and implement Low Impact Development (LID), Green Infrastructure, and Best Management Practice (BMP) measures to improve the water quality of stormwater prior to discharging into the Los Angeles River and ultimately into the Pacific Ocean. In addition to collecting, treating and infiltrating on-site runoff, the project diverts stormwater and dry weather flows from an existing storm drain. The diverted flows are then treated and infiltrated, or used within the park. The BMPs installed included bioretention facilities, bioswales, and pervious pavement subsurface infiltration areas. The remainder of the park was developed for recreational uses, educational purposes, and improved access along the river. Recreational amenities at the site included multi purpose athletic fields, walking paths, adult fitness zones, children's play area, picnic area, a new parking lot with permeable paving, site landscaping and a plaza.



Culver Blvd. Stormwater Filtration and Retention

Culver, CA

REFERENCE

City of Culver City
 Lee Swain
 Phone: 310.569.6885
 Lee.Swain@culvercity.org

DURATION/VALUE

Completed: 2019 (Design)
 Value \$0.5M (Engineering)
 \$12.5M (Construction)

PERSONNEL INVOLVED

Jason Fussel, Design Lead, EOR
 Aaron Yonker, Project Engineer
 Elva Pangilinan, Civil
 Mike Olsen, Structural
 Chris Jansen, Civil
 Mazen Kassar, Electrical
 Jeffrey Atijera, Civil
 Timothy Joyce, Pump Station Design
 Mauricio Argente, Landscape Architect

RELEVANCY

- The Culver Blvd. Stormwater Filtration and Retention relevancy to this contract is shown in the table on page 13

This project will maximize pollutant and stormwater capture by diverting dry-weather and wet-weather stormwater flows at a rate of up to 50 cubic-feet-per-second from two stormwater facility locations; a 66-inch reinforced concrete pipe located at Harter Avenue and an 87-inch reinforced concrete arch pipe located at Sepulveda Boulevard. Diverted stormwater flows are first sent to one of two pretreatment units to remove trash and sediments and then to a concrete underground storage facility capable of providing up to 8-acre-feet of storage. Stored water is pumped to the post-storage filtration system where it is polished for final pollutant removal before being returned to downstream storm drain channels and receiving waters. As an added benefit of this project, treated stormwater will be used to offset potable water irrigation demands on the newly constructed 58-ft wide raised landscape median and at nearby Veterans Park.

To reach a consensus with the residents for both projects, Tetra Tech prepared a comprehensive Outreach Community Engagement Plan, coordinated with the Citizens Advisory Committee, and participated in community outreach meetings to encourage full and early community/ stakeholder participation in the project.

Tetra Tech has completed the final design (PS&E) for these projects and will continue to provide engineering support during construction. Construction on this project occurred during late summer of 2019 and is anticipated to be completed by the end of 2020.



Mayfair Park Stormwater Capture Project

Lakewood, CA

REFERENCE

City of Lakewood
 Lisa Rapp, PE
 Director of Public Works
 Phone: 562.866.9771
 LRapp@lakewoodcity.org

DURATION/VALUE

Completed: 2017 (Design)
 Value \$1.3M (Engineering)
 \$10.2M (Construction)

PERSONNEL INVOLVED

Jason Fussel, Design Lead Project Engineer
 Timothy Joyce, Pump Station Design
 Elva Pangilinan, Civil
 Mazen Kassar, Electrical
 Mike Olson, Structural
 Nate Schreiner, Civil
 Justin Smith, Civil
 Jeff Atijera, Civil
 Chris Jansen, Civil
 Mauricio Argente, Landscape Architect

RELEVANCY

- The Mayfair Park Stormwater Capture Project relevancy to this contract is shown in the table on page 13

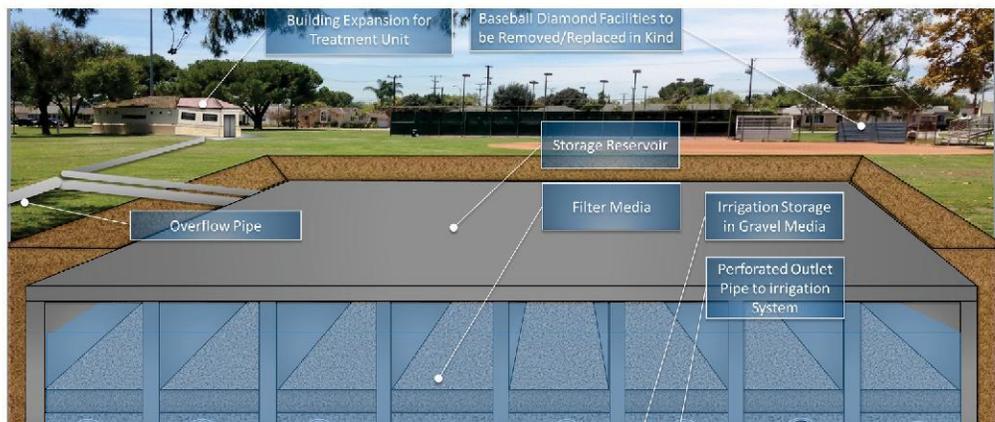
Tetra Tech was contracted by the City of Lakewood to evaluate and design a Caltrans funded Stormwater and Runoff Capture Project at Mayfair Park in Lakewood.

Tetra Tech provided a Project Engineering Study Report (PESR) that included all necessary site investigation, hydrology and hydraulic, water quality data and analyses and geotechnical investigation for deep infiltration to provide a recommendation for treatment train selection and implementation.

The Mayfair Park project consists of an air-inflated rubber dam diversion system to redirect all urban runoff and stormwater runoff from the Del Amo Channel through a pre-treatment system to remove trash, debris, and sediment. A pump station and drainage pipeline will convey the water into a large, buried multi-chambered storage/infiltration facility.

The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas, discharge to the sanitary sewer and additional filtration for discharge back to the channel. The system will monitor the weather conditions and the facility through a secured cloud-based system.

The goal of the project is to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies. As one of the first cities to receive stormwater funding to support Caltrans with stormwater compliance units, the success of this project will be a model for other agencies to follow.



Caruthers Park Stormwater Capture

Bellflower, CA

REFERENCE

City of Bellflower
 Mr. Bernardo Iniguez
 Public Works Manager
 Phone: 562.804.1424
 x2233
 biniguez@bellflower.org

DURATION/VALUE

Completed: 2018 (Design)
 Value \$1.0M (Engineering)
 \$12.8M (Construction)

PERSONNEL INVOLVED

Jason Fussel, Design Lead, Engineer of Record
 Mike Olsen, Structural
 Elva Pangilinan, Civil
 Nathan Schreiner, Civil
 Mazen Kassar, Electrical
 Tyler Parra, Civil
 Dan Helt, Survey
 Chris Jansen, Civil
 Jeffrey Atijera, Civil
 Timothy Joyce, Pump Station Design
 Mauricio Argente, Landscape Architect

RELEVANCY

The Caruthers Park Stormwater Capture relevancy to this contract is shown in the table on page 13

Tetra Tech provided pre-design, design, and construction support services for this Caltrans funded stormwater capture project at Caruthers Park in Bellflower, CA.

The Caruthers Park Water Capture Project consists of a gravity diversion from two separate Los Angeles County Flood Control District storm drain lines; a 72" RCP line that drains 261 acres of the Los Cerritos Channel, and a 38' wide rectangular concrete channel that drains 2,995 acres of the Lower San Gabriel River. The diverted flows pass through a pretreatment system to remove trash, debris, and sediment. The runoff is then passed into a large buried multi-chambered storage/infiltration facility that will be treated and used to irrigate the park. Flows in excess of the required irrigation demands will pass into the infiltration gallery to be exfiltrated through the soil to eventually combine with the ground water. The system uses active controls to monitor the weather conditions and empty the facility through a secured cloud-based system. This project helps the City comply with their bacteria and metals TMDL, while providing additional benefits of potable water offset and park revitalization.



Carriage Crest Stormwater Capture Project

Los Angeles, CA

REFERENCE

Sanitation Districts of Los Angeles County
 Kristen Ruffell, PE
 Division Engineer
 Phone: 562.908.4288 x2826
 Email: kruffell@lacsdc.org

DURATION/VALUE

Completed: 2018 (Design)
 Value \$2.0M (Engineering)
 \$11.2M (Construction)

PERSONNEL INVOLVED

Jason Fussel, Design Lead, EOR
 Timothy Joyce, Pump Station Lead
 Elva Pangilinan, Civil
 Dan Helt, Survey
 Mazen Kassar, Electrical
 Jeff Atijera, Civil
 Mike Olsen, Structural
 Nate Schreiner, Civil
 Eric Martin, Civil
 Chris Jansen, Civil
 Mauricio Argente, Landscape Architect

RELEVANCY

Carriage Crest Stormwater Capture Project relevancy to this contract is shown in the table on page 13

Carriage Crest Park was identified in the Dominguez Channel Watershed Management Group EWMP as a high priority site for a regional stormwater capture project due to its proximity to two large storm drains with a total drainage area exceeding 1,100 acres. This area discharges into Wilmington Drain which subsequently discharges into Machado Lake. The overarching objective of the project is to improve the quality of Machado Lake by eliminating dry-weather runoff and reducing wet-weather pollutant loading.

The City of Carson entered into a Cooperative Implementation Agreement (CIA) with Caltrans to fund the Carson Water Capture Project at Carriage Crest Park. The City of Carson entered into a subsequent agreement with the Sanitation Districts of Los Angeles County (LACSD) to manage the project.

Tetra Tech developed the preliminary engineering design report which included the analysis and developed innovative water use and treatment scenarios including (1) diversion to the sanitary sewer for treatment at the adjacent Joint Water Pollutant Control Plant (JWPCP), (2) onsite non-potable use to offset potable water demand, and (3) onsite filtration using a subsurface filter media bed.

Tetra Tech prepared the detailed design drawings, cost estimates, and specifications for the pre-cast structures package for the construction of the regional stormwater BMP facility, and Tetra Tech is also currently providing support during construction.



SECTION F References

Tetra Tech has provided references for each of the representative projects in Section E.

On-Call
Stormwater Project
Design Services



Appendix 1: Resumes





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

Principal-in-Charge



Mr. Fussel has extensive and relevant experience in the stormwater and Best Management Practice (BMP) arena, which includes successful implementation of sustainable design practices for a vast array of improvement projects. His significant involvement in Low Impact Development (LID) and Stormwater Pollution Prevention and reduction projects in Southern California, specifically as Engineer of Record for several important Proposition "O" projects for the City of Los Angeles, Caltrans funded projects, and Proposition 1 projects provide the foundation for his continued leadership in the industry. To date Mr. Fussel has been the design lead for the design and implementation of over \$100 million in construction cost. Mr. Fussel continues to improve upon his expertise through attending various LID conferences and presenting the fundamentals and approach to BMP design to colleagues and the public through engagement seminars and discussions. As a Qualified SWPPP Practitioner (QSP) and Qualified SWPPP Developer (QSD), Mr. Fussel has ample experience with providing Stormwater Pollution Prevention Plans (SWPPP) for construction activities and Water Quality Management Plans (WQMP). Additionally, Mr. Fussel is an Envision™ Sustainability Professional and LEED Accredited Professional.

Stormwater Capture Parks Program, City of Los Angeles, Bureau of Engineering, Los Angeles, CA. 2019 - Ongoing. Program Manager. Mr. Fussel is serving as the Program Manager for the City of Los Angeles' Stormwater Capture Parks Program, for which he is overseeing pre-design services for the development of four stormwater capture projects as part of the second largest stormwater program undertaken in the state's history. In addition, Mr. Fussel is leading a programmatic watershed analysis of nine (9) projects to ensure project goals are met and to determine possible efficiencies in linking multiple project sites together and measuring their performance.

Albion Riverside Park Project, City of Los Angeles Bureau of Engineering, Los Angeles, CA. Project Engineer and Assistant Project Manager. Mr. Fussel was responsible for overseeing the pre-design services for the Albion Riverside Park Project. Tetra Tech also provided design and construction support services. The project, located adjacent to the Los Angeles River, involved transforming a six-acre site, previously used for dairy warehousing and distribution, into a riverfront park and recreational facility that will benefit nearby disadvantaged low income neighborhoods. In addition, the City is using the redeveloped property to increase the current capacity for managing stormwater runoff.

EDUCATION:

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

REGISTRATIONS/ CERTIFICATIONS:

Registered Professional
Engineer, CA No. 70879,
January 2007

Registered Professional
Engineer, HI No. 15600,
August 2013

Registered Professional Land
Surveyor, CA No. 9006, May
2013

Qualified SWPPP Developer
(QSD) and Qualified SWPPP
Practitioner (QSP), No. 20231,
September 2012

Envision™ Sustainability
Professional, March 2014

LEED® Accredited
Professional, February 2009

PROFESSIONAL AFFILIATIONS:

American Society of Civil
Engineers

California Land Surveyors
Association

OFFICE LOCATION:

Buellton, CA

TOTAL YEARS OF EXPERIENCE:

17

YEARS W/ TETRA TECH:

17



This important water quality project is part of the City's overall efforts through the Proposition O Bond Program to improve water quality and reduce pollutant loads that are currently being conveyed to the rivers, lakes, and oceans within the greater Los Angeles area. In addition, the project was designed to achieve a Platinum Envision™ rating.

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

Bolivar Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA. Engineering Design Lead and Engineer of Record. Mr. Fussel was responsible for feasibility, conceptual and detailed design services to prepare final plans, specifications and estimates. Tetra Tech was contracted to evaluate the potential site location and develop this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Del Amo channel through a pre-treatment system to remove trash, debris, and sediment. A pump station and drainage pipeline conveys the water into a large, buried multi-chambered storage/infiltration facility. The stormwater collected in the underground reservoir is treated and used to irrigate the park's landscaped areas. The system monitors the weather conditions and the facility through a secured cloud-based system. The underground storage system is 2.8 million gallons (8.7 ac-ft).

Carriage Crest Stormwater and Runoff Capture Project, Sanitation Districts of Los Angeles County, Carson, CA. Engineering Design Lead and Engineer of Record. Mr. Fussel was responsible for preparing the plans, specifications and estimates, from concept to detailed design. Carriage Crest Park was identified in the Enhanced Watershed Management Program (EWMP) as a high-priority site for a regional stormwater capture project due to its proximity to two large storm drains with a total drainage area exceeding 1,100 acres.

Mayfair Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA. Engineering Design Lead and Engineer of Record. Mr. Fussel was responsible for feasibility, conceptual and detailed design services to prepare final plans, specifications and estimates. Tetra Tech was contracted to evaluate the potential site location and develop this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Clark Channel through a pre-treatment system to remove trash, debris, and sediment. A drainage pipeline will convey the water into a large, buried multi-chambered storage and filtration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas. The system will monitor the weather conditions and the facility through a secured cloud based system. The underground storage system is 4.5 million gallons (13.8 ac-ft). The goal of the project is to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies.



Nate Schreiner, PE, QSD

Project Manager



EDUCATION:

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

REGISTRATIONS/ CERTIFICATIONS:

Registered Professional Civil Engineer California No. 74974 (2009)

Qualified SWPPP Developer (QSD), Certificate No. C74974

Federal Highway Administration (FHWA) National Highway Institute (NHI) Safety Inspection of In-Service Bridges

USACE Levee Inspection Workshop

USACE Levee Screening Tool Facilitator Workshop

Tetra Tech Flood Risk Training

OFFICE LOCATION:

Irvine, CA

TOTAL YEARS OF EXPERIENCE:

14

YEARS W/ TETRA TECH:

12

Mr. Schreiner is a stormwater and civil engineering project manager at Tetra Tech's office in Irvine, California. He manages domestic projects on behalf of government clients, applying a successful 14-year history of project management, civil engineering design, hydrologic and hydraulic modeling, condition assessments of a variety of infrastructure, and cost estimating. Mr. Schreiner holds an active California PE registration. He most recently served as project manager for numerous on-call contracts with various public agencies in the Southern California area including the City of Los Angeles, Los Angeles County Metropolitan Transportation Authority (Metro), John Wayne Airport, Riverside County Transportation Commission (RCTC), Orange County Public Works (OCPW), and Los Angeles County Department of Public Works (LACDPW). He has performed hydrologic and hydraulic analyses of various types of drainages including culverts, channels, rivers, and alluvial fans. Previously he was involved in projects involving USACE Periodic Inspections of levees, FEMA levee certification, and master drainage plans. He has inspected around 300 miles of levee in various states and is well versed with USACE facilities. He has been involved in all phases of the project life-cycle including site investigations, preliminary design, PS&E, QA/QC, and construction support. As a Qualified SWPPP Developer (QSD), Mr. Schreiner has experience with providing Stormwater Pollution Prevention Plans (SWPPP) for construction activities.

Caruthers Park Stormwater and Urban Runoff Capture Project, Bellflower, CA, Project Engineer. Mr. Schreiner is serving as the project engineer during the bidding and award and construction phases of this large-scale stormwater project to capture, infiltrate and reuse urban runoff collected from County drainage facilities adjacent to the park. The project was planned as part of the Los Cerritos Channel (LCC) watershed and the Lower San Gabriel River (LSGR) Watershed Management Programs (WMPs). Caruthers Park was identified as a potential high priority site for a regional stormwater capture project for non-stormwater runoff as well as first-flush runoff from wet weather events. The project components include site improvements, a diversion structure to divert water from the flood control channel, a pretreatment structure to remove trash and debris from the runoff, an underground structure to infiltrate and store the water that will be treated for landscape irrigation use, and piping systems. Mr. Schreiner was instrumental in obtaining the California Department of Fish and Wildlife (CDFW) 1602 Notification of Lake or Streambed Alteration permit, Regional Water



Quality Control Board Los Angeles Regional Clean Water Act Section 401 Water Quality Certification, and the US Army Corps of Engineers, Los Angeles District Section 404 Permit. Mr. Schreiner is also responsible for overseeing the project engineer and their review of RFIs, submittals, construction schedules, and change orders.

Carriage Crest Stormwater and Runoff Capture Project, Sanitation Districts of Los Angeles County, Carson, CA. Project Engineer. Mr. Schreiner was responsible for preparing the plans, specifications and estimates, from concept to detailed design. Carriage Crest Park was identified in the Enhanced Watershed Management Program (EWMP) as a high-priority site for a regional stormwater capture project due to its proximity to two large storm drains with a total drainage area exceeding 1,100 acres.

Mayfair Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA.

Project Engineer. Mr. Schreiner was responsible preparing the plans, specifications and estimates, from concept to detailed design. Tetra Tech was contracted to evaluate the potential site location and develop this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Clark Channel through a pre-treatment system to remove trash, debris, and sediment. A drainage pipeline will convey the water into a large, buried multi-chambered storage and filtration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas. The system will monitor the weather conditions and the facility through a secured cloud based system. The underground storage system is 4.5 million gallons (13.8 ac-ft). The goal of the project was to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies.

Silver Lake Reservoir Stormwater Capture Project, City of Los Angeles Bureau of Engineering, Los Angeles, CA. Project Manager. Project Manager for the pre-design phase of the project to construct stormwater infrastructure to capture stormwater from a 170-acre watershed and divert it to the Silver Lake and Ivanhoe reservoirs in Los Angeles, CA. To offset the potable water demand associated with maintaining historic water levels in the reservoirs, stormwater from the local watershed is proposed to be redirected into the Reservoirs. Various types, sizes, and locations of stormwater infrastructure and BMPs were evaluated and selected to assist the City in meeting their stormwater capture goals. Mr. Schreiner guided the project engineer in the hydrologic and hydraulic modeling, and reviewed all project submittals. Mr. Schreiner also coordinated with the City's Street and Stormwater Division project manager and staff at a pre-design review meeting.

SWPPP for the Biogas Conditioning System at the Joint Water Pollution Control Plant, Carson, CA. Project Manager. Mr. Schreiner served as the project manager on a project to develop and implement a Stormwater Pollution Prevention Plan (SWPPP) at the Biogas Conditioning System at the Joint Water Pollution Control Plant (JWPCP). The project included converting an empty paved lot into a methane gas fuel facility. The property is owned was developed by County Sanitation District No. 2 of Los Angeles County.



Justin Smith, PE

WQMP / Civil Site Design



EDUCATION:

BS, Civil Engineering,
University of Irvine

REGISTRATIONS/ CERTIFICATIONS:

Professional Engineer,
California, No. 85736, 2016

OFFICE LOCATION:

Irvine, CA

TOTAL YEARS OF EXPERIENCE:

8

YEARS W/ TETRA TECH:

8

Mr. Smith has been a part of the Tetra Tech team for 8 years and brings extensive knowledge in civil engineering from his involvement in a variety of municipal projects of varying size and funding. His design experience includes parking lot and roadway geometrics, pedestrian accessibility improvements, bike trails, parks, construction and post-construction stormwater BMPs, storm drain improvements including hydrologic and hydraulic design, overall utility plans, structural design, and grading activities varying from mass grading to final precise grading plans. His other experience includes cost estimating, preparing specifications, providing construction/post-construction support, performing utility research, and coordinating with the project team and outside agencies. Mr. Smith is currently working with the City on the Lincoln Avenue Pedestrian Pathway and First Street Pedestrian Improvements Projects.

First Street Pedestrian Improvements, City of Santa Ana, Santa Ana, CA. Project Engineer. Responsible for the preparation of the plans, specifications, and estimates (PS&E) along with the Water Quality Management Plan (WQMP) for this active transportation project. The project involves the widening of the existing sidewalks by three feet by reducing the width of the vehicle travel lanes along a 1.2-mile portion of First Street between Flower Street and Standard Avenue. Improvements include reconstructing ADA curb ramps, reconstructing hardscape (curb & gutter, bus stop pads, asphalt pavement, and driveway approaches), creating bulb-outs at intersections, restriping travel lanes, installing high visibility marked crosswalks, relocating and/or adjusting existing utility features to grade, relocating street furniture, modifying existing pedestrian push buttons, installing new traffic signal detector loops, installing a new traffic signal at the intersection with Lacy Street, retrofitting and/or reconstructing drainage structures, and installing stormwater Best Management Practices (BMPs).

Lincoln Avenue Pedestrian Pathway, City of Santa Ana, Santa Ana, CA. Project Engineer. Responsible for the preparation of the plans, specifications, and estimates (PS&E) for this active transportation project. Services included permitting through the Southern California Regional Rail Authority (Metrolink). The project is funded in part by ATP state grant funds. The pedestrian pathway will run parallel with Lincoln Avenue west of the existing railroad tracks. The improvements will commence at the intersection of Lincoln Avenue and Park Lane, continue north between the back of the residential properties and the railroad tracks, and end at the existing Santiago Trail, under the railroad bridge



that crosses Santiago Creek. The improvements include a 12-foot pathway and railroad-approved safety fencing, drought tolerant landscaping, pedestrian lighting, and signage to identify the pathway.

Sixth Street Park, Arts, River and Connectivity (PARC) Project, City of Los Angeles Bureau of Engineering, Los Angeles, Los Angeles, CA. Project Engineer. Responsible for providing engineering design services to prepare plans, specifications, and estimates (PS&E). Tetra Tech is providing schematic and final design, environmental documentation and permitting, public presentations, construction support services, and post-construction services for nearly 12 acres of recreational and open spaces beneath and around the new bridge. The City's goal is to make the landscape component under the new bridge a world class public space that includes an Arts Plaza, several performance stages, synthetic sports fields, river terracing, and bicycle and pedestrian pathways. The design includes the construction of harvest and use style and structure treatment control stormwater Best Management Practices (BMPs).

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

Mayfair Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA. Design Engineer. Tetra Tech was contracted to evaluate the potential site location and develop this stormwater runoff and capture project. The project consisted of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Clark Channel through a pre-treatment system to remove trash, debris, and sediment. A drainage pipeline conveys the water into a large, buried multi-chambered storage and filtration facility. The stormwater collected in the underground reservoir is treated and used to irrigate the park's landscaped areas. The system monitors the weather conditions and the facility through a secured cloud-based system. The underground storage system is 4.5 million gallons (13.8 ac-ft). The goal of the project was not only to help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, provides benefits such as revitalized park infrastructure and augmentation of local water supply.

Albion Riverside Park Project, City of Los Angeles Bureau of Engineering, Los Angeles, CA. Design Engineer. The project, located adjacent to the Los Angeles River, involves transforming a six-acre site, previously used for dairy warehousing and distribution, into a riverfront park and recreational facility that will benefit nearby disadvantaged low-income neighborhoods. In addition, the City is using the redeveloped property to increase the current capacity for managing stormwater runoff. This important water quality project is part of the City's overall efforts through the Proposition O Bond Program to improve water quality and reduce pollutant loads that are currently being conveyed to the rivers, lakes, and oceans within the greater Los Angeles area. In addition, the project is being designed to achieve a Platinum Envision™ rating.



Aaron Yonker, PE, QSD/P

Quality Control



Mr. Yonker has 16 years of experience in quality design, civil engineering, and has built an extensive array of project experience designing and managing various types of civil engineering projects, including green streets, active transportation/complete streets, stormwater drainage improvement projects. His civil engineering experience includes: water and wastewater system analysis and design, hydraulic analysis modeling and design, drainage analysis modeling and design, technical specification development, construction administration and management, and municipal stormwater and wastewater regulatory compliance support. This experience extends equally to both the public and private sector. Mr. Yonker has considerable construction management/administration experience administering the construction of large federally-funded on-highway and off-highway roadway improvement projects. In this capacity, Mr. Yonker has worked with FHWA Federal Auditors through the federal audit process on construction and streetscape improvement projects, is Caltrans Resident Engineer Certified, and has extensive knowledge and experience as a resident engineer during his earlier career while employed for the Massachusetts D.O.T. administering and overseeing the construction of multi-million-dollar bridge and roadway improvement projects.

Culver Boulevard Stormwater Infiltration and Retention Project, City of Culver City, CA. Project Manager and Engineer of Record. Mr. Yonker oversaw the preparation of PS&E documents during the design phase of this multi-beneficial stormwater regional project. Currently in the construction phase, this \$12.5M construction project will maximize pollutant and stormwater capture by diverting dry-weather and wet-weather stormwater flows at a rate of up to 50 cubic-feet-per-second from two stormwater facility locations; a 66-inch reinforced concrete pipe located at Harter Avenue and an 87-inch reinforced concrete arch pipe located at Sepulveda Boulevard. Diverted stormwater flows are first sent to a pretreatment unit to remove trash and sediments and then to a concrete underground storage facility capable of providing up to 8-acre-feet of storage. Stored water is pumped to the post-storage filtration system where it is polished for final pollutant removal before being returned to downstream storm drain channels and receiving waters. As an added benefit of this project, treated stormwater will be used to offset potable water irrigation demands to onsite landscaped medians and at nearby Veterans Park. Mr. Yonker provided lead civil design services and

EDUCATION:

BS, Civil Engineering,
University of Massachusetts,
Lowell, MA

REGISTRATIONS/ CERTIFICATIONS:

Professional Registered Civil
Engineer, California, No.
77914, January 2011

Qualified SWPPP Developer
(QSD) and Qualified SWPPP
Practitioner (QSP), No. 77914

ITS Berkley Tech Transfer

- ◆ Local Assistance Resident
Engineers Academy
(PD-04)

NASSCO ITC Program

- ◆ Program Inspector for
Cured in Place Pipe

PROFESSIONAL AFFILIATIONS:

Chi Epsilon Civil Engineering
National Honor Society

OFFICE LOCATION:

San Luis Obispo, CA

TOTAL YEARS OF EXPERIENCE:

16

YEARS W/ TETRA TECH:

3



worked to coordinate all project disciplines, including civil, structural, electrical, geotechnical, landscape, and transportation to deliver a successful project.

San Luis Obispo Stormwater Plan Check, County of San Luis Obispo, CA. Project Manager.

The County of San Luis Obispo selected Tetra Tech to perform on-call services for projects required to meet post construction requirements as set forth in the Central Coast Regional Water Quality Control Board (RWQCB) order R3-2013-0032. Mr. Yonker manages the review services contract and provides final QAQC to reviews performed by Tetra Tech. Additionally, Mr. Yonker meets with County staff and third-party engineers to discuss review findings and recommendations for achieving PCR compliance. On-call services provided under this contract include the review of Storm Water Management Plans (SWMP), audit of existing County SWMP documents, and in-field inspections of installed storm water Best Management Practices (BMPs).

Plan Checking, Permitting, and Inspection On-Call Contract, City of Buellton, Buellton, CA.

Project Engineer. Tetra Tech is contracted to provide plan checking, permitting and inspection services for the City of Buellton. Services include reviewing and approving plans through multiple comment iterations, issuing permits for construction of work or encroachment purposes, inspecting work to ensure the following of proper specifications or standards, and providing final inspection and acceptance of work. Some of the associated projects include a residential townhome complex consisting of 25 buildings with more than 150 dwelling units, a brewery expansion featuring a subsurface stormwater infiltration system, a new commercial building development with multiple offsite improvements, and a parking lot expansion which included stormwater retention features.

Merced Avenue Greenway Project, Council for Watershed Health for City of South El Monte, CA. Project Manager.

Mr. Yonker provided planning and design services for a stormwater green street retrofit project along the Merced Avenue corridor in South El Monte. The scope of services included assessing existing conditions on Merced Avenue, consulting with various agencies on regulations for planning and design, evaluating pre-design monitoring data and analyzing urban heat island mitigation strategies, providing a preliminary design report, presenting at community design workshops and meetings in collaboration with various stakeholders to create designs for the retrofit. Tetra Tech provided construction drawings, cost estimates, and a bid package for this 0.6-mile green street project. The goal of the project was to manage stormwater runoff at its source to meet regulatory compliance while improving water quality and enhancing watershed health. Improvements included BMP structural control measures consisting of permeable pavers with gravel reservoirs, conventional biofiltration areas, and high infiltration biofiltration areas allowing for treatment flow rates at up to 100/inches per hour. Additional community benefits include reducing the urban heat island effect and its carbon footprint, creating new safe bike and pedestrian connections, enhancing public health and beautifying the neighborhood. In addition, the project incorporated a community-based approach that provided opportunities for watershed education and neighborhood involvement in designing the project. The 100% Construction Documents were submitted June 2020. Construction will begin following a public bidding process by to the City.



Paula Fell

Environmental / Permitting



EDUCATION:

MS, Environmental Sciences,
California State University

BA, Biological Sciences,
Kansas State University

PROFESSIONAL AFFILIATIONS:

Association of Environmental
Professionals Workshops

OFFICE LOCATION:

Irvine, CA

TOTAL YEARS OF EXPERIENCE:

26

YEARS W/ TETRA TECH:

4

Ms. Fell has over 26 years of experience preparing environmental documentation and over 22 years in a senior management role. She has prepared and managed California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) documents including Initial Studies (ISs), Mitigated Negative Declarations (MNDs), Environmental Impact Report (EIRs), Environmental Assessments (EAs), and Environmental Impact Statements (EISs), for projects throughout California on behalf of federal, state, regional, and local agencies and private clients. Her expertise also includes data collection and analysis on environmental issues such as visual resources, land use, public services, biological resources, socioeconomics, recreation, and utilities.

City of Santa Ana Washington Avenue Lot Well and Facility Project, Initial Study/Mitigated Negative Declaration, Santa Ana, CA. Project Manager. Managing the preparation of an Initial Study/Mitigated Negative Declaration for the development of a new water well, well building, chemical building, and other supporting facilities.

City of Santa Ana Water Well No. 39 Hydro-generator Unit Replacement Project, CEQA Documentation, Santa Ana, CA. Project Manager. Preparing a Notice of Exemption and supporting documentation for the replacement of a hydro-generator unit for Well 39.

City of Santa Ana Water Well No. 32 Project, Initial Study/Mitigated Negative Declaration, Santa Ana, CA. Project Manager. Managing the preparation of an Initial Study/Mitigated Negative Declaration for the rehabilitation of existing Well No. 32 and construction of a new above ground well building and approximately 3,250 linear feet of new pipeline.

Los Angeles County Public Works Department Adventure Park Multi-Benefit Stormwater Capture Project, Initial Study/Mitigated Negative Declaration, Whittier, CA. Senior Environmental Planner. Assisted with the preparation of an Initial Study/Mitigated Negative Declaration for an underground stormwater vault located beneath a park to capture and treat diverted urban runoff and stormwater. Prepared analysis for geology, hazards/hazardous materials, and hydrology.

Mesa Water District Water Wells No. 12 and No. 14 and Pipeline Project, Initial Study/Mitigated Negative Declaration, Santa Ana, CA. Senior Environmental Planner. Prepared an Initial Study/Mitigated Negative Declaration for the construction of two new water wells and associated pipelines. Prepared analysis for several CEQA resource topics and assisted with the public hearing for the project.



City of Culver City Department of Public Works, Culver Boulevard Realignment and Urban Stormwater Project Initial Study/Mitigated Negative Declaration, Culver City, CA. Senior Environmental Planner. Assisted with preparation of an Initial Study/Mitigated Negative Declaration for the realignment and stormwater capture improvements to a portion of Culver Boulevard.

Riverside County Flood Control and Water Conservation District, Monroe Storm Drain, Stage 4 Project Initial Study/Mitigated Negative Declaration, Riverside, CA. Assisted with the preparation of an Initial Study/Mitigated Negative Declaration and incorporation of technical studies to support the construction of an underground facility to replace an existing concrete-lined trapezoidal channel.

Orange County Public Works, Rossmoor Storm Channel Improvement Project Initial Study/Mitigated Negative Declaration, Los Alamitos, CA. Assisted with the preparation of an Initial Study and Mitigated Negative Declaration for storm channel improvements.

City of Huntington Beach, Water Well Project Initial Study, Westminster, CA. Senior Environmental Planner. Prepared an Initial Study for the construction of a new water well and associated pipeline. Prepared analysis for several CEQA resource topics.

Orange County Flood Control District, SARI Abandonment and Pipe Severing Project SEA/ Environmental Impact Report Addendum, Orange County, CA. Senior Environmental Planner. The Santa Ana River Interceptor (SARI) Line Project relocated the Orange County portion of the pipeline between Prado Dam and Weir Canyon Road to allow operation of the Santa Ana River Mainstem Project. Ms. Fell assisted with the preparation of the Supplemental Environmental Assessment/ Environmental Impact Report and specifically prepared analysis for several resource topics including: water resources and hydrology; earth resources; aesthetics; and safety and hazards.

Los Angeles County Department of Public Works, Peck Water Conservation Improvement Project Initial Study/Mitigated Negative Declaration, Arcadia, CA. Project Manager. Prepared an Initial Study/Mitigated Negative Declaration including incorporation of technical studies for air quality and global climate change, biological resources, cultural resources and noise, for the construction of a pump station and a 7,000-foot pipeline and removal of sediment within the spreading basin.

Los Angeles County Department of Public Works, Pacoima Spreading Grounds Improvement Project Initial Study/Mitigated Negative Declaration, Los Angeles, CA. Project Manager. Managed the preparation of the Initial Study/Mitigated Negative Declaration for a sediment removal and spreading grounds improvement project. Oversaw project management coordination, public outreach, oversight of subcontractors, and ongoing coordination with Los Angeles County Department of Public Works.

California Water Service Company, ELA Station 12 Reservoir 4A Tank Project Initial Study/Mitigated Negative Declaration, Los Angeles, CA. Project Manager. Managed the preparation of an Initial Study/Mitigated Negative Declaration which included incorporation of technical studies for air quality and noise for the removal and replacement of the existing below ground concrete reservoir with an above ground steel welded tank.

California Water Service Company, New Wells ELA 63-01 & ELA 63-02 Project Initial Study/Mitigated Negative Declaration, Montebello, CA. Project Manager. Managed preparation of an Initial Study/Mitigated Negative Declaration for two new wells, which included technical studies for air quality, biological resources, cultural resources, and noise. Also assisted with presentation to City Planning Committee.



Clint Boschen

Mapping/Sampling/Monitoring/Analysis



EDUCATION:

MS, Biological Sciences,
Florida State University

BS, Biology, Virginia
Polytechnic Institute and State
University -Virginia Tech

PROFESSIONAL AFFILIATIONS:

California Stormwater Quality
Association (CASQA)

Water Environment Federation
(WEF)

OFFICE LOCATION:

San Diego, CA

TOTAL YEARS OF EXPERIENCE:

23

YEARS W/ TETRA TECH:

20

Mr. Boschen has more than 23 years of professional experience providing technical and program management support to federal, state, and local water resource agencies. He leads Tetra Tech's TMDL, water quality, and stormwater management support for municipalities in southern California, USEPA Region 9, State and Regional Water Quality Control Boards, and other organizations. He is also the Program Manager for Tetra Tech's watershed, water quality, monitoring, engineering, and regulatory on-call support to Orange County Public Works. Key projects include Bacteria TMDL development for Orange County watersheds and stormwater BMP analyses to support a regional cost-benefit analysis study, Santa Ana MS4 permit support including recommendations for streamlining the Dry Weather Monitoring (DWM) program, watershed planning, and development of a Comprehensive Human Waste Source Reduction Strategy. Other projects include ongoing MS4 regulatory and policy support, development of watershed plans and reasonable assurance analyses throughout southern California, TMDL development and modeling studies, and BMP planning/design. He has extensive technical experience designing monitoring studies, developing and applying water quality and hydrologic models, BMP modeling, strategic planning and compliance evaluations, and providing MS4 permit support.

Multi-discipline Watershed and Regulatory Support, Orange County Public Works. Program Manager for Tetra Tech's watershed, water quality, monitoring, engineering, and regulatory on-call support to Orange County. Support to date has included development of the South Orange County WQIP, focusing on development of the Monitoring and Assessment Program (MAP) and Adaptive Management Approach. Completed development of a spreadsheet-based WQIP Implementation Guide that will be used to facilitate coordination between the County and other agencies and developed a hydromodification Quality Assurance Project Plan (HMP QAPP) for Rancho Mission Viejo. Also developed recommendations to streamline the Dry Weather Monitoring (DWM) program for North Orange County and supported watershed planning efforts.

Comprehensive Human Waste Source Reduction Strategy (CHWSRS), Orange County Public Works, CA. Project Manager for development of a Comprehensive Human Waste Source Reduction Strategy (CHWSRS) Work Plan to help guide stakeholder efforts to address pathogen health risk in the South Orange County Watershed



Management Area. This Work Plan focuses on reducing human health risk by identifying and eliminating sources of human waste to the municipal storm drain system through targeted monitoring investigations and abatement actions. A tiered monitoring and assessment framework was developed that outlines a step-by-step process for assessing current conditions and prioritizing areas for investigation and abatement activities.

Stormwater Regulatory and Policy Support, City of San Diego, CA. Ongoing support to review current and proposed regulations, environmental laws, MS4 permit language, and policy actions that have important implications. Key activities included support for San Diego MS4 permit negotiations and develop Report of Waste Discharge (ROWD), guidance on Receiving Water Limitations, review of California's Draft 2014 303(d) list, guidance on Biostimulatory/Bio-integrity issues and Bacteria Provisions, CEQA support, and asset management. Also, developed outreach materials to support City efforts to effectively communicate stormwater program activities and water quality achievements to various stakeholders.

Proposed MS4 Permit and State Water Board Order Review, ULAR Watershed Management Group, CA. Strategic support for the development of draft comments on behalf of the Upper Los Angeles River Watershed Management Group in response to the staff working proposal on the Los Angeles Region MS4 permit and the State Water Board Order regarding the review of approved Watershed Management Programs. Summarized key implications for the group and drafted comments to submit to the Los Angeles Regional Board and the State Water Board.

Rainbow Creek BMP Design Support, Monitoring Plan, and Compliance Support, County of San Diego, CA. Project Manager supporting development of final BMP designs for structural projects identified by Tetra Tech to address MS4 nutrient reduction requirements. Modeling to determine the load reduction benefits associated with various design options, development of a BMP monitoring plan and design recommendations to support efficient and effective BMP monitoring data collection.

Santa Margarita WQIP - Rainbow Creek Compliance Analysis, County of San Diego, CA. Project Manager for development of the Rainbow Creek nutrient TMDL compliance analysis. Compliance with the TMDL was identified as the highest priority water quality condition for development of the Santa Margarita WQIP. This study included watershed/BMP modeling, target identification, and development of strategies (structural and non-structural BMPs) to achieve the required nutrient reductions. Updated the WQIP strategies and the Watershed Implementation Plan Adaptive Management Tool based on the results

Rainbow Creek Watershed Implementation Plan, County of San Diego, CA. Project Manager for development of a BMP implementation plan to identify structural projects and nonstructural program enhancements that support TMDL and WQIP compliance for nutrients/eutrophication. This effort involved identification and site-scale analysis of distributed BMP projects and the development of conceptual designs that can be efficiently advanced to construction. Conducted water quality/stream restoration modeling to identify BMP needs and alternative strategies to support nutrient reduction and stakeholder outreach efforts. Developed an adaptive management tool to support management decisions and regulatory discussions.



Derick Coleman

Environmental/Permitting

Dr. Coleman has over 38 years of experience in environmental consulting, and more than 30 years of experience as a project manager. He has been responsible for multiple large environmental evaluation and mitigation projects with significant need for technical analyses, impact evaluations, remedial actions and thorough discussion and explanation of actions and/or results. In addition to management responsibilities, he has performed hydrologic and hydraulic analyses and designs to address coastal and riverine flooding, erosion, and sedimentation; dredged sediment disposal; and stream channel stabilization. He has conducted and directed field reconnaissance surveys and field evaluations related to assessment, modeling, and remedial actions. Dr. Coleman's technical specialization is in geomorphology and hydrology. He has applied his expertise in fluvial geomorphology to erosion and sedimentation analyses, flood plain delineation and evaluation, wetlands delineation and mitigation, and archaeological geomorphology. His hydrology experience includes engineering design of surface drainage systems, environmental contaminant evaluation, environmental impact assessments, and underground storage tank investigations.

Diversion Manual and Water Quality Monitoring Guide, County Flood Control District, Los Angeles, CA. Project Manager and Primary Author. Provided technical, organizational, and preparation support for a Diversion Manual and companion Water Quality Monitoring Guide for in-channel maintenance and emergency repair work in the presence of standing or flowing water. The manual provided containment and conveyance options for handling surface water as well as appropriate best management practices (BMPs) for different scenarios. The monitoring guide described standard procedures for sampling diverted water to ensure that the management techniques employed are successfully protecting water quality.

Jordan Cove Energy and Pacific Connector Gas Pipeline Third-Party Environmental Impact Statement, Federal Energy Regulatory Commission (FERC), Coos County, OR. Technical Lead; provided support to the Environmental Impact Statement team for the water resources discussion of potential impacts. The proposed project is a liquefied natural gas tanker loading facility in Coos County and a 229-mile pipeline crossing three counties to deliver the natural gas to the loading facility. Concerns include impacts from dredging for facility

EDUCATION:

PhD, Fluvial Geomorphology,
Johns Hopkins University,
BA, Physical Geography,
University of California,
Berkeley

REGISTRATIONS/ CERTIFICATIONS:

HAZWOPER (OSHA 29 CFR
1910.120) 40-hour training;
1987

HAZWOPER (OSHA 29 CFR
1910.120) 8-hour refresher;
2020

TRAINING:

Diffusion Hydrodynamic
Model (DHI) Computational
Hydrology Institute

HEC-2 Flood Plain Hydraulics,
short course; Pennsylvania
State University

TR-20 Project Formulation:
Hydrology, workshop; U.S. Soil
Conservation Service

Stormwater Management
Regulations; Maryland Water
Resources Administration

OFFICE LOCATION:

Irvine, CA

TOTAL YEARS OF EXPERIENCE:

38

YEARS W/ TETRA TECH:

12



construction and maintenance, vessel access during operations, and various issues related to channel and other water-body crossings of a pipeline.

Rosemont Geomorphic Study, Hudbay Mining Company, Pima County, AZ. Technical Lead.

Prepared the long-term field monitoring protocol for the primary watersheds which drain the proposed Rosemont Copper Mine; and provided the first four applications of the protocol. Six channel monitoring points were designated in the watershed and nine stream reaches were evaluated for possible changes in stream channel regime and sediment load from year to year and ultimately over the life of the mine.

Mesa Water District Water Wells No. 12 and No. 14 and Pipeline Project, Initial Study/Mitigated Negative Declaration, Santa Ana, CA. Project Manager. Prepared an Initial Study/Mitigated Negative Declaration for the construction of two new water wells and associated pipelines. Prepared analysis for several CEQA resource topics and assisted with the public hearing for the project.

Peak Discharge Study, Six-County Region, Southern California Coastal Water Research Project (SCCWRP), Costa Mesa, CA. Project Manager and Principal Investigator. A ground-breaking investigation of semi-arid watersheds in southern California to evaluate the impacts of urbanization on stream channels. Study selected 10 stream reaches in Los Angeles, Orange and Ventura counties that had historical data on channel size and shape changes. Links were evaluated between those changes and the increases in urban/suburban area over the same time period. This investigation provided an initial basis for county and municipal governments seeking to establish hydromodification permitting goals.

Drainage Study, Sapphire Development LLC, Riverside County, CA. Project Manager and Principal Investigator. Prepared hydrologic and hydraulic assessments for a proposed 15-lot development located in a one-square mile drainage at the foot of the Santa Ana Mountains. Modeled watershed runoff using HEC-HMS and floodplain/channel flow using HEC-RAS. Watershed was partly developed (lower end) and partly native vegetation (upper, mountainous end); channel was artificial and located cross-gradient on an alluvial fan.

Support for the L55 Line Cover and Repair at Channel Crossings, Enbridge Energy, Montgomery County, KS and Lafayette County, MO. Technical Lead. Provided support for Enbridge Energy in the design of pipeline cover repair at two channel crossings. Dr. Coleman lead a team that provided geomorphic and hydraulic assessments of the proposed designs. Included 2-dimensional hydraulic modeling (HEC-RAS) of channel flow conditions under existing conditions and under proposed conditions. Prepared Technical Memo evaluating the results of these assessments to be used as part of the environmental permitting for the repair work.

NRG Renewables, Dust Control Memo for the Daggett Solar Energy Project, San Bernardino County, CA. Task Lead. Supported NRG for environmental permitting of a proposed commercial-scale photovoltaic solar energy project on private land in Daggett, CA. A key component of site development, environmental permitting, and facility maintenance will be managing wind-blown materials at the project site. Tetra Tech prepared a Technical Memo evaluating site conditions with respect to climate (including prevailing winds), topography, cover, and potential for detachment and transport of fine particles. Recommendations for likely and viable mitigation measures were also provided.



Jamie Sayre, PE, PHD, QSD/P

Hydrology / Hydraulics /
Public Outreach / Pre-Design Reports

Jaime is an hydrology/hydraulics engineer who specializes in urban watershed management and stormwater remediation. Jaime's experience encompasses over 11 years of work and research in TMDLs and water quality projects. For her doctoral dissertation, she investigated the total maximum daily loads (TMDL) for hydrophobic organic contaminants and performed a cost benefit analysis for reducing stormwater runoff and contamination in the Los Angeles region. Her experience includes conducting water/field sampling, data collection and analysis, laboratory analyses, and experiments to establish TMDLs and baseline conditions for organic contaminants in Ballona Creek and Marina del Rey Harbor polyethylene devices (PEDs) and solid-phase microextraction (SPME). As project engineer for several TMDL special studies and stormwater projects in Los Angeles, Jaime led the technical development of the projects, authored technical reports, performed quality assurance/quality control reviews, and conducted data analyses. Jaime has managed and led teams to provide public and private sector clients with quality products. Most recently, Jaime led the Lower LA River Revitalization Plan, a complex project consisting of the development of a visionary, community-based revitalization plan for the 19-miles of the Los Angeles River, from Vernon to Long Beach. Through-out her career, Jaime has managed complex projects within Southern California with high political and environmental stakes, and is an expert facilitator of communication among clients, subcontractors, and personnel; and regulatory compliance issues.

Automated Stormwater Monitoring System, Phases I and II, As-Needed Urban Runoff and Stormwater Quality Engineering Services, County of Los Angeles Department of Public Works, Los Angeles, California. Project Engineer. This project evaluates the Los Angeles County Flood Control District (LACFCD) Stormwater Monitoring Program and the design of a telemetry system to receive and process real-time data from various field monitoring locations within various flood control channels and creeks. The project also includes designing a pilot program of the system that demonstrates the system capabilities at the LACFCD's seven Mass Emission stations and up to 12 tributary monitoring stations. Jaime was responsible for writing sections of the technical reports, conducting data analyses, reviewing designs and specifications, and conducting site visits.

EDUCATION:

PhD., Environmental Engineering, University of Southern California

MS, Civil Engineering, West Virginia University

BS, Civil Engineering, West Virginia University

REGISTRATIONS/ CERTIFICATIONS:

Professional Civil Engineer, California, 80240, 2012

Qualified SWPPP Developer/ Practitioner 24236, California

PROFESSIONAL AFFILIATIONS:

American Society of Civil Engineers

California Stormwater Quality Association

OFFICE LOCATION:

Pasadena, CA

TOTAL YEARS OF EXPERIENCE:

11

YEARS W/ TETRA TECH:

2



City of Los Angeles, Bureau of Sanitation, TOS SN-61 Specialized Services for the Generation of CIMP Data, Project Manager. Project Manager. Ms Sayre leads a team of engineers and designers to design and implement the installation of automated sampling equipment for 25 stations within the 4 major watersheds. Her team is also supporting LASAN with CIMP monitoring services, equipment acquisition, site investigation, permit coordination with the Los Angeles County Flood Control District and United States Army Corp of Engineers, installation services, and development of flow-rating curves.

City of Santa Clarita, Coordinated Integrated Monitoring Program (CIMP) for the Upper Santa Clara River (USCR) Watershed, Project Manager. Ms Sayre leads a team of technicians, scientists, and engineers to implement the USCR CIMP on behalf of the USCR Watershed Management Group (i.e., the City of Santa Clarita, the County of Los Angeles, and the Los Angeles County Flood Control District). The USCR CIMP monitoring locations consist of both receiving water and outfall monitoring locations, which are sampled during both dry and wet weather conditions. Monitoring satisfies LA Regional MS4 Permit requirements, including compliance with adopted TMDLs for bacteria, nitrogen, chloride, and trash. USCR CIMP reporting includes data analysis and development of regular post-event monitoring reports, semi-annual reports using specified CEDEN templates, and Annual Reports according to Los Angeles RWQCB templates.

City of Malibu, CIMP for the North Santa Monica Bay Coastal Watersheds (NSMBCW). Project Manager. Ms Sayre leads a team of technicians, scientists, and engineers to implement the NSMBCW CIMP on behalf of the NSMBCW Watershed Management Group (i.e., the City of Malibu, the County of Los Angeles, and the Los Angeles County Flood Control District). The NSMBCW CIMP monitoring locations consist of both receiving water and outfall monitoring locations, which are sampled during both dry and wet weather conditions. Monitoring satisfies LA Regional MS4 Permit requirements, including compliance with adopted TMDLs for bacteria, PCBs/DDT, and trash. NSMBCW CIMP reporting includes data analysis and development of regular post-event monitoring reports, semi-annual reports using specified CEDEN templates, and Annual Reports according to Los Angeles RWQCB templates.

AB 530 Lower Los Angeles River Revitalization Plan, Vernon to Long Beach, CA, 2016-Ongoing. Deputy Project Manager. This project consists of the development of a visionary, community-based revitalization plan for the 19-miles of the Los Angeles River, from Vernon to Long Beach. The project is being developed in response to Assembly Bill 430, which requires the development of the Lower Los Angeles River Working Group and the development of a revitalization plan that addresses the unique and diverse needs of the Lower Los Angeles River. Jaime is responsible for the daily management activities, client coordination, preparing technical documentation for the Working Group and committees in order to assess the multiple facets of the revitalization plan and the implementation of a robust Community Engagement Program.

Groundwater System Improvement Study, City of Los Angeles, Department of Water and Power, Los Angeles, California. Deputy Project Manager/Project Engineer. This \$11.5M project involves installing and sampling new monitoring wells, determining constituents of concern, evaluating the City's groundwater delivery system, and implementing projects that will restore the contaminated groundwater in the San Fernando Basin (SFB). The final study will provide realistic and economically viable recommendations on groundwater system improvement projects that will maximize the pumping capacity of the groundwater supply in the SFB.



Elva Pangilinan, PE, ENV SP, CDT

Pre-Design Reports / Civil Site Design

EDUCATION:

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

REGISTRATIONS/ CERTIFICATIONS:

Registered Professional
Engineer, California, No.
81113, 2013

Construction Documents
Technology (CDT) Certified,
2018

Envision™ Sustainability
Professional, 2014

OFFICE LOCATION:

San Luis Obispo, CA

TOTAL YEARS OF EXPERIENCE:

13

YEARS W/ TETRA TECH:

13

Ms. Pangilinan has been a member of the Tetra Tech team for twelve years and has extensive and relevant experience in designing and preparing improvement plans for both municipal and federal projects. She is also experienced with performing various hydrology studies and preparing reports. She has gained knowledge in Best Management Practices (BMP) and Low Impact Development (LID) implementation through her involvement in several important Proposition "O" projects for the City of Los Angeles and various stormwater capture projects throughout Southern California. Additionally, Ms. Pangilinan is a Construction Documents Technology (CDT) Certified Professional, as well as a certified Envision™ Sustainability Professional.

Ms. Pangilinan has comprehensive knowledge in the use of AutoCAD Civil 3D, Bentley FlowMaster, HY-8 by the Federal Highway Administration, and Water Surface Profile Computation Program (WSPG) by the Los Angeles County Flood Control District.

Bolivar Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA.

Design Engineer. Responsible for preparation of final plans, specifications, and estimates and for design of the site improvements, storm drain system, and irrigation system to ensure the project meets regulatory requirements. Tetra Tech provided feasibility, conceptual and detailed design services to prepare final plans, specifications and estimates. Tetra Tech was contracted to evaluate the potential site location and develop this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Del Amo channel through a pre-treatment system to remove trash, debris, and sediment. A pump station and drainage pipeline will convey the water into a large, buried multi-chambered storage/infiltration facility. The system will monitor the weather conditions and the facility through a secured cloud-based system. The underground storage system is 2.8 million gallons (8.7 ac-ft). The goal of the project is to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies.

Santa Monica Clean Beaches Project for Pier and Pico-Kenter Watersheds, City of Santa Monica, Santa Monica, CA.

Civil Engineer. Responsible for the design of the site improvements, diversion structure, pretreatment, underground storage reservoirs, and piping systems. The



objective of the project is to improve Santa Monica beach water quality by increasing the diversion capacity at the Santa Monica Pier and Pico-Kenter storm drain outfalls. The 85th percentile storm event volume would be treated and diverted from the Pier watershed to the Santa Monica Urban Runoff Recycling Facility (SMURRF) or the sanitary sewer. The project proposes storm drain diversion and runoff storage systems at two separate storm drain outfalls.

Culver Boulevard Stormwater Infiltration and Retention Project, City of Culver City, CA. Design Engineer. Responsible for preparation of design specifications for this multi-beneficial stormwater regional project. Tetra Tech was recently selected by the City of Culver City to provide design services to incorporate an infiltration gallery under a newly reconstructed raised median along Culver Boulevard. The project will also include retention basins to reuse captured stormwater runoff and urban runoff to irrigate local landscape medians within the project area. The overall landscape design of this project will include green elements such as bioswales along the raised median and adjacent roadways to further promote stormwater pollution prevention education

Caruthers Park Stormwater and Urban Runoff Capture Project, City of Bellflower, Bellflower, CA. Design Engineer. Providing engineering design support for this Caltrans funded stormwater capture project. Tetra Tech is providing a Project Engineering Study Report (PESR) that includes all necessary analyses to provide a recommendation for regional stormwater capture treatment and implementation. The analysis identifies the existing site hydrology, water quality, and hydraulics to determine an optimal combination of the inflow rate, storage volume, and outflow. The Caruthers Park Project consists of a gravity diversion from two separate Los Angeles County Flood Control District storm drain lines; a 72" RCP line that drains 261 acres of the Los Cerritos Channel, and a 38' wide rectangular concrete channel that drains 2,995 acres of the Lower San Gabriel River. The diverted flows pass through a pretreatment system to remove trash, debris, and sediment. The runoff is then passed into a large buried multi-chambered storage/infiltration facility that will be treated and used to irrigate the park. Flows in excess of the required irrigation demands will pass into the infiltration gallery to be exfiltrated through the soil to eventually combine with the ground water. It is anticipated that the system will use active controls to monitor the weather conditions and empty the facility through a secured cloud-based system. This project will help the City comply with their bacteria and metals TMDL, while providing additional benefits of potable water offset and park revitalization.

Adventure Park Multi-Benefit Stormwater Capture Project, County of Los Angeles Department of Public Works, Whittier, CA. Design Engineer. Providing engineering design support for the development of 30% design plans for a 21.5-acre-foot regional stormwater capture BMP. Tetra Tech is currently preparing a preliminary design concept report which will include the 30% design level documents. The primary goal of the project is to implement watershed control measures and structural Best Management Practices (BMPs) to address the water quality objectives for the region while incorporating additional project benefits such as Low Impact Development (LID) measures and sustainable landscaping in the park. This project is a major step towards implementing the Upper San Gabriel River (USGR) Watershed Management Area Group's Enhanced Watershed Management Program (EWMP). The goal of this project is to prepare preliminary design reports which will include 30% design level documents, and that could be utilized to support grant funding application and/or supporting information for a design-build solicitation package.

Chung-Chen Yen, PE, PHD

Hydrology / Hydraulics

Dr. Yen has more than 30 years of experience in the field of water resources engineering, specializing in hydrology, hydraulics, and groundwater modeling. His work experience includes rainfall analysis, rainfall-runoff modeling, detention basin flood routing analysis, floodplain evaluations and mapping, and drainage facility deficiency and mitigation studies. He has extensive knowledge of local hydrology procedures for Southern CA counties including the County of Orange, County of Los Angeles, County of San Bernardino, County of Riverside, County of San Diego and County of Ventura. Chung-Chen has been involved in the implementation of the San Diego County 2003 hydrology manual procedures for Advanced Engineering Software. Chung-Chen has extensive hands-on experience in applying HEC-1, HEC-HMS, HEC-2, HEC-RAS, HEC-GeoRAS, WSPG, HEC-SSP, HEC-FDA, and other hydrology/hydraulic computer programs on various studies and projects. Dr. Yen has been continuously involved in numerical analysis and model development. He is the co-author of the U.S.G.S. DHM (Diffusion Hydrodynamic Model) and co-author of various papers on the development and application of the Complex Variable Boundary Element Method.

Master Plan of Drainage, City of Santa Ana, CA. Project Engineer. Dr. Yen was the Project Engineer on this drainage study. The efforts involved setting up the hydrologic link-node models, developing multiple storm events hydrology with deficiency and mitigation analysis of the existing storm drain systems, and cost analysis for the proposed storm drain system.

Master Plan of Drainage, City of Laguna Beach, CA. Project Engineer. Dr. Yen was the Project Engineer on this drainage study. The efforts involved setting up the hydrologic link-node models, developing multiple storm events hydrology with deficiency and mitigation analysis of the existing storm drain systems, and cost analysis for the proposed storm drain system.

Master Plan of Drainage, City of Yucaipa, CA. Project Engineer. Dr. Yen was the Project Engineer on this drainage study. The efforts involved setting up the hydrologic link-node models, developing multiple storm events hydrology with deficiency and mitigation analysis of the existing storm drain systems, and cost analysis for the proposed storm drain system.

EDUCATION:

PhD Civil Engineering,
University of California, Irvine

MS Civil Engineering,
University of California, Irvine

BS Hydraulic Engineering,
Chung Yuan College, Chung-
Li Taiwan, Republic of China

REGISTRATIONS/ CERTIFICATIONS:

Professional Engineer, Civil:
CA License No. 49913, 1992

PROFESSIONAL AFFILIATIONS:

American Society of Civil
Engineers

OFFICE LOCATION:

Irvine, CA

TOTAL YEARS OF EXPERIENCE:

34

YEARS W/ TETRA TECH:

16



Master Plan of Drainage, City of Los Angeles, CA. Project Engineer. Dr. Yen was the Project Engineer and Consulting Engineer on this drainage master plan. The efforts involved setting up the hydrologic link-node models and developing 10-, 25-, and 50-year storm events hydrology.

I-5/Empire Avenue Interchange – Stormwater Pump Station and Storm Drain PS&E, Caltrans, Burbank, CA. Project Engineer. Dr. Yen is the project engineer in charges of hydrology and hydraulic study. The project includes a new storm drain system and a pump station to collect and convey the runoff from the proposed Empire Avenue undercrossing. In addition, the existing storm drain system along the Empire Avenue need to be relocated and reconnected to the existing storm drain system downstream of the project site.

Aliso Creek - Limekiln Creek Restoration Project, City of Los Angeles Los Angeles Bureau of Engineering, Los Angeles, CA. Project Engineer. Dr. Yen is the project engineer in charges of hydraulic study. The proposed project includes two diversion structures and two storm drain systems along the Aliso Creek and Limekiln Creek channels to divert flows unto three proposed bioretention basins.

Vista Del Monte CLOMR Application, City of Desert Hot Springs, Riverside County, CA. Project Engineer. The proposed development is located at the alluvial fan area of two natural watercourses: the Big Morongo Wash to the northwest and the Little Morongo Wash to the north in the City of Desert Hot Springs. T-year (2-, 5-, 10-, 25-, 50-, 100-, and 500-year) hydrology was developed for both existing and proposed conditions using Riverside County Hydrology Manual procedures. HEC-RAS hydraulic model was used to analyze the existing and proposed channel hydraulics for the Little Morongo Wash and Big Morongo Wash channel. Sediment samples were collected and analyzed for use in the sediment transport analysis. The channel sediment transport was conducted using the USACE SAM Sediment Hydraulic Package for Channel. Due to the uncertainties of alluvial fan flooding, a 2-D FLO-2D hydraulic model was used for 100-year floodplain mapping. The modeling area includes the area from apex of the alluvial fan to downstream of the project site. The conceptual channel improvement plans and flood protection measures with the hydrology and hydraulic/sediment transport reports were submitted and approved by FEMA.

Master Plan of Drainage, County of San Diego, CA. Project Engineer. Dr. Yen was the Project Engineer on this drainage pilot project included SDA-5 and SDA-6. The efforts involved setting up the hydrologic link-node models, developing 100-year storm event hydrology with deficiency and mitigation analysis of the existing storm drain systems, cost analysis for the proposed storm drain system, and preliminary detention basin analysis.

Master Plan of Drainage, City of Costa Mesa, CA. Project Engineer. Dr. Yen was the Project Engineer and Consulting Engineer on this drainage study. The efforts involved setting up the hydrologic link-node models for existing conditions, developing multiple storm events hydrology, deficiency and mitigation analysis of the existing storm drain systems.

Master Plan of Drainage, City of Huntington Beach, CA. Project Engineer. Dr. Yen was the Project Engineer and Consulting Engineer on this drainage master plan. The effort involved setting up the hydrologic link-node models.

Master Plan of Drainage, City of Fullerton, CA. Project Engineer. Dr. Yen was the Project Engineer on this drainage study. The efforts involved setting up the hydrologic link-node models, developing multiple storm events hydrology with deficiency and mitigation analysis of the existing storm drain systems, and cost analysis.



Tim Tringali, QSD/P, QISP

Mapping / Sampling / Monitoring / Analysis/ Const. Support

Mr. Tim Tringali has more than 17 years of experience assisting federal, state, and local entities develop, implement and manage a variety of water resource programs. Much of his experience includes management of multi-disciplined teams complete storm water compliance projects for the U.S. Air Force, municipalities, and private industry. Mr. Tringali has a strong understanding of the Clean Water Act, as well the California municipal, industrial, and construction storm water permits. Mr. Tringali's experience includes assisting clients identify waters protected under the CWA; interpret water quality standards; monitor and assess stormwater and receiving water quality; assess stormwater BMP effectiveness; investigate the source of pollutant sources; and apply for and comply with National Pollutant Discharge Elimination System permits. Mr. Tringali's noteworthy technical accomplishments include: previously serving as a U.S. EPA contract inspector for California-Wide Phase I Municipal and Industrial Storm Water Audits; assisting the U.S. Air Force for more than 17 years with its water resources compliance, planning and engineering programs; managing implementation of two Coordinated Integrated Monitoring Programs on behalf of the Upper Santa Clara River and North Santa Monica Bay Coastal Watershed groups; aiding development of the South Orange County Comprehensive Human Waste Source Reduction Strategy; and managing a large surface water quality monitoring program that fulfills requirements for growers enrolled in a regional waiver of Waste Discharge Requirements for Discharges from Irrigated Lands.

Coordinated Integrated Monitoring Program (CIMP) for the Upper Santa Clara River (USCR) and North Santa Monica Bay Coastal (NSMBCW) Watersheds. Deputy Project Manager. As Deputy Project Manager, Mr. Tringali leads a team of technicians, scientists, and engineers to implement the USCR and NSMBCW CIMPs on behalf of each Watershed Management Group. The CIMP monitoring locations consist of both receiving water and outfall monitoring locations, which are sampled during both dry and wet weather conditions. Monitoring satisfies LA Regional MS4 Permit requirements, including compliance with adopted TMDLs for bacteria, nitrogen, chloride, PCB/DDTs, and trash. Mr. Tringali conceptualizes and plans necessary special studies and source investigations. CIMP reporting includes data validation and analysis, and regular development of regular post-event monitoring

EDUCATION:

BS, Ecology and Systematic Biology, California Polytechnic State University

REGISTRATIONS/ CERTIFICATIONS:

Professional in Erosion and Sediment Control, Certification No. 5929

CA Qualified SWPPP Developer/Practitioner

CA Qualified Industrial SWPPP Practitioner (QISP)

HAZWOPER –40-hour w/ current 8-hour refresher

PROFESSIONAL AFFILIATIONS:

California Storm Water Quality Association

Society of American Military Engineers

OFFICE LOCATION:

Santa Maria, CA

TOTAL YEARS OF EXPERIENCE:

18

YEARS W/ TETRA TECH:

17



reports, preparation of semi-annual reports using specified CEDEN templates, and preparation of Annual Reports according to Los Angeles RWQCB templates.

South Orange County Water Quality Improvement Plan, Monitoring and Assessment Program, Orange County, California. Mr. Tringali led the development of a Monitoring and Assessment Program plan (MAP) and Quality Assurance Program Plan (QAPP) for Orange County. These plans were prepared for the South Orange County Watershed Management Area as partial fulfillment of the requirements of the Regional MS4 NPDES Permit. The MAP is a primary component of the larger Water Quality Improvement Plan developed for the WMA and documents the strategies and methods that Orange County and other Copermitees will use to monitor and assess progress of water quality improvement strategies, and the conditions of receiving waters and discharges from the MS4 under wet weather and dry weather conditions.

North Orange County Dry Weather Reconnaissance Monitoring (DWM) Program Assessment, Orange County, California, 2019. Mr. Tringali supported technical evaluation of the County's DWM Program and provided recommendations to improve its effectiveness and efficiency, particularly for the Permittee's illicit discharge detection and elimination (IDDE) Program. Mr. Tringali led or supported other scientists with a variety of data analyses using North Orange County historical data including statistical power analysis, Mann-Kendall trend analysis, and joint/conditional/marginal probability analyses. Based on the results of these analyses, Mr. Tringali assisted with the identification and definition of multiple near- and long-term recommendations to the County's random and targeted outfall monitoring design that would more efficiently assess and track average background characteristics of dry weather discharges in the region, prioritize outfalls for dry weather discharge monitoring, efficiently detect potential ID/ICs, and effectively eliminate ID/ICs.

South Orange County Comprehensive Human Waste Source Reduction Strategy (CHWSRS) Work Plan, Orange County, California, 2019. Mr. Tringali supported technical tasks related to Tetra Tech's development of the CHWSRS Work Plan, which guides stakeholder efforts to reduce pathogen health risk in the South Orange County Watershed Management Area (SOC WMA). Specifically, Mr. Tringali helped to conceptualize a strategy for prioritizing hundreds of stormwater outfall catchment areas based on existing information such as pipe condition, history of sanitary sewer overflows, receiving water impairments, relevant TMDL segments, etc. He also led the development of human waste source investigation strategy which included a "tool box" of indicators (physical, chemical, bacterial, and viral) for tracking potential sources of human waste. A primary focus of the source investigation strategy presented in the Work Plan included leveraging currently available molecular techniques, including droplet digital polymerase chain reaction (PCR) and real-time quantification PCR, to identify and track human biomarkers (i.e., HF183). Mr. Tringali worked with academia to define a set of action levels and triggers applicable at differing phases of a source investigation. The Work Plan was ultimately submitted and approved by the San Diego Regional Water Quality Control Board.

Marine Terminal Stormwater Monitoring Program, San Diego Unified Port District, San Diego, CA (2019-Present). Mr. Tringali led development of a strategic stormwater monitoring program that will be used for assessing the effectiveness of the Port's Stormwater Management Program according to effectiveness requirements of the San Diego Water Board's Regional MS4 Permit. The monitoring plan includes multiple sample collection methods (grab, flow-weighted composites, pollutographs) to address a range of objectives. It also includes assessments across multiple temporal (e.g., single storm, seasonal, multi-year) and spatial scales (e.g., catch basin, tenant lease, terminal-wide) that will ultimately drive adaptive management in the direction of the Port's stated goals.



Mazen Kassar, PE

Electrical / Control Design

Mr. Kassar has more than 28 years of experience in electrical engineering and industry standard that include electrical engineering staff management, project management, construction management and supervision, water and wastewater treatment, petro-chemical design, and environmental soil and groundwater treatment. His background includes designing medium and low voltage power distribution, designing instrumentation, control systems and SCADA systems for a wide-variety of projects, and the installation of electrical systems for remediation projects, including soil vapor extraction systems and groundwater pump-and-treat systems. Other experience includes, working with utility companies to provide new electrical service to new projects, working with local Building and Safety Departments to obtain Plan Check and construction permits, field trouble shooting of electrical and mechanical systems, system commissioning and startup, problem solving, and managing an operation and maintenance department. He has strong knowledge in MS Office and AutoCAD.

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

Mayfair Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA. Electrical Engineer. Mr. Kassar was responsible for providing electrical engineering design services in support of preparation of final plans, specifications and estimates. Tetra Tech was contracted to evaluate the potential site location and

EDUCATION:

BS, Electrical Engineering,
California State University,
Long Beach

REGISTRATIONS/ CERTIFICATIONS:

Professional Electrical
Engineer, California, No.
15809, 1998

General Construction, Class B
No. 777845, California, 2008

Contractor - C-10 Electrical,
California Class C – Specialty,
No. 777845, 2000

ETAP Electrical Power
Modeling, 2010

Project Management I & II,
2012

GE and Allen Bradley PLC
programming, 2004

GE/Intellution and
Wonderware SCADA
programming, 1998

Vapor extraction and
Groundwater Treatment, 1991

PROFESSIONAL AFFILIATIONS:

Institute of Electrical and
Electronics Engineers IEEE

OFFICE LOCATION:

Irvine, CA

TOTAL YEARS OF EXPERIENCE:

28

YEARS W/ TETRA TECH:

11



develop this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Clark Channel through a pre-treatment system to remove trash, debris, and sediment. A drainage pipeline will convey the water into a large, buried multi-chambered storage and filtration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas. The system will monitor the weather conditions and the facility through a secured cloud based system. The underground storage system is 4.5 million gallons (13.8 ac-ft). The goal of the project is to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies.

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

Carriage Crest Stormwater and Runoff Capture Project, Sanitation Districts of Los Angeles County, Carson, CA. Electrical Engineer. Mr. Kassar is providing electrical engineering design services in support of preparation of plans, specifications and estimates. Carriage Crest Park was identified in the Enhanced Watershed Management Program (EWMP) as a high-priority site for a regional stormwater capture project due to its proximity to two large storm drains with a total drainage area exceeding 1,100 acres. The project components include a diversion structure to divert water from an existing storm drain system, a pretreatment structure to remove debris from the runoff, an underground structure to capture and store the stormwater prior to being discharged back into the existing storm drain system, and a rehabilitated park surface. Design objectives are to eliminate dry-weather flow from the adjacent channel and to maximize wet-weather pollutant capture.

Crooke Reservoir Electrical Upgrade, City of Santa Ana, Santa Ana, CA. Electrical Engineer for the design of the replacement of the existing motor control panels and switchboards for Crooke Reservoir pump station, Well 27 and Well 28.

Maxine Lift Station Bypass Connection Project, City of Santa Ana, Santa Ana, CA. Electrical Engineer. The purpose of the Maxine Lift Station Bypass Connection Project was to install a connection on the existing force main that would allow the City to bypass sewer flows around the existing lift station utilizing a portable pump from the existing wet well to the force main. Managed the electrical power system studies which included load flow, short circuit, and arc flash calculations



Dan Helt, PE, PLS

Land Surveying

EDUCATION:

B.S., Civil Engineering, Cal Poly, San Luis Obispo

REGISTRATIONS/ CERTIFICATIONS:

Professional Engineer,
California, No.C69347, 2006

Professional Land Surveyor,
California, No.8925, 2012

PROFESSIONAL AFFILIATIONS:

American Society of Civil
Engineers (ASCE)

California Land Surveyors
Association (CLSA)

OFFICE LOCATION:

San Luis Obispo, CA

TOTAL YEARS OF EXPERIENCE:

15

YEARS W/ TETRA TECH:

7

Mr. Helt is experienced in both civil engineering and land surveying aspects of construction and land development projects. He has designed and prepared both small and large federal, municipal, commercial, and residential grading and drainage plans, as well as utility plans and project associated public improvement plans. Mr. Helt has prepared a variety of hydrology and hydraulic documents for review of analysis and compliance with codes and standards. He has prepared and reviewed specifications, calculations and other basis of design documents.

Mr. Helt has performed field boundary and topographic surveys, as well as construction staking, certification and monitoring, and ALTA/ACSM surveys. He has considerable experience researching boundary and chain of title information, and preparing legal descriptions.

Mr. Helt has extensive knowledge in the use of Autodesk's Civil 3D software for both conceptual and detailed design studies, as well as the production of construction plan sets. He also has significant experience using for flow modeling and storm routing and HEC-RAS, USEPA SWMM and Storm and Sanitary Analysis for stormwater system design and modeling.

Caruthers Park Stormwater and Urban Runoff Capture Project, City of Bellflower, Bellflower, CA. Survey Manager. Mr. Helt oversaw survey services for this Caltrans funded stormwater capture project. Tetra Tech is providing a Project Engineering Study Report (PESR) that includes all necessary analyses to provide a recommendation for regional stormwater capture treatment and implementation. The analysis identifies the existing site hydrology, water quality, and hydraulics to determine an optimal combination of the inflow rate, storage volume, and outflow. The Caruthers Park Project consists of a gravity diversion from two separate Los Angeles County Flood Control District storm drain lines; a 72" RCP line that drains 261 acres of the Los Cerritos Channel, and a 38' wide rectangular concrete channel that drains 2,995 acres of the Lower San Gabriel River. The diverted flows pass through a pretreatment system to remove trash, debris, and sediment. The runoff is then passed into a large buried multi-chambered storage/infiltration facility that will be treated and used to irrigate the park. Flows in excess of the required irrigation demands will pass into the infiltration gallery to be exfiltrated through the soil to eventually combine with the ground water.



Bolivar Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA. Survey Manager. Mr. Helt oversaw survey services for this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Del Amo channel through a pre-treatment system to remove trash, debris, and sediment. A pump station and drainage pipeline will convey the water into a large, buried multi-chambered storage/infiltration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas. The system will monitor the weather conditions and the facility through a secured cloud-based system. The underground storage system is 2.8 million gallons (8.7 ac-ft). The goal of the project is to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies.

Mayfair Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA. Survey Manager. Mr. Helt oversaw survey services for this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Clark Channel through a pre-treatment system to remove trash, debris, and sediment. A drainage pipeline will convey the water into a large, buried multi-chambered storage and filtration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas. The system will monitor the weather conditions and the facility through a secured cloud based system. The underground storage system is 4.5 million gallons (13.8 ac-ft). The goal of the project is to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies.

Aliso Creek – Limekiln Creek Restoration Project, City of Los Angeles Bureau of Engineering, Los Angeles, CA. Survey Manager. Mr. Helt oversaw survey services for this project, located at the confluence of the concrete lined Aliso and Limekiln Creek flood channels. The project improvements involve constructing several stormwater Best Management Practices (BMPs) intended to treat on-site and off-site runoff and reduce contamination in Aliso Creek, Limekiln Creek, and the Los Angeles River. The proposed BMPs include low flow channel diversions, stormwater pump stations, stormwater pre-screening devices, bioswales, vegetated detention/retention basin, the restoration of upland, riparian habitat, and BMP educational signage. The goal of the project is to significantly reduce the pollutant loads, as well as transform a specifically built flood control facility into a multi-function green infrastructure facility. The project will also be designed to achieve a Platinum Envision Rating.

Albion Riverside Park Project, City of Los Angeles Bureau of Engineering, Los Angeles, CA. Survey Manager. Mr. Helt oversaw survey services for the Albion Riverside Park Project. Tetra Tech provided design and construction support services for this project located adjacent to the Los Angeles River, which involved transforming a six-acre site, previously used for dairy warehousing and distribution, into a riverfront park and recreational facility that will benefit nearby disadvantaged low-income neighborhoods. In addition, the City is using the redeveloped property to increase the current capacity for managing stormwater runoff. This important water quality project is part of the City's overall efforts through the Proposition O Bond Program to improve water quality and reduce pollutant loads that are currently being conveyed to the rivers, lakes, and oceans within the greater Los Angeles area. In addition, the project is being designed to achieve a Platinum Envision™ rating.



Tim Joyce, PE

Mechanical Design

Mr. Joyce has more than 25 years of experience in planning, conceptual design, final design, and construction management of municipal, environmental, and civil engineering projects. Throughout his career, he has been directly involved in the management, design and construction of pipelines, collection systems, and stormwater treatment systems. He has designed stormwater conveyance and treatment facilities for flow rates ranging from 0.1 cfs up to 175 cfs.

Carriage Crest Stormwater and Runoff Capture Project, Sanitation Districts of Los Angeles County, Carson, CA. Senior Engineer.

Mr. Joyce was responsible for preparing the plans, specifications and estimates, for the pump station design. Carriage Crest Park was identified in the Enhanced Watershed Management Program (EWMP) as a high-priority site for a regional stormwater capture project due to its proximity to two large storm drains with a total drainage area exceeding 1,100 acres. The project components include a diversion structure to divert water from an existing storm drain system, a pretreatment structure to remove debris from the runoff, an underground structure to capture and store the stormwater prior to being discharged back into the existing storm drain system, and a rehabilitated park surface. Design objectives are to eliminate dry-weather flow from the adjacent channel and to maximize wet-weather pollutant capture.

Albion Riverside Park Project, City of Los Angeles Bureau of Engineering, Los Angeles, CA. Senior Project QA/QC Reviewer.

The project was located adjacent to the Los Angeles River, involved transforming a six-acre site, previously used for dairy warehousing and distribution, into a riverfront park and recreational facility that will benefit nearby disadvantaged low income neighborhoods. In addition, the City is using the redeveloped property to increase the current capacity for managing storm water runoff. This important water quality project is part of the City's overall efforts through the Proposition O Bond Program to improve water quality and reduce pollutant loads that are currently being conveyed to the rivers, lakes, and oceans within the greater Los Angeles area.

Lakewood Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA. Design Lead. Responsible for overall pump station design. Tetra Tech was contracted by the City of Lakewood to evaluate two potential site locations for the development of the Lakewood Stormwater and Runoff Capture Project: Mayfair Park site and the Bolivar Park site. Tetra Tech provided a Project Engineering Study

EDUCATION:

BS, Civil Engineering,
University of Connecticut

REGISTRATIONS/ CERTIFICATIONS:

Professional Engineer,
California, No. 51596, 1993

PROFESSIONAL AFFILIATIONS:

American Society of Civil
Engineers

OFFICE LOCATION:

Irvine, CA

TOTAL YEARS OF EXPERIENCE:

25

YEARS W/ TETRA TECH:

3



Report (PESR) that represents 10% design completion level and describes the evaluation of the two sites with all site investigation, hydrology and hydraulic, and water quality data and analyses to provide a recommendation for site selection. The project components will include a diversion structure to divert water from one of the major flood control channels, a pretreatment structure to remove debris from the runoff, an underground structure to infiltrate or capture the water that will be treated for landscape irrigation use, and a rehabilitated park surface with new picnic areas. The goal of the project is to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies. Currently, Tetra Tech is providing design services to prepare final plans, specifications and estimates for the City.

Aliso Creek – Limekiln Creek Restoration Project, City of Los Angeles Bureau of Engineering, Los Angeles, CA. Senior Project Manager. Responsible for overseeing pre-design and design services for this important Proposition O project. The project is located at the confluence of the concrete lined Aliso and Limekiln Creek flood channels, which merge together in the southern portion of the project site. The project improvements involve constructing several stormwater Best Management Practices (BMPs) intended to treat on-site and off-site runoff and reduce contamination in Aliso Creek, Limekiln Creek, and the Los Angeles River. The proposed BMPs include low flow channel diversions, stormwater pump stations, stormwater pre-screening devices, bioswales, vegetated detention/retention basin, the restoration of upland, riparian habitat, and BMP educational signage. The goal of the project is to significantly reduce the pollutant loads, as well as transform a specifically built flood control facility into a multi-function green infrastructure facility. The project will also be designed to achieve a Platinum Envision Rating. This important water quality project is part of the City's overall efforts through the Proposition O Bond Program to improve water quality and reduce pollutant loads that are currently being conveyed to the rivers, lakes, and oceans within the greater Los Angeles area.

Statewide Stormwater On-call Services, State of California, Department of Transportation (Caltrans), CA. Project Manager for several task orders for an on-call stormwater services contract with Caltrans. The engineering services for the task orders include hydrology/hydraulic design of treatment Best Management Practice (BMP) pilot projects; reconnaissance studies of new treatment BMPs; preliminary design reports; and plan, specification, and estimate preparation for treatment BMP pilot projects.

Temescal Canyon Park Stormwater BMP Project, City of Los Angeles, Bureau of Engineering, Los Angeles, CA. Project Manager. Project Manager for a project to assist the City in compliance with the Santa Monica Bay Beaches Bacteria TMDL near Temescal Canyon Road. The engineering services for the project included concept development, preliminary design, detailed design, construction support, hydrologic analyses for the performance of the facility, site surveying, support of CEQA activities, environmental services, archaeological services, geotechnical explorations, permitting (Coastal, City Building and Safety, Caltrans, and Los Angeles County), and community outreach. Components of the BMP are a 22 million gallons per day (mgd) storm drain diversion structure; a hydrodynamic separator; a 1.25 million gallon detention tank; a 3 mgd pump station; new park playground equipment; new park restrooms; 500 feet of new 36-inch storm drain pipe; 1,000 feet of new 16-inch force main; and rehabilitation of 3,000 feet of existing 16-inch force main that discharges into the sanitary sewer for treatment at the Hyperion Wastewater Treatment Plant.



Chris Jansen, PE, LEED GA

Cost Estimating

Mr. Jansen is a civil engineer whose work primarily consists of stormwater-related projects. His design experience includes utility research, post-construction stormwater Best Management Practices, storm drain improvements and pump station design, hydraulic and hydrologic modeling and design, stormwater capture and use water quality compliance in Los Angeles County, roadway geometrics, construction plan set production, preparation of project specifications, cost estimating, and technical memorandum and report writing. His experience with construction support includes responding to RFIs, reviewing shop drawings, and attending construction meetings.

Mr. Jansen has comprehensive knowledge in the use of Autodesk's Civil 3D software for both conceptual and detailed design studies, as well as the production of construction plan sets. Mr. Jansen also has experience using the following computer software: ArcGIS, QGIS, EPANET, FlowMaster, HEC-HMS, HEC-RAS, HEC-SSP, HydroCalc, HY-8, WinTR-55, WSPG, XPSWMM, MATLAB, VBA, and Microsoft Office (Excel, PowerPoint, and Word).

Culver Boulevard Stormwater Infiltration and Retention Project, City of Culver City, CA. Design Engineer. Provides pump station design support for this multi-beneficial stormwater regional project. Tetra Tech is selected by the City of Culver City to provide design services to incorporate an infiltration gallery under a newly reconstructed raised median along Culver Boulevard. The project also includes retention basins to reuse captured stormwater runoff and urban runoff to irrigate local landscape medians within the project area. The overall landscape design of this project includes green elements such as bioswales along the raised median and adjacent roadways to further promote stormwater pollution prevention education.

Bellflower Water Capture Project at Caruthers Park Stormwater and Urban Runoff Capture Project, City of Bellflower, CA. Lead Designer. Design services in the areas of general civil, pipeline hydraulics, pipeline plan and profiles, and landscape irrigation and planting plans. Provides construction support services by responding to RFIs, reviewing shop drawings, conducting water treatment equipment inspections, and attending weekly construction meetings. Tetra Tech is contracted to provide pre-design, design, and construction support services for this Caltrans funded stormwater capture project. Tetra Tech is providing a Project Engineering Study Report that includes all necessary analyses to provide a recommendation for regional

EDUCATION:

MS, Environmental Fluid Mechanics and Hydrology, Stanford University

BS, Civil Engineering, University of California, Los Angeles

REGISTRATIONS/ CERTIFICATIONS:

Professional Civil Engineer, California, No. 90613, 2019

LEED® Green Associate, Nationwide Certification, No. 11012870, 2015

PROFESSIONAL AFFILIATIONS:

American Society of Civil Engineers, Orange County, CA

OFFICE LOCATION:

Irvine, CA

TOTAL YEARS OF EXPERIENCE:

3

YEARS W/ TETRA TECH:

3



stormwater capture treatment and implementation. The analysis identifies the existing site hydrology, water quality, and hydraulics to determine an optimal combination of the inflow rate, storage volume, and outflow. The Caruthers Park Project consists of a gravity diversion from two separate Los Angeles County Flood Control District storm drain lines; a 72" RCP line that drains 261 acres of the Los Cerritos Channel, and a 38' wide rectangular concrete channel that drains 2,995 acres of the Lower San Gabriel River. The diverted flows pass through a pretreatment system to remove trash, debris, and sediment. The runoff is then passed into a large buried multi-chambered storage/infiltration facility that will be treated and used to irrigate the park. Flows in excess of the required irrigation demands pass into the infiltration gallery to be exfiltrated through the soil to eventually combine with the ground water. This project will help the City comply with their bacteria and metals TMDL, while providing additional benefits of potable water offset and park revitalization.

Lakewood Stormwater Capture and Infiltration Project at Mayfair Park, City of Lakewood, CA. Design Engineer. Assesses the influent water quality and develops sampling protocols for the stormwater harvesting system at Mayfair Park. Tetra Tech is contracted to evaluate the potential site location and develop this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Clark Channel through a pre-treatment system to remove trash, debris, and sediment. A drainage pipeline conveys the water into a large, buried multi-chambered storage and filtration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas. The system will monitor the weather conditions and the facility through a secured cloud-based system. The underground storage system is 4.5 million gallons (13.8 ac-ft).

Lakewood Stormwater Capture and Infiltration Project at Bolivar Park, City of Lakewood, CA. Design Engineer. Assessed the influent water quality and developed sampling protocols for the stormwater harvesting system at Bolivar Park. Tetra Tech was contracted to evaluate the potential site location and develop this stormwater runoff and capture project. The project consisted of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Del Amo channel through a pre-treatment system to remove trash, debris, and sediment. A pump station and drainage pipeline conveyed the water into a large, buried multi-chambered storage/infiltration facility. The stormwater collected in the underground reservoir was treated and used to irrigate the park's landscaped areas. The system monitors the weather conditions and the facility through a secured cloud-based system. The underground storage system is 2.8 million gallons (8.7 ac-ft).

Design Services for the Silver Lake Reservoir Stormwater Capture Project, MARRS Services Inc., City of Los Angeles Bureau of Engineering, CA. Lead Designer. Provided hydrology and hydraulics design support services, including delineating drainage areas where stormwater could be feasibly captured and routed to the existing Silver Lake and Ivanhoe Reservoirs, defining preliminary pipe alignments and structure locations (catch basins, manholes, and pretreatment devices) based on flow paths and existing utility locations, drafted exhibits to include as supporting figures in a Project Engineering Study Report (PESR), and wrote a PESR that summarizes these findings. The existing Silver Lake and Ivanhoe Reservoirs are located in the neighborhood of Silver Lake in the City of Los Angeles. These reservoirs relied on potable water to maintain a constant water surface elevation that would otherwise decrease due to evaporation losses and leaks. This project proposed to capture and route stormwater to these reservoirs to offset potable water demands.

**EDUCATION:**

BS, Civil Engineering,
University of California, Irvine

**REGISTRATIONS/
CERTIFICATIONS:**

Professional Engineer,
California, No. 72039, 2007

OFFICE LOCATION:

Irvine, CA

**TOTAL YEARS OF
EXPERIENCE:**

18

Jeff Atijera, PE**Construction / Post-Construction Support**

Mr. Atijera has 18 years of experience in civil and structural engineering. His direct experience includes preparation of design documents for foundation design, retaining structures, grading and drainage, hydrology, and seismic design for residential, commercial, and educational facilities, as well as seismic retrofit for existing facilities.

Mr. Atijera has comprehensive knowledge of AutoCAD 2016, Civil 3D, Enercalc, RISA 3D and various modeling and analysis software to address complex engineering issues. He is thoroughly experienced in construction support which includes interpretation of contract documents, construction observation, submittal and schedule reviews, review of field change orders, and testing and inspection procedures.

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

Santa Monica Clean Beaches Project for Pier and Pico-Kenter Watersheds, City of Santa Monica, Santa Monica, CA. Construction Support. The objective of the project is to improve Santa Monica beach water quality by increasing the diversion capacity at the Santa Monica Pier and Pico-Kenter storm drain outfalls. The 85th percentile storm event volume would be treated and diverted from the Pier watershed to the Santa Monica Urban Runoff Recycling Facility (SMURRF) or the sanitary sewer. The project proposes storm drain diversion and runoff storage systems at two separate storm drain outfalls.



Caruthers Park Stormwater and Urban Runoff Capture Project, City of Bellflower, Bellflower, CA. Construction/Pre-Construction Support. Providing engineering design support for this Caltrans funded stormwater capture project. Tetra Tech is providing a Project Engineering Study Report (PESR) that includes all necessary analyses to provide a recommendation for regional stormwater capture treatment and implementation. The analysis identifies the existing site hydrology, water quality, and hydraulics to determine an optimal combination of the inflow rate, storage volume, and outflow. The Caruthers Park Project consists of a gravity diversion from two separate Los Angeles County Flood Control District storm drain lines; a 72" RCP line that drains 261 acres of the Los Cerritos Channel, and a 38' wide rectangular concrete channel that drains 2,995 acres of the Lower San Gabriel River. The diverted flows pass through a pretreatment system to remove trash, debris, and sediment. The runoff is then passed into a large buried multi-chambered storage/infiltration facility that will be treated and used to irrigate the park. Flows in excess of the required irrigation demands will pass into the infiltration gallery to be exfiltrated through the soil to eventually combine with the ground water. It is anticipated that the system will use active controls to monitor the weather conditions and empty the facility through a secured cloud-based system. This project will help the City comply with their bacteria and metals TMDL, while providing additional benefits of potable water offset and park revitalization.

Stormwater and Runoff Capture Project at Carriage Crest Park, City of Carson, CA. Construction/Pre-Construction Support. . Manages the project schedule, quality, and cost on behalf of the City. Provides interpretation of design intent and specification through mediation between the designer and contractor. Tetra Tech was contracted to evaluate the potential site location and develop the stormwater runoff and capture project. In addition, Tetra Tech was also tasked to provide construction management for the project. The project diverts runoff from approximately 1,146 acres in the Dominguez Channel Watershed and discharge captured runoff to the Los Angeles County Sanitation District's Sewer system through a pre-treatment system that removes trash, debris, and sediment, and an underground reservoir that holds 4.39 million gallons (13.5 ac-ft). The diversion will provide a significant water quality benefit to the community by removing stormwater pollutants from the Wilmington Drain an Machado Lake. Construction has commenced and is anticipated to be complete by June 2020.

Stormwater and Runoff Capture Project at Mayfair Park, City of Lakewood, CA. Project Engineer. Support during construction consists of submittal reviews, inspection of drainage structures, interpretation of design intent, and specification through RFI's responses, and assisting construction manager in reviewing schedule and change order request. Tetra Tech was contracted to evaluate the potential site location and develop this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Clark Channel through a pre-treatment system to remove trash, debris, and sediment. A drainage pipeline will convey the water into a large, buried multi-chambered storage and filtration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas. The system will monitor the weather conditions and the facility through a secured cloud based system. The underground storage system is 4.5 million gallons (13.8 ac-ft). The detailed design phase has commenced and reached project completion on January 2020.

**EDUCATION:**

Ph.D., Geotechnical Engineering, University of Alberta, Edmonton, Canada

M.Sc., Geotechnical Engineering, Czech Technical University, Prague, Czech Republic

**REGISTRATIONS/
CERTIFICATIONS:**

Registered Civil Engineer, California, No. 59242, 1999

Registered Geotechnical Engineer, California, 2004 No. 2635

OSHA 40-hour HAZWOPER Training

OFFICE LOCATION:

Diamond Bar, CA

**TOTAL YEARS OF
EXPERIENCE:**

31

YEARS W/ TETRA TECH:

16

Peter Skopek, GE, PE, PHD**Geotechnical**

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

Storm Water Infiltration and Storage Facility – Bolivar Park, Lakewood, California Santa Monica Clean Beaches Initiative.

Geotechnical Manager. Dr. Skopek performed a geotechnical investigation, infiltration study, and provided construction inspection services for the storm water storage and infiltration facility constructed at Bolivar Park in the City of Lakewood, California. The invert of the proposed infiltration facilities was at a depth between 14 to 18 feet below the current grade. The facility consists of underground storage chambers which allow percolation of storm water, diverted from the adjacent Del Amo flood control channel, into the subgrade. The project also included drilling, logging, and sampling of 5 hollow stem auger exploratory borings and infiltration tests in 3 percolation borings.

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

Multiple On-Site Storm Water Disposal Facilities in Los Angeles and Orange Counties. Geotechnical Manager. Dr. Skopek acted as



the principal engineer or engineer-in-responsible charge for on-site storm water disposal systems in Pomona, Carson, Southgate, Lakewood, La Mirada, Newport Beach, Irvine, and Anaheim. The projects included subsurface investigations, performance of infiltration testing, processing of the data to determine percolation rates for the system design, and results submittal to regulatory agencies and subsequent support of the permitting process.

Shoreline Park Athletic Fields, Mountain View, CA. Geotechnical Manager. Dr. Skopek acted as principal geotechnical engineer for the redevelopment of an 11.7-acre closed sanitary landfill located within Shoreline Regional Park into an athletic field facility. The site was required to comply with the landfill closure plan and without encroachment into the existing final cover system or refuse and following applicable regulations to maintain closed landfill status and be suitable for approval by the San Francisco Bay Regional Water Quality Control Board. The project included geotechnical characterization to compile relevant geotechnical data from published sources, utilization of available historic information and aerial photographs, preliminary subsurface investigations, processing collected data, performance of analyses to evaluate various land use scenarios and provision of parameters for grading and foundation design. A special focus was on the governing geotechnical design consideration, which is the prediction of settlement potential across the site.

Biola University On-Site Storm Water Disposal Systems Design, La Mirada. Geotechnical Manager. Dr. Skopek acted as the principal engineer for the investigation and design of the on-site storm water disposal system was a part of the overall geotechnical support of the construction of a new university North Dormitory building and Health and Science building. Besides the conventional subsurface investigation, the task specific effort included performance of in-hole infiltration testing and interpretation of the percolation rates for the design of the buried "aquifer" storm water infiltration system.

Design of Phase II Expansion of Las Pulgas Landfill, Camp Pendleton, near Oceanside. Geotechnical Manager. Dr. Skopek acted as the lead design engineer for this extensive project included provision of design, permitting, and construction quality control services. The uniquely relevant component of this project design, oversight and regulatory reporting of the test pad with Sealed Double-Ring Infiltrometer (SDRI), and oversight of field testing and CQA support during the construction including compaction, and BAT Permeameter and Shelby tube hydraulic conductivity testing for the construction and approval of the clay liner

Vandenberg Air Force Base (AFB) Landfill Final Closure, Santa Barbara County, California. Geotechnical Manager. Dr. Skopek acted as the principal geotechnical engineer for the regulatory approval of the final closure of a Class III landfill site with an alternative 4-foot thick evapotranspirative (ET) cover. Services included evaluation of the water retention characteristics and hydraulic conductivity of the borrow soils and sand/clay mixtures, development of sand-clay mixtures of on-site borrow materials for the ET cover construction, water storage assessment to estimate the required minimum ET cover thickness, water balance modeling to demonstrate the performance equivalency between the ET cover and prescriptive landfill cover, parametric studies to evaluate the performance of the ET cover with respect to varied soil and vegetation conditions, development of design and construction recommendations for the proposed ET cover.

**EDUCATION:**

PhD., Geotechnical Engineering, University of Texas, Austin

MS, Geotechnical Engineering, University of Texas, Austin

BS, Civil Engineering, University of los Andes, Bogota

**REGISTRATIONS/
CERTIFICATIONS:**

Registered Civil Engineer, California, PE 50097 (1993)

Registered Geotechnical Engineer, California, GE 3128 (2018)

OFFICE LOCATION:

Diamond Bar, CA

**TOTAL YEARS OF
EXPERIENCE:**

12

YEARS W/ TETRA TECH:

6

Fernando Cuenca, GE, PHD**Geotechnical**

Dr. Cuenca's experience in the field of geotechnical engineering includes research on the stability of reinforced embankments incorporating coupled analysis including pore water pressures in unsaturated soils and water flow movement with slope deformations, using finite element formulations. Mr. Cuenca also worked extensively in the implementation of UTEXAS software for slope stability analysis, and to study applications for reinforced soils. He has worked extensively in the design of foundations for several types of structures including Water Treatment Plants, Power Plants, Communication Towers, Bridges and Highways. He has worked in Christchurch, New Zealand after the devastation caused by the series of earthquakes in 2010 and 2011, where he designed seismic resistant foundations for over 1000 dwellings located in different geological strata. He also has significant experience in doing liquefaction assessments and evaluating geologic hazards in highly seismic zones, and has experience in the design of mitigation measures to minimize the impact of adverse conditions in seismic prone areas, including the design of different ground improvement techniques. He also has experience in numerical modelling using finite element software, PLAXIS, and slope stability modelling using GEOSLOPE.

Bolivar Park, City of Lakewood. Project Engineer in charge of the geotechnical design of an underground stormwater infiltration and storage facility using precast reinforced concrete units with their associated hydraulic structures and conveyance systems. Provided recommendations for the design of the shoring system for the deep excavations at the site and monitored construction and performance of the shoring system using soldier piles and steel plates. Performed all the infiltration testing required for the design of the infiltration facilities at the site.

Mayfair Park, City of Lakewood. Project Engineer in charge of the evaluation of the infiltration characteristics of the subsurface materials and the geotechnical design of stormwater storage system. In addition, a field feasibility study was conducted to study the possibility of using injection wells at the site. Performed the infiltration testing to assess the suitability of the site.

Carriage Crest Park, City of Carson. Project Engineer in charge of the geotechnical design of a large underground stormwater storage tank, shoring design, and pipeline conveyance design.



Alondra Park Project, Redondo Beach. Project Engineer in charge of the geotechnical design of an underground stormwater and infiltration facility at the site. In addition, the feasibility of using injection well at the site is being studied.

Clean Beaches, City of Santa Monica. Project Engineer in charge of the geotechnical design of two underground stormwater storage tanks with their associated conveyance systems. Other tasks included the design of the shoring and dewatering system for the site and performing CQA operations at the site during installation of the shoring, and excavation.

Caruthers Park, City of Bellflower. Project Engineer in charge of the infiltration testing using large diameter boreholes and geotechnical exploration for the design of large stormwater infiltration and storage underground vaults, including foundation design for diversion structures, pump stations, and pretreatment units.

URP Pit No. 2, Irwindale. Project Engineer in charge of the reclamation of the UPR Pit No. 2, performing stability evaluations of the mining walls and backfill slopes, establishing compliance of the filling process with the approved Fill Operations Plan.

URP Olive Pit, Irwindale. Project Engineer in charge of the design of the access road to provide access to the reclamation of the pit. The access road was designed as a reinforced slope with multiple layers of geogrids to minimize footprint and maximize available mining area.

LA River Watershed Management Program, Gateway Cities. Project Engineer in charge of the infiltration assessment of different locations for the design of capture and infiltration BMP facilities within the LA River watershed.

Port of Long Beach, Long Beach, CA. Project Engineer entrusted with the design of pile foundations for Pier 300. Challenges included design of the pier considering the possibility of surface fault rupture.

US Corps of Engineers (USACE), USA. Project Engineer in charge of performing certification inspections for different levee projects, dams, retarding basins, spreading basins, throughout Orange County and LA County. Evaluating the stability and performance of levees and dams under different hydraulic loadings and seismic conditions.

USA Air Force, Long Range Discrimination Radar Station Design Review. Project Engineer in charge of reviewing the foundation design and seismic performance of a long-range discrimination radar station in Alaska.

Space Rocket Launch Facilities, Georgia. Project Engineer in charge of the evaluation of the effect of vibrations induced by space rocket launching on nearby facilities.

Arroyo Chico Channel, Tucson, Arizona. Project Engineer in charge of the geotechnical design of channel improvements including a new U channel formed with side retaining walls and an open soft bottom. The design included provisions for installation of a special shoring system near existing buildings. Design was in conformance with USACE design guidelines.



Eric Martin, PE

Utility Research

Mr. Martin has seven years of experience in civil engineering design for municipal, federal and private sector projects including preparation of site plans, street and storm drain improvements, grading plans, and utility plans. His experience includes providing hydrologic drainage analysis and design for Low Impact Development (LID) projects, and hazardous waste containment and treatment systems. Mr. Martin has comprehensive knowledge in the use of AutoCAD Civil 3D, WaterCAD, Bentley FlowMaster, HEC-RAS, and AutoCAD Storm and Sanitary Analysis.

Bolivar Park, Stormwater and Runoff Capture Project, City of Lakewood, CA. Design Engineer. Prepared plans, specifications and estimate for the development of a stormwater capture and treatment project. Included existing utility analysis and production of engineering plans related to the design of a stormwater diversion and infiltration system consisting of a diversion structure, pre-treatment, force main piping system, underground storage and infiltration structure, and overflow return line piping to the storm drain system. Tetra Tech was contracted to evaluate the potential site location and develop this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Del Amo channel through a pretreatment system to remove trash, debris, and sediment. A pump station and drainage pipeline will convey the water into a large, buried multi-chambered storage/infiltration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas. The system will monitor the weather conditions and the facility through a secured cloud-based system. The underground storage system is 2.8 million gallons (8.7 ac-ft). The project not only helped the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provides additional benefits, such as revitalized park infrastructure and augmentation of local water supplies.

Carriage Crest Park Stormwater Capture and Treatment, City of Carson, CA. Design Engineer. Production of conceptual improvement plans, conducting site specific feasibility studies related to improvements on existing stormwater infrastructure for the proposed diversion, treatment and collection system. Carriage Crest Park is identified in the Enhanced Watershed Management Program as a high-priority site for a regional stormwater capture project due to its proximity to two large storm drains with a total drainage area exceeding 1,100 acres. The

EDUCATION:

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

BS, Civil Engineering, California Polytechnic State University,

San Luis Obispo

REGISTRATIONS/ CERTIFICATIONS:

Professional Engineer, California, No. 84829, 2018

PROFESSIONAL AFFILIATIONS:

American Society of Civil Engineers (ASCE)

California Stormwater Quality Association (CASQA)

OFFICE LOCATION:

Dublin, CA

TOTAL YEARS OF EXPERIENCE:

8

YEARS W/ TETRA TECH:

8



project components include a diversion structure to divert water from an existing storm drain system, a pretreatment structure to remove debris from the runoff, an underground structure to capture and store the stormwater prior to being discharged back into the existing storm drain system, and a rehabilitated park surface. Design objectives are to eliminate dry-weather flow from the adjacent channel and to maximize wet-weather pollutant capture.

Mayfair Park Stormwater and Runoff Capture Project, City of Lakewood, CA. Design Engineer. Responsibilities include existing utility analysis and production of engineering plans related to the design of a stormwater diversion and infiltration system, and the civil engineering plans, including erosion control, demolition, grading and drainage, and horizontal control for the underground and surface improvements to Mayfair Park. Tetra Tech is contracted to evaluate this potential site location and develop this stormwater runoff and capture project. The project consists of an airinflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Clark Channel through a pre-treatment system to remove trash, debris, and sediment. A drainage pipeline will convey the water into a large, buried multi-chambered storage and filtration facility. The stormwater collected in the underground reservoir will be treated and secured cloud based system. The underground storage system is 4.5 million gallons (13.8 ac-ft). The goal of the project is to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies.

Caruthers Park Stormwater and Urban Runoff Capture Project, City of Bellflower, CA. Design Engineer. Contributing to the pre-design and design services for this Caltrans funded stormwater capture project. Tetra Tech is providing a Project Engineering Study Report that includes all necessary analyses to provide a recommendation for regional stormwater capture treatment and implementation. The analysis identifies the existing site hydrology, water quality, and hydraulics to determine an optimal combination of the inflow rate, storage volume, and outflow. The Caruthers Park Project consists of a gravity diversion from two separate Los Angeles County Flood Control District storm drain lines; a 72" RCP line that drains 261 acres of the Los Cerritos Channel, and a 38' wide rectangular concrete channel that drains 2,995 acres of the Lower San Gabriel River. The diverted flows pass through a pretreatment system to remove trash, debris, and sediment. The runoff is then passed into a large buried multi-chambered storage/infiltration facility that will be treated and used to irrigate the park. Flows in excess of the required irrigation demands will pass into the infiltration gallery to be exfiltrated through the soil to eventually combine with the ground water. It is anticipated that the system will use active controls to monitor the weather conditions and empty the facility through a secured cloud-based system. This project will help the City comply with their bacteria and metals TMDL, while providing additional benefits of potable water offset and park revitalization.

Alondra Park Multi-Benefit Stormwater Capture Project, Los Angeles County Department of Public Works, Los Angeles, CA. Design Engineer. Contributed to the topographic survey and development of 30% design plans for a 30+ acre-foot regional stormwater capture BMP. Tetra Tech was contracted to develop a Preliminary Concept Report for the design of a multi-benefit stormwater capture project identified in the Enhanced Watershed Management Program for the Dominguez Channel Watershed Management Area. Tetra Tech provided a geotechnical evaluation of the project site and determined the maximum potential drainage area that could be captured. Several BMP size options were developed, and recommendations were provided for the BMP location, type, and size of pre-treatment systems and diversion structures for each option.



Mike Olsen, PE

Structural Design

Mr. Olsen has been a part of the Tetra Tech team for nine years and contributes his extensive structural engineering knowledge from his involvement in municipal, industrial and federal projects. He has completed a variety of projects varying in size and funding for both public and private entities. Mr. Olsen's experience includes design, analysis, detailing and construction in structural engineering. He is knowledgeable in reinforced concrete, pre- and posttensioned concrete, reinforced masonry, steel and timber construction for a variety of building and infrastructure projects including reservoirs, water/wastewater treatment facilities, pump stations, bridge, buried concrete vaults, pipeline structures, bridges, as well as seismic retrofit of existing structures. Mr. Olsen has extensive working knowledge of the California Building Code (CBC), International Building Code (IBC) and their application to civil and structural engineering projects. Mr. Olsen is experienced with a variety of design software programs including RISA-3D, RISA Foundation, RISA Floor, ENERCALC SEL, L-PILE, RetainPro and Hilti PROFIS Anchor.

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

Santa Monica Clean Beaches Initiative for Pier and Pico-Kenter Basins, City of Santa Monica, Public Works Department, Santa Monica, CA. Structural Design Lead. Responsible for the design of the site improvements, diversion structure, pretreatment, underground storage reservoirs, and piping systems. The project objective is to

EDUCATION:

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

BS, Civil Engineering,
California State Polytechnic
University, Pomona, Magna
Cum Laude

REGISTRATIONS/ CERTIFICATIONS:

Professional Engineer,
California, No. 81944, 2013
Cal OES Safety Assessment
Program Evaluator

OFFICE LOCATION:

Irvine, CA

TOTAL YEARS OF EXPERIENCE:

9

YEARS W/ TETRA TECH:

9



improve Santa Monica Beach water quality by increasing the diversion capacity at the Santa Monica Pier and Pico-Kenter storm drain outfalls. The 85th percentile storm event volume would be treated and diverted from the Pier watershed to the Santa Monica Urban Runoff Recycling Facility (SMURRF) or the sanitary sewer. The project proposes storm drain diversion and runoff storage systems at two separate storm drain outfalls, routed to two subsurface storage areas. 1.6 million gallons will be stored at the historical Deauville Beach Club site and an additional 80,000 gallons will be stored at the Pico-Kenter storm drain outfall.

Albion Riverside Park Project, City of Los Angeles Bureau of Engineering, Los Angeles, CA. Structural Design Engineer. Providing design and construction support services for Albion Riverside Park. The project, located adjacent to the Los Angeles River, involves transforming a six-acre site, previously used for dairy warehousing and distribution, into a riverfront park and recreational facility that will benefit nearby disadvantaged low-income neighborhoods. In addition, the City is using the redeveloped property to increase the current capacity for managing stormwater runoff. This important water quality project is part of the City's overall efforts through the Proposition O Bond Program to improve water quality and reduce pollutant loads that are currently being conveyed to the rivers, lakes, and oceans within the greater Los Angeles area. In addition, the project is being designed to achieve a Platinum Envision™ rating. Mr. Olsen is responsible for the design of North Spring Street and Childcare ADA ramps that utilized both soldier pile walls and conventional reinforced concrete retaining walls.

Carriage Crest Stormwater and Runoff Capture Project, Sanitation Districts of Los Angeles County, Carson, CA. Structural Design Lead. Mr. Olsen is leading structural related design and retrofit facilities for Carriage Crest Park, which was identified in the Enhanced Watershed Management Program (EWMP) as a high-priority site for a regional stormwater capture project due to its proximity to two large storm drains with a total drainage area exceeding 1,100 acres. The project components include a diversion structure to divert water from an existing storm drain system, a pretreatment structure to remove debris from the runoff, an underground structure to capture and store the stormwater prior to being discharged back into the existing storm drain system, and a rehabilitated park surface. Design objectives are to eliminate dry-weather flow from the adjacent channel and to maximize wet-weather pollutant capture.

Caruthers Park Stormwater and Urban Runoff Capture Project, City of Bellflower, Bellflower, CA. Structural Design Lead. Mr. Olsen was responsible for leading the structural design elements, including the new treatment building facility, diversion structure, drop inlet structure and comprehensive specifications for the underground stormwater storage tank for the 90% design plans. Tetra Tech is providing a Project Engineering Study Report (PESR) that includes all necessary analyses to provide a recommendation for regional stormwater capture treatment and implementation. The analysis identifies the existing site hydrology, water quality, and hydraulics to determine an optimal combination of the inflow rate, storage volume, and outflow. The Caruthers Park Project consists of a gravity diversion from two separate Los Angeles County Flood Control District storm drain lines; a 72" RCP line that drains 261 acres of the Los Cerritos Channel, and a 38' wide rectangular concrete channel that drains 2,995 acres of the Lower San Gabriel River. The diverted flows pass through a pretreatment system to remove trash, debris, and sediment. The runoff is then passed into a large buried multi-chambered storage/infiltration facility that will be treated and used to irrigate the park. Flows in excess of the required irrigation demands will pass into the infiltration gallery to be exfiltrated through the soil to eventually combine with the ground water.

**EDUCATION:**

BA, Architecture, University of Washington

**REGISTRATIONS/
CERTIFICATIONS:**

Professional Landscape Architect, California, No. 4129

Qualified SWPPP Developer (QSD) and Qualified SWPPP Practitioner (QSP), Certificate No. 21105

OFFICE LOCATION:

San Luis Obispo, CA

**TOTAL YEARS OF
EXPERIENCE:**

29

Mauricio Argente, RLA, QSD/P

Landscape/Irrigation

Mr. Argente has more than 29 years of combined landscape/irrigation architecture, planning and engineering management experience in both the public and private sectors. As an avid lifelong cyclist, Mr. Argente has specific expertise in active transportation design and planning, as well as green infrastructure and complete streets. As a Qualified Stormwater Practitioner and Qualified Stormwater Designer, Mr. Argente has current relevant experience with modern water and storm water management practices, including: bioswales, porous concrete, underground reservoirs, recharge systems and “smart” irrigation systems.

Bolivar Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA. Landscape Architect. Mr. Argente assisted in evaluating potential site locations within the park for the stormwater runoff and capture project. The goal of the project was to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also to provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies. The project consists of an airinflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Del Amo channel through a pre-treatment system to remove trash, debris, and sediment. A pump station and drainage pipeline will convey the water into a large, buried multi-chambered storage/infiltration facility. The stormwater collected in the underground reservoir is treated and used to irrigate the park’s landscaped areas. As part of the landscape architecture improvements, the project included new overhead structure and picnic area, new planting areas, and refurbishment of aging flatwork and active recreation areas.

Santa Monica Clean Beaches Initiative, City of Santa Monica, Santa Monica, CA. Landscape Architect. Mr. Argente was the Landscape Architect responsible for the design of the site and landscape amenities in support of the project. The project objective is to improve Santa Monica Beach water quality by increasing the diversion capacity at the Santa Monica Pier and Pico-Kenter storm drain outfalls. The 85th percentile storm event volume would be treated and diverted from the Pier watershed to the Santa Monica Urban Runoff Recycling Facility (SMURRF) or the sanitary sewer. The project proposes storm drain diversion and runoff storage systems at two separate storm drain outfalls, routed to two subsurface storage areas. 1.6 million



gallons will be stored at the historical Deauville Beach Club site and an additional 80,000 gallons will be stored at the Pico-Kenter storm drain outfall.

Mayfair Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA.

Landscape Architect for a 4.5 million gallons (13.8 ac-ft) underground stormwater capture and storage system. Mr. Argente was responsible for integrating the overall civil and structural engineering solutions into an existing well-used community park. The project consisted of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Clark Channel through a pre-treatment system to remove trash, debris, and sediment. A drainage pipeline conveys the water into a large, buried multi-chambered storage and filtration facility all located under the active recreation open space portion of Mayfair Park. Due to the high use and importance of the park to the community, it was important to integrate the stormwater capture project with minimal disruption to the park users and to minimize any loss of use to active recreation. Both goals were achieved.

Albion Riverside Park Project, City of Los Angeles Bureau of Engineering, Los Angeles, CA.

Landscape Architect. Responsible for overseeing the pre-design services, including the Envision certification process, for the Albion Riverside Park project. The design team provided both design and construction support services. The project, located adjacent to the Los Angeles River, involved transforming a six-acre site, previously used for dairy warehousing and distribution, into a riverfront park and recreational facility that will benefit nearby disadvantaged low-income neighborhoods. In addition, the City used the redeveloped property to increase the current capacity for managing storm water runoff. This important water quality project is part of the City's overall efforts through the Proposition O Bond Program to improve water quality and reduce pollutant loads that are currently being conveyed to the rivers, lakes, and oceans within the greater Los Angeles area. This project was selected as the 2019 Outstanding Park and Recreation Project Award from the American Society of Civil Engineers (ASCE), and earned an Envision Gold Award by The Institute for Sustainable Infrastructure (ISI).

Culver Boulevard Stormwater Infiltration and Retention Project, City of Culver City, CA.

Landscape Architect. Mr. Argente served as the Landscape Architect for this multi-beneficial stormwater regional project. Selected as a team member by the City of Culver City to provide design services to incorporate an infiltration gallery under a newly reconstructed raised median along Culver Boulevard. The project also includes retention basins to reuse captured stormwater runoff and urban runoff to irrigate local landscape medians within the project area. The overall landscape design of this project will include green elements such as bioswales along the raised median and adjacent roadways to further promote stormwater pollution prevention education.

Carriage Crest Stormwater and Runoff Capture Project, Sanitation Districts of Los Angeles County, Carson, CA.

Landscape Architect. Mr. Argente provided landscape architecture services for Carriage Crest Park, which was identified in the Enhanced Watershed Management Program (EWMP) as a high-priority site for a regional stormwater capture project due to its proximity to two large storm drains with a total drainage area exceeding 1,100 acres. The project components include a diversion structure to divert water from an existing storm drain system, a pretreatment structure to remove debris from the runoff, an underground structure to capture and store the stormwater prior to being discharged back into the existing storm drain system, and a rehabilitated park surface. Design objectives are to eliminate dry-weather flow from the adjacent channel and to maximize wet-weather pollutant capture.



Richard Watson

Funding Source Support

Mr. Watson is a geographer/planner with over 28 years of experience in stormwater quality management, making him a valuable asset in navigating this complex regulatory environment. He has working relationships with stormwater regulators and the regulated community across California and is a frequent speaker at conferences and workshops dealing with implementation of stormwater programs. Mr. Watson has contributed to the development of public policy related to planning, development, environmental management, and water quality.

Bolivar Park Stormwater and Runoff Capture Project, Lakewood, CA. Funding Manager. Arranged financing through Caltrans Cooperative Implementation Agreement. Prepared description, scope of work, location, budget, and timeframe for Cooperative Implementation Agreement Reviewed consultant proposals for City Provided project oversight for City Assisted City in working with subcontractor to make necessary adjustments and corrections to ensure proper operation of project

Carriage Crest Stormwater and Runoff Capture Project, Carson, CA. Financing Manager. Arranged financing through Caltrans Cooperative Implementation Agreement Prepared description, scope of work, location, budget, and timeframe for Cooperative Implementation Agreement Provided initial project oversight for City.

Caruthers Park Stormwater and Runoff Capture Project, Bellflower, CA. Funding Manager. Arranged financing through Caltrans Cooperative Implementation Agreement. Prepared description, scope of work, location, budget, and timeframe for Cooperative Implementation Agreement Reviewed consultant proposals for City and project oversight for City.

Mayfair Park Stormwater and Runoff Capture Project, Lakewood, CA. Funding Manager. Arranged financing through Caltrans Cooperative Implementation Agreement. Prepared description, scope of work, location, budget, and timeframe for Cooperative Implementation Agreement Reviewed consultant proposals for City.

Holbridge Palmer Park Stormwater and Runoff Capture Project Atherton, CA. Financing Manager. Arranged financing through Caltrans Cooperative Implementation Agreement. Prepared description, scope of work, location, budget, and timeframe for Cooperative Implementation Agreement. Reviewed consultant proposals for City and provided project oversight for City.

EDUCATION:

History, Stanford University
MA, Geography, UCLA
BA, Geography, UCLA
All requirements for PhD
except dissertation, University
of Alberta

PROFESSIONAL AFFILIATIONS:

American Planning Assn.
Building Industry Assn. of
Southern
California
California Building Industry
Assn.
California Planning Roundtable
California Stormwater Quality
Association (CASQA)
International Erosion Control
Assn.
Water Environment Federation

OFFICE LOCATION:

Mission Viejo, CA

TOTAL YEARS OF EXPERIENCE:

28



Stormwater Funding Options Report, Los Angeles County, CA. Funding Manager. Extensive work related to stormwater funding, including co-authoring the Stormwater Funding Options Report and consulting to a Steering Committee of elected officials in Los Angeles County to pursue recommendations in the Report to help deal with the costs of storm-water program implementation. With the Steering Committee, he contributed to refinements of the County's Safe, Clean Water Program.

Multiple Funding Projects, Caltrans, CA. Funding Manager. Secured funding through the Caltrans Cooperative Implementation Agreement Program for five (5) water capture projects and one (1) water treatment project in Los Angeles County.

Multiple Funding Projects, Los Angeles County, Los Angeles, CA. Funding Manager / Permit Development. Contributed to development of 2012 Los Angeles County MS4 Permit, including extensive work reviewing draft permit language, participating in Regional Water Board permit workshops, and testifying at Regional Water Board permit hearings.

Multiple Grant Proposal Propositions, Los Angeles, CA. Developed concepts and prepared grant proposals for successful Proposition 13, Proposition 40, and Proposition 50 grant projects.

Extensive analysis, comment development on the Los Angeles Regional Water Board adopted TMDLs and EPA-established TMDLs, including the Los Angeles River Trash TMDL, the Los Angeles River Metals TMDL, the Los Angeles River Bacteria TMDL, the San Gabriel River Metals TMDLs, the Los Cerritos Channel Metals TMDLs, the TMDLs form

Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters, and the Long Beach City Beaches and Los Angeles River Estuary Bacteria TMDL

Stormwater Policy Development, California Stormwater Quality Association, CA. Funding Manager. Extensive statewide stormwater policy experience through 27 years of participation in the California Stormwater Quality Association (CASQA) and its predecessor organization, including chairing the CASQA Watershed Management & Impaired Waters Subcommittee, membership on the Executive Program Committee and serving on the Board of Directors. Extensive analysis, comment development, and testimony on the State's 303(d) list and the Listing/Delisting Policy.

Multiple Watershed Management Programs, Multiple Agencies, Throughout California. Experience as a technical consultant to help groups of cities develop Watershed Management Programs and plans for compliance with TMDLs, including preparation of Implementation Plan components, preparation of a detailed Implementation Schedule for implementation of true source control BMPs, and negotiating with the Regional Water Board to receive credit toward compliance for the permittee's efforts in support of SB 346.



Marcel Bodsky, RA

Architectural

Mr. Bodsky has over 30 years' design experience with a variety of building types and clients. His experience designing multi-building facilities is extensive; his designs for public works infrastructure include rail and bus transit facilities, parking garages and maintenance facilities. His experience covers all phases of project development, including planning, programming, design, and construction. Mr. Bodsky's expertise in managing contracts, dealing with contract issues and delivering on projects ranges from multiple on-call work order contracts.

On Call Architectural/Engineering Services, Port of Seattle, WA,

Mr. Bodsky is Contract Manager and Project Manager for the A/E on call for the Port of Seattle. To date task orders have included structural evaluation of the existing custom window wall in the SeaTac food court, Evaluation of fall protection systems at existing port properties, and evaluation of existing port managed and owned elevators and escalators.

Pattison Transit Base Expansion for Intercity Transit, Olympia, WA,

Project Manager for the first phase of the base expansion which outlined doubling of base size and capacity. Estimated project construction cost is \$20 Million. The total Project window is 25 years, with a total estimated project cost of \$75 million. The design includes architectural, structural, mechanical and electrical modifications to the first and second floors of the maintenance building and the operations area of the administration building. The design also includes development of a portion of the north parcel adjacent to Pattison Base to include expanded parking, new site circulation, new fuel and wash facilities with associated underground fuel tanks, Pattison Street and Martin Way street improvements and new site paving, stormwater, landscaping and utility improvements. The project is currently at 30% level of completion.

(Design/Build) Pacific Northwest Maintenance and Welfare Facilities, AMTRAK, Seattle, WA, 2010-2012

Design Manager and architect for a design build partnership with PCL construction to construct (2) 60,000 SF buildings; an administrative and warehouse facility (Welfare Building) and a Maintenance facility for the Talgo, Cascade and Amtrak lines for Amtrak. The Maintenance building provides wheel truing, wheel changing and general maintenance facilities for Amtrak and Talgo trains at the Holgate yard just south of Safeco field. The four-story Welfare Building provides administrative offices as well as high bay storage of inventory. The project was fast track and won the 2013 DBIA National Award for Transportation projects.

EDUCATION:

BA, Architecture, University of Washington

REGISTRATIONS/ CERTIFICATIONS:

Registered Architect, CA,
No. C35520; WA, No. 7006;
AK, No. A14623

OFFICE LOCATION:

Seattle, WA

TOTAL YEARS OF EXPERIENCE:

38

YEARS W/ TETRA TECH:

22



Northwest Region Traffic Management Center, WSDOT, Shoreline, WA, Lead Architect and Design Manager on the 17,500 SF design-build project with PCL as the contractor. The facility boasts a state-of-the-art control room with video wall, media observation room and Emergency Operations Center, all with a high degree of acoustic control and damping. Directed Tetra Tech team for architecture and interiors, structural, civil, and landscape design services.

Communications and Control Center/EOC, King County Department of Transportation, Metro Transit Division, Seattle, WA. Project Manager of a 14,000 SF office building. This emergency facility is shared by Sound Transit and Metro Transit and will monitor and direct their agencies during emergency situations like earthquakes. The CCC project includes full tenant build-out and redundant building systems to address the essential facility design criteria required to operate after a natural disaster. As the primary communications hub for Metro Transit, site and building security were key aspects of the design. Some of these design components include a facility stand-off distance from the street, the use of concrete planters and building walls and large landscape rocks as security elements, pedestrian and vehicular gate design, and an internal hierarchy of security zones to control access to secure areas. Received Gold LEED certification.

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

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

Architectural Services for Projects on a Work Order Basis, King County Department of Transportation, Roads Services Division, Seattle, WA. Project Manager for design of two architectural work orders to date, focusing on sustainability renovations for the KC Roads campus. The first work order has a sustainability Master Plan for Building J and the Roads campus in Renton. The Master Plan was developed to establish sustainable standards in a prototypical building that can be extended to the entire campus. The second work order is the implementation of that plan with the development of construction documents for the renovation of the building.

On-Call
Stormwater Project
Design Services



Appendix 2: Non-Collusion Affidavit



Appendix
ATTACHMENT 3-1: NON-COLLUSION AFFIDAVIT
CERTIFICATIONS

NON-COLLUSION AFFIDAVIT
(Title 23 United States Code Section 112 and
Public Contract Code Section 7106)

To the CITY OF SANTA ANA DEPARTMENT OF PUBLIC WORKS

In accordance with Title 23 United States Code Section 112 and Public Contract Code 7106 the BIDDER declares that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the BIDDER has not directly or indirectly induced or solicited any other BIDDER to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived or agreed with any BIDDER or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the BIDDER has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the BIDDER or any BIDDER, or to fix any overhead, profit, or cost element of the bid price, or of that of any other BIDDER, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the BIDDER has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: The above Non-collusion Affidavit is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Non-collusion Affidavit. BIDDERS are cautioned that making a false certification may subject the certifier to criminal prosecution.

Signed _____

State of California

County of _____

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20____, by _____, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

*SEE
ATTACHED*

Notary Public Signature

Notary Public Seal

CALIFORNIA JURAT CERTIFICATE

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of SANTA BARBARA

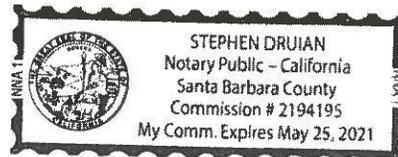
Subscribed and sworn to (or affirmed) before me on this 7TH day of AUGUST
2020, by JASON FUSSEL

proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

WITNESS MY HAND AND OFFICIAL SEAL.

Stephen Drujan

Signature of Notary Public



(Notary Seal)

OPTIONAL INFORMATION

The jurat contained within this document is in accordance with California law. Any affidavit subscribed and sworn to before a notary shall use the preceding wording or substantially similar wording pursuant to Civil Code sections 1189 and 8202. A jurat certificate cannot be affixed to a document sent by mail or otherwise delivered to a notary public, including electronic means, whereby the signer did not personally appear before the notary public, even if the signer is known by the notary public. The seal and signature cannot be affixed to a document without the correct notarial wording. As an additional option an affiant can produce an affidavit on the same document as the notarial certificate wording to eliminate the use of additional documentation.

DESCRIPTION OF ATTACHED DOCUMENT

(Title of document)

Number of Pages _____ (Including jurat)

Document Date _____

(Additional Information)

CAPACITY CLAIMED BY THE SIGNER

- Individual
 Corporate Officer
 Partner
 Attorney-In-Fact
 Trustee
 Other: _____

On-Call
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Design Services



Appendix 3: Non-Lobbying Certification



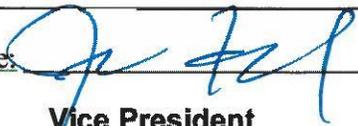
Appendix
ATTACHMENT 3-2: NON-LOBBYING CERTIFICATION
CERTIFICATIONS

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

1. No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
2. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence any officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant loan, loan or cooperative agreement, the undersigned shall complete and submit a "Disclosure of Lobbying Activities".

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U. S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such sub recipients shall certify and disclose accordingly.

Firm Tetra Tech, Inc.
Signed and Printed Name:  Jason, Fussel
Title Vice President
Date August 12th, 2020

On-Call
Stormwater Project
Design Services



Appendix 4: Non-Discrimination Certification



Appendix
ATTACHMENT 3-3: NON-DISCRIMINATION CERTIFICATION
CERTIFICATIONS

The undersigned consultant or corporate officer, during the performance of this contract, certifies as follows:

1. The Consultant shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Consultant shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Consultant shall, in all solicitations or advertisements for employees placed by or on behalf of the Consultant, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
3. The Consultant shall send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Consultant's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The Consultant shall comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The Consultant shall furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his/her books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation, to ascertain compliance with such rules, regulations, and orders.
6. In the event of the Consultant's non-compliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, the contract may be canceled, terminated, or suspended in whole or in part and the Consultant may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulations, or order of the Secretary of Labor, or as otherwise provided by law.
7. The Consultant shall include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted

by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontract or purchase order as the administering agency may direct as means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the Consultant becomes involved in, or is threatened with, litigation with a sub-consultant or vendor as a result of such direction by the administering agency, the Consultant may request that the United States enter into such litigation to protect the interests of the United States.

8. Pursuant to California Labor Code Section 1735, as added by Chapter 643 Stats. 1939, and as amended,

No discrimination shall be made in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical handicaps, mental condition, marital status, or sex of such persons, except as provided in Section 1420, and any consultant of public works violating this Section is subject to all the penalties imposed for a violation of the Chapter.

Signed:



Title:

Jason, Fussel, Vice President

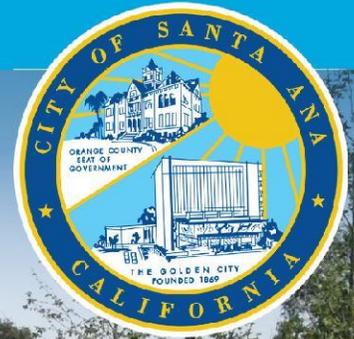
Firm:

Tetra Tech, Inc.

Date:

August 12th, 2020

**On-Call
Stormwater Project
Design Services**



Appendix 5: Scope of Services & Schedule





Appendix 5: Scope of Services & Schedule

Refer to Section D of this proposal for a general description of the scope of services that the Tetra Tech team can provide under this on-call contract. A detailed scope of services and schedule will be provided when requested for specific projects or tasks issued under the on-call contract.



**On-Call
Stormwater Project
Design Services**





Standard Hourly Fee Schedule

Project Management	
Project Manager 1	\$190.00
Project Manager 2	\$210.00
Project Manager 3	\$230.00
Senior Project Manager	\$250.00
Program Manager	\$275.00
Principal in Charge	\$350.00

Office Surveying	
Survey Technician 1	\$105.00
Survey Technician 2	\$120.00
Survey Crew Chief	\$130.00
Project Surveyor 1	\$145.00
Project Surveyor 2	\$170.00
Senior Land Surveyor	\$210.00

Engineers	
Engineering Designer	\$90.00
Engineer 1	\$110.00
Engineer 2	\$120.00
Engineer 3	\$130.00
Project Engineer 1	\$150.00
Project Engineer 2	\$180.00
Senior Engineer 1	\$200.00
Senior Engineer 2	\$230.00
Senior Engineer 3	\$260.00
Principal Engineer	\$340.00

Field Surveying	
One-Man Crew (Non-Prevailing)	\$165.00
Two-Man Crew (Non-Prevailing)	\$240.00
Three-Man Crew (Non-Prevailing)	\$315.00
One-Man Crew (Prevailing)	\$195.00
Two-Man Crew (Prevailing)	\$310.00
Three-Man Crew (Prevailing)	\$405.00

Designers/Technicians	
CAD Designer	\$100.00
Senior CAD Designer	\$135.00
GIS Analyst	\$110.00
Senior GIS Analyst	\$150.00

Architects	
Arch Technician	\$60.00
Architectural Designer 1	\$85.00
Architectural Designer 2	\$95.00
Architectural Designer 3	\$130.00
Architect 1	\$140.00
Architect 2	\$150.00
Senior Architect 1	\$190.00
Senior Architect 2	\$210.00
Architectural Program Manager	\$260.00

General & Administrative	
Project Assistant 1	\$65.00
Project Assistant 2	\$75.00
Project Administrator 1	\$95.00
Project Administrator 2	\$115.00
Project Administrator 3	\$130.00



Standard Hourly Fee Schedule (Cont.)

Scientists	
Scientist 1	\$80.00
Scientist 2	\$105.00
Scientist 3	\$135.00
Senior Scientist 1	\$150.00
Senior Scientist 2	\$180.00
Senior Scientist 3	\$200.00
Principal Scientist	\$260.00

Environmental Planners	
Environmental Planner 1	\$90.00
Environmental Planner 2	\$100.00
Environmental Planner 3	\$115.00
Senior Environmental Planner 1	\$140.00
Senior Environmental Planner 2	\$160.00
Senior Environmental Planner 3	\$180.00
Principal Environmental Planner	\$260.00

Construction	
Construction Technician	\$100.00
Assistant Construction Manager	\$140.00
Construction Manager 1	\$180.00
Construction Manager 2	\$200.00
Senior Construction Manager	\$235.00
Construction Inspector 1	\$115.00
Construction Inspector 2	\$130.00
Construction Inspector 3	\$145.00
Senior Construction Inspector	\$185.00

Reimbursable In-house Costs	
Photo Copies (B&W 8.5"x11")	\$ 0.20/Each
Photo Copies (B&W 11"x17")	\$ 0.50/Each
Color Copies (up to 8.5"x11")	\$ 2.00/Each
Color Copies (to 11"x17")	\$ 3.00/Each
Compact Discs	\$10/each
Large format copies	\$0.50 S.F.
Mileage-Company Vehicle	\$0.80/mile
Mileage-POV	\$0.55/mile**

- ** 1) **GSA POV:** Current GSA POV mileage is subject to change.
 2) **ODCs:** All ODCs will be billed at cost plus 10%
 3) **Annual Rates** Rates are subject to change 3% annually or per the Consumer Price Index, whichever is greater.



Standard Hourly Fee Schedule (Cont.)

Geotechnical	
Principal	\$240.00
Principal Engineer/Geologist	\$225.00
Chief Engineer/Geologist	\$215.00
Supervising Engineer/Geologist	\$205.00
Associate Engineer/ Geologist	\$195.00
Senior Engineer/Geologist III	\$185.00
Senior Engineer/Geologist II	\$175.00
Senior Engineer/Geologist I	\$165.00
Project Engineer/Geologist III	\$155.00
Project Engineer/Geologist II	\$145.00
Project Engineer/Geologist I	\$135.00
Staff Engineer/Geologist III	\$125.00
Staff Engineer/Geologist II	\$115.00
Staff Engineer/Geologist I	\$105.00
Soils/Asphalt/Field Technician (Standard)	\$93.00
Soils/Asphalt/Field Technician (Prevailing Wage)	\$117.00
CAD Operator/Draftsperson	\$125.00
Administrative/Office Support	\$90.00
Depositions and Expert Witness Testimony (minimum 4 hours)	\$420.00

Geotechnical Equipment (Personnel rates not included)	
Field vehicle usage (engineers/geologists only)	\$0.70 per mile
Field vehicle usage (field services)	\$14 per hour
Sand Cone or Nuclear Density Gauge	\$12 per hour
Hand auger and soil sampling equipment	\$60 per day
BAT Permeameter	\$250 per day
Double Ring Infiltrometer	\$250 per day
Inclinometer read unit	\$400 per day
Floor level manometer	\$70 per day
Moisture vapor emission test kit (material only)	\$60 per kit
Infiltration test flowmeter	\$110 per day test
Per diem	\$260 per day



Standard Hourly Fee Schedule (Cont.)

- 1) INVOICES:** Unless otherwise agreed upon, invoices will be submitted on a monthly basis and are payable upon receipt. A service charge of 1.5 percent per month will be charged on invoices not paid within 30 days.
- 2) REGULAR HOURS:** Fees for field technician's services are based on a standard 8-hour workday that is between 6:00 AM and 5:00PM Monday through Friday. Premium rates will be charged for work outside of these hours.
- 3) OVERTIME RATES:** Overtime rates of 1.35 times of the standard rates will be charged for the first 4 overtime hours on weekdays, and for the first 8 hours on Saturdays. Premium rates of 1.7 times of the standard rates will be charged for hours worked in excess of 12 hours on weekdays, 8 hours on Saturdays, and all hours worked on Sundays and holidays.
- 4) SPECIAL SHIFTS:** A surcharge of 35% will be added to personnel charges for personnel working during non-regular hours, e.g., night shift.
- 5) MINIMUM HOURS:** For field inspection duration between 0 and 4 hours, a minimum charge of 4 hours will be applied. For inspection duration between 4 and 6 hours, and 6 and 8 hours, a 6- and 8-hour minimum charge, respectively, will be applied.
- 6) CANCELLATIONS:** A minimum of 24 hours notice is required to schedule or cancel field personnel. If less than 24 hours notice is provided on a cancellation, a showup charge equivalent to 4 hours of work will be assessed.
- 7) HAZARDOUS ENVIRONMENT:** A minimum surcharge of 20% will be added to personnel charges for personnel working with hazardous materials or in hazardous environments requiring Level C or better personal protection equipment
- 8) MARKUP:** Cost plus 15% will be charged for requested materials and services not listed on the above schedule.
- 9) RATE ADJUSTMENTS:** Unless otherwise agreed upon, the rates will be adjusted to the then current prevailing rates on the anniversary date of the project contract.
- 10) ANNUAL RATES:** Rates are subject to change 3% annually or per the Consumer Price Index, whichever is greater.



RICHARD WATSON & ASSOCIATES, INC.
Urban & Regional Planning

FEE SCHEDULE
2020

Labor billing rates are subject to annual adjustment on January 1 of each year. Rates are subject to change 3% annually or per the Consumer Price Index, whichever is greater.

<u>Personnel</u>	<u>2020</u>
Principal	230.00
Associate	185.00
Assistant Planner	115.00
Computer Graphics	110.00
Editorial	90.00
Clerical	70.00
<u>Additional Services</u>	
Consultation Relative to Legal Actions	344.00
Deposition and Court Testimony	400.00
Videography/Media Support	Rates Available on Request

*Other specialized services available at rates to be determined. See General Provisions for additional information

PROVISIONS AND CONDITIONS FOR PROFESSIONAL CONSULTING SERVICES

GENERAL PROVISIONS

1. Travel, reproduction, delivery and supply costs will be billed at cost plus 10%.
2. Mileage will be billed at \$0.60 per mile.
3. On-site reproduction will be billed at \$0.15 per page.
4. Hourly rates apply to work time as well as travel time and waiting time that occurs at public hearings, depositions, or court testimony.



Sustainable Landesign

Staff	Hourly Rate
Principal / Landscape Architect	\$200
Landscape Designer	\$140
Cad Operator	\$100
Administrative / Contract Manager	\$90

**AGREEMENT TO PROVIDE ON-CALL
STORMWATER PROJECT DESIGN SERVICES**

THIS AGREEMENT is made and entered into this 20th day of October, 2020 by and between CWE (“Consultant”), and the City of Santa Ana, a charter city and municipal corporation organized and existing under the Constitution and laws of the State of California (“City”).

RECITALS

- A. On July 16, 2020, the City issued Request for Proposal No. 20-102, by which it sought qualified consultants to provide on-call stormwater project design services for the City’s Public Works Agency.
- B. Consultant submitted a responsive proposal that was among those selected by the City. Consultant represents that it is able and willing to provide the services described in the scope of work that was included in RFP No. 20-102.
- C. In undertaking the performance of this Agreement, Consultant represents that it is knowledgeable in its field and that any services performed by Consultant under this Agreement will be performed in compliance with such standards as may reasonably be expected from a professional contracting firm in the field.

NOW THEREFORE, in consideration of the mutual and respective promises, and subject to the terms and conditions hereinafter set forth, the parties agree as follows:

1. SCOPE OF SERVICES

On an on-call basis, and at the City’s sole discretion, Consultant shall perform the services described in the scope of work that was included in RFP No. 20-102, which is attached as Exhibit A, and as more specifically delineated in Consultant’s proposal, which is attached as Exhibit B and incorporated in full.

2. COMPENSATION

- a. City neither warrants nor guarantees any minimum or maximum compensation to Consultant under this Agreement. Consultant shall be paid only for actual services performed under this Agreement at the rates and charges identified in Exhibit C. Consultant is one of three (3) consultants selected to provide services for stormwater projects on an on-call basis under RFP No. 20-102. The total compensation for these services provided by all such consultants selected under RFP No. 20-102 shall not exceed the shared aggregate amount of \$2,000,000 during the term of the Agreement, including any extension periods.
- b. Payment by City shall be made within forty-five (45) days following receipt of proper invoice evidencing work performed, subject to City accounting procedures. Payment need not be made for work which fails to meet the standards of

performance set forth in the Recitals and Scope of Work, which may reasonably be expected by City.

3. TERM

This Agreement shall commence on the date first written above and terminate on October 19, 2023, unless terminated earlier in accordance with Section 17, below. The term of this Agreement may be extended for one 2-year period upon a writing executed by the City Manager and City Attorney.

4. PREVAILING WAGES

Consultant is aware of the requirements of California Labor Code Section 1720, et seq., and 1770, et seq., as well as California Code of Regulations, Title 8, Section 16000, et seq., (“Prevailing Wage Laws”), which require the payment of prevailing wage rates and the performance of other requirements on “public works” and “maintenance” projects. If the services being performed are part of an applicable “public works” or “maintenance” project, as defined by the Prevailing Wage Laws, and the total compensation is \$1,000 or more, Consultant agrees to fully comply with such Prevailing Wage Laws. Consultant shall defend, indemnify and hold the City, its elected officials, officers, employees and agents free and harmless from any claim or liability arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

5. INDEPENDENT CONSULTANT

Consultant shall, during the entire term of this Agreement, be construed to be an independent Consultant and not an employee of the City. This Agreement is not intended nor shall it be construed to create an employer-employee relationship, a joint venture relationship, or to allow the City to exercise discretion or control over the professional manner in which Consultant performs the services which are the subject matter of this Agreement; however, the services to be provided by Consultant shall be provided in a manner consistent with all applicable standards and regulations governing such services. Consultant shall pay all salaries and wages, employer's social security taxes, unemployment insurance and similar taxes relating to employees and shall be responsible for all applicable withholding taxes.

6. OWNERSHIP OF MATERIALS

This Agreement creates a non-exclusive and perpetual license for City to copy, use, modify, reuse, or sublicense any and all copyrights, designs, and other intellectual property embodied in plans, specifications, studies, drawings, estimates, and other documents or works of authorship fixed in any tangible medium of expression, including but not limited to, physical drawings or data magnetically or otherwise recorded on computer diskettes, which are prepared or caused to be prepared by Consultant under this Agreement (“Documents & Data”). Consultant shall require all subconsultants to agree in writing that City is granted a non-exclusive and perpetual license for any Documents & Data the subconsultant prepares under this Agreement. Consultant represents and warrants that Consultant has the legal right to license any and all Documents & Data. Consultant makes no such representation and warranty in regard to Documents

& Data which were provided to Consultant by the City. City shall not be limited in any way in its use of the Documents and Data at any time, provided that any such use not within the purposes intended by this Agreement shall be at City's sole risk.

7. INSURANCE

Prior to undertaking performance of work under this Agreement, Consultant shall maintain and shall require its subconsultants, if any, to obtain and maintain insurance as described below:

- a. **Commercial General Liability Insurance.** Consultant shall maintain commercial general liability insurance naming the City, its officers, employees, agents, volunteers and representatives as additional insured(s) and shall include, but not be limited to protection against claims arising from bodily and personal injury, including death resulting therefrom and damage to property, resulting from any act or occurrence arising out of Consultant's operations in the performance of this Agreement, including, without limitation, acts involving vehicles. The amounts of insurance shall be not less than the following: single limit coverage applying to bodily and personal injury, including death resulting therefrom, and property damage, in the total amount of \$1,000,000 per occurrence, with \$2,000,000 in the aggregate. Such insurance shall (a) name the City, its officers, employees, agents, volunteers and representatives as additional insured(s); (b) be primary with respect to insurance or self-insurance programs maintained by the City; and (c) contain standard separation of insureds provisions.
- b. **Business automobile liability insurance, or equivalent form, with a combined single limit of not less than \$1,000,000 per occurrence.** Such insurance shall include coverage for owned, hired and non-owned automobiles.
- c. **Worker's Compensation Insurance.** In accordance with the California Labor Code, Consultant, if Consultant has any employees, is required to be insured against liability for worker's compensation or to undertake self-insurance. Prior to commencing the performance of the work under this Agreement, Consultant agrees to obtain and maintain any employer's liability insurance with limits not less than \$1,000,000 per accident.
- d. **If Consultant is or employs a licensed professional such as an architect or engineer: Professional liability (errors and omissions) insurance, with a combined single limit of not less than \$1,000,000 per claim with \$2,000,000 in the aggregate.**
- e. **The following requirements apply to the insurance to be provided by Consultant pursuant to this section:**
 - (i) **Consultant shall maintain all insurance required above in full force and effect for the entire period covered by this Agreement.**
 - (ii) **Certificates of insurance shall be furnished to the City upon execution of this Agreement and shall be approved by the City.**
 - (iii) **Certificates and policies shall state that the policies shall not be cancelled**

or reduced in coverage or changed in any other material aspect, by Consultant, without thirty (30) days prior written notice to the City.

(iv) Consultant shall supply City with a fully executed additional insured endorsement.

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

8. INDEMNIFICATION

Consultant agrees to defend, and shall indemnify and hold harmless the City, its officers, agents, employees, Consultants, special counsel, and representatives from liability: (1) for personal injury, damages, just compensation, restitution, judicial or equitable relief arising out of claims for personal injury, including death, and claims for property damage, which may arise from the negligent operations of the Consultant or its subconsultants, agents, employees, or other persons acting on their behalf which relates to the services described in section 1 of this Agreement; and (2) from any claim that personal injury, damages, just compensation, restitution, judicial or equitable relief is due by reason of the terms of or effects arising from this Agreement. This indemnity and hold harmless agreement applies to all claims for damages, just compensation, restitution, judicial or equitable relief suffered, or alleged to have been suffered, by reason of the events referred to in this Section or by reason of the terms of, or effects, arising from this Agreement. The Consultant further agrees to indemnify, hold harmless, and pay all costs for the defense of the City, including fees and costs for special counsel to be selected by the City, regarding any action by a third party challenging the validity of this Agreement, or asserting that personal injury, damages, just compensation, restitution, judicial or equitable relief due to personal or property rights arises by reason of the terms of, or effects arising from this Agreement. City may make all reasonable decisions with respect to its representation in any legal proceeding. Notwithstanding the foregoing, to the extent Consultant's services are subject to Civil Code Section 2782.8, the above indemnity shall be limited, to the extent required by Civil Code Section 2782.8, to claims that arise of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant.

9. INTELLECTUAL PROPERTY INDEMNIFICATION

Consultant shall defend, indemnify and hold harmless the City, its officers, agents, representatives, and employees against any and all liability, including costs, and attorney's fees, for infringement of any United States' letters patent, trademark, or copyright contained in the work product or documents provided by Consultant to the City pursuant to this Agreement.

10. RECORDS

Consultant shall keep records and invoices in connection with the work to be performed under this Agreement. Consultant shall maintain complete and accurate records with respect to the costs incurred under this Agreement and any services, expenditures, and disbursements charged to the City for a minimum period of three (3) years, or for any longer period required by law, from the date of final payment to Consultant under this Agreement. All such records and invoices shall be clearly identifiable. Consultant shall allow a representative of the City to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement during regular business hours. Consultant shall allow inspection of all work, data, documents, proceedings, and activities related to this Agreement for a period of three (3) years from the date of final payment to Consultant under this Agreement.

11. CONFIDENTIALITY

If Consultant receives from the City information which due to the nature of such information is reasonably understood to be confidential and/or proprietary, Consultant agrees that it shall not use or disclose such information except in the performance of this Agreement, and further agrees to exercise the same degree of care it uses to protect its own information of like importance, but in no event less than reasonable care. "Confidential Information" shall include all nonpublic information. Confidential information includes not only written information, but also information transferred orally, visually, electronically, or by other means. Confidential information disclosed to either party by any subsidiary and/or agent of the other party is covered by this Agreement. The foregoing obligations of non-use and nondisclosure shall not apply to any information that (a) has been disclosed in publicly available sources; (b) is, through no fault of the Consultant disclosed in a publicly available source; (c) is in rightful possession of the Consultant without an obligation of confidentiality; (d) is required to be disclosed by operation of law; or (e) is independently developed by the Consultant without reference to information disclosed by the City.

12. CONFLICT OF INTEREST CLAUSE

Consultant covenants that it presently has no interest and shall not have interests, direct or indirect, which would conflict in any manner with performance of services specified under this Agreement.

13. NOTICE

Any notice, tender, demand, delivery, or other communication pursuant to this Agreement shall be in writing and shall be deemed to be properly given if delivered in person or mailed by first class or certified mail, postage prepaid, or sent by fax or other telegraphic communication in the manner provided in this Section, to the following persons:

To City: Clerk of the City Council
City of Santa Ana
20 Civic Center Plaza (M-30)

P.O. Box 1988
Santa Ana, CA 92702-1988
Fax: (714) 647-6956

Executive Director
Public Works Agency
City of Santa Ana
20 Civic Center Plaza (M-21)
P.O. Box 1988
Santa Ana, CA 92702

To Consultant: CWE
1561 E Orangethorpe Ave, Suite 240
Fullerton, CA 92831
Attn: Jason Pereira, PE, CPSWQ, QSD/P, QISP
Principal

A party may change its address by giving notice in writing to the other party. Thereafter, any communication shall be addressed and transmitted to the new address. If sent by mail, communication shall be effective or deemed to have been given three (3) days after it has been deposited in the United States mail, duly registered or certified, with postage prepaid, and addressed as set forth above. If sent by fax, communication shall be effective or deemed to have been given twenty-four (24) hours after the time set forth on the transmission report issued by the transmitting facsimile machine, addressed as set forth above. For purposes of calculating these timeframes, weekends, federal, state, County or City holidays shall be excluded.

14. EXCLUSIVITY AND AMENDMENT

This Agreement represents the complete and exclusive statement between the City and Consultant regarding the subject matter herein, and supersedes any and all other agreements, oral or written, between the parties. In the event of a conflict between the terms of this Agreement and any attachments hereto, the terms of this Agreement shall prevail. This Agreement may not be modified except by written instrument signed by the City and by an authorized representative of Consultant. The parties agree that any terms or conditions of any purchase order or other instrument that are inconsistent with, or in addition to, the terms and conditions hereof, shall not bind or obligate Consultant or the City. Each party to this Agreement acknowledges that no representations, inducements, promises or agreements, orally or otherwise, have been made by any party, or anyone acting on behalf of any party, which are not embodied herein.

15. ASSIGNMENT

Inasmuch as this Agreement is intended to secure the specialized services of Consultant, Consultant may not assign, transfer, delegate, or subcontract any interest herein without the prior written consent of the City and any such assignment, transfer, delegation or subcontract without the City's prior written consent shall be considered null and void. Nothing in this Agreement shall be construed to limit the City's ability to have any of the services which are the subject to this

Agreement performed by City personnel or by other Consultants retained by City.

16. WAIVER

No waiver of breach, failure of any condition, or any right or remedy contained in or granted by the provisions of this Agreement shall be effective unless it is in writing and signed by the party waiving the breach, failure, right or remedy. No waiver of any breach, failure or right, or remedy shall be deemed a waiver of any other breach, failure, right or remedy, whether or not similar, nor shall any waiver constitute a continuing waiver unless the writing so specifies.

17. TERMINATION

This Agreement may be terminated by the City upon thirty (30) days written notice of termination. In such event, Consultant shall be entitled to receive and the City shall pay Consultant compensation for all services performed by Consultant prior to receipt of such notice of termination, subject to the following conditions:

- a. As a condition of such payment, the Executive Director may require Consultant to deliver to the City all work product completed as of such date, and in such case such work product shall be the property of the City unless prohibited by law, and Consultant consents to the City's use thereof for such purposes as the City deems appropriate.
- b. Payment need not be made for work which fails to meet the standard of performance specified in the Recitals of this Agreement.

18. NON-DISCRIMINATION

Consultant shall not discriminate because of race, color, creed, relation, sex, marital status, sexual orientation, age, national origin, ancestry, or disability, as defined and prohibited by applicable law, in the recruitment, selection, training, utilization, promotion, termination or other employment related activities or in connection with any activities under this Agreement. Consultant affirms that it is an equal opportunity employer and shall comply with all applicable federal, state and local laws and regulations.

19. JURISDICTION-VENUE

This Agreement has been executed and delivered in the State of California and the validity, interpretation, performance, and enforcement of any of the clauses of this Agreement shall be determined and governed by the laws of the State of California. Both parties further agree that Orange County, California, shall be the venue for any action or proceeding that may be brought or arise out of, in connection with or by reason of this Agreement.

20. PROFESSIONAL LICENSES

Consultant shall, throughout the term of this Agreement, maintain all necessary licenses,

permits, approvals, waivers, and exemptions necessary for the provision of the services hereunder and required by the laws and regulations of the United States, the State of California, the City of Santa Ana and all other governmental agencies. Consultant shall notify the City immediately and in writing of its inability to obtain or maintain such permits, licenses, approvals, waivers, and exemptions. Said inability shall be cause for termination of this Agreement.

21. MISCELLANEOUS PROVISIONS

- a. Each undersigned represents and warrants that its signature herein below has the power, authority and right to bind their respective parties to each of the terms of this Agreement, and shall indemnify City fully, including reasonable costs and attorney's fees, for any injuries or damages to City in the event that such authority or power is not, in fact, held by the signatory or is withdrawn.
- b. All exhibits referenced herein and attached hereto shall be incorporated as if fully set forth in the body of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the date and year first above written.

ATTEST:

CITY OF SANTA ANA

DAISY GOMEZ
Clerk of the Council

KRISTINE RIDGE
City Manager

APPROVED AS TO FORM
SONIA R. CARVALHO
City Attorney

CONSULTANT

By: John M. Funk
John M. Funk
Assistant City Attorney

Jason Pereira
Name: Jason Pereira
Title: Principal

RECOMMENDED FOR APPROVAL

Nabil Saba
NABIL SABA, PE
Executive Director
Public Works Agency

**Appendix
ATTACHMENT 1
SCOPE OF WORK**

**CITY OF SANTA ANA
REQUEST FOR PROPOSALS
FOR
ON-CALL STORMWATER PROJECT DESIGN SERVICES
RFP NO. 20-102**

INTRODUCTION/BACKGROUND

The City of Santa Ana is 27.2 square miles and is located in central Orange County, California. Santa Ana is the most densely populated city in the county, with a total population of 338,247 and approximately 12,435 people per square mile. Santa Ana sits within three major watersheds: the Newport Bay watershed, the Santa Ana River watershed, and the Anaheim Bay/Huntington Harbour watershed.

The City of Santa Ana is a co-permittee under the North Orange County Municipal Separate Storm Sewer System (MS4) Permit (Order No. R8-2009-0030, as amended by Order No. R8-2010-0062). The Permit presents a series of technical, legal, and regulatory challenges to the City and as a result, the City has established a rigorous stormwater compliance program. The Permit requires the City to reduce the discharge of pollutants in urban stormwater runoff to Waters of the US to the “Maximum Extent Practicable”. One of the most effective mechanisms in reducing pollutants and improving surface water quality is via the construction of structural Best Management Practices (BMPs). Stormwater infiltration, biotreatment, harvest and reuse, and diversion to the sanitary sewer are proven methods to achieve water quality goals and the City seeks to continue its proactive approach in implementing such projects. Additionally, structural BMPs can provide ancillary benefits such as increasing local water supplies, reducing flooding, and providing public education and recreational opportunities for Santa Ana residents.

The City desires to retain Civil Engineering Consultants on an as-needed or “on-call” basis to design complex, regional stormwater capture and treatment projects and perform other stormwater-related tasks as outlined in the Scope of Services below. Professional Services Agreements will be entered into with the selected Civil Engineering Consultants and the selected Consultants will be asked to provide professional engineering services proposals on a project-by-project basis, based on an agreed-upon scope of services and fees. After review of the proposals and associated costs, the City will issue a Notice to Proceed (NTP) for the selected Consultant to begin work on the project/task.

Funding sources for each project may vary. The City intends to seek local, State, and Federal grant moneys to fund regional stormwater projects and the selected firm shall comply with the funding agency’s requirements. Additionally, all work shall be done in accordance with the most

recently adopted North Orange County MS4 Permit and any other applicable local, State, and Federal laws.

Consultants shall utilize in-house staff and/or sub-consultants to complete assignments to meet the City's standards. For specialized work, for which the prime consultant requires a sub-consultant, the prime consultant shall serve as an administrative liaison between the City and the sub-consultant and shall include these administrative costs in their proposed project management fees.

Prime consultant mark-ups for sub-consultant work will not be allowed.

All proposals, plans, drawings, specifications, estimates, grant applications, modeling, studies, presentations, and/or reports will be subject to the final approval and satisfaction of the City. The selected consultants must have the expertise, experience, and demonstrated resources available to perform the work described in this RFP.

The City desires to enter into Agreements with the three top-ranking firms for an initial three (3)-year term, with a City option to exercise one (1), two (2)-year extension period. The annual amount to be expended under the Agreement will vary at the City's discretion and will be dependent on available grant funding opportunities and local match availability.

A. SCOPE OF SERVICES

Work under this Agreement may include, but is not limited to, the following tasks below:

1) Project Planning/Feasibility Studies

Firms shall be capable of performing the following tasks:

- a. Hydraulic computer modeling
- b. Stormwater sampling/monitoring/data analysis
- c. Flow monitoring studies
- d. Mapping services
- e. Hydrologic calculations
- f. Preparation/review of Water Quality Management Plans (WQMP)
- g. Conceptual design/drawing
- h. Percolation rate testing/geotechnical reporting
- i. Coordination with outside agencies
- j. Project presentations
- k. Researching existing field conditions and utilities
- l. Cost benefit analyses
- m. Technical feasibility and project impact analyses
- n. Drafting project planning documents
- o. Monitoring and alerting the City of potential grant funding opportunities

- o. Any other work required to successfully plan for projects and adequately assess project feasibility

2) Environmental Documentation/Permitting

Firms shall be capable of performing the following tasks:

- a. Prepare and file all necessary environmental documents and apply for all required permits including, but not limited to:
 - i. California Environmental Quality Act (CEQA)
 - ii. National Environmental Policy Act (NEPA)
 - iii. Federal Clean Water Act Section 401
 - iv. Federal Clean Water Act Section 404
 - v. California Department of Fish and Wildlife (CDFW) Section 1602
 - vi. Orange County Sanitation District (OCS D) Discharge Permits
 - vii. Orange County Flood Control District (OCFCD) Encroachment Permit

3) Project Design

Firms shall be capable of performing the following tasks:

- a. Land Surveying
- b. Civil-Engineering Design
- c. Structural Design
- d. Geotechnical Design
- e. Architectural Design
- f. Electrical Design
- g. Mechanical Design
- h. Instrumentation and Control Systems Design
- i. Landscape Architecture and Irrigation Design
- j. Detailed Engineering/Cost Estimation
- k. Preparation of construction bid documents and specifications
- l. Any other work required to complete project design

General Requirements and Project Deliverables

Design level survey and base mapping of the project site shall be prepared in US Customary English units by a California licensed Land Surveyor in accordance with the City guidelines and in Microstation V8i Computer Aided Design and Drafting (CADD) format. The horizontal datum shall be NAD 83 and the vertical datum shall be NAVD 88. All survey field notes shall be on forms provided by the City, shall be neatly completed in pencil, and shall become property of the City upon completion of the project. Informal field investigations including marking of removal areas may be required for some of the sidewalk, curb and gutter, and pavement replacement projects.

The Consultants shall contact manufacturers and/or contractors to verify the engineer's estimate prior to submitting to the City. Specifications shall be prepared in Microsoft Word and an electronic copy of the final version shall be furnished to the City. The City will provide the specification boiler plate to the Consultants. If requested, all preliminary and bid sets of plans shall be plotted on bond or velum paper using Microstation V8i CADD software program. All drawings shall be completed per the City of Santa Ana CADD Standards and any special provisions thereof. For interim submittals, the City may opt to receive only PDF versions of the plans for reviewing purposes. If so, the Consultant team will provided plans and/or specifications accordingly. All original plan sheets, the title sheet of the specifications, calculations, and reports shall be signed and stamped by the Consultants' licensed professional engineer responsible/in-charge of the project.

The Consultants shall monitor project progress, maintain project files, and control the quality of the work performed by in-house staff and/or sub-consultants. Incomplete (not meeting targeted completion) or poor quality work will not be accepted. The Consultants shall revise the documents within a revised schedule set by the City, which may require overtime. No additional compensation necessary for the consultant to complete this work to the satisfaction of the City shall be approved by the City for the required revisions. It is the responsibility of the Consultants to produce a professional-level quality of work product.

The Consultants shall coordinate plan check, design topics, permits and any other issues with the City, other Agencies, and all utility companies as required. At the direction of the City, the Consultants shall be the liaison with affected agencies.

The Consultants' services for plans specifications and estimating (PS&E) for engineering project preparation and special studies/investigations shall include and be in conformance with the latest editions of the following: Title 24 of the California Code of Regulations (California Building Standards Code), American Water Works Association, California Department of Transportation, the Americans with Disabilities Act, the City of Santa Ana Municipal Code (SAMC), professional Standards established by the City, and or Federal, State and local guidelines established in the project.

As part of the preparation of the PS&E, the consultant shall prepare the special provisions pertaining to the items of work included in the plans that are not addressed on the latest editions of the applicable standards.

The Consultants shall have complete responsibility for the accuracy and completeness of all documents and plans prepared. The plans will be reviewed by the City for conformity with the requirements of the Agreement. Reviews by the City do NOT include a detailed checking of design or accuracy with which such designs are depicted in the documents and plans. The documents and plans furnished under the Agreement shall be of a quality acceptable to the City of Santa Ana. The criteria for acceptance shall be a product of neat appearance, thoroughly organized, technically and grammatically correct, checked, dated, and having the maker and checker identified.

The Consultants shall have project management control procedures in effect during the entire time work is being performed under the Agreement. This task shall include the following:

- Project Management Plan – at the request of the City, the consultant shall provide a detailed management plan including information and coordination with other agencies to ensure compliance and completion of the (PS&E) packages. This plan shall include all milestones and task breakdown for each of the tasks and subtasks included therein. The Project Management Plan shall be submitted to the Project Manager for review and within 15 calendar days of the issued Notice to Proceed
- Deliverables
- Quality Control/Quality Assurance (QA/QC) Plan
- Project Schedule/Invoicing
- Project Correspondence

In case of conflict, ambiguities, discrepancies, errors, or omissions, the Consultant shall submit the matter to the City for clarification.

The Consultants shall perform engineering design services resulting in contract documents (plans, specifications and cost estimates “PS&E”) for various projects on an as-needed basis. However, work tasks may include studies or a variety of engineering tasks. If requested by the City, the Consultants shall provide a Work Plan, which includes a detailed schedule of the assigned project prior to the issuance of a Notice to Proceed (NTP) and/or Task Order. Specific Task Orders with NTP’s will be provided for project(s) at the discretion of the City. Work required per Task Order shall comply with the Scope of Services and additional provisions in each Task Order and this agreement.

4) Other Requirements

Firms shall be capable of performing the following tasks:

- a. Assistance with local, State, and Federal Grant applications
- b. Construction and bidding phase support including, but not limited to:
 - i. Responding to bidder inquiries during the bidding process, including preparation of any addenda. Following award of the construction contract, the Consultant may attend the pre-construction meeting.
 - ii. Reviewing and approving submittals and shop plan drawings. The Consultant shall complete shop plan drawing reviews within two (2) weeks of receipt. Contract Change Order reviews shall be completed within two (2) working days of receipt.
 - iii. Responding to written Requests for Information (RFI) to provide clarification or resolve discrepancies in the contract documents. Responses shall be completed within three (3) working days.
 - iv. Providing periodic field reviews and bringing to the attention of the City any defects or deficiencies in the work by the construction contractor which the Consultant has observed. The Consultant shall have no authority to issue instruction on behalf of the City, or to deputize another to do so.

- c. Attending meetings with City Staff or on behalf of the City
- d. Development of Project Performance Monitoring Plans, Quality Assurance Project Plans (QAPP), or similar
- e. Conduct site visits during pre-construction, construction, and post-construction project phases
- f. Construction management support
- g. Post-construction phase support including, but not limited to:
 - i. Local, State, and Federal Grant reporting assistance
 - ii. Stormwater sampling/monitoring/data analysis
 - iii. Stormwater quality data upload to California Environmental Data Exchange Network (CEDEN)
 - iv. Project effectiveness assessments
 - v. Provide as-built drawings to the City

B. PROJECT SCHEDULE AND PROGRESS

Upon request by the City, Consultants shall submit detailed project schedules outlining all project tasks and milestones. Progress review meetings shall be held at intervals deemed appropriate by the City. Consultants shall furnish two copies of all completed work or status update of partially completed work since the last progress review meeting. Progress reports shall be submitted monthly in electronic format indicating achievements and project schedule progress.

C. CITY RESPONSIBILITIES

The City will provide information in its possession relevant to the completion of the tasks outlined in this RFP. In general, this includes, but is not limited to:

- Furnish scope of work and provide general direction as needed for the assigned project
- Plan check coordination within the City
- Advertise, award, and administration of construction contract
- Documents, data, maps, or information relevant to the design of the project
- Electronic files (sample plans & specifications, City of Santa Ana's CADD Standards)
- Electronic files for title sheets and sheet borders
- Facilitate meeting space and coordination at City facilities

D. SPECIAL REQUIREMENTS

ADDITIONAL WORK

Upon request by the City, Consultants shall submit supplemental proposals for Additional Work not called for under the Scope of Services of this Agreement. Consultants must obtain written approval prior to commencing any Additional Work.

FEE PROPOSAL:

In addition to Section IV.B.3 (Submittal Requirements: Fee Proposal) the fee schedule shall be structured as follows:

The fee proposal shall include the firm's standard hourly fee schedule. A list of all positions and hourly rates required to perform the services in this RFP shall be described herein. At the request of the City, the Consultant shall provide a more detailed fee proposal when a specific project proposal is requested of the Consultant.

OTHER TERMS AND CONDITIONS:

1. The project will be implemented in compliance with the City of Santa Ana's policies, as well as Prevailing Wage law and applicable State and Federal Requirements.
2. The City regards the inclusion of California based designs, engineering, and construction professionals, facilities, and services as part of a Team to be highly desirable, but is not mandatory.
3. The City reserves the right to amend this Request for Proposal by addendum prior to the final dates of submission.
4. All reports, proposals, or other data or materials which are submitted shall become the sole property of the City of Santa Ana with the exception of the confidential Financial Capacity information and fee proposals.
5. All products used or developed in the execution of any contract resulting from this request will remain in the public domain at the completion of this project.
6. The City has an affirmative action program. The purpose of the affirmative action program is to encourage certified minority business enterprises and women business enterprises. All submitting firms must have established affirmative action programs approvable by the City. During the RFP stage, all firms will need to complete a "Certification of Non-Discrimination by Contractors" for each firm on their team.

SPECIAL REQUIREMENTS (ATTACHMENT 4)

This project may utilize California Department of Transportation (Caltrans) grant funds and shall therefore comply with all state and federal requirements. The below referenced forms included in Attachment 4 (Additional Provisions) of the Appendix must be completed in their entirety and submitted with your proposal:

- LAPM Exhibit 10-H: Sample Cost Proposal
- LAPM Exhibit 10-O1: Consultant Proposal DBE Commitment
- LAPM Exhibit 10-O2: Consultant Contract DBE Commitment

Removed via RFP No. 20-102
Addendum 3

- LAPM Exhibit 10-K: Consultant Certification of Contract Costs and Financial management System

Please reference Caltrans Local Assistance Procedure Manual, Consultant Selection, Chapter 10, for further instructions and guidelines pertaining to the completion of these forms: <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/lapm/ch10.pdf>

COMPLIANCE WITH REQUIREMENTS OF FUNDING AGENCY:

This agreement may be funded with state and/or federal grant funds administered by Caltrans. Proposer shall comply with all requirements as they pertain to the use of these funds. Refer to Attachment 4 for Caltrans required forms, including Exhibit 10-H – Sample Cost Proposal (H2 for On-Call Contracts) in the Appendix of this RFP.

DISADVANTAGED BUSINESS ENTERPRISES (DBE) GOAL:

The Agency has established a DBE goal for this Contract. Proposers are encouraged to obtain DBE participation for this contract. Refer to Exhibit 10-I – Notice to Proposers DBE Information included in the Appendix of this RFP. Proposers must submit Exhibits 10-O1 & 10-O2 – Consultant Proposal & Contract DBE Commitment to demonstrate compliance with Agency's DBE goal.

CONSULTANT AUDIT AND REVIEW PROCESS:

Prior to contract award and dependent on contract award amount, the selected Consultant shall be subject to an audit or review by Caltrans' Audit and Investigations (A&I), other state audit organizations, or the federal government. The selected Consultant shall complete Exhibit 10-K – Consultant Annual Certification of Indirect Costs and Financial Management System for all prime and sub-consultants in the Appendix of this RFP. To independently download any of the Caltrans Exhibits required per this RFP, visit: <https://dot.ca.gov/programs/local-assistance/forms/local-assistance-procedures-manual-forms>



Proposal to Provide On-Call Stormwater Project Design Services

August 12, 2020

SUBMITTED TO:

Craig Foster. CPSWQ, QSD/P, NPDES Manager

City of Santa Ana

20 Civic Center Plaza (M-22)

Santa Ana, California 92701



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August 12, 2020

Craig Foster, CPSWQ, QSD/P
 City of Santa Ana, Public Works Agency
 20 Civic Center Plaza (M-22)
 Santa Ana, California 92701

Proposal to Provide On-Call Stormwater Project Design Services RFP No.: 20-102

Dear Mr. Foster,

It is my pleasure to present CWE’s ample qualifications to provide the City of Santa Ana (City) with On-Call Stormwater Project Design Services. Since our inception in 2006, CWE has enjoyed a prominent location in Fullerton, California, within a mere ten miles of the City center and appropriately situated to provide prompt, comprehensive services.

Our proximity affords the City:

Local Project Management: CWE’s Project Manager, Katie Harrel, PE, ENV SP, QSD, is based out of our Fullerton hub and will be fully available to the City for the duration of the On-Call contract.

Access to exceptional local resources: An impressive 72% of our workforce, including the firm’s Principals and Founders, Jason Pereira and Vik Bapna, can be accessed directly through our main Fullerton office and are available to provide services at an accelerated pace.

As Principal of CWE, I am authorized to make legally binding commitments for the firm. We concur with the City’s Sample On-Call Agreement as attached to the Request for Proposals. If you have any questions or require additional information, please contact me at (714) 310-1071 or jpereira@cwecorp.com.

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Respectfully submitted,

CWE

Jason Pereira, PE, CPSWQ, QSD/P, QISP
 Principal



Firm and Team Experience



CWE, a certified Disadvantaged (DBE), Minority (MBE), and Small Business Enterprise (SBE), is a dynamic, award-winning firm that provides civil engineering, stormwater and watershed management, stormwater and non-stormwater monitoring, water resources, special studies, environmental engineering services to public agencies throughout the Western United States. Clients recognize and value the outstanding services and solutions provided by our industry leaders and prodigious rising stars. We bring the knowledge, creativity, mastery, and commitment necessary to deliver solutions and benefits on a wide range of projects with the purpose of safeguarding and enhancing our local communities. CWE makes personalized connections with each client to serve their goals and objectives, instill trust, and fulfill our commitment to **Creating a Better Tomorrow, Today.**[™]



Our staff are the best at what they do! We strive to create an environment that fosters our growth and gives us the opportunity to lead in our industry. With that said, our staff recognizes the framework we have developed and has helped us become a **Best Firm to Work For** and **Hot Firm** from the Zweig Group. These honors not only highlight CWE's significant business growth, but also reflect our growing staff's sense of purpose and happiness at CWE. How do we do it? We are passionate and love what we do! We take pride in the work that we deliver for our clients. Our history, staff, past clients, and peers know we have the avid desire and capability to exceed all project expectations.

Subconsultant Team Members



LSA will support projects under this on-call with **Environmental Documentation**. LSA is a full-service, multidiscipline environmental planning and project management professional services group with headquarters in Irvine, California, and eight additional offices located throughout the State. Preparation and review of the California Environmental Quality Act (CEQA) documents has been a core service at LSA since the founding of the firm in June 1976. For over 40 years, LSA has expanded its services to include virtually all environmental planning and permitting services. Today, the firm is 100 percent employee-owned and employs more than 180 environmental professionals, including specialists in CEQA documentation, archaeology, paleontology, architectural and historic resources, biological resources, water quality, air quality, greenhouse gases (GHGs) and global climate change, noise, and transportation.



CWE has selected JCCA to perform **Electrical and Mechanical Engineering**. JCCA is a corporation with a professional staff of 35

employees. The company has design capabilities in the architectural, electrical, mechanical, structural, civil, and environmental engineering fields and has significant experience in a wide variety of projects for governmental and municipal clients. JCCA's services include new construction as well as renovation, repair, and rehabilitation of existing facilities and infrastructure such as HVAC, plumbing, and process piping systems.

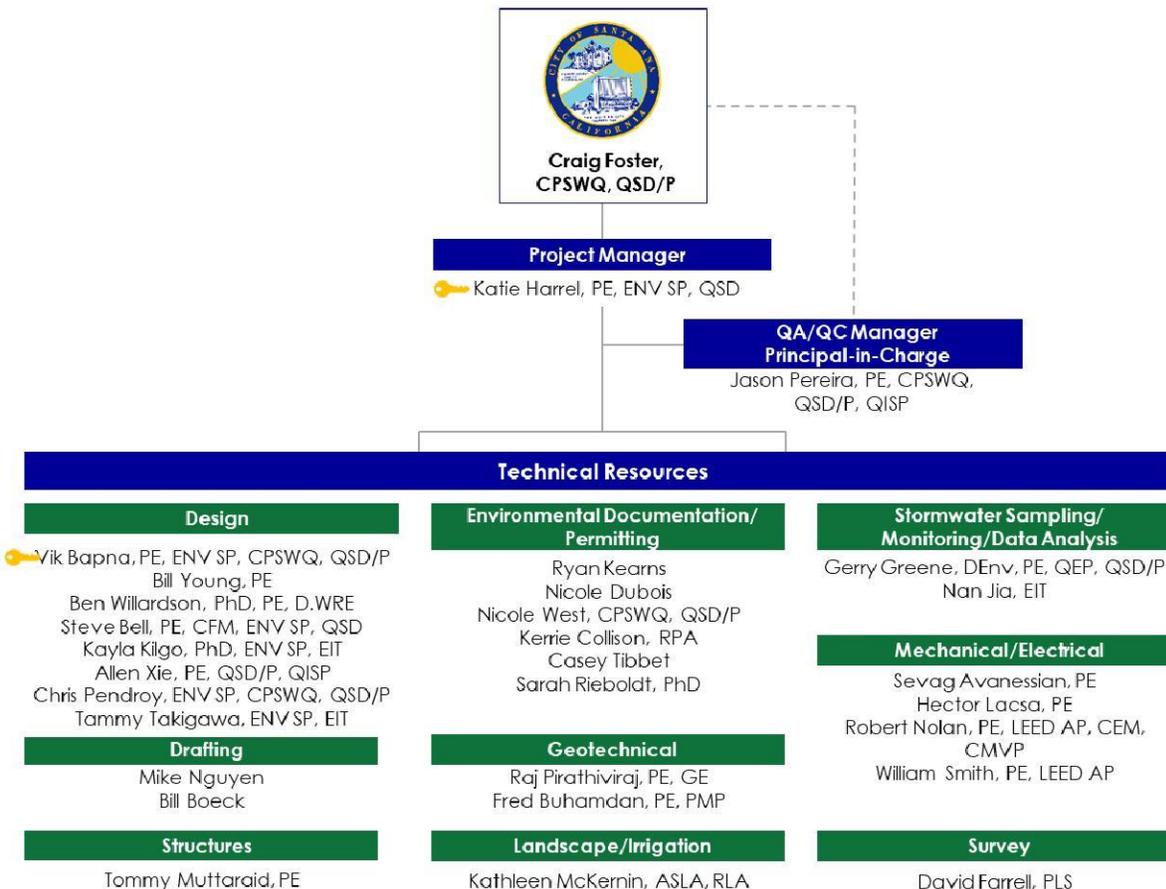




CWE has selected Terracon Consultants, Inc. (Terracon) to provide all necessary Geotechnical services. Through its nationwide network of geotechnical professionals, access to historical subsurface exploration data from thousands of locations across the country, and GIS-enabled geology mapping, Terracon can accurately anticipate ground conditions and develop the right work plan to explore a site, and their innovative technologies and collaborative approach allows for practical design recommendations. Geotechnical services include Stage1 predictive analyses delivered via GeoReport®, subsurface exploration (soil borings, in-situ testing, geophysical), laboratory testing, geotechnical design, collaborative reporting/decision making, geotechnical instrumentation, and construction monitoring and support. Terracon has more than 5,000 employees in more than 150 offices nationwide and holds a current ranking of 24 in ENR's 2019 listing of the Top 500 Design Firms.

Organization Chart

CWE's 35+ employees have been proudly providing services to the Western United States for nearly 15 years. Our Personnel, represent some of the best and brightest engineers and scientists our industry has to offer and wield a unique perspective crafted by field tested out-of-the-box thinking to challenging water quality projects. CWE's proposed personnel is comprised of exceptionally talented engineers with significant, versatile experience in all aspects of stormwater design projects. Our team includes Professional Engineers (PE), Professional Licensed Surveyors (PLS), and ENVISION™ Sustainability Professionals (ENV SP).



Creating a better tomorrow, today.™





Key Personnel



Katie Harrel
PE, ENV SP, QSD

- City of San Fernando Regional Park Infiltration
 - City of Culver City Washington Boulevard P3 Urban Runoff Diversion
 - City of Santa Monica Los Amigos Park Stormwater Harvesting and Direct Use Demonstration

Katie Harrel, PE, ENV SP, QSD is your Project Manager. She will oversee all aspects of task orders awarded under this on-call throughout their duration, including management, meetings, technical evaluations, subconsultant coordination, and coordination of permit-related reviews. Katie is a prodigious engineer with extensive professional experience, including the design of Best Management Practices (BMPs) for public agencies such as the cities of Torrance, Culver City, and Santa Monica. Most recently, Katie has been involved in the design of an infiltration system for a regional park in the City of San Fernando which serves a drainage area greater than 950 acres and is capable of groundwater recharge of more than 466 acre-feet of runoff annually.

Katie has significant experience preparing Proposition 1 SWGP, SCWP, and Proposition 1 IRWM grant packages for local municipalities. Additionally, Katie has been actively involved in community outreach efforts; informing the public of the many benefits of the infrastructure improvements she designed. There is a substantial advantage to the involvement of an informed Project Manager, who has been ever-present from the project conception to its successful delivery, when emphasizing to the public the steps necessary to achieve a project's ultimate goals.

Vik Bapna, PE, ENV SP, CPSWQ, QSD/P will be your Design Lead and will act as point of contact in the event Katie is unavailable. Vik has 29 years of experience managing and reviewing the design of multi-benefit stormwater capture and groundwater recharge projects with the completion of the first Southern California's regional stormwater basin at Sun Valley Park. Vik is well known for presenting complex design solutions in a way that is readily understandable to both project stakeholders and the community at large. In 2015, Vik was recognized by the OCEC with an Outstanding Engineering Merit Award for his work to restore natural environments and enhance water quality in highly urbanized areas. He was also recognized as an "Industry Icon" in Storm Water Solutions magazine.



Vik Bapna
PE, ENV SP, CPSWQ, QSD/P

- City of Torrance Stormwater Basin and Treatment Wetlands Enhancement
- City of Yorba Linda Town Center Renovation

Staff and Role	Relevant Project Experience
Jason Pereira, PE, CPSWQ, QSD/P, QISP Principal-in-Charge, QA/QC	City of Torrance Stormwater Basin and Treatment Wetlands Enhancement, City of Los Angeles Laurel Canyon Boulevard Green Street Design-Build
Bill Young, PE Design	City of Los Angeles Laurel Canyon Boulevard Green Street Design-Build, City of Culver City Washington Boulevard P3 Urban Runoff Diversion, City of Santa Monica Los Amigos Park Stormwater Harvesting and Direct Use Demonstration





Staff and Role	Relevant Project Experience
Steve Bell, PE, CFM, ENV SP, QSD Design	City of Culver City Washington Boulevard P3 Urban Runoff Diversion, City of San Fernando Regional Park Infiltration, City of Bell Gardens John Anson Ford Park Infiltration Cistern
Allen Xie, PE, QSD/P, QISP Design	City of Los Angeles San Fernando Valley Green Street Network Evaluation – Van Nuys Boulevard, City of Bell Gardens John Anson Ford Park Infiltration Cistern
Tammy Takigawa, ENV SP, EIT Design	City of Culver City Centinela Creek Mesmer Low Flow Diversion, City of Claremont Foothill Boulevard Mater Plan Implementation, City of Culver City Washington Boulevard P3 Urban Runoff Diversion
Chris Pendroy, ENV SP, CPSWQ, QSD/P Construction Bid Documents and Specifications	City of Los Angeles Laurel Canyon Boulevard Green Street, City of Agoura Hills Medea and Palo Comado Creek Stormwater Treatment Plant and Linear Park, City of Santa Monica Los Amigos Park Storm Drain Runoff Harvesting and Direct Use Demonstration
Mike Nguyen Design	City of Claremont Foothill Boulevard Master Plan Implementation, City of Torrance Stormwater Basin and Treatment Wetlands Enhancement
Bill Boeck Drafting	City of Culver City Washington Boulevard P3 Urban Runoff Diversion, City of San Fernando Regional Park Infiltration
Ben Willardson, PhD, PE, D.WRE Hydrology and Hydraulics	Los Angeles County Department of Parks and Recreation Earvin Magic Johnson Park, City of Temecula Pala Park Creek Restoration
Kayla Kilgo, PhD, ENV SP, EIT Hydrology and Hydraulics	San Gabriel Valley Council of Governments Rio Hondo Load Reduction Strategy Preliminary Engineering and Final Design Services, City of Los Angeles Los Angeles River Bikeway and Greenway
Ryan Kearns Environmental Documentation and Permitting	City of Culver City Washington Boulevard P3 Urban Runoff Diversion, City of Huntington Beach On-Call Environmental, City of Visalia Citywide Stormwater Management Plan Development
Nicole Dubois Environmental Documentation and Permitting – LSA	Orange County Sanitation District, Headquarters Complex, Rancho California Water District, Vail Dam Seismic and Hydrologic Remediation, Moulton Niguel Water District, Operations Center
Nicole West, CPSWQ, QSD/P Environmental Documentation and Permitting – LSA	City of Irvine Turtle Ridge, Rancho California Water District (RCWD), Vail Dam Seismic and Hydrologic Remediation, San Onofre Nuclear Generating Station (SONGS) Independent Spent Fuel Storage System (ISFSI) Expansion
Kerrie Collison, RPA Environmental Documentation and Permitting – LSA	Irvine Ranch Water District, San Joaquin Reservoir Filtration Facility, Rancho California Water District, Vail Dam Seismic and Hydrologic Remediation, Riverside County Flood Control and Water Conservation District, Green Acres Dam
Sarah Rieboldt, PhD Environmental Documentation and Permitting – LSA	Rancho California Water District, Vail Dam Seismic and Hydrologic Remediation Project, City of Agoura Hills Medea and Palo Comado Creek Stormwater Treatment Plant and Linear Park





Staff and Role	Relevant Project Experience
Casey Tibbet Environmental Documentation and Permitting – LSA	Mesmer, LFTF-1, and LFTF-2, Los Angeles and Culver City, City of Pasadena, Azusa Conduit, Angeles National Forest, City of Anaheim, Lincoln Avenue Widening Project
Gerald Greene, DEnv, PE, QEP, QSD/P Stormwater Sampling, Monitoring, and Data Analysis	City of Los Angeles Laurel Canyon Boulevard Green Street Design-Build, City of Beverly Hills Burton Way Median Green Street, City of Santa Monica Los Amigos Park Stormwater Harvesting and Direct Use Demonstration
Nan Jia, EIT Stormwater Sampling, Monitoring, and Data Analysis	City of Culver City Washington Boulevard P3 Urban Runoff Diversion, City of Anaheim Ball Road Sanitary Sewer and Storm Drain Improvements from Beach Boulevard to Carbon Creek Channel
Tommy Muttaraid, PE Structures	City of Torrance Stormwater Basin and Treatment Wetlands Enhancement, City of Burbank Johnny Carson Park Improvement and Stream Restoration
Kathleen McKernin, RLA, ASLA Landscape and Irrigation	City of Los Angeles Garvanza Park Rainwater Capture and Use, California Department of Transportation (Caltrans) District 7 North Fork Matilija Creek Geomorphology, Fish Passage, and Engineering
David Farrell, PLS Survey	City of Torrance Stormwater Basin and Treatment Wetlands Enhancement, City of Los Angeles Laurel Canyon Boulevard Groundwater Recharge and Green Street Design-Build
Raj Pirathiviraj, PE, GE Geotechnical – Terracon	City of Bell Gardens John Anson Ford Park Infiltration Cisterns, San Fernando Regional Park Infiltration, City of Manhattan Beach 28 th Street Drain Feasibility
Fred Buhamdan, PE, PMP Geotechnical – Terracon	San Fernando Regional Park Infiltration, City of El Monte Garvey Avenue Grade Separation Drainage, SGVCOG Rio Hondo Load Reduction Strategy Design
Sevag Avanessian, PE Electrical – JCCA	City of Long Beach Three Low Flow Diversions, Children and Family Services, Los Angeles, County of Los Angeles Internal Services Department (LAISD), Low Voltage Infrastructure
Hector Lacs, PE Electrical – JCCA	Electrical System Upgrades, Mule Creek State Prison, California Department of Corrections and Rehabilitation (CDCR), Upgrade FCI Medium Switchgear, FCC Lompoc
Robert Nolan, PE, LEED AP, CEM, CMVP Mechanical – JCCA	Department of State Hospitals Infrastructure Master Plan, CHS Parking E Clinical Research Biomarker Seismic Renovation – LEED Gold, University of California, Los Angeles (UCLA)
William Smith, PE, LEED AP Mechanical – JCCA	Taft Correctional Institution Domestic Hot Water Heaters Replacement, Feasibility Study, , Federal Bureau of Prisons Analyze HVAC System & Replace AHU 43H2, Building S24





Understanding of Need

Has the City ever felt concerned about the cost of achieving compliance with water quality regulations? This is understandable! Following each MS4 Permit renewal, the City is required to develop new programs and meet changing requirements. On top of that, TMDLs and trash provisions add more to the list of things to comply with. CWE is here to help with that process. We will leverage our expertise in regional stormwater solutions and funding to make things easier for the City. Regional solutions are cost effective, leverage partnerships, meet funding priorities, and help achieve compliance over larger areas.

Our understanding and approach differentiate us from other respondents due to our expertise in regional multi-benefit projects that improve water quality. CWE is an industry leader in regional stormwater projects and we are known for **pioneering innovative techniques to achieve multiple benefits and helping our clients receive funding**. We continue to design “first of their kind” projects that become industry standard. Our understanding of the City’s needs and regional stormwater solutions are presented in this section with our approach to complete planning, environmental, and design tasks that may come through the City’s on-call stormwater contract.

Background

Many public agencies are facing similar funding challenges, which have been exacerbated by the recent pandemic. Municipalities have seen reduced revenues due to modifications in spending in response to the current health crisis, while public services are needed more than ever. While there are many public services that are of utmost importance during these difficult times, public agencies are still responsible for reducing pollutants in receiving waters and preserving beneficial uses, which also costs money. One benefit CWE provides is our knowledge and understanding of funding programs and how they align with the stormwater program. **Within the last five years alone, we have assisted our clients in obtaining over \$90 million to fund multi-benefit stormwater projects and we aim to assist the City in doing the same.** We recently assisted the City of San Fernando, a city with many Disadvantaged Communities (DACs), in funding a \$15 million multi-benefit stormwater project, where they spent approximately \$300,000.

The City is subject to the North Orange County MS4 Permit (R8-2009-0030, amended by R8-2010-0062), along with many other local municipalities. The MS4 Permit identifies programs to be implemented to improve water quality. Several MS4 Permit drafts were released in and before 2016, while the fourth draft was withdrawn while the Regional Water Quality Control Board (Regional Board) waits for legal decisions to be made in response to MS4 Permit litigations in Los Angeles County. In addition to the MS4 Permit, the City is subject to Total Maximum Daily Loads (TMDLs), specifically within the Newport Bay Watershed. The City, along with agencies within the Newport Bay Watershed, must implement projects and programs to reduce pollutant loads in accordance with TMDL schedules. The City is also subject to the State-Wide Trash Amendment (Trash Policy), which requires the City to reduce/eliminate discharges of trash and debris to receiving waters.

While the world is slightly on hold while we wait for the pandemic to be under control, implementation cannot wait, as regulatory requirements are still in effect. We admire the steps





the City has made in implementing a stormwater program and regional projects, such as those at Maybury and Raitt & Myrtle Parks, which demonstrate the City’s commitment to improving water quality and meeting regulatory requirements. Approximately 37% of the City is considered DAC, 65% of which is within the Newport Bay Watershed. This will allow the City to go after funding with little to no match for multi-benefit projects. We are excited to share details of many programs, even those targeted to address economic impacts of the pandemic, with the City so that multi-benefit projects that help address regulatory requirements can be implemented **at little to no cost to the City**. Due to proposal length limitations, we look forward to discussing these with you in person or virtually!

Stormwater Solutions

There is a demand to improve water quality throughout the region and within the City, especially within the Newport Bay Watershed, which covers 60% of the City’s area and is subject to a variety of TMDLs. The most effective solution, in terms of pollutant removal and cost, truly depends on the site, field conditions, and goals. **CWE does not take a cookie cutter approach when assisting in the development and design of compliance projects.** We carefully craft a project that fits into the location, aligns with field conditions, meets water quality goals, fits into funding programs, and can be operated and maintained based on the City’s preferences. Some of the most popular regional stormwater solutions (or Best Management Practices [BMPs]) are summarized below to demonstrate our understanding and approach.

Subsurface Infiltration Systems

Subsurface infiltration systems can come in many shapes, sizes, and materials. Many of the projects highlighted as part of our experience utilized a form of subsurface infiltration, including precast concrete vaults, High Density Polyethylene (HDPE) chambers, and drywells. We understand the Raitt & Myrtle Park Stormwater Project being implemented by the City was to include a subsurface infiltration system. Infiltration is typically the most successful and cost-effective solution for addressing pollutants, as all pollutants in the captured runoff are removed from the downstream receiving water. Infiltration also provides other benefits, such as groundwater recharge. We understand the groundwater levels in the City are expected to be shallow (less than 50 feet). If the groundwater is too shallow, such that ten feet of separation cannot be provided between the system invert and the groundwater level, then infiltration may not be feasible. Areas identified as being susceptible to liquefaction also exist in the City and can influence infiltration feasibility. We recommend implementing site specific geotechnical explorations early in the concept development process to better understand if infiltration will be suitable.



Santa Monica Los Amigos Park Stormwater Harvesting and Direct Use Demonstration

Table 1 Common Subsurface Infiltration System Challenges and Constraints

Challenge/Constraint	Strategies
High groundwater levels	Shallow infiltration will be evaluated (to provide 10 feet of separation) or alternative strategies will be explored (options below)





Challenge/Constraint	Strategies
Low infiltration rates	Geotechnical explorations will be performed at a variety of depths to check if deeper or shallower infiltration systems could be used
Geotechnical hazards	Geotechnical exploration will include testing to determine if liquefaction potential is high onsite, and if so, other options will be explored
Lack of open space	If geotechnical conditions permit, deeper infiltration systems (such as drywells) can be implemented without a large footprint
High sediment loading in influent flows	Pretreatment to be implemented upstream of infiltration system to reduce clogging and focus maintenance in pretreatment
Open spaces in public use areas	Outreach is critical in working with the community and it may be beneficial to require work during times of lower use

Basin and/or Wetlands

Basin and wetlands are great opportunities to provide greater capture volumes when there is available open space. If landscape design is incorporated, basins/wetlands can be considered nature-based solution, which makes **additional funding opportunities** available. It is often more challenging to place open facilities in developed environments, such as the City. They can be incorporated into parks and can be coupled with trails and walking paths to provide the community different recreation opportunities, like the Torrance Stormwater Basins described under our experience. Open basins can be used to support infiltration (additional discussion on benefits above), or more commonly, for treatment when infiltration is not feasible. These types of facilities can enhance the local habitat while providing water quality and community benefits. We understand the City is implementing open bioretention basins at Mabury and Raitt & Myrtle Parks.



Torrance Basin and Wetlands Enhancements

Table 2 Common Basin/Wetland Challenges and Constraints

Challenge/Constraint	Strategies
Lack of open space available	Combine above and belowground features to maximize capture and utilize open surface space available
Infiltration infeasible	Include an underdrain and/or overflow system to take advantage of treatment benefits before discharging downstream
	Evaluate opportunities to use the captured runoff for irrigation
Shallow groundwater	Create a barrier or lining to provide some treatment and verify design can take lateral loading from groundwater or create deep and shallow zones, some of which may have permanent water source
Mosquito concerns	Verify water movement (infiltration/filtration), use aerators, and/or design shallow/emergent zones to move flows





Green Streets

Runoff is captured and conveyed along streets until drainage infrastructure, such as catch basins, is reached. This makes streets a great location to implement stormwater capture systems. Green streets are found to be most beneficial on streets that capture local drainage, the parkway is wider, and the slopes are low or mild. Different types of BMPs can be used on streets, such as subsurface infiltration, open bioretention or bioswales, street trees, and more, as demonstrated in some of the projects highlighted in our experience. Green infrastructure can be implemented in streets as its own project, coupled with street reconstruction/maintenance, or incorporated into complete streets (inclusive of bike lanes). Green streets can be used as regional solutions and there may even be opportunities to increase capture using a storm drain diversion. As part of our Laurel Canyon Boulevard Green Street Project, we designed green infrastructure in an area that did not have drainage infrastructure to provide water quality and flood control benefits. Implementing green infrastructure on streets is another way to utilize other funding programs targeted more towards transportation projects. Green infrastructure can also be coupled with programs like Safe Routes to School. We understand the City is planning to implement a City-Wide Street Drainage and Water Quality Improvement Project in multiple phases, which will include various green street elements.



Los Angeles Laurel Canyon Boulevard Green Street Project

Table 3 Common Green Street Challenges and Constraints

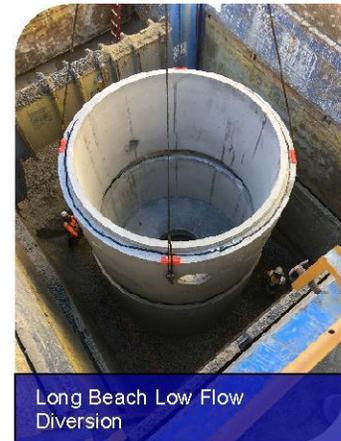
Challenge/Constraint	Strategies
Parkway is not very wide	Incorporate surface and subsurface infrastructure to increase capture and/or utilize pervious pavement
Landscape does not fit street aesthetics	Biotreatment systems with covers to match existing sidewalk pavement may be used to match street aesthetics while improving water quality
Business access	Outreach with businesses early and possibly allow them to be involved in selecting green infrastructure or plant palette so they feel connected
Utilities located in sidewalk	Conduct utility search early on and coordinate if needed with utility companies, while opportunities to avoid utilities can be evaluated
Traffic concerns	Conduct outreach, develop specifications that clearly identify priorities and requirements for access, and consider night work on busy streets where impacts may result in significant lane closures
Frequent catch basins capture flows	Consider using culverts to allow low flows to bypass catch basins so that BMPs are not needed upstream of every catch basin





Sewer Diversion

Low flow diversions have been used in Southern California over the past several decades to capture dry-weather flows, which have often been associated with high concentrations of pollutants. This allows the wastewater treatment plant to treat runoff before discharging it or using it for non-potable or recycled water, therefore reducing pollutant loads to downstream receiving waters while providing additional conservation/water reliability benefits. These are a great way of addressing dry-weather TMDLs, especially when there are space concerns or infiltration is not feasible. Sewer discharge fees are one thing to consider, as they will continue in perpetuity. Water conservation efforts made in response to recent drought years has resulted in households using less water and creating less wastewater, which has impacted some treatment plants that rely on a specific inflow for the treatment processes to work. Some Sanitation Districts have been open to accepting storm flows in addition to dry-weather flows to help solve these issues. While the discharge fees may make this approach less favorable, it may be an option to consider, especially when infiltration is not feasible and there is limited space for other infrastructure. We have led several similar projects (identified in our experience) and understand the coordination required and electrical components to regulate discharges. We understand a low flow diversion exists in the Newport Bay Watershed on the Santa Ana-Delhi Channel, and there may be additional opportunities within the watershed to assist with compliance.



Long Beach Low Flow Diversion

Table 4 Common Sewer Diversion Challenges and Constraints

Challenge/Constraint	Strategies
Sewer capacity	Stakeholder coordination early on to understand capacities and opportunities for upsizing, while alternatively, storage can be provided and used to regulate flows to meet available capacities
Discharge fees	Fees identified early in the assessment process so that they can be considered as part of operation and maintenance costs before major decisions are made
Influent water quality	Wastewater treatment plants are not designed to treat high sediment loads; therefore, monitoring may be needed to determine if pretreatment is needed and to what level
Sewer overflows	Flow meters and other equipment can be used to help reduce risks of overflows, along with coordination with sewer owner/operator
Backwash of sewer flows into storm drain	Check valves and pumps may be used to prevent cross contamination from occurring and degrading water quality





Advanced Treatment Systems

The abovementioned, among other, alternatives are typically more favorable than advanced treatment, while it may be beneficial at the right time and place. Advanced treatment can be used to reduce pollutant loads before discharging downstream or as part of a treatment train process in which treated flows can then be used for other beneficial purposes (typically non-potable). CWE led the design of the Los Amigos Park project, which used captured runoff for toilet flushing and spray irrigation. These uses have the potential for human contact; therefore, advanced treatment was required. Captured runoff can also be used in drip irrigation systems without advanced treatment. We also led a regional low flow diversion project, in which three sites capture runoff from over 35,000 acres. The dry-weather flow rates were going to result in \$600,000 to \$850,000 annual sewer discharge fees, which add up quickly over time. As an alternative, Ultraviolet (UV) advanced treatment systems are being placed to treat runoff before discharging it downstream. This was determined to be more cost effective than a sewer diversion. We understand various treatment systems, when they are most suitable, and how to use them to achieve compliance and meet multiple benefits.



Table 5 Common Advanced Treatment System Challenges and Constraints

Challenge/Constraint	Strategies
Non-potable demand with human contact	Utilize advanced treatment in accordance with local codes and requirements, such that runoff can be used to meet local demands
Public concerns regarding chemicals	Outreach campaign to create clear and easy to follow messaging to educate community on treatment system operations
Space limitations	Various equipment can be used and configured to reduce footprint requirements while meeting project goals
Operation and maintenance	Long-term needs presented early on to inform decision making; maintenance crews can be trained or consultants may be used

Typical Tasks

CWE will prepare a detailed scope of work tailored to each project that comes through this on-call contract. This section summarizes typical tasks expected based on the RFP and our expertise on similar projects. The table below includes an outline of potential tasks by category/phase with minimal descriptions. We have kept the descriptions short due to page limitations, while comprehensive descriptions will be provided before the start of a contracted project. Task with asterisks (**) are in addition to those identified in the RFP. We feel it is important for the City to have a feel for what it would be like to work with CWE to better inform the selection process. We hope to meet with the City (in person or virtually) to further discuss our experience, expertise, and how we would benefit the City.

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Table 6 Outline of Potential Project Tasks by Category/Phase

Task	Notes/Description
Project Management	
Kickoff meeting **	Discuss project, approach, scope, schedule, expectations, concerns, invoice format, and data needs at start of project
Progress meetings **	Present key deliverables/milestones during project
Project Management Plan	Include milestones, task breakdowns, coordination efforts, etc. and will be provided upon City request
Quality Assurance/Quality Control (QA/QC) Plan	Detail internal QA/QC procedures followed during project to review and control documents submitted to City
Schedule	Review schedule showing tasks and deliverables
Invoicing	Submit invoices in format agreed upon with City, which may be tailored if project is receiving grant funds
Project Planning/Feasibility Studies	
Benefit analysis **	Quantify multiple benefits to support funding efforts
Conceptual design	Perform analyses and assessments to develop conceptual layouts, sizing, and cost opinions before moving into design
Cost benefit analysis	Assess costs (capital, operations, and maintenance) and benefits to compare projects or project alternatives
Cost opinion **	Develop planning level cost opinions to support funding requests and City budgeting
Feasibility studies	Perform many of the tasks within this category and combine information into a comprehensive report that identifies challenges, constraints, strategies, and next steps
Flow monitoring studies	Identify locations for monitoring and/or analyze flow data collected to determine need, benefit, and/or sizing
Geotechnical explorations	Collect geotechnical data, including infiltration rates, to determine implementation approach, costs, and sizing
Grant tracking	Identify and track grants and funding opportunities and prepare applications for water quality/multi-benefit projects
Hydrologic/hydraulic model/calculations	Perform analyses and calculations to determine drainage area size/characteristics, anticipated flow rates/volumes, impacts to existing drainage systems, and project sizing using a variety of approved/preferred models/software

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Task	Notes/Description
Mapping services	Utilize Geographic Information System (GIS) to map project data or City data that will inform projects and/or programs, including drainage features, existing projects, land uses, and proposed improvements
Preparation/review of WQMPs	Follow approved guidance documents/templates to prepare and/or review WQMPs, which includes drainage area delineation, calculations, BMPs, and associated site plan(s)
Presentations	Prepare and attend presentations to inform community members, regulators, and/or stakeholders of upcoming projects/programs (tailored to the audience)
Public outreach **	Develop outreach materials, deliver presentations, and inform the public of project scope, benefits, and impacts
Research existing conditions (utilities)	Perform field reviews to identify existing improvements and features and send preliminary utility notices, collect utility information, map utilities, and coordinate if needed
Stormwater sampling/analysis	Prepare and implement monitoring plans/programs to understand water quality to support projects, compliance, effectiveness assessments, and future planning efforts
Stakeholder outreach	Develop materials, deliver presentations, and inform stakeholders of project scope, benefits, and impacts and understand any requirements/restrictions they may have





Task	Notes/Description
Environmental Documentation and Permitting	
CEQA (including supporting studies)	Prepare studies (archeo, cultural, historical, and paleo), Initial Studies/Checklist, Categorical Exemptions, Mitigated Negative Declarations, Environmental Impact Reports, and other documentation to comply with CEQA requirements
Permits (Section 401, Section 404, Section 408 **, Section 1602)	Identify applicable permits, prepare application packages, coordinate with permitting agencies, and incorporate requirements into plans and specifications based on the project scope and characteristics
NEPA	Prepare studies (archeo, cultural, historical, and paleo), Environmental Assessment, and other documentation to align with NEPA requirements if/when federal funds are being used and if required
Orange County Flood/Sanitation	Coordinate and submit documentation seeking approval of proposed improvements when project impacts Orange County Flood Control District (encroachment) or Orange County Sanitation District (discharge permit)
California Department of Transportation (Caltrans) Permit **	Prepare applications and supporting documentation when improvements encroach Caltrans right-of-way
Project Design	
Design (architectural, civil, electrical, geotechnical, instrumentation, landscape, mechanical, and structural)	Preparation of neat and clear multi-discipline design plans including notes, plan view, profiles, cross sections, and details using Microstation and the City's CADD Standards
Develop cost estimates	Develop bid items, bid lists, and engineer's estimate based on design plans, construction notes, specifications, and quantity take offs
Land surveying	Perform detailed topographic survey to collect elevation data and existing improvements/features, which will serve as the basis for design plans
Specifications (PS&Es)	Prepare specifications based on the City's standard/boiler plate, including special provisions and technical specifications based on the latest Greenbook and referencing other standards, such as Caltrans
Construction Engineering Support	
Bid support	Attend pre-construction meeting, respond to bidder inquiries, and prepare addenda
Submittal/shop drawing/change order review	Review and respond to submittals, shop drawings, and change orders in accordance with plans and specifications
Requests for Information (RFIs)	Review and respond to RFIs
Field review	Perform field reviews before, during, and after construction and report to City on meeting design intent and document other site conditions





Task	Notes/Description
Construction management	Oversee construction on behalf of the City
Post-project support	Prepare reports, conduct monitoring, summarize data, develop as-builts, and assess effectiveness following completion in accordance with grants or other programs
Grant Administration Support	
Develop grant applications **	Prepare applications and supporting documents to assist the City in obtaining funds for multi-benefit projects
Develop plans and reports	Develop Monitoring and Reporting Plans, Quality Assurance Program Plans, quarterly/final reports, etc. as needed based on the grant agreement/requirements
Track grant opportunities	Develop tracking templates in coordination with City goals and objectives to position in advance for opportunities
Presentations	Create presentations and informational materials for the City to use in coordination with grant/funding opportunities

Relevant Project Experience



Year Completed: 2020

City of Culver City Washington Boulevard P3 Urban Runoff Diversion

CWE is designing the region’s first Public Private Partnership (P3) project for stormwater purposes. This P3 project with Costco includes a diversion system to capture stormwater and urban runoff from a drainage area of approximately 40 acres for the City of Culver City. The project is located on Washington Boulevard near Walnut Avenue at the City boundary. The drainage area is comprised of commercial and residential land

uses completely within the City boundaries. The system is expected to capture approximately 122,000 cubic feet of stormwater runoff. Tasks include: developing project concepts for diversion and bio-filtration systems; conducting an environmental study; performing hydrologic and hydraulic analyses; coordinating with the City of Los Angeles and Los Angeles County Department of Public Works (LACDPW); topographic survey; conducting a utility search for the project site to identify existing or planned future utility conflicts along the proposed project components; preparing Plans, Specifications, and Estimates (PS&E); providing community outreach support; and construction support. *Contact: Kim Braun, Project Manager, (310) 253-6421, kim.braun@culvercity.org*





Year Completed: 2015

City of Torrance Stormwater Basin and Treatment Wetlands Enhancement This project received awards from the American Public Works Association (APWA), American Society of Civil Engineers (ASCE), *Engineering News-Record (ENR)*, California Stormwater Quality Association (CASQA), and *Storm Water Solutions* magazine. CWE designed two treatment wetlands, two infiltration basins, and 300 feet of pressured storm drain piping to retain, treat, and infiltrate stormwater runoff to help the City comply with the Santa Monica Bay Beaches Bacteria Total

Maximum Daily Load (TMDL). CWE performed a topographic and boundary survey of each basin and coordinated a geotechnical investigation for the design of earthwork, pipelines, structures, other site improvements, and infiltration capabilities of three basins. A wetlands sustainability analysis was performed to evaluate dry-weather inflows, evaporation, evapotranspiration, and infiltration, and ensure the long-term functionality of the wetlands system. CWE conducted a hydrologic analysis using the Modified Rational Method (MODRAT) in Watershed Modeling System (WMS) to evaluate the reservoir routing and pumping from the interconnected wetlands/detention basin system under Capital Flood and Standard Urban Stormwater Mitigation Plan (SUSMP) conditions. Water quality modeling determined the reduction in pollutant loads. The estimated annual pollutant load reduction for this project is 91%. Using the stormwater for irrigation reduces the potable water demand by approximately 2,800,000 gallons annually. The project included designing and preparing construction documents for the proposed improvements, including: site grading, roadway paving, recycled water line, and piping plans; retaining walls; park lighting and signage; stream channel and infiltration basin design; trails, viewing areas, and landscaping details; a water-tight system for irrigation; inlet and outlet structures; bridge structures; culverts, 20-cfs flood control pump station, and several irrigation pump stations, and other control structures; electrical and mechanical plans; and Supervisory Control and Data Acquisition (SCADA) plans. The project also included placement of new trash sweeping signage and catch basin screens throughout the basin subwatersheds. The project included coordination with the Los Angeles County Flood Control District (LACFCD). Special consideration was given to protect the burrowing owl and legless lizard habitat. CWE performed legless lizard surveys prior to and during construction. Specifications per Greenbook and special provisions and estimates were prepared. CWE also provided construction management and support services. *Contact: John Dettle, Engineering Manager, (310) 618-3059, jdettle@torranceca.gov*



Year Completed: 2020

City of San Fernando Regional Park Infiltration

CWE provided design services for the City of San Fernando Regional Park to install an underground manufactured infiltration system underneath the existing park and replace the baseball field and irrigation system. Six different alternatives were developed and evaluated to maximize benefits while reducing capital cost and ongoing life cycle cost. The infiltration system serves a drainage area greater than 950 acres and recharge groundwater sources

with 446 acre-feet of runoff annually. CWE recommended upsizing the system and doubling the

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capture area (originally 400 acres) to maximize water quality benefits while remaining compliant with grant terms. The system has a single storm capture capacity greater than 24 acre-feet. CWE assisted the City in obtaining over \$12 million for construction and coordinating with a local stakeholder to provide additional financial support. The City also used a Proposition 1 grant to fund design efforts. The City ultimately paid approximately \$300,000 for \$15 million worth of implementation. Above-ground park improvements proposed as part of the project benefit the surrounding Disadvantaged Community (DAC), which helped secure the abovementioned funding. Tasks included: utility and community coordination; developing a preliminary design report emphasizing a gravity system as the best alternative to meet City needs; performing environmental studies that meet California Environmental Quality Act (CEQA) requirements; obtaining Los Angeles County Flood Control District (LACFCD) permits; providing topographical surveys; conducting a geotechnical investigation; developing a plan for landscape and irrigation improvements; preparing a hydrologic and hydraulic study; providing potholing services; preparing Plans, Specifications, and Estimates (PS&Es); preparing an Operations and Maintenance (O&M) manual for proposed structural stormwater BMPs, pretreatment devices, and stormwater infiltration system; and providing bid and construction support. Additional design services included 2,500 lineal feet of roadway reconstruction, including Americans with Disabilities Act (ADA)-compliant ramps; 4,500 lineal feet of new storm drain used to maximize capture, and 6-inch sewer reconstruction. *Contact: Kenneth Jones, Management Analyst, (818) 898-1240, kjones@sfcity.org*



City of Santa Monica Los Amigos Park Stormwater Harvesting and Direct Use Demonstration

This project was the recipient of the 2017 California Stormwater Quality Association (CASQA) Outstanding Stormwater Sustainability Project, ASCE Outstanding Small Project, and the *Storm Water Solutions Top Stormwater and Erosion Control Project Awards*. CWE designed a demonstration project that taps into an existing storm drain line running along a school athletic field and the City of Santa Monica’s Los Amigos Park,

routes stormwater and dry-weather flows from the storm drain through a vortex system using a diversion structure into a subsurface water-tight cistern, treats the stormwater and dry-weather runoff with an Ultraviolet (UV) treatment system, and delivers highly treated water to the park irrigation system and indoor plumbing for toilet flushing. The project’s purpose was to demonstrate the feasibility of harvesting local water resources, including storm drain flows, to decrease potable water use, reduce polluted urban runoff discharge to the receiving water body, and protect the future of California’s water supply. CWE designed a UV treatment train system that treats approximately 80 gallons per minute (gpm). A jack-and-bore approach was also designed and implemented to reduce construction disturbance within the street. Tasks included: developing a project study report; conducting a geotechnical investigation and utility search; preparing Plans, Specifications, and Estimates (PS&Es); coordinating with the Los Angeles County Flood Control District (LACFCD); obtaining regulatory approvals from the California Coastal Commission (CCC), Department of State Architect (DSA), and the Los Angeles County Department of Public Health (DPH); performing public education and outreach; providing construction support; preparing a Sampling and Analysis Plan (SAP); assisting the City with report preparation; and designing educational signage. *Contact: Carlos Rosales, Civil Engineering Associate, (310) 458-8721 Ext. 2620, carlos.rosales@smgov.net*

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Year Completed: 2017

City of Los Angeles Laurel Canyon Boulevard Green Street Design-Build

This project received awards from the American Society of Civil Engineers (ASCE) Los Angeles Section, ASCE Metropolitan Los Angeles Branch (MLAB), and California Stormwater Quality Association (CASQA).

CWE designed and performed construction management for roadway widening, sidewalk improvements, and over 2,100 square feet of bioretention systems, 13 dry-wells, along 1,000 linear feet of Laurel Canyon Boulevard for LA Sanitation – City of Los Angeles and the Los Angeles

Conservation Corps. The project provided increased groundwater recharge, reduced flooding impacts, enhanced water quality, protected compatible beneficial uses, and improved the neighborhood quality of life. To accomplish this, CWE designed a series of bioretention swales along Laurel Canyon Boulevard between Kagel Canyon Street and Terra Bella Street with curb, gutter, and sidewalk improvements. This project collects over 100 acre-feet annually of stormwater runoff from a 125-acre drainage area. CWE provided pre-, during, and post-construction support for this project. *Contact: Gordon Haines, Environmental Specialist, (213) 485-0585, gordon.haines@lacity.org*



Year Completed: 2020

San Gabriel Valley Council of Governments Rio Hondo Load Reduction Strategy Preliminary Engineering and Final Design Services

CWE prepared a feasibility assessment and preliminary design plans for three diversion locations within the Rio Hondo-Los Angeles River watershed in compliance with the MS4 Permit requirements. Our contract is in the process of being extended to include final design. The Rio Hondo Load Reduction Strategy (LRS) addresses requirements pertaining to the Los Angeles River Bacteria TMDL. The three diversion areas include

Alhambra Wash, Eaton Wash, and Rubio Wash. CWE developed over 12 alternatives for meeting bacteria reduction objectives, which included sewer diversion, advanced treatment (UV/ozone), groundwater injection, and treatment facility options. Advanced treatment using UV was ultimately selected. Tasks included: coordination with the Los Angeles County Sanitation Districts (LACSD) to verify discharge allowed to the sanitary sewers in the area, detailed flow analysis, coordination with the watermaster, site field investigation, topographic survey, utility search to identify existing or planned utility conflicts, geotechnical evaluation to identify soil characteristics and infiltration capacity, permits and easement evaluation, preliminary operations and maintenance, and preparation of a feasibility assessment report and preliminary design plans. CWE staff developed the feasibility assessment, preliminary designs, and Final PS&E to be in compliance with the Safe Clean Water Program and assist the Council in securing coveted grant funding. *Contact: Mark Christoffels, Chief Engineer, (626) 962-9292, mchristoffels@sgvcog.org*

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References

City of Los Angeles	
Contact	Kenneth Jones
Title	Management Analyst
Address	117 Macneil Street San Fernando, California 91340
Telephone	(818) 898-1240
Email	kjones@sfcity.org
Project	City of San Fernando Regional Park Infiltration
City of Culver City	
Contact	Kim Braun
Title	Project Manager
Address	9505 West Jefferson Boulevard Culver City, California 90232
Telephone	(310) 253-6421
Email	kim.braun@culvercity.org
Project	Washington Boulevard P3 Urban Runoff Diversion
San Gabriel Valley Council of Governments	
Contact	Mark Christoffels
Title	Chief Engineer
Address	4900 Rivergrade Road, Suite A120 Irwindale, California 91706
Telephone	(626) 962-9292
Email	mchristoffels@sgvcog.org
Project	Rio Hondo Load Reduction Strategy Preliminary Engineering and Final Design Services





City of Santa Ana

On-Call Stormwater Project Design Services RFP No.: 20-102

Appendix A

Forms

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Appendix
ATTACHMENT 3-1: NON-COLLUSION AFFIDAVIT
CERTIFICATIONS

NON-COLLUSION AFFIDAVIT
(Title 23 United States Code Section 112 and
Public Contract Code Section 7106)

To the CITY OF SANTA ANA DEPARTMENT OF PUBLIC WORKS

In accordance with Title 23 United States Code Section 112 and Public Contract Code 7106 the BIDDER declares that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the BIDDER has not directly or indirectly induced or solicited any other BIDDER to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived or agreed with any BIDDER or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the BIDDER has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the BIDDER or any BIDDER, or to fix any overhead, profit, or cost element of the bid price, or of that of any other BIDDER, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the BIDDER has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: The above Non-collusion Affidavit is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Non-collusion Affidavit. BIDDERS are cautioned that making a false certification may subject the certifier to criminal prosecution.

Signed _____

State of California
County of Orange

Subscribed and sworn to (or affirmed) before me on this 29th day of July, 2020 by Jason I. Pereira, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.


Notary Public Signature

Notary Public Seal



Appendix
ATTACHMENT 3-2: NON-LOBBYING CERTIFICATION
CERTIFICATIONS

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

1. No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
2. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence any officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant loan, loan or cooperative agreement, the undersigned shall complete and submit a "Disclosure of Lobbying Activities".

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U. S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such sub recipients shall certify and disclose accordingly.

Firm CWE
Signed and Printed Name:  Jason Pereira
Title Principal
Date August 12, 2020

Appendix
ATTACHMENT 3-3: NON-DISCRIMINATION CERTIFICATION
CERTIFICATIONS

The undersigned consultant or corporate officer, during the performance of this contract, certifies as follows:

1. The Consultant shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Consultant shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Consultant shall, in all solicitations or advertisements for employees placed by or on behalf of the Consultant, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
3. The Consultant shall send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Consultant's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The Consultant shall comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The Consultant shall furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his/her books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation, to ascertain compliance with such rules, regulations, and orders.
6. In the event of the Consultant's non-compliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, the contract may be canceled, terminated, or suspended in whole or in part and the Consultant may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulations, or order of the Secretary of Labor, or as otherwise provided by law.
7. The Consultant shall include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted

by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontract or purchase order as the administering agency may direct as means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the Consultant becomes involved in, or is threatened with, litigation with a sub-consultant or vendor as a result of such direction by the administering agency, the Consultant may request that the United States enter into such litigation to protect the interests of the United States.

8. Pursuant to California Labor Code Section 1735, as added by Chapter 643 Stats. 1939, and as amended,

No discrimination shall be made in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical handicaps, mental condition, marital status, or sex of such persons, except as provided in Section 1420, and any consultant of public works violating this Section is subject to all the penalties imposed for a violation of the Chapter.

Signed:



Principal

Title:

CWE

Firm:

Date:

August 12, 2020



City of Santa Ana

On-Call Stormwater Project Design Services RFP No.: 20-102

Appendix B

Resumes

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Katie Harrel, PE, ENV SP, QSD

Katie Harrel is a civil engineer with eight years of experience in the management, feasibility assessment, and design of award-winning BMP projects. She coordinates with clients, permittees, subconsultants, and project staff to ensure projects adhere to strict budgets and deadlines. Her duties have included developing master planning concepts, designing urban runoff treatment and control facilities, preparing pollution prevention assessments and reports, performing stormwater compliance inspections, performing water quality monitoring, conducting hydrology and hydraulic studies, modeling hydrology and hydraulic conditions, conducting utility research, traffic control planning, and obtaining required permitting. Additionally, Katie has extensive experience assisting public agencies with complex grant applications as high as \$10 million.

RELEVANT EXPERIENCE

City of San Fernando Regional Park Infiltration Project Manager for design services for the San Fernando Regional Park, which consists of installing an underground manufactured infiltration system, and removing/replacing the existing baseball field and irrigation system. The infiltration system will serve a drainage area greater than 400-acres and recharge groundwater sources with approximately 200 acre-feet of stormwater annually. The system has a single storm capture capacity greater than 24 acre-feet. Tasks include: utility and community coordination; conducting a preliminary design report; performing environmental studies that meet CEQA requirements; obtaining permits; providing topographical surveys; conducting a geotechnical investigation report; developing a plan for landscape and irrigation improvements; preparing a hydrologic and hydraulic study; providing potholing services; preparing PS&Es; preparing an O&M manual for proposed structural stormwater BMPs, pretreatment devices, and stormwater infiltration system; and providing bid and construction support.

City of Culver City Washington Boulevard P3 Urban Runoff Diversion Project Manager assisting with the design of a diversion system to capture stormwater and urban runoff from a drainage area of approximately 40 acres for the City of Culver City. The project is located on Washington Boulevard near Walnut Avenue at the City boundary. The drainage area is comprised of commercial and residential land uses completely within the City boundaries. The



Years of Experience

8

Education

MS, Civil Engineering, 2015,
California State University,
Long Beach

BS, Civil Engineering, 2013,
California State University,
Long Beach

Registrations

Civil Engineer, CA, 85752

Envision™ Sustainability
Professional Credential

Qualified SWPPP Developer,
C85752

Awards and Recognition

Civil + Structural magazine,
“Rising Star,” 2018

Orange County Engineering
Council, “Young Engineer
Award,” 2015

Storm Water Solutions
magazine, “Rising Star,”
2015

system is expected to capture approximately 115,600 cubic feet of stormwater runoff. Tasks include: review of the Geotechnical Investigation Report and Percolation Test Results, developing project concepts for diversion and bio-filtration systems, conducting an environmental study, performing hydrologic and hydraulic analyses and preparing a report, coordinating with the LACDPW, performing a topographic survey, conducting a utility search for the project site to identify existing or planned future utility conflicts along the proposed project components, preparing PS&Es, providing community outreach support, and providing construction support services.

City of Santa Barbara Bohnett Park Stormwater Treatment Project Assistant Project Manager for design plans and construction specifications for the stormwater treatment system in the 2.25-acre Bohnett Park, located within the Westside neighborhood of Santa Barbara. The project system captures, treats, and infiltrates storm water from two 18-inch storm drains. Tasks performed included checking the hydrology using Los Angeles County methods, calculating infiltration scenarios, and modeling in MODRAT and Hydraflow. Additional tasks included project management and coordination, schedule and budget tracking, and coordination with the City Project Manager; data review of storm drain records and LiDAR maps, utilities within the park, design plans for park improvements, existing geotechnical information, and the City's Stormwater BMP Guidance Manual; drainage report preparation for the stormwater capture and treatment system design and existing site conditions; geotechnical investigation including borings 15 feet below existing grade for soil classification and infiltration at three different locations within the park; preparation of two conceptual design alternatives; and preparation of PS&Es for the agreed upon alternative. This project was completed within budget and one month ahead of schedule.

City of Santa Monica Los Amigos Park Stormwater Harvesting and Direct Use Demonstration Assistant Project Manager for the design of a demonstration project that taps into an existing storm drain line running along a school athletic field and the City of Santa Monica's Los Amigos Park, reroutes stormwater and dry-weather flows from the storm drain through a vortex system into a cistern, treats the stormwater and dry-weather runoff, and delivers highly-treated water to the park irrigation system and indoor plumbing for toilet flushing. The project's purpose is to demonstrate the feasibility of harvesting local water resources such as storm drain flows to decrease potable water use, reduce polluted urban runoff discharge to the receiving water body, and protect the future of California's water supplies. Tasks included: developing a project study report, a utility search, preparing design Plans, Specifications, and Estimates (PS&Es), obtaining regulatory approvals, public education and outreach, construction support, preparing a Sampling and Analysis Plan (SAP), assisting with report preparation, and designing educational signage.

Los Angeles County Public Works Grant Support Services Project Manager responsible for the preparation and submittal of grant applications for multiple parks projects for Los Angeles County Public Works (LACPW). Proposition 1 project locations include Adventure Park, Walnut Park, and Alondra Park, and Proposition 68 project locations include Bassett High School. Katie and CWE staff maintains and regularly updates a log of grant opportunities with information pertaining to requirements, eligibility, goals, funding limits, timelines, and more. CWE's goal in developing these grant applications is to champion stormwater capture (and reuse) projects, which will ultimately serve to further our mission of Creating a Better Tomorrow, Today, while saving our public agency clients substantial funds.