PROFESSIONAL SERVICES CONTRACT BETWEEN
THE CITY OF HUNTINGTON BEACH AND
CWE
FOR
ON-CALL CIVIL ENGINEERING
& PROFESSIONAL CONSULTING SERVICES

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

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

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

CONSULTANT has been selected to perform these services,

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

1. SCOPE OF SERVICES

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

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

2. CITY STAFF ASSISTANCE

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

3. TERM; TIME OF PERFORMANCE

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

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

4. COMPENSATION

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

5. EXTRA WORK

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

6. METHOD OF PAYMENT

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

7. DISPOSITION OF PLANS, ESTIMATES AND OTHER DOCUMENTS

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

8. HOLD HARMLESS

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

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

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

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

9. PROFESSIONAL LIABILITY INSURANCE

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

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

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

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

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

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

10. CERTIFICATE OF INSURANCE

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

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

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

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

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

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

11. INDEPENDENT CONTRACTOR

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

12. TERMINATION OF AGREEMENT

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

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

13. ASSIGNMENT AND DELEGATION

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

14. COPYRIGHTS/PATENTS

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

15. CITY EMPLOYEES AND OFFICIALS

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

16. NOTICES

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

TO CITY:

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

TO CONSULTANT:

CWE
Attn: Vik Bapna
1561 E. Orangethorpe Avenue, Suite 240
Fullerton, CA 92831

17. CONSENT

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

18. MODIFICATION

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

19. SECTION HEADINGS

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

20. INTERPRETATION OF THIS AGREEMENT

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

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

21. DUPLICATE ORIGINAL

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

22. IMMIGRATION

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

23. LEGAL SERVICES SUBCONTRACTING PROHIBITED

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

24. ATTORNEY'S FEES

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

25. SURVIVAL

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

26. GOVERNING LAW

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

27. SIGNATORIES

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

28. ENTIRETY

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

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

29. EFFECTIVE DATE

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

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

CONSULTANT,
CWE

By: V Bapna
Vik Bapna
print name
ITS: *(circle one)* Chairman/President/Vice President

AND

By:
Jason Pereira
print name
ITS: *(circle one)* Secretary/Chief Financial Officer/Asst. Secretary - Treasurer

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

Mayor

City Clerk

INITIATED AND APPROVED:

Director of Public Works

REVIEWED AND APPROVED:

City Manager

APPROVED AS TO FORM:

City Attorney

EXHIBIT "A"

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

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

B. CONSULTANT'S DUTIES AND RESPONSIBILITIES:

See Attached Exhibit A

C. CITY'S DUTIES AND RESPONSIBILITIES:

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

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

D. WORK PROGRAM/PROJECT SCHEDULE:

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

EXHIBIT A

Exhibit A

Disciplines of Civil Engineering Services Application Form

Circle all that apply

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

REQUEST FOR PROPOSAL

VENDOR APPLICATION FORM

TYPE OF APPLICANT: ☐ NEW ☒ CURRENT VENDOR

Legal Contractual Name of Corporation: CWE

Contact Person for Agreement: Vik Bapna

Corporate Mailing Address: 1561 E. Orangethorpe Avenue, Suite 240

City, State and Zip Code: Fullerton, California 92831

E-Mail Address: vbapna@cwecorp.com

Phone: (714) 526-7500 Ext. 212 Fax: (714) 526-7004

Contact Person for Proposals: Christine Willis

Title: Proposal Manager E-Mail Address: cwillis@cwecorp.com

Business Telephone: (714) 526-7500 Ext. 222 Business Fax: (714) 526-7004

Year Business was Established: 2006

Is your business: (check one)

☐ NON PROFIT CORPORATION ☒ FOR PROFIT CORPORATION

Is your business: (check one)

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

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

Names	Title	Phone
Vik Bapna	Principal/Chief Financial Officer	(714) 526-7500 Ext. 212
Jason Pereira	Principal/President	(714) 526-7500 Ext. 211
Farooq Qureshi	Chief Operations Officer	(714) 526-7500 Ext. 213

Federal Tax Identification Number: 20-4089568

City of Huntington Beach Business License Number: A291725
(If none, you must obtain a Huntington Beach Business License upon award of contract.)

City of Huntington Beach Business License Expiration Date: May 31, 2025

CWE
1561 E. ORANGETHORPE AVENUE
SUITE 240
FULLERTON, CA 92831-5202
(714) 526-7500 PHONE
(714) 526-7004 FAX
www.cwecorp.com

March 13, 2025

Cody Hernandez
City of Huntington Beach Public Works Department
2000 Main Street
Huntington Beach, California 92648

Vendor Application Form and Cover Letter
Proposal to Provide On-Call Civil Engineering Professional Consulting Services
Category A: Water/Sewer/Stormwater Engineering, Category B: General Civil Engineering, and Category D: Environmental/Water Quality

Dear Cody,

If our name sounds familiar, there's a reason why! CWE is the certified Minority (**MBE**) and Small Business Enterprise (**SBE**) consultant who has conducted over 1,850 of the City of Huntington Beach's (City's) Industrial/Commercial (I/C), Construction, and Fats, Oils, and Grease (FOG) Inspections since 2017. As a subconsultant to Harris & Associates, we also developed a Water Quality Management Plan (WQMP) for the widening of Brookhurst Street and Adams Avenue in 2017. We are eagerly submitting on Categories A, B, and D to show you the true depth of our services in civil and water design, as well as stormwater, water quality, and environmental services, and demonstrate the nature of our experience with on-call work across multiple disciplines.

Due to the origin of our humble beginnings as a stormwater management-focused consultant, CWE has developed a highly localized presence within Southern California, including here in Orange County. Our staff have excelled in environmental and water quality tasks, providing National Pollutant Discharge Elimination System (NPDES) compliance, developed and reviewed Stormwater Pollution Prevention Plans (SWPPPs), provided Qualified SWPPP Developer/Practitioner (QSD/P)-led training, coordinated California Environmental Quality Act (CEQA) permitting and prepared Initial Study (IS)/Mitigated Negative Declarations (MNDs), and provided water quality monitoring using portable meters for measuring pH, electrical conductivity, turbidity, and temperature for local municipalities and watershed groups.

We have since expanded into a multi-disciplinary firm, with a strong emphasis on civil engineering for street, stormwater, and water infrastructure; curb, gutter, and sidewalk rehabilitation; construction management and support; $137 million in grant writing and administration support; and topographical surveying.

Civil engineering, water resources, and associated construction services are a vital component in our everyday lives. CWE's 18 Professional Civil Engineers (PEs) and supporting technical personnel are proud to serve our public and private clients (and by extension, local communities) in a meaningful, important manner. At CWE, we pride ourselves on developing solid Plans, Specifications, and Estimates (PS&Es)

that are defensible and constructible. Our staff also have extensive experience in the construction management of civil engineering projects, which gives them a foundation of sound, realistic engineering principles and the know-how to understand what project elements will work best in on a given site. This experience matters: CWE-designed projects have an average rate of just 4% change orders during construction, compared to the industry average of 10%, putting hundreds of thousands of dollars in change orders back in our clients' pockets.

We know the City will be depending on us to get their most important jobs done right, and our comprehensive capabilities and forward-thinking approaches in identifying cost and schedule savings to make each project a fiscal success are sure to produce the results you need. Our proposed Project Managers, Steven Bell, Larry Tortuya, and Nan Jia, are all registered PEs with a strong track record of serving the City or Orange County across the three respective categories. They have been employed at CWE for no less than five years and work directly from Fullerton; their long tenure and easy accessibility puts our Orange County clients at ease knowing exactly who they are dealing with. Whether we work solo or as part of a team with other firms, CWE's focus is on our clients' satisfaction and accomplishments. When Huntington Beach succeeds, we all succeed.

The proposal price will remain valid for one hundred eighty (180) days from the date of this cover letter. CWE staff will manage and provide services from our Fullerton headquarters (the closest location to Huntington Beach) and can be reached at the address and telephone number listed in this letter's header. I am authorized to legally bind CWE. If you have questions or require additional information, please contact me by phone at (714) 262-0180, or vbapna@cwecorp.com.

Respectfully submitted,
CWE

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

Background and Project Summary Section

CWE currently holds over 60 on-call contracts as both a prime consultant and subconsultant and has successfully executed more than 450 task orders for various Southern California clients over the past five years. This extensive experience has taught us that an on-call assignments require a true on-call commitment. The ideal firm for this opportunity must act quickly, be responsive, adaptable, knowledgeable, and equipped to handle a wide range of requests that include potable water pipelines; wells, reservoirs, and booster stations; wastewater engineering; stormwater engineering; master plan updates; road, alley, bridge, curb, gutter, and sidewalk rehabilitation; street widening and alignment; topographic surveys; water quality monitoring; Industrial/Commercial (I/C) and food service establishment inspections; National Pollutant Discharge Elimination System (NPDES) compliance; grant applications; and bid and construction support. CWE has successfully delivered these services, including for the City of Huntington Beach (City)!

Huntington Beach's street, water, wastewater, and stormwater systems are critical to serving its residents and millions of annual visitors. When infrastructure upgrades or improvements are needed, the City relies on its Public Works Department to resolve deficiencies. CWE is well-positioned to support the City by delivering essential pipeline and drainage upgrades; roadway and sidewalk rehabilitation; and regulatory compliance inspections to maintain a safe and thriving community. While the approach for each project or task order may differ based on its specific requirements, CWE's proven expertise allows us to identify commonalities across projects and implement effective strategies. The following sections outline our areas of expertise, typical implementation plans, key tasks performed, and general project scheduling for Categories A, B, and D.

Water Distribution and Production Engineering

The water distribution system includes pipelines and appurtenant infrastructure to convey potable water to the customers. CWE has provided design documents (Plans, Specifications, Estimates [PS&Es]) for water pipelines all across Southern California. Water production engineering services include preparing plans and specifications for new wells, well treatment and rehabilitation, pump buildings, reservoirs, booster pump stations, onsite generators, pressure control stations, turnouts, and metering facilities.

Wastewater Engineering

Wastewater engineering includes preparing plans and specifications for sewer pipelines, sewer lining, sewer lift stations and force mains, mechanical equipment, and related infrastructure. Calculations of hydraulic conditions are also a critical component of wastewater engineering. CWE has successfully helped many clients with wastewater engineering components, including pipeline sizing calculations, lift station analysis, system modeling, and design plans for sewers.

Water and Wastewater Master Planning

Water and sewer master planning is a vital tool for the City to strategically plan infrastructure improvements for its water and sanitary sewer collection system. Master plans assess the capacity of the City's existing infrastructure under current conditions and project future capacity needs based on anticipated development and growth. CWE has extensive experience analyzing the impacts of existing and future water and sewer flows using advanced numerical hydraulic modeling. Our team has prepared numerous reports for

agencies across California, outlining essential Capital Improvement Projects (CIPs) to ensure pipeline systems can reliably support expanding communities.

Stormwater Engineering

CWE specializes in stormwater engineering services, including the development of PS&E packages for stormwater systems such as channels, storm drains, pump stations, and related infrastructure. Our designs incorporate detailed hydraulic calculations to ensure optimal system performance. CWE has extensive experience preparing grant applications to secure funding for storm drain improvement projects, helping clients successfully obtain financial support for critical infrastructure enhancements. CWE has successfully designed over 300 miles of storm drains over the past 19 years.

Road Rehabilitation

Road rehabilitation begins with a comprehensive assessment of the existing road conditions, including pavement distress surveys, traffic volume analysis, and structural evaluations (e.g., using Falling Weight Deflectometer testing). This data informs the identification of deterioration types like cracking, rutting, or base failure. CWE then works with clients to define project goals – whether extending service life, improving ride quality, or enhancing safety – while considering budget and environmental constraints. Based on the assessment, CWE evaluates suitable rehabilitation methods such as asphalt or concrete overlays, full-depth reclamation, or partial reconstruction. The design phase involves specifying layer thickness, material types (e.g., asphalt mix or stabilized base), and drainage improvements to ensure long-term pavement performance.

Alley Rehabilitation

Alley rehabilitation starts with a thorough evaluation of surface distress (e.g., potholes, cracking), drainage concerns, and usage patterns such as pedestrian, vehicular, or service access. CWE collects data through site inspections, topographic surveys, and, when needed, subsurface investigations to assess soil stability and existing pavement structure. Project objectives are defined to address accessibility, drainage improvements, or restoring load-bearing capacity, while considering budget constraints, adjacent property impacts, and local regulations. Rehabilitation options may include resurfacing with asphalt or concrete, reconstructing sections with new base materials, or upgrading to permeable pavements for improved stormwater management. The design phase emphasizes specifying material types, pavement thickness, and effective drainage solutions such as grading, curbs, or storm inlets. Where applicable, Americans with Disabilities Act (ADA)-compliant features are integrated to improve accessibility and ensure regulatory compliance.

Bridge Rehabilitation

Bridge rehabilitation begins with a comprehensive assessment of the bridge's current condition, including visual inspections, structural evaluations (e.g., load testing, material sampling), and non-destructive testing methods such as sonar or ground-penetrating radar. These techniques help identify issues like corrosion, cracking, or foundation settlement. CWE reviews historical design data, traffic loads, and environmental factors such as seismic risk or scour potential. Rehabilitation objectives are established to address structural capacity restoration, safety improvements, or service life extension while considering constraints like budget, traffic disruption, and historic preservation requirements. CWE evaluates options such as strengthening components (e.g., retrofitting beams with steel plates or carbon fiber), replacing deteriorated elements (e.g., deck or bearings), or upgrading to meet modern codes. During the detailed design phase,

CWE applies structural analysis tools like SAP2000 and follows American Association of State Highway and Transportation Officials [AASHTO] standards to develop precise repair specifications, material selections (e.g., high-performance concrete, corrosion-resistant steel), and construction methods. Key considerations include load ratings, fatigue life, and hydraulic performance for bridges spanning waterways.

Curb, Gutter, and Sidewalks

CWE takes a structured approach to assess, plan, and implement improvements to sidewalks, curbs, and gutters. The process begins with defining project objectives such as enhancing accessibility, improving drainage, and ensuring pedestrian safety. CWE collects data through site surveys, topographic mapping, and condition assessments to evaluate the structural integrity and functionality of the existing infrastructure. This evaluation identifies issues like cracks, uneven surfaces, deteriorated concrete, poor drainage, or non-compliance with ADA accessibility standards. For curb and gutter systems, CWE analyzes stormwater runoff patterns and drainage capacity to ensure the rehabilitated design effectively manages water flow, prevents pooling, and integrates with existing drainage systems. Based on these assessments, CWE develops detailed designs that address:

- **Sidewalks:** Width, slope, material selection (e.g., concrete, pavers), and ADA compliance (e.g., tactile paving for accessibility).
- **Curbs:** Height, shape (e.g., vertical or mountable), and alignment to support drainage and vehicle safety.
- **Gutters:** Slope, cross-section, and capacity to convey stormwater to inlets or channels.

Preliminary plans are prepared using Computer-Aided Design (CAD) software such as AutoCAD or Civil 3D, adhering to local design standards and codes. CWE also identifies and resolves potential conflicts with underground utilities (e.g., water, gas, or electrical lines) to minimize disruption. Coordination with utility providers ensures a smooth and efficient construction process.

Parking Lot Rehabilitation

Public parking lot rehabilitation requires a systematic approach to assess, redesign, and restore existing parking facilities to improve functionality, safety, and longevity. CWE's process starts with defining project goals, such as addressing pavement deterioration, improving traffic flow, or enhancing accessibility. CWE will collect data on the parking lot's current condition through site surveys, pavement assessments, traffic flow analysis, and review of as-built plans. Stakeholder input from property owners or City representatives may also be incorporated to align with community needs. A detailed evaluation will assess pavement conditions for issues such as cracks, potholes, rutting, or drainage problems. The subgrade's stability will also be examined to inform repair strategies. CWE will analyze vehicle volumes, parking demand, and circulation patterns to optimize the layout, ensuring it meets current and future needs. This may include accommodating larger vehicles, improving pedestrian pathways, and ensuring ADA-compliant parking spaces. Effective stormwater management is critical for long-term durability. CWE will evaluate existing drainage systems (e.g., inlets, channels, or detention areas) and conduct hydrologic analysis to ensure proper runoff management. Solutions may involve regrading surfaces, adjusting slopes, or upgrading drainage infrastructure to prevent flooding and erosion. CWE will identify potential conflicts with underground utilities such as electrical, water, or sewer lines. Coordination with utility providers will ensure rehabilitation work avoids disruptions or damage. Based on these assessments, CWE will develop a comprehensive rehabilitation plan that addresses:

- **Pavement:** Selection of repair methods (e.g., full-depth replacement, overlay, or milling and resurfacing) and durable materials (e.g., asphalt or concrete) that align with project budget and longevity goals.
- **Layout:** Improved striping, parking space dimensions, aisle widths, and traffic flow patterns following Institute of Transportation Engineers (ITE) standards.
- **Accessibility:** ADA-compliant features such as ramps, signage, and designated parking spaces to ensure safe and inclusive access.

Surveying

Surveying and topographic mapping involve collecting precise spatial data to create detailed representations of site features, terrain, and boundaries. CWE's surveying process begins by defining the survey's purpose, scope, and required accuracy – whether for design, construction, or rehabilitation. CWE gathers existing data such as prior surveys, property deeds, utility maps, and aerial imagery to identify known benchmarks, boundary lines, and potential challenges like easements or encroachments. During field work, CWE Surveyors use advanced equipment to establish control points (benchmarks) that ensure accuracy and consistency throughout the survey. Detailed elevation data is collected to map terrain contours, and property lines are verified using legal descriptions or monuments. Physical features such as sidewalks, curbs, fences, or underground utilities are identified and documented. Coordination with utility companies may be required to mark subsurface infrastructure. Collected data is processed using AutoCAD Civil 3D to generate accurate digital models such as Digital Terrain Models (DTM) or Triangulated Irregular Networks (TIN). The resulting topographic map illustrates key features like contours, elevations, and site infrastructure. Maps adhere to standards set by organizations like the United States Geological Survey (USGS) or local guidelines and include coordinate systems (e.g., state plane coordinates) for seamless integration with design or Geographic Information System (GIS) platforms. Final deliverables typically include CAD drawings, point cloud data, and hard-copy maps. A survey report may accompany these deliverables, detailing methods, findings, and any limitations (e.g., obstructed areas). CWE's comprehensive surveying process combines precise fieldwork and technical analysis to deliver actionable data that supports successful civil engineering projects such as road, sidewalk, or parking lot rehabilitation.

Environmental

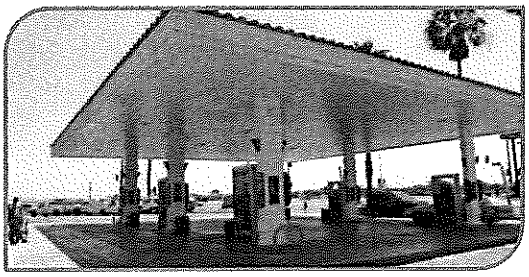
The CWE Team is highly experienced in preparing California Environmental Quality Act (CEQA) and National Environmental Protection Agency (NEPA) documents for water, sewer, and flood control infrastructure projects across Southern California. With in-house technical expertise, we can prepare, assist with, or review environmental studies and documents for infrastructure projects. Our environmental compliance efforts include field investigations, technical studies, and environmental documents preparation. The engineering studies conducted at this phase typically include traffic analysis and modeling, preliminary structural assessments, roadway geometry evaluations, stormwater management planning, geotechnical evaluations, utilities coordination, and right-of-way analysis. In addition to preliminary engineering, we can perform Phase I and II Environmental Site Assessments (ESAs) when needed, leveraging online tools such as Envirostar and Geotracker to identify potential contamination risks. We also develop project descriptions and impact area delineations to support environmental documentation. As designers ourselves, we efficiently gather critical project information through detailed design plan reviews and technical reports, minimizing the workload for City staff. CWE will provide input on City specifications to ensure compliance with environmental regulations and support staff throughout the environmental review process, including training as needed.

Water Quality Management Plans

CWE has successfully completed over 650 plan checks for municipal clients over the past 16 years. Leveraging this extensive experience, CWE will assist the City in reviewing Water Quality Management Plans (WQMPs) for compliance with the Orange County Municipal Separate Storm Sewer System (MS4) Permit (and the regional MS4 Permit once adopted) and the North Orange County Technical Guidance Document. CWE will provide recommendations on proposed Low Impact Development (LID) Best Management Practices (BMPs), focusing on system sizing, operation and maintenance requirements, design details, and overall performance optimization. Once the LID BMP is constructed, CWE can perform post-construction inspections to ensure compliance with the approved WQMP and verify proper maintenance per the maintenance covenant.

I/C Inspections

Since 2017, CWE has conducted over 250 I/C inspections and more than 1,600 Fats, Oils, & Grease (FOG) inspections for food service locations in the City of Huntington Beach. This contract is led by Dr. Gerry Greene, Project Manager; Jason Pereira, Quality Assurance/Quality Control (QA/QC) Manager; Nan Jia, Inspector; Maria Arreguin, Inspector; and Alex Salas, Inspector. We have an in-depth understanding of the City's inspection Standard Operating Procedures (SOPs) and expectations. During inspections, CWE will use the City-provided tablet and printer to document site conditions and corrective actions, submitting inspection outcomes to City staff in real time from the field. CWE inspectors will notify City staff within 24 hours, preferably immediately, of any observed significant water quality threats, denials of access, or other situations requiring City enforcement assistance. If the proposed regional MS4 Permit is adopted during the contract term, CWE will assist the City in identifying changes to inspection frequency, SOP updates, and reporting requirements.



"CWE staff is doing a great job – we have yet to receive any complaints or concerns about the I/C and FOG inspections, which is almost unheard of! We appreciate your inspectors re-educating facility operators on the program and applicable BMPs. Thanks once again, and keep up the great work."

– Jim Merid, City of Huntington Beach
Environmental Services Manager
(714) 374-1548 / jmerid@surfcity-hb.org

Regulatory Compliance

CWE will assist the City in preparing or reviewing regulatory compliance reports for water discharge permits, including the MS4 Permit, Construction General Permit (CGP), Industrial General Permit (IGP), and other related permits. Following the adoption of the regional MS4 Permit, CWE will assist in developing and implementing policies and procedures, such as the Local Implementation Plan (LIP) or Watershed Management Plan (WMP), to ensure compliance. We will keep the City informed of regulatory updates, enabling proactive adaptation to evolving compliance requirements.

Monitoring

CWE will assist the City in maintaining, monitoring, and inspecting its facilities to ensure compliance with regulatory requirements. Sampling and testing can be conducted for various constituents across multiple media, including water, soil, and air. Prior to sampling events, a Chain-of-Custody (CoC) will be prepared detailing the required constituents. Monitoring will be conducted at the frequency specified in the regulatory requirements, with samples collected in accordance with industry SOPs and delivered to the laboratory using appropriate preservation methods. CWE will assist the City in interpreting monitoring data and compiling reports to meet regulatory compliance obligations.

Methodology

Implementation Plan

The CWE Team has established a streamlined process to efficiently manage client service requests. Prior to starting each task, CWE will schedule a kickoff meeting with the City to align on project goals, objectives, and stakeholder requirements. This meeting will include CWE's Task Lead, key subconsultant team members, and City staff to ensure clear communication channels are defined. The meeting will focus on project expectations, delivery milestones, and budget parameters to support successful project completion. Prior to the kickoff meeting, CWE will prepare and distribute an agenda outlining key discussion points. Following the meeting, CWE will provide a summary to all attendees, ensuring a clear understanding of action items and next steps.

Throughout the project, CWE will maintain consistent communication with the City through coordination meetings, progress updates, and weekly budget reviews. Additionally, monthly status reports will outline the percentage of work completed and forecasted budgets to track progress and mitigate delays.

Quality Assurance/Quality Control

CWE's QA/QC procedures follow our established Quality Management Process while integrating the City's standards and preferences. Director of Engineering Bill Young, PE, will serve as the Technical Advisor for Categories A and B, and Director of Stormwater Dr. Gerry Greene, PE, QEP, QSD/P, will oversee Category D. These experienced leaders will conduct quality control reviews and manage independent peer reviews to ensure deliverables are accurate, complete, and compliant with required standards. With over 80 years of combined public agency engineering experience, they provide invaluable insight to uphold project quality.

Plans, Specifications, and Estimates

CWE will develop detailed PS&E packages tailored to the City's needs. This includes comprehensive cost estimates that factor in materials, labor, equipment, and contingencies. Technical specifications will outline construction methods, material quality (e.g., concrete pounds per square inch [PSI]), and performance standards following the Standard Specifications for Public Works Construction (SSPWC) "Greenbook," where applicable. PS&E submittals will be reviewed to confirm compliance with municipal codes, environmental regulations, and permitting requirements, which may include stormwater management or

erosion control plans. Final deliverables will include detailed drawings, cross-sections, and comprehensive notes to guide contractors in executing the rehabilitation work.

Construction Support and Closeout

CWE often provides construction support to ensure the completed work aligns with the design intent. This includes conducting site visits, reviewing contractor submittals, and addressing unforeseen challenges such as subsurface conditions. Following project completion, CWE will inspect the rehabilitated infrastructure to confirm functionality, safety, and compliance. Any deficiencies identified will be addressed before final acceptance. CWE's approach balances technical precision with practical constraints like budget, site conditions, and community needs, ensuring a durable and effective infrastructure solution.

Typical Tasks

Task	Description
Project Management	CWE will collaborate with the City to estimate a project duration – from Notice to Proceed (NTP) to advertisement – and establish a schedule with required project meetings.
Meetings and Project Coordination	CWE's project management approach includes weekly check-in calls with the City Project Manager to provide concise project status updates.
Quality Assurance/Control	CWE's QA/QC Managers will remain independent from day-to-day activities to provide objective reviews from concept through final design.
Preliminary Research and Investigations	Preliminary investigations supporting design development may include CEQA studies, geotechnical assessment, utility coordination, and survey/topographic mapping.
CEQA Documentation	CWE will prepare CEQA documents such as the Initial Study/Mitigated Negative Declaration (IS/MND) and related technical studies.
Geotechnical Investigation	CWE collaborates with experienced geotechnical partners on over 50 projects, leveraging their expertise to deliver comprehensive site assessments.
Utility Coordination	CWE's utility coordination process involves detailed research, utility notifications, and meticulous recordkeeping. Potholing services, conducted by our partner Certerra Subsurface Imaging (C Below), will identify potential utility conflicts, with comprehensive reports provided afterward.
Survey/Topographic Mapping	CWE's licensed surveyor will research City records for survey control, geodetic data, and design network plans. Field horizontal control will align with City-preferred coordinates.
Geotechnical Engineering	In partnership with Terracon Consultants, Inc. (Terracon), CWE will conduct geotechnical services such as borings up to 10 feet along proposed pipeline alignments. Reports will include site details, boring logs, laboratory data, soil analysis, groundwater levels (if encountered), description of procedures, earthwork recommendations, lateral earth pressures, trench design considerations, and pavement recommendations.

Task	Description
Preliminary Design	CWE will prepare reports to document design assumptions, alternatives, and recommendations. Reports will assess alignment options considering construction costs, utilities, community impacts, and permit requirements. Design may include 30% plans with preliminary and recommended utility alignments and dimensions, along with a Rough Order of Magnitude (ROM) estimate.
Alternative/Feasibility Study	CWE will develop a technical memorandum to evaluate project feasibility and design alternatives.
Preliminary Design Report	This report will summarize initial findings, outline project costs, and provide a foundation for detailed design.
30% Design	CWE will prepare concept plans illustrating project layout and alternatives.
Hydraulic Calculations	CWE's engineers will perform hydraulic modeling for water distribution (using EPANET), sewer capacity (using InfoWorks ICM), and stormwater management (using WSPG or SWMM).
Permitting	CWE will identify environmental permitting requirements and support the City in securing necessary approvals, such as Section 401/404/408/1602 permits. CWE's established relationships with regulatory agencies allow for streamlined and expedited permit applications. CWE will develop technical reports, analyses, and supporting documents for environmental permits, such as hydrology and hydraulics reports, project impact maps, and operation and maintenance manuals.
Engineering Services	CWE will prepare comprehensive PS&E packages, including a title sheet, plan and profile sheets with alignments and utilities shown, detail sheets, street and ramp construction plans, horizontal control, erosion control, and boring log sheets. Specifications will be prepared using the City's boilerplate language and special provisions of the American Public Works Association (APWA) Standard Specifications for Public Works Construction (Greenbook). Cost estimating will be performed by CWE's skilled cost estimators with decades of experience providing opinions of cost for public works projects.
60% Plans	CWE will prepare 60% design plans, adding further detail to sections, profiles, dimensions, and design geometry.
90% Plans	CWE will refine the 60% plans, incorporating updates to drawings, maintenance sheets, traffic control plans, and structural details.
Final Plans	CWE will conduct a final field check with City staff before finalizing the plans, ensuring constructability, functionality, and alignment with site conditions.
Technical Specifications	CWE will prepare a bid schedule in the standard City format, which we assume will be provided by the City. CWE will prepare 90% draft and final specifications using the City's boilerplate template.
Engineer's Opinion of Probable Costs	CWE will prepare a detailed cost estimate, ensuring consistency with the City's standard payment methods and including notes to confirm bid coverage. We will research unit costs to establish a cost opinion.

Task	Description
Bid/Advertising Support	CWE will provide engineering support during the bidding process, assisting as directed by the City.
Construction Support	CWE will support construction activities by attending pre-construction meetings, tracking and responding to Requests for Information (RFIs), coordinating City input, and tracking and reviewing submittals while incorporating City review comments. CWE will review submittals and recommend contractor substitutions as appropriate.
RFIs/Submittals	CWE will provide prompt responses to RFIs, conduct shop drawing reviews, and prepare plan modifications as needed.
Record Drawings/As-Builts	CWE will compile field revisions into finalized as-built drawings at project closeout.
Grant Funding	CWE actively supports clients in identifying and securing funding for projects. We recognize that public agencies often face financial constraints that limit their ability to implement critical projects and programs. Helping bridge these funding gaps to bring projects to life is a core part of our mission. As designers ourselves, we have a detailed understanding of the process cities go through to transform ideas into reality. This insight allows us to fully grasp funding needs, project and program workflows, schedules, budgets. Over the past five years, CWE has helped secure $137 million in grant funding for a wide range of projects. We will prepare and review applications to ensure compliance with program guidelines while incorporating key project highlights to maximize competitiveness. Following grant award, CWE can assist with grant management and reporting to ensure compliance.

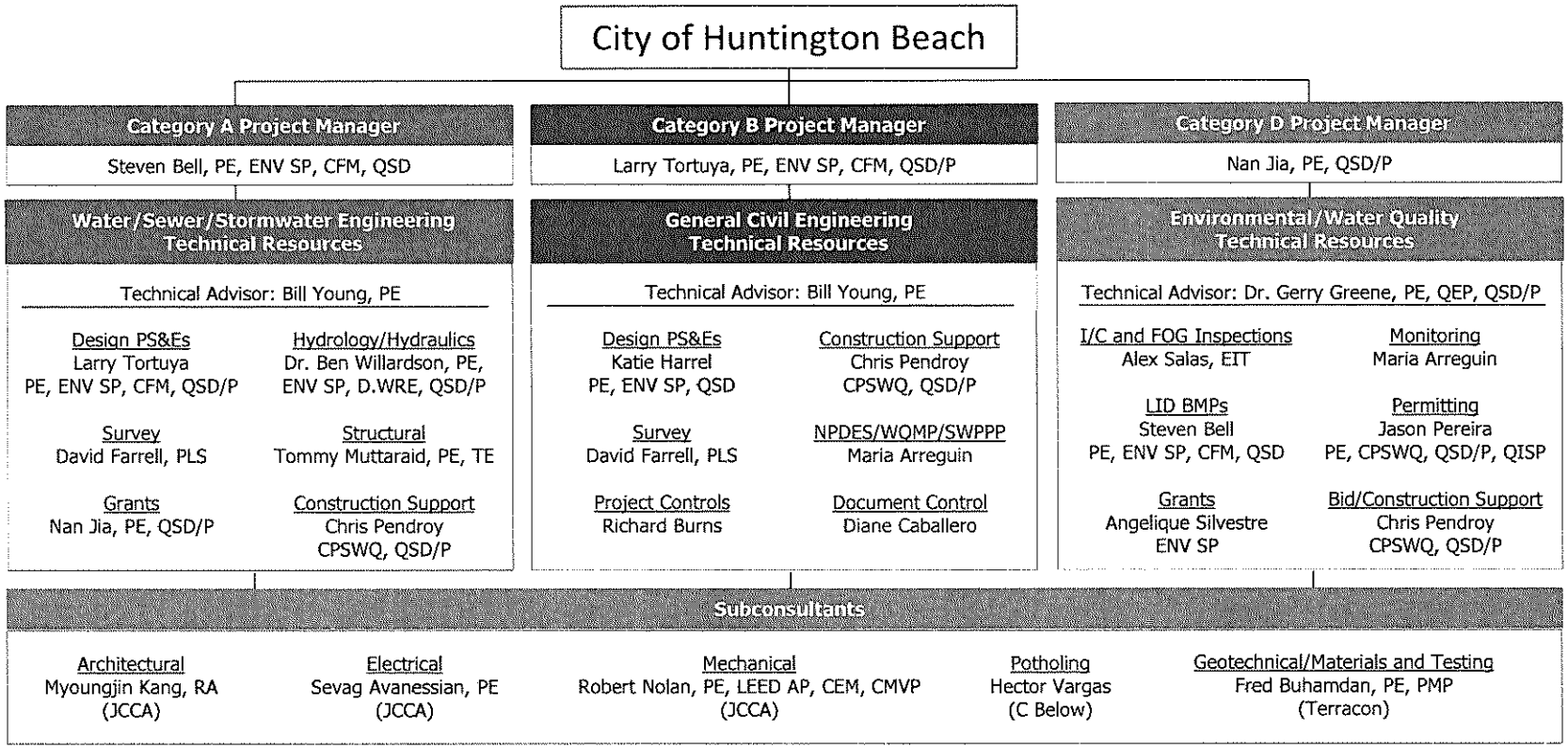
Project Scheduling

The CWE Team brings extensive experience working with public sector clients to meet aggressive schedules and manage project timelines driven by funding deadlines, permitting requirements, coordination efforts, land acquisition, public hearings, or construction milestones. To expedite project delivery, CWE employs strategies such as establishing early agreement on project descriptions, ensuring prompt transmittal of requested data, assigning additional staff to accelerate progress, and implementing shortened review periods when feasible. Our team is committed to delivering quality services on time and within budget. We have a proven track record of meeting aggressive deadlines without compromising quality.

CWE's project team is flexible and adaptable, adjusting to evolving project needs as required. We recognize that each task order has unique demands, and we will collaborate closely with the City to understand project components and provide effective, tailored solutions.

Staffing

The organizational chart below illustrates the chain of command between the City, CWE's Project Managers and our staff's technical resources by category, and potential subconsultants we may utilize. Full resumes of key personnel listed are provided in **Appendix A**. Resumes of supporting personnel can be rapidly furnished upon request.



Qualifications

Since 2006, **CWE's** (a certified Minority [**MBE**] and Small Business Enterprise [**SBE**]) trusted and distinguished civil infrastructure, water resources, and environmental engineering services have enhanced the quality of life of our esteemed communities. We are privileged to have served over 350 public municipalities, utility companies, private businesses, and federal agencies who have benefitted from our promise of **Creating a Better Tomorrow, Today™**. Our award-winning industry leaders actively work to cultivate the engineering protégés and environmental stewards of tomorrow. We work tirelessly to bring the mastery, creativity, and commitment necessary to deliver forward-thinking results to enhance the communities we live, work, and play in, leaving them better for the next generation. This is the CWE standard.

CWE has been recognized by the Zweig Group as a "Hot Firm" five times and a "Best Firm To Work For" eight years in a row. These honors not only highlight CWE's significant business growth, but also reflect our growing staff's sense of purpose and happiness at CWE. We are eager to demonstrate how our engaged employees prompt clients to return, and show the City of Huntington Beach what benefits our dedicated engineers and scientists can bring to your table and fulfill your on-call professional consulting needs. You deserve nothing less than a trailblazing, solutions-oriented firm to provide water, sewer, and stormwater engineering; civil engineering; and environmental and water quality services. CWE is that firm!

Introductions to our subconsultants are provided below.

JCCA

Architectural/Mechanical/ Electrical

JC Chang & Associates (JCCA) has 39 years of experience in the architectural, civil, structural, mechanical/plumbing, and electrical engineering fields. They provide services on a wide variety of projects for government agencies at federal, state, county, and municipal levels, as well as school districts, medical facilities, aerospace companies, and commercial businesses. Services include the design of new facilities, and the renovation, repair, and rehabilitation of existing facilities.

C BELOW SUBSURFACE IMAGING An RMA Company

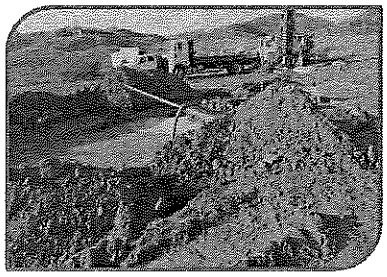
Potholing

C Below has been in the utility locating and mapping business for 15 years. They locate horizontal and vertical locations of underground utilities like water, gas power, and waste using ground penetrating radar (GPR), closed-circuit television (CCTV), utility locators, electromagnetic locators, and potholing. This prevents costly delays from damages caused by cutting, coring, drilling, or digging in areas congested by unforeseen hazards in concrete, masonry, and underground.

Terracon

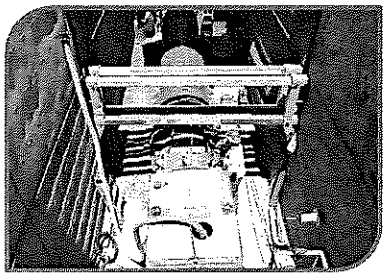
Geotechnical/ Materials and Testing

Terracon is a multi-discipline consulting firm that has provided quality services since 1965. They specialize in geotechnical engineering/consulting, materials testing and special inspection, environmental services including asbestos consulting, and facilities services on over 31,000 national projects. Subsurface exploration, foundation and slope stability, liquefaction potential, and infiltration rates are just a few of the geotechnical tasks the team can provide on an as-needed basis.



US Army Corps of Engineers (USACE) Dulzura Brown Field Border Patrol Station; September 2017 – April 2021

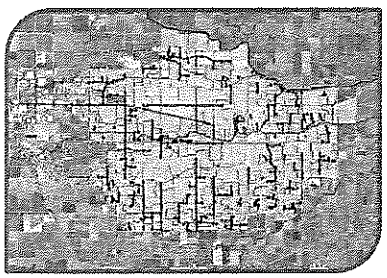
CWE provided engineering services, including California Department of Transportation (Caltrans) format improvement plans for the widening of Highway 94. The highway widening was needed to accommodate acceleration/deceleration lanes into the entrance of the Station. Tasks included: developing road improvement plans, traffic control plans, signing and striping plans, sewer design plans, and storm drain PS&Es for approval from Caltrans. The ultimate design included designing improvement plans for the installation of the water well pump, mechanical piping, water treatment (filtration, disinfection), and electrical power/controls for the pumps; designing tank piping and valves; developing a site-specific Stormwater Pollution Prevention Plan (SWPPP); preparing onsite sanitary sewer plans for the collection of wastewater from each of the facility buildings; preparing plans for the treatment and disposal of wastewater flows; and drilling a pilot test water well and checking pumping capacity (yield tests) of the groundwater aquifer. CWE tested water quality to assure potable water met or exceeded San Diego County and State of California water quality standards. ***STAFF: Bill Young, Project Manager; Steven Bell, Hydrology/Hydraulics Lead; Chris Pendroy, Constructability Review***



Talk to our reference on page 20

City of Torrance Miscellaneous Water Main Replacements; May 2014 – Ongoing

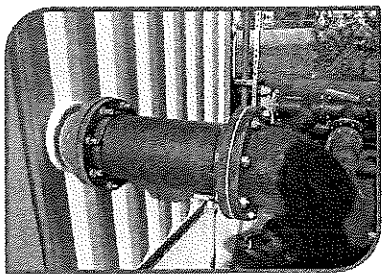
CWE has provided design PS&Es on numerous water main projects for the City of Torrance over the past decade. This includes jack-and-bore installation of storm drain piping, improvements to a 3-million-gallon water tank, and upgrading a booster pump station for North Well Field Phase II; replacing existing 9,100 linear feet of ductile iron water mains, valves, fire hydrants, service lines, and meters in the I-405/North High School neighborhood; and installing 15,230 linear feet of new water mains, valves, fire hydrants, service lines, meters, the abandonment of the existing mains, cast iron main replacement for the 190th Street/Prairie Avenue neighborhood. Tasks include utility research, potholing, Caltrans and Los Angeles County Flood Control District (LACFCD) permit processing, performing design surveys and hydraulic analyses, and providing bid-ready construction documents. ***STAFF: Steven Bell, Project Manager; Bill Young, Technical Advisor; Chris Pendroy, Bid/Construction Support; Katie Harrel, Design Support***



City of Visalia Public Facility Master Plans for Storm Water and Sanitary Sewer Collection; October 2018 – June 2023

CWE assisted the City of Visalia with its Storm Water Master Plan update to minimize stormwater runoff and volumes, control water pollution, and maximize groundwater recharge covering approximately 38 square miles within and near the City. Challenges addressed included implementing a project approach that focuses on stakeholder involvement and consensus to secure buy in for project implementation; coordinating this planning effort with development of the Stormwater Resources Plan

Phase II MS4 permit, and incorporate appropriate elements of the Federal Emergency Management Agency's (FEMA's) Community Rating System (CRS) program that will further enhance the City's floodplain management and contribute towards the City's CRS in the program; reviewing and revising the City's wastewater generation rates based on water conservation and flow reductions; constructing accurate, defensible hydraulic modeling tools to allow for educated decision-making and capital project definition; and developing electronic deliverables that allow the City to be nimble and flexible to changes in development assumptions and growth patterns. Tasks performed included: review of existing data and collection of new data; model development and analysis using EPA-SWMM; waterways modeling and analysis using HEC-RAS; evaluation of retention basins, pumps, and discharge pipe modeling and analysis, preparation of a master plan based on the results; and evaluation of floodplains and the CRS. ***STAFF: Dr. Ben Willardson, Project Manager; Steven Bell, Senior Engineer***



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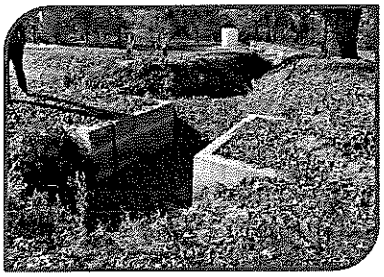
City of San Fernando Water and Wastewater Engineering Services; December 2021 – Ongoing

CWE is providing general engineering support services for the City's water and sewer system, which includes assisting with conducting engineering assessments of the City's aging infrastructure, preparing water and sewer master plans, assisting with developing a main replacement program based on an engineered assessment, and making recommendations for the City's CIP planning efforts. Tasks include a condition and engineering assessment to identify structural and operational issues, failure analysis, and mitigating future breakdowns; evaluating the capacity of the City's existing infrastructure under current conditions and plan for the capacity required by future conditions associated with anticipated development projects; water and sewer infrastructure design; bid and construction support; and construction inspections to verify the workmanship and quality of the contractor's work are to industry standards and in compliance with project specifications. ***STAFF: Katie Harrel, Contract Manager; Bill Young, Task Manager; Larry Tortuya, Senior Engineer; Steven Bell, Senior Engineer; Chris Pendroy, Bid/Construction Support***



City of Visalia East Side Regional Park Basins D, G, and F; January 2020 – Ongoing

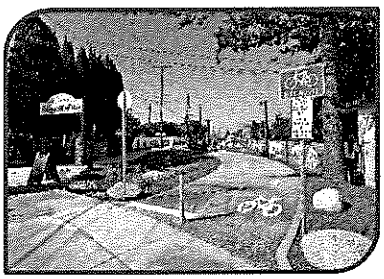
CWE is preparing PS&Es for the construction of three new groundwater recharge basins. The project is part of a 200+-acre master planned regional park complex that features seven recharge basins. The three basins CWE is working on, Basins D, F, and G (which has already been built), will cover approximately 60 acres and provide over 2,000 acre-feet per year, on average, of groundwater recharge. Recharge capacity within all basins will be enhanced through the implementation of drywells, the first project to use such a BMP within the City of Visalia. The multi-purpose facility will not only increase the City's groundwater supply for future potable water use, but also preserve riparian valley oak habitat and provide public outdoor recreational activities. Recreational facilities to be constructed will include ADA-accessible trails, a disc golf course, pedestrian bridges, circuit exercise stations, and connections to regional trails. Tasks for each basin include project management; topographic survey; utility research;

preliminary basis of design; hydraulic engineering using EPA-SWMM; cross-sectional flow analyses using HEC-RAS; permitting assistance between agencies such as Tulare Irrigation District, USACE, Central Valley Regional Water Quality Control Board (RWQCB), San Joaquin Valley Air Pollution Control District, Caltrans, and United States Environmental Protection Agency (USEPA); preliminary engineering and geometric design; 60%, 90%, 100% and final PS&Es; geotechnical and well pump testing services; electrical/Supervisory Control and Data Acquisition (SCADA) services; bidding support; and construction administration. ***STAFF: Bill Young, Project Manager; Jason Pereira, Permitting Lead; Ben Willardson, Hydraulics Lead; Steven Bell, Conditional Letter of Map Revision (CLOMR) Lead and Design Support; Chris Pendroy, Bid/Construction Administration Lead; Katie Harrel, Design Support; Nan Jia, Design Support; David Farrell, Survey Lead; Tommy Muttaraid, Structural Lead; Fred Buhamdan, Geotechnical Lead; Sevag Avanessian, Electrical Lead***

City of Santa Ana On-Call Project Design Services; October 2020 – Ongoing

CWE is providing on-call project design services on projects such as:

Rousselle Street Storm Drain and Flood Protection: Located between Warner and Edinger Avenues, CWE provided design PS&Es for a multi-benefit project that will reduce flood risks, address future inland climate change, and improve water quality. The project will include upgrading approximately 1,350 lineal feet of existing 51-inch storm drain to an 8-foot-wide by 7-foot-high reinforced concrete box (RCB) to reduce surface flooding in the vicinity. Drought-tolerant landscaping and water quality biotreatment systems will be installed with the project. Community resiliency will be enhanced through carbon sequestration and reduced flood risk from higher intensity storms forecast to occur due to climate change. CWE also prepared a Proposition 68 Floodplain Management, Protection, and Risk Awareness (FMPRA) grant that resulted in an award of $4,950,000. The Department of Water Resources (DWR) Benefit-Cost Ratio (BCR) template spreadsheet was used to quantify the benefit-to-cost ratio. Tasks performed will include project management and coordination, topographic survey, utility coordination and location, geotechnical exploration, community outreach, WQMP preparation, PS&E development, and support during bidding phase and construction phase.



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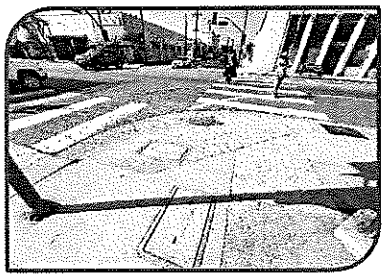
King Street Urban Greening: CWE prepared a Clean California Local Grant Program (CCLGP) grant application for this project, resulting in an award of nearly $1,500,000 for design and implementation of a project that turned the debris-filled King Street parcel into a passive park-like area that supports multiple modes of transportation, such as walking and biking. Existing impermeable surface was removed to make way for drought-tolerant landscaping, shade trees, pervious pavement bicycle path, energy-conserving lighting, interpretive signage, seating, ADA improvements, stormwater bioretention and infiltration systems, waste receptacles, and public art. The project, which captures runoff from a local drainage area of about 10 acres between King Street and Fairview Street, features an innovative approach in managing stormwater runoff. First, stormwater flows into the Project area and is directed into two bioretention basins that have specialized plant, soil, and gravel layers that are designed to filter pollutants and prevent trash from entering the City's storm drain system. The stormwater then percolates through the bioretention basins into an underground stormwater infiltration chamber system. This system is designed to infiltrate approximately 116,700 gallons of stormwater per storm. Once in the infiltration

chamber system, the stormwater slowly percolates down into the North Orange County groundwater basin, where it will eventually become part of the local water supply. This groundwater basin provides drinking water for approximately 85% of North Orange County. Tasks include researching existing field conditions and records, topographic survey, sizing the stormwater capture system in the conceptual design plans based on the 85th percentile storm event, environmental documentation, providing PS&ES, providing public outreach, utility coordination, geotechnical exploration, and potholing. This project received the 2024 APWA Southern California Chapter BEST Project of the Year Award for Storm Water Quality >200,000 Population, the 2024 SWS Top Project award from *Storm Water Solutions* magazine, and a 2024 California Stormwater Quality Association (CASQA) Award as an Outstanding Stormwater Capture and Use Project.

STAFF: Katie Harrel, Project Manager; Jason Pereira, Principal-in-Charge; Steven Bell, Design Lead; Nan Jia, Grant Writing Support; Gerry Greene, Stormwater Sampling Lead; Tommy Muttaraid, Structural Lead; David Farrell, Survey Lead; Sevag Avanessian, Mechanical/Electrical Lead



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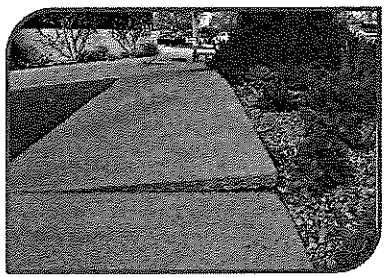
City of Los Angeles Bureau of Engineering (BOE) Task Order Solicitation (TOS) 10 – Design and Engineering Support Services for the Connecting San Pedro: Pedestrian Improvement and Multimodal Access Project; October 2019 – October 2024

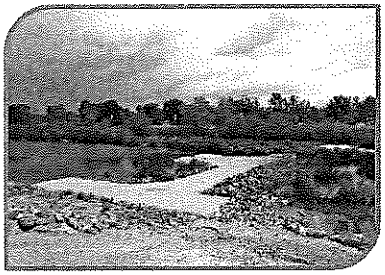
This project is part of the Measure M Multi-Year Sub Regional Plan (Measure M MSP) – Transportation System and Mobility Improvements Program (TSMIP) adopted in May 2018, for which the primary goals include improved traffic flow/safety, repaired sidewalks, repaved streets, and improved connectivity. CWE developed civil plans that included sidewalk and roadway improvements, bus extensions, curb extensions, curb ramps, drainage features, and composite substructure and overhead utilities. The project scope included 12 intersections, one signal improvement, more than 70 curb ramps, and bus extensions to benefit four different bus operators (Metro, DASH, Commuter Express, and Palos Verdes Peninsula Transit Authority [PVPTA]). Design support during bid, award, and construction phases will also be provided.
STAFF: Katie Harrel, Project Manager; Angelique Silvestre, Assistant Engineer; Fred Buhamdan, Geotechnical Lead



City of Los Angeles BOE TOS 13 – Sidewalk Repair Program (SRP); January 2024 – Present

CWE is providing horizontal layout design, full design, and design support services during construction for the SRP. The work being performed under the SRP includes the reconstruction of inaccessible and damaged pedestrian infrastructure. This includes reconstruction of sidewalks to ensure they are ADA compliant and accessible to all pedestrians. CWE is assisting with the assessment and then developing design plans of elements such as curb ramps, utilities, driveways, curb and gutter, roadway transitions, crosswalks, and trees. CWE has been assigned 31 projects under this task order. In total, 18 projects are 100% complete, with 13 active projects in production. The initial stage of each project includes a field review of each project site. Members of the CWE team compile project photo

documentation, which includes using our 48-inch digital auto-calibrated level to conduct quick and accurate measurements of cross-slopes. We also utilize a handheld geocoded site data to upload real-time data from the field. Cross-slopes, driveway, driveway apron slopes, tree root, etc. are evaluated as part of this process. Private improvements are also evaluated as part of the field review. This is necessary as they may encroach on to the public right-of-way and/or temporary construction easements may be required from property owners during construction. As part of the design, CWE coordinates with the Urban Forestry Division, and the private property owners to get their approvals including temporary right-of-entry permit approvals. These are photo documented for the City Team to verify and review at a future time. The CWE team is using AutoCAD/Civil3D to layout the site plans and details. Additional tasks include preparing full design plans which have 10%, 50%, 75% QA/QC, 90%, and 100% milestone submittals, conducting virtual and in-person meetings, design support services during construction, and topographic survey services. ***STAFF: Vik Bapna, Project Manager***



Talk to our reference on page 20

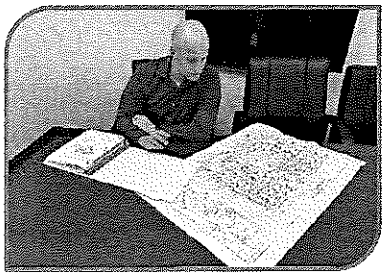
Orange County Public Works (OCPW) Newport Bay Watershed Fecal Coliform TMDL Support; 2024 – Ongoing

The Santa Ana RWQCB adopted a Time Schedule Order (TSO) requires the recipients (the County of Orange, Orange County Flood Control District [OCFCD], and the Cities of Costa Mesa, Irvine, Laguna Hills, Laguna Woods, Lake Forest, Newport Beach, Orange, Santa Ana, and Tustin) to follow the structured four-year timeline and achieve compliance with the Water Contact Recreation Waste Load Allocations (WLAs) for urban runoff under the Newport Bay Fecal Coliform Total Maximum Daily Load (TMDL) and Orange County MS4 Permit. The CWE team is leading the implementation of the structural control evaluation and targeted source investigation, and providing additional support on an as-needed basis. This includes structural control evaluations to quantify reductions in fecal coliform bacteria densities achieved by the Santa Ana-Delhi Channel Diversion and Trash Capture System, Peters Canyon Channel Water Capture and Reuse Pipeline, Irvine Ranch Water District (IRWD) San Joaquin Marsh and Wildlife Sanctuary, Back Bay Drive Drain Diversion, and Newport Dunes Catch Basin Plugs. CWE is also coordinating with local jurisdictions and evaluating two subwatersheds to identify potential sources of fecal indicator bacteria. ***STAFF: Nan Jia, Project Manager***

City of Azusa MS4 Permit Services and I/C Inspections; August 2017 – Ongoing

CWE is providing Safe, Clean Water Program (SCWP) reporting services, MS4 permit annual reporting services, and industrial and commercial inspections for restaurants, automotive repair shops, retail gasoline outlets, nurseries, and other facilities to help the City with MS4 Permit compliance. Tasks include drafting Notice of Inspection (NOI) and Notice of Violation (NOV) notification letters; performing over 600 industrial and commercial facility inspections; performing 80 NOV inspections for compliance with Senate Bill 205; putting the inspections into a GIS database system; preparing SCWP annual expenditure reports using the City's annual plan; and preparing the City's individual annual report. CWE also provides facility owners/operators with educational materials during inspections to prevent stormwater pollution, illegal

discharges and illicit connections, and to improve BMP implementation. CWE assisted the City in recuperating over $102,000 in SCWP funding during their Fiscal Year 2020-21 SCWP Expenditure Report by applying expenditures made by the City since November 2018. Furthermore, CWE assisted the City in the preparation of their SCWP Municipal Program Transfer Agreement Annual Plan, and identified tasks and activities for the City to meet MS4 Permit requirements, including trash full capture system implementation, infrastructure project planning and funding, and water quality monitoring program implementation. ***STAFF: Gerry Greene, Project Manager; Jason Pereira, Principal-in-Charge; Maria Arreguin, Inspector; Alex Salas, Inspector***



Orange County Public Works WQMP Template for Internal County Projects; February 2018 – September 2020

CWE developed a template addressing the four stages of the WQMP process utilized by OCPW including Operation and Maintenance (O&M), Environmental Resources, Construction, and Engineering Design. CWE identified deficiencies in OCPW's current process prior to developing the WQMP template to ensure the template addresses and corrects these deficiencies. Elements of the template included a transmittal, a preliminary checklist, inspection requirements, a transfer document, an O&M Manual, and an appendix of applicable environmental documents. The preliminary checklist for current permit WQMP triggers described general triggers, specific priority land uses triggers, and specific project triggers (ESAs/Areas of Special Biological Significance [ASBS], Contaminated Soils, Infiltration/Aquifer concerns). Inspection requirements included clearances or check-stops required for approval including a BMP construction inspection checklist. The transfer document reflects the transition process through departments and ownership of the WQMP. This document includes the geolocation of each BMP's latitude and longitude coordinates, and a provision to require digital as-builts to be provided to the County within a limited amount of time following completion of construction activities.
STAFF: Steven Bell, Project Manager

Fee Proposal

Hourly rates of CWE and our subconsultants have been uploaded to the City's PlanetBids portal, per the Request for Proposals (RFP) instructions.

References

References of Work Performed Form

(List 5 Local References)

Comany Name: CWE

1. Name of Reference: City of Torrance
   Address: 20500 Madrona Avenue, Torrance, CA 90503
   Contact Name: Wilson Mendoza Phone Number: (310) 618-3052
   Email: wmendoza@torranceca.gov
   Dates of Business: May 2014 - Ongoing

2. Name of Reference: City of San Fernando
   Address: 117 Macneil Street, San Fernando, CA 91340
   Contact Name: Alex Mendez Phone Number: (818) 898-1293
   Email: amendez@sfcity.org
   Dates of Business: December 2021 - Ongoing

3. Name of Reference: City of Santa Ana
   Address: 20 Civic Center Plaza, Ross Annex, M-20, Santa Ana, CA 92702
   Contact Name: Craig Foster Phone Number: (714) 647-5659
   Email: cfoster@santa-ana.org
   Dates of Business: October 2020 - Ongoing

4. Name of Reference: City of Los Angeles Bureau of Engineering
   Address: 201 N. Figueroa Street, Los Angeles, CA 90012
   Contact Name: Fadi Abboud Phone Number: (213) 485-2057
   Email: fadi.abboud@lacity.org
   Dates of Business: October 2019 - October 2024

5. Name of Reference: Orange County Public Works
   Address: 2301 N. Glassell Street, Orange, CA 92865
   Contact Name: James Fortuna Phone Number: (714) 955-0680
   Email: james.fortuna@ocpw.ocgov.com
   Dates of Business: 2024 - Ongoing

Appendix A

Resumes

Steven Bell, PE, ENV SP, CFM, QSD

Water/Sewer/Stormwater Engineering
Project Manager

Years of Experience
19

Education
MS, Civil Engineering, University of Oklahoma

Registrations
Civil Engineer, CA, 81531

Envision™ Sustainability Professional, 30283

Certified Floodplain Manager, US-19-11240

Qualified SWPPP Developer, C81531

Steven is experienced in civil design, water resources engineering, project management, and technical advising. He is well-versed in numerous hydrologic, hydraulic, sediment transport, distribution, and water quality models including, but not limited to EPA-SWMM, EPANET, HEC-HMS, HEC-RAS, HEC-SSP, MODRAT, XP-SWMM, and XP-WSPG, and has developed his own stormwater modeling and basin routing tools using mass balance and spreadsheet models to better inform clients about the movement of water through their infrastructure. This versatility in modeling software has been a valuable asset in calculating flows for storm drains, water mains, and pipelines; installing water well pumps, mechanical piping, and electrical controls; improving catch basins, curbs, gutters; designing diversion systems, green streets, medians, and parks with multi-benefit enhancements; measuring water quality volumes and pollutants for creeks, basins, and channels; mapping floodplains and floodways; and performing erosion control and flooding mitigation.

RELEVANT EXPERIENCE

US Army Corps of Engineers Dulzura Brown Field Border Patrol Station Hydrology and Hydraulics Support for design services for a border patrol station that includes facilities for 600 agents and 130 detainees. Tasks performed include providing calculations for the installation of the water well pump, mechanical piping, water treatment (filtration, disinfection), and electrical power/controls for the pumps. Additional tasks included preparing Caltrans format improvement plans for the frontage road along Highway 94; designing improvement plans for the water well, wastewater collection system, and pump station; designing tank piping and valves; developing a site-specific SWPPP; preparing on-site sanitary sewer plans for the collection of wastewater from each of the facility buildings; preparing plans for the treatment and disposal of wastewater flows; drilling a pilot test water well and checking pumping capacity (yield tests) of the groundwater aquifer. Also included testing water quality to assure potable water meets or exceeds San Diego County and State of California water quality standards.

City of Torrance Yukon Avenue Pump Station Upgrades Senior Engineer for providing upgrades to the Yukon Avenue Pump Station due to its life cycle needs and the importance of the grade-separated crossing to the local traffic needs within the North Torrance area. Improvements included replacing the pump motor; removing 2-foot by 3-foot drop inlets along the east and west ends of the 60-foot forebay storage box in Yukon, as well as installing additional maintenance access locations there; installing a hydro-dynamic separator for stormwater quality treatment; and repairing the SCADA system antenna. Tasks included obtaining available records from the City, conducting a detailed utility search within and around the project area, conducting a site evaluation, topographic survey, preparing base maps, preparing design PS&Es, submitting traffic control plans for the City and Caltrans, submitting a post-construction BMP plan to stabilize slope at pump station, and provide bid and construction management support.

City of El Monte Garvey Avenue Grade Separation Drainage Improvement Design Lead for a project improving drainage infrastructure and capturing stormwater for multiple benefits. The project involves upgrades to the existing drainage system, including installation of new catch basins, inlets, and storm drain pipes; construction of two subsurface infiltration systems capable of storing and infiltrating 12 acre-feet of runoff per year; and implementation of complete street initiatives including bike lanes, sidewalks, ramp improvements, landscaped medians, and street lighting. Tasks performed include providing hydraulic modeling for the existing storm drain system, preparing preliminary design reports, hydraulic modeling of alternative designs, preparation of design plans and specifications, and cost estimating. Additional tasks include project management; stakeholder outreach; technical evaluations; right-of-way acquisition; obtaining regulatory permits from Caltrans, Union Pacific Railroad, and Metrolink; developing an O&M plan; and applying for and winning grants for project funding from Los Angeles County, Caltrans, and the California DWR.

Water Replenishment District of Southern California Tract 180 Water Quality Improvement Task Support for evaluating the Tract 180 water system and updating the recommendations from the 2013 Master Plan for water quality and infrastructure improvements. Specific emphasis was placed on supply sources from existing wells, treatment for either well if necessary, tank inspections and other storage facilities, distribution mains, and other water components. Tasks included collecting and reviewing existing information, including any previous planning and engineering studies, evaluations, inspection reports, etc. related to water system conditions and needs; reviewing historic water usage, population projections, per-capita water demand, water conservation and other pertinent information; review existing supply capacity and reliability from the system wells, the Tract 349 and Golden State interconnections, and other emergency interconnections to meet existing and future demand, and develop draft water availability calculation for peak flow conditions; prepare a distribution system analysis using EPANET; and preparing a supplemental report.

City of Visalia East Side Regional Park Basins D, G, and F CLOMR Lead and Design Support for the construction of two new groundwater recharge basins. The project is part of a 200+-acre master planned regional park complex that will feature seven recharge basins when fully implemented. The two new basins will cover approximately 54 acres and provide over 2,000 acre-feet per year, on average, of groundwater recharge. The multi-purpose facility will not only increase the City's groundwater supply for future potable water use, but also preserve riparian valley oak habitat and provide public outdoor recreational activities. Recreational facilities to be constructed will include ADA-accessible trails, a disc golf course, pedestrian bridges, circuit exercise stations, and connections to regional trails. Additional tasks include project management; topographic survey; utility research; preliminary basis of design; hydraulic engineering; cross-sectional flow analyses; permitting assistance; preliminary engineering and geometric design; 60%, 90%, 100% and final PS&Es; geotechnical and well pump testing services; electrical/SCADA services; bidding support; and construction administration.

Los Angeles County Department of Parks and Recreation Earvin Magic Johnson Park Senior Engineer for drafting street improvement plans, providing hydraulic revisions and conducting a drainage analysis for the 113-acre Earvin Magic Johnson Park and Ujima Village. The renovation includes improvements to south lake area, including the addition of a community center, a splash pad, playground facilities, and use of stormwater for irrigation and lake water replenishment. A water and sewer study was conducted to assess the feasibility of bringing potable water from the existing water line, adding a line for fire hydrants, and delivering waste water to the existing water system.

Larry Tortuya, PE, ENV SP, CFM, QSD/P

General Civil Engineering Project Manager and Design PS&Es Lead

Years of Experience

24

Education

BS, Civil Engineering, California State Polytechnic University, Pomona

Registrations

Civil Engineer, CA, 71502

Envision™ Sustainability Professional, 22637

Certified Floodplain Manager, US-17-09965

Qualified SWPPP Developer/ Practitioner, 27594

Larry has been providing comprehensive civil engineering services throughout the state of California for more than two decades. He has worked as part of a collaborative design team creating storm drain master plans, PS&Es, floodplain management studies, and writing hydrology and hydraulics reports for both the public and private sectors. Larry is responsible for the planning, execution and coordinating design of street-related improvements, including grading, traffic control, water quality design as well as construction support. He also provided project management services for NPDES compliance contracts and preparing water quality compliance documents for Southern California municipalities.

RELEVANT EXPERIENCE

City of Torrance Citywide Storm Drain Replacement and Installation – Regina Alley Project Manager providing engineering design services for a six-block stretch of Regina Alley to include alley surface rehabilitation, catch basins, RCP, manhole junctions, and grated drop inlets. The goal of this project is to repair the alley, and provide conveyance of stormwater runoff through the alley such that public health and safety are enhanced. The project includes an underground utility through the center of the alley, which will require utility coordination and locating. Assessed the condition of the alley in multiple reaches identifying alternative alignments of the utility, avoiding areas that did not need any rehab or replacement, thus possibly resulting in a cost savings for the City. Tasks managed include a topographic survey; a geotechnical investigation; potholing; utility coordination; hydrology and hydraulic modeling utilizing MODRAT and WSPGW; 30%, 75%, and 100% PS&Es; obtaining LACFCD permits; and assisting with Proposition 68 grant management.

City of Torrance Beach Cities Green Streets Assistant Project Manager for the development of green streets in the Beach Cities of Torrance, Redondo Beach, Hermosa Beach, and Manhattan Beach to capture runoff generated from the 85th percentile storm event so that it doesn't reach the surf zone, as identified in the Beach Cities EWMP. This project is funded by an SCC Grant. The project will collect stormwater from over 200 acres that generate runoff, reduce the volume of runoff, and filter out trash from entering the Herondo and 28th Street storm drains from the four Beach Cities. Hydrographs for each project site were produced using LA County Hydrocalc, and a 20-year simulation model was performed using EPA SWMMM. A variety of BMPs, including porous pavement; catch basin trash screens; biofiltration/bioretention systems; natural systems such as vegetated curb extensions, planters, swales, and rain gardens; and drywells are being designed to intercept, filter, and retain runoff between various locations. This project addresses water quality issues in the Santa Monica Bay, including TMDLs for dry- and wet-weather bacteria, nearshore and offshore debris, and toxic chemicals such as DDT and PCB that often result in beach closures. Tasks managed include project management; preliminary and final design PS&Es; research, data collection, and analysis of utility and street plans, GIS data, Beach Cities RAA and

CIMP data, City-specific templates and plan sets, and stakeholder organizations; community outreach; geotechnical exploration; topographic survey; utility search and potholing; hydrologic analyses; permitting and preparing an IS/MND in accordance with CEQA; dry- and wet-weather monitoring and maintenance that includes an MRP and QAPP; and providing engineering support during bid and construction phases.

County of Orange Santa Ana River Parkway Trail and Bikeway Task Manager for a project that closed a critical two-mile gap in the Santa Ana River bikeway and trail system, to eventually connect to other planned improvements in Riverside and San Bernardino Counties. Responsible for the preparation of alignment concepts, evaluation of alignments, and preliminary construction drawings for the recommended alignments. The Santa Ana River Bikeway is a regional Class I (off-road, paved) bikeway; it accommodates pedestrians, non-motorized commuter, and recreational bicyclists. The Santa Ana River Trail is a regional riding and hiking trail (unpaved); it accommodates walkers, hikers, runners, joggers, mountain bicyclists, and equestrians. Engineering tasks included the analysis of impacts to the flood plain from conceptual bridge designs, conceptual bikeway and riding/hiking trail alignments, required drainage improvements, conceptual grading design, and cost estimates associated with a preferred design alternative.

City of Carlsbad Kelly and Park Drives Road Diet and Multiuse Trail Task Manager for this Operational Improvement Project that incorporates complete street concepts, and included an increase in safety features such as enhanced crosswalks and traffic calming features that include curb extensions, a raised table intersection and roundabouts at the Kelly Drive/Hillside Drive and Kelly Drive/Park Drive intersections. Other project features included buffered Class II bike lanes, a multiuse trail, storm drain enhancements, including BMPs such as bioretention, infiltration trenches and planter strips along a lagoon with sensitive habitat, additional parking and reduction of the overall impervious surface area. Challenging aspects of the project included reducing congestion and red zone parking during school drop-off and pick-up times, environmental permitting, limiting right-of-way requirements.

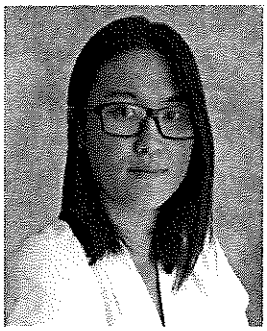
City of Irvine Lower Peters Canyon Street and Flood Control Improvements Drainage Lead Design Engineer responsible for the design of regional drainage facilities. The work included the review and coordination with the structural engineer for a bridge type selection report, sizing of a bridge underpass, design of adjacent bicycle underpass for two new bridge systems, hydraulic modeling of four bridge systems, preparation of PS&Es for the local drainage improvements associated with over one mile of the flood control channel from Barranca Parkway to the Metro Link crossing. Regional flood control improvements included development of PS&Es for over 9,000 feet of channel improvements to the Peters Canyon Channel. The Peter's Canyon Channel plans included the development of bike path under crossings at one existing bridge and the design of one proposed bridge.

City of Anaheim MS4 NPDES Permit Compliance Support Services Project Manager for stormwater permit compliance programs, as the City of Anaheim is required to develop, implement, and refine programs identified in the Orange County's Drainage Area Management Plan. As the permit evolves, the re-issuance often requires refinement to the permit requirements. This project included providing the City of Anaheim with adequately trained and competent managers, administrative, and data management staff to assist the City in interpreting the requirements and refinements in the NPDES Permit or permit compliance programs, assisting with data collection, and sending submittals to Orange County and the RWQCB. Tasks also included assisting the City with grant applications, and design of innovative approaches to water quality compliance, such as regional BMP implementation.

Nan Jia, PE, QSD/P

Environmental/Water Quality Project Manager and Grants Lead

Nan has eight years of experience in environmental and water quality monitoring, technical report writing, database management, and water quality data analysis. Her duties include conducting I/C and food service establishment inspections, developing compliance documents, assisting with grant applications, providing clients with planning tools that identify local and regional green infrastructure and LID projects that meet water quality compliance obligations, mapping potential projects into a GIS format and prioritized projects based on multiple benefits and criteria, and pollutant load analyses for runoff diversion project and BMP effectiveness studies for green infrastructure projects. Prior to employment at CWE, Nan interned for the City of Lino Lakes in Minnesota, where she assisted local governments, businesses, and citizens to develop diversion programs, including implementing a Surface Water Management Plan.



Years of Experience

8

Education

MS, Civil and Environmental Engineering, University of California, Irvine

Registrations

Civil Engineer, CA, 92333

Qualified SWPPP Developer/ Practitioner, 27876

Awards and Recognition

Zweig Group, "Rising Star in the Architect/Engineer/ Construction Industry," 2024

RELEVANT EXPERIENCE

City of Huntington Beach Industrial/Commercial, Construction, and FOG Inspections Environmental Compliance Inspector for providing over 150 I/C inspections and over 1,000 FOG inspections for food service locations per the North Orange County MS4 Permit and the FOG inspections under General Pretreatment Regulations (40 CFR Part 403). Tasks included preparing inspection checklists and forms, conducting I/C and FOG inspections, identifying pollutants and illicit discharges into the storm drain system, documenting observed conditions, providing owners/operators with educational materials to prevent future violations, and incorporating data into an electronic database that allow information to be mapped and integrated into a GIS tracking system.

Orange County Public Works Los Patrones Parkway Clean Water Act Section 401 Water Quality Certification Monitoring and Reporting Project Manager for installing automated water quality sampling equipment at three stormwater structural treatment control BMPs and two receiving water locations to determine the concentration and mass-based pollutant removal efficiencies for each monitored constituent, for three qualifying storm events over a five-year period through the 2023-2024 storm season. Tasks managed consist of developing a Monitoring Plan and QAPP update; procurement and installation of monitoring equipment; operating, maintaining, and downloading flow data from automated sampler equipment; wet-weather sampling; data analysis; and annual reporting.

City of Monrovia I/C Inspection and Stormwater Permit Compliance Services Project Manager for providing I/C inspection services for the 2024-2025 fiscal year, per the NPDES MS4 Permit adopted by the Los Angeles RWQCB. In addition to conducting approximately 88 industrial non-filer inspections in which the implementation of good housekeeping, spill prevention, and treatment control BMPs (if applicable) will be evaluated, a Business Assistance Program is being implemented for I/C facility stormwater pollution prevention BMPs and reducing potential pollutant discharges. Providing educational

materials for facility owners like industrial inspection notification letters including references to the MS4 Permit, IGP, SWRCB NEC guide, NEC annual certification guide, and discharger's guide to SMARTS; SWRCB NEC and IGP brochure; and BMP fact sheets.

City of Rosemead MS4 NPDES Permit Inspection Services Inspector for providing I/C, redevelopment construction, and post-construction BMP inspections. Tasks included approximately 200 food service, 100 automotive repair, 20 retail gasoline outlets, and six nursery facility inspections; up to four redevelopment construction inspections one per month; post-construction BMP inspections; and incorporating inspection data into an electronic database that allow information to be mapped and integrated into a GIS tracking system. Additional tasks performed included: staff training on construction/erosion plan review and permitting, erosion/sediment control plan inspections, and staff IC/ID response; developing activity-specific public education content regarding source control BMPs and use and disposal of pollutants relevant to Rio Hondo Reach 3 and downstream receiving water impairments; redevelopment planning; public facility inventory and inventory of regional BMP development opportunities; identifying regional BMP projects for strategic and cost-effective analyses; public activity management; installing full capture devices and conducting DGR studies for trash TMDL compliance; IC/ID investigation and elimination; and annual reports submitted to the Upper Los Angeles River EWMP Group Lead Agency.

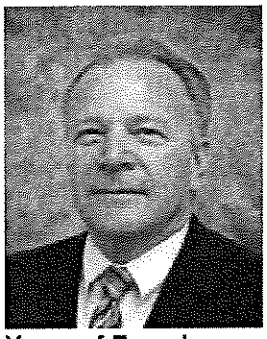
City of Irwindale Environmental Management for NPDES and Other Services Project Manager who helped revise the existing Integrated Monitoring Program Plan to be consistent with the 2021 MS4 Permit requirements. The proposed updates included developing ArcGIS based maps delineating the City boundary, receiving waters, MS4 catchment drainage and outfalls, subwatershed boundaries, land use, and monitoring locations. Other updates reevaluate current receiving water and stormwater outfall monitoring locations, propose new monitoring location(s) (if necessary), and explain how and why monitoring at the proposed location(s) will provide representative measurement of the MS4 discharges' effects on the receiving water. Responsible for identifying constituents and monitoring frequency at each monitoring location based on TMDL and 303(d) requirements as well as updating the sampling protocol and suspended sediment and toxicity sampling requirements.

San Bernardino County Flood Control District On-Call Professional Engineering and Regulatory Compliance Services for NPDES Phase I and Phase II MS4 Permit Implementation Assistance Senior Engineer for preparation of six Unified Annual Reports documenting implementation and compliance of the Areawide Stormwater Program. Review and commenting on the 2022 Staff Working Proposal Regional MS4 Permit, Order No. R8-2022-0008 (NPDES No. CAS618000). Services performed include: collecting ROWD data, attending an Orange County MS4 Permit hearing on the County's behalf, preparing a Proposition 1 planning grant workplan and application for a Stormwater Resource Plan, post-construction BMP inspections, LIP preparation for both the County and SBCFCD, and assisting with regulatory support for a Santa Ana RWQCB audit of the New Development and Redevelopment Program.

City of Manhattan Beach 28th Street Stormwater Infiltration Grant Management Support for the coordination of grant agreements and the preparation of funding expenditure reports. SCWP quarterly progress reports and annual reports have been prepared and submitted before the program required deadlines. Coordinated with the City and grantor on the CNRA Proposition 68 Urban Flood Protection funding agreement. Prepared quarterly updates on project accomplishments, progress, upcoming tasks, and reimbursement status. For the Proposition 1 SWGP Implementation funding, assisted with initial forms, draft resolution, agreement coordination, and deviation request to address the deviation from the originally proposed design.

William "Bill" Young, PE

Water/Sewer/Stormwater Engineering and General Civil Engineering Technical Advisor



Years of Experience
40+

Education
BS, Civil Engineering, California State Polytechnic University, Pomona

Registrations
Civil Engineer, CA, 35715

Bill has 40 years of experience managing large and small design projects from conceptualization and design through construction. Bill's experience covers a diverse range of community improvement projects, involving water and sewer infrastructure; parking lot, street, curb, and gutter repairs and improvements; highway design; pavement rehabilitation design, including pervious pavement and interlocking pavers; bioswales and bioretention systems; stormwater BMPs; drainage and flood control infrastructure; and irrigation lines. He also has experience obtaining all necessary permits for these projects. His career experience includes three years of field survey, including field topography, boundary, and construction staking.

RELEVANT EXPERIENCE

US Army Corps of Engineers Dulzura Brown Field Border Patrol Station Project Manager providing design for a station that includes facilities for 600 agents and 130 detainees. Tasks managed include: preparing Caltrans format improvement plans for the frontage road along Highway 94; designing improvement plans for the installation of the water well pump, mechanical piping, water treatment (filtration, disinfection), and electrical power/controls for the pumps; designing tank piping and valves; developing a site SWPPP; preparing on-site sanitary sewer plans for the collection of wastewater from each of the facility buildings; preparing plans for the treatment and disposal of wastewater flows; drilling a pilot test water well and checking pumping capacity (yield tests) of the groundwater aquifer. Also included testing water quality to assure potable water meets or exceeds San Diego County and State of California water quality standards.

City of Bell Gardens John Anson Ford Infiltration Cistern Project to Capture Urban Runoff Project Manager for developing design PS&Es for this urban runoff capture project. John Anson Ford Park is located in the City of Bell Gardens and the project will help the City and the Lower Los Angeles River Upper Reach 2 Watershed Management Group meet its NPDES MS4 Discharge requirements. The project will capture dry weather and storm runoff from a highly industrialized urban catchment area of 2,295 acres. The project is anticipated to provide compliance with existing water quality objectives for the entire Rio Hondo watershed portion of the LAR UR2 WMA. Tasks include: a geotechnical field analysis, utility search, hydrologic and hydraulic analysis, topographic mapping, preparation of design plans, construction specifications, and engineering cost estimates.

City of Hermosa Beach North Pier Parking Structure Assessment and Repairs Project Manager for the design of 122,000 square feet of repairs of the structure concrete sections and railing, replacement of the sump pump system, and electrical system repairs including lighting and elevator. Also performed a condition assessment of these facilities were presented in a report format with recommendations for repairs, maintenance, or additional nondestructive testing/monitoring if necessary. Structure assessment services were performed to document the existing condition of the structure in representative areas, determine if monitoring or invasive testing was warranted in determining the cause of cracks, and recommend conceptual repairs/provided an opinion of probable cost for the conceptual repairs.

City of Long Beach Low-Flow Diversion Systems Design Lead for water quality systems to reduce local sources of contamination by eliminating dry-weather discharges to the Los Angeles River Estuary and Outer Harbor and remove sediment and trash. These goals were accomplished by rerouting all runoff during dry-weather, winter-dry, and non-wet weather from three different storm drains to three different City-owned sanitary sewer systems using three low-flow diversion systems in conjunction with two vortex separation system units, subsurface storage systems, trash racks, and storm drain systems. Tasks included: developing PS&Es, performing mechanical design of diversion structures, developing permit applications, analyzing water quality constituents, calculating anticipated pollutant load reductions, developing an MRP, conducting reporting and effectiveness studies, and construction support services.

Naval Facilities Engineering Systems Command Design-Build JV P1045 Potable Water Main Extension at Camp Pendleton Managed utility and site design for Camp Pendleton's Potable Water Main Extension Project. This project involved designing and constructing a new potable water conveyance from the North System to the South System of approximately 17 miles. The work included the construction of new, higher capacity potable water collection system pipelines and three pumping stations at Marine Corp Base Camp Pendleton, California.

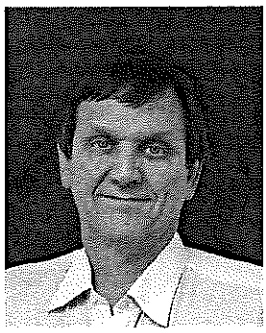
California Department of Corrections and Rehabilitation RJ Donovan State Prison Level II Infill Facility Site Civil Design Manager for the preparation of design/build bridging documents for the expansion of the prison, which will cover approximately 40 acres and add 105,000 square feet of accessory and support structure facilities for an additional 792 inmates and 190 staff. Civil design work included evaluating the current available capacity of the existing utility systems (water, wastewater, solid waste, electricity, and natural gas) and the impact of the project's potential additional demand on these systems. Extensive review of the prison sewer and water systems was required to accommodate upgrades and additional capacity requirements. Project design required analysis of sewer conveyance/treatment capacity and water supply/storage for the site infrastructure. Water system design included hydraulic modeling to size three 1.25-million-gallon storage tanks and water mains for potable usage and fire flows. Ultimate design considerations were presented for water distribution system pipe sizes, additional potable water storage capacity, and a booster pump station to supply adequate pressure for the system.

Mountains Recreation and Conservation Authority Mission Canyon Trailhead Task Manager for the preparation of civil, structural, and electrical PS&Es. Civil engineering services include preparing a site grading plan using topographic survey and site layout, preparing site control and utility plans (electrical, sewer, and potable water), preparing drainage design and calculations, preparing water quality-required designs and reports, preparing CSI format civil specifications, providing permitting support, and coordinating with CEQA to provide estimates quantities of earthwork and pavement. Structural engineering services include reviewing geotechnical reports, preparing structural notes and calculations, and reviewing plans, elevations, sections, and details for the retaining wall and parking lot light foundation. Electrical engineering services include preparing electrical plans for modular restroom and parking lot lighting, calculating electrical loads and Title 24 requirements, preparing CSI specifications, and preparing electrical site layout plans, including wiring and grounding systems layouts, details, and properly wiring sizing for current carrying and ground wiring.

Dr. Gerry Greene, PE, QEP, QSD/P

Environmental/Water Quality Technical Lead

Gerry has significant experience providing water quality services to Southern California public agencies. His experience includes the development of monitoring plans, conducting water quality sampling, providing water quality monitoring plan review, performing feasibility studies, assisting agencies with environmental compliance and permitting, and designing landmark urban runoff treatment facilities. Gerry is also a seasoned biologist, and his impressive background in wildlife biology and habitat restoration ensures his water quality projects are constructed and implemented in a sustainable manner that enhances the local environment. His expansive knowledge of local, societal, and physical conditions adds a valuable dimension to the assistance he provides to Orange County clients.



Years of Experience
35

Education
DEnv, Environmental Science and Engineering, University of California, Los Angeles

Registrations
Civil Engineer, CA, 55597

Qualified Environmental Professional, 11960237

Qualified SWPPP Developer/ Practitioner, 00176

Awards and Recognition
Storm Water Solutions magazine, "Industry Icon," 2015

RELEVANT EXPERIENCE

City of Montebello MS4 Permit Professional Compliance and Support Services Project Manager for Los Angeles RWQCB MS4 NPDES Permit compliance on-call Services. Tasks include Los Angeles River trash TMDL implementation, I/C facilities program, redevelopment planning, redevelopment construction inspections, post-construction BMP inspections, City staff and contractor training, public information and participation program, IDDE investigations, and WMP progress and MS4 Permit annual reporting.

City of Huntington Park MS4 Permit Inspection Services Project Manager providing urban stormwater inspection services. Successfully completed 549 inspections and facility visits in only six weeks. Tasks managed include: establishing inspection criteria, preparing inspection checklists and forms, compiling a comprehensive plan and maps for discharge inspections based on hot spots and priority areas determined through inventory databases, conducting I/C facility inspections, comprehensive field inspections, including drainage characteristics reviews and post-construction BMPs, identification of pollutants and illicit discharges into the storm drain system, documenting observed conditions, and incorporating data into an electronic database containing geographic references that allow the information to be mapped and integrated into a GIS tracking system.

City of Gardena MS4 Permit I/C Facility Inspection Services Project Manager providing 500 I/C facility inspections to help the City comply with the MS4 program. Tasks include: sending up to 300 initial commercial and potential IGP non-filer letters, conducting 100 initial commercial and 200 initial potential IGP non-filer inspections, incorporating data into an electronic database containing geographic references that allow information to be mapped and integrated into a GIS tracking system, developing and sending up to 200 second IGP potential non-filer inspection notification and NOV/referral letters, and conducting second potential IGP non-filer or initial IGP inspections.

Los Angeles River Upper Reach 2 Watershed Management Program and Coordinated Integrated Monitoring Program Project Manager for the development of a WMP, CIMP plan, and RAA for the LAR UR2 WMA, which includes the Cities of Bell, Bell Gardens, Commerce, Cudahy, Huntington Park, Maywood, Vernon, and the LACFCD. Tasks managed include developing a WMP that assesses water quality improvements to ensure compliance with the MS4 Permit and allows the LAR UR2 WMA Permittees to develop a plan that comprehensively evaluates opportunities to implement multi-benefit projects, research and development of the CIMP and RAA, and preparing a CIMP detailing provisions to assess whether inflows are in compliance with MS4 Permit WQBELs and demonstrating that, following the implementation of the WMP practices and projects, discharges originating from within the LAR UR2 WMA will be in compliance with the NPDES MS4 Permit WQBELs and RWLs. Managed the development an RAA that characterizes the water bodies in order to meet the RWL and WQBEL requirements. Also prepared a successful grant application that resulted in the award of a $10 million grant to implement one of the projects identified in the WMP.

City of Bell Gardens John Anson Ford Park Infiltration Cistern Technical Advisor for this urban runoff capture project. John Anson Ford Park is located in the City of Bell Gardens and the project helps the City and the Lower Los Angeles River Upper Reach 2 Watershed Management Group meet its NPDES MS4 Discharge requirements. The project captures dry weather and storm runoff from a highly industrialized urban catchment area of 2,295 acres. The project provides compliance with existing water quality objectives for the entire Rio Hondo watershed portion of the Los Angeles River Upper Reach 2 Watershed Management Area. Provided technical guidance on tasks that included: a geotechnical field analysis, utility search, hydrologic and hydraulic analysis, topographic mapping, preparation of design PS&Es, and construction engineering support.

City of Santa Monica Bicknell Avenue Green Street BMP Effectiveness Water Quality Monitoring Senior Engineer for BMP effectiveness water quality monitoring for a project where an existing street was retrofitted with bioretention BMPs. Tasks performed include: tracking inclement weather prior to a predicted storm event; preparing for the monitoring event by activating the sampling staff and laboratory; obtaining and labeling required sampling bottles; collecting and analyzing grab samples for each storm event consisting of an influent sample, and effluent samples below the plant-root soil zone, 18 inches below the plant-soil zone, and a duplicate sample; conducting and recording visual observations of stormwater runoff; routine maintenance of sampling ports; analyzing sampling data; delivering samples under chain of custody; and preparing a report of the water quality results.

City of Hermosa Beach Water Quality Monitoring During the Repair of the Hermosa Beach Pier Project Manager for professional water quality monitoring services for a project that involved the repair of six spalled concrete piles, replacement of a 32-foot by 5-foot section of pier deck, and other minor bracket and conduit repairs. While the deck work was over beach sand with little risk of marine contamination, most of the damaged piles sections were over or, in one case, in the ocean. Since there was a potential risk of marine contamination during construction, especially during repair of the piles, water quality monitoring to document pre-, during-, and post-project conditions was performed. Tasks managed included: drafting and submitting a water quality monitoring plan, implementing the approved monitoring plan, and preparing monthly and final monitoring reports.

Katie Harrel, PE, ENV SP, QSD

Design PS&Es Lead

Katie is an award-winning engineer with considerable professional experience covering a diverse range of civil engineering projects and coordinating with project staff to ensure project completion. She has led utility searches; prepared PS&Es for streets, storm drains, and other civil improvement projects; performed drainage studies; prepared SAPs, and provided public education and outreach for BMP projects. Katie's comprehensive experience also includes performing hydrology and hydraulic studies, modeling hydrology and hydraulic conditions, and preparing pollution prevention assessments and reports. Additionally, she has extensive experience assisting public agencies with complex grant applications as high as $17 million.

Years of Experience

12

Education

MS, Civil Engineering, California State University, Long Beach

Registrations

Civil Engineer, CA, 85752

Envision™ Sustainability Professional, 23336

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

RELEVANT EXPERIENCE

City of Los Angeles Bureau of Engineering TOS 10 – Design and Engineering Support Services for the Connecting San Pedro: Pedestrian Improvement and Multimodal Access Project Project Manager for developing civil plans which include sidewalk and roadway improvements, bus extensions, curb extensions, curb ramps, drainage features, and composite substructure and overhead utilities. This Project is part of the Measure M Multi-Year Sub Regional Plan – Transportation System and Mobility Improvements Program adopted in May 2018, for which the primary goals include improved traffic flow/safety, repaired sidewalks, repaved streets, and improved connectivity. Design support during bid, award, and construction phases will also be provided.

City of Santa Ana King Street Urban Greening Project Project Manager for design and implementation of a project that turned the debris-filled King Street parcel into a passive park-like area that supports multiple modes of transportation, such as walking and biking. Existing impermeable surface was removed to make way for drought-tolerant landscaping, shade trees, pervious pavement bicycle path, energy-conserving lighting, interpretive signage, seating, ADA improvements, stormwater bioretention and infiltration systems, waste receptacles, and public art. The project will capture runoff from a local drainage area of about 10 acres. Stormwater flows into the project area and is directed into two bioretention basins that have specialized plant, soil, and gravel layers that are designed to filter pollutants and prevent trash from entering the City's storm drain system. The stormwater then percolates through the bioretention basins into an underground stormwater infiltration chamber system. Once in the infiltration chamber system, 116,700 gallons per storm slowly percolate down into the North Orange County groundwater basin, where it will eventually become part of the local water supply. This groundwater basin provides drinking water for approximately 85% of North Orange County. Also prepared a CCLGP grant application for this project, resulting in an award of nearly $1,500,000. This project received awards from the APWA, CASQA, and *Storm Water Solutions* magazine in 2024.

City of Beverly Hills Robertson Boulevard Sidewalk Improvements Project Manager and Design Lead for sidewalk improvements along one mile on the west side and 0.5 miles on the east side of Robertson Boulevard due to aging, subgrade failure, and overgrown tree roots. Necessary improvements identified include removing and replacing approximately 15% of sidewalks, curbs, and gutters, most of which are close in proximity to existing tree wells; evaluating numerous small driveways to determine if they meet ADA requirements; and nine curb ramps to be reconstructed to meet ADA requirements. Tasks include conducting meetings; as-built research, investigation, and review; utility research and notification; topographic survey of the sidewalks, driveways, curb ramps, and gutters; preparing preliminary and final PS&Es; preparing monthly summary design reports indicting design job status, schedule updates, and current project costs; and providing support during bid and construction.

City of Beverly Hills Burton Way Median Green Street Assistant Project Manager for the design of bioswales and green street improvements to capture and retain urban runoff on the Burton Way median in the City of Beverly Hills. These improvements will assist the City in complying with the Ballona Creek Watershed EWMP and Ballona Creek Bacteria and Metals TMDLs. Designing major aesthetic improvements with efficient landscape design, including drought-tolerant plants that reduce outdoor irrigation use and help the City meet water conservation objectives. Runoff from 248 acres will be used for median irrigation, reducing the need for potable water and there will be up to eight acre-feet of stormwater storage beneath the median. The multi-benefit design incorporates walking trails, public art displays, and an aesthetically pleasing landscape. The project will capture 87 acre-feet of runoff annually, enhance water quality, reduce flooding impacts, and provide a beautiful, tranquil community space that provides public education and increases stormwater quality and water conservation awareness. It is anticipated that the project will reduce potable water use by approximately 1.25 million gallons per year.

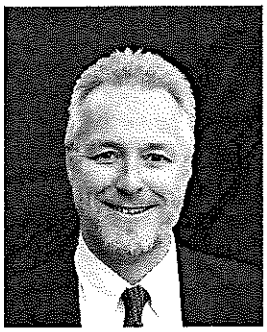
City of Alhambra Valley Boulevard Pedestrian Improvements Senior Engineer for correcting ADA compliancy issues and improving pedestrian circulation along Valley Boulevard between 9th Street and Garfield Avenue in the City of Alhambra. Pedestrian operational deficiencies are being improved by constructing, reconstructing or modifying curb ramps, sidewalk, pedestrian push buttons, crossing beacons, pedestrian countdown signals, crosswalks, driveways and bus stop improvements. Tasks include project management and kickoff meetings to ensure scope objectives are met on time and within budget, utility notifications, records research and field review for ADA accessibility and compliance, topographic survey, and preparing PS&Es.

City of Claremont Foothill Boulevard Master Plan Implementation This project was the recipient of the 2020 APWA Best Award for Stormwater Quality. Project Engineer for hydrology and hydraulic analyses services, design of storm drains, bioswales, and water quality systems and structures to meet LID Plan requirements. The project includes the design and engineering of all improvements contained in the Foothill Boulevard Master Plan, which includes minor roadway and intersection improvements, pedestrian improvements at intersections that include bulb-outs and median refuge islands at five intersections, restriping, infill sidewalks, minor lighting improvements, bicycle lanes and protected bicycle lanes, removal of turf and installing drought-tolerant landscaping in medians and some parkway areas, bioswales, stormwater percolation devices, and an approximately 1,000-foot-long section of new storm drain. Tasks include: a hydrology/hydraulic study, preparing SWPPP and stormwater permit/planning documents, developing project plans for bioswales and storm drains, developing a construction and maintenance budget and project specifications for drainage features, preparing PS&Es, responding to RFIs related to design, conducting field visits, preparing as-built drawings, and making plan revisions.

Dr. Ben Willardson, PE, ENV SP, D.WRE, QSD/P

Hydrology/Hydraulics Lead

Ben Willardson has extensive experience in the development and review of hydrologic, hydraulic, and sediment transport models and has been heavily involved in the implementation of stormwater management programs. He has reviewed hydrologic and stormwater quality methodologies for implementations as standards within Los Angeles County. Ben has operated 14 dams and 27 spreading grounds for flood control and water conservation within the complex flood control system serving Los Angeles County, and has represented the interests of the County during discussions with the Los Angeles RWQCB and USEPA regarding discharge of water from Superfund sites into the flood control system.



Years of Experience

24

Education

PhD, Civil Engineering, University of Southern California

Registrations

Civil Engineer, CA, 64937

Envision™ Sustainability Professional, 14528

Diplomate, Water Resources Engineer, 00668

Qualified SWPPP Developer/ Practitioner, 24214

Awards and Recognition

Storm Water Solutions magazine, "Industry Icon," 2015

RELEVANT EXPERIENCE

City of Visalia Public Facility Master Plans for Stormwater and Sanitary Sewer Collection Project Manager for Stormwater Master Plan updates to meet the City of Visalia's General Plan policies. The update will minimize stormwater runoff and volumes, control water pollution, and maximize groundwater recharge covering approximately 38 square miles. Tasks managed include review of existing data and collection of new data; model development and analysis using EPA SWMM; waterways modeling and analysis using HEC-RAS; evaluation of retention basins, pumps, and discharge pipe modeling and analysis; evaluation of bridge locations for creeks and ditches; preparation of a master plan based on the results; and evaluation of floodplains and the Community Rating System.

City of El Monte Garvey Avenue Grade Separation Drainage Improvement Hydrology and Hydraulics Lead for improving drainage infrastructure by identifying and delineating tributary areas that contribute stormwater flow to the Garvey Avenue underpass. The project involved upgrades to the existing drainage system, including installation of new catch basins, inlets, and storm drain pipes; improvements to the existing pump station diverting the stormwater to the storm drain system; and implementation of green infrastructure initiatives to retain, reuse, or infiltrate the collected stormwater runoff. Additional tasks included: project management; stakeholder outreach; technical evaluations; right-of-way acquisition; obtaining regulatory permits from the USACE, RWQCB, and CDFW; preparing PS&Es; developing an O&M plan; and providing assistance with funding opportunities.

Port of Long Beach Port-Wide Capital Improvement Stormwater Infrastructure Master Plan Task Order Lead for the development of a Stormwater Master Plan for the POLB's stormwater system using XP-SWMM. The model included 35 miles of storm drain, 268 manholes, 334 inlets, 15 pump stations, and covers a 1,490-acre area. The purpose of this document is to guide and prioritize planning and capital improvements for the POLB stormwater system, enhance water quality, and

ensure adequate capacity for the next 20 years. Services included performing drainage studies, creating a hydrologic and hydraulic model that covers the POLB drainage infrastructure both within and outside of Harbor Districts, and providing QA/QC services.

City of Chino Hills Storm Drain Master Plan Infrastructure Update Project Manager for providing hydrological calculations, modeling, and maps; hydraulic analyses and calculations; final modeling in electronic form using the latest AES software and training staff; and assisting with the existing storm drain infrastructure inventory, CIP priority list, and preliminary cost estimates.. The purpose of two Storm Drain Master Plan studies for the City of Chino Hills and Los Serranos Neighborhood was to inventory all existing drainage facilities, establish drainage patterns within the City, analyze the effectiveness of the existing system, and prioritize recommended existing facility improvements within City limits. The update studies will be used as a guide in recommending and prioritizing infrastructure improvements for the City, determining deficiencies of the existing drainage facilities, identifying cost-effective drainage solutions; and categorizing and phasing solutions based on a hierarchy of performance.

City of Rancho Palos Verdes Storm Drain Point Repair Hydrology and Hydraulics Lead for the repair of storm drains in 11 different locations for the City of Rancho Palos Verdes Storm Drain Point Repair project. The City completed a storm drain lining project in 2013, and during that project, a number of pipes were identified as requiring significant repairs before lining could be completed. Tasks include conducting hydrologic and hydraulic analyses for each of the sites using XP-SWMM. Additional tasks include reviewing existing records and data, performing topographic surveys, performing geotechnical investigations, locating utilities, conducting biological assessments, obtaining all necessary permits, and preparing PS&Es for each of the 11 project sites.

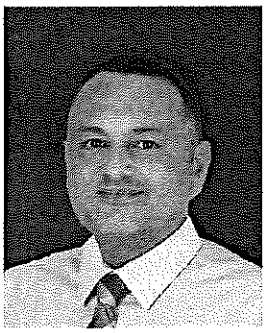
Metropolitan Water District of Southern California Right-of-Way Infrastructure Protection Program Hydrologic, Hydraulic, and Scour Analysis – Design Engineering Project Manager for hydrologic, hydraulic, and scour analyses for six sites along the Inland Feeder, Upland Feeder, and Rialto Feeder to support further design of improved facilities. Provided initial support on the hydrologic portion of impact assessments to determine which projects required further study. The study's objectives were to develop detailed hydrology of the tributary watersheds, determine existing and proposed hydraulics conditions of the drainage systems in the vicinity of each structure, and scour potential associated with the existing and proposed structures. Existing and proposed conditions were modeled for the 100-year runoff event required by the SBCFCD. Tasks managed included: a site investigation and photographic documentation, developing hydrologic models, developing existing and proposed conditions hydraulic models, evaluating scour analyses, and preparing a drainage report to document findings.

US Bureau of Indian Affairs Fort Peck Reservation Rural Water System Project Manager for the examination, analysis, and assessment of costs associated with the O&M program. Tasks managed included: examination of the Missouri River intake pumping plant location, approximate locations of the raw intake water pipeline to the treatment plant, and the treatment plant facility located four miles from the intake structure; review of engineering drawings and reports; field visits; review of applicable statutes; regulatory guidance; and preparation of a final report to determine the extent of the water project undertaking, expected work required to operate and maintain the facility, associated costs and offsets, and ensuring that the system is operating pursuant to statutory limitations.

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

Permitting Lead

Jason has significant experience working extensively on projects to obtain tangible, cost-effective improvements in water systems and urban runoff water quality through proactive initiatives in regulatory compliance. He develops and implements stormwater management programs for compliance with NPDES Permit requirements and has prepared numerous documents for the implementation of pollution prevention practices including WQMPs, SWPPPs, Erosion Control Plans, SPCC Plans, and TMDL Implementation Plans. As a technical expert, Jason has presented numerous workshops on critical water-related issues at CASQA Annual Conferences and other events.



Years of Experience
28

Education
BS, Civil Engineering, University of California, Los Angeles

Registrations
Civil Engineer, CA, 61509

Certified Professional in Storm Water Quality, 527

Qualified SWPPP Developer/ Practitioner, 21

Qualified Industrial Stormwater Practitioner, 090

Awards and Recognition
Storm Water Solutions magazine, "Industry Icon," 2015

RELEVANT EXPERIENCE

County of Orange John Wayne Airport Stormwater Program Implementation Assistance Project Manager for the implementation of John Wayne Airport's Stormwater Management Program and facility SWPPP to comply with the Orange County MS4 Permit, IGP, and CGP. Tasks managed included: review of SWPPPs and WQMPs for Airport Improvement Projects; revisions to the airport's facility SWPPP and Monitoring Program Plan; annual stormwater reports; regulatory support; stormwater compliance inspections of the airport and its tenants; construction site audits and inspections to evaluate ongoing environmental compliance; providing technical assistance to construction contractors to ensure compliance with the CGP; identifying construction BMPs requiring maintenance; recommendations for alternative BMPs to ensure construction projects are in compliance with stormwater regulations; sampling and analysis of stormwater discharges and response to non-stormwater discharges; O&M of stormwater sampling equipment; pollution prevention and awareness training; a facility wide SPCC Plan; waste profiling of liquids collected in oil water separators; oil water separator alarm upgrade; special study and analysis to determine airport impacts on the Upper Newport Bay; and developing SOPs.

San Bernardino County Flood Control District Professional Engineering and Regulatory Compliance Services for NPDES Phase II MS4 Permit Implementation Project Manager for on-call NPDES Permit compliance services provided to the SBCFCD and its 17 Co-Permittees. Services included: annual report preparation; coordination with Co-Permittees and stakeholders; strategic planning and assistance with the preparation of the ROWD for the fifth-term MS4 Permit; preparation of Stormwater Program documents and ordinances; technical support to execute stormwater permit requirements; post-construction BMP inspections to verify that WQMP features were being installed in accordance with the approved WQMP and grading plans and suggested BMP design provisions; CGP QSD/P training; development of a model stormwater and LID ordinance; regulatory support for a Santa Ana RWQCB audit of the New Development and Redevelopment Program;

development of the County and Flood Control District LIPs; Stormwater Management Plan implementation assistance; and technical support to execute stormwater permit requirements.

City of Visalia Development of Citywide Stormwater Management Plan Project Manager for the preparation of a citywide Stormwater Management Plan as outlined by the SWRCB Phase II Small MS4 General Permit for stormwater discharges. The Permit identifies permit requirements, including program management, public education and outreach, public involvement and participation, illicit discharge detection and elimination, construction site stormwater runoff control, pollution prevention/good housekeeping for the Permittee Operations Program, post-construction stormwater management, water quality monitoring, program effectiveness assessment and improvement, TMDL compliance, and an annual reporting program.

City of Carson As-Needed Stormwater Compliance Assistance Project Manager for stormwater management and engineering services to comply with the Los Angeles County Municipal NPDES Stormwater Permit, CGP, and Los Angeles River and Dominguez Channel TMDLs. Tasks managed included: program management, representation at the Los Angeles River Watershed Management Committee and Los Angeles River Jurisdictional Group 1 Metals TMDL meetings, Development Planning and Construction Program implementation, SWPPP and SUSMP plan check reviews, City Yard post-construction BMP retrofit investigation, technical review of the Machado Lake Toxics TMDL, development of a City-specific Metals TMDL Implementation Plan, a watershed boundary analysis to determine the City's funding and preparation obligations for the Los Angeles River Metals TMDL Implementation Plan, and assistance in procuring a $2,500,000 Greater Los Angeles County IRWM grant for the installation of 1,800 ARS catch basins.

City of Glendora NPDES and Water Quality Administration Project Manager for ongoing NPDES Permit and Water Quality Administration services to assist with the Los Angeles County MS4 Permit, IGP, and CGP compliance. Tasks include: providing support for the Development Planning and Construction, I/C Facilities Control, Public Agency Activities, IC/ID Elimination, and Public Education Programs; providing program management and regulatory support; oversaw completion of more than 1,400 FOG inspections and 900 I/C facility stormwater compliance inspections; corporate yard facility SWPPP preparation; SWPPP and LID plan check review; staff training; and TMDL implementation assistance.

Rio Hondo/San Gabriel River Water Quality Group Enhanced Watershed Management Program This project was the recipient of the 2016 ASCE Metropolitan Los Angeles Branch Outstanding Regional Water Treatment Project Award. Project Manager for developing an EWMP for the Cities of Arcadia, Azusa, Bradbury, Duarte, Monrovia, and Sierra Madre, along with the County of Los Angeles and Los Angeles County Flood Control District, to enhance water quality, comply with the MS4 Permit, and provide other multiuse benefits. Tasks included: initial studies for seven projects; the development of an EWMP Work Plan, RAA, EWMP, and CIMP; regional project planning and screenings; meetings with the Group to discuss progress; and project schedule and cost estimate development.

City of Santa Clarita NPDES Permit Compliance Services Project Manager for the implementation of stormwater management programs to comply with the Los Angeles County MS4 Permit and CGP. Tasks managed included: reviewing more than 100 SWPPPs and SUSMPs for construction and new development and redevelopment projects; meeting with developers, architects, and engineers to assist with the identification of opportunities to integrate stormwater BMPs and LID strategies into project plans; stormwater compliance training; regulatory support; and assistance with audits conducted by the Los Angeles RWQCB and USEPA.

Tommy Muttaraid, PE, TE

Structural Lead

Tommy has more than two decades of experience in structural design, emphasizing in concrete and steel structures as well as project management. He has in-depth experience in the design of bridges, soldier beam retaining walls, and pump stations. Tommy has provided fencing and gate design, including preparing structural details and performing calculations. He has also worked on projects involving park design and improvement, street improvement, storm drain, and other public works infrastructure for public agencies throughout California, including beach cities.

Years of Experience
24

Education
MBA, California State Polytechnic University, Pomona

BS, Civil Engineering, University of California, Irvine

Registrations
Civil Engineer, CA, 66008

Traffic Engineer, CA, 2828

RELEVANT EXPERIENCE

City of Malibu Surfrider Beach Septic Tank Soldier Beam Seawall Upgrade Design and Structural Calculations Structural Engineer for the preparation of engineering plans and calculations for a soldier beam seawall located at Surfrider Beach for an existing septic tank. Being a highly environmentally-sensitive area, this project was required to meet several different CCC requirements and approval of the local community and jurisdiction.

City of Manhattan Beach 28th Street Storm Drain Infiltration Structural Support for a project targeting runoff capture from the storm drain between Ocean Drive and the beach. This project was one of several viable implementation alternatives in accordance with the Beach Cities EWMP for water quality improvement, the project aims to capture up to 63 acre-feet of runoff during a single storm event. The design encompasses various components, including drywells, a pumped diversion system, pretreatment unit, distribution piping, and enhancements to the existing parking facility. Structural tasks included engineering review and design for modification of a manhole and the pump well feasibility study.

San Bernardino Valley Water Conservation District Mill Creek Diversion Structural Support for a modified diversion system that redirects debris and sediment while allowing flows to be rerouted to the existing spreading grounds. The project involved hydraulic modeling, engineering design, and permitting support for development of an improved water diversion system for the Mill Creek spreading basins to reduce and prevent debris from accumulating at the diversion gate. Tasks included inputting data and calculating anchor forces, tension loads, concrete breakout strength, and shear loads for the retaining wall(s) where the slide gates are attached, the concrete diverter walls (baffle blocks), the slab foundation, and the catwalk platform.

City of El Monte Garvey Avenue Grade Separation Drainage and Landscape Improvements Structural Support providing engineering review for shoring and StormTrap calculations for a drainage improvement and rehabilitation project that will provide major upgrades to several streets, including construction of landscape median islands, ADA-compliant curb ramp enhancements, repairs to damaged sidewalks, driveways, and curb and gutter, and the installation of new Class II bike lanes. The project involved identifying and delineating tributary areas that contribute

stormwater flow to the Garvey Avenue underpass; developing landscaping and irrigation enhancement plans that are consistent with the City's Ramona Boulevard median landscape improvements; providing upgrades to the existing drainage system, including installation of new catch basins, inlets, and storm drain pipes; improvements to the existing pump station diverting the stormwater to the storm drain system; and implementation of green infrastructure initiatives to retain, reuse, or infiltrate the collected stormwater runoff.

Los Angeles County Public Works Coyote Creek and Coyote Creek North Fork Invert Access Ramps Structural Support for two access ramps for Coyote Creek, one at station 235+00 (East Bank) in the City of Lakewood, and one on the North Fork at station 135+00 (West Bank) in the City of Santa Fe Springs. Both project sites are mapped within a liquefaction hazard potential zone by the State of California Seismic Hazards Zones CGS map. The reconstruction of the bank and levee required recommendations from the geotechnical analysis for the contractor to meet the USACE design requirements. Coyote Creek limits are just south of Del Amo Avenue to 1,000 feet downstream of the proposed access ramp, and Coyote Creek – North Fork limits includes just south of Foster Road to 1,000 feet downstream of the proposed access ramp. Additional tasks included: project management, utility search, geotechnical evaluation, topographic survey, hydraulic analysis, PS&E and cost estimate development, and regulatory permitting assistance.

City of San Fernando Regional Park Infiltration Structural Support for calculations for wall anchorage for an electrical box and the StormTrap infiltration system for the installation of an underground manufactured infiltration system. The infiltration system serves a drainage area greater than 400-acres and recharge groundwater sources with approximately 200 acre-feet of stormwater annually, and has a single storm capture capacity greater than 24 acre-feet.

City of Torrance Stormwater Basin and Treatment Wetlands Enhancement This project was the recipient of awards from the APWA, ASCE, *ENR*, CASQA, and *Storm Water Solutions* magazine. Structural Engineer for services provided to the City of Torrance for the design of two treatment wetlands and two infiltration basins to retain, treat, and infiltrate stormwater runoff. These treatment wetlands will help the City comply with the Santa Monica Bay Beaches Bacteria TMDL requirements. Structural tasks included performing structural calculations and design for retaining walls, inlet and outlet structures, bridge structures, and control structures.

City of Burbank Johnny Carson Park Improvement and Stream Restoration This project received the Southern California Quality of Life Merit Award from the ASLA and the 2016 APWA Best Awards Recreation and Athletic Facilities Award. Structural Lead for an improvement and upgrade project for the renovation of park walkway lights, service roads, drainage channels, play equipment, and stage and irrigation. Tasks completed included performing a bridge assessment and preparing a structural footing design for lights and other utilities.

Cogswell Dam Hoist Tower Design and Structural Calculations Structural Lead for the development of design plans and structural calculations for the Cogswell Dam hoist tower replacement. The existing wood tower structure was deteriorating and unable to meet the necessary operating capacity, and was contaminated with creosote and required special disposal requirements. The wood tower was replaced with a new designed structure. The tower structure was designed using steel with a similar A-frame configuration, minimizing impacts to the equipment used by the dam operator.

Richard Burns, PE

Project Controls Lead

Richard has over four decades of experience in civil engineering, construction, and procurement. His project experience includes project controls and planning, design, bid and support for various public and private improvements. Richard's construction experience includes cost estimating preliminary and engineer estimates; construction administration and support; and specification, bid set and exhibit preparation.

Years of Experience

40+

Education

BS, Civil Engineering, California State University, Fullerton

Certificate of Light Construction and Development Management, University of California, Irvine

Registrations

Civil Engineer, CA, 50619

RELEVANT EXPERIENCE

San Gabriel Valley Council of Governments Rio Hondo Load Reduction Strategy Quality Control for improvement plans and specifications for a feasibility assessment for three diversion locations within Rio Hondo Los Angeles River watershed in compliance with the MS4 Permit requirements. The three diversion areas include Alhambra Wash, Eaton Wash, and Rubio Wash. Additional tasks include: coordination with the LACSD to verify discharge allowed to the sanitary sewers in the area, detailed flow analysis and coordination with the LACSD and watermaster, environmental evaluation and documentation, site field investigation, topographic survey for each site, utility search to identify existing or planned utility conflicts, geotechnical evaluation to identify soil characteristics and infiltration capacity for each site, permits and easement evaluation, preliminary O&M, and preparation of a feasibility assessment report and preliminary design plans.

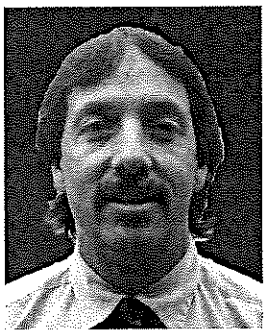
Los Angeles County Department of Parks and Recreation Loma Alta Park Restroom Structural Design Support for placement of prefabricated restrooms and utilities. The old restroom facility exceeded its useful life and, as it was no longer compatible with wider park maintenance needs, is in need of replacement. The restroom building will include a triple-stall unit, and an ADA-compliant high-low drinking fountain and path of travel from the new restroom building to the drinking fountain and parking lot. Additional tasks included topographic survey; a design development package with preliminary accessibility, demolition, grading, utility, construction, and electrical plans and details; 95% and 100% construction documents; and construction engineering support services.

City of Alhambra Main Street Green Street Demonstration Quality Control for improvement plans for a 1,400-foot sustainable stormwater streetscape to capture and treat stormwater runoff and associated pollutants before they can enter downstream bodies. Curb extensions will be implemented on the south side of Main Street to help accommodate diagonal parking and capture runoff, and at least one curb extension will be used as a bus extension to accommodate a bus stop. Crosswalks and ADA ramps will be designed between medians to connect new parking areas and provide access to walking paths. Subsurface stormwater facilities will be installed in the residential streets of Grand Avenue and Birch Street, north of Main Street to boost stormwater capture performance while causing minimal disruption to residents. In addition to stormwater-related goals, a bike lane will be added, and traffic lanes and parking stalls will be maintained with community-based input.

David Farrell, PLS

Survey Lead

David has over three decades of experience utilizing NAVD88 for vertical control datum and NAD83 for horizontal and geometric control datum. He is knowledgeable of the principles, practices, and procedures of ALTA, topographic and boundary surveys, legal descriptions, and easement preparation. He has provided topographic survey services on environmental projects, as well as numerous award-winning water and stormwater BMP projects in Southern California, including the City of Los Angeles Garvanza Park Rainwater Capture and Use, City of Torrance Stormwater Basin and Treatment Wetlands Enhancement, and City of Culver City Washington Boulevard P3 Urban Runoff and Diversion.



Years of Experience

35

Education

Antelope Valley College

Registrations

Professional Land Surveyor, CA, 7813

Certified in GPS Technology

RELEVANT EXPERIENCE

City of Torrance Beach Cities Green Streets Survey Lead for the development of green streets in the Beach Cities of Torrance, Redondo Beach, Hermosa Beach, and Manhattan Beach to capture runoff generated from the 85th percentile storm event so that it doesn't reach the surf zone, as identified in the Beach Cities EWMP. The project will collect stormwater from over 200 acres that generate runoff, reduce the volume of runoff, and filter out trash from entering the Herondo and 28th Street storm drains from the four Beach Cities. A variety of BMPs, including porous pavement; catch basin trash screens; biofiltration/bioretention systems; natural systems such as vegetated curb extensions, planters, swales, and rain gardens; and drywells are being designed to intercept, filter, and retain runoff between various locations. This project addresses water quality issues in the Santa Monica Bay, including TMDLs for dry- and wet-weather bacteria, nearshore and offshore debris, and toxic chemicals such as DDT and PCB that often result in beach closures. Tasks include performing a topographic survey for street centerlines, underground utilities, aboveground utility boxes and vaults, sidewalks, curbs, curb ramps, trees, signage, and structures within the Project area, georeferenced using NAD83 for horizontal control and NAVD88 for vertical control.

City of Manhattan Beach Santa Monica Bay Total Maximum Daily Load High Flow Capacity Trash Treatment Control Devices Survey Lead for providing background research, topographic surveying, and field verification for FCS devices in 12 locations that trap particles retained by a 5mm mesh screen and have a design treatment capacity of not less than the peak flow rate resulting from a 1-year, 1-hour storm in the subdrainage area. The project covers the evaluation and design of High Flow Capacity Trash Treatment Control Devices, sometimes also referred to as CDS or hydrodynamic separators, to meet waste load allocations for trash discharge under the Santa Monica Bay Marine Debris TMDL requirements. Additional asks include project management, meetings, and quality control; public outreach and engagement; utility and agency coordination; potholing; geotechnical investigations; final design PS&Es; applying for and obtaining construction permits; developing O&M cost estimates; CEQA compliance; bid phase assistance; engineering services during construction; and preparation of record drawings.

Palmdale Water District As-Needed Survey Services Provided the Palmdale Water District's Engineering Department with as-needed surveying services. Services performed include a construction survey and stacking for a 1.5-mile extension of the water canal between Littlerock Dam and the Palmdale Reservoir, topographic mapping survey and construction stacking for the replacement of a water main at Avenue P-8 and 10th Street East, and a boundary and topographic mapping survey for a mitigation bank habitat near Barrel Springs Road and Sierra Highway.

City of El Monte Garvey Avenue Grade Separation Drainage and Landscape Improvements Topographic Survey Lead for a drainage improvement and rehabilitation project that will provide major upgrades to several streets, including construction of landscape median islands, ADA-compliant curb ramp enhancements, repairs to damaged sidewalks, driveways, and curb and gutter, and the installation of new Class II bike lanes. The project involved identifying and delineating tributary areas that contribute stormwater flow to the Garvey Avenue underpass; developing landscaping and irrigation enhancement plans that are consistent with the City's Ramona Boulevard median landscape improvements; providing upgrades to the existing drainage system, including installation of new catch basins, inlets, and storm drain pipes; improvements to the existing pump station diverting the stormwater to the storm drain system; and implementation of green infrastructure initiatives to retain, reuse, or infiltrate the collected stormwater runoff.

City of Burbank Johnny Carson Park Improvement and Stream Restoration This project was the recipient of the 2016 ASLA Southern California Quality of Life and the 2016 APWA Best Awards Recreation and Athletic Facilities awards. Surveyor conducting a topographic survey for park improvements and the restoration of an urban stream through the 17-acre Johnny Carson Park in the City of Burbank. The restoration involved the removal of concrete and asphalt stream channel lining and its replacement with a bioengineered channel. The channel flows under two pedestrian bridges that required evaluation for loads, as well as analysis for scour related to flow constrictions since the abutments were to remain in place. Other services included PS&Es for grading, drainage, access road enhancements, retaining walls, and walking trails.

City of Rancho Palos Verdes Storm Drain Point Repair Survey Lead for storm drain repair design services provided to the City of Rancho Palos Verdes for the rehabilitation and improvement of existing storm drains. Performing topographic surveys for 11 different project sites requiring drain repair.

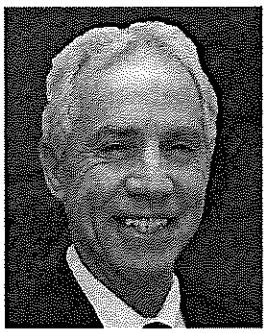
City of Santa Monica Annual Water Main Replacement Program Survey Lead for the replacement and upgrades of existing water mains at three sites in the City of Santa Monica for the City's Annual Water Main Replacement Program. Tasks included performing topographic surveys for three project sites.

North East Trees Ramona Gardens Green Connections Survey Lead for assisting North East Trees with renovating Henry Alvarez Memorial Park, located at Ramona Gardens, a Housing Authority of the City of Los Angeles public housing complex in northeast Los Angeles. This project requires the design and installation of rain gardens and bioswales, an irrigation system, new ADA-compliant pedestrian pathways and an access ramp that connects to the adjacent public parking lot, and new passive recreational amenities. Additional tasks include preparing a geotechnical engineering report and infiltration test; a finish grading and drainage plan for landscaping and new BMP improvements; a Horizontal Control Plan; a SWPPP and Erosion Control Plan; PS&Es; and permitting.

Chris Pendroy, CPSWQ, QSD/P

Bid/Construction Support Lead

Chris is experienced in inspecting numerous capital improvement projects to verify compliance with construction plans, specifications, and regulatory requirements. Chris' expertise includes conducting field visits and job walks, completing structural calculations, managing utility coordination and research, developing improvement plans, and coordinating with local residents, municipalities, and staff to ensure successful project completion. Chris has prepared project-related documents such as RFCs, RFIs, and change orders; coordinated between clients, subcontractors, and own forces; prepared precise grading and utility plans; performed utility searches for all affected utilities on project sites, including water, electric, gas, communication, and storm drain lines; and constructed surface and subsurface storage structures. He has also provided post-construction duties, including submittals; close-out documents such as warranties, guaranties, and as-built drawings; and preparing O&M manuals.



Years of Experience

30

Education

MS, Civil/Environmental Engineering, University of California, Irvine

Registrations

Certified Professional in Stormwater Quality, 935

Qualified SWPPP Developer/ Practitioner, 24503

RELEVANT EXPERIENCE

US Army Corps of Engineers Dulzura Brown Field Border Patrol Station Senior Engineer providing design services for a station with facilities for 600 agents and 130 detainees. Tasks include: preparing Caltrans format improvement plans for the frontage road along Highway 94; designing improvement plans for the installation of the water well pump, mechanical piping, water treatment (filtration, disinfection), and electrical power/controls for the pumps; designing tank piping and valves; developing a site SWPPP; preparing on-site sanitary sewer plans for the collection of wastewater from each of the facility buildings; preparing plans for the treatment and disposal of wastewater flows; drilling a pilot test water well and checking pumping capacity (yield tests) of the groundwater aquifer. Also included testing water quality to assure potable water meets or exceeds San Diego County and State of California water quality standards.

City of Santa Monica Ocean Avenue Roadway Resurfacing Construction Support for design services for the resurfacing of Ocean Avenue from Moomat Ahiko to Pico Boulevard. This project was incorporated with the replacement and upgrades of existing water mains along Ocean Avenue as part of the City's replacement program. Provided design services for street resurfacing, water main replacement, and traffic control, encompassing approximately 2,230 lineal feet along Ocean Avenue, Seaside Terrace, and Olympic Drive South. Tasks included: utility research and coordination with various utility agencies; a topographic survey for each project segment; preparation of PS&Es, including roadway resurfacing and details, traffic control plans, water main replacement plans; utility potholing; coordination with the City and local businesses along Ocean Avenue for the phased construction; and obtaining all necessary permits. Construction support services include: contract document interpretation and bidding assistance, reviewing and responding to RFIs and RFCs, conducting weekly field visits, attending bi-weekly construction process meetings, and preparing final record drawings.

City of Beverly Hills Robertson Boulevard Sidewalk Improvements Construction Support Lead for sidewalk improvements along one mile on the west side and 0.5 miles on the east side of Robertson Boulevard due to aging, subgrade failure, and overgrown tree roots. Necessary improvements identified include removing and replacing approximately 15% of sidewalks, curbs, and gutters, most of which are close in proximity to existing tree wells; evaluating numerous small driveways to determine if they meet ADA requirements; and nine curb ramps to be reconstructed to meet ADA requirements. Tasks include conducting meetings; as-built research, investigation, and review; utility research and notification; topographic survey of the sidewalks, driveways, curb ramps, and gutters; preparing preliminary and final PS&Es; preparing monthly summary design reports indicting design job status, schedule updates, and current project costs; and providing support during bid and construction.

City of Torrance Stormwater Basin and Treatment Wetlands Enhancement This project received awards from the APWA, ASCE, *ENR*, CASQA, and *Storm Water Solutions* magazine. Construction Inspector for the design and construction management of two treatment wetlands and two infiltration basins to retain, treat, and infiltrate stormwater runoff. This project helps the City comply with the Santa Monica Bay Beaches Bacteria TMDL requirements. Construction management tasks included preparing progress reports and schedule updates, attending on-site construction management meetings with City staff, monitoring daily construction compliance, preparing daily inspection reports on City forms, providing geotechnical and testing services, performing surveying, providing landscape architecture, requesting and reviewing as-built plans showing revisions made during construction at different stages of the project, and preparing grant invoice packages.

Los Angeles County Metropolitan Transportation Authority Division 4 Permeable Concrete Pavement Pilot Project Construction Support overseeing construction of the ASCE award-winning PCP and bioretention facility at the Division 4 non-revenue facility in the City of Downey. Also designed the permeable concrete pavement to store and infiltrate the 85th percentile, 24-hour storm event generated within a large portion of the site. The bioretention facility captures flows exceeding the 85th percentile event, and provide additional storage and infiltration capacity. During large storm events, flows exceeding the capacity of the PCP and bioretention facility will be routed to an existing infiltration trench within the site and ultimately discharge into the Rio Hondo.

Los Angeles County Public Works Environmental Compliance Manager and Related Services Environmental Compliance Manager II to monitor environmentally-related construction operations such as dewatering, and the excavation; handling, and disposal of contaminated soil and water; in addition to other hazardous materials detection, analysis, and handling; and noise and air concerns. Specialty studies and operations (e.g. material testing, abatement) are conducted and overseen with the engagement of specialty subconsultants and vendors. ECMs are involved in preparation of site assessment and mitigation reports based on the information and data available from existing reports, as well as additional investigations including field exploratory borings and analytical testing of the soil and water samples. ECMs review the construction plans and special provisions to determine if specific permits regulated under the RWQCB 401 program, 402 program, NPDES, or CGP are required. ECMs also review the type and location of discharge to determine what types of discharge permits must be obtained for a specific project. Additionally, ECMs review construction plans, contract specifications, special provisions, and other documents related to environmental compliance and identify environmental compliance deficiencies and recommend solutions to correct environmental deficiencies in the construction plans and specifications.

Maria Arreguin

NPDES/WQMP/SWPPP and Monitoring Lead

Maria Arreguin has 10 years of experience as an environmental analyst and NPDES coordinator. In addition to her participation in field investigations, facility inspections, and sampling to ensure compliance with applicable regulations, she develops and maintains procedures, programs, and databases for comprehensive recordkeeping and data pertinent to programs and permits and prepare detailed and technical reports. Maria assists with or personally prepares NPDES, CalEPA, RWQCB, SWRCB, and other regulatory reports, and gathers, compiles, and submits information for annual reports.

Years of Experience
10

Education
MS, Public Administration, National University, San Diego

BS, Environmental Engineering/Water Pollution, University of California, Riverside

Registrations
N/A

RELEVANT EXPERIENCE

City of Huntington Beach I/C, Construction, and FOG Inspections Inspector for over 150 I/C inspections and over 1,000 FOG inspections for food service locations in the City of Huntington Beach. The I/C inspections are required per the North Orange County MS4 Permit and the FOG inspections under General Pretreatment Regulations (40 CFR Part 403), which requires industrial dischargers to use treatment techniques and management practices to reduce or eliminate the discharge of harmful pollutants to sanitary sewers. Tasks include preparing inspection checklists and forms, conducting I/C and FOG inspections, identifying pollutants and illicit discharges into the storm drain system, documenting observed conditions, providing owners/operators with educational materials to prevent future violations, and incorporating data into an electronic database containing geographic references that allow information to be mapped and integrated into a GIS tracking system.

San Bernardino County On-Call Mojave River Watershed Group MS4 Permit Implementation Engineer II assisting the County of San Bernardino, Town of Apple Valley, and Cities of Hesperia and Victorville, with on-call stormwater management services that include program management, revision of the existing Stormwater Management Program, preparation of reports and plans to meet permit requirements, development and assistance with stormwater program implementation, research to proficiently respond to document reviews, technical and regulatory support, and performance of permit compliance related services as deemed necessary by the member agencies. Tasks include creating sampling schedules for staff, providing an annual report to submit to the client, YSI calibrations, and QA/QC for sampling data.

City of Glendora NPDES and Water Quality Administration Inspector for ongoing NPDES Permit and Water Quality Administration services to assist the City with Los Angeles County Municipal NPDES Stormwater Permit, IGP, and CGP compliance. Tasks include: providing support for the Development Planning and Construction, I/C Facilities Control, Public Agency Activities, IC/ID Elimination, and Public Education Programs; providing program management and regulatory support; conducting a portion of more than 600 FOG inspections and 900 I/C facility stormwater compliance inspections; corporate yard facility SWPPP preparation; SWPPP and LID Plan check review; staff training (Industrial

SWPPP, IC/ID, Public Agency Activities, FOG, and LID Plan review; representation at Permittee meetings; and TMDL implementation assistance. Performed a Program Effectiveness Assessment of the City's Stormwater Management Plan and assessed the FOG Control Program to determine compliance with SSO requirements.

City of Rosemead MS4 NPDES Permit Inspection Services Inspector for providing I/C, redevelopment construction, and post-construction BMP inspections. Inspection tasks included I/C inspections of approximately 200 food service, 100 automotive repair, 20 retail gasoline outlets, and six nursery facilities; up to four redevelopment construction inspections one per month; post-construction BMP inspections; and incorporating inspection data into an electronic database containing geographic references that allow information to be mapped and integrated into a GIS tracking system. Additional tasks performed included: staff training on construction/erosion plan review and permitting, erosion/sediment control plan inspections, and staff IC/ID response by one of CWE's registered QISPs; developing activity-specific public education content regarding source control BMPs and use and disposal of pollutants relevant to Rio Hondo Reach 3 and downstream receiving water impairments; redevelopment planning; public facility inventory and inventory of regional BMP development opportunities; identifying regional BMP projects for strategic and cost-effective analyses; public activity management; installing full capture devices and conducting DGR studies for trash TMDL compliance; IC/ID investigation and elimination; and annual reports submitted to the Upper Los Angeles River EWMP Group Lead Agency.

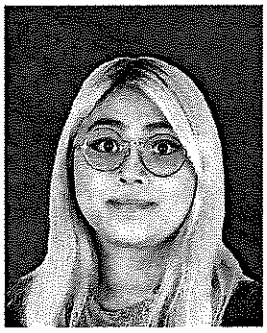
City of San Fernando Regional Park Infiltration Engineer II for environmental services for San Fernando Regional Park, which consisted of installing an underground manufactured infiltration system, and removing/replacing the existing baseball field and irrigation system. The infiltration system serves 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 included: 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 El Monte Garvey Avenue Grade Separation Drainage Improvement Engineer II for improving drainage infrastructure for a rehabilitation project that will provide major upgrades to several streets, including construction of landscape median islands, ADA-compliant curb ramp enhancements, repairs to damaged sidewalks, driveways, and curb and gutter, and the installation of new Class II bike lanes. The project involved identifying and delineating tributary areas that contribute stormwater flow to the Garvey Avenue underpass; developing landscaping and irrigation enhancement plans that are consistent with the City's Ramona Boulevard median landscape improvements; providing upgrades to the existing drainage system, including installation of new catch basins, inlets, and storm drain pipes; improvements to the existing pump station diverting the stormwater to the storm drain system; and implementation of green infrastructure initiatives to retain, reuse, or infiltrate the collected stormwater runoff. Drainage improvement tasks included: project management; stakeholder outreach; technical evaluations; ROW acquisition; obtaining regulatory permits from the USACE, RWQCB, and CDFW; preparing PS&Es; developing an O&M plan; and providing assistance with funding opportunities.

Angelique Silvestre, ENV SP

Grants Lead

Angelique has three years of experience providing grant writers with grant opportunity research and application package preparations, resulting in over $10,000,000 dollars of funding for local clients. For the Proposition 68 FMPRA Grant Program Application project, which helps local agencies fund flood risk reduction activities related to stormwater flooding, mudslides, and flash floods, Angelique prepared narratives, ArcGIS based maps, cost estimates, and schedule for the City of Santa Ana Rousselle Street Flood Protection Project, Warner Avenue Flood Protection Project, and City of El Monte Garvey Avenue Grade Separation Project. Angie also supports our clients with grant reporting once funds have been secured.



Years of Experience

7

Education

BS, Civil Engineering, University of Portland

Registrations

Envision™ Sustainability Professional, 46089

RELEVANT EXPERIENCE

San Bernardino County Department of Public Works Special Districts Grant Writing Services Grant Writing Support responsible for grant opportunity research and grant application package preparations. Ongoing grant applications include: SWRCB Backup Generator Funding Program Application for Drinking Water Systems for three different systems, State of California Wildlife Conservation Board Pre-Application for Phase II of the DVCA Recreational Trails Project, SWRCB Clean Water State Revolving Fund Wastewater Planning application for the CSA 70 Bloomington Septic-to-Sewer System Expansion Project and CSA 70 Cedar Glen Septic-to-Sewer System Project, and SWRCB Drinking Water State Revolving Fund program application for Glen Helen Well Expansion.

Los Angeles County Public Works Grant Application Support Services Grant Writing Support providing on-call grant support services to LACPW, which includes identifying potential grant funding opportunities as well as preparing grant applications. Worked with LACPW to understand their funding needs and priorities and emphasizing potential benefits based on understanding of LACPW programs, such as sustainability planning, park needs assessment, and DAC designations. These grant applications include: La Cresenta Green Improvement Project and Ladera Heights – West Centinela Green Improvement Project under the Proposition 1 IRWM funding program administered by LACFCD and the DWR.

Proposition 68 FMPRA Grant Program Application Grant Writing Support responsible for preparing narratives, ArcGIS based maps, cost estimates, and schedule for City of Santa Ana Rousselle Street Flood Protection Project, Warner Avenue Flood Protection Project, and City of El Monte Garvey Avenue Grade Separation Project. The FMPRA Grant Program helps local agencies to fund flood risk reduction activities related to stormwater flooding, mudslides, and flash floods. All three applications were awarded, resulting in over $10 million dollars of funding for CWE clients.

City of El Monte Garvey Avenue Grade Separation Drainage and Landscape Improvements Grant Support for improving drainage infrastructure in the City of El Monte by identifying and delineating tributary areas that contribute stormwater flow to the Garvey Avenue underpass. The project involved upgrades to the existing drainage system, including installation of new catch basins, inlets, and storm drain pipes; improvements to the existing pump station diverting the stormwater to the

storm drain system; and implementation of green infrastructure initiatives to retain, reuse, or infiltrate the collected stormwater runoff. Tasks included working on the project cost table, local cost share reduction attachment, and addressed City comments for Proposition 68 FMPRA.

City of San Fernando Regional Park Infiltration SCWP Support for design services for the San Fernando Regional Park, which consisted of installing an underground manufactured infiltration system, and removing/replacing the existing baseball field and irrigation system. The infiltration system serves a drainage area greater than 800-acres and recharges groundwater sources with approximately 200 acre-feet of stormwater annually. The system has a single storm capture capacity greater than 24 acre-feet. Supported the City in documentation and reporting required for the SCWP infrastructure program, which allow the funding process to be smooth and successful. Tasks include the preparation of quarterly progress reports, schedule and budget modifications, expenditure report, and annual reports for SCWP, LADWP, and Proposition 1 IRWM.

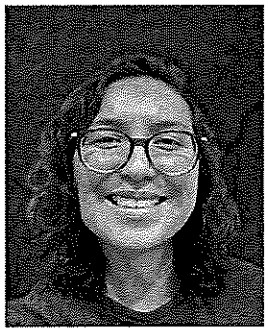
City of Culver City Washington Boulevard P3 Urban Runoff Diversion Provided SCWP support for a diversion system to capture stormwater and urban runoff from a drainage area of approximately 40 acres for the City of Culver City. The project is located on Washington Boulevard near Walnut Avenue at the City boundary. The drainage area is comprised of commercial and residential land uses completely within the City boundaries. The system captures approximately 122,000 cubic feet of stormwater runoff. Supported the Cities in documentation and reporting required for the SCWP infrastructure program, which allow the funding process to be smooth and successful. Tasks include the preparation of quarterly progress reports, schedule and budget modifications, expenditure report, and annual report.

San Gabriel Valley Council of Governments Caltrans Clean California Local Grant Program Application Preparation Grant Writing Support for preparing grant applications for SGVCOG Public Space Beautification Project, which proposes to beautify the public space by construction a park and improving the aged sidewalks. The Project is being planned, designed, and constructed alongside the SGVCOG LRS Project for the Rio Hondo River and Tributaries, which is a dry-weather water quality project that involves capturing and treating runoff from the Alhambra, Eaton, and Rubio Washes. Funding has been secured, in part, for the LRS Project through the SCWP administered by the LACFCD.

City of Baldwin Park Barnes Park Multi-Benefit Stormwater Capture Staff Engineer providing SCWP support, utility support, and monitoring plans support for a project that will capture, treat and infiltrate approximately 440 acres of stormwater from various land uses within the City (mainly single-family residential, multi-family residential, and commercial). A diversion structure on the existing 81-inch diameter LACFCD Storm Drain (BI 9705) would divert stormwater from Bess Avenue into a pre-treatment device before being gravity fed into an underground infiltration gallery facility (BMP). Once stormwater fills the chamber, an actuated valve will close and take the system offline to prevent surcharge. The goal of this project is to treat, capture and infiltrate approximately 10 acre-feet of wet and dry weather flows, which is just shy of the stormwater runoff volume of the 85th percentile design storm. Engineering services include, but are not limited to, final design of a stormwater infiltration facility and above ground grading, specifications, and cost estimates for construction, operations and maintenance, and post-construction monitoring.

Alex Salas, EIT

I/C and FOG Inspections Lead



Years of Experience

2

Education

BS, Mechanical Engineering, California State Polytechnic University, Pomona

Registrations

Engineer-in-Training, CA, 180558

Alex has performed over 1,500 I/C facility and food service establishment inspections for Los Angeles and Orange County clients. Her duties as an inspector include identifying facilities that require inspection based on MS4 Permit guidelines and City business licenses; informing facilities of permits they are required to comply with, identifying areas of non-compliance and advising facilities on the best way to comply; following up with facilities to ensure understanding; coordinating with clients to identify facilities that are in violation and submitting notifications to the state; and keeping an up-to-date database to organize inspections.

RELEVANT EXPERIENCE

City of Huntington Beach I/C, Construction, and FOG Inspections Inspector for over 150 I/C inspections and over 1,000 FOG inspections for food service locations in the City of Huntington Beach. The I/C inspections are required per the North Orange County MS4 Permit and the FOG inspections under General Pretreatment Regulations (40 CFR Part 403), which requires industrial dischargers to use treatment techniques and management practices to reduce or eliminate the discharge of harmful pollutants to sanitary sewers. Tasks include preparing inspection checklists and forms, conducting I/C and FOG inspections, identifying pollutants and illicit discharges into the storm drain system, documenting observed conditions, providing owners/operators with educational materials to prevent future violations, and incorporating data into an electronic database containing geographic references that allow information to be mapped and integrated into a GIS tracking system.

City of Rosemead MS4 NPDES Permit Inspection Services Inspector for providing I/C, redevelopment construction, and post-construction BMP inspections. Inspection tasks included I/C inspections of approximately 200 food service, 100 automotive repair, 20 retail gasoline outlets, and six nursery facilities; up to four redevelopment construction inspections one per month; post-construction BMP inspections; and incorporating inspection data into an electronic database containing geographic references that allow information to be mapped and integrated into a GIS tracking system.

City of Gardena MS4 Permit I/C Inspections Inspector for 500 I/C facility inspections to help the City comply with the MS4 program. Tasks include: sending up to 300 Initial Commercial and Potential IGP Non-Filer letters, conducting 100 initial commercial and 200 Initial Potential IGP Non-Filer inspections, incorporating data into an electronic database containing geographic references that allow information to be mapped and integrated into a GIS tracking system, developing and sending up to 200 second IGP Potential Non-Filer Inspection Notification and NOV/Referral letters, and conducting second potential IGP Non-Filer or Initial IGP inspections.

City of Irwindale Environmental Management for NPDES and Other Services Support for providing Phase I NPDES MS4 Permit compliance services to support the attainment of the Los Angeles RWQCB Water Quality Control Plan-identified Beneficial Use Objectives. This includes conducting approximately 430 I/C facility inspections, post-construction BMP inspections, and up to 20

follow-up inspections during the 2022-2023, 2023-2024, and 2024-2025 fiscal years, and updating the City's I/C facility database on CloudCompli annually, cross checking with the City provided business license database and the industrial facilities listed in SMARTS.

City of Glendora NPDES and Water Quality Administration Inspector for ongoing NPDES Permit and Water Quality Administration services to assist the City with Los Angeles County Municipal NPDES Stormwater Permit, IGP, and CGP compliance. Tasks include: providing support for the Development Planning and Construction, I/C Facilities Control, Public Agency Activities, IC/ID Elimination, and Public Education Programs; providing program management and regulatory support; conducting a portion of more than 600 FOG inspections and 900 I/C facility stormwater compliance inspections; corporate yard facility SWPPP preparation; SWPPP and LID Plan check review; staff training (Industrial SWPPP, IC/ID, Public Agency Activities, FOG, and LID Plan review); representation at Permittee meetings; and TMDL implementation assistance. Performed a Program Effectiveness Assessment of the City's Stormwater Management Plan and assessed the FOG Control Program to determine compliance with SSO requirements.

Los Angeles County Mass Emissions Station and Tributary Station Water Quality Monitoring NPDES Monitoring support who helped identify constituents and monitoring frequency at each monitoring location based on TMDL and 303 (d) requirements as well as updating the sampling protocol and suspended sediment and toxicity sampling requirements. These protocols and requirements included QA/QC protocols and the non-stormwater outfall monitoring program.

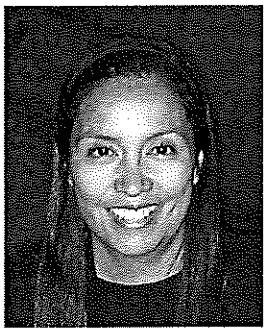
Mojave River Water Group Water Monitoring Implementation Monitoring Lead assisting with the implementation of MRWG's RWMP Plan as required by the Phase II MS4 Permit. Coordinated with the USACE and City of Victorville Community Services Department to conduct the receiving water monitoring. Project reporting consisted of compiling field photo logs, performing quality control on laboratory data received, entering analytical laboratory data into a consolidated spreadsheet, and retrieving USGS stream gage data.

Santa Ana Watershed Project Authority Bacteria TMDL Monitoring Field Crew Member to furnish water quality monitoring services for Middle Santa Ana River Bacteria TMDL compliance by implementing the Santa Ana River Watershed Bacteria Monitoring Plan and QAPP. Generated data and project documentation alongside contracted laboratories that includes sample collection records (field logs and photographs), analytical records, (laboratory results and CoC forms), and reports (laboratory results and QA/QC reports).

Diane Caballero

Document Control Lead

Diane has 20 years of professional experience as a project coordinator. She has worked on several high-profile, multi-year projects with multi-million dollar budgets. Diane works with project managers on budget management and project accounting to ensure fiscal success on complex projects. She ensures all invoices are processed in accordance with contract requirements and within budget allowances. She prepares project financial health reports and workload projections for the CWE management team and tracks invoicing and contract balances for subconsultants.



Years of Experience
20

Education
Liberal Arts, East
Los Angeles College

Registrations
N/A

RELEVANT EXPERIENCE

City of Santa Monica Los Amigos Park Storm Drain Runoff Harvesting and Direct Use Demonstration

Project Coordinator for the design of a demonstration project that will tap into an existing storm drain line running along a school athletic field and Los Amigos Park, reroute stormwater and dry-weather flows from the storm drain through a vortex system into a cistern, treat the stormwater and dry-weather runoff, and deliver 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.

Los Angeles Department of Water and Power Stormwater Capture Master Plan

Project Coordinator assisting the LADWP by developing a Stormwater Capture Master Plan. The Master Plan will investigate and create potential strategies for the implementation of stormwater capture and watershed management programs and projects within the City of Los Angeles. It will also evaluate the multi-beneficial aspects of increasing stormwater capture, including potential open space alternatives, improved downstream water quality, and peak flow attenuation in downstream channels, creeks, streams, and rivers, including the Los Angeles River. Performing project tasks, including coordination with the LADWP and stakeholders, data collection, and overall project coordination.

City of Los Angeles Dominguez Channel Watershed Enhanced Watershed Management Program

Project Coordinator for the development of an EWMP for the County of Los Angeles and Cities of El Segundo, Hawthorne, Inglewood, and Los Angeles to enhance water quality, comply with the Los Angeles County Phase I MS4 Permit, and provide additional multiuse benefits. Additional tasks included identifying water quality priorities, evaluating existing and potential control measures, and developing an RAA. The RAA required the use of LSPC for analysis of hydrology and pollutant loads, and SBPAT for evaluation of BMP efficiencies and water quality load reductions.

JCCA Architects · Engineers

KEY PERSONNEL RESUMES

Myoungjin Kang, RA
Principal Architect

Ms. Kang is the head of the architectural department at JCCA. Ms. Kang's professional experience involves high-security facility design and modification of State and Federal institutions, juvenile detention facilities, and schools. She has a broad range of experience managing various types of projects from the design phase to the construction administration phase.

YEARS OF EXPERIENCE: 19 Years

YEARS WITH FIRM: 12 Years

EDUCATION:
Master of Architecture, 2005, University of Southern California
Certificate of Construction Management, 2001,
University of California, Los Angeles
Bachelor of Arts, Environmental Design and Architecture, 1997,
University of California, Berkeley

LICENSES/CERTIFICATIONS:
California Architect License No. C37614
Cal OES Disaster Service Worker Volunteer No. 93247

PROJECT EXPERIENCE

- Pump Engine Replacement, Pump Station No. 17, City of El Segundo
- Elevator Modernization, Public Library, City of El Segundo
- Roof Replacement, Junior Art Center, Barnsdall Park, City of Los Angeles
- Ceiling Repair, SNF Building, DSH-Metropolitan, Department of General Services (DGS)
- Fire Sprinkler Systems, Fairview, Porterville, and Sonoma Developmental Centers, DGS
- Upgrade Boilers and Steam Distribution, Porterville Developmental Center, DGS
- 9th Floor Renovation, Langsdorf Hall, California State University, Fullerton (CSUF)
- GIF Restroom Assessments 2022, Various Locations, University of California, Irvine (UCI)
- HVAC Replacement, Marvin Elementary School, Los Angeles Unified School District (LAUSD)
- Constructability Review, Comprehensive Modernization, Kennedy High School, LAUSD
- Low Voltage Upgrades, GLAVC West LA, California Department of Veterans Affairs (CalVet)
- Pharmacy Ceiling/Wall Alterations, VHC Chula Vista, CalVet
- Conceptual Kitchen Layout, GLAVC, CalVet
- Water Plant Building Renovation, Rector Dam, Veterans Home of California, Yountville, CalVet
- Central Services Kitchen Replacement, California Men's Colony, California Department of Corrections and Rehabilitation (CDCR)
- ADA Modifications, California Institution for Women, CDCR
- Tenant Improvements, Division of Adult Paroles, Covina, CDCR
- Perez Dental Operatory Modifications, California Institution for Men, CDCR
- Roof Replacement, Multiple Buildings, California Correctional Institution, CDCR
- Chiller Replacement, Little Company of Mary Hospital, Providence Health & Services
- Bonelli Irrigation Refurbishment, Pump Station Renovation, LA County Dept. of Public Works

JCCA Architects · Engineers

KEY PERSONNEL RESUMES

Sevag Avanessian, PE
Principal & Electrical Engineer

Mr. Avanessian is experienced in various engineering projects including the design of power systems, lighting systems, low-voltage systems, and fire alarm systems for new construction and tenant improvement projects for clients in education, institutional and commercial sectors.

YEARS OF EXPERIENCE: 19 Years

YEARS WITH FIRM: 16 Years

EDUCATION: Bachelor of Science, Electrical Engineering, 2009, University of California, Irvine

LICENSES/CERTIFICATIONS: California Electrical PE License No. E22793

PROJECT EXPERIENCE

- Big Blue Bus Lighting Upgrade, City of Santa Monica
- Electrical Upgrades, Santa Monica Pier, City of Santa Monica
- Rural Outdoor Lighting Ordinance, 8 Road Maintenance Yards and 6 County Dams, County of Los Angeles Department of Public Works (LADPW)
- Deferred Maintenance, Lighting Replacement and Power Equipment, Various Buildings, Los Padrinos Juvenile Hall, County of Los Angeles Internal Services Department (LAISD)
- Dorm Renovations and Electrical Panelboards Replacement, Glenn Rockey Camp School, LAISD
- Ceiling Replacement, Curtis R. Tucker Health Care Center, LAISD
- Deferred Maintenance, Carson Animal Care #3, LAISD
- Low Voltage Infrastructure, Children & Family Services, LAISD
- CCTV Electrical Infrastructure, Central Juvenile Hall, LAISD
- Inmate Commissary Lighting Replacement, Orange County Sheriff-Coroner Department (OCSD)
- Parking Lot D Modifications, Seal Beach, Boeing
- Pump Replacement, Garvey Avenue Pump Station, City of El Monte, CWE
- SGVCOG Load Reduction, Rio Hondo, CWE
- Burton Way Green Street and Water Efficient Landscape, CWE
- Storm Drain Infiltration, EWMP, 28th Street, City of Manhattan Beach, CWE
- Barnes Park Multi-Benefit Stormwater, City of Baldwin Park, CWE
- Standby Power Generators (2 locations), Pauma Band of Mission Indians, CWE
- Tenant Improvement Brick Building, Harbor District Yard, City of Los Angeles
- Fire Alarm Upgrade, Eagle Rock High School, Los Angeles Unified School District (LAUSD)
- Overhead Electrical Replacement, Fish Springs Hatchery, Department of General Services (DGS)
- Wander System and Audio-Visual System Upgrades, GLAVC West LA, California Department of Veterans Affairs (CalVet)
- Standby Generator and Automatic Transfer Switch, Chico Air Attack Base, CAL FIRE
- New Data Room, 6th Floor, Semel Tower, University of California, Los Angeles (UCLA)
- CHS Parking "E" Clinical Research Biomarker Seismic Renovation (LEED Gold), UCLA

JCCA Architects · Engineers

KEY PERSONNEL RESUMES

Robert Nolan, PE, LEED AP, CEM, CMVP, PF
Managing Principal & Mechanical Engineer

Mr. Nolan is experienced in the design and renovation of HVAC, clean rooms, fire protection and plumbing for schools, industrial, manufacturing, and commercial facilities. Mr. Nolan has extensive experience in sustainability projects and site master planning.

YEARS OF EXPERIENCE: 28 Years

YEARS WITH FIRM: 25 Years

EDUCATION: Bachelor of Science, Mechanical Engineering, 1996,
Colorado School of Mines

LICENSES/CERTIFICATIONS: California Mechanical PE License No. M31684
Certified Energy Manager No. 17051
Certified Measurement & Verification Professional No. 2414
LEED Accredited Professional
Project Facilitator, DOE Federal Energy Management Program

PROJECT EXPERIENCE

- Reclaim Water System, ACWM South Gate, County of Los Angeles Internal Services Department
- DSH-Statewide Water Management Plan, Department of State Hospitals (DSH)
- DSH-Infrastructure Master Plan, DSH
- Water Infrastructure Study, Phase 1, DSH-Napa, DSH
- Replace Fire Sprinkler and Domestic Water Supply Feed Lines, DSH-Coalinga, DSH
- Replace Water Tank #1, DSH-Metropolitan, DSH
- Chiller Replacement, DSH-Patton, DSH
- Cooling Tower, Building N, DSH-Patton, DSH
- Central Utility Plant Upgrade Budget Package, DSH-Metropolitan, DSH
- Replace AHU, Building 168, DSH-Napa, DSH
- Semel-IPCN Renovation – LEED Platinum, University of California, Los Angeles (UCLA)
- CHS Parking E Clinical Research Biomarker Seismic Renovation – LEED Gold, UCLA
- A/E Design Services for CHS Utilities Survey & Report, UCLA Center for Health Sciences
- Cath Lab #10, Feasibility Study, Providence Little Company of Mary Medical Center (PLCMMC)
- Renovation of Cath Lab 12, Cath Lab 13, and Angio Lab 11, PLCMMC
- HVAC Upgrade, California Towers, Department of General Services (DGS)
- Upgrade Boilers and Steam Distribution, Porterville Development Center, DGS
- Repair and Renovate Water Tanks, Chuckawalla Valley State Prison, CDCR
- Statewide Water Efficiency Conservation Master Plan, CDCR, Vanir
- New Potable Water Wells Budget Study, CIM, CDCR, Vanir
- HVAC & Plumbing Systems Evaluation, MCC San Diego, Federal Bureau of Prisons (FBOP)
- GSA White Oak/FDA Energy Savings Performance Contract, General Services Administration
- DDC Control System, Beaudry Building, Los Angeles Unified School District (LAUSD)

REGISTRATION/ CERTIFICATIONS

Ground Penetrating Radar Technician Level III

Utility Locator Technician Level III

EXPERIENCE

With Firm for 7 years; with other firms for 10 years

Hector Vargas – C Below, Inc.

Sr. Project Manager

Mr. Vargas has over 10 years of experience in the construction industry 5 of which he has dedicated to the utility locating industry. He has worked as a sales representative, a project manager, and a lead supervisor. These different roles have given him well-rounded knowledge of the industry from project inception to project completion. He can step in and help our Lead Surveyor and Field Manager with daily requests and large project needs. He oversees the coordination of all office and field efforts within the project limits to ensure the highest standards for utility location accuracy.

Experience

Lambert Rd Potholing Investigation, Psomas, Whittier, CA: Project Manager. Mr. Vargas was responsible for submitting all permits and coordinating with USA and the field technicians. He managed the project budget and communicated any issues with the client.

Highland and Cedar Potholing Investigation, San Bernardino Water Department, San Bernardino, CA: Project Manager. C Below performed thirty-nine potholes and seven slot trenches per the client's direction. Hector oversaw all of the permitting and coordination with the field technicians. He managed the project budget and communicated any issues to Operations and the client.

Grove/Holt Potholing Investigation, Parsons, Ontario, CA: Project Manager. Mr. Vargas was responsible for submitting all permits and coordinating with USA and the field technicians. He managed the project budget and communicated any issues with the client.

SR-55 Widening Potholing, HNTB, Orange County, CA: Project Manager. Oversaw all field efforts when performing the 155 potholes. Responsible for coordinating with the client and the technicians. Managing the project budget, pulling permits, and reviewing technician findings.

Jeffrey Potholing Investigation, Wilson Mikami Corporation, San Diego, CA: Project Manager. C Below performed 57 potholes and Mr. Vargas was responsible for overseeing all permitting, traffic control, and communicating with the client and technicians

EDUCATION
Master of Science, Civil Engineering, California State University, 2007

Bachelor of Science, Civil Engineering, University of Mutah, 2002

REGISTRATIONS
Registered Civil Engineer: California PE C77455, Exp 06/30/2025

Project Management Professional (PMP) Exp 07/04/2025

Fred Buhamdan, PE, PMP

PRINCIPAL / PROJECT EXECUTIVE

PROFESSIONAL EXPERIENCE

Mr. Buhamdan is a licensed civil engineer (PE) in the State of California with substantial experience in performing geotechnical investigations, engineering design, and project management. These projects included various educational and commercial buildings, renewable energy facilities, retail centers, office/warehouse projects, street improvements, industrial facilities, and public works projects.

Engineering experience includes hundreds of projects involving shallow and deep foundations design, settlement and slope stability analysis, pavement design, geologic hazards analysis preparation of project proposals and geotechnical engineering reports,and construction management.

Higher education includes a Master of Science degree of Civil Engineering from California State University. Professional licenses include a Project Management Professional (PMP) Certificate.

Management duties include overseeing projects budget and schedule, managing client's expectations, business development, and supervising engineers, geologists, sub-consultants and sub-contractors, and laboratory and field personnel.

The following is a representative list of distinguished projects Mr. Buhamdan has served as an engineer of record, project manager, authorized project reviewer, and/or project engineer.

PROJECT EXPERIENCE

PUBLIC WORKS – WATER / SEWER

- Garvey Avenue Grade Separation Drainage, El Monte, CA
- Transfer Station Water Quality Improvement Project, Culver City, CA
- John Anson Ford Park Infiltration Project, Bell Gardens, CA
- Mesmer Low Flow Diversion, Culver City, CA
- YVWD Water Reservoirs, Yucaipa, CA
- Agoura Hills Stormwater Treatment Facility, Agoura Hills, CA
- City wide Storm Drain Point Repair Project, Rancho Palos Verdes, CA
- 28th Street Storm Drain Infiltration Project, Manhattan Beach, CA
- SGVCOG ACE Rio Hondo Load Reduction Strategy Design, multiple Cities
- LA Public Works Compton Creek Low Flow Diversion, Los Angeles, CA
- Topock Raw Water Tank Replacement, Needles, CA
- LA Public Works Arroyo Seco Low Flow Diversion, Pasadena, CA
- Sterling Avenue and Marshall Blvd. Sewer and Gas Lines, San Bernardino, CA
- San Clemente Island Replacement Tanks, San Clemente Island, CA
- Two-Year Sewer Main Rehabilitation Program - Manhattan Beach, CA
- Walnut Stormwater Capture and Groundwater Replenishment Basin, Torrance
- Culver City Diversion Sewer Project – Culver City, CA
- Multiple Trunk Sewer Line Projects – Long Beach, CA
- Visalia Basin F and Amenities, and Basin G, Visalia, CA
- Subsurface Infiltration Trench Feasibility Study, Manhattan Beach, CA
- Temecula Flood Control Channel Recon and Repair, Temecula, CA
- San Fernando Regional Park Infiltration, San Fernando, CA

Fred Buhamdan, PE, PMP (Continued)

PUBLIC WORKS - OTHER

- OCTA Building Modification and Expansion, Orange, CA
- California Rehabilitation Center, Norco, CA
- Huntington Beach Utility Operations facility, Huntington Beach, CA
- Walter D. Ehlers Community Center, Buena Park, CA
- Ponderosa Community Center, Anaheim, CA
- Mission Canyon Trailhead Facility – Los Angeles, CA

PUBLIC WORKS – PAVEMENTS/STREETS

- Lake Forest Drive Rehabilitation Project – Murilands to Jeronimo, Lake Forest, CA
- Street Rehabilitation for 13 Streets, Culver City, CA
- Street Rehabilitation for nine major streets, Huntington Beach, CA,
- Studebaker Road Street Rehabilitation, Cerritos, CA
- Burton Way Median Green Street, Beverly Hills, CA
- Culver Boulevard Street Improvement, Culver City, California
- Laurel Canyon Blvd. Green Street Project, Los Angeles, CA
- Airfield Pavement Analysis, Los Angeles, CA
- Knott Avenue Street Rehabilitation, Buena Park, California
- Street Rehabilitation for Mccarthur Blvd., Sunflower St., and Fair Dr., Costa Mesa, CA
- Rickenbacker Road Expansion, Bell, California
- Huntington Beach Utility Operations Facility, Huntington Beach, CA
- 183rd Street Improvement, Cerritos, California
- Chase Drive and Taber Road widening and improvements, Corona, California
- Garvey Avenue Grade Separation Drainage, El Monte, CA
- La Brea Ave. Street Improvements, Inglewood, California
- City wide Storm Drain Point Repair Project, Rancho Palos Verdes, CA
- Lake Forest Drive Rehabilitation Project – Dimension Drive to Fernleaf, Lake Forest, CA
- City of Yucaipa Avenue E Roundabouts – Yucaipa, CA
- Two-Year Sewer Main Rehabilitation Program - Manhattan Beach, CA
- Street Rehabilitation for 13 Streets, Culver City, CA
- Karmont Avenue Infiltration, Chakemco Street Improvement, South Gate, CA
- Valencia Drive and Basque Avenue Area Reconstruction, Fullerton, CA
- Shoemaker Avenue Pavement Rehabilitation, Cerritos, CA

EXHIBIT "B"

Payment Schedule (Hourly Payment)

A. Hourly Rate

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

SEE ATTACHED EXHIBIT B

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

C. Billing

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

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

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

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

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

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

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

EXHIBIT "B"

Rates

Engineer/Scientist	FY 2025/26 Rate/Hour	FY 2026/27 Rate/Hour	FY 2027/28 Rate/Hour
Principal	$327	$341	$354
Senior Project Manager	$314	$328	$341
Project Manager	$285	$297	$309
Technical Manager	$250	$260	$271
Task Leader	$241	$251	$261
Principal Engineer	$210	$219	$228
Senior Engineer	$195	$203	$211
Project Engineer	$181	$189	$196
Staff Engineer	$150	$156	$162
Assistant Engineer	$121	$126	$131
Senior Environmental Scientist	$194	$202	$210
Environmental Scientist	$163	$170	$177
Environmental Analyst	$135	$141	$147
Construction Services			
Construction Manager	$246	$256	$266
Senior Construction Inspector	$192	$200	$208
Construction Inspector	$180	$187	$194
Field Survey			
Licensed Surveyor	$227	$236	$245
3-Person Survey Crew	$426	$443	$460
2-Person Survey Crew	$348	$362	$377
Support Services			
GIS Specialist	$149	$155	$161
Senior Engineering Technician	$120	$125	$130
Engineering Technician	$98	$102	$106
CADD Designer	$106	$110	$114
Project Coordinator	$139	$145	$151
Graphic Designer	$129	$135	$140
Administrative Assistant	$122	$127	$132
General			
Direct Expenses	Cost + 10%	Cost + 10%	Cost + 10%
Subcontract Services	Cost + 10%	Cost + 10%	Cost + 10%
Mileage	Current IRS Rate	Current IRS Rate	Current IRS Rate
B&W Photocopies (per page)	$0.10	$0.10	$0.10
Color Photocopies (per page)	$0.50	$0.50	$0.50

Rates will be adjusted annually based on the US Department of Labor, Bureau of Labor Statistics, Consumer Price Index for Orange County area.

Rates for field equipment, health and safety equipment, and graphical supplies presented upon request.

Based on CWE maintaining General Liability Insurance for bodily injury and property damage with an aggregate limit of $2,000,000 per occurrence. In the event the client desires additional coverage, CWE will, upon the client's written request, obtain additional insurance and adjust the above billing rates accordingly.

JCCA
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www.jccainc.com

BILLING RATES AND COST SCHEDULE FOR CITY OF HUNTINGTON BEACH RFQ FOR ON-CALL CIVIL ENGINEERING PROFESSIONAL CONSULTING SERVICES 1/1/2025-12/31/2029

DESCRIPTION OF SERVICES	UNIT	UNIT PRICE
Principal	MH	$ 240.00
Project Manager	MH	$ 208.00
Architect	MH	$ 197.00
Engineer	MH	$ 197.00
CAD Operator	MH	$ 153.00
Clerical	MH	$ 131.00
Reproduction (In House)	Sheet	$ 10.00
Reports/Specifications	Set	$ 50.00
CAD Plot	Sheet	$ 20.00
Computer Discs/USBs	Each	$ 15.00
Plan Check or Permit Fees		Cost + 10%
Reproduction Services (Contract)		Cost + 10%
Other Services (See Note 1)		Cost + 10%

NOTES

1. This applies to subcontracted services, including those requested by client or that require no A&E input (e.g., equipment rental).
2. Rates are subject to change annually.

Product Line Items

	Estimated Costs
Utility Locating	$5,460.00
Mapping	$1,720.00
Potholing	$10,340.00
Total USD	**$17,520.00**

Estimate Worksheets

Utility Locating

Item	Quantity	Unit	Unit Price	Total
Locating | Certified Supervising Technician	8	HR	$195.00	$1,560.00
Locating | Trained Certified Assistant Technician	8	HR	$325.00	$2,600.00
Personnel Mobilization | Locating Crew	2	HR	$175.00	$350.00
Project Coordination	6	HR	$95.00	$570.00
Administrative	4	HR	$95.00	$380.00
			Subtotal	**$5,460.00**

Mapping				
Item	Quantity	Unit	Unit Price	Total
Mapper | Certified Supervising Technician	4	HR	$230.00	$920.00
Drafting	3	HR	$150.00	$450.00
Personnel Mobilization | Mapper	2	HR	$175.00	$350.00
			Subtotal	**$1,720.00**

Potholing				
Item	Quantity	Unit	Unit Price	Total
Potholing Hourly Crew: Incl surface breaking, sand backfill, and perm cold patch repair	8	HR	$595.00	$4,760.00
Personnel Mobilization | Potholing Crew	2	HR	$325.00	$650.00
Vacuum Excavation Spoil Removal and Dump Fee: Removal of excavated spoils and dumping of material	1	EA	$950.00	$950.00
Pothole Report	1	UNIT	$550.00	$550.00
Standard Traffic Control 25-55 MPH	1	DAY	$1,500.00	$1,500.00
Traffic Control Plans | Engineered Stamped Plans	1	Unit	$1,550.00	$1,550.00
Project Coordination	2	HR	$95.00	$190.00
Administrative	2	HR	$95.00	$190.00
			Subtotal	**$10,340.00**

GEOTECHNICAL AND MATERIALS TESTING FEE SCHEDULE

1. PROFESSIONAL SERVICES

TITLE	UNIT PRICE
Senior Principal	$325 /hour
Principal	$300 /hour
Senior Consultant	$290 /hour
Senior Engineer / Geologist / Geophysicist	$250 /hour
Senior Project Manager	$225 /hour
Project Manager	$190 /hour
Project Engineer / Geologist / Geophysicist	$185 /hour
Assistant Project Manager	$170 /hour
Field Supervisor	$165 /hour
Senior Staff Engineer / Geologist / Geophysicist	$160 /hour
Senior GIS Analyst	$155 /hour
Project Field Manager	$150 /hour
Staff Engineer / Geologist / Geophysicist	$145 /hour
Staff Engineer / Geologist / Geophysicist- Prevailing Wage	$195 /hour
CAD Operator	$130 /hour
Field Engineer / Geologist / Geophysicist	$130 /hour
Field Engineer / Geologist / Geophysicist- Prevailing Wage	$185 /hour
Assistant Engineer / Geologist / Geophysicist	$120 /hour
Assistant Engineer / Geologist / Geophysicist - Prevailing Wage	$185 /hour
Construction Inspector	$135 /hour
Construction Inspector - Prevailing Wage	$185 /hour
Technician V (4 hour minimum)	$140 /hour
Technician V - Prevailing Wage (4 hour minimum)	$195 /hour
Technician IV - Prevailing Wage (4 hour minimum)	$189 /hour
Technician IV (4 hour minimum)	$130 /hour
Technician III (4 hour minimum)	$120 /hour
Technician III - Prevailing Wage (4 hour minimum)	$189 /hour
Technician II (4 hour minimum)	$110 /hour
Technician II - Prevailing Wage (4 hour minimum)	$185 /hour
Technician I (4 hour minimum)	$100 /hour
Technician I - Prevailing Wage (4 hour minimum)	$185 /hour
Clerical / Administrative Staff / Senior Administrative Staff / Project Coordinator	$103 /hour

*An overtime premium of 1.5 times the hourly rate will apply for services provided Monday through Friday that are in excess of 8 hours per day and for services provided before 7:00 AM and after 6:00 PM, as well as for services provided on Saturday, Sunday and Terracon recognized holidays.

Note: Deposition or court testimony at a minimum of 1.75 times the regular rate-minimum of $250/hr.

GEOTECHNICAL AND MATERIALS TESTING FEE SCHEDULE

2. DRILLING

Mobilization of equipment and personnel – With-in 50 miles	$650 /minimum
Support Vehicle	$250 /day
Difficult Moving	$350 /hour
Shelby Tube Samples	$55 /sample

Hourly charge for field personnel and drilling equipment

Drilling w/truck-mount rig with two persons	$350 /hour
Drilling w/truck-mount rig with two persons (Overtime)	$450 /hour
Drilling w/track-mount & ATV rig with two persons	$375 /hour
Drilling w/track-mount & ATV rig with two persons (Overtime)	$475 /hour
Drill crew (2-man) surcharge for Davis Bacon or CA Prevailing wages	$200 /hour
Cost of special equipment for moving drilling equipment about site or for permits	Cost Plus 15%

Miscellaneous items, client delay, stand-by time

Truck-mount	$300 /hour
Track-mount & ATV	$400 /hour
Well point installation in drilled borehole, installing pipe plus	$375 /hour
Perforated pipe (3" max size) does not include drilling hole	$21 /ft
Additional charge for surface protector pipe, cap, and pad	$600 /minimum
Grouting, cement-bentonite	$25 /ft
Borehole backfill, bentonite chips	$18 /ft

3. INSITUTESTING (Cone Penetration, Dilatometer and Vane Shear Testing)

Mobilization of equipment and personnel – CPT Rig (4.85/mile each way)	$800 /day minimum
Hourly charge for operator and equipment*	$450 /hour

* Note - Standby for client delay or difficult access greater than ½ hour per test location 4-hour minimum

Electronic Cone Penetration Testing (CPT)

CPTU (with pore pressure)	$20 /ft
Seismic Tests at 5 ft intervals	$65 /test
Pore pressure dissipation testing	$340 /hour
In-Situ Vane Shear Testing (VST-direct push, 3" x 6" vane)	$350 /hour
Dilatometer Testing (DMT) tests at 1-foot intervals	$35 /ft

Data Reduction

CPT sounding	$125 /each
DMT sounding	$160 /each
VST test	$40 /test

GEOTECHNICAL AND MATERIALS TESTING FEE SCHEDULE

4. GEOPROBE SYSTEM

Mobilization of equipment and personnel – GeoProbe (3.76/mile each way)	$750 /day
Direct Push only, 8-hr day	$3,900 /day
Consumable Geoprobe® Supplies	Cost Plus 15%
Excess of 8-hrs, Standby/Client Delay Time - machine and operators	$390 /hour

5. EQUIPMENT RENTAL (Personnel Time Not Included)

Nuclear Density and Moisture Measuring Equipment	$20 /test
Porosity	$212 /test
Pin Hole Dispersion	$309 /test
With Remolding of Sample	$340 /test
Sand Equivalent	$232 /test
Soil Thermal Resistivity - 4-point Dry Out Curve	$1,250 /test
Additional Points	$250 /point

Consolidation

Constant Rate of Strain Consolidation, 2.5" diameter - ASTM D4186	$670 /test
Includes duration of 4 days, each additional day	
Incremental Consolidation, 2.5" diameter - ASTM D2435 (Regular Load Increment to 16 TSF)	$644 /test
Each additional Unloaded-Reload Cycle	$103 /cycle
Each additional Unloaded-Reload Cycle	$397 /test
Swell Test ASTM D4546 Method A, per specimen (requires 4 minimum)	$284 /test
Swell Test ASTM D4546 Method B, per specimen	$284 /test
Swell Test ASTM D4546 Method C, per specimen	$438 /test

Shear Strength

Unconfined Compression, ASTM D2166	$155 /test
With Stress-Strain Curve	$155 /each
Calibrated Hand Penetrometer or Torvane	$26 /each
Direct Shear FAST (cohesionless)	$309 /point
Direct Shear SLOW (cohesive)	$387 /point
Standard Sample Preparation	$98 /sample
Preparation on remolding for difficult samples	$103 /hour
Unconfined Compression on Cured Proctor Sample with Fly Ash	$129 /test

Triaxial Compression

Unconsolidated Undrained Triaxial (per Confining Stress)	$217 /each
Consolidated Undrained Triaxial (per Confining Stress)	$423 /each
Consolidated Drained Triaxial (per Confining Stress) *Note: Normally requires three	$464 /each

Preparation of Remolded Samples	$103 /hour

Note: Test rates for 1.4 inch,1.8 inch and 2.8 inch diameter samples. Rates for other diameter samples available upon request

Compaction and Density

Laboratory CBR (does not include maximum density)	$450 /test
R-Value (ASTM D-2844)	$400 /each
Modified Proctor (ASTM D 1557)	$300 /test
Standard Proctor (ASTM D 698)	$250 /test
Relative Density (ASTM D 4253 & D 4254 wet or dry method)	$464 /each
Standard Proctor with Fly Ash (2 hour Delay)	$273 /each
Harvard Miniature	$258 /each
Field CBR * Additional charge for Coarse Aggregate Correction	$52 /each

Permeability

Constant Head Permeability Test (ASTM D2434)	$243 /test
Falling Head Permeability Test (ASTM D5084)	$325 /each
Preparation of Remolded Samples	$52 /each

Chemical Tests

pH (By meter)	$52 /each
Electrical Conductivity by Miller box	$150 /each
Chloride Concentration	$98 /each
Soluble Sulfate	$114 /each
Cation Exchange Capacity of Soil	$165 /each

6. ROCK LABORATORY TESTING

ASTM D 7012 Triaxial Compression, Method A (per confining stress)	$397 /each
ASTMD7012ElasticModuliinTriaxialCompression, Method B (per confining stress)	$531 /each
ASTM D 7012 Uniaxial Compression Test, Method C	$289 /each
ASTM D 7012 Elastic Moduli in Uniaxial Compression, Method D	$407 /each
ASTM D 3967 Indirect Brazilian Tensile Test	$109 /each
ASTM D 4644 Slake Durability Index	$206 /each
ASTM D 5607 Direct Shear Intact Rock (per normal stress)	$387 /each
ASTM D 5607 Direct Shear at Discontinuity (3 normal stresses)	$1,159 /each
ASTM D 5607 Direct Shear Saw Cut (3 normal stresses)	$1,159 /each
ASTM D 5607 Direct Shear Intact Rock with Residual Cycles (3 normal stresses	$1,261.75 /each
ASTM D 5731 Point Load Axial Diametrical	$98 /each
Difficult Sample Preparation	$103 /hour