

CONTRACT MA-080-26010792

FOR

**CONSULTANT SERVICES TO UPDATE THE ORANGE COUNTY HYDROLOGY
MANUAL**

BETWEEN

COUNTY OF ORANGE,

ORANGE COUNTY FLOOD CONTROL DISTRICT

AND

PACIFIC ADVANCED CIVIL ENGINEERING, INC.



County of Orange, OC Public Works**MA-080- 26010792****Consultant Services to Update the Orange County Hydrology Manual**

CONTRACT

THIS CONTRACT, hereinafter referred to as “Contract” for purposes of identification hereby numbered MA-080-26010792, by and between the County of Orange, a political subdivision of the State of California (“County”), Orange County Flood Control District, a body corporate and politic (“District”), and Pacific Advanced Civil Engineering, Inc., a California Corporation, hereinafter referred to as “A-E,” or “Contractor” which are sometimes individually referred to as “Party” or collectively referred to as “Parties.”

RECITALS

WHEREAS, County and District require professional services to accomplish projects and/or services (“Projects/Services”) as described in MA-080-26010792 Scope of Work for Consultant Services to Update the Orange County Hydrology Manual, hereinafter referred to as “Attachment A,”; and

WHEREAS, the District relies on County staff to carry out its duties pursuant to the Orange County Flood Control District Act, Water Code App. §§ 36-1 et seq., and County staff may request Contractor to perform services under this Contract on behalf of District; and

WHEREAS, A-E is a firm whose principals are, as required by law, registered by the State of California for the practice of specialized A-E services per the attached Scope of Work.

NOW, THEREFORE, IT IS AGREED by and between the parties hereto as follows:

1. GENERAL**1.1. Retainer**

1.1.1. County does hereby retain A-E to perform the Projects/Services as required by this Contract.

1.1.2. A-E has offered, and County has accepted, the professional services of Rebecca Kinney, PE, CFM and A-E shall assign him/her to the Projects/Services.

1.1.3. A-E may employ special consultants/contractors for the accomplishment of the Projects/Services specified; and only the firms or independent consultants/contractors identified in Attachment C may be employed by A-E to provide these Projects/Services.

1.1.4. Consultants/contractors may be substituted and/or added by mutual Contract of A-E and the Director of OC Public Works or his designee, hereinafter referred to as “Director”.

1.1.5. A-E's employment of independent consultants/contractors shall not relieve A-E from the performance of its own responsibilities pursuant to this Contract. However, all consultants/contractors independently contracting with County shall be independently liable to County for the performance of the work pursuant to their agreements, and A-E shall have no liability for work by contractors independently contracting with County.

1.2. Projects/Services**1.2.1. Description of Projects/Services**

- a. Project/Services to be performed by A-E shall consist of the work as specified herein and as required in Attachment A, attached hereto and incorporated herein by reference. If in the

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event Attachment A shall be in conflict with any provision of this Contract, the wording as set forth in Attachment A shall prevail.

- b. A-E shall be responsible for submitting all Projects/Services to County in a form which has been thoroughly reviewed and checked for completeness, accuracy and consistency by the registered professional named in Section 1.1.2 herein; and, any Projects/Services not meeting this requirement will be returned to A-E prior to review by County.

1.2.2. Design Criteria and Standards

All Projects/Services shall be performed in accordance with instructions, criteria and standards set forth by the Director.

1.2.3. Scheduling

- a) Concurrently with the work of the Contract, A-E shall prepare a progress work schedule and within five (5) working days from the date of receipt of individual assignments from County, A-E shall submit to County two (2) copies of a progress work schedule which shall delineate dates of commencement and completion of the various phases of Projects/Services assignments. A-E schedule shall include required County review period(s) set forth herein. An approved copy of the progress schedule will be returned to A-E.
- b) A-E shall allow at least five (5) working days for County review of progress work schedule. In planning work, A-E should anticipate and allow ten (10) working days for County review of each submittal required in Attachment A.
- c) A-E shall meet on an as-needed basis as determined by County or at least once every four (4) weeks with County to review progress of work, adherence to progress schedule, coordination of work, scheduling of seminars, if needed, and to resolve any problems that may develop.
- d) Within five (5) working days of each meeting, A-E shall prepare a brief memorandum summarizing the results of the meeting and shall submit it to County for concurrence.
- e) A-E shall complete all the work of Projects/Services and obtain all approvals by the County within the time frame indicated in Attachment A except A-E shall not be responsible for any delay beyond the control of A-E.
- f) In the event A-E fails to complete the work and obtain the approval of Director in the time allowed, County shall have the option of completing the work by its own forces or by contract with another firm. The time allowed for A-E to complete the Projects/Services pursuant to this Contract shall be extended for delay caused by County in completing its work pursuant to this Contract which delay exceeds the agreed County review and/or approval time periods.

1.3. Assistance by County Staff

- 1.3.1.** County shall assign an appropriate staff member to work with A-E in connection with the work of this Contract. Said staff member's duties will consist of the giving of advice and consultations, assisting A-E in negotiations with other public agencies and private parties, miscellaneous items which in the judgment of A-E or County's staff warrant attention, and all other duties as may be described in Attachment A.

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1.3.2. All of the above activities, however, shall be the primary responsibility of A-E to schedule, initiate and carry through to completion.

1.4 Term and Maximum Compensation

The term of this Contract is for three (3) years commencing upon Board of Supervisor approval with a **MAXIMUM CONTRACT PRICE OF ONE MILLION, SIX HUNDRED SEVENTY-TWO THOUSAND, ONE HUNDRED FIFTY DOLLARS (\$1,672,150)**, except as permitted in Paragraph 1.5 below.

1.5. A-E Compensation and Extra Work

1.5.1. For the Projects/Services authorized under this Contract, A-E shall be compensated in accordance with the following:

1.5.2. For completion and approval of all Projects/Services where "Extra Work" (defined as changes in approved portions of the Project/Services required by and ordered in writing by Director which changes constitute a change in or departure from said approved portions of Projects/Services) is not authorized, compensation including reimbursables shall be described and payable as stipulated in Fee Schedule, herein after referred to as "Attachment B", attached hereto and incorporated herein by reference.

1.5.3. Where Extra Work is authorized for Projects/Services:

- a) The amount for Extra Work shall be determined using Attachment B. Extra Work shall be required by and ordered in writing by Director. If this Contract is not approved by the Board of Supervisors, any change that increases the cumulative Contract price beyond \$200,000 must be approved by the Board. Increases in the Contract amount for services within the existing scope of work may be granted by the Director where the amount does not exceed 25 percent of the existing Contract price or \$200,000, whichever is less.
- b) A-E's billing for the Extra Work shall include but not be limited to names of A-E's staff employed in the Extra Work, classification of employees and number of hours worked.

1.5.4. For partial completion of work of Projects/Services followed by default on part of A-E:

- a) For failure to complete and secure approval of the first required submittal, there shall be no compensation.
- b) For failure to complete and secure approval of other authorized phases, A-E shall, upon completion of Projects/Services by others, be entitled to receive compensation based on approved work of Projects/Services not to exceed the amounts specified in Attachment A for that particular submittal, plus the reasonable value as determined by County of the non-approved work; provided, however, that if the cost to County to complete the contract exceeds the amount specified herein, A-E shall be liable to County for such excess costs attributable to A-E's breach of the Contract.

2. LABOR**2.1 Non-Employment of County Personnel**

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- 2.1.1** A-E agrees that it will neither negotiate, offer, or give employment to any full-time, regular employee of County in professional classifications of the same skills required for the performance of this Contract who is involved in this Project in a participatory status during the life of this Contract regardless of the assignments said employee may be given or the days or hours employee may work.
- 2.1.2** Nothing in this Contract shall be deemed to make A-E, or any of A-E's employees or agents, agents or employees of the County. A-E shall be an independent contractor and shall have responsibility for and control over the details and means for performing the work, provided that A-E is in compliance with the terms of this Contract. Anything in the Contract which may appear to give County the right to direct A-E as to the details of the performance of the work or to exercise a measure of control over A-E shall mean that A-E shall follow the desires of County, only in the results of the work.
- 2.2 Non-Discrimination**
- 2.2.1** In the performance of this Contract, A-E agrees that it will comply with the requirements of the California Labor Code and not engage nor permit any subcontractors to engage in discrimination in employment of persons because of the race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, or sex of such persons.
- 2.2.2** A-E acknowledges that a violation of this provision shall subject A-E to all the penalties imposed for a violation of the California Labor Code.
- 2.3 Employee Eligibility Verification**
- 2.3.1** A-E warrants that it fully complies with all Federal and State statutes and regulations regarding the employment of aliens, and others and that all its employees performing work under this Contract meet the citizenship or alien status requirement set forth in Federal statutes and regulations. A-E shall obtain from all employees performing work hereunder, all verification and other documentation of employment eligibility status required by Federal or State statutes and regulations, including but not limited to, the Immigration Reform and Control Act of 1986, 8 U.S.C. § 1324 et seq., as they currently exist and as they may be hereafter amended. A-E shall retain all such documentation for all covered employees for the period prescribed by the law.
- 2.4 Independent Contractor**
- 2.4.1** As referenced in Section 2.1.2 of this Contract, A-E shall be considered an independent contractor.
- 2.4.2** Neither A-E, its employees nor anyone working under A-E shall qualify for workers' compensation or other fringe benefits of any kind through County.
- 2.5 Conflict of Interest – Contractor's Personnel**
- 2.5.1** Contractor shall exercise reasonable care and diligence to prevent any actions or conditions that could result in a conflict with the best interests of County. This obligation shall apply to Contractor, Contractor's officers, directors, employees, agents, and subcontractors associated with accomplishing work and services hereunder. Contractor's efforts shall include, but not be limited to establishing precautions to prevent its employees, agents, and subcontractors from providing or offering gifts, entertainment, payments, loans or other considerations which could be deemed to influence or appear to influence County staff or elected officers from acting in the best interests of County. A-E's efforts shall include, but not be limited to establishing precautions to prevent its employees or agents from: making, receiving, providing or offering gifts, entertainment, payments,

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loans or other considerations which could be deemed to appear to influence individuals to act contrary to the best interests of the County.

2.5.2 Contractor shall notify County, in writing, of any potential or actual conflicts of interest between Contractor and County that may arise prior to, or during the period of, Contract performance, including, but not limited to, whether any known County public officer's child is an officer or director of, or has an ownership interest of ten (10) percent or more in, Contractor. While Contractor will be required to provide this information without prompting from County any time there is a change regarding conflict of interest, Contractor must also provide an update to County upon request by County.

2.6 Conflict of Interest – County Personnel

2.6.1 County of Orange Board of Supervisors policy prohibits its employees from engaging in activities involving a conflict of interest. Contractor shall not, during the period of this Contract, employ any County employee for any purpose.

2.7 Labor Code Notice

2.7.1 All A-E and subcontractors must comply with the requirements of California Labor Code 1770 et seq. if the work performed is considered a "public works" under California Labor Code 1720 et seq. A-E is encouraged to contact the California Department of Industrial Relations for clarification if the A-E is unsure if some or any of the work performed under this Contract qualifies as "public works".

3. INSURANCE

3.1.1 Prior to the provision of services under this Contract, the A-E agrees to purchase all required insurance at A-E's expense, including all endorsements required herein, necessary to satisfy the County that the insurance provisions of this Contract have been complied with. A-E agrees to keep such insurance coverage, Certificates of Insurance, and endorsements on deposit with the County during the entire term of this Contract. The County reserves the right to request the declarations page showing all endorsements and a certified copy of the policy.

3.1.2 A-E shall ensure that all subcontractors performing work on behalf of A-E pursuant to this Contract shall be covered under A-E's insurance as an Additional Insured or maintain insurance subject to the same terms and conditions as set forth herein for A-E. A-E shall not allow subcontractors to work if subcontractors have less than the level of coverage required by County from A-E under this Contract. It is the obligation of A-E to provide notice of the insurance requirements to every subcontractor and to receive proof of insurance prior to allowing any subcontractor to begin work. Such proof of insurance must be maintained by A-E through the entirety of this Contract for inspection by County representative(s) at any reasonable time.

3.1.3 All self-insured retentions (SIRs) shall be clearly stated on the Certificate of Insurance. Any SIR in an amount in excess of Fifty Thousand Dollars (\$50,000) shall specifically be approved by the County's Risk Manager, or designee. The County reserves the right to require current audited financial reports from Contractor. If Contractor is self-insured, Contractor will indemnify the County for any and all claims resulting or arising from Contractor's services in accordance with the indemnity provision stated in this contract.

3.1.4 If the A-E fails to maintain insurance acceptable to the County for the full term of this Contract, the

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County may terminate this Contract.

A. Qualified Insurer

1. The policy or policies of insurance must be issued by an insurer with a minimum rating of A- (Secure A.M. Best's Rating) and VIII (Financial Size Category as determined by the most current edition of the **Best's Key Rating Guide/Property-Casualty/United States or ambest.com**).

If the insurance carrier does not have an A.M. Best Rating of A-/VIII, the CEO/Office of Risk Management retains the right to approve or reject a carrier after a review of the company's performance and financial ratings.

2. The policy or policies of insurance maintained by the A-E shall provide the minimum limits and coverage as set forth below:

<u>Coverage</u>	<u>Minimum Limits</u>
Commercial General Liability	\$1,000,000 per occurrence \$2,000,000 aggregate
Automobile Liability including converge for owned or scheduled, non-owned and hired vehicles	\$1,000,000 per occurrence
Workers' Compensation	Statutory
Employers' Liability Insurance	\$1,000,000 per accident or disease
Professional Liability	\$1,000,000 per claims made or per occurrence \$2,000,000 aggregate

B. Required Coverage Forms

1. The Commercial General Liability coverage shall be written on Insurance Services Office (ISO) form CG 00 01, or a substitute form providing liability coverage as broad.
2. The Business Auto Liability coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or a substitute form providing liability coverage as broad.

C. Required Endorsements

1. The Commercial General Liability policy shall contain the following endorsements, which shall accompany the Certificate of Insurance:
 - a. An Additional Insured endorsement using ISO form CG 20 26 04 13 or a form at least as broad naming the County *of Orange, Orange County Flood Control District, and their respective elected and appointed officials, officers, employees and agents* as Additional Insureds, or provide blanket coverage, which will state ***AS REQUIRED BY WRITTEN AGREEMENT.***

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- b. A primary non-contributing endorsement using ISO form CG 20 01 0413, or a form at least as broad evidencing that A-E's insurance is primary, and any insurance or self-insurance maintained by the County of Orange shall be excess and non-contributing.
2. The Workers' Compensation policy shall contain a waiver of subrogation endorsement waiving all rights of subrogation against **the County of Orange, Orange County Flood Control District, and their respective elected and appointed officials, officers, employees and agents**, or provide blanket coverage, which will state **AS REQUIRED BY WRITTEN AGREEMENT**.
3. All insurance policies required by this Contract shall waive all rights of subrogation against the County of Orange, its elected and appointed officials, officers, employees and agents when acting within the scope of their appointment or employment.
4. A-E shall notify County in writing within thirty (30) days of any policy cancellation and ten (10) days for non-payment of premium and provide a copy of the cancellation notice to County. Failure to provide written notice of cancellation may constitute a material breach of the Contract, upon which the County may suspend or terminate this Contract.
5. If A-E's Professional Liability policy is a claims-made policy, A-E shall agree to maintain professional liability coverage for two (2) years following completion of Contract.
6. The Commercial General Liability policy shall contain a severability of interest's clause (standard in the ISO CG 001 policy).
7. Insurance certificates should be forwarded to the agency/department address listed on the solicitation.
8. If the A-E fails to provide the insurance certificates and endorsements within seven (7) days of notification by CEO/Purchasing or the agency/department purchasing division, award may be made to the next qualified vendor.
9. County expressly retains the right to require A-E to increase or decrease insurance of any of the above insurance types throughout the term of this County. Any increase or decrease in insurance will be as deemed by County of Orange Risk Manager as appropriate to adequately protect County.
10. County shall notify A-E in writing of changes in the insurance requirements. If A-E does not deposit copies of acceptable Certificates of Insurance and endorsements with County incorporating such changes within thirty (30) days of receipt of such notice, this Contract may be in breach without further notice to A-E, and County shall be entitled to all legal remedies.
11. The procuring of such required policy or policies of insurance shall not be construed to limit A-E's liability hereunder nor to fulfill the indemnification provisions and requirements of this Contract, nor act in any way to reduce the policy coverage and limits available from the insurer.

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4. INDEMNITY/COMPLIANCE

1.1 A-E shall indemnify, defend with counsel approved in writing by County, and hold harmless, the County, District, and their agents, officers, and employees from employer sanctions and any other liability which may be assessed against A-E or the County or both in connection with any alleged violation of any Federal or State statutes or regulations pertaining to the eligibility for employment of any persons performing work under this Contract.

1.2 All Projects/Services submitted by A-E shall be complete and shall be carefully checked prior to submission. A-E understands that County's checking is discretionary, and A-E shall not assume that County will discover errors and/or omissions. If County discovers any errors or omissions prior to approving A-E's Projects/Services, the Projects/Services will be returned to A-E for correction. Should County or others discover errors or omissions in the work submitted by A-E after County's approval thereof, County's approval of A-E's Projects/Services shall not be used as a defense by A-E.

1.3 Indemnification

1.3.1 A-E agrees to, indemnify, defend with counsel approved in writing by County, and hold County District, and their elected and appointed officials, officers, employees, agents and those special districts and agencies which County's Board of Supervisors acts as the governing Board ("County Indemnitees") harmless from any claims, demands or liability of any kind or nature, including but not limited to personal injury or property damage, arising out of, pertaining to, or relating to the negligence, recklessness, or willful misconduct of the A-E. If judgment is entered against A-E and County by a court of competent jurisdiction because of the concurrent active negligence of A-E and County,, District or County Indemnitees, A-E, County,, and District agree that liability will be apportioned as determined by the court. No Party shall request a jury apportionment. Notwithstanding anything stated above, nothing contained herein shall relieve A-E of any insurance requirements or obligations created elsewhere in this Contract.

1.4 Bills and Liens

1.4.1 A-E shall pay promptly all indebtedness for labor, materials and equipment used in performance of the work. A-E shall not permit any lien or charge to attach to the work or the premises, but if any does so attach, A-E shall promptly procure its release and, in accordance with the requirements of the indemnification paragraph above, indemnify, defend, and hold County, and District harmless and be responsible for payment of all costs, damages, penalties and expenses arising from or related thereto.

1.5 Compliance with Laws

1.5.1 A-E represents and warrants that services to be provided under this Contract shall fully comply, at A-E's expense, with all standards, laws, statutes, restrictions, ordinances, requirements, and regulations (collectively "laws"), including, but not limited to those issued by County or District in its governmental capacity and all other laws applicable to the services at the time services are provided to and accepted by County. A-E acknowledges that County is relying on A-E to ensure such compliance, and pursuant to the requirements of the Insurance and Indemnification section, A-E agrees that it shall defend, indemnify and hold County, District and County Indemnitees harmless from all liability, damages, costs and expenses arising from or related to a violation of such laws.

1.5.2 A-E shall remain in compliance and in good standing, maintaining current and active business entity

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and/or nonprofit registration status, with all applicable federal, state and local registration requirements at the time of execution of the contract through the duration of the term of the Contract, and shall provide annual confirmation of current and active status to County through the term of the Contract.

5. TERMINATION**5.1 Termination of Contract for Cause**

5.1.1 If A-E breaches any of the covenants or conditions of this County, County shall have the right to terminate this County upon ten (10) days written notice prior to the effective day of termination.

5.1.2 A-E shall have the opportunity to cure the alleged breach prior to termination.

5.1.3 In the event the alleged breach is not cured by A-E prior to termination, all work performed by A-E pursuant to this County, which work has been reduced to plans or other documents, shall be made available to County.

5.2 Termination for Convenience

5.2.1 Notwithstanding any other provision of the County, County may at any time, and without cause, terminate this County in whole or in part, upon not less than seven (7) calendar days' written notice to the A-E. Such termination shall be effected by delivery to the A-E of a notice of termination specifying the effective date of the termination and the extent of the Work to be terminated.

5.2.2 A-E shall immediately stop work in accordance with the notice and comply with any other direction as may be specified in the notice or as provided subsequently by County.

5.2.3 County shall pay the A-E for the Work completed prior to the effective date of the termination, and such payment shall be the A-E's sole remedy under this County.

5.2.4 Under no circumstances will A-E be entitled to anticipatory or unearned profits, consequential damages, or other damages of any sort as a result of a termination or partial termination under this Paragraph.

5.2.5 A-E shall insert in all subcontracts that the subcontractor shall stop work on the date of and to the extent specified in a notice of termination and shall require subcontractors to insert the same condition in any lower tier subcontracts.

5.3 Breach of Contract

5.3.1 The failure of the A-E to comply with any of the provisions, covenants or conditions of this Contract shall be a material breach of this Contract. In such event, in addition to any other remedies available at law, in equity, or otherwise specified in this Contract, the County may:

- a) afford the A-E written notice of the breach and ten (10) calendar days or such shorter time that may be specified in this Contract within which to cure the breach;
- b) discontinue payment to the A-E for and during the period in which the A-E is in breach; and

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- c) offset those monies disallowed pursuant to the above, against any monies billed by the A-E but yet unpaid by the County.

5.4 Default

- 5.4.1** In the event any equipment or service furnished by the A-E in the performance of this Contract should fail to conform to the specifications therein within one (1) calendar year from the County's acceptance of the equipment or service, or any performance period specifically specified within the specifications or Contract, whichever is greater, the County may reject same, and it shall become the duty of the A-E to reclaim and remove the items without expense to the County and to immediately replace all such rejected equipment or service with others conforming to such specifications, provided that should the A-E fail, neglect or refuse to do so within one hundred and twenty (120) calendar days, the County shall have the right to purchase on the open market a corresponding quantity of any such equipment or service and to deduct from any monies due or that may thereafter become due to the A-E the difference between the price specified in this Contract and the actual cost to the County.
- 5.4.2** In the event the A-E shall fail to make prompt delivery as specified of any equipment or service, the same conditions as to the rights of the County to purchase on the open market and to reimbursement set forth above shall apply, except as otherwise provided in this Contract.
- 5.4.3** In the event of the cancellation of this Contract, either in whole or in part, by reason of the default or breach by the A-E, any loss or damage sustained by the County in procuring any equipment or service which the A-E agreed to supply under this Contract shall be borne and paid for by the A-E.
- 5.4.4** Default shall include failure to carry out any of the requirements of this Contract, including, but not limited to not providing enough properly skilled workers or proper materials, persistently disregarding laws and or ordinances, not proceeding with the Projects/Services as agreed to herein, or otherwise substantially violating any provision of this Contract.
- 5.4.5** Upon termination of the Contract with A-E, the County may begin negotiations with a third-party A-E to provide goods and/or Projects/Services as specified in this Contract.
- 5.4.6** The right of either party to terminate this Contract hereunder shall not be affected in any way by its waiver of or failure to take action with respect to any previous default.

6. MISCELLANEOUS**6.1 Laws to be Observed**

- 6.1.1** A-E is assumed to be familiar with and, at all times, shall observe and comply with all federal, state and local laws, ordinances and regulations in any manner affecting the conduct of the Projects/Services.

6.2 Award of Construction Contract and Other Future Contracts

- 6.2.1** A-E is hereby informed that provisions of the Public Contract Code, the Political Reform Act of 1974, other statutes, regulations, and County policy prohibit, as an impermissible conflict of interest, the award of a contract for the construction of the project(s) on which A-E performed architectural-engineering services under this A-E Contract. A-E is hereby informed that these statutes and regulations could also prohibit the award to A-E of design or other contracts on future phases related

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to tasks performed by A-E under this Contract. This prohibition applies also to a subcontractor of or parent company of the firm that performed architectural-engineering tasks under this Contract.

6.3 Amendments

6.3.1 No alteration or variation of the terms of this Contract shall be valid unless made in writing and signed by the Parties; no oral understanding or agreement not incorporated herein shall be binding on either of the Parties; and no exceptions, alternatives, substitutes or revisions are valid or binding on County unless authorized by County in writing.

6.4 Successors and Assigns

6.4.1 The terms and provisions of this Contract shall be binding upon and inure to the benefit of the parties hereto and their successors and assigns.

6.5 Entirety

6.5.1 This Contract contains the entire agreement between the parties with respect to the matters provided for herein.

6.6 Severability

6.6.1 If any part of this Contract is held, determined, or adjudicated to be illegal, void, or unenforceable by a court of competent jurisdiction, the remainder of this Contract shall be given effect to the fullest extent reasonably possible.

6.7 Binding Obligation

6.7.1 The Parties to this Contract represent and warrant that this Contract has been duly authorized and executed and constitutes the legally binding obligation of their respective organization or entity enforceable in accordance with its terms.

6.8 Governing Law and Venue

6.8.1 This Contract has been negotiated and executed in the State of California and shall be governed by and construed under the laws of the State of California. In the event of any legal action to enforce or interpret this Contract, the sole and exclusive venue shall be a court of competent jurisdiction located in Orange County, California, and the Parties hereto agree to and do hereby submit to the jurisdiction of such court, notwithstanding Code of Civil Procedure, Section 394.

6.8.2 The Parties specifically agree that by soliciting and entering into and performing Projects/Services under this Contract, the A-E shall be deemed to constitute doing business within Orange County from the time of solicitation of work, through the period when all Projects/Services under this Contract is completed and continuing until the expiration of any applicable limitations period.

6.9 Intentionally Omitted**6.10 Ownership of Documents**

6.10.1 All data, including but not limited to letters, reports, files, plans, drawings, specifications, proposals, sketches, diagrams and calculations, prepared by A-E and/or anyone acting under the supervision of

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A-E pursuant to this Contract, shall become the property of County upon preparation by A-E and may be used by the County as it may require without additional cost to the County.

6.10.2 County shall not be limited in any way to its use thereof at any time, including the release of this data to third parties. A-E shall be held harmless for release of such data as may be prepared or created under this Contract to any third party. If A-E and/or anyone acting under the supervision of A-E should later desire to use any of the data prepared in connection with this Contract, A-E shall first obtain the written approval of County.

6.11 Confidentiality

6.11.1 All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, and all written or other information submitted to A-E in connection with the performance of this Contract shall be held confidential by A-E and/or anyone acting under the supervision of A-E and shall not, without the prior written consent of County, be used for any purposes other than the performance of the Projects/Services described in Attachment A, nor be disclosed to any person, partnership, company, corporation or agency, not connected with the performance of the Projects/Services.

6.11.2 Nothing furnished to A-E which is generally known among counties in Southern California shall be deemed confidential.

6.11.3 A-E and/or anyone acting under the supervision of A-E shall not use County name or insignia, photographs of the work, or any other publicity pertaining to the work in any magazine, trade paper, newspaper, or other medium without the express written consent of County.

6.12 Publication

6.12.1 No copies of sketches, schedules, written documents, computer based data, photographs, maps or graphs, including graphic art work, resulting from performance or prepared in connection with this Contract, are to be released by A-E and/or anyone acting under the supervision of A-E to any person, partnership, company, corporation, or agency, without prior written approval by the County, except as necessary for the performance of the services of this Contract. All press contacts, including graphic display information to be published in newspapers, magazines, etc., are to be administered only after County approval.

6.12.2 The A-E agrees that it will not issue any news releases or make any contact with the media in connection with either the award of this Contract or any subsequent amendment of, or effort under this Contract. A-E must first obtain review and approval of said media contact from the County through the County's Project Manager. Any requests for interviews or information received by the media should be referred directly to the County. A-E's are not authorized to serve as a media spokesperson for County projects without first obtaining permission from the County Project Manager.

6.13 Records and Audit/Inspections

6.13.1 A-E shall keep an accurate record of time expended by A-E and/or consultants employed by A-E in the performance of this Contract.

6.13.2 Within ten (10) days of County's written request, A-E shall allow County or authorized State or Federal agencies or any duly authorized representative to have the right to access, examine, audit, excerpt, copy or transcribe any pertinent transaction, activity, time cards or other records relating to

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this Contract.

6.13.3 A-E shall keep such material, including all pertinent cost accounting, financial records and proprietary data for a period of three (3) years after termination or completion of the Contract or until resolution of any claim or dispute between the Parties, whichever is later.

6.13.4 Should A-E cease to exist as a legal entity, records pertaining to this Contract shall be forwarded within a reasonable period of time not to exceed sixty (60) days to its successor in interest or surviving entity in a merger or acquisition, or, in the event of liquidation, to County.

6.14 Notices

6.14.1 Any and all notices, requests, demands and other communications contemplated, called for, permitted, or required to be given hereunder shall be in writing, except through the course of the Parties' project managers' routine exchange of information and cooperation during the Projects/Services.

6.14.2 Any written communications shall be deemed to have been duly given upon actual in-person delivery, if delivery is by direct hand, or upon delivery on the actual day of receipt, or no greater than four (4) calendar days after being mailed by U. S. certified or registered mail, return receipt requested, postage prepaid, whichever occurs first. The date of mailing shall count as the first day.

6.14.3 All communications shall be addressed to the appropriate party at the address stated herein or such other address as the parties hereto may designate by written notice from time to time in the manner aforesaid.

For A-E: Pacific Advanced Civil Engineering, Inc.
17520 Newhope Street, Suite 200
Fountain Valley, CA 92708
Attn: Rebecca Kinney
Phone: (949) 274-2826
E-mail: Rkinney@pacewater.com

For County: OC Public Works / OC Engineering
600 North Ross Street
Santa Ana, CA 92703
Attn: Alison Camara
Phone: 714-647-3961
E-mail: Alison.camara@ocpw.ocgov.com

cc: OC Public Works Procurement Services
600 North Ross Street
Santa Ana, CA 92703
Attn: Diana Bagh
Phone: 714-667-1659
E-mail: Diana.Bagh@ocpw.ocgov.com

6.15 Attorney's Fees

6.15.1 In any action or proceeding to enforce or interpret any provision of this Contract, or where any provision hereof is validly asserted as a defense, each party shall bear its own attorney's fees, costs

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and expenses.

6.16 Interpretation

- 6.16.1** Contract has been negotiated at arm's length and between persons sophisticated and knowledgeable in the matters dealt with in this Contract.
- 6.16.2** In addition, each Party has been represented by experienced and knowledgeable independent legal counsel of their own choosing or has knowingly declined to seek such counsel despite having the opportunity to do so.
- 6.16.3** Each Party further acknowledges that they have not been influenced to any extent whatsoever in executing this Contract by any other Party hereto or by any person representing them, or both.
- 6.16.4** Accordingly, any rule of law (including California Civil Code Section 1654) or legal decision that would require interpretation of any ambiguities in this Contract against the Party that has drafted it is not applicable and is waived.
- 6.16.5** The provisions of this Contract shall be interpreted in a reasonable manner to affect the purpose of the Parties and this Contract.

6.17 Headings

- 6.17.1** The various headings and numbers herein, the grouping of provisions of this Contract into separate clauses and paragraphs, and the organization hereof are for the purpose of convenience only and shall not limit or otherwise affect the meaning hereof.

6.18 Acceptance

- 6.18.1** Unless otherwise agreed to in writing by County acceptance shall not be deemed complete unless in writing and until all the services have actually been received, inspected, and tested to the satisfaction of County.

6.19 Changes

- 6.19.1** A-E shall make no changes in the work or perform any additional work without the County's specific written approval.

6.20 Assignment

- 6.20.1** The terms, covenants, and conditions contained herein shall apply to and bind the heirs, successors, executors, administrators and assigns of the parties. Furthermore, neither the performance of this Contract nor any portion thereof may be assigned or sub-contracted by A-E, by any means whatsoever including but not limited to acquisition by merger, without the express written consent of County. Any attempt by A-E to assign or sub-contract the performance or any portion thereof of this Contract without the express written consent of County shall be invalid and shall constitute a breach of this Contract.

6.21 Changes in Ownership

- 6.21.1** A-E agrees that if there is a change or transfer in ownership, including but not limited to merger by

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acquisition, of A-E's business prior to completion of this Contract, the new owners shall be required under terms of sale or other transfer to assume A-E's duties and obligations contained in this Contract and to obtain the written approval of County of such merger or acquisition, and complete the obligations and duties contained in the Contract to the satisfaction of County. A-E agrees to pay, or credit toward future work, County's costs associated with processing the merger or acquisition.

6.22 Force Majeure

6.22.1 A-E shall not be assessed with damages or unsatisfactory performance penalties during any delay beyond the time named for the performance of this Contract caused by any act of God, war, civil disorder, employment strike or other cause beyond its reasonable control, provided A-E gives written notice of the cause of the delay to County within thirty-six (36) hours of the start of the delay and A-E avails himself of any available remedies.

6.23 Calendar Days

6.23.1 Any reference to the word "day" or "days" herein means calendar day or calendar days, respectively, unless otherwise expressly provided.

6.24 Title to Data

6.24.1 All materials, documents, data or information obtained from the County data files or any County medium furnished to the A-E in the performance of this Contract, will at all times remain the property of the County. Such data or information may not be used or copied for direct or indirect use by the A-E after completion or termination of this Contract without the express written consent of the County.

6.24.2 All materials, documents, data or information, including copies furnished by County and loaned to A-E for his temporary use, must be returned to the County at the end of this Contract unless otherwise specified by the Director.

6.25 Availability of Funds

6.25.1 The obligation of County is subject to the availability of funds appropriated for this purpose, and nothing herein shall be construed as obligating the County to expend or as involving the County in any contract or other obligation for future payment of money in excess of appropriations authorized by law.

6.26 Contingency of Funding

6.26.1 A-E acknowledges that funding or portions of funding for this Contract may also be contingent upon receipt of funds from, and/or appropriation of funds by, the State of California or other funding sources to County. If such funding and/or appropriations are not forthcoming, or otherwise limited, County may immediately terminate or modify this Contract without penalty.

6.27 Contract Construction

6.27.1 The Parties acknowledge that each party and its counsel have reviewed this Contract and that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Contract or any amendment or exhibits hereto.

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6.28 Conflicts of Interest

6.28.1 A-E or its employees may be subject to the provisions of the California Political Reform Act of 1974 (the "Act"), which (1) requires such persons to disclose any financial interest that may be materially affected by services provided under this Contract, (2) prohibits such persons from making, or participating in making, decisions that could reasonably affect such interest; and (3) may require the filing a Statement of Economic Interest (Form 700).

6.28.2 If subject to the Act, A-E shall conform to all requirements of the Act. Failure to do so shall constitute a material breach and is grounds for immediate termination of this Contract by County. Pursuant to Section 4.3 "Indemnification", A-E shall indemnify and hold harmless County for any and all claims for damages resulting from Contractor's violation of this Section.

6.29 Usage

6.29.1 No guarantee is given by the County to A-E regarding usage of this Contract. The A-E agrees to supply services requested, as needed by the County of Orange, at prices listed in the Contract, regardless of quantity requested.

6.30 Wage Rates

6.30.1 Contractor shall post a copy of the wage rates at the job site and shall pay the adopted prevailing wage rates as a minimum. Pursuant to the provisions of Section 1773 of the Labor Code of the State of California, the Board of Supervisors has obtained the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in this locality for each craft, classification, or type of workman needed to execute this Contract from the Director of the Department of Industrial Relations. These rates are on file with the Clerk of the Board of Supervisors. Copies may be obtained at cost at the office of County's OC Public Works/OC Facilities & Asset Management/A&E Project Management or visit the website of the Department of Industrial Relations, Prevailing Wage Unit at www.dir.ca.gov/DLSR/PWD. The Contractor shall comply with the provisions of Sections 1774, 1775, 1776 and 1813 of the Labor Code.

6.31 Apprenticeship Requirements

6.31.1 The Contractor shall comply with Section 230.1(A), California Code of Regulations as required by the Department of Industrial Relations, Division of Apprenticeship Standards by submitting DAS Form to the Joint Apprenticeship Committee of the craft or trade in the area of the site.

6.32 Registration of Contractor

6.32.1 All contractors and subcontractors must comply with the requirements of Labor Code Section 1771.1(a), pertaining to registration of contractors pursuant to Section 1725.5. Bids cannot be accepted from unregistered contractors except as provided in Section 1771.1. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. After award of the contract, Contractor and each Subcontractor shall furnish electronic payroll records directly to the Labor Commissioner in the manner specified in Labor Code Section 1771.4.

6.33 Payroll Records

6.33.1 Contractor and any Subcontractor(s) shall comply with the requirements of Labor Code Section 1776. Such compliance includes the obligation to furnish the records specified in Section 1776

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directly to the Labor Commissioner in an electronic format, or other format as specified by the Commissioner, in the manner provided by Labor Code Section 1771.4.

- 6.33.2** The requirements of Labor Code Section 1776 provide, in summary:
- 6.33.3** Contractor and any Subcontractor(s) performing any portion of the work under this Contract shall keep an accurate record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by Contractor or any Subcontractor(s) in connection with the work.
- 6.33.4** Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:
- 6.33.5** The information contained in the payroll record is true and correct.
- 6.33.6** The employer has complied with the requirements of Labor Code Sections 1771, 1811, and 1815 for any work performed by his or her employees in connection with the Contract.
- 6.33.7** The payroll records shall be certified and shall be available for inspection at the principal office of Contractor on the basis set forth in Labor Code Section 1776.
- 6.33.8** Contractor shall inform County of the location of the payroll records, including the street address, city and county, and shall, within five working days, provide a notice of any change of location and address of the records.
- 6.33.9** Pursuant to Labor Code Section 1776, Contractor and any Subcontractor(s) shall have 10 days in which to provide a certified copy of the payroll records subsequent to receipt of a written notice requesting the records described herein. In the event that Contractor or any Subcontractor fails to comply within the 10-day period, he or she shall, as a penalty to County, forfeit \$100, or a higher amount as provided by Section 1776, for each calendar day, or portion thereof, for each worker to whom the noncompliance pertains, until strict compliance is effectuated. Contractor acknowledges that, without limitation as to other remedies of enforcement available to County, upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement of the California Department of Industrial Relations, such penalties shall be withheld from progress payments then due Contractor. Contractor is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section.
- 6.33.10** Contractor and any Subcontractor(s) shall comply with the provisions of Labor Code Sections 1771 et seq. and shall pay workers employed on the Contract not less than the general prevailing rates of per diem wages and holiday and overtime wages as determined by the Director of Industrial Relations. Contractor shall post a copy of these wage rates at the job site for each craft, classification, or type of worker needed in the performance of this Contract, as well as any additional job site notices required by Labor Code Section 1771.4(b). Copies of these rates are on file at the principal office of County's representative, or may be obtained from the State Office, Department of Industrial Relations ("DIR") or from the DIR's website at www.dir.ca.gov. If the Contract is federally funded, Contractor and any Subcontractor(s) shall not pay less than the higher of these rates or the rates determined by the United States Department of Labor.

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6.34 Work Hour Penalty

6.34.1 Eight hours of labor constitute a legal day's work, and forty hours constitute a legal week's work. Pursuant to Section 1813 of the Labor Code of the State of California, the Contractor shall forfeit to the County Twenty Five Dollars (\$25) for each worker employed in the execution of this Contract by the Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than the legal day's or week's work, except that work performed by employees of said Contractor and subcontractors in excess of the legal limit shall be permitted without the foregoing penalty upon the payment of compensation to the workers for all hours worked in excess of eight hours per day of not less than 1-1/2 times the basic rate of pay.

6.35 Apprentices

6.35.1 The Contractor acknowledges and agrees that, if this Contract involves a dollar amount greater than or a number of working days greater than that specified in Labor Code Section 1777.5, this Contract is governed by the provisions of Labor Code Section 1777.5. It shall be the responsibility of the Contractor to ensure compliance with this Article and with Labor Code Section 1777.5 for all apprenticeable occupations.

6.35.2 Pursuant to Labor Code Section 1777.5 if that Section applies to this Contract as indicated above, the Contractor and any subcontractors under him employing workers in any apprenticeable craft or trade in performing any work under this Contract shall apply to the applicable joint apprenticeship committee for a certificate approving the Contractor or subcontractor under the applicable apprenticeship standards and fixing the ratio of apprentices to journeymen employed in performing the work.

6.35.3 Pursuant to Labor Code Section 1777.5 if that Section applies to this Contract as indicated above, the Contractor and any subcontractor under him may be required to make contributions to the apprenticeship program.

6.35.4 The Contractor and all subcontractors under him shall comply with Labor Code Section 1777.6 which Section forbids certain discriminatory practices in the employment of apprentices.

6.36 Safety

A-E shall comply with County's Safety and Loss Prevention Policy and Procedure #306 ("Contractor Safety Responsibilities") and submit a copy of its Injury and Illness Prevention Program (IIPP) and Contractor Safety-Activity Checklist to the designated County Procurement staff as part of the solicitation and/or contract process. A-E will notify County Project Manager of any revisions to the Safety Activity Checklist and will provide a new Safety-Activity Checklist upon County request. The IIPP shall comply with California Code of Regulations, Title 8, Section 1509 or 3203 (whichever applies). AE shall submit other safety programs that pertain to the type of job that will be performed on site. County reserves the right to conduct inspections and audits as necessary for the purpose of evaluating any aspect of safety performance under this Contract.

6.37 Levine Act Requirement

A-E agrees to comply with Government Code Section 84308. A-E further agrees to disclose to the County any contribution made to any members of the Board of Supervisors or County Agency Officers by A-E, A-E's agent or lobbyist, or, if applicable, any subcontractor(s) for the twelve (12)

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months prior to and twelve (12) months following the approval, renewal, or extension of this Contract.

6.38 Cooperative Agreement

6.38.1 The provisions and pricing of this Contract will be extended to other California local or state governmental entities. Governmental entities wishing to use this Contract will be responsible for issuing their own purchase documents/price agreements, providing for their own acceptance, and making any subsequent payments. Contractor shall be required to include in any Contract entered into with another agency or entity that is entered into as an extension of this Contract a Contract clause that will hold harmless the County of Orange from all claims, demands, actions or causes of actions of every kind resulting directly or indirectly, arising out of, or in any way connected with the use of this contract. Failure to do so will be considered a material breach of this Contract and grounds for immediate Contract termination. The cooperative entities are responsible for obtaining all certificates of insurance and bonds required. The Contractor is responsible for providing each cooperative entity a copy of the Contract upon request by the cooperative entity. The County of Orange makes no guarantee of usage by other users of this Contract.

6.39 Subcontracting

6.39.1 No performance of this Contract or any portion thereof may be subcontracted or otherwise delegated by Contractor, in whole or in part, without first obtaining the prior express written consent of County. Any attempt by Contractor to subcontract or delegate any performance of this Contract without the prior express written consent of County shall be invalid and shall constitute a material breach of this Contract, and any attempted assignment or delegation in derogation of this paragraph shall be void.

In the event that Contractor is authorized by County to subcontract, this Contract shall take precedence over the terms of the agreement between Contractor and subcontractor, and any agreement between Contractor and a subcontractor shall incorporate by reference the terms of this Contract. Contractor shall remain responsible for the performance of this Contract and indemnification of County notwithstanding the County's consent to Contractor's request for approval of a subcontractor. Under no circumstances shall County be required to directly monitor the performance of any subcontractor. All work performed by a subcontractor must be monitored by Contractor and must meet the approval of the County of Orange pursuant to the terms of this Contract.

County of Orange, OC Public Works

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Consultant Services to Update the Orange County Hydrology Manual

IN WITNESS WHEREOF, the Parties hereto have executed this Contract on the dates opposite their respective signatures:

PACIFIC ADVANCED CIVIL ENGINEERING, INC.,
a California Corporation,

Date: 1/7/2026 | 10:24 AM PST

Signed by:
By: Rebecca Kinney
C735B298A8824F4...
Signature

Rebecca Kinney, Vice President

Print Name & Title

(If a corporation, the document must be signed by two corporate officers. The 1st must be either Chairman of the Board, President or any Vice President.)

Date: 1/7/2026 | 9:20 AM PST

DocuSigned by:
By: Mark Krebs
FA95107B5322493...
Signature

Mark Krebs, President/Secretary

Print Name & Title

(If a corporation, the 2nd signature must be either the Secretary, an Assistant Secretary, the Chief Financial Officer, or any Assistant Treasurer)

COUNTY OF ORANGE,
a political subdivision of the State of California; and,
COUNTY OF ORANGE FLOOD CONTROL DISTRICT,
a body corporate and politic

Date: _____

By: _____

Print
Name: _____

Title: _____

APPROVED AS TO FORM

Office of the County Counsel
Orange County, California

By: William Ninh

Signature: William Ninh
C88031248AC049C...
Signed by:

Date: 1/7/2026 | 12:34 PM PST

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ATTACHMENT A: SCOPE OF WORK**I. PROJECT DESCRIPTION**

A-E shall update the Orange County Hydrology Manual by reviewing existing hydrologic procedures, assessing the runoff frequencies based on 40+ years of data since the original calibration performed in 1983, and researching how climate change and post-fire hydrology can be incorporated into the manual.

II. SCOPE OF SERVICES**PHASE 1: RESEARCH CURRENT MANUAL INFORMATION**

Collect, research, and review the following:

- a) Current 1986 Orange County Hydrology Manual (OCHM) and 1996 Addendum No. 1
- b) Studies related to the calibration of the 1986 OCHM
- c) 2007 Report titled "Evaluation of the Need to Update And/or Recalibrate the Orange County Hydrology Manual"
- d) 2021-2023 efforts on the OCHM update
- e) The best available precipitation data
- f) Post-fire hydrology methodology
- g) Neighboring counties current hydrology manuals and their methods for modeling small, intermediate, and large watersheds including Ventura County. If available, any hydrology modeling technical studies (draft or final) for their hydrology manual updates.

PHASE 2a: RAINFALL AND STREAM GAUGE DATA ASSESSMENT AND ANALYSIS

TASK 1: Review and compile the County of Orange rainfall gauge and stream gauge database (data to be provided by OCPW). Review and compile other US Bureau of Reclamation (USBR), US Army Corps of Engineers (USACE), and other stream gauge and rainfall databases located within Orange County watersheds. Perform data quality assurance amongst these datasets.

Once the rainfall and stream gauge database has been reviewed and compiled, if the data is found to be unusable, provide recommendations on the following:

- a) Format of the data for future calibration efforts or other County needs
- b) How the County can QA/QC future data
- c) If there are any adjustments to the overall network that should be made
- d) If there are data gaps in the network
- e) Where future rainfall/stream gauges (including type of gauge) could be installed that would be the most beneficial for future calibration efforts.

Recommendations to be included in the Final Calibration Report to support the OCHM update.

TASK 2: Compare the rain gauge data provided by OCPW and the data used in the original calibration of the OCHM with NOAA (National Oceanic and Atmospheric Administration) Atlas 14 data or the latest available (typ.); based on the data review, establish if there is a correlation between the NOAA Atlas 14. Provide a recommendation on whether the updated manual should utilize the NOAA Atlas 14 data with spatially varying point rainfall, revise the single point precipitation value, or keep the

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current precipitation value in the OCHM. In addition, provide a comparison analysis between NOAA Atlas 14 or latest available and the County's current precipitation values for the high confidence (generally 85% confidence interval) and expected value (generally 50% confidence interval). Analysis and recommendations to be included in the Final Calibration Report to support the OCHM update.

TASK 3: If NOAA Atlas 14 is not recommended for adoption, establish the 2-, 5-, 10-, 25-, 50-, 100-, 200-, 500- and 1000-year return frequency rainfall for the 5-min, 10-min, 15-min, 30-min, 1-hour, 2-hour, 3-hour, 6-hour, 12-hour, and 24-hour durations for the 85% and 50% confidence levels.

TASK 4: If spatially varying rainfall is proposed, develop isohyetal maps for the County in PDF, CAD, and GIS format at industry typical contour increments to be included in the updated OCHM.

TASK 5: Procedures, results, and recommendations for Tasks 1 through 4 will be documented in a Final Calibration Report, and any updates will be made to the OCHM as part of Phase 7. If there is a proposed change to the rainfall, the consultant will provide how the potential update would impact the manual and specify which charts, graphs, equations etc. will need to be updated.

PHASE 2b: CALIBRATION OF THE OCHM/HYDROLOGIC MODELING

TASK 1: Re-analyze the LACDA (Los Angeles County Drainage Area) Flood Frequency Curves by extending the 2007 Report titled "Evaluation of the Need to Update And/or Recalibrate the Orange County Hydrology Manual" by Hromadka & Associates to the most recent available data. Results and conclusion for the 85% and 50% confidence levels to be included in the Final Calibration Report to support the OCHM update.

TASK 2: Develop a calibration plan in consultation with OCPW, using the watersheds (both developed and undeveloped) unique to Orange County and measured rainfall from Phase 2, in order to establish a methodology (either confirmation of the adequacy of the current methodology or proposal of a new methodology) and reasonable confidence intervals for determining a rainfall to runoff relationship. The following are suggested items for inclusion in the calibration plan:

- a) Hydrologic parameters (i.e., time of concentration, DARF (Depth-Area Reduction Factors) or design storm depth area curves, curve number, land use, soil type, loss rates, S-graph, time of concentration, AMC (Antecedent Moisture Condition) etc.
- b) Identify the 3 most significant storm events in the history of the data for the watersheds under study as calibration benchmarks. The data may need to be supplemented by other historical data.

TASK 3: Calibration Plan procedure and results will be documented in the Final Calibration Report. Calibration efforts may result in separate hydrologic parameters for developed watersheds, natural/undeveloped watersheds, and/or for specific watersheds.

PHASE 2c: RE-EVALUATION OF LOSSES AND TIME OF CONCENTRATION

TASK 1: If the Natural Resources Conservation Service (NRCS) website has updated soil information for Orange County compared to the soil maps in the 1986 OCHM, the OCHM soil maps will need to be updated and added to the updated hydrology manual.

- a) Update soil maps and parameters, if warranted, to be included in Phase 7 of this Scope of Work. Identify if four (4) hydrologic soil groups are still applicable for rational method/unit hydrograph calculations. Provide updated soil maps in PDF, CAD, and GIS format.

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- b) Any updates to soil type will be documented in the Final Calibration Report.

TASK 2: Investigate if the Kirpich equation to calculate the initial area T_c is the recommended equation, or if an alternate equation is recommended to calculate the initial area T_c . If an alternate T_c equation is used, discuss their integration and connection to the appropriate rational method procedure.

- a) Research and recommendations will be documented in a Final Calibration Report. Updates to the OCHM will be made in Phase 7, if applicable.

TASK 3: Investigate if the recommended impervious percentage for developed areas (OCHM Figure C-4) is still applicable in Orange County. In recent years, there has been a growing trend for ADUs and installing more hardscape type landscaping, which would increase the impervious cover. If the impervious percentage needs to be adjusted, the consultant shall provide the recommended values or range of values as currently presented in Figure C-4 of the 1986 OCHM. The consultant can also recommend new land uses that would be beneficial to the OCHM update.

- a) Research and recommendations will be documented in a Final Calibration Report. Updates to the OCHM will be made in Phase 7, if applicable.

PHASE 3: POST-FIRE WATERSHED HYDROLOGY

- a) Research available methodologies on calculating post-fire watershed discharges (which would include debris and bulk).
- b) Include descriptions of assumptions and procedures used by various agencies in the region.
- c) Provide recommendation to adopt an existing methodology, or if an existing methodology is not compatible to the procedures in the OCHM update, provide a step-by-step procedure for estimating the watershed response (bulked flow) to rainfall after a fire (Post-Fire Watershed Hydrology). Hydrologic inputs that could be different than a standard hydrology analysis (i.e., change in land use, soil type, AMC value, etc.) should be noted.
- d) Procedure and results will be documented in the Final Calibration Report, and added to the updated hydrology manual.

PHASE 4: CLIMATE CHANGE AND OCHM

- a) Research the various ways other agencies have accounted for climate change in their hydrology manuals, as well as the current state of climate models, the occurrence of extreme weather events, forecasts from relevant government and research entities (USACE, Cal-adapt, etc.), and current data models and trends.
- b) Identify any trends in OCPW and NOAA Atlas 14 rainfall data.
- c) Provide a short write-up that will be added to the Final Calibration Report and the updated hydrology manual.

PHASE 5: SUBAREA HYDROGRAPH BETWEEN CONCENTRATION POINTS

Review the “Procedure for Subarea Hydrograph Generation between Nodes for Floodplain Delineation Purposes” Technical Memorandum dated August 2023, and test the various procedures described in the memo. If the procedures need to be revised, an update to the Technical Memorandum will be performed and added to the Final Calibration Report. In addition, a corresponding write-up will be added to the updated hydrology manual as part of Phase 7 in this Scope of Work.

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PHASE 6: HYDROLOGY SOFTWARE

OCPW is open to utilizing other software that may offer more robust modeling options, specifically HEC-HMS. Research available software that is compatible with the hydrologic parameters in the OCHM and provide a summary of the various software and capabilities. If it is recommended to utilize HEC-HMS, develop a step-by-step procedure on how to perform hydrology calculations and added to the updated hydrology manual.

PHASE 7: UPDATE THE OCHM

The consultant shall revise the OCHM text, formatting, exhibits, figures, and tables chapter by chapter, following the meetings outlined in Phase 2 through 6.

TASK 1: As part of Phase 1, the draft OCHM from the 2021-2023 efforts on the OCHM update was reviewed. Provide recommendations if those updates are acceptable, or revise the proposed changes based on Phase 2-6 of this Scope of Work in coordination with OCPW.

TASK 2: Add the following sections/material to the OCHM and renumber chapters appropriately:

- a) Calibration (purpose and procedure)
- b) New technologies in hydrology (ex. RADAR, Direct Rainfall (Rain on Grid), etc.)
- c) Remove sections as determined by OCPW.

TASK 3: Update graphs, tables, and make other necessary formatting changes.

TASK 4: If calibration requires any changes in the input parameters, such parameters will be updated. This may include new graphs for intensity and rainfall depth.

TASK 5: Incorporate an illustration/example to further help explain the concept of storm centering.

TASK 6: Update and Finalize Sample Excel Spreadsheets

Draft sample Excel spreadsheets of hydrologic procedures were created from the 2021-2023 effort to update the OCHM for the following:

- a) Rational Method Study Form
- b) Unit Hydrograph/Flood Hydrograph
- c) Low Loss Rate and Maximum Loss Rate
- d) Basin Routing
- e) Small Area Hydrograph

The consultant shall test, refine, update, and format the excel spreadsheets as needed. The spreadsheets may be incorporated into the updated OCHM to match the examples in the manual.

TASK 7: Incorporate a discussion on the pros and cons of flow-by and flow-through basins, design storm configurations, and clarify how these features are handled in the modeling when both basin types are present in a watershed. Examples will be added to the update.

TASK 8: Add/clarify the use of small area hydrograph limitations, contrast with regular hydrographs, and clarify issues such as inappropriately incorporating small area hydrographs when unit hydrographs are also used in the same modeling.

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TASK 9: Discuss the purpose and use of 2/3 & 1/3 rainfall design storm and the actual time to peak vs. the actual time of the peak of the design hydrograph. How do these compare with other agencies in the region?

TASK 10: Add hyperlinks to certain definitions, examples, and procedures in the electronic version of the OCHM for quick reference to other sections.

TASK 11: Provide a list of approved computer software that can be used in any hydrology analyses that follows the procedure in the manual.

TASK 12: Add a summary sheet of all of the equations listed in the OCHM as a quick reference guide.

PHASE 8: PROJECT MANAGEMENT & COORDINATION**TASK 1: Project Management**

The consultant shall arrange, attend, and conduct bi-weekly to monthly project meetings with the OCPW Project Manager and other Project stakeholders (as needed) to discuss project status, technical issues, schedules, and/or other details of the Project. The consultant shall provide a monthly master schedule update that is inclusive of all tasks. The consultant shall prepare and distribute the meeting agenda and minutes for each of the project meetings. The agenda shall be submitted to the attendees of the meeting at least one (1) working day prior to each meeting, while the minutes of each meeting shall be provided within five (5) working days following each meeting. Also, at the request of OCPW, the consultant may need to attend other meetings (off- or on-site) and/or presentations as needed to complete the terms of the Scope of Work (approximately 6). The task assumes that at a minimum, the Project Manager will be made available to attend these occurrences with the appropriate staff.

TASK 2: Technical Advisory Committee (TAC) Meetings

The consultant shall facilitate TAC meetings for topics described in Phase 2 through 4, as well as for the OCHM update in Phase 7. The consultant will organize, coordinate, and host a TAC, that will consist of OCPW, the consultant (and subconsultant if applicable), and a few outside advisors selected by OCPW. The TAC meetings are separate from the Project Management meetings described in Phase 8 Task 1. The agenda shall be submitted to the attendees of the meeting at least five (5) working days prior to each meeting, while the minutes of each meeting shall be provided within five (5) working days following each meeting. It is anticipated that there will be approximately ten (10) TAC meetings, three (3) hours in length. The consultant shall prepare to present on the topics below:

- a) Calibration of the OCHM/Hydrologic Modeling
- b) Update to Rainfall and Return Frequencies, if any
- c) Update to Soil Group, if any
- d) Update to Time of Concentration calculation, if any
- e) Update to recommended impervious values for developed land uses, if any
- f) Post-fire hydrology
- g) Climate change

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PHASE 9: PRESENTATIONS TO OCPW

The consultant shall provide a PowerPoint presentation on the updated OCHM to OCPW. Additional presentations such as to the public, or engineering forums such as ASCE may be requested as optional/additional work.

1. MATERIALS AND DATA TO BE PROVIDED BY OCPW

- a) Current 1986 OCHM and 1996 Addendum No. 1
- b) Studies related to the calibration of the 1986 OCHM
- c) 2007 Report titled "Evaluation of the Need to Update And/or Recalibrate the Orange County Hydrology Manual"
- d) 2021-2023 efforts on the OCHM update
- e) County of Orange rainfall gage and stream gage database
- f) Post-fire hydrology studies that have been performed by OCPW or by an A/E consultant.
- g) Neighboring counties current hydrology manuals and their methods for modeling small, intermediate, and large watersheds including Ventura County. If available, any hydrology modeling technical studies (draft or final) for their hydrology manual updates.

2. SCHEDULE

The final OCHM is expected to be completed in approximately 24 months. Once the Notice to Proceed is issued and the required data is provided by OCPW, the consultant will provide an overall project schedule within 2 weeks. OCPW intends to, with the best of their ability, review delivered items within 3 weeks of receiving them. Changes in project scope may result in modifications to the project schedule. OCPW reserves the right to delay or postpone dates as necessary.

3. DELIVERABLES**3.1. Final Calibration Report - Digital copies for all submittals**

- 3.1.1.1.** Phase 2a – rainfall
- 3.1.1.2.** Phase 2b – calibration of the OCHM
- 3.1.1.3.** Phase 2c – re-evaluation of loss and time of concentration
- 3.1.1.4.** Phase 3 – post-fire watershed hydrology
- 3.1.1.5.** Phase 4 – climate change
- 3.1.1.6.** Phase 5 – subarea hydrograph between concentration points

3.2. Draft manual shall be provided in Microsoft Word to enable track changes.

3.3. Final Updated Hydrology Manual - Digital copies for all submittals; 2 hard copies of the Final Hydrology Manual.

3.4. Phase 6 – Digital copy for any presentation(s)

4. ADDITIONAL REQUIREMENTS

The consultant must be registered as a Civil Engineer with the California Board for Professional Engineers, Land Surveyors, and Geologists. The consultant should have similar work experience in updating or preparing a hydrology manual with any Federal, State, or Local agency. The consultant should have experience in

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preparing hydrology and hydraulic reports for different types of projects, but most importantly for large, complex watersheds. The Final Hydrology Manual must be signed and stamped by the consultant.

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ATTACHMENT B: COST/COMPENSATION

I. COMPENSATION: This is a **time and materials** Contract between County, **District** and A-E for **Consultant Services to Update the Orange County Hydrology Manual** as set forth in Attachment A, “Scope of Work”.

A-E agrees to accept the specified compensation as set forth in this Contract as full remuneration for performing all services and furnishing all staffing, labor, vehicles, equipment, tools, materials, overhead, travel, etc. required, for any reasonably unforeseen difficulties which may arise or be encountered in the execution of the services until acceptance, for risks connected with the services, and for performance by A-E of all its duties and obligations hereunder. A-E shall only be compensated as set forth herein below for work performed in accordance with the Scope of Work. **County and District shall have no obligation to pay any sum in excess of the amount specified in Article 1.4 of the Contract unless authorized by amendment in accordance with Paragraphs 6.3 and 6.19 of the Contract Terms and Conditions.**

II. PRICING: Payment shall be made in accordance with the provisions of this Contract. Partial progress payments may be allowed at the discretion of the County Project Manager. Payment shall be as follows:

1. Classification Rates:

PACIFIC ADVANCED CIVIL ENGINEERING, INC.	
<u>Classification Titles</u>	<u>Hourly Rate</u>
Principal	\$328.00
Sr. Consulting Engineer	\$284.00
Sr. Project Engineer/ Sr. Design Engineer	\$231.00
Project Engineer	\$208.00
Sr. CAD Designer	\$191.00
Design Engineer	\$164.00
Technical Editor	\$137.00
Graphic Designer	\$137.00
Project Coordinator	\$114.00

RESPEC COMPANY, LLC. (TECHNICAL DEVELOPMENT AND HYDROLOGY MANUAL PREPARATION)	
<u>Classification Titles</u>	<u>Hourly Rate</u>
Principal	\$278.00
Senior Project Manager	\$251.00
Project Manager	\$182.00
Project Engineer	\$161.00
Engineer	\$150.00

Note: County will not pay A-E more than the listed amount for Sub-Contractor work, regardless of any agreement between the A-E and their Sub-Contractor. Sub-Contractor rates are listed for convenience only.

Note: Construction-related work performed under A-E service contracts may meet the definition of “public work” under Labor Code § 1720 et seq. “Construction” includes work performed during the design and

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preconstruction phases of construction, including, but not limited to, inspection and land surveying work, and work performed during the postconstruction phases of construction, including, but not limited to, all cleanup work at the jobsite. See, Labor Code § 1720. Contracts for A-E services shall mandate that prevailing wages be paid where mandated by law.

- III. PRICE INCREASES/DECREASES:** No price increases will be permitted during the term of this Contract. All price decreases will automatically be extended to County.
- IV. FIRM DISCOUNT AND PRICING STRUCTURE:** A-E guarantees that prices quoted are equal to or less than prices quoted to any other local, State or Federal government entity for services of equal or lesser scope. A-E agrees that no price increases shall be passed along to County during the term of this Contract, not otherwise specified and provided for within this Contract.
- V. A-E'S EXPENSE:** A-E will be responsible for all costs related to photo copying, telephone communications and fax communications while on County sites during the performance of work and services under this Contract.
- VI. REIMBURSABLE ITEMS:** Reimbursable items are non-salary items that are not included in the Scope of Work but necessary for completion of the work and must be authorized in advance by the County Project Manager. A-E may be entitled to reimbursement for the following, upon prior approval by County:
- 1) The actual costs of special equipment to be rented, leased or purchased by A-E for use exclusively in the performance of the Scope of Services, to the extent such rental, lease, purchase and costs have been approved in writing by the County Project Manager.
 - 2) Printing expenses paid to outside contractors; to the extent such contractors and reproduction rates have been approved by the County Project Manager.
 - 3) Other actual costs and/or payments specifically approved and authorized in writing by the County Project Manager and actually incurred by A-E in performance of this Contract.
 - 4) Travel costs shall only be reimbursed if approved in advance in writing by County Project Manager and are subject to the following restrictions:
 - a. Reimbursement of mileage for the business use of a personal vehicle during the conduct of business within the Scope of Services of this Contract shall be based on the Internal Revenue Service Standard Mileage Rate in effect at the time. Mileage between the A-E's "Home Based" office location and County location, as well as mileage within County property will not be reimbursed.
 - 5) Cost of "Home Based" Xerox copies, faxes, and other supplies and materials associated with them will not be reimbursed.
 - 6) Cost of cellular phones, cell phone usage plans and usage minutes, and other mobile communication devices will not be reimbursed.
 - 7) All reimbursable expenses must be itemized on A-E invoice(s) and documented with receipts. Receipts for reimbursable expenses must be submitted with all A-E invoices. Invoices for reimbursable expenses without back-up receipts will not be paid. A-E is responsible for submitting reimbursable invoices in a format that is acceptable to the County. Reimbursable items shall be charged at cost. Any third-party or subcontractor services shall also be charged at cost; no mark-ups will be allowed.

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- VII. PAYMENT TERMS:** Invoices are to be submitted in monthly arrears, after services have been completed, to the address specified below. Payment will be net thirty (30) days after receipt of an invoice in a format acceptable to the County, as applicable. Invoices shall be verified and approved by County and subject to routine processing requirements. The responsibility for providing an acceptable invoice to County for payment rests with A-E. Incomplete or incorrect invoices are not acceptable and will be returned to the A-E for correction.

Billing shall cover services and/or goods not previously invoiced. The A-E shall reimburse the County for any monies paid to the A-E for goods or services not provided or when goods or services do not meet the Contract requirements.

Payments made by County shall not preclude the right of County from thereafter disputing any items or services involved or billed under this Contract and shall not be construed as acceptance of any part of the goods or services.

- VIII. INVOICING INSTRUCTIONS:** The A-E will provide an invoice on the A-E's letterhead. Each invoice will have a unique number and will include the following information:

- A. A-E's name and address
- B. A-E's remittance address, if different from (A), above
- C. Name of County agency/department
- D. Delivery/service address
- E. Contract number
- F. Service Date
- G. Description of Services
- H. Total
- I. Taxpayer ID number

Invoices and support documentation are to be forwarded to:

TBA – Per Task Order

A-E has the option of receiving payment directly to their bank account via an Electronic Fund Transfer (EFT) process in lieu of a check payment. Payment made via EFT will also receive Electronic Remittance Advice with the payment details via email. An email address will need to be provided to the County via an EFT Authorization Form. To request a form, please contact the DPA.

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ATTACHMENT C: STAFFING PLAN

1. A-E KEY PERSONNEL

Name	Classification/ Designation	Years of Experience	Years with Current Firm	Licenses/ Certifications (include license number)
PACIFIC ADVANCED CIVIL ENGINEERING, INC. (PACE)				
Rebecca Kinney, PE, CFM	Principal	29	2	CA PE 58797 CFM US-19-11256
Mark E. Krebs, PE	Principal	38	36	CA PE 49292 + 6 additional states
Andrew Ronnau, PhD, PE	Principal	20	20	CA PE 72851
Jenny Robinet, MS, PE, CFM	Project Manager	12	12	CA PE 85118 CFM US-17-09953
Rianne Okamoto, EIT	Sr. Project Engineer	8	2	CA EIT 162501 Licensed PE in 3 states
Tony Howze	Sr. GIS Manager	28	20	N/A
Scott Fifield, MS	GIS Analyst	10	10	N/A
RESPEC COMPANY, LLC.				
Lee D. Rosen, PE, CFM	Vice President / Principal-in-Charge	17	9	CA PE 79883 + 3 additional states CFM US-10-05325
Erfan Goharian, PhD	Program Manager (California Water)	15	<1	CA PE application in process
Alan J. Leak, PE	National Practice Leader	42	28	CO PE.0024167 NV PE 009344
Jessica H. Nolle, PE, CFM	Senior Project Manager	26	21	CO PE.0038238 CFM US-15-08650
Jenna Lohmann, PE	Project Manager	9	4	CA PE 86029

A-E understands that the personnel represented as assigned to the Contract must remain working on the Contract throughout the duration of the Contract unless otherwise requested or approved by the County. Substitution or addition of A-E’s key personnel in any given category or classification shall be allowed only with prior written approval of the County’s Project Manager. **Note: The written approval of substituted A-E Key Personnel is for departmental use only and shall not be used for auditing purposes outside OC Public Works or other County department.**

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A-E may reserve the right to involve other A-E personnel, as their services are required. The specific individuals will be assigned based on the need and timing of the service/classification required. Assignment of additional key personnel shall be subject to County Project Manager written approval. *Note: The written approval of additional A-E Key Personnel is for departmental use only and shall not be used for auditing purposes outside OC Public Works or other County Department.* County reserves the right to have any A-E personnel removed from providing services to County under this Contract. County is not required to provide any reason for the request for removal of any A-E personnel.

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2. SUBCONSULTANT(S) (IF APPLICABLE)

Listed below are subconsultant(s) anticipated by A-E to perform services specified in Attachment A. Substitution or addition of A-E's subconsultant(s) in any given project function shall be allowed only with prior written approval of the County Project Manager.

Corporate Name	Corporate Address	Local Office Address*	Contact Name	Telephone Number	Project Function	DVBE Certification Number	SBA Certification Number
RESPEC Company, LLC	11440 W. Bernardo Ct, Suite 300 San Diego, CA 92127	11440 W. Bernardo Ct, Suite 300 San Diego, CA 92127	Erfan Goharian, PhD California Water Program Manager	Office: (858) 753-1730 Mobile: (801) 410-2680	Technical Development and Hydrology Manual Preparation	N/A	N/A