

# **PROFESSIONAL SERVICES AGREEMENT**

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This PROFESSIONAL SERVICES AGREEMENT, (hereinafter referred to as "Agreement"), is made and entered into to be effective the 23<sup>rd</sup> day of April, 2025, by and between the ORANGE COUNTY SANITATION DISTRICT, (hereinafter referred to as "OC SAN"), and HDR Engineering, Inc., (hereinafter referred to as "CONSULTANT"). OC SAN and CONSULTANT are referred to herein collectively as the "Parties" or individually as a "Party."

### **WITNESSETH:**

WHEREAS, OC SAN desires to engage CONSULTANT for Utility Water Planning Study at Plant Nos. 1 and 2, Project No. PS23-05, to provide professional services to evaluate and make recommendations for the City Water Pump Stations at Plant Nos. 1 and 2 as well as the Plant Water Pump Station at Plant No. 1; and

WHEREAS, CONSULTANT is qualified to provide the necessary services in connection with these requirements and has agreed to provide the necessary professional services; and

WHEREAS, OC SAN has adopted procedures for the selection of professional services and has proceeded in accordance with said procedures to select CONSULTANT to perform this work; and

WHEREAS, at its regular meeting on April 23, 2025 the Board of Directors, by Minute Order, accepted the recommendation of the Operations Committee to approve this Agreement.

NOW, THEREFORE, in consideration of the promises and mutual benefits, which will result to the Parties in carrying out the terms of this Agreement, it is mutually agreed as follows:

#### **1. SCOPE OF WORK**

The CONSULTANT agrees to furnish necessary professional services to accomplish those project elements outlined in the Scope of Work attached hereto as Attachment "A", and by this reference made a part of this Agreement.

- A. The CONSULTANT shall be responsible for the professional quality, technical accuracy, and completeness and coordination of the work and services furnished by the CONSULTANT under this Agreement, including the work performed by its subconsultants (Subconsultants). Where approval by OC SAN is indicated, it is understood to be conceptual approval only and does not relieve the CONSULTANT of responsibility for complying with all applicable laws, regulations, codes, industry standards, and liability for damages caused by errors, omissions, noncompliance with industry standards, and/or negligence on the part of the CONSULTANT or its Subconsultants.
- B. The CONSULTANT is responsible for the quality of work prepared under this Agreement and shall ensure that all work is performed to the industry standards recognized by professionals providing similar services in the State of California for clarity, uniformity, and completeness. The CONSULTANT shall timely respond to all of OC SAN's questions, comments, suggestions, corrections, and recommendations. All comments from OC SAN, or its agent, shall be

incorporated into the work prior to the next review deadline or addressed, in writing, as to why the comment(s) has/have not been incorporated. The CONSULTANT shall ensure that each submittal complies with industry standards recognized by professionals providing similar services in the State of California and the requirements of this Agreement.

- C. In the event that CONSULTANT's services and/or work product(s) is not to the satisfaction of OC SAN and/or does not conform to the requirements of this Agreement or the applicable industry standards, the CONSULTANT shall, without additional compensation, promptly correct or revise any errors or deficiencies in its work product(s) within the timeframe specified by the OC SAN Project Manager. OC SAN may charge to the CONSULTANT all costs, expenses and damages associated with any such corrections or revisions.
- D. Any computer aided design (CAD) drawings, figures, and other work produced by the CONSULTANT and Subconsultants shall comply with the OC SAN CAD Manual. Conversion of CAD work from any other non-standard CAD format to OC SAN's format shall not be acceptable in lieu of this requirement.

Electronic files shall conform to OC SAN specifications. Any changes to these specifications by the CONSULTANT are subject to review and require advance written approval from OC SAN.

Electronic files shall be subject to an acceptance period of 30 calendar days during which OC SAN shall perform appropriate reviews including CAD Manual compliance. The CONSULTANT shall correct any discrepancies or errors detected and reported within the acceptance period at no additional cost to OC SAN.

- E. All professional services performed by the CONSULTANT, including, but not limited to, all drafts, data, correspondence, proposals, and reports compiled or composed by the CONSULTANT, pursuant to this Agreement, are for the sole use of OC SAN, its agents and employees. Neither the documents nor their contents shall be released to any third party without the prior written consent of OC SAN. This provision does not apply to information that (a) was publicly known, or otherwise known to the CONSULTANT, at the time that it was disclosed to the CONSULTANT by OC SAN, or (b) subsequently becomes publicly known to the CONSULTANT other than through disclosure by OC SAN.

## **2. COMPENSATION**

Total compensation shall be paid to the CONSULTANT for the services in accordance with the following provisions:

### **A. Total Compensation**

Total compensation shall be in an amount not to exceed Six Hundred Seventy Thousand Dollars (\$670,000.00). Total compensation to the CONSULTANT including burdened labor (salaries plus benefits), overhead, profit, direct costs,

and Subconsultant(s) fees and costs shall not exceed the sum set forth in Attachment "E" - Fee Proposal.

B. Labor

As a portion of the total compensation to be paid to the CONSULTANT, OC SAN shall pay to the CONSULTANT a sum equal to the burdened salaries (salaries plus benefits) actually paid by the CONSULTANT charged on an hourly-rate basis to this project and paid to the personnel of the CONSULTANT. Upon the request of OC SAN, the CONSULTANT shall provide OC SAN with certified payroll records of all employees' work that is charged to this project.

C. Overhead

As a portion of the total compensation to be paid to the CONSULTANT, OC SAN shall compensate the CONSULTANT and Subconsultants for overhead at the rate equal to the percentage of burdened labor as specified in Attachment "E" - Fee Proposal.

D. Profit

Profit for the CONSULTANT and Subconsultants shall be a percentage of consulting services fees (burdened labor and overhead). When the consulting or subconsulting services amount is \$250,000 or less, the maximum profit shall be 10%. Between \$250,000 and \$2,500,000, the maximum profit shall be limited by a straight declining percentage between 10% and 5%. For consulting or subconsulting services fees with a value greater than \$2,500,000, the maximum profit shall be 5%. Amendments shall be governed by the same maximum profit percentage after adding consulting services fees.

As a portion of the total compensation to be paid to the CONSULTANT and Subconsultants, OC SAN shall pay profit for all services rendered by the CONSULTANT and Subconsultants for this project according to Attachment "E" - Fee Proposal.

E. Subconsultants

For any Subconsultant whose fees for services are greater than or equal to \$100,000 (excluding out-of-pocket costs), the CONSULTANT shall pay to Subconsultant total compensation in accordance with the Subconsultant amount specified in Attachment "E" - Fee Proposal.

For any Subconsultant whose fees for services are less than \$100,000, the CONSULTANT may pay to Subconsultant total compensation on an hourly-rate basis per Attachment "K" – Minor Subconsultant Hourly Rate Schedule and as specified in the Scope of Work. OC SAN shall pay to the CONSULTANT the actual costs of Subconsultant fees and charges in an amount not to exceed the sum set forth in Attachment "E" - Fee Proposal.

F. Direct Costs

OC SAN shall pay to the CONSULTANT and Subconsultants the actual costs of permits and associated fees, travel and licenses for an amount not to exceed the sum set forth in Attachment "E" - Fee Proposal. OC SAN shall also pay to the CONSULTANT actual costs for equipment rentals, leases, or purchases with prior approval of OC SAN. Upon request, the CONSULTANT shall provide to OC SAN receipts and other documentary records to support the CONSULTANT's request for reimbursement of these amounts, see Attachment "D" - Allowable Direct Costs. All incidental expenses shall be included in overhead pursuant to Section 2 - COMPENSATION above.

G. Other Direct Costs

Other direct costs incurred by the CONSULTANT and its Subconsultants/subcontractor due to modifications to the Scope of Work resulting from field investigations and field work required by the Agreement. These items may include special equipment, test equipment and tooling, and other materials and services not previously identified. Refer to attachment "D" - Allowable Direct Costs for payment information.

H. Reimbursable Direct Costs

OC SAN will reimburse the CONSULTANT for reasonable travel and business expenses as described in this section and further described in Attachment "D" - Allowable Direct Costs to this Agreement. The reimbursement of the above-mentioned expenses will be based on an "accountable plan" as considered by the Internal Revenue Service (IRS). The plan includes a combination of reimbursements based upon receipts and a "per diem" component approved by the IRS. The most recent schedule of the per diem rates utilized by OC SAN can be found on the U.S. General Services Administration website at <https://www.gsa.gov/travel/plan-book/per-diem-rates>.

The CONSULTANT shall be responsible for the most economical and practical means or management of reimbursable costs inclusive, but not limited to travel, lodging, and meals arrangements. OC SAN shall apply the most economic and practical method of reimbursement which may include reimbursements based upon receipts and/or "per diem" as deemed the most practical.

The CONSULTANT shall be responsible for returning to OC SAN any excess reimbursements after the reimbursement has been paid by OC SAN.

Travel and travel arrangements – Any travel involving airfare, overnight stays, or multiple day attendance must be approved by OC SAN in advance.

Local travel is considered travel by the CONSULTANT within the OC SAN geographical area which includes Orange, Los Angeles, Ventura, San Bernardino, Riverside, San Diego, Imperial, and Kern Counties. Automobile mileage is reimbursable, if CONSULTANT is required to utilize personal vehicle for local travel.

Lodging – Overnight stays will not be approved by OC SAN for local travel. However, under certain circumstances, overnight stays may be allowed at the discretion of OC SAN based on reasonableness of meeting schedules and the amount of time required for travel by the CONSULTANT. Such determination will be made on a case-by-case basis and at the discretion of OC SAN.

Travel Meals – Per-diem rates as approved by the IRS shall be utilized for travel meals reimbursements. Per diem rates shall be applied to meals that are appropriate for travel times. Receipts are not required for the approved meals.

Additional details related to the reimbursement of the allowable direct costs are provided in the Attachment “D” - Allowable Direct Costs of this Agreement.

I. Limitation of Costs

If, at any time, the CONSULTANT estimates the cost of performing the services described in the CONSULTANT’s Proposal will exceed 75% of the not-to-exceed amount of the Agreement, including approved additional compensation, the CONSULTANT shall notify OC SAN immediately, and in writing. This written notice shall indicate the additional amount necessary to complete the services. Any cost incurred in excess of the approved not-to-exceed amount, without the express written consent of OC SAN’s authorized representative shall be at the CONSULTANT’s own risk. This written notice shall be provided separately from, and in addition to any notification requirements contained in the CONSULTANT’s invoice and monthly progress report. Failure to notify OC SAN that the services cannot be completed within the authorized not-to-exceed amount is a material breach of this Agreement.

**3. REALLOCATION OF TOTAL COMPENSATION**

OC SAN, by its Director of Engineering, shall have the right to approve a reallocation of the incremental amounts constituting the Total Compensation, provided that the Total Compensation is not increased.

**4. PAYMENT**

- A. Monthly Invoice: The CONSULTANT shall include in its monthly invoice, a detailed breakdown of costs associated with the performance of any corrections or revisions of the work for that invoicing period, in a format acceptable to OC SAN. The CONSULTANT shall warrant and certify the accuracy of these costs and provide all supporting documentation required by OC SAN. The CONSULTANT understands that submitted costs are subject to Section 12 AUDIT PROVISIONS.
- B. The CONSULTANT will submit monthly statements covering services and/or work performed for payment for those items included in Section 2 hereof no later than the second Wednesday of the following month and in the format required by OC SAN. The format must include, as a minimum: 1) current billing period invoicing, 2) current billing period “total percent invoiced to date”, 3) future activities, 4) previous billing period “total invoiced to date”, 5) potential items that

are not included in the Scope of Work, 6) concerns and possible delays, 7) percentage of completion to date, and 8) budget status and amount remaining. Such requests shall be accompanied by such supporting data as may be required by OC SAN.

Within 30 days following submission of CONSULTANT's invoice, payment shall be made to the CONSULTANT of all undisputed invoiced amounts on a per task basis.

If OC SAN determines that the work under this Agreement, or any specified task hereunder, is incomplete and that the amount of payment is in excess of:

- i. The amount considered by OC SAN's Director of Engineering to be adequate for the protection of OC SAN; or
- ii. The percentage of the work accomplished for each task.

OC SAN may, at the discretion of the Director of Engineering, retain an amount equal to that which ensures that the total amount paid to that date does not exceed the percentage of the completed work for each task or the project in its entirety.

- C. The CONSULTANT may submit periodic payment requests for each 30-day period of this Agreement for the profit as set forth in Section 2 - COMPENSATION above. Said profit payment request shall be proportionate to the work actually accomplished to date on a per task basis. In the event OC SAN's Director of Engineering determines that no satisfactory progress has been made since the prior payment, or in the event of a delay in the work progress for any reason, OC SAN shall have the right to withhold any scheduled proportionate profit payment.
- D. Upon satisfactory completion by the CONSULTANT of the work called for under the terms of this Agreement, and upon acceptance of such work by OC SAN, the CONSULTANT will be paid the unpaid balance of any money due for such work based on the monthly statements, including any retained percentages relating to this portion of the work.
- E. Upon satisfactory completion of the work performed hereunder and prior to final payment under this Agreement for such work, or prior settlement upon termination of this Agreement, and as a condition precedent thereto, the CONSULTANT shall execute and deliver to OC SAN a release of all claims against OC SAN arising under or by virtue of this Agreement other than such claims, if any, as may be specifically exempted by the CONSULTANT from the operation of the release in stated amounts to be set forth therein.
- F. Pursuant to the California False Claims Act (Government Code sections 12650-12655), any CONSULTANT that knowingly submits a false claim to OC SAN for compensation under the terms of this Agreement may be held liable for treble damages and up to a \$10,000 civil penalty for each false claim submitted. This section shall also be binding on all Subconsultants.

The CONSULTANT or Subconsultant shall be deemed to have submitted a false claim when the CONSULTANT or Subconsultant: (a) knowingly presents or causes to be presented to an officer or employee of OC SAN a false claim or request for payment or approval; (b) knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by OC SAN; (c) conspires to defraud OC SAN by getting a false claim allowed or paid by OC SAN; (d) knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to OC SAN; or (e) is a beneficiary of an inadvertent submission of a false claim to OC SAN, and fails to disclose the false claim to OC SAN within a reasonable time after discovery of the false claim.

## **5. PREVAILING WAGES**

- A. To the extent the CONSULTANT intends to utilize employees who will perform work during the contract, as more specifically defined under Labor Code Section 1720, the CONSULTANT shall be subject to prevailing wage requirements with respect to such employees.

## **6. CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION AND RECORD OF WAGES**

- A. To the extent the CONSULTANT's employees and/or Subconsultants who will perform work during the design and preconstruction phases of a construction contract for which Prevailing Wage Determinations have been issued by the DIR and as more specifically defined under Labor Code Section 1720 et seq, the CONSULTANT and Subconsultants shall comply with the registration requirements of Labor Code Section 1725.5. Pursuant to Labor Code Section 1771.4, the work is subject to compliance monitoring and enforcement by the DIR.
- B. The CONSULTANT and Subconsultants shall maintain accurate payroll records and shall comply with all the provisions of Labor Code Section 1776, and shall submit payroll records to the Labor Commissioner pursuant to Labor Code Section 1771.4(a)(3). Penalties for non-compliance with the requirements of Section 1776 may be deducted from progress payments per Section 1776.
- C. Pursuant to Labor Code Section 1776, the CONSULTANT and Subconsultants shall furnish a copy of all certified payroll records to OC SAN and/or general public upon request, provided the public request is made through OC SAN, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement of the DIR.
- D. The CONSULTANT and Subconsultants shall comply with the job site notices posting requirements established by the Labor Commissioner per Title 8, California Code of Regulations Section 16461(e).

## **7. DOCUMENT OWNERSHIP – CONSULTANT PERFORMANCE**

- A. Ownership of Documents for the Professional Services Performed



All documents in all forms (electronic, paper, etc.), including, but not limited to, studies, sketches, drawings, computer printouts, disk files, and electronic copies prepared in connection with or related to the Scope of Work or professional services, shall be the property of OC SAN. OC SAN's ownership of these documents includes use of, reproduction or reuse of and all incidental rights, whether or not the work for which they were prepared has been performed. OC SAN ownership entitlement arises upon payment or any partial payment for work performed and includes ownership of any and all work product completed prior to that payment. This section shall apply whether the the CONSULTANT's professional services are terminated: a) by the completion of the Agreement, or b) in accordance with other provisions of this Agreement. Notwithstanding any other provision of this paragraph or Agreement, the CONSULTANT shall have the right to make copies of all such plans, studies, sketches, drawings, computer printouts and disk files, and specifications.

- B. The CONSULTANT shall not be responsible for damage caused by subsequent changes to or uses of the study or deliverable where the subsequent changes or uses are not authorized or approved by the CONSULTANT, provided that the service rendered by the CONSULTANT was not a proximate cause of the damage.

## 8. INSURANCE

### A. General

- i. Insurance shall be issued and underwritten by insurance companies acceptable to OC SAN.
- ii. Insurers must have an "A-" Policyholder's Rating, or better, and Financial Rating of at least Class VIII, or better, in accordance with the most current A.M. Best's Guide Rating. However, OC SAN will accept State Compensation Insurance Fund, for the required policy of Workers' Compensation Insurance subject to OC SAN's option to require a change in insurer in the event the State Fund financial rating is decreased below "B". Further, OC SAN will require the CONSULTANT to substitute any insurer whose rating drops below the levels herein specified. Said substitution shall occur within 20 days of written notice to the CONSULTANT, by OC SAN or its agent.
- iii. Coverage shall be in effect prior to the commencement of any work under this Agreement.

### B. General Liability

The CONSULTANT shall maintain during the life of this Agreement, including the period of warranty, commercial general liability insurance written on an occurrence basis providing the following minimum limits of liability coverage: One Million Dollars (\$1,000,000) per occurrence with Two Million Dollars (\$2,000,000) aggregate. If aggregate limits apply separately to this contract (as evidenced by submission of ISO form CG 25 03 or 25 04), then the aggregate limit may be

equivalent to the per occurrence limit. Said insurance shall include coverage for the following hazards: premises-operations, blanket contractual liability (for this Agreement), products liability/completed operations (including any product manufactured or assembled), broad form property damage, blanket contractual liability, independent contractors liability, personal and advertising injury, mobile equipment, and cross liability and severability of interest clauses. A statement on an insurance certificate will not be accepted in lieu of the actual additional insured endorsement(s). If requested by OC SAN and applicable, XCU coverage (Explosion, Collapse and Underground) and Riggers/On Hook Liability must be included in the general liability policy and coverage must be reflected on the submitted certificate of insurance. Where permitted by law, the CONSULTANT hereby waives all rights of recovery by subrogation because of deductible clauses, inadequacy of limits of any insurance policy, limitations or exclusions of coverage, or any other reason against OC SAN, its or their officers, agents, or employees. In all its insurance coverages related to the work, the CONSULTANT shall include clauses providing that each insurer shall waive all of its rights of recovery by subrogation against OC SAN, its or their officers, agents, or employees. Where permitted by law, the CONSULTANT shall require similar written express waivers and insurance clauses from each of its Subconsultants of every tier. A waiver of subrogation shall be effective as to any individual or entity, even if such individual or entity (a) would otherwise have a duty of indemnification, contractual or otherwise, (b) did not pay the insurance premium, directly or indirectly, and (c) whether or not such individual or entity has an insurable interest in the property damaged.

C. Umbrella Excess Liability

The minimum limits of general liability and automobile liability insurance required, as set forth herein, shall be provided for through either a single policy of primary insurance or a combination of policies of primary and umbrella excess coverage. Umbrella excess liability coverage shall be issued with limits of liability which, when combined with the primary insurance, will equal the minimum limits for general liability and automobile liability.

D. Automobile/Vehicle Liability Insurance

The CONSULTANT shall maintain a policy of automobile liability insurance on a comprehensive form covering all owned, non-owned, and hired automobiles, trucks, and other vehicles providing the following minimum limit of liability coverage: combined single limit of One Million Dollars (\$1,000,000). A statement on an insurance certificate will not be accepted in lieu of the actual additional insured endorsement.

E. Workers' Compensation Insurance

The CONSULTANT shall provide such workers' compensation insurance as required by the Labor Code of the State of California in the amount of the statutory limit, including employer's liability insurance with a minimum limit of One Million Dollars (\$1,000,000) per occurrence. Such workers' compensation insurance shall be endorsed to provide for a waiver of subrogation in favor of OC

SAN. A statement on an insurance certificate will not be accepted in lieu of the actual endorsements unless the insurance carrier is State of California Insurance Fund and the identifier "SCIF" and endorsement numbers 2570 and 2065 are referenced on the certificate of insurance. If an exposure to Jones Act liability may exist, the insurance required herein shall include coverage for Jones Act claims.

F. Errors and Omissions/Professional Liability

The CONSULTANT shall maintain in full force and effect, throughout the term of this Agreement, standard industry form professional negligence errors and omissions insurance coverage in an amount of not less than Two Million Dollars (\$2,000,000) with limits in accordance with the provisions of this paragraph. If the policy of insurance is written on a "claims made" basis, said policy shall be continued in full force and effect at all times during the term of this Agreement, and for a period of 5 years from the date of the completion of the services hereunder.

In the event of termination of said policy during this period, the CONSULTANT shall obtain continuing insurance coverage for the prior acts or omissions of the CONSULTANT during the course of performing services under the term of this Agreement. Said coverage shall be evidenced by either a new policy evidencing no gap in coverage or by separate extended "tail" coverage with the present or new carrier.

In the event the present policy of insurance is written on an "occurrence" basis, said policy shall be continued in full force and effect during the term of this Agreement or until completion of the services provided for in this Agreement, whichever is later. In the event of termination of said policy during this period, new coverage shall be obtained for the required period to insure for the prior acts of the CONSULTANT during the course of performing services under the term of this Agreement.

The CONSULTANT shall provide to OC SAN a certificate of insurance in a form acceptable to OC SAN indicating the deductible or self-retention amounts and the expiration date of said policy and shall provide renewal certificates not less than 10 days prior to the expiration of each policy term.

G. Proof of Coverage

The CONSULTANT shall furnish OC SAN with original certificates and amendatory endorsements effecting coverage. Said policies and endorsements shall conform to the requirements herein stated. All certificates and endorsements are to be received and approved by OC SAN before work commences. OC SAN reserves the right to require, at any time, redacted copies of all required insurance policies, including endorsements, effecting the coverage required. The following are approved forms that must be submitted as proof of coverage:

- Certificate of Insurance ACORD Form 25 or other equivalent certificate of insurance form

- Additional Insurance (General Liability)      The combination of (ISO Forms) CG 20 10 and CG 20 37  
  
All other additional insured endorsements must be submitted for approval by OC SAN, and OC SAN may reject alternatives that provide different or less coverage to OC SAN.
- Additional Insured (Automobile Liability)      Submit endorsement provided by carrier for OC SAN approval.
- Waiver of Subrogation      Submit workers' compensation waiver of subrogation endorsement provided by carrier for OC SAN approval.
- Cancellation Notice      No endorsement is required. However, the CONSULTANT is responsible for notifying OC SAN of any pending or actual insurance policy cancellation, as described in Article I. Cancellation and Policy Change Notice, below.

H. Cancellation and Policy Change Notice

The CONSULTANT is required to notify OC SAN in writing of any insurance cancellation notice it receives or other knowledge of pending or actual insurance policy cancellation within 2 working days of receipt of such notice or acquisition of such knowledge. Additionally, the CONSULTANT is required to notify OC SAN in writing of any material change in the terms of insurance, including reduction in coverage or increase in deductible/SIR, within 2 working days of receipt of such notice or knowledge of same.

Said notices shall be mailed to OC SAN at:

ORANGE COUNTY SANITATION DISTRICT  
18480 Bandilier Circle  
Fountain Valley, CA 92708  
Attention: Contracts, Purchasing & Materials Management Division

I. Primary Insurance

The general and automobile liability policies shall contain a "Primary and Non Contributory" clause. Any other insurance maintained by OC SAN shall be excess and not contributing with the insurance provided by the CONSULTANT.

J. Separation of Insured

The general and automobile liability policies shall contain a "Separation of Insureds" clause.

K. Non-Limiting (if applicable)

Nothing in this document shall be construed as limiting in any way, nor shall it limit the indemnification provision contained in this Agreement, or the extent to which the CONSULTANT may be held responsible for payment of damages to persons or property.

L. Deductibles and Self-Insured Retentions

Any deductible and/or self-insured retention must be declared to OC SAN on the certificate of insurance. All deductibles and/or self-insured retentions require approval by OC SAN.

M. Defense Costs

The general and automobile liability policies shall have a provision that defense costs for all insureds and additional insureds are paid in addition to and do not deplete any policy limits.

N. Subconsultants

The CONSULTANT shall be responsible to establish insurance requirements for any Subconsultant hired by the CONSULTANT. The insurance shall be in amounts and types reasonably sufficient to deal with the risk of loss involving the Subconsultant's operations and work.

O. Limits Are Minimums

If the CONSULTANT maintains higher limits than any minimums shown above, then OC SAN requires and shall be entitled to coverage for the higher limits maintained by the CONSULTANT.

**9. SCOPE CHANGES**

In the event of a change in the Scope of Work or other terms in the Agreement, as requested by OC SAN, the Parties hereto shall execute an Amendment to this Agreement setting forth with particularity all terms of the new Agreement, including, but not limited to, any additional CONSULTANT's fees. The CONSULTANT hereby agrees to use any and all procedures, programs, and systems required by OC SAN to process and execute such Amendment(s), including, but not limited to, computer programs and systems.

**10. PROJECT TEAM AND SUBCONSULTANTS**

The CONSULTANT shall provide to OC SAN, prior to execution of this Agreement, the names and full description of all Subconsultants and the CONSULTANT's project team members anticipated to be used on this project under this Agreement by the CONSULTANT. The CONSULTANT shall include a description of the work and services to be done by each Subconsultant and each of the CONSULTANT's project team members. The CONSULTANT shall include the respective compensation amounts for

the CONSULTANT and each Subconsultant, broken down as indicated in Section 2-COMPENSATION.

There shall be no substitution of the listed Subconsultants and the CONSULTANT's project team members without prior written approval by OC SAN.

## **11. ENGINEERING REGISTRATION**

The CONSULTANT's personnel and Subconsultants are comprised of registered engineers and a staff of specialists and draftsmen in each department. The firm itself is not a registered engineer, but represents and agrees that wherever, in the performance of this Agreement, the services of a registered engineer is required, such services hereunder will be performed under the direct supervision of registered engineers who are registered in the State of California.

## **12. AUDIT PROVISIONS.**

- A. OC SAN retains the reasonable right to access, review, examine, and audit, any and all books, records, documents, and any other evidence of procedures and practices that OC SAN determines are necessary to discover and verify that the CONSULTANT is in compliance with all requirements under this Agreement. The CONSULTANT shall include OC SAN's right as described above, in any and all of their subcontracts, and shall ensure that these rights are binding upon all Subconsultants.
- B. OC SAN retains the right to examine the CONSULTANT's books, records, documents and any other evidence of procedures and practices that OC SAN determines are necessary to discover and verify all direct and indirect costs, of whatever nature, which are claimed to have been incurred, or anticipated to be incurred or to ensure the CONSULTANT's compliance with all requirements under this Agreement during the term of this Agreement and for a period of 3 years after its termination.
- C. The CONSULTANT shall maintain complete and accurate records in accordance with generally accepted industry standard practices and OC SAN's policy. The CONSULTANT shall make available to OC SAN for review and audit, all project related accounting records and documents, and any other financial data within 15 days after receipt of notice from OC SAN. Upon OC SAN's request, the CONSULTANT shall submit exact duplicates of originals of all requested records to OC SAN. If an audit is performed, the CONSULTANT shall ensure that a qualified employee of the CONSULTANT will be available to assist OC SAN's auditor in obtaining all project related accounting records and documents, and any other financial data.

## **13. LEGAL RELATIONSHIP BETWEEN PARTIES**

The legal relationship between the Parties hereto is that of an independent contractor and nothing herein shall be deemed to transform the CONSULTANT, its staff, independent contractors, or Subconsultants into employees of OC SAN. The CONSULTANT's staff performing services under the Agreement shall at all times be

employees and/or independent contractors of the CONSULTANT. The CONSULTANT shall monitor and control its staff and pay wages, salaries, and other amounts due directly to its staff in connection with the Agreement. The CONSULTANT shall be responsible for hiring, review, and termination of its staff and shall be accountable for all reports and obligations respecting them, such as social security, income tax withholding, unemployment compensation, workers' compensation and similar matters.

#### **14. NOTICES**

All notices hereunder and communications regarding the interpretation of the terms of this Agreement, or changes thereto, shall be effected by delivery of said notices in person or by depositing said notices in the U.S. mail, registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

ORANGE COUNTY SANITATION DISTRICT  
18480 Bandilier Circle  
Fountain Valley, CA 92708  
Attention: Larry Roberson, Senior Contracts Administrator  
Copy: Omeed Pour, Project Manager

HDR ENGINEERING, INC.  
3220 El Camino Real, Suite 200  
Irvine, CA 92602  
Attention: Anna Lantin, Vice President  
Copy: Stephen Beppler, Project Manager

All communication regarding the Scope of Work, will be addressed to the Project Manager. Direction from other OC SAN staff must be approved in writing by OC SAN's Project Manager prior to action by the CONSULTANT.

#### **15. TERMINATION**

OC SAN may terminate this Agreement at any time, without cause, upon giving 30 days written notice to the CONSULTANT. OC SAN may also terminate this Agreement for cause but only after providing CONSULTANT written notice of the breach and a period of 10 days to cure. In the event of such termination, the CONSULTANT shall be entitled to compensation for work performed on a prorated basis through and including the effective date of termination.

The CONSULTANT shall be permitted to terminate this Agreement upon 30 days written notice only if the CONSULTANT is not compensated for billed amounts in accordance with the provisions of this Agreement, when the same are due.

Notice of termination shall be mailed to OC SAN at the address listed in Section 14 - NOTICES.

#### **16. DOCUMENTS AND STUDY MATERIALS**

The documents and study materials for this project shall become the property of OC SAN upon the termination or completion of the work. The CONSULTANT agrees to

furnish to OC SAN copies of all memoranda, correspondence, electronic materials, computation and study materials in its files pertaining to the work described in this Agreement, which is requested in writing by OC SAN.

## **17. COMPLIANCE**

### **A. Labor**

The CONSULTANT certifies by the execution of this Agreement that it pays employees not less than the minimum wage as defined by law, and that it does not discriminate in its employment with regard to race, color, religion, sex or national origin; that it is in compliance with all federal, state and local directives and executive orders regarding non-discrimination in employment; and that it agrees to demonstrate positively and aggressively the principle of equal opportunity in employment.

### **B. Air Pollution**

The CONSULTANT and its Subconsultants and subcontractors shall comply with all applicable federal, state and local air pollution control laws and regulations.

### **C. Iran Contracting Act**

The CONSULTANT and its Subconsultants and subcontractors shall comply with the Iran Contracting Act of 2010 (Public Contract Code sections 2200-2208).

### **D. California Air Resources Board Mobile Source Regulations**

The CONSULTANT and its Subconsultants and subcontractors shall comply with the following California Air Resources Board Mobile Source Regulations:

- Advanced Clean Fleet (ACF): 13 CCR 2013-2013.4; 13 CCR 2015-2015.6
- Truck & Bus Regulation (T&B): 13 CCR 2025
- Clean Truck Check (CTC): 13 CCR 2195-2199.1
- Off-Road Diesel Amendments (ORD): 13 CCR 2449-2449.2

## **18. AGREEMENT EXECUTION AUTHORIZATION**

Both OC SAN and the CONSULTANT do covenant that each individual executing this document by and on behalf of each Party is a person duly authorized to execute this Agreement for that Party.

## **19. DISPUTE RESOLUTION**

In the event of a dispute arising between the Parties regarding performance or interpretation of this Agreement, the dispute shall be resolved by binding arbitration under the auspices of the Judicial Arbitration and Mediation Service ("JAMS"), or similar organization or entity conducting alternate dispute resolution services.



## **20. ATTORNEY'S FEES, COSTS AND NECESSARY DISBURSEMENTS**

If any action at law or in equity or if any proceeding in the form of an Alternative Dispute Resolution (ADR) is necessary to enforce or interpret the terms of this Agreement, the prevailing Party shall be entitled to reasonable attorney's fees, costs and necessary disbursements in addition to any other relief to which he may be entitled.

## **21. WARRANTY**

The CONSULTANT shall perform its services in accordance with generally accepted industry and professional standards. If, within the 12-month period following completion of its services, OC SAN informs the CONSULTANT that any part of the services fails to meet those standards, the CONSULTANT shall, within the time prescribed by OC SAN, take all such actions as are necessary to correct or complete the noted deficiency(ies).

## **22. INDEMNIFICATION**

To the fullest extent permitted by law, the CONSULTANT shall indemnify, defend (at the CONSULTANT's sole cost and expense and with legal counsel approved by OC SAN, which approval shall not be unreasonably withheld), protect and hold harmless OC SAN and all of OC SAN's officers, directors, employees, and agents (collectively the "Indemnified Parties"), from and against any and all claims, damages, liabilities, causes of action, suits, arbitration awards, losses, judgments, fines, penalties, costs and expenses (including, without limitation, attorneys' fees, disbursements and court costs, and all other professional, expert or CONSULTANT's fees and costs and OC SAN's general and administrative expenses; individually, a "Claim"; collectively, "Claims") which may arise from or are in any manner related, directly or indirectly, to any work performed, or any operations, activities, or services provided by the CONSULTANT in carrying out its obligations under this Agreement to the extent of the negligent, recklessness and/or willful misconduct of the CONSULTANT, its principals, officers, agents, employees, the CONSULTANT's suppliers, the CONSULTANT, Subconsultants, subcontractors, and/or anyone employed directly or indirectly by any of them, regardless of any contributing negligence or strict liability of an Indemnified Party. Notwithstanding the foregoing, nothing herein shall be construed to require the CONSULTANT to indemnify the Indemnified Parties from any Claim to the extent arising from:

- (A) the active negligence or willful misconduct of the Indemnified Parties; or
- (B) a natural disaster or other act of God, such as an earthquake; or
- (C) the independent action of a third party who is neither one of the Indemnified Parties nor the CONSULTANT, nor its principal, officer, agent, employee, nor the CONSULTANT's supplier, the CONSULTANT, Subconsultant, subcontractor, nor anyone employed directly or indirectly by any of them.

Exceptions (A) through (B) above shall not apply, and the CONSULTANT shall, to the fullest extent permitted by law, indemnify the Indemnified Parties, from Claims arising from more than one cause if any such cause taken alone would otherwise result in the obligation to indemnify hereunder.

The CONSULTANT's liability for indemnification hereunder is in addition to any liability the CONSULTANT may have to OC SAN for a breach by the CONSULTANT of any of the provisions of this Agreement. Under no circumstances shall the insurance requirements and limits set forth in this Agreement be construed to limit the CONSULTANT's indemnification obligation or other liability hereunder. The terms of this Agreement are contractual and the result of negotiation between the Parties hereto. Accordingly, any rule of construction of contracts (including, without limitation, California Civil Code Section 1654) that ambiguities are to be construed against the drafting party, shall not be employed in the interpretation of this Agreement.

### **23. DUTY TO DEFEND**

The duty to defend hereunder is wholly independent of and separate from the duty to indemnify and such duty to defend shall exist regardless of any ultimate liability of the CONSULTANT and shall be consistent with Civil Code Section 2782.8. Such defense obligation shall arise immediately upon presentation of a Claim by any person if, without regard to the merit of the Claim, such Claim could potentially result in an obligation to indemnify one or more Indemnified Parties, and upon written notice of such Claim being provided to the CONSULTANT. Payment to the CONSULTANT by any Indemnified Party or the payment or advance of defense costs by any Indemnified Party shall not be a condition precedent to enforcing such Indemnified Party's rights to indemnification hereunder. In the event a final judgment, arbitration, award, order, settlement, or other final resolution expressly determines that the Claim did not arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the CONSULTANT, to any extent, then OC SAN will reimburse the CONSULTANT for the reasonable costs of defending the Indemnified Parties against such claims.

If CONSULTANT's obligation to defend, indemnify, and/or hold harmless arises out of CONSULTANT's performance as a "design professional" (as that term is defined under Civil Code section 2782.8), then, and only to the extent required by Civil Code section 2782.8, which is fully incorporated herein, CONSULTANT's indemnification obligation shall be limited to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the CONSULTANT, and, upon CONSULTANT obtaining a final adjudication by a court of competent jurisdiction, CONSULTANT's liability for such claim, including the cost to defend, shall not exceed the CONSULTANT's proportionate percentage of fault.

The CONSULTANT's indemnification obligation hereunder shall survive the expiration or earlier termination of this Agreement until such time as action against the Indemnified Parties for such matter indemnified hereunder is fully and finally barred by the applicable statute of limitations.

### **24. COMPLIANCE WITH OC SAN POLICIES AND PROCEDURES**

The CONSULTANT shall comply with all OC SAN policies and procedures including the Contractor Safety Standards, as applicable, all of which may be amended from time to time.

## **25. CLOSEOUT**

When OC SAN determines that all work authorized under the Agreement is fully complete and that OC SAN requires no further work from the CONSULTANT, or the Agreement is otherwise terminated or expires in accordance with the terms of the Agreement, OC SAN shall give the CONSULTANT written notice that the Agreement will be closed out. The CONSULTANT shall submit all outstanding billings, work submittals, deliverables, reports or similarly related documents as required under the Agreement within 30 days of receipt of notice of Agreement closeout.

Upon receipt of the CONSULTANT's submittals, OC SAN shall commence a closeout audit of the Agreement and will either:

- i. Give the CONSULTANT a final Agreement Acceptance: or
- ii. Advise the CONSULTANT in writing of any outstanding item or items which must be furnished, completed, or corrected at the CONSULTANT's cost.

The CONSULTANT shall be required to provide adequate resources to fully support any administrative closeout efforts identified in the Agreement. Such support must be provided within the timeframe requested by OC SAN.

Notwithstanding the final Agreement acceptance, the CONSULTANT will not be relieved of its obligations hereunder, nor will the CONSULTANT be relieved of its obligations to complete any portions of the work, the non-completion of which were not disclosed to OC SAN (regardless of whether such nondisclosures were fraudulent, negligent, or otherwise), and the CONSULTANT shall remain obligated under all those provisions of the Agreement which expressly or by their nature extend beyond and survive final Agreement Acceptance.

Any failure by OC SAN to reject the work or to reject the CONSULTANT's request for final Agreement Acceptance as set forth above shall not be deemed to be acceptance of the work by OC SAN for any purpose nor imply acceptance of, or Agreement with, the CONSULTANT's request for final Agreement Acceptance.

## **26. ENTIRE AGREEMENT**

This Agreement constitutes the entire understanding and agreement between the Parties and supersedes all previous negotiations between them pertaining to the subject matter thereof.

IN WITNESS WHEREOF, this Agreement has been executed in the name of OC SAN and the CONSULTANT by their respective duly authorized officers as of the day and year first written above.

**CONSULTANT: HDR ENGINEERING, INC.**

By \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_  
Printed Name & Title

**ORANGE COUNTY SANITATION DISTRICT**

By \_\_\_\_\_ Date \_\_\_\_\_  
Ryan P. Gallagher  
Board Chairman

By \_\_\_\_\_ Date \_\_\_\_\_  
Kelly A. Lore  
Clerk of the Board

By \_\_\_\_\_ Date \_\_\_\_\_  
Kevin Work  
Purchasing & Contracts Manager

- Attachments: Attachment "A" – Scope of Work  
Attachment "B" – Labor Hour Matrix  
Attachment "C" – Not Attached  
Attachment "D" – Allowable Direct Costs  
Attachment "E" – Fee Proposal  
Attachment "F" – Not Used  
Attachment "G" – Not Attached  
Attachment "H" – Not Used  
Attachment "I" – Cost Matrix and Summary  
Attachment "J" – Not Attached  
Attachment "K" – Minor Subconsultant Hourly Rate Schedule  
Attachment "L" – Contractor Safety Standards  
Attachment "M" – Not Attached  
Attachment "N" – Not Attached

LDR:tk

**ATTACHMENT "A"**

**SCOPE OF WORK**

**Utility Water Planning Study at Plant Nos. 1 and 2**

**Project No. PS23-05**

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## I. SUMMARY

This Scope of Work (SOW) requests engineering services to evaluate and make recommendations for the City Water Pump Stations (CWPS) at Reclamation Plant Nos. 1 and 2, as well as the Plant Water Pump Station (PWPS) at Plant No. 1.

## II. BACKGROUND, GENERAL PROJECT DESCRIPTION, AND OBJECTIVES

### BACKGROUND

The Orange County Sanitation District (OC SAN) utilizes various water systems for different purposes throughout the plants. The plant water (PW) system is sourced from secondary effluent. The secondary effluent is disinfected with sodium hypochlorite and filtered through coarse filters (strainers) before being supplied as plant water. Plant water is used for a variety of process applications – seal water, wash-down, cooling, and process supply.

The domestic (potable) water system is provided by the local city jurisdiction (City of Fountain Valley for Plant No. 1 and City of Huntington Beach for Plant No. 2). An air gap tank, as required by state law, is used to keep the incoming potable water supply isolated from onsite usage throughout the plants.

The domestic water serves two purposes: potable water and industrial water applications. Typical uses for potable water include fire protection, emergency shower and eye-wash stations, kitchen facilities, and restrooms. Typical uses for industrial water include chemical and polymer mixing, boiler makeup water, etc. Industrial water is isolated from the potable portions of the domestic water by utilizing onsite backflow prevention devices at each feed. Table 1 provides a summary of water usages for each system.

Usage <sup>1</sup>	Potable	Industrial <sup>2</sup>	Plant Water
Potable Uses (sink faucets, toilets)	X		
Eyewashes, Safety Showers	X		
Fire Hydrants	X		
Irrigation	X (North of Perimeter Road)		
Boiler Makeup Water		X	
Hot Water Loop		X	
Polymer Mixing		X	
Pump Seals			X
CENGEN Cooling			X
Scrubbers			X
Digester Gas Compressor Cooling			X
Scum Sprays			X
Chemical Mixing		X	

Centrifuges			X
<sup>1</sup> Plant No. 2 has primarily the same usages for industrial water. No changes for potable water. <sup>2</sup> Industrial water feeds through a backflow prevention device before discharge into process areas.			

**Table 1 Water Usages by System**

**City Water Pump Station at Plant No. 1**

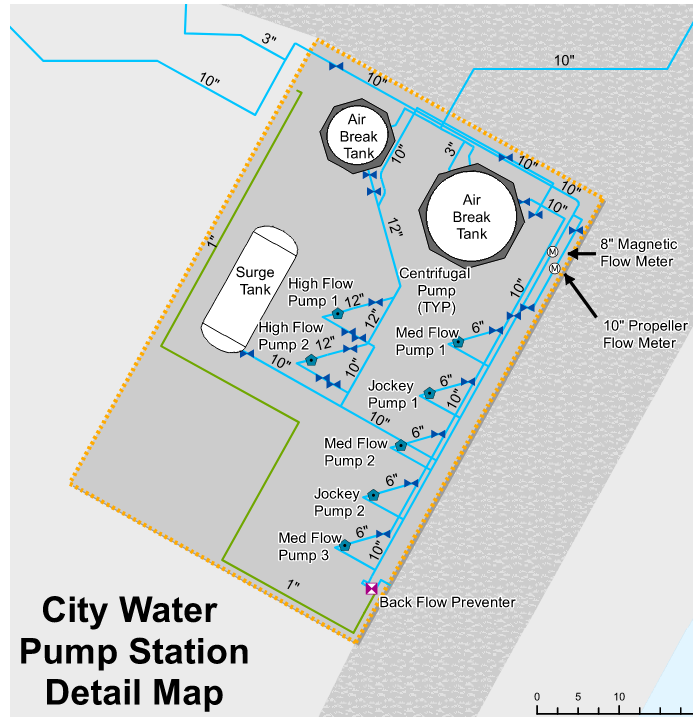
The CWPS at Plant No.1 was built in 1989 (then upgraded in 1992 under Project P1-34-1 and in 1995 under Project P1-38-5) and is located adjacent to the Plant No. 1 main entrance on Ellis Avenue, in Fountain Valley. Potable water is supplied by the City of Fountain Valley’s 16” water main located along Ellis Avenue. The CWPS consists of seven horizontal split case double suction centrifugal pumps (two-125hp high flow @2200gpm, 3-30hp medium flow @320gpm, 2-15hp low flow jockey @90gpm). The original CWPS was designed to meet a peak pumping capacity of 3400-gpm (at operating pressure of 80psi). However, actual flow rates were measured to be 2100 gpm due to flow restrictions at the control valve used to modulate flows into the air gap tanks.

A hydropneumatics tank (3,700 gal) is used to store water, maintain the pipe network pressure between 65-80psi, and protect the pipe network.

Existing power distribution is provided by 480V switchgear located near the CWPS that feeds two 480V motor control centers (MCC)s located in the electrical room within the CWPS.

The medium and high flow pumps are controlled by variable frequency drives (VFD)s while the jockey pumps are operated with constant speed starters. A local programmable logic controller (PLC), connected to the plantwide SCADA, is used to control the pump sequence based on flow and pressure levels.





**Figure 1 - Schematic of Plant No. 1 CWPS Green line denotes industrial flow. Light blue is potable flow.**



**Figure 2 - 6400-Gallon Air Gap Tank Inside the CWPS at Plant No. 1 The second tank (3000-gallon) is not shown.**



**Figure 3 - High Flow and Medium Flow Pumps at Plant No. 1 CWPS**

### **City Water Pump Station at Plant No. 2**

The CWPS at Plant No.2 was built in 1995 (under project P2-46) and is located adjacent to the Plant No. 2 main entrance on Brookhurst Street in Huntington Beach. Potable water is provided by the City of Huntington Beach's 16" water main located along Brookhurst Street. The CWPS consists of seven horizontal end suction centrifugal pumps (two-150HP high-flow @90gpm, three-30HP medium flow @350gpm, and two-10HP jockey pumps @2250gpm). The original CWPS was designed to meet a peak pumping capacity of 3600gpm. However, when the lead and lag 150-hp pumps are both running the peak flow rate becomes 4500gpm to meet fire flow demands.

Existing power distribution is provided by 480V switchgear located near the CWPS that feeds two 480V MCCs located in the electrical room within the CWPS. Surge arrestors are used to minimize water hammer conditions and to maintain constant system pressure.

The medium and high flow pumps are controlled by VFDs while the jockey pumps are operated with constant speed starters. A local PLC, connected to the plantwide SCADA, is used to control the pump sequence based on flow and pressure levels.

The CWPS do not work in conjunction with one another and should be considered to operate separately from one another.

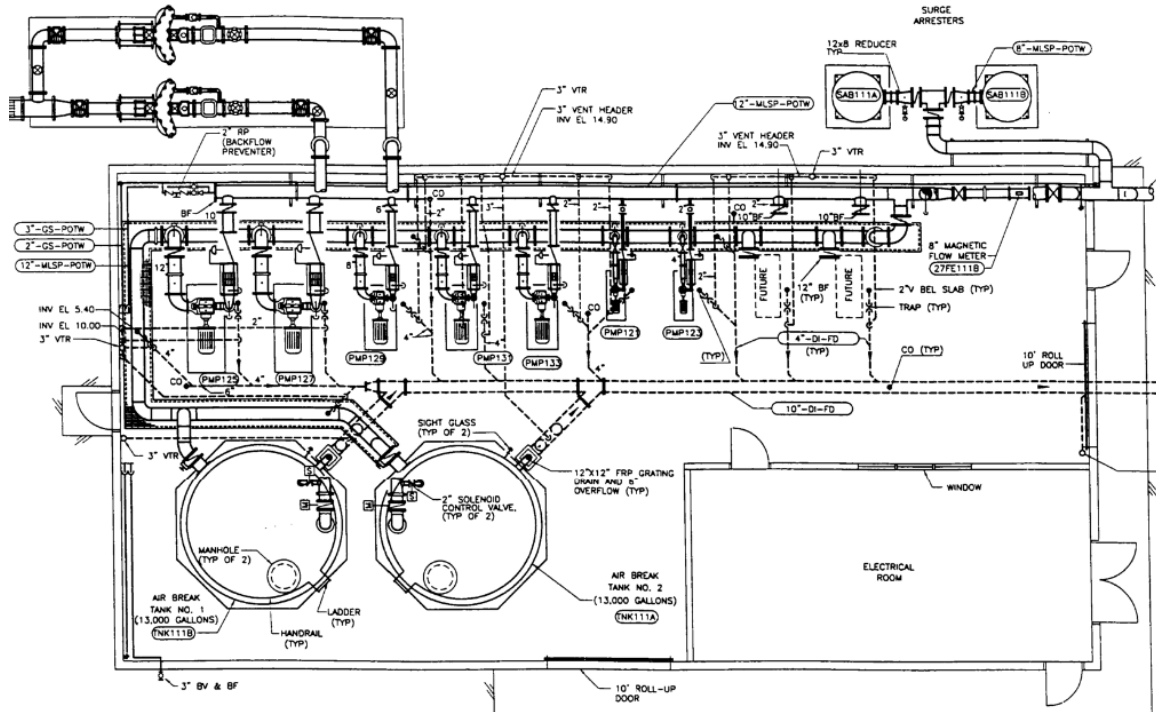


Figure 4 - Mechanical Plan for Plant No. 2 CWPS



Figure 5 - High Flow and Medium Flow Pumps at Plant No. 2 CWPS



**Figure 6 - Two 13,000-Gallon Air Gap Tanks at Plant No. 1 CWPS**

### **Plant Water Pump Station at Plant No.1**

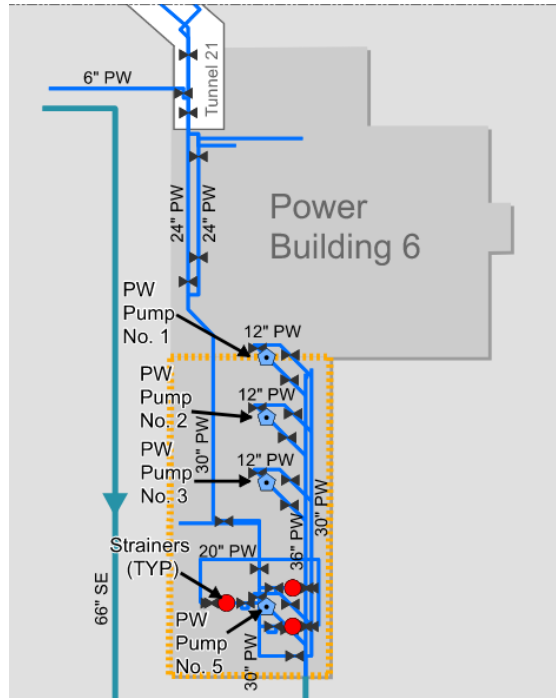
The PWPS at Plant No.1 was built in 1989 (under P1-34-2 and upgraded in 2010 under J-109) and is located in the southeastern corner of the plant adjacent to the secondary clarifiers. The pumps, equipment pads, suction and discharge piping are all located in a room below ground level (accessible through Tunnel 21 and Power Building (PB) 6) and an equipment hatch to the pump room is available for maintenance.

The PWPS receives secondary effluent flows from the secondary clarifiers and discharges the effluent through strainers before distribution into the plant system. The strainers are located at ground level above the pump room, which is in the basement. Backwash from the strainers is drained into the Primary Effluent Pump Station (PEPS).

The PWPS consists of four horizontal split case, double suction centrifugal pumps (4-400hp @3900gpm), 3 basket strainers, and a disinfection system. The PWPS was designed to meet a peak pumping capacity of 14,600-gpm at 125psi (J-109 TM3A).

Existing power distribution to the 400hp pumps is provided by 480V switchgear located in PB 6 adjacent to the PWPS. The pumps are controlled by VFDs. In addition, two 480V MCCs located in the electrical room within the PWPS feed ancillary equipment.

The PWPS at Plant No. 2 is currently under construction and is not part of this study.



**Figure 7 - Schematic for PWPS**



**Figure 8 - PWPS Strainers**



**Figure 9 - Pump Room of PWPS**

As the treatment plants increased in service area and quantity of wastewater treated, the focus has been on maintaining the pump stations (both CWPS and PWPS) to keep them in service without significant upgrades or development to meet current or future demands. Vulnerabilities have been identified over the years and will require major capital efforts to improve reliability and performance. They include:

- The pump stations were originally designed for a hydraulic system and design flows that have changed since their construction. For example, several large capital projects have come online within the past decade and new projects are currently in construction to upgrade the processes (P1-105 Headwork Improvements at Plant No. 1; and P2-92 Sludge Dewatering and P2-98A Primary Clarifiers at Plant No. 2). Efficiency and capacity has most likely been lost. The PWPS has been in operation for approximately 15 years since its last upgrade. The CWPS (both plants) have been in operation for approximately 30 years since their last upgrade.
- The PWPS (at Plant No. 1) has experienced significant pump downtime which has impacted the plant processes. Pumps are frequently removed from service to rebuild them. Premature impeller failure and pump leaks are not uncommon.
- The reclaimed water system is often relied upon to meet process demands during planned outages for the PWPS. Reclaimed water is sourced from outside the plant and is more expensive to use compared to plant water. Maintaining the plant water feed is highly desirable from an economic standpoint given that plant water is generated from the plant treatment process. Expanding the plant water feed source to include effluent from Secondary Clarifiers Nos. 27-34 should be considered. Refer to Figure 9 above.



**Figure 10 - Secondary Clarifiers Nos. 1-26 (odd) currently feed into the PWPS.**

- Staff does not have adequate safeguards in place when the potable water system requires extended outages involving the CWPS (Plant Nos. 1 and 2). Shutdowns for routine equipment maintenance impacts services to process areas, fire protection, and emergency fixtures (e.g. eyewash stations are unavailable during potable water system outages). Lack of reliability and consistency for extended periods of time make outages difficult to plan for and must be scheduled several weeks ahead of time.
- The PWPS and strainers are not easily accessible for maintenance. The strainers are underneath the platform and difficult to reach. Staff will use at least two cranes (spider crane and telescopic crane) to remove pumps from the basement.
- A plant water study was recently completed for Plant No. 1. OC SAN is considering water quality improvements recommended by the PS20-09 Final Study Report.
- OC SAN is currently transitioning to a new plantwide SCADA system using ABB controllers. The current PLC and remote inputs /outputs (RIO) panels use Modicon based IO modules for controls. The study will consider upgrading the pump stations to the new network communication system.
- Lack of compliance with current OC SAN design requirement (all disciplines).

- Accessibility and safety were not designed into the pump stations. For example, the bridge crane for the PWPS is not accessible to the pump equipment inside the basement. The CWPS (both plants) does not have an internal bridge crane for maintenance usage.

Additional technical information for the pump stations is available in the Exhibits of this SOW.

## GENERAL PROJECT DESCRIPTION

The objective of this study is to provide a Final Report with recommendations to either rehabilitate or replace the pump stations such that the improvements will provide safe, reliable, and maintainable facilities for another 20 years or more.

The study will evaluate multiple disciplines for improvement including mechanical, structural, architectural, heating, ventilation and air conditioning (HVAC), and plumbing. Electrical, instrumentation and controls, and ancillary systems (security, safety) are also part of this study.

Geotechnical, seismic, and pipeline network (outside the area of the pump stations) are excluded from this study. Reclaimed water systems are also excluded from this study.

The study also seeks recommendations to procure (or rent) portable, self-contained facilities (e.g. emergency eyewash and showers, restrooms) that could be used during extended outage periods. Currently, potable water system outages occur between Friday and Monday mornings.

Conceptual designs for feasible alternatives will be developed to supplement the tasks. A lifecycle cost analysis will be required to validate OC SAN's decision-making process.

The study will also examine if other issues are present at the pump stations that should be evaluated to keep the pump stations operating in a reliable and efficient manner.

## III. PROJECT SCHEDULE

Table 2 below lists the time frames associated with each major project deliverable and with OC SAN's review and approval of those deliverables. The CONSULTANT shall comply with the deadlines indicated in this table.

**Table 2 – Project Milestones and Deadlines**

MILESTONE	DEADLINE
Kickoff Meeting	The kickoff meeting will be scheduled to coincide with the Project Notice to Proceed (NTP).
Submit Draft Technical Memorandum 1 (TM 1)	120 workdays from the Project NTP.
OC SAN Review of Draft TM 1	15 workdays from receipt of Draft TM 1
Submit Draft Technical Memorandum 2 (TM 2)	40 workdays from receipt of OC SAN comments on Draft TM 1.



**Table 2 – Project Milestones and Deadlines**

<b>MILESTONE</b>	<b>DEADLINE</b>
OC SAN Review of Draft TM 2	15 workdays from receipt of Draft TM 2
Submit Draft Technical Memorandum 3 (TM 3)	40 workdays from receipt of OC SAN comments on Draft TM 2.
OC SAN Review of Draft TM 3	15 workdays from receipt of Draft TM 3
Submit Draft Project Report	25 workdays from receipt of OC SAN comments on Draft TM 3.
OC SAN Review of Draft Project Report	20 workdays from receipt of Draft Project Report
Submit Final Project Report	20 workdays from receipt of OC SAN comments on Draft Project Report.
OC SAN Review of Final Project Report	15 workdays from receipt of Final Project Report
Submit Final Project Report	10 workdays from receipt of OC SAN comments on Final Project Report.
<b>Total</b>	335 workdays

OC SAN will consider an alternative CONSULTANT-proposed schedule provided it is consistent with OC SAN resources and schedule constraints and adds value to OC SAN.

#### **IV. PROJECT EXECUTION**

##### **TASK 1 – CITY WATER PUMP STATION AT PLANT NO. 1**

**Major Deliverable:**

- Summarize findings and recommendations for all subtasks outlined below into a Technical Memorandum 1 (TM 1). Supporting documentation (photos, videos, appendices, data sheets, etc.) will be included. Provide TM 1 in searchable PDF format with bookmarks.

## **TASK 1.1 – COLLECT DATA AND REVIEW DOCUMENTATION**

The CONSULTANT shall gather information and review all applicable documents (refer to the Exhibits of this SOW) including:

- Record Drawings from P1-34-1, P1-38-5, P2-46, J-109
- J-109 TM3A. Upgrades to the PWPS at Plant No. 1 are described, as well as process flow demands.
- GIS Maps. Piping networks are shown for plant and potable water systems.
- 2017 Facilities Master Plan.
- 2009 Potable Water Assessment at Plant No. 1.
- PS20-09 TM 4. Results of the Plant Water Quality Study at Plant No. 1.
- PS15-06 – Seismic Recommendations
- Interviews with OC SAN Operations and Maintenance (O&M) staff

The information provided shall be used for planning and executing the work as part of the study and should not be relied upon to prepare the final recommendations. Information not included in the Exhibits will be made available after NTP.

## **TASK 1.2 – SITE INVESTIGATIONS AND ASSESSMENTS**

A comprehensive condition assessment will be made for the CWPS. The assessments will be completed to identify current conditions of the CWPS equipment and components, investigate deficiencies, and make recommendations to repair, rehabilitate, or replace. OC SAN staff must be onsite during all site visits.

Key objectives include:

- Perform thorough investigations of the CWPS from all technical disciplines
- Identify signs of wear, damage, or deterioration (corrosion)
- Assess the performance and reliability of the CWPS
- Evaluate the accessibility of equipment and compliance with OC San Engineering Design Guidelines
- Identify potential safety hazards and compliance with safety regulations
- Documentation of existing CWPS conditions using video, photographs, sketches/drawings

For the mechanical assessments, non-destructive testing methods such as ultrasound thickness testing will be considered, in addition to visual inspections for detection of defects, leaks, and corrosion.

Structural condition assessment will be done by visual inspections only. Concrete cores are not anticipated for this effort.

For the electrical assessments, the CONSULTANT will perform visual inspections for all power, control and signal wiring, conduits, MCCs, grounding and ancillary devices. Assessments will also include an evaluation of current electrical capabilities to determine if additional electrical capacity/equipment is required in case normal equipment is taken down for maintenance. Emergency backup equipment shall also be considered in this effort.

For the instrumentation and controls, evaluate the current Modicon based controllers (PLC and RIO) from the standpoint of upgrading to OC SAN's current preferred vendor, ABB. Evaluate current networking equipment to support future plantwide SCADA system.

For the site assessment, perform a visual inspection of the site surrounding the CWPS to consider the need for grading, paving and drainage improvements. Positive surface drainage for stormwater runoff will be evaluated for conveyance away from the CWPS. Surface water should not be allowed to pond adjacent to the CWPS. Topographic survey is not part of this study.

Prior to starting the work, a work plan for the assessments will be developed and submitted to define the field activities involved, including tests and measurements to take, safety requirements, outage and lock-out / tag-out (LOTO) coordination with OC SAN staff (mechanical and electrical), schedule and sequence of activities, and roles for each team member.

**Deliverables:**

- Kickoff meeting for assessments
- Work plan of assessments
- Detailed report of findings from condition assessments, including condition ratings and remaining useful life estimates

**TASK 1.3 – PUMP PERFORMANCE TEST – NOT USED**

The CONSULTANT is to assume pumps will be replaced in a future project. Hours for conducting a pump performance test will be allocated as an optional task for future consideration.

Pump performance tests will be carried out to verify actual output of the existing centrifugal pumps and prepare a comprehensive report describing results and analysis and potential failure modes. Net positive suction head (NPSH) testing will be conducted by suction valve throttling method. Hydraulic Institute standards will be used as a reference to define acceptable test procedures, data collection methods, and analysis.

Key objectives include:

- Conduct onsite pump tests and inspections including performance, NPSH, and mechanical tests according to American National Standards Institute (ANSI) /HI 14.6 standards including its appendices
- Collect pump data to formulate calculations and plot performance curves to help understand pump operating characteristics. NPSH, flow, and head curves should be expected at a minimum
- Verify if existing pumps are operating at an appropriate NPSH margin according to ANSHI/HI 9.6 guidelines
- Identify pump deficiencies and their causes
- Prepare an evaluation of the pump's hydraulic performance in a report
- Provide recommendations on how deficiencies may be corrected

It is recognized that performing on-site pump tests are not intended to match factory testing done at the manufacturer's site. The CONSULTANT will advise OC SAN on what are

acceptable tolerances and when deviations will need corrections. Design criteria will be established for the rated flows during development of test procedures.

The CONSULTANT shall provide calibrated test equipment and instruments prior to start of tests.

Prior to starting the work, a work plan will be developed and submitted for review to describe pump test procedures, safety considerations, schedule and sequence of activities, outage and LOTO coordination with OC SAN staff, safety requirements, and roles of each team member.

**Deliverables:**

- Kickoff meeting to discuss pump tests
- Work plan
- Pump evaluation report

**TASK 1.4 – HYDRAULIC MODELING**

Develop a hydraulic model (model) for the CWPS. The model will be used to identify deficiencies or constraints, evaluate pump and system performance, and make recommendations to optimize the system performance. The model will be done under steady state conditions.

The pipe network system does not require to be evaluated for modeling at this time.

Key objectives include:

- Develop a detailed hydraulic model of the CWPS, including all key mechanical components such as pipes, pumps, valves, etc.
- Calibrate the model to match system behavior under different demand conditions
- Examine how the system would be impacted by future modifications or projects

The model will be built using existing drawings collected and from field investigations conducted. Data collection efforts will include pipe characteristics such as diameter, lengths, materials, roughness coefficients, and elevations; historical and current flow and pressure data; pump and valve types.

The model will be calibrated to compare the model results to actual flow and pressure data. The model should match as closely as possible simulated and recorded data.

The hydraulic analysis will simulate system performance at different operational scenarios such as peak demand, low flow, and fire flow conditions. The analysis will also evaluate impacts due to future water demand (refer to the Facilities Master Plan for future projects planned). Different operating strategies (e.g. pump configurations, pressure setpoints, etc.) will be examined to review the most effective operating mode.

**Deliverables:**

- Summarize the findings in a hydraulic analysis report. The report shall present modeling methods and development, results of the hydraulic analysis, conclusions and

recommendations. All assumptions, alternative scenarios, parameters, advantages and disadvantages, should be presented in the report.

- Fully developed and calibrated hydraulic model of the pump station, including electronic files in InfoWorks format
- Workshop to present findings and recommendations

### **TASK 1.5 – EVALUATION OF ALTERNATIVES**

Develop alternatives to evaluate the need for repairs, rehabilitation, or replacement work. OC SAN does not have a preferred alternative and will assume that the CONSULTANT will develop the alternatives according to its own merits and using the information gathered during the investigations outlined in this SOW.

The CONSULTANT shall develop a ranking system to assist in evaluating the alternatives. The ranking system will take into account criteria such as:

- Accessibility to facilities
- Compliance to safety standards
- Operational and maintenance needs
- Impacts to existing operations (e.g. duration and outages necessary to carry out the recommended work)
- Constructability
- And any other criteria deemed recommended by the CONSULTANT and agreed to by OC SAN

If determined necessary to aid in decision making of the alternatives, the CONSULTANT shall prepare a life cycle cost analysis (LCCA) that will be based on total cost of ownership over 20 years. The LCCA will take into account all relevant costs, including:

- Construction costs
- Professional design services costs (for the future follow-up projects)
- Operation and maintenance costs (e.g. parts, labor, power, and other applicable costs over project lifetime)
- Recurring repair and/or replacement costs (e.g. some equipment is replaced more frequently than others depending on usage and remaining service life), and
- Energy consumption costs

The CONSULTANT will facilitate a workshop with OC SAN to assist in the selection of three alternatives.

#### **Deliverables:**

- List of criteria for ranking alternatives. Rankings should be clearly outlined and weighted.
- LCCA
- Report of alternatives evaluated, including narratives for each alternative with descriptions outlining key concepts, rationale, advantages, and disadvantages
- Workshop

## **TASK 1.6 – CONCEPTUAL DRAWINGS**

Develop conceptual drawings (drawings) for the preferred alternative. Drawings will be depicted at a 10% level of detail to demonstrate the design intent and to validate the feasibility of the design elements. Details will be limited to show only key specific dimensions. The following types of drawings will be expected to help facilitate OC SAN's acceptance of the most optimal alternative:

- Process Flow Diagram.
- Conceptual Site Drawings. Depicting the project's overall layout of the CWPS and surrounding area, including the building footprint, pump and electrical rooms, driveways and access roads, and major site features. Above ground utilities will be shown.
- Conceptual Pump and Electrical Room Drawings. Simplified representation of all major mechanical components including pumps, motors, tanks, piping, and valves. All field panels shall be shown.
- Conceptual Mechanical Plan View Drawings. Simplified representation of piping system and equipment.
- Conceptual Sections and Elevations including depicting the exterior appearance of the CWPS. Appropriate vertical cuts to illustrate equipment locations and proximity to other equipment, and appropriate dimensions.
- Electrical Schematics, Single Line Diagrams, and Process and Instrument Diagrams are not required.

For the CWPS only, the CONSULTANT shall also determine how a bypass pipe system (piping, valves, points of connection, etc.) could be installed within the CWPS pipe network. The current pipe network does not contain a bypass to allow OC SAN staff to divert flows for maintenance. The existing procedure requires the entire CWPS to be taken out of service.

### **Deliverables:**

- Conceptual drawings

## **TASK 1.7 - TEMPORARY POTABLE WATER FIXTURES**

Develop a cost estimate for the rental costs associated with temporary potable water fixtures, including eye showers and hand wash stations, portable bathrooms, and showers. Identify what are the typical staffing needs during a typical weekend shift. The cost estimate will consider staffing at Plant Nos. 1 and 2. A minimum of three vendors shall be identified for potential procurement.

### **Deliverable:**

- Summarize findings and recommendations

## **TASK 2 – CITY WATER PUMP STATION AT PLANT NO. 2**

### **Major Deliverable:**

- Summarize findings and recommendations for all subtasks into a Technical Memorandum 2 (TM 2). Supporting documentation (photos, videos, appendices, data

sheets, etc.) will be included. Provide TM 2 in a searchable PDF format with bookmarks.

### **TASK 2.1 TO 2.6 – CITY WATER PUMP STATION AT PLANT NO. 2**

Implement Tasks 2.1 through 2.6 (similar to Tasks 1.1 - 1.6 [excluding Task 1.3]), for the CWPS at Plant No. 2.

### **TASK 3 – PLANT WATER PUMP STATION AT PLANT NO. 1**

#### **Major Deliverable:**

- Summarize findings and recommendations for all subtasks into a Technical Memorandum 3 (TM 3). Supporting documentation (photos, videos, appendices, data sheets, etc.) will be included. Provide TM 3 in a searchable PDF format with bookmarks.

### **TASK 3.1 TO 3.6 – PLANT WATER PUMP STATION AT PLANT NO. 1**

Implement Tasks 3.1 through 3.6 (similar to Tasks 1.1 - 1.6 [excluding Task 1.3]), for the PWPS at Plant No. 1, except as noted below.

For Task 3.5, the CONSULTANT shall assume pumps will be replaced in a future project. Hours for conducting a pump performance test will be allocated as an optional task for future consideration.

For Task 3.6, develop four alternatives to show the conceptual designs, which will include three concepts focusing on a new PWPS layout. The new layouts will be prepared with a focus on separate locations from where the existing PWPS is located. Level of detail and drawing types will be similar to Task 1.6.

### **TASK 4 – FINAL REPORT**

The CONSULTANT shall prepare both a draft and final Planning Study Report outlining the findings and recommendations of the project. The report shall include information prepared for Tasks 1 to 3.

### **TASK 5 - PROJECT MANAGEMENT**

The CONSULTANT shall be responsible for managing the CONSULTANT's project execution, schedule, budget, Subconsultants, and coordination with other projects. The CONSULTANT shall be responsible for managing all subconsultants, including the assignment of scope, management of deliverables and schedules, reporting of progress, invoicing, and quality control.

#### **TASK 5.1 – PROJECT MANAGEMENT PROGRESS MEETINGS**

The CONSULTANT shall prepare an agenda and conduct monthly project management meetings with OC SAN's Project Manager and the CONSULTANT's Project Manager. The purpose of the meetings will be to review the CONSULTANT's overall project progress and

monthly Progress Report. Other meetings shall be scheduled on an as-needed basis.

## **TASK 5.2 – PROJECT SCHEDULE**

The CONSULTANT shall create a detailed project schedule. The schedule shall include milestones for all dates listed in Section III – Project Schedule. The schedule shall be based on the same work breakdown structure (WBS) used for estimating earned value as described in “Progress Reports” below. Schedule updates shall be submitted with the monthly Progress Report.

At a minimum, the schedule shall indicate the following:

- Projected start date and finish date for each activity
- Each project task and subtask in the WBS with predecessors and successors
- Major meetings and workshops
- Physical percent complete for each activity in the WBS, and percent complete by Phase

The CONSULTANT shall prepare planned, actual and earned value curves for the Baseline Schedule and for monthly updates. Monthly updates shall also include Cost Performance Index (CPI) and Schedule Performance Index (SPI) calculations.

## **TASK 5.3 – PROJECT LOGS**

The CONSULTANT shall produce and maintain on at least a monthly basis the following logs through the course of the project:

Project Decision Log. The Project Decision Log shall track decisions made during workshops and meetings, and as a result of OC SAN review of deliverables. The log shall include the date of the decision, the title of the meeting where it was made (if applicable), a description of the decision, and a brief summary of the impacts.

Action Item Log. The Action Item Log is used to track action items generated during meetings. Action items may only be assigned to members of the OC SAN or CONSULTANT teams. If action is required by a different party, the action item shall be assigned to the person on the team to track who will track the action item with that person. The Action Item Log is not intended to include normal CONSULTANT tasks, nor to include comments on deliverables. The Action Item Log shall include a tracking number (typically coded to the date), a date it was created, a description of the action required, the lead person, and the date it was resolved. If action is required by more than one person, the person who will be asked to coordinate that action shall be listed.

Meeting Log. See Task 6 Meetings and Workshops.



## **TASK 5.4 – PROGRESS REPORT EMAILS**

The CONSULTANT shall submit monthly progress reports at the same time as monthly invoices. The report will come in the form of an email, no more than 2-pages in length.. Include the following contents:

- Work activities completed to date, in the current reporting period, and projected for the coming month.
- A brief description of outstanding issues and their potential for impact on scope, schedule, budget, and quality.
- Potential changes in the project scope.
- Budget status including estimates of actual costs to date, earned value, costs to complete, and costs at completion.
- Schedule status with a description of any variances between scheduled and forecasted milestone dates.
- A discussion of corrective actions to be taken to avoid or mitigate cases where the project schedule is expected to be delayed.

## **TASK 5.5 – PROJECT INVOICES**

The invoices shall document the labor hours and billing rate for each person that works on the project. Overhead, profit, and any direct costs shall also be shown for each task. As part of the summary section of the invoice, the CONSULTANT shall also include the following information:

- Budget
- Current billing period invoicing
- Previous billing period “total invoiced to date”
- Budget Amount Remaining
- Current billing period “total percent invoiced to date”
- ETC for each Task & Subtask

Approval of an invoice by OC SAN requires a Progress Report for the period covered by the invoice. Payment of an invoice will be delayed until the Progress Report is submitted.

OC SAN will provide a sample invoice structure to the CONSULTANT at the beginning of the project.

## TASK 6 – MEETINGS AND WORKSHOPS

The CONSULTANT shall hold meetings and workshops throughout the project to keep OC SAN apprised of the work, review work-in-progress, share information, discuss project submittals, present findings of technical analyses, receive and resolve comments, and obtain decisions and direction by OC SAN staff. This task defines the major meetings and workshops to be held by the CONSULTANT. The CONSULTANT shall prepare agendas, minutes, meeting materials for all meetings and workshops.

The CONSULTANT shall assume the following meetings will be required during development of the planning study.

<b>Task</b>	<b>Number of Meetings/ Workshops</b>	<b>Proposed Topics</b>	<b>Consultant Attendance:</b>
N/A	<ul style="list-style-type: none"> <li>One 1-hr Project Kickoff Meeting</li> </ul>	--	<ul style="list-style-type: none"> <li>PM, PE, Tech leads</li> </ul>
1-5	<ul style="list-style-type: none"> <li>Three 1-hr Meetings</li> </ul>	<ul style="list-style-type: none"> <li>Pre-inspection/workplan meetings</li> </ul>	<ul style="list-style-type: none"> <li>PM, PE, Tech leads</li> </ul>
1-5	<ul style="list-style-type: none"> <li>Twelve 1-hr Meetings</li> </ul>	<ul style="list-style-type: none"> <li>Focus meetings with technical leads</li> </ul>	<ul style="list-style-type: none"> <li>PM, PE, Tech leads</li> </ul>
1-5	<ul style="list-style-type: none"> <li>Three 2-hr Workshops</li> </ul>	<ul style="list-style-type: none"> <li>TM 1, TM 2, TM 3</li> </ul>	<ul style="list-style-type: none"> <li>PM, PE, Tech leads</li> </ul>
6	<ul style="list-style-type: none"> <li>One 2-hr Workshop</li> </ul>	<ul style="list-style-type: none"> <li>Review draft report</li> </ul>	<ul style="list-style-type: none"> <li>PM, PE, Tech leads</li> </ul>
6	<ul style="list-style-type: none"> <li>One 1-hr Meeting</li> </ul>	<ul style="list-style-type: none"> <li>Review OC SAN comments on draft report</li> </ul>	<ul style="list-style-type: none"> <li>PM, PE, Tech leads</li> </ul>
1-9	<ul style="list-style-type: none"> <li>Eighteen 1/2-hr Meetings</li> </ul>	<ul style="list-style-type: none"> <li>Meet with OC SAN Project Manager and Project Engineer monthly to review progress</li> </ul>	<ul style="list-style-type: none"> <li>PM and PE</li> </ul>

The CONSULTANT shall transmit the minutes to the OC SAN Project Manager within three business days of the meeting in MS Word format using OC SAN's template, or an approved substitution. The monthly progress meetings and focus meetings will be virtual, with all other meetings being hybrid and/or in person, as accepted by the OC SAN Project Manager.

A copy of all comments on project issues obtained by the CONSULTANT from OC SAN staff without OC SAN's Project Manager's direct involvement shall be submitted for OC SAN's Project Manager's approval within three business days of receipt.

## **TASK 7 - QUALITY CONTROL**

The CONSULTANT shall be responsible for the technical adequacy and quality control of its work. Prior to the submittal to OC SAN, each portion of a submittal shall be thoroughly reviewed and corrected by a member of the CONSULTANT's quality control (QC) team.

The reviewer, an independent and senior staff person outside the project team, shall attest to their review in the form of a written affidavit outlining the submittal subject and identifying the corrected deficiencies. Markups of the documents demonstrating the QC process shall be provided when requested by OC SAN.

## **V. GENERAL REQUIREMENTS**

### **GENERAL**

#### **Working Hours**

Meetings with OC SAN staff shall be scheduled from Monday through Thursday between the hours of 8:00 AM and 4:00 PM. The CONSULTANT's on-site staff shall conform to OC SAN work schedules. The CONSULTANT shall refer to OC SAN's Engineering Design Guidelines, Chapter 01, Section 01.3.5 "CONSULTANT Inspection of Treatment Facilities" for further requirements.

#### **Software**

The CONSULTANT is expected to develop and provide the deliverables using the standard software currently approved for use by OC SAN.

Any software that the CONSULTANT needs to comply with these standards shall be purchased and maintained by the CONSULTANT at no additional cost to OC SAN. In the event OC SAN provides the CONSULTANT with access to OC SAN software and hardware at an OC SAN facility in order to facilitate performance of their work, all software shall remain the property of OC SAN. Only software licensed to OC SAN shall be installed on OC SAN equipment. In addition, only OC SAN's Information Technology Department staff will perform the installation of this software.

#### **Submittal Review using Bluebeam**

OC SAN has standardized on the use of Bluebeam Revu (Bluebeam) for reviewing and providing comments to PDF files. Prior to submitting electronic PDF files, format them as indicated below (underlined text refers to commands or functions within the Bluebeam software). See "Exhibit 14 Designer Training for Submission" and "OC SAN CAD Standards Manual" prior to submission.

1. Flatten file with Document\Flatten
2. Reduce file size with Document\Process\Reduce File Size
3. Make PDF searchable with Document\OCR
4. Create page labels with Thumbnails Toolbar\Create Page Labels
5. Create bookmarks with Create Bookmarks\Page Labels

6. Enable hyperlinks with File\Batch\Link\New

The PDF files will be hosted in a Bluebeam cloud-based studio session for review. See “SOW Exhibit 15 Designer User Training” for a detailed explanation on how Bluebeam will be used to provide, validate, and close submittal review comments.

1. The purpose of the studio session is to provide review and collaboration. The session provides multiple attendees, despite location, the opportunity to review and comment on the same PDFs in real time. All review actions are tracked and recorded.
2. OC SAN staff will create the Bluebeam studio session, invite attendees, configure, and manage the studio session.
3. Bluebeam provides reviewers with tools for annotating PDFs called a markup. OC SAN provides two toolboxes for annotating PDFs: "OC SAN Drawings Review" and "OC SAN Report Review."
4. Markups are both graphical and tabular. When the graphic markup is placed, corresponding tabular data are created. The collection of tabular data is considered the markup list.
5. The markup is automatically populated with various properties including author, sheet number, comment, markup type, etc. to make reviewing consistent. The tabular data within the markup list are hyperlinked to the graphical markup for back-and-forth viewing.
6. The markup list may be sorted or filtered. For example, filtering markups by author makes that attendee's markups more prominent on the page by dimming everyone else's markups.
7. Within a studio session, markups may only be modified by the markup author except for the Status data field using the "Set Status" command. OC SAN has customized this field for the reconciliation of comments and backcheck. Session attendees may "Reply" to the markup of other reviewers. Replying to a markup provides the responder the opportunity to explain how the markup will be incorporated.
8. The comment reconciliation steps are summarized below:
  - a. Reply – respond to OC SAN provided review comment with: **Agree, Disagree, or Flag for Discussion.**
  - b. Direct – meet with OC SAN to reconcile the non-agrees with either an **Incorporate** or **Do Not Incorporate** response. OC SAN will work with the CONSULTANT to ensure clear direction is provided.
  - c. QC Check – the CONSULTANT tells OC SAN that the comment has been addressed in the next submittal by responding with **Incorporated** or **Not incorporated.**
  - d. Backcheck – reconciliation of open and incorporated comments by OC SAN with an **Open** or **Closed** response.
9. A one-hour training session on the use of Bluebeam and custom status menu will be provided by OC SAN. All CONSULTANT team members responsible for QC and reconciliation of submittal comments shall attend.

## **VI. STAFF ASSISTANCE**

The OC SAN staff member or designee assigned to work with the CONSULTANT on this project is Omeed Pour at (657) 668-4527, email to: [Opour@ocsan.gov](mailto:Opour@ocsan.gov).

### **EXHIBITS:**

**Exhibit 1 – Location Map**

**Exhibit 2 to 13 – Not applicable**

**Exhibit 14 - Bluebeam Designer Training for Submission**

**Exhibit 15 - Bluebeam Designer User Training**

**Exhibit 16 - OC SAN Engineering Design Guidelines and Standards –**

[Document Central | Orange County Sanitation District \(ocsan.gov\)](#)

**Exhibit 17 - Project Reference Material**

1. J-109 TM3A Plant Water System Analysis and Modifications (May 2010)
2. P1-34-1 Drawings (1989). Contains original CWPS improvements.
3. P1-38-5 Drawings (1995). Contains CWPS upgrades.
4. P2-46 Drawings (1995). Contains CWPS drawings.
5. Plant 1 System Map Potable Water
6. Plant 1 System Map Plant and Reclaimed Water
7. Plant 2 System Map City Water
8. Potable Water Assessment (March 2009)
9. PS20-09 TM 4 (2024). Plant water study at plant 1.
10. PS15-06 – Seismic Recommendations
11. 2017 Facilities Master Plan - [Document Central | Orange County Sanitation District \(ocsan.gov\)](#)

AD:op