PROFESSIONAL DESIGN SERVICES AGREEMENT

This PROFESSIONAL DESIGN SERVICES AGREEMENT, (hereinafter referred to as "Agreement"), is made and entered into to be effective the 23rd day of July, 2025 by and between the ORANGE COUNTY SANITATION DISTRICT, (hereinafter referred to as "OC SAN"), and CDM Smith Inc., (hereinafter referred to as "CONSULTANT").

WITNESSETH:

WHEREAS, OC SAN desires to engage CONSULTANT for **Truck Loading Bay Odor Control Improvements at Plant No. 2**, **Project No. P2-140**; and to provide professional design services for the solids loading facility at Plant No. 2, which includes extending the existing bays and installing a second set of roll up doors, installing new personal doors to the truck loading bays, new supply fans to improve the air flow to the existing odor control units, and improved lighting, 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 design services and has proceeded in accordance with said procedures to select CONSULTANT to perform the Services; and

WHEREAS, at its regular meeting on July 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

CONSULTANT agrees to furnish necessary professional and technical 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, completeness, and coordination of all design, drawings, specifications, and other 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 laws, 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. CONSULTANT is responsible for the quality of work prepared under this Agreement and shall ensure that all work is performed to the prevailing standards of engineering practice for clarity, uniformity, and completeness. CONSULTANT shall respond to all of OC SAN's questions, comments, suggestions, corrections,

and recommendations (i.e., DS1, DS2, DS3, and FDS). All comments shall be incorporated into the design prior to the next submittal deadline or addressed, in writing, as to why the comment has not been incorporated. CONSULTANT shall ensure that each submittal is 100% accurate for the level of work submitted (i.e., correct references, terms, capitalization, or equal status, spelling, punctuation, etc.)

C. In the event that work is not performed to the satisfaction of OC SAN and does not conform to the requirements of this Agreement or any applicable industry standards, the CONSULTANT shall, without additional compensation, promptly correct or revise any errors or deficiencies in its designs, drawings, specifications, or other services within the timeframe specified by the Project Engineer/Project Manager. OC SAN may charge to CONSULTANT all costs, expenses and damages associated with any such corrections or revisions.

D. All CAD drawings, figures, and other work shall be produced by CONSULTANTS and Subconsultants using OC SAN CAD Manual. Conversion of CAD work from any other non-standard CAD format to OC SAN 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 approval of OC SAN.

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

E. The CONSULTANT shall ensure that all plans and specifications prepared or recommended under this Agreement allow for competitive bidding. The CONSULTANT shall design such plans or specifications so that procurement of services, labor or materials are not available from only one source, and shall not design plans and specifications around a single or specific product, piece of major equipment or machinery, a specific patented design or a proprietary process, unless required by principles of sound engineering practice and supported by a written justification that has been approved in writing by OC SAN. The CONSULTANT shall submit this written justification to OC SAN prior to beginning work on such plans and specifications. Whenever the CONSULTANT recommends a specific product or equipment for competitive procurement, such recommendation shall include at least two brand names of products that are capable of meeting the functional requirements applicable to the project.

F. All professional services performed by the CONSULTANT, including but not limited to all drafts, data, correspondence, proposals, reports, and estimates 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, (b) subsequently becomes publicly known to the CONSULTANT other than through disclosure by OC SAN.

2. COMPENSATION

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

A. Total Compensation

Total compensation shall be in an amount not to exceed Eight Hundred Ninety-Nine Thousand Eight Hundred Dollars ($899,800). Total compensation to 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 CONSULTANT, OC SAN shall pay to CONSULTANT a sum equal to the burdened salaries (salaries plus benefits) actually paid by CONSULTANT charged on an hourly-rate basis to this project and paid to the personnel of CONSULTANT. Upon request of OC SAN, 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 CONSULTANT, OC SAN shall compensate 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 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%. Addenda 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 CONSULTANT and Subconsultants, OC SAN shall pay profit for all services rendered by 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), 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, CONSULTANT may pay to Subconsultant total compensation on an hourly-rate basis per the attached hourly rate Schedule and as specified in the Scope of Work. OC SAN shall pay to 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 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 CONSULTANT actual costs for equipment rentals, leases or purchases with prior approval of OC SAN. Upon request, CONSULTANT shall provide to OC SAN receipts and other documentary records to support 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 CONSULTANT and its Contractor 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 Internal Revenue Service (IRS). The plan includes a combination of reimbursements based upon receipts and a “per diem” component approved by IRS. The most recent schedule of the per diem rates utilized by OC SAN can be found on the U.S. General Service 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 of 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.

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 OC SAN general 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 stay 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 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, CONSULTANT estimates the cost of performing the services described in CONSULTANT’s Proposal will exceed seventy-five percent (75%) of the not-to-exceed amount of the Agreement, including approved additional compensation, 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 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: 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. CONSULTANT shall allocate costs in the same manner as it would for payment requests as described in this Section of the Agreement. CONSULTANT shall warrant and certify the accuracy of these costs and understand that submitted costs are subject to Section 11 - AUDIT PROVISIONS.

B. CONSULTANT may submit monthly or periodic statements requesting payment for those items included in Section 2 - COMPENSATION hereof in the format as required by OC SAN. Such requests shall be based upon the amount and value of the work and services performed by CONSULTANT under this Agreement and shall be prepared by CONSULTANT and accompanied by such supporting data, including a detailed breakdown of all costs incurred and work performed during the period covered by the statement, as may be required by OC SAN.

Upon approval of such payment request by OC SAN, payment shall be made to CONSULTANT as soon as practicable of one hundred percent (100%) of the invoiced amount 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. 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 CONSULTANT of the work called for under the terms of this Agreement, and upon acceptance of such work by OC SAN, CONSULTANT will be paid the unpaid balance of any money due for such work, 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, 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 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 ten thousand dollars ($10,000) civil penalty for each false claim submitted. This Section shall also be binding on all Subconsultants.

A 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. CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION AND RECORD OF WAGES

A. To the extent 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, 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 Enforcement of the Department of Industrial Relations.

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 Regulation Section 16461(e).

6. DOCUMENT OWNERSHIP – SUBSEQUENT CHANGES TO PLANS AND SPECIFICATIONS

A. Ownership of Documents for the Services performed.

All documents, including but not limited to, original plans, studies, sketches, drawings, computer printouts and disk files, and specifications prepared in connection with or related to the Scope of Work or 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 CONSULTANT's 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. CONSULTANT shall not be responsible for damage caused by subsequent changes to or uses of the plans or specifications, where the subsequent changes or uses are not authorized or approved by CONSULTANT, provided that the service rendered by CONSULTANT was not a proximate cause of the damage.

7. 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 CONSULTANT to substitute any insurer whose rating drops below the levels herein specified. Said substitution shall occur within twenty (20) days of written notice to 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 Agreement (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, owners and contractors protective liability, 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, 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, and any other consultant, contractor, or subcontractor performing work or rendering services on behalf of OC SAN in connection with the planning, development, and construction of the project. In all its insurance coverages related to the work, 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, or any other consultant, contractor, or subcontractor performing work or rendering services at the project. Where permitted by law, 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. 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.

D. 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.

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

CONSULTANT shall maintain in full force and effect, throughout the term of this Agreement, standard industry form professional liability / errors and omissions insurance coverage with coverage limits of not less than Two Million Dollars ($2,000,000) 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 five (5) years from the date of the completion of the services hereunder.

In the event of termination of said policy during this period, CONSULTANT shall obtain continuing insurance coverage for the prior acts or omissions of CONSULTANT during the course of performing services under the terms 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 or omissions of CONSULTANT during the course of performing services under the terms of this Agreement.

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 ten (10) days prior to the expiration of each policy term.

G. Drone Liability Insurance

If a drone will be used, drone liability insurance must be maintained by CONSULTANT in the amount of one million dollars ($1,000,000) in form acceptable to OC SAN.

H. 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, complete, certified 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 Insured (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, 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.

I. 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 two (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 change in the terms of insurance, including reduction in coverage or increase in deductible/SIR, within two (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

J. 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 CONSULTANT.

K. Separation of Insured

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

L. 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 CONSULTANT may be held responsible for payment of damages to persons or property.

M. 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. At the option of OC SAN, either: the insurer shall reduce or eliminate such deductible or self-insured retention as respects OC SAN; or the CONSULTANT shall provide a financial guarantee satisfactory to OC SAN guaranteeing payment of losses and related investigations, claim administration and defense expenses.

N. 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.

O. 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.

P. 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 CONSULTANT.

8. 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. 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.

9. PROJECT TEAM AND SUBCONSULTANTS

CONSULTANT shall provide to OC SAN, prior to execution of this Agreement, the names and full description of all Subconsultants and CONSULTANT's project team members anticipated to be used on this project by CONSULTANT. CONSULTANT shall include a description of the scope of work to be done by each Subconsultant and each CONSULTANT's project team member. CONSULTANT shall include the respective compensation amounts for CONSULTANT and each Subconsultant on a per task basis, broken down as indicated in Section 2 - COMPENSATION.

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

10. ENGINEERING REGISTRATION

The CONSULTANT's personnel 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 requires the services of a registered engineer, such services hereunder will be performed under the direct supervision of registered engineers.

11. 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 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 CONSULTANT's compliance with all requirements under this Agreement during the term of this Agreement and for a period of three (3) years after its termination.

C. 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, 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.

12. LEGAL RELATIONSHIP BETWEEN PARTIES

The legal relationship between the parties hereto is that of an independent contractor and nothing herein shall be deemed to make CONSULTANT an employee of OC SAN.

13. 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.

Notices shall be mailed to OC SAN at:

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

Notices shall be mailed to CONSULTANT at:

CDM SMITH INC.
32 Discovery
Suite 250
Irvine, CA 92618
Attention: Alberto Acevedo, Vice President

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

14. TERMINATION

OC SAN may terminate this Agreement at any time, without cause, upon giving thirty (30) days written notice to CONSULTANT. In the event of such termination, CONSULTANT shall be entitled to compensation for work performed on a prorated basis through and including the effective date of termination.

CONSULTANT shall be permitted to terminate this Agreement upon thirty (30) days written notice only if 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 and/or CONSULTANT in accordance with Section 13 - NOTICES.

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

16. COMPLIANCE

A. Labor

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

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

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

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

17. AGREEMENT EXECUTION AUTHORIZATION

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

18. 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.

19. 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 it may be entitled.

20. PROGRESS REPORTS

Monthly progress reports shall be submitted for review by the tenth day of the following month and must include as a minimum: 1) current activities, 2) future activities, 3) potential items that are not included in the Scope of Work, 4) concerns and possible delays, 5) percentage of completion, and 6) budget status.

21. WARRANTY

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 CONSULTANT that any part of the services fails to meet those standards, 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, CONSULTANT shall indemnify, defend (at 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, consultants, 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 CONSULTANT in carrying out its obligations under this Agreement to the extent of the negligent, recklessness and/or willful misconduct of CONSULTANT, its principals, officers, agents, employees, CONSULTANT's suppliers, 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 CONSULTANT to indemnify the Indemnified Parties from any Claim arising solely 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 CONSULTANT's supplier, CONSULTANT, Subconsultant, subcontractor, nor anyone employed directly or indirectly by any of them.

Exceptions (A) through (B) above shall not apply, and 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.

CONSULTANT's liability for indemnification hereunder is in addition to any liability CONSULTANT may have to OC SAN for a breach by 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 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 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 CONSULTANT. Payment to 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 CONSULTANT for the reasonable costs of defending the Indemnified Parties against such claims.

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. CONSULTANT PERFORMANCE

The CONSULTANT's performance shall be evaluated by OC SAN. A copy of the evaluation shall be sent to the CONSULTANT for comment. The evaluation, together with the comments, shall be retained by OC SAN and may be considered in future CONSULTANT selection processes.

25. COMPLIANCE WITH OC SAN POLICIES AND PROCEDURES

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.

26. CLOSEOUT

When OC SAN determines that all work authorized under the Agreement is fully complete and that OC SAN requires no further work from 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. CONSULTANT shall submit all outstanding billings, work submittals, deliverables, reports or similarly related documents as required under the Agreement within thirty (30) days of receipt of notice of Agreement closeout.

Upon receipt of 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.

CONSULTANT shall be required to provide adequate resources to fully support any administrative closeout efforts identified in this 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.

27. 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 CONSULTANT by their respective duly authorized officers as of the day and year first written above.

CONSULTANT: CDM SMITH INC.

By _____ _____
Date

_____
Printed Name & Title

ORANGE COUNTY SANITATION DISTRICT

By _____ _____
Ryan P. Gallagher Date
Board Chairman

By _____ _____
Kelly A. Lore Date
Clerk of the Board

By _____ _____
Kevin Work Date
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

YP

ATTACHMENT “A”

SCOPE OF WORK

ATTACHMENT "A"

SCOPE OF WORK

Truck Loading Bay Odor Control Improvements at Plant No. 2

Project No. P2-140

Table of Contents

1. PROJECT REQUIREMENTS

1.0 SUMMARY

1.0.1 PROFESSIONAL DESIGN ENGINEERING SERVICES

A. Provide professional design engineering services for the project described herein including the following:

1. Preliminary Design Report
2. Permitting assistance
3. Preparation of bid documents

1.0.2 PROFESSIONAL LICENSING REQUIREMENTS

A. All plans and specifications shall be prepared by a professional engineer licensed in the State of California of the associated discipline.

B. CONSULTANT shall secure the services of a Professional Fire Protection Engineer licensed in the State of California to determine fire protection requirements, develop and prepare preliminary design documents, and prepare final plans and specifications.

1.1 BACKGROUND

Orange County Sanitation District (OC SAN) Plant No. 2 Solids Storage and Truck Loading facility, consisting of two biosolids storage bins (Bin A and Bin B), and two truck loading bays (Bay A and Bay B) under them, was built in 2000 by P2-60 Project. This facility stores and loads the biosolids produced from the solids dewatering process (centrifuges) to the contracted hauling trucks. The foul air from the storage bins combined with odorous air from the centrifuge dewatering process is treated by biofilters while the foul air from the truck loading bays is treated by Truck Loading Scrubbers A and B, two chemical scrubbers. These biofilter and chemical scrubbers were added when the existing dewatering centrifuge facility was built in 2019 by P2-92 and P2-92A Projects, respectively. In addition to adding scrubbers, P2-92A Project added one fast opening roll-up door at the north end of each loading bay. Assuming that the prevailing wind from the ocean would always blow into the building from the south, no door on the south end nor supply air was deemed necessary under P2-92A (i.e., no odor would escape from the south openings).

Despite addition of chemical scrubbers and north side door in 2019, OC SAN has been experiencing odor issues at the truck loading bays since the installation of dewatering centrifuges that replaced the belt-filter press dewatering at Plant No. 2. This issue resulted in conducting Planning Study PS20-03 in 2022 to evaluate the odor release at these loading bays and to develop solutions to mitigate it. PS20-03 concluded that the poor odor containment and capture were the cause of the odor issues at Plant No. 2 biosolids truck loading bays. Foul air continuously escapes from the south exit that has no door at each bay. The lack of south exit doors also allows natural breezes to sweep odors out of the bays when the north entrance door opens for trucks to enter the bays. The existing exhaust ducts do not effectively draw foul air from the entire space inside the bays, and the lack of negative pressure allows odors to escape. The solutions and corrective actions for these identified issues by PS20-03 formed the project elements of P2-140 Project.

1.2 GENERAL PROJECT DESCRIPTION

The primary purpose of this project is to resolve the odor capture and containment deficiency of truck loading bays odor control system at OC SAN Plant No. 2. This is achieved by adding a south truck exit roll-up door at each of the bays. To allow sufficient space for OC SAN staff and the biosolid truck drivers to walk around the trucks inside the bays (after adding the new roll-up doors and accounting for the existing site constraints such as tunnels) the project will extend each of the loading bays by 4 feet.

Enclosing the loading bays by adding the south roll-up doors also requires adding egress doors to each bay to allow the drivers and OC SAN staff to safely enter and exit the bays. As such, two egress doors will be added to the south and north end of each bay's exterior wall accounting for the existing site obstructions and constrains (total of 4 doors). To improve the collection of odors, the project will replace and reconfigure the existing ventilation ducts at both bays and will add supply air fans. The new duct systems and registers need to draw foul air from the lower and celling levels of the bays to eliminate any dead zones per recommendations provided in PS20-03 and pursuant to this study's smoke test results. A platform needs to be added between the bays to support the supply fans and ducts added by this project. This project will not impact the exhaust air duct system outside of the bays leading to the scrubbers.

Additional lighting needs to be added to the bays due to the reduction of natural light resulting from adding the south roll-up doors. The new lighting system includes wall mounted LEDs illuminating walkways around the trucks as well as emergency and exit lights. Adding new supply fans and rollup doors also requires modifying the existing MCCs to facilitate the new supply fans' motor starters and new roll-up door feeder breakers. Gas monitors and alarms also need to be added to each bay to address the safety requirements. Controls and instrumentation for the new equipment will be added and integrated with the existing control system.

Lastly, the project is expected to repair any concrete spalling and cracks at the truck loading facility. Figure 1 below illustrates the general boundary and scope of P2-140 project.

Figure 1. P2-140 Location Map

1.3 PROJECT EXECUTION PHASES

All OC SAN projects are divided into six phases. CONSULTANT shall provide engineering services for all Project Elements listed in this Scope of Work for the following Phases:

Phase 1 – Project Development (Not in this Scope of Work)

Phase 2 – Preliminary Design

Phase 3 – Design

Phase 4 – Construction (Not in this Scope of Work)

Phase 5 – Commissioning (Not in this Scope of Work)

Phase 6 – Close Out (Not in this Scope of Work)

1.4 DESCRIPTION OF PROJECT ELEMENTS

Detailed descriptions of the Project Elements are presented below.

1.4.1 PROJECT ELEMENT 1 – STRUCTURAL MODIFICATIONS/REPAIRS

A. The biosolid truck loading bay odor control project consists of the following structural modifications:

1. Truck loading bay extension of approximately 4ft at the south end to enclose all hauling truck types and to allow sufficient space to walk around the trucks.

2. Add a roll-up door at each truck loading bay south end (total of 2) to contain odors during and after truck loading.

3. Add two (2) egress doors at each truck loading bay (total of 4) for personnel and truck-drivers to safely enter and leave the truck loading bays.

4. Add roof level platform between the two bays (Bays A and B) to support supply fans and ducts if these fans cannot be located on the existing roof.

5. Repair any concrete spalling or cracks that need repair at the truck loading facility.

B. Assumptions for Level of Effort

1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:

a. The loading bay will be extended 4 ft due to site constraints (Tremblay Tunnel and space need for truck turn toward the facility exit gates). In other words, PS20-03's recommendation on the length of extension does not need to be reevaluated.

b. The truck bay extension will not have an impact on the scale since the truck will continue to park at the existing loading position; however, the procedures for entering and exiting the building need to be evaluated and modified due to the addition of the second roll-up door.

~~c.~~ Pursuant to PS20-03 recommendation, the egress doors are required to be on the truck driver's side wall of loading bay A and passenger's side wall of the loading bay B due to the obstructions blocking such doors on the interior walls (staircase and hydraulic power units).

d. It is OC SAN's understanding from similar project at Plant 1 that no fire alarm or sprinklers are required to be added to the bays.

e. It is OC SAN's understanding from similar project at Plant 1 that new building permits are not required for this project.

f. Installing the supply fans platform requires two openings cut out in the parapet to allow people to walk between the existing roof and the new platform.

g. The new platform height should be sufficient not to interfere with the hydraulic power unit, stairway to the operations room, and the restroom wall mounted exhaust fan below. The height also needs to account for the use of a crane to lift different components of the hydraulic units during its maintenance.

h. A phased approach needs to be employed to perform the construction of these structural elements to keep one bay operational at all times.

i. No temporary facility is expected to be required at this point due to loading bays redundancy, expectation on completion of all the necessary maintenance projects prior to P2-140 (e.g. screw conveyors or augers and scales repairs and replacements) and proposed phased construction approach by PS20-03. However, CONSULTANT should verify this assumption during PDR and assist with strategizing and preparing shutdowns and contingency plans in collaboration with OC SAN O&M.

1.4.2 PROJECT ELEMENT 2 – VENTILATION SYSTEM MODIFICATIONS

A. The biosolid truck loading bay odor control improvement project consists of the following ventilation improvements and modifications:

1. Replace and reconfigure the existing ventilation ducts inside the bays and tie the new ducts into existing air scrubber duct connections at the bay ceilings (both bays).

2. Install two (2) new supply air fans (one standby/one duty) and supply air duct systems.

B. Assumptions for Level of Effort

3. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:

a. PS20-03 recommended U shape exhaust collection duct system with collectors from the top to the bottom, and the supply air to push fresh air into the bays and sweep the odorous air toward the exhaust system to ensure complete capture and collection based on extensive testing. Assume no further testing is required during design. The results of the testing performed for this planning study and the recommended configuration will be used as the starting point of the design effort and further reviewed and evaluated in the PDR phase.

b. The current odor control system's air permit will need to be modified to include the supply fans. CONSULTANT (or their subconsultant) will prepare the permit modification application package including emission calculations, risk assessment, application forms, regulatory applicability analysis, and application narratives as applicable and implement OC SAN feedback and comments. Due to SCAQMD requiring 2 years to process air permit applications, the permit application needs to be prepared after completion of preliminary design phase and submitted to SCAQMD at the beginning of the design phase.

c. Installation of new duct work may require existing lighting fixtures to be relocated or replaced to avoid conflicts with other equipment at the ceiling area.

d. No additional building structural modifications are required for this project element.

1.4.3 PROJECT ELEMENT 3 – SAFETY, ELECTRICAL, AND CONTROL SYSTEM IMPROVEMENTS AND ADDITIONS

A. The following safety, control system, and electrical improvements and additions will be required as part of this odor improvement project:

1. Add emergency, security, and exit lighting at the egress doors pursuant to OC SAN requirements.

2. Add new lighting to illuminate walking areas.

3. Add carbon monoxide (CO) gas monitoring and alarm system inside the truck loading bays pursuant to OC SAN standards.

4. Add hydrogen sulfide (H_2S) gas monitoring and alarm system inside the truck loading bays pursuant to OC SAN standards if it is determined to be required in the preliminary design

5. Modify the existing and add new electrical system to feed the new equipment.

6. Add control and instrumentation for the new equipment and integrate them with the existing control system.

B. Assumptions for Level of Effort

1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:

a. It is OC SAN's understanding that only Carbon Monoxide (CO) monitoring and alarm system are required to be installed at the bays and that hydrogen sulfide (H_2S), and hydrogen (H_2) gas monitoring and alarm systems are not required for this improvement. These assumptions will be verified as part of the preliminary design tasks.

b. According to PS20-03 field assessment, MCC-SMB has sufficient space in the existing MCC to facilitate addition of a new motor starter for the Bay B supply fan and feeder breaker for the new Bay B roll-up door. MCC-SMA does not have adequate space for an 18" motor starter bucket; however, there is sufficient space to the left of MCC-SMA to install a new vertical section for the Bay A supply fan motor starter and roll-up door feeder breaker.

c. CONSULTANT is required to develop shutdown coordination table listing each shutdown event, duration, along with associated loads that will be impacted by each shut down and assist with the coordination of these events with OC SAN Operations and Maintenance groups (O&M).

d. New conduits required for the new truck bay equipment will be routed from the electrical room to the loading bays via the tunnel system used for existing conduits.

e. The traffic light (red or green light) immediately outside each bay south exist need to be relocated. The new location (inside or outside the bay) should be evaluated as part of the preliminary design phase.

1.4.4 COORDINATION WITH OTHER PROJECTS

A. The following projects may impact or require coordination with this project. The CONSULTANT shall coordinate with each project and incorporate work restrictions and requirements in the design documents.

1. **FE23-04, Truck Loading Scale Replacement at Plant No. 2.** This project will replace two truck loading scales at Plant No. 2. The construction phase of this project is currently ongoing and is expected to be completed by the end of 2024. As such, no coordination is anticipated between the two projects as this project is expected to be completed before P2-140 construction commencement in 2028.

2. **J-124, Digester Gas Facility Rehabilitation at Plant 1 and 2.** This project will rehabilitate the existing gas compressor facilities at both plants. This includes seismic upgrades to the gas compressor buildings, rehabilitation of electrical and I&C systems, and rehabilitation of other necessary auxiliary equipment. It will also replace the existing flares with low pressure ultra-low emission flares. The staging area of this project is adjacent to those of P2-140. The construction phase of this project is currently scheduled to start and finish in July 2027 and January 2032, respectively, which will completely overlap with construction of P2-140. Therefore, close coordination between these two projects is necessary.

3. **P2-128, Plant No. 2 Digester Replacement.** This project will build six new anaerobic digesters at Plant No. 2, to be initially operated in mesophilic mode to produce Class B biosolids product and designed for future thermophilic operation to produce Class A product.

Supporting facilities and equipment will include sludge pumping, heating, and mixing; odor control; power distribution; and instrumentation and controls. Future conversion to the thermophilic process as well as replacement and/or demolition of existing digesters will be part of a separate future project. The construction area of this project is adjacent to that of P2-140. The construction phase of this project is currently scheduled to start and finish in November 2028 and June 2036, respectively, which will completely overlap with construction of P2-140. Therefore, close coordination between these two projects is crucial**.**

4. **P2-138, Plant No. 2 Operations and Maintenance Complex.** This project will replace the Operations Center building and Maintenance building at Plant No. 2 in the location of the current Maintenance building and will build a new Maintenance cart barn south of the new building. The construction area of this project is adjacent to that of P-140. The construction phase of this project is currently scheduled to start and complete in June 2027 and August 2030, respectively, which will completely overlap with construction of P2-140. Therefore, close coordination between these two projects is essential.

1.5 DESIGN CONSIDERATIONS

The following design considerations shall be carried from Preliminary Design through Final Design.

1.5.1 TECHNOLOGY AND CONFIGURATION CHOICES

The project elements in this facility shall be achieved using proven technologies. Alternative means of accomplishing the project elements must be reviewed and accepted by OC SAN prior to detailed evaluation. All alternative technologies proposed should be currently operating in other wastewater treatment facilities of similar capacity.

1.5.2 DESIGN DECISIONS

Design decisions shall be agreed upon by OC SAN prior to any work being performed by the CONSULTANT in preliminary and detailed design. All design decisions shall be documented.

1.5.3 DESIGN SELECTION CRITERIA

A. Design selection shall consider construction, lifecycle, operation, and maintenance costs as well as process benefits and overall quality. When design recommendations are presented to OC SAN, the design selection criteria shall be clearly identified with the recommendation.

B. The life cycle cost analysis for the options proposed, shall include costs for engineering, construction, start-up, and operational and maintenance, and future rehabilitation and replacement. Life cycle cost analysis is described in Section 01.2.19 of the Engineering Design Guidelines. See **Exhibit 17 - OC SAN Engineering Design Guidelines and Standards – Available** online at Document Central | Orange County Sanitation District (ocsan.gov).

1.5.4 CONSTRUCTION COST ESTIMATE

A. The construction cost estimate shall be as described in the **Engineering Design Guidelines, Chapter 15 Construction Cost Estimates.**

1.6 PROJECT SCHEDULE

1.6.1 GENERAL

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

B. OC SAN's Project Manager will issue a Preliminary Design NTP. OC SAN's Project Manager will also issue a Final Design NTP upon OC SAN's acceptance of the final Preliminary Design Report.

C. The time frames specified below are used to estimate the actual milestone dates based on the assumed NTP date, as shown in **Exhibit 8 - Project Schedule Calculation**.

D. 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.

PROJECT MILESTONE AND DEADLINES	
MILESTONE	**DEADLINE**
Preliminary Design NTP /Kickoff Meeting	The kickoff meeting will be scheduled to coincide with the Preliminary Design NTP.
Submit draft Preliminary Design Report (PDR)	**135** workdays from the Preliminary Design NTP. CONSULTANT shall establish a schedule with the OC SAN PM for separately submitting working drafts of each Design Memo for OC SAN review prior to completing the draft PDR. This schedule shall factor in the logical sequence for completing the memos as well as both CONSULTANT and OC SAN resources.
OC SAN Review of draft PDR	**20** workdays from receipt of Draft PDR
Submit final Preliminary Design Report	**20** workdays from receipt of OC SAN comments on Draft PDR.
Final Design NTP	CONSULTANT's schedule shall allow **15** working days from submittal of the final PDR to receipt of the Design Phase NTP.
Submit Design Submittal 1 (DS1)	**45** workdays from Design Phase NTP.
OC SAN Review of DS1	**20** workdays from receipt of DS1
Submit Design Submittal 2 (DS2)	**120** workdays from receipt of OC SAN comments on DS1.
OC SAN Review of DS2	**20** workdays from receipt of DS2
Submit Design Submittal 3 (DS3)	**90** workdays from receipt of OC SAN comments on DS2.
OC SAN Review of DS3	**20** workdays from receipt of DS3
Submit Final Design Submittal (FDS)	**20** workdays from receipt of OC SAN comments on DS3. CONSULTANT shall stop work upon submission of DS3, except as required to participate in OC SAN meetings, until receipt of OC SAN comments on DS3.
OC SAN Review of FDS	**15** workdays from receipt of FDS
Final Technical Specifications and Plans	**20** workdays from receipt of OC SAN comments on FDS.

2. PHASE 2 – PRELIMINARY DESIGN

The preliminary design phase will define the project. The final deliverable of this phase will be a Preliminary Design Report (PDR) with the basis of design for all elements of the project.

2.0 PRELIMINARY DESIGN EXECUTION (NOT USED)

2.1 PREDESIGN EVALUTION STUDIES (NOT USED)

2.2 PRELIMINARY DESIGN PRODUCTION

2.2.1 GENERAL

A. Preliminary Design Report (PDR) production involves the preparation of design memos, drawings, calculations, and other supporting material resulting in the PDR.

2.2.2 DESIGN MEMOS

A. The CONSULTANT shall produce Design Memos as indicated with a check box below in accordance with **Exhibit 1 - Preliminary Design Report Requirements.** The CONSULTANT shall discuss the combining of design memos with OC SAN and develop a design memo submittal list.

☐**Process Design Configuration**
- ☐Design Configuration
- ☐Redundancy
- ☐Monitoring and Sampling
- ☐Process Flow Diagrams
- ☐Operating Philosophies
- ☐Site and Facility Layouts
- ☐Preliminary Load Criticality Ranking Table

☐**Hydraulic Analysis**
- ☐Static Analysis
- ☐Dynamic Analysis
- ☐ Dry Weather Calibration
- ☐ Wet Weather Calibration
- ☐ Design Storm Choice Sensitivity Analysis
- ☐Hydraulic Profile

☒**Demolition**
- ☒Describe Demolition Requirements
- ☒Demolition List
- ☒Demolition Plans
- ☒Demo Equipment and Instrumentation Database (EID)

☐**Rehabilitation Requirements**

☒**Geotechnical Data Report**
- ☒Review of Existing Data - Preliminary Geotechnical Report
- ☒Geotechnical Data Report and Recommendations

☒**Civil Design Parameters**
- ☒General Civil
- ☒Pavement Requirements
- ☒Drainage Requirements
- ☐Corrosion Protection Requirements

☒**Utility Requirements**

☒**Structural Design Parameters**

☒**Architectural Design Parameters**

☒**Process Mechanical Design Parameters**

☒**Building Mechanical Design Parameters**

☒**Fire Protection**
- ☒Fire Protection Requirements
- ☐Fire Water Flow Analysis
- ☒Fire Protection Requirements for Existing Facilities

☒**Electrical**
- ☒Codes/standards. Brief description of electrical system. Electrical drawings.
- ☒Identify Electrical System Impacts
- ☒Report – Data Collection and Verification
- ☒Preliminary Load List
- ☐Preliminary Standby Power Requirements
- ☐ETAP – Preliminary Short Circuit Analysis and Load Flow/Voltage Drop Studies

☐ETAP – Provide Data. OC SAN will perform ETAP studies.

☐Preliminary Analysis for cable pull calcs, ductbank cable derating, cable tray fill calcs.

☒Hazardous Area Classification Requirements

☒**Instrumentation and Control**

☒Instrumentation and Control System

☒Specialty Safety Systems

☒Preliminary SAT

☒PLC and RIO Panel Location Map

☐CCTV Coverage Map

☐**Landscaping**

☐Landscaping Requirements

☐Develop up to alternative concepts for review and acceptance

☒**Plant Utility Investigation Findings**

☒**Vibration Analysis**

Perform vibration analysis for the new supply fans.

(See revised Engineering Design Guidelines Chapter 06, MECHANICAL DESIGN, Section 06.7 “Vibration Analysis for Rotating Electrical Equipment” located at the end of the scope of work)

☐**Collections Basis of Design**

☐Codes and Standards

☐Pipeline Basis of Design

☐Manhole Basis of Design

☐**Collections Rehabilitation Alternatives**

☐Pipeline Rehabilitation

☐Manhole Rehabilitation

☐**Collections Pipeline Design**

Assume 3 viable alignment options

☐Design Memo Items 1-12

☐Open-cut vs. Trenchless Technologies

☐Trenchless Technologies at Major Closings

☐**Collections Utility Investigation Findings**

☐**Collections Conceptual Traffic Control**

☐AHJ and Traffic Control Identification

☐Basis for Traffic Control Strategy

☐Traffic Analysis

☐Traffic Control Plans

☒**Design Safety Requirements**

☒Design Safety Requirements

☒Identify all potential project specific safety issues

☒Identify all potential Cal OSHA and OC SAN safety issues

☒Identify construction safety hazards

☒Project Safety Checklist (Exhibit 11) and Full Project Safety Review Plan (Exhibit 12) to verify safety elements

☐HAZOP

☐**Public Impacts**

☒**Environmental and Regulatory Requirements**

☐CEQA Part of Programmatic EIR

☒CEQA work consists of Notice of Exemption (NOE) since the project is improving the existing facilities and not expanding capacity. The NOE will be completed and filled by OC SAN based on the project information provided by the CONSULTANT.

☒Determine project environmental and regulatory requirements

☐Matrix of CEQA and Permit Requirements
☐Mitigation, Monitoring and Reporting List

☒**Permit Requirements**
☒List of Permits Required
☐Oil Well Abandonment

☒**Stormwater Requirements**

☒**Hazardous Material Survey, Mitigation and Control**

☒**Maintainability**
☒Define Maintainability Requirements
☒Maintainability Requirements Plan Drawings
☒Define Maintainability Rules
☒Define Maintainability Information for Project Specific Equipment

☒**Facility Operation and Maintenance**
☒Facility O&M Requirements
☒Operating Philosophies
☐Preliminary Assessment of O&M Staffing Requirements

☒**Implementation Plan**
☒Identification of Adjacent Projects
☒Preliminary Commissioning Checklist
☒Preliminary Construction Sequencing Plan
☒Review of Constructability Issues
☐Temporary Handling of Flow

☒**Construction Odor Monitoring and Mitigation**

☒**Preliminary Technical Specification List**

2.2.3 PROJECT SPECIFIC DESIGN MEMOS (NOT USED)

2.2.4 PRELIMINARY DESIGN DRAWINGS

A. The CONSULTANT shall produce the following Preliminary Design Report drawings in accordance with **Exhibit 1 - Preliminary Design Report Requirements.**

☒General
☒Demolition
☒Civil
☐Landscape
☒Structural
☒Architectural
☐Mechanical
☒Electrical
☒Instrumentation and Control

2.2.5 PRELIMINARY DESIGN REPORT (PDR) PRODUCTION, CONTENTS AND ORGANIZATION

A. Preliminary Design Report (PDR) Production involves the preparation of design memos, drawings, calculations, and other supporting material resulting in the PDR.

B. The CONSULTANT shall combine the materials described below into a draft PDR. The PDR shall be structured as outlined below, with the contents corresponding to the tasks listed in this Scope of Work.

Volume 1 – Preliminary Design Report Technical Memos
Executive Summary
Predesign Evaluation Studies Report
Evaluation Memo 1, 2, 3, etc.

Design Memos
Design Memo 1, 2, 3, etc.
List of Proposed Specification Sections

Volume 2 – Drawings (see Preliminary Design Drawings list above)

Volume 3 – Submittal Documentation
Calculations
Equipment Data & Catalog Cuts
Decision Log
Meeting Minutes
Exhibit 11 - Project Safety Checklist
Exhibit 12 – Full Project Safety Review Plan

C. The Executive Summary shall summarize the conclusions of the Memos included in the report, and specifically include a summary construction schedule and construction cost estimate.

D. The draft PDR and final PDR shall be submitted in searchable PDF format legible on-screen and as a hard copy. The number of hard copies is indicated in **Exhibit 9 - Deliverables Quantities**. The labeling and organization of the PDF submittal shall be in accordance with **Exhibit 14 - Bluebeam Designer Training for Submission**.

E. Each evaluation memo and design memo shall be a separate file, unless agreed upon in advance with OC SAN or combining the memos would be more efficient due to not having sufficient content to cover in an individual memo given the small size of the project.

F. The OC SAN Project Manager may request that the CONSULTANT submit an electronic proof set of the Draft PDR and Final PDR prior to final submittal.

2.2.6 PRELIMINARY DESIGN COST ESTIMATE

A. The CONSULTANT shall provide a cost estimate for the associated PDR submittal per Engineering Design Guidelines, Chapter 15 Construction Cost Estimates.

2.3 PRELIMINARY DESIGN ACTIVITIES

The following services shall be provided by the CONSULTANT or an appropriately qualified subconsultant. In any case, the CONSULTANT shall be responsible for managing all subconsultant, including reviewing their work products prior to submission to OC SAN.

2.3.1 PLANNING STUDY PS20-03 VALIDATION

A. CONSULTANT shall review the Planning Study (PS) P20-03 Final reports (Technical Memorandums 1 and 2), and validate the recommendations provided in these reports except for the bays' length of extension (i.e., 4ft) and including but not limited to the followings using the information and test data gathered in these reports:

1. Feasibility of extending A side bay structure from structural and foundation perspectives due to it close proximity to Tremblay Tunnel.
2. Locations, configuration, and size of the egress doors.
3. Fire alarm and sprinklers requirements.
4. Building and air permits requirements.
5. Need for a new platform for the new supply fans as opposed to placing them on the roof of the one of the bays.
6. Fresh air supply and odorous air collection duct systems configuration, location, and sizing.
7. Supply fans platform specification (material, structure type, etc.), dimension, and height.
8. Size of the supply fans.
9. Requirements for installing H_2S and H_2 monitoring and alarm system inside the bays.

10. Space NFPA classification which determines the type of sensors enclosures pursuant to OC SAN's and any other applicable guidance or requirements.

11. Existing MCC-SMA and MCC-SMB sufficient compartments availability to facilitate addition of new motor starter for the Bay A and B supply fan motor and roll-up door feeder breaker in lieu of adding additional section(s); and

12. Existing lighting control systems and lighting panels capabilities for new lighting addition.

13. Location and need for control system modification of the traffic lights currently located at the south of each bay.

14. Need for temporary loading facility or similar type of contingency measures.

B. In case of any disagreements with PS20-03 recommendations, CONSULTANT shall provide recommendations on alternative approaches and basis for such disagreement.

2.3.2 CFD MODEL PREPARATION & RUNNING

A. CONSULTANT shall prepare and run Computational Fluid Dynamic (CFD) models in support of the Project, as detailed in Exhibit 27 of this scope of work,

2.3.3 BIM MODEL INTEGRATION AND SCANNING

A. CONSULTANT shall prepare a Building Information Model (BIM) in support of this project, as detailed in Exhibit 27 of this scope of work.

2.3.4 EASEMENTS, PROPERTY BOUNDARIES AND WORK AREA LIMITS

A. CONSULTANT shall show and explicitly identify the limits of work for all portions of the project, including any restrictions to the work allowed in any area, e.g., whether the area can be used for parking or laydown.

B. All survey research and survey field work shall be performed by a Professional Land Surveyor licensed by the State of California.

2.3.5 TOPOGRAPHIC SURVEY

A. CONSULTANT shall conduct field and aerial surveys as required. Topographic information used on the construction plans shall be generated from a field survey. OC SAN will not provide the aerial survey information to the CONSULTANT for use on the project nor believes that it is required for this project.

B. Prior to beginning design, CONSULTANT shall prepare the scope of work for surveys required for all applicable project elements. OC SAN will establish both vertical and horizontal control for the project. The field survey shall be used to establish both horizontal and vertical alignment of the facilities and shall note all survey monuments, topographic features, property lines, and elevations. The basis of bearings and benchmarks shall be indicated on the drawings. Control shall reference the Coordinate System and datum per OC SAN CAD STANDARDS MANUAL, latest edition. CONSULTANT's project schedule shall account for the above.

C. CONSULTANT shall include the survey-related documents with the Design Support Documentation portion of the Design Submittals as specified in the Engineering Design Guidelines, Appendix A, Section A.3.19 "Project Support Documentation (PDS)".

2.3.6 GEOTECHNICAL INVESTIGATION

A. CONSULTANT shall secure the services of a qualified Geotechnical Engineering firm to prepare a Geotechnical Data Report that addresses geotechnical concerns for all applicable Project Elements of the project Scope of Work

B. Soil Explorations

1. The geotechnical services shall include exploratory work such as soil borings necessary to observe, test, classify soils, and monitor groundwater levels and potential groundwater pollutants of concern.

2. The number and spacing of borings shall be based on the geotechnical professional's interpretation of needs and recommendation.

a. If unexpected or unique soils are encountered, an adequate number of borings shall be taken to try and define the limits of the anomaly.

3. The depth of the borings shall be adequate to characterize the soils to a depth of at least five feet below the bottom of an excavation.

4. The number of borings, trenching, CPTs, or other exploratory testing shall be as indicated in CONSULTANT's Technical Proposal and Fee Proposal. In the event that additional exploratory investigations are required, the price for such testing shall be negotiated on the basis of the unit priced indicated in CONSULTANT's Fee Proposal.

C. Soil Sampling

1. Soil samples for testing shall be collected as needed based upon CONSULTANT's professional judgment. However, samples intervals shall not exceed two-foot depth intervals alternating SPT and RING samples in each boring. If borings are taken near existing sewers, samples shall be taken and delivered to OC SAN for testing for coliforms to determine if sewers are leaking.

D. Ground Water Pump Testing

1. Conduct ground water pump testing to determine dewatering parameters for inclusion of the specifications.

2. Provide a complete specification for the abandonment of wells. Potential abandonment methods for deep penetrations might consist of overdrilling and fill with cement-bentonite grout slurry, or deep pressure grouting to create a concrete seal.

3. Ground water discharges must flow back to the headworks to maintain compliance with OC SAN's NPDES permit requirements.

E. Groundwater Contamination Testing

1. Take samples at each installed monitoring well and perform complete lab analysis for all pollutants regulated under OC SAN Local Discharge Limits (see page 33 of OC SAN's Wastewater Discharge Regulations Ordinance No. 53). The discharge location/s must flow back to headworks to maintain compliance with NPDES permit requirements. Update specifications to include mitigation measures where contamination exists and specify frequency of additional sampling and analysis to be done by the Contractor.

F. Soil Exploration Locations

1. The location of all soil explorations shall be plotted on a map and attached to the Geotechnical Report. Preferably, the explorations shall include survey coordinates consistent with the project survey. Complete logs of the soil profiles shall be included in the report.

2. Explorations shall be located strategically within the footprint of the proposed excavation or on the centerline of proposed pipeline alignments. A total of 1 boring shall be cased and converted into water level monitoring wells for use during construction according to local agency requirements. CONSULTANT shall obtain all necessary permits for the installation of monitoring wells. CONSULTANT shall also include well abandonment in the final design documents when the monitoring wells are no longer useful.

3. Work conducted within OC SAN's treatment plants shall comply with the requirements of the OC SAN Stormwater Management Plan. Work conducted outside OC SAN's treatment plant shall comply with the requirements of the local jurisdiction.

2.3.7 UTILITY INVESTIGATION

A. To better manage the risks associated with construction excavation, CONSULTANT shall perform a thorough search of all utilities impacted by the work for all applicable Project Elements of this Scope of Work, regardless of size and all other facilities above or below ground. Utilities

include all in-plant**,** utility company-owned and public agency-owned piping, duct banks, and other interferences. The search shall include utilities within the public right-of-way, and those located on private property and OC SAN property impacted by the proposed project. The search shall include the records and plans of OC SAN.

B. Review of Outside Agency Records

1. Not applicable to this project as the entire projects will be within the plant boundary.

C. On-Site Inspection

1. An on-site inspection shall be made in the project area. During the on-site inspection, a senior-level CONSULTANT representative shall walk the site accompanied by OC SAN's Project Engineer and Supervising Inspector. The CONSULTANT representative shall be experienced in the location and identification of utilities in the field. During the on-site inspection the CONSULTANT shall document all visible features that indicate utilities within the project area and compare them with the available utility plans.

D. Subsurface Utility Investigations

1. Investigation of existing utilities shall be in accordance with the respective ASCE guidelines, except as amended by this Scope of Work. A brief description of the ASCE guidelines defines the Quality Level of detail for researching subsurface utilities as follows:

a. **Quality Level D:** Information derived from existing records or oral recollections.

b. **Quality Level C:** Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to Quality Level D information.

c. **Quality Level B:** Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate position of subsurface utilities. Quality Level B data shall be reproducible by surface geophysics, such as ground penetrating radar, at any point of their depiction. This information is surveyed to applicable tolerances and reduced onto plan documents.

d. **Quality Level A:** Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed subsurface and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point. Minimally intrusive excavation equipment is typically used to minimize the potential for utility damage. A precise horizontal and vertical location, as well as other utility attributes, is shown on the plan documents. Accuracy is typically set to 15-mm vertical and to applicable horizontal survey and mapping accuracy.

2. Refer to CI/ASCE 38-02, Standard Guidelines for Collection and Depiction of Existing Subsurface Utility Data for details.

3. CONSULTANT shall determine all utilities impacted by the work for all applicable Project Elements of this Scope of Work. Utilities include all in-plant utilities. All utilities encountered during the preliminary design shall be shown on the plans.

4. Subsurface investigation for all utilities in and around the work area shall be performed to Quality Level D and Quality Level C. All utilities shall be plotted both in plan and profile on a scaled drawing that can later be incorporated into scaled (1" = 40') plan drawings.

5. CONSULTANT shall submit, for acceptance by OC SAN, recommendations on which utilities should be investigated to Quality Level A and where Quality Level B investigations should be performed. As part of the submittal, a Potholing Plan and Geophysical Investigation Plan shall be developed including proposed pothole locations and type of geophysical investigation.

6. Prior to OC SAN's acceptance of the Potholing Plan/Geophysical Investigation Plan, a project field walk by the CONSULTANT Project Manager, OC SAN Project Engineer, Supervising Inspector, and other designated OC SAN personnel shall be performed.

E. Potholes and Geophysical Investigation

1. CONSULTANT shall secure the services of a subcontractor to perform the pothole work and geophysical investigation (including ground-penetrating radar).

2. CONSULTANT shall “pothole” and perform geophysical investigation on all utilities described and shown in the accepted Potholing Plan/Geophysical Investigation Plan. CONSULTANT’s staff shall be on-site during potholing to provide direction to potholing crew. OC SAN staff shall also be present during potholing. Field investigations include visiting the project work site and each utility to verify the location of all interferences.

3. CONSULTANT shall provide all the related work necessary, including, but not limited to:

   a. Documentation of information

   b. Notification of USA’s “Dig Alert”

   c. Providing field survey

   d. Obtaining required permits

   e. Submission of traffic control plans

   f. Setting up traffic control

   g. Soft dig potholing

   h. Ground-penetrating radar

   i. Excavating

   j. Backfilling

   k. Repairing pavement to local jurisdiction requirements

4. “Soft” excavation potholing methods such as vacuum extraction is preferred; however, excavation methods shall be chosen to adequately define the utility. Crosscut trenches may be preferred for defining some utility locations. Hydro-jetting soft dig should be avoided in sandy, wet and contaminated soil conditions.

5. Potholing subcontractor shall measure and document the depth of pavement and of base material at each pothole, and every five feet along crosscut trenches.

6. Work conducted within OC SAN’s treatment plants shall comply with the requirements of the OC SAN Stormwater Management Plan. Work conducted outside OC SAN’s treatment plant shall comply with the requirements of the local jurisdiction.

7. CONSULTANT shall provide a licensed land surveyor or hire a licensed survey subcontractor(s) to field-locate the actual horizontal and vertical location of the constructed potholes. Survey controls shall be set and coordinated with the survey controls used on previous construction drawings. OC SAN control points shall be checked; northing, easting and elevation data for each pothole shall be shown on the Contract Drawings; and physical tie-ins provided in order to easily re-establish pothole locations after construction. CONSULTANT shall supply and supervise survey work and subcontractors needed to perform the pothole work. Survey datum differences shall also be reconciled.

8. The results of potholing and geophysical efforts shall be summarized in a field findings report.

9. CONSULTANT shall backfill and repair potholes consistent with the requirements of the local jurisdiction, including restoration requirements in moratorium areas. If CONSULTANT is unable to determine local jurisdiction requirements prior to the proposal, CONSULTANT shall assume the following requirements:

   a. The materials removed from the excavation may not be used for backfilling, unless approved by the local jurisdiction. If approved, excavated material used to fill potholes

shall be placed with a maximum lift thickness of four inches and mechanically compacted.

b. If not approved, the CONSULTANT shall be responsible for hauling off and disposing of excavated pothole material. In this case, excavation holes shall be filled with a cement slurry mix from the bottom up. The excavated materials shall be tested for hazardous materials and disposed of offsite accordingly. Testing shall be the minimum required for classifying the materials. The potholing samples shall be tested by a California Environmental Laboratory Accreditation Program (ELAP) certified laboratory to identify characteristics of hazardous waste. A substance shall be considered hazardous if it possesses properties of toxicity, ignitability, corrosivity and/or reactivity per California Code of Regulations Title 22, Section 66261. In addition, Minimum the laboratory testing shall include an on-site Organic Vapor Analyzer (OVA) test for potential hydrocarbon contaminants. Should the OVA reading be equal to or greater than 45 ppm, further laboratory Minimum testing shall be performed to include Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX) test per EPA guideline 8020 and Total Hydrocarbons (TPH) tests per EPA guideline.

c. AC pavement shall be replaced to full depth or the structural section (AC & Base) plus two inches with hot mix asphalt unless otherwise required by OC SAN. Cold mix shall only be allowed when the patch will be replaced by the project and where approved by OC SAN.

d. Concrete pavement shall be replaced to full depth plus two inches with Portland cement unless otherwise required by OC SAN.

F. Quantitative Assumptions

1. CONSULTANT's fee proposal shall include a cost for potholes and unit cost for additional potholes. The cost shall provide for a minimum of 2 potholes during preliminary design and 2 potholes during final design.

2. CONSULTANT's fee proposal shall include a cost for geophysical investigation. The cost shall provide for a minimum of 800 square feet during preliminary design.

G. Depiction of Utilities and Potholes on Plans

1. All utilities encountered during the preliminary design shall be shown on the Plans. Project work that requires other agencies to relocate existing utilities shall be coordinated during the design by CONSULTANT. Each subsurface utility shown on the drawings shall include the Quality Level to which it was investigated as required by CI/ASCE 38-02. Pothole locations shall be shown on drawings with survey information.

H. Relocation of Existing Utilities

1. Project work that requires other agencies to relocate existing utilities shall be coordinated during design by CONSULTANT.

2.3.8 FIRE PROTECTION SERVICES

A. CONSULTANT shall secure the services of a subconsultant to determine the fire protection requirements and prepare preliminary design and final plans and specifications for the selected plan and assist OC SAN in obtaining approval from the fire authority.

B. Fire Flow Analysis:

☒Evaluation of existing potable water system is not required. Assume that the existing potable water system has adequate pressure and volume to supply the required sprinkler systems and hydrants.

☐Evaluate existing potable water system for adequate pressure and volume to supply the required sprinkler systems and hydrants.

2.3.9 ELECTRICAL LOAD MEASUREMENTS

A. CONSULTANT shall perform preliminary calculations of existing equipment (i.e. panelboards and motor control centers) early in PDR, prior to taking any load measurements to determine if there is adequate spare capacity for the new loads.

B. CONSULTANT shall develop a list of loads load, measurements that need to be taken to perform load calculation.

C. CONSULTANT shall take electrical measurements per Engineering Design Guidelines, Chapter 10, Section 10.2.1.4 “Report- Load Measurement and Recording”.

D. The following describes the general nature of measurements to be taken.

1. 480V MCC-SMA and MCC-SMB operating loads to evaluate capacity for new load additions.

E. The load measurements data for 480V MCC-SMA and MCC-SMB shall be compiled in a Load Measurement and Recording Report included as an attachment to the Electrical Design Memo. Existing load recordings for 480V MCC-SMA and MCC-SMB shall comply with NEC requirements to record existing loads over 30-day period and determine maximum load demand. Recorded actual load demand shall be evaluated to determine new load addition feasibility for 480V MCC-SMA and 480V MCC-SMB.

2.3.10 PUBLIC RELATIONS

A. OC SAN’s Public Affairs Office will share with the public the general scope of the project during design, construction impacts for design and construction activities and the project’s progress as needed.

B. The primary goal of the public outreach effort is to inform motorists, merchants, employers, hospitals, residents, schools, and elected officials about the project need, construction impacts during design phase, and steps that can be taken to minimize those impacts.

2.3.11 ENVIRONMENTAL DOCUMENTATION

A. CEQA Documentation

1. OC SAN expects that a Notice of Exemption (NOE) will be required for this project. OC SAN will separately arrange for preparation of required NOE.

2.3.12 PERMITTING ASSISTANCE

A. CONSULTANT services related to Permitting Assistance may span across Phase 2 – Preliminary Design and Phase 3 - Design. When such services are required, they will be based on the requirements of Section III – Project Schedule and the schedule constraints associated with each permit. The CONSULTANT shall allocate the budgeted hours between the Environmental Documentation services in Phase 2 and Phase 3 based on when these services will be required.

B. For all applicable Project Elements of this Scope of Work, CONSULTANT shall provide Bid Documents that ensure that the facility features and the facility performance, and construction procedures comply with all conditions of existing permits and permits required to construct this project. Construction drawings, specifications and supplemental drawings shall be prepared, as necessary, in the format required to obtain all permits.

C. CONSULTANT shall assist OC SAN in obtaining permits. This assistance shall include completing application forms provided by OC SAN, preparing supporting documentation for the permit applications as required by the issuing agency, furnishing the required number of copies of all construction drawings and exhibits, and attending meetings with permitting agencies at the request of OC SAN.

D. With the exception of construction Contractor-furnished permits, OC SAN staff will execute all applications. All permit fees will be paid directly by the OC SAN and will not be part of CONSULTANT’s fee.

E. CONSULTANT shall submit all supporting documentation in a timely fashion for all permits required for this project as described below.

F. SCAQMD Permitting

1. CONSULTANT shall provide assistance to OC SAN in obtaining the South Coast Air Quality Management District (SCAQMD) permits for the project by performing following tasks:

2. Demonstration of Compliance with New Source Review for Criteria Pollutants (SCAQMD Reg. XIII)

a. Emissions Estimation: CONSULTANT shall estimate emissions of criteria pollutants in terms of both concentrations and mass rates to determine if there is an increase in emissions (mass rates) from the project pursuant to Rule 1306. CONSULTANT may utilize air sampling data previously collected by OC SAN. If OC SAN's data is not adequate, CONSULTANT shall perform source tests and/or conduct fate-transport modeling. CONSULTANT shall submit the emission estimates to OC SAN for approval prior to proceeding with the subsequent work.

b. Best Available Control Technology (BACT): If there is a Rule 1306 emissions increase of any nonattainment air contaminant, any ozone depleting compound, or ammonia, CONSULTANT shall evaluate and determine BACT for the affected pollutant(s).

c. Air Dispersion Modeling: If the net increase (uncontrolled or controlled if air pollution control system is employed) in NOx, CO, and PM10 emissions are greater than the allowable emissions as established in the SCAQMD Rule 1303 Appendix A: Table A-1, CONSULTANT shall conduct air dispersion modeling to demonstrate that the project will not exceed the ambient air quality standards as listed in the SCAQMD Rule 1303 Appendix A: Table A-2. Prior to conducting this task, CONSULTANT shall submit the proposed modeling methodology for OC SAN's acceptance.

d. CONSULTANT shall use EPA's AERMOD dispersion software. OC SAN has an existing ISCST model built for a previous odor modeling project which requires substantial revisions to correct deficiencies and to update structures built since the model was last updated. CONSULTANT may use the data in the existing model, provided CONSULTANT verifies the accuracy of the data.

3. Demonstration of Compliance with New Source Review for Air Toxics (SCAQMD Rule 1401)

a. Emissions Estimation: CONSULTANT shall estimate emissions of Toxic Air Contaminants (TACs) in terms of both concentrations and mass rates for each of the TAC listed in SCAQMD Rules 1401 and 1402 – "Proposed List of Air Toxic Target Compounds for POTW." CONSULTANT may utilize air sampling data previously collected by OC SAN. If OC SAN's data is not adequate, CONSULTANT shall perform source tests and/or conduct fate-transport modeling. CONSULTANT shall submit the emission estimates to OC SAN for acceptance prior to proceeding with the subsequent work.

b. Air Dispersion Modeling and Health Risk Assessment: If there is an increase in emissions of any TAC, CONSULTANT shall conduct air dispersion modeling and health risk assessment to demonstrate that the project will not result in an increased Maximum Individual Cancer Risk (MICR) greater than one-in-one million (1.0 x 10-6). Prior to conducting this task, CONSULTANT shall submit the proposed modeling methodology for OC SAN's acceptance prior to conducting the work.

c. Best Available Control Technology for Toxics (T-BACT): If the MICR from the project is greater than one-in-one million (1.0 x 10-6), CONSULTANT shall evaluate and determine the T-BACT.

d. The air dispersion modeling shall be conducted using the EPA's AERMOD dispersion software. OC SAN has an existing ISCST model built for a previous odor modeling project which requires substantial revisions to correct deficiencies and to update structures built since the model was last updated. CO NSULTANT may use the data in the existing model, provided CONSULTANT verifies the accuracy of the data. The health risk assessment shall be conducted per SCAQMD's latest "Risk Assessment Procedures for Rule 1401 and 1402.

4. Demonstration of Compliance with Odor Nuisance (SCAQMD Rule 402)

   a. The results of the foul air characterization and odor dispersion modeling conducted under this task may be used to demonstrate that the project complies with SCAQMD Rule 402.

5. Planning and Design Strategies for Air Pollution Control System

   a. If an air pollution control system is required for BACT, T-BACT, and/or Odor, CONSULTANT shall be responsible for planning and design strategies to meet regulatory and OC SAN standards and perform any additional air dispersion modeling to determine the efficacy of the proposed air pollution system. All exhaust stacks, vents, and sample ports required shall meet SCAQMD's Guidelines for Construction of Sampling and Testing Facilities.

6. Demonstration of Compliance with SCAQMD Rule 212

   a. If there is a K-12 school within 1,000 feet of the project, CONSULTANT shall notify OC SAN for further instruction; or,

   b. If any of the emission increase or MICR thresholds in the SCAQMD Rule 212 triggering public notice is exceeded; or

   c. Quantities or concentrations of other substances that pose a potential risk of nuisance.

7. Preparation of the Draft Application Package

   a. CONSULTANT shall provide the draft application package for OC SAN's review and comments. The package shall include all applicable permit application forms available on SCAQMD's website and supplemental information including, but not limited to, the following:

      (1) General Project Description and Location

      (2) Process/Equipment Description

      (3) Design Criteria for Process/Equipment and Air Pollution Control System

      (4) Process/Equipment Drawings

      (5) Summary of Work Performed under Items 1 thru 5 above

      (6) Demonstration of Compliance with Other Applicable SCAQMD, State, and Federal Air Quality Regulatory Requirements

8. SCAQMD Permitting Meetings

   a. CONSULTANT shall assume meetings for the following subjects related to SCAQMD permitting:

      (1) SCAQMD Permitting Kickoff Meeting

      (2) Air Emissions Estimates

      (3) Air Dispersion and Health Risk Assessment

      (4) Compliance Demonstration Review

(5) Permit Application Material (2 meetings)

(6) Review of draft SCAQMD permits.

b. The CONSULTANT shall assume 4 meetings at 1 hours each.

G. Building Permits

1. No building permit is expected to be required for this project.

H. Stormwater Permitting

1. Stormwater permitting is not required for this project. Due to demolition and excavation activities for this project a Stormwater Pollution Control Plan is anticipated and needs to be further explored throughout the design phase and as construction details become finalized.

2.3.13 PROJECT SAFETY REVIEW

A. CONSULTANT shall prepare Exhibit 11 Project Safety Check List and Exhibit 12 – Full Project Safety Review Plan for review with OC SAN Risk Management during the Preliminary Safety Review Plan Workshop. The workshop shall be held at OC SAN offices and no more than 1 hour. (held 4 weeks prior to draft PDR).

1. OC SAN will moderate the project safety meetings to review content contained in Exhibit 11 - Project Safety Check List and Exhibit 12 - Full Project Safety Review Plan.

2.3.14 PROJECT MANAGEMENT

A. CONSULTANT shall be responsible for managing CONSULTANT's project execution, schedule, budget, subconsultants, and coordination with other projects. The CONSULTANT shall perform the project management requirements in accordance with **Exhibit 3 - Project Management Requirements** with the project specific options identified below.

B. Project Management Plan (PMP):

☒Not required

☐ Required

☐PMP approval prior to beginning technical work on the project.

C. Project Logs

☒Major Decision Log

☒Project Decision Log

☒Action Item Log

☒Decision Issues Log

☒Meeting Log

☒Risk Register

D. Progress Report,

☐Not required

☒Required

E. Project Invoices

1. Estimating earned value, tasks shall be further broken down to subtasks of no more than $100,000.

2. Costs for invoicing shall be grouped into the following work packages:

Work Package	Description	Tasks
3146	Preliminary Design	**All Phase 2 tasks, except those listed below.**
3251	Design Submittal 1	**Tasks 3.1 through 3.3, divided into effort by design submittal. FDS is charged against DS3.**
3252	Design Submittal 2	
3253	Design Submittal 3	
3254	Bid Support Services	**Task 3.4**

2.3.15 RISK MANAGEMENT

A. CONSULTANT shall provide risk management in accordance with **Exhibit 4 – Risk Management Requirements**.

2.3.16 QUALITY CONTROL

A. The CONSULTANT shall provide quality control requirements in accordance with **Exhibit 6 - Quality Control Requirements**.

2.4 PDR WORKSHOPS AND MEETINGS

2.4.1 GENERAL

A. Workshop and meeting planning, requirements, agendas, and meeting minutes shall be in accordance with **Exhibit 5 - Workshop and Meeting Requirements**.

2.4.2 PDR PRODUCTION WORKSHOPS

A. Predesign Kickoff Workshop

1. A two-hour project kick-off meeting shall be held with OC SAN staff to introduce principal members of OC SAN and CONSULTANT's teams. The discussion topics shall include OC SAN responsibilities, CONSULTANT's responsibilities, invoice procedures, personnel badges, parking, site access, CONSULTANT's Scope of Work, detailed project schedule with milestones, Work Breakdown Structure requirements, and project safety requirements.

2. PDR Production Workshops shall be held during Preliminary Design to review the topics listed below. The list below also indicates the number of workshops to be held to cover the specific topic. Unless otherwise noted, each workshop shall be 2 hours in length. Workshops may be combined as needed and additional workshops may be held as needed to facilitate PDR production.

PDR PRODUCTION WORKSHOPS	
TOPIC	**NUMBER OF WORKSHOPS**
PDR Production Kickoff	1
PDR Production Workshop	1
Implementation Plan and Sequencing Constraints	1
PDR Review Workshop	2
Combined Equipment and Process Redundancy and Maintainability Workshop (topics described individually below)	1
PDR Constructability Workshop (described below)	1

2.4.3 DESIGN MEMO WORKSHOPS

A. CONSULTANT shall hold workshops to present and review the Design Memos as required in **Exhibit 5 - Workshop and Meeting Requirements**.

2.4.4 PROJECT SPECIFIC DESIGN MEMO WORKSHOPS

A. No project specific design memo workshop are anticipated due to the size of project and instead focused meetings will be used.

2.4.5 PDR REVIEW WORKSHOPS

A. CONSULTANT shall hold the following workshops to review the draft Preliminary Design Report as required in **Exhibit 5 - Workshop and Meeting Requirements**:

1. Draft PDR Presentation Workshop
2. PDR Validation Workshop

2.4.6 EQUIPMENT AND PROCESS REDUNDANCY WORKSHOP

A. An equipment and process redundancy workshop shall be held after the draft process flow diagrams have been developed to review the proposed redundancy requirements and equipment sizing versus equipment quantity for the systems provided by the project. The equipment and processes shall be designed to include sufficient redundancy in process trains and standby equipment to allow for serviceability without disruption in plant operations. Philosophies to be discussed shall include the following:

1. Equipment which may be difficult, costly, or time consuming to maintain may require additional redundancy to mitigate reliability issues.
2. In general, there is a trade off on the size of the selected equipment. Large equipment reduces the total quantity of equipment to perform the function. This helps with reducing the number of equipment pieces that must be maintained but may result in burdensome and lengthy downtime periods for repair. Small equipment provides the reverse. More equipment is needed for the function creating more things to maintain. However, it provides for more flexibility and typically has a shorter down time.
3. Considerations must be provided to avoid single points of failure. For example, redundancy in mechanical equipment can be negated if all equipment is powered on a single common MCC.
4. The CONSULTANT shall develop and establish the reliability and redundancy criteria through workshops and evaluation and design memoranda.
5. Operations and Maintenance (O&M) staff including staff from Maintenance Reliability and Planning must be involved in the establishment of the maintainability design rules.

B. The equipment and process redundancy workshop shall be held at OC SAN's facilities and shall generally be 2 hours in length. The CONSULTANT shall facilitate this workshop and OC SAN and CONSULTANT staff shall attend.

C. A follow up workshop shall be held at OC SAN's facilities to review the final equipment and process redundancy requirements.

D. CONSULTANT shall be responsible for completing the following tasks relative to the workshop:

1. Prepare package for the equipment and process redundancy workshop participants. The package shall consist of process flow diagrams and other information selected by CONSULTANT.
2. Prepare presentation on the project.
3. Summarize the equipment and process redundancy workshop comments and action taken on each comment in a memorandum.
4. All comments and recommendations of the workshop shall be incorporated into the Process Design Configuration Design Memo and the bid documents.

2.4.7 MAINTAINABILITY WORKSHOPS

A. A maintainability workshop shall be held after draft floor plans have been developed to:

1. Review the working space around equipment, accessibility requirements, specific activities required to be performed by maintenance staff, ease of servicing for equipment and devices, means to removing equipment from the point of installation to a location outside the facility.

2. The workshop shall be used to develop a set of project maintainability design rules based on the requirements in Chapter 7 of the Engineering Design Guidelines, coordination with OC SAN staff, lessons learned from prior projects, CONSULTANT staff expertise, and manufacturer data.

3. The CONSULTANT shall research and provide the following maintainability information for the workshop:

4. Operations and Maintenance (O&M) staff including staff from Maintenance Reliability and Planning must be involved in the establishment of the maintainability design rules.

B. The maintainability workshop shall be held at OC SAN's facilities and shall generally be 2 hours in length. OC SAN and CONSULTANT staff shall attend this workshop.

C. A follow up maintainability workshop shall be held at OC SAN's facilities to review the draft project maintainability design rules.

D. The project maintainability design rules shall be followed during detailed design.

E. CONSULTANT shall be responsible for completing the following tasks relative to the workshop:

1. Prepare package for the maintainability workshop participants. The package shall consist of plans, process flow diagrams, P&IDs and other information selected by CONSULTANT.

2. Prepare presentation on the project.

3. Review 3D model if applicable to the project.

4. Summarize the maintainability review workshop comments and action taken on each comment in a memorandum.

5. All comments and recommendations of the workshop and the project maintainability design rules shall be incorporated into the Maintainability Design Memo and the bid documents.

2.4.8 PDR CONSTRUCTABILITY WORKSHOP

A. A constructability workshop shall be held after the draft PDR submittal review to identify any fatal flaws in the design relative to constructability. Some of the subjects that shall be covered in this workshop include the following: conflicts between design disciplines, geotechnical considerations, construction sequencing, power outages, equipment shutdowns, viability of equipment relocation, safety, operational requirements, access for maintenance, size-critical equipment requirements and constraints, permitting, public nuisance issues, other local conditions and constraints.

B. This workshop shall be held at OC SAN facilities and shall generally be 2 hours in length. OC SAN and CONSULTANT staff shall attend this workshop.

C. CONSULTANT shall be responsible for completing the following tasks relative to the workshop:

1. Prepare package for constructability review workshop participants. The package shall consist of detailed plans and specifications and other information selected by CONSULTANT.

2. Prepare presentation on the project.

3. Summarize the constructability review workshop comments and action taken on each comment in a memorandum.

4. All comments and recommendations of the workshop shall be incorporated into Implementation Plan Design Memo and the Bid Documents.

2.4.9 TECHNICAL PROGRESS MEETINGS

A. No standalone technical progress meeting will be required. Focused and monthly project management progress meetings will be utilized to capture technical progress discussions.

2.4.10 FOCUSED MEETINGS

A. Focused meetings shall be held throughout preliminary design to discuss specific issues in detail and generate comments and direction from OC SAN staff. The following tentative list of topics may be covered in these meetings:

1. PS20-03 Recommendation Review
2. Design Petameters
3. Site survey
4. Site utility coordination
5. Geotechnical report
6. Cost Estimate requirements (to include OC SAN's Estimator)
7. Quality control plan
8. Common names for facilities and equipment
9. Process Flow diagram/Operating Philosophy (several meetings as needed)
10. Permits and Compliance
11. OC SAN Contractor Safety Standards and other safety requirements
12. Fire Department requirements
13. City requirements
14. Fire protection
15. Architectural concepts
16. Survey and geotechnical requirements
17. Potholing
18. Hazardous Area classification (with OC SAN Authority Having Jurisdiction representative participating)
19. Utilities and utility tie-ins
20. Technical Definitions/equipment data sheets
21. Control concepts
22. Instrumentation and control upgrades
23. Sample P&ID; basis for equipment tag numbering
24. Sample control descriptions
25. Sample EID database
26. Sample SAT database
27. Data network block diagram/network connection diagram
28. I/O relocation plan
29. Electrical distribution system, system controls and the related upgrades

30. Single-line diagrams and electrical demolition
31. Modes and analyses cases for electrical studies
32. Criticality Table update
33. Construction sequencing
34. Special studies
35. Coordination with other projects
36. Shutdown coordination
37. Additional meetings as necessary
38. Design memo presentations
39. Design memo validation workshops

B. Meeting lengths shall be as required to cover the topic in question. Depending on subject matter and attendees, one meeting may cover multiple subjects. CONSULTANT shall determine how many meetings will be needed to cover these topics. CONSULTANT may suggest additional topics as necessary. Supplementary meetings may be scheduled with OC SAN staff, as necessary to allow coordination between CONSULTANT and OC SAN staff.

2.4.11 COORDINATION WITH OTHER PROJECTS MEETINGS

A. The project shall be a complete and fully functional facility that is integrated with existing facilities and coordinated with other construction projects. CONSULTANT shall coordinate potential conflicts with the following adjacent projects and participate in the number of meetings indicated in the following table:

PROJECT COORDINATION MEETINGS		
PROJECT	**PROJECT DESCRIPTION**	**COORDINATION MEETINGS**
J-124	Digester Gas Facility Rehabilitation at Plant 1 and 2	1 meetings @ 1 hour
P2-128	Plant No. 2 Digester Replacement	1 meetings @ 1 hour
P2-138	Plant No. 2 Operations and Maintenance Complex	1 meetings @ 1 hour
Other Projects	Other Projects Coordination	2 meetings @ 1 hour

2.4.12 STORMWATER COMPLIANCE MEETING

A. A formal meeting shall be held with OC SAN's stormwater compliance staff to review the project scope and identify all issues during and after construction affecting compliance with stormwater regulatory requirements and OC SAN's policies and practices.

3. PHASE 3 – DESIGN

3.0 BID DOCUMENTS

3.0.1 GENERAL

A. CONSULTANT shall provide engineering services to prepare biddable plans, technical specifications, and other Bid Documents as required based on the design concepts and criteria developed during Phase 2 – Preliminary Design. In this Scope of Work, construction documents include specifications; drawings; cable, conduit and cable tray schedules; commissioning plan materials; equipment and instrumentation database (EID); SCADA Administration Tool (SAT); and bypassing plans.

3.0.2 ENGINEERING DESIGN GUIDELINE UPDATES

A. All changes in OC SAN's Engineering Standards, OC SAN's Design Guidelines, and/or changes in design concepts and facility layouts as a result of OC SAN comments that may occur up to transmittal of OC SAN comments on Design Submittal 2, shall be incorporated into the Design by CONSULTANT with no increase in CONSULTANT's Not-to-Exceed upper limit on fees.

3.0.3 GENERAL REQUIREMENTS AND ADDITIONAL GENERAL REQUIREMENTS

A. The following are the minimum Additional GRs topics required for this project:

☒Summary of Work
☒Work Sequence
☒Work Restrictions
☒Permits
☒Environmental Restrictions and Controls
☒Measurement and Payment (includes Mobilization/Demobilization)
☒Seismic Design Criteria (for those restraints, supports, etc. to be design by the Contractor)
☒Shipping, Storage and Handling
☒Project Control Management System (PMWeb construction management software)
☒Equipment Service Manuals
☒Equipment and Instrument Database (EID)
☒Commissioning
☒Training of OC SAN Personnel
☒Hazardous Materials Mitigation and Controls
☒Mold Remediation and Controls

3.0.4 DESIGN SUBMITTALS

A. The CONSULTANT shall produce the following design submittals as indicated below in accordance with **Exhibit 2 - Design Requirements.** If a design submittal is eliminated, then the design submittal shall include the requirements associated with the required design submittal along with the requirements associated with the previous unchecked design submittals.

☒Design Submittal 1
☒Design Submittal 2
☒Design Submittal 3
☒Final Design Submittal

B. Continuing Work After Design Submittal Submission

☒CONSULTANT is expected to continue design work on the project while OC SAN staff reviews Design Submittal 1 and Design Submittal 2. For Design Submittal 3, CONSULTANT shall stop all design work until receipt of OC SAN comments on that submittal.
☐CONSULTANT is expected to stop design work on the project until OC SAN staff completes the review of each Design Submittal.

3.0.5 CABLE AND CONDUIT SCHEDULE

☒CONSULTANT shall put the cable and raceway schedule on the drawings. CONSULTANT may utilize an Excel spreadsheet and copy the spreadsheet onto the drawings.
☐CONSULTANT shall utilize OC SAN's Microsoft Access Cable and Raceway Schedule database electronic format. See exhibit titled "Cable Conduit and Tray Schedule Database".

3.0.6 COMMISSIONING PLAN MATERIALS

A. The CONSULTANT shall provide a commissioning plan materials in accordance **Exhibit 2 - Design Requirements.**

B. Specification Section 01810, Commissioning, Attachment A

☐OC SAN will prepare Section 01810
☒CONSULTANT shall prepare Section 01810 Attachment A
☐CONSULTANT shall edit Section 01810

C. The CONSULTANT shall provide a commissioning plan FAT Narrative in accordance **Exhibit 2 - Design Requirements.**

☒CONSULTANT shall prepare FAT Narrative/Commissioning Plan (for all Systems)

D. ORT Procedures

☒OC SAN will prepare ORT procedures for standard templates
☐CONSULTANT shall prepare ORT procedures using OC SAN's ORT procedure generator
☒CONSULTANT shall prepare new ORT procedures (not in standard templates)

E. Pre-FAT Procedures

☐Pre-FAT procedures not required
☐OC SAN will prepare Pre-FAT procedures
☒CONSULTANT shall prepare Pre-FAT procedures

F. FAT Procedures

☐OC SAN will prepare FAT procedures
☒CONSULTANT shall prepare FAT procedures
☒ CONSULTANT shall prepare FAT Narratives

G. RAT Procedures

☐RAT procedures not required
☐OC SAN will prepare RAT procedures
☒CONSULTANT shall prepare RAT procedures

H. PAT Procedures

☒PAT procedures not required
☐OC SAN will prepare PAT procedures
☐CONSULTANT shall prepare PAT procedures

3.0.7 EQUIPMENT AND INSTRUMENTATION DATABASE (EID)

☐EID is not required.
☐OC SAN will develop the EID in accordance **Exhibit 2 - Design Requirements.**
☒CONSULTANT shall develop EID in accordance **Exhibit 2 - Design Requirements.**

3.0.8 REAL I/O LIST

☐SAT is not required.
☐OC SAN will develop the I/O List in accordance **Exhibit 2 - Design Requirements.**
☒CONSULTANT shall develop the I/O List in accordance **Exhibit 2 - Design Requirements.**

3.0.9 CONSTRUCTION SUBMITTAL ITEMS LIST

☐OC SAN will develop the Construction Submittal Items List in accordance with **Exhibit 2 - Design** Requirements **PMWeb.**
☒CONSULTANT shall develop the Construction Submittal Items List in accordance with **Exhibit 2 -** Design Requirements**.**

3.0.10 TEMPORARY FACILITIES DURING CONTRUCTION

☒Temporary facilities and bypass pumping are not required.

☐Temporary facilities and bypassing during construction are required, as described under the "Temporary Facilities During Construction" paragraph under the Project Elements, and shall be described in words on the drawings and technical specifications.

☐Detailed plans and work sequence for temporary facilities and bypassing during construction, as described under the "Temporary Facilities During Construction" paragraph under the Project Elements.

A. CONSULTANT shall design measures for the temporary handling of flows to be implemented by the Contractor during construction considering OC SAN's goal of zero sewage spills.

B. If existing facilities such as valves, gates, stop logs, etc. are being used for shutdowns or diversions, include a plan for testing those facilities during Phase 3 – Design to verify that they will function adequately for the purpose. If testing cannot be performed, CONSULTANT shall identify the risks associated with using the facility for bypassing, along with contingency plans and mitigation measures to be implemented if they are found not function adequately during construction.

3.1 DESIGN SUPPORT DOCUMENTATION

3.1.1 DESIGN SUBMITTAL SUPPORT DOCUMENTATION

A. The CONSULTANT shall provide a Design Submittal Support Documentation in accordance **Exhibit 2 - Design Requirements.**

B. Design Information

1. CONSULTANT shall include the following material with each Design Submittal:

a. CONSULTANT shall maintain the Project Logs specified under Phase 2 Project Management through Phase 3. Current copies of all logs shall be included with each Design Submittal.

b. Written response log to OC SAN comments on the previous submittal.

c. CEQA and Regulatory Compliance Matrix. This matrix shall list each applicable CEQA mitigation requirement and all known permit requirements with the corresponding description of how each requirement is to be satisfied. Measures to satisfy requirements might be in the GRs, Additional GRs, particular specification requirements, or actions taken separately from the construction contract.

d. Calculations

e. Draft or final Geotechnical Reports not submitted in the previous submittal and those revised since the previous submittal.

f. Proposed list of suppliers to be named in the specifications for major equipment

g. Draft or final Fire Protection Reports not submitted in the previous submittal and those revised since the previous submittal.

h. Draft or final Field Findings Reports not submitted in the previous submittal and those revised since the previous submittal.

i. Equipment data sheets

j. Equipment catalog cuts and vendor quotations.

k. Commissioning Package List: The Preliminary Commissioning Package List first developed in the PDR Production Phase shall be updated in each Design Submittal and used as a starting point to develop the list of commissioning procedures.

l. All memos that may have been prepared since the previous submittal was delivered.

C. Facility Operation and Maintenance

☐Not required.
☒Update operating philosophies
☐Update estimates of Operation and Maintenance staffing requirements

D. Electrical Deign Documentation

☐Electrical design documentation not required.
☒Updated Electrical Load Criticality Table
☐Electrical Analysis Report
☒Load list for all equipment
☐Equipment sizing from three manufacturers for motor control centers, switchgear, transformers and power panels
☒Lighting calculations
☐Standby generator sizing calculations
☒Ductbank cable pulling tension, derating and cable tray fill calculations

E. Power System Studies

☐ETAP not required.
☒Plant ETAP model for the project performed by OC SAN.
☐Plant ETAP model for the project performed by CONSULTANT.
☐Electrical Systems Analysis Report performed by CONSULTANT.

3.1.2 CONSTRUCTION COST ESTIMATE

A. The CONSULTANT shall provide a cost estimates for the associated design submittal indicated below in accordance with the **Engineering Design Guidelines, Chapter 15 Construction Cost Estimates.**

☒Design Submittal 1
☒Design Submittal 2
☒Design Submittal 3
☒Final Design Submittal
☒Invitation for Bid (IFB)
☒Post-Bid Evaluation

3.1.3 CONSTRUCTION SCHEDULE

A. The CONSULTANT shall provide a Preliminary Construction Schedule for the associated design submittal indicated below in accordance with **Exhibit 2 - Design Requirements.**

☐Construction Schedule is not Required
☐Design Submittal 1
☒Design Submittal 2
☒Design Submittal 3
☒Final Design Submittal

3.1.4 PROCUREMENT ALTERNATIVES

A. The CONSULTANT shall recommend the appropriate procurement alternatives as described in **Exhibit 2 - Design Requirements**.

☒Procurement alternatives not required
☐Procurement alternatives required

3.2 DESIGN ACTIVITIES

The following services shall be provided by the CONSULTANT or an appropriately qualified subconsultant. In any case, the CONSULTANT shall be responsible for managing all subconsultants, including reviewing their work products prior to submission to OC SAN.

3.2.1 EASEMENTS, PROPERTY BOUNDARIES AND WORK AREA LIMITS

A. CONSULTANT services related to Easements, Property Boundaries and Work Area Limits on the project are specified in Phase 2 – Preliminary Design and those services shall continue during Phase 3 – Design as required. CONSULTANT shall allocate the budgeted hours between Phase 2 and Phase 3 based on when these services will be required.

3.2.2 TOPOGRAPHIC SURVEY

A. CONSULTANT services related to Topographic Survey on the project are specified in Phase 2 – Preliminary Design and those services shall continue during Phase 3 – Design as required. CONSULTANT shall allocate the budgeted hours between Phase 2 and Phase 3 based on when these services will be required.

3.2.3 UTILITY INVESTIGATION

A. CONSULTANT services related to Utility Investigation on the project are specified in Phase 2 – Preliminary Design and those services shall continue during Phase 3 – Design as required. CONSULTANT shall allocate the budgeted hours between Phase 2 and Phase 3 based on when these services will be required.

B. Final Design Submittal Utility Coordination Reviews

1. During DS3 submittal review, the CONSULTANT shall meet with outside agencies to verify any changes made by agency during final design period and compare them with the Contract Drawings. CONSULTANT shall follow through with due diligence on utilities that do not participate in the USA program, unknown owner of a facility and/or abandoned utilities.

2. During DS3 submittal review, an on-site inspection shall be made in the project area. During the on-site inspection, a senior-level CONSULTANT representative shall walk the site accompanied by OC SAN's Project Engineer and Supervising Inspector. The CONSULTANT's representative shall be experienced in the location and identification of utilities in the field. During the on-site inspection the CONSULTANT shall document all visible features that indicate utilities within the project area and compare them with the Contract Drawings.

3.2.4 FIRE PROTECTION SERVICES

A. CONSULTANT must integrate Fire Protection and Fire Alarm work with CONSULTANT deliverables (Plans and Specifications).

B. CONSULTANT shall secure the services of a subconsultant to determine the fire protection requirements, prepare final plans and specifications for the selected plan and assist OC SAN in obtaining approval from the fire authority.

3.2.5 ENVIRONMENTAL DOCUMENTATION

A. CONSULTANT services related to Environmental Documentation on the project are specified in Phase 2 – Preliminary Design and those services shall continue during Phase 3 – Design. The CONSULTANT shall allocate the budgeted hours between the Environmental Documentation services in Phase 2 and Phase 3 based on when these services will be required.

3.2.6 PERMITTING ASSISTANCE

A. CONSULTANT services related to Permitting Assistance on the project are specified in Phase 2 – Preliminary Design and those services shall continue during Phase 3 – Design. CONSULTANT shall allocate the budgeted hours between the Permitting Assistance services in Phase 2 and Phase 3 based on when these services will be required.

3.2.7 PROJECT SAFETY REVIEW

A. CONSULTANT shall update Exhibit 11 – Project Safety Check List and Exhibit 12 – Full Project Safety Review Plan for review with OC SAN Risk Management during Project Safety Review Plan Workshops

B. Project Safety Workshops:

☒DS1 Project Safety Review Workshop: 1 hour (held during OC SAN's review of DS1 at OC SAN)
☒DS2 Project Safety Review Workshop: 1 hour (held during OC SAN's review of DS2 at OC SAN)
☒DS3 Project Safety Review Workshop: 1 hour (held during OC SAN's review of DS3 at OC SAN)

3.2.8 PROJECT MANAGEMENT

A. CONSULTANT shall be responsible for managing CONSULTANT's project execution, schedule, budget, subconsultants, and coordination with other projects. CONSULTANT services related to Project Management on the project are specified in Phase 2 – Preliminary Design and those services shall continue during Phase 3 – Design as required. CONSULTANT shall allocate the budgeted hours between Phase 2 and Phase 3 based on when these services will be required.

3.2.9 RISK MANAGEMENT

A. CONSULTANT shall provide risk management in accordance with Exhibit 4 – Risk Management Requirements.

3.2.10 QUALITY CONTROL

A. The CONSULTANT shall provide Quality Control requirements in accordance with **Exhibit 6 - Quality Control Requirements**.

☒Independent Multi-Discipline Design Workshop is not required.
☐Independent Multi-Discipline Design Workshop is required. (minimum duration of **[4]** days)

3.3 DESIGN WORKSHOPS AND MEETINGS

3.3.1 GENERAL

A. Workshop and meeting planning, requirements, agendas, and meeting minutes shall be in accordance with **Exhibit 5 - Workshop and Meeting Requirements**.

3.3.2 DESIGN PHASE WORKSHOPS

A. The focus of workshops is to review project progress to date and the technical decisions that have been made in focused meetings. CONSULTANT shall conduct the workshops listed below in Phase 3 – Design for each design submittal, except FDS. The CONSULTANT shall allow the following time for each workshop:

DESIGN PHASE WORKSHOPS	
WORKSHOP TYPE	**DURATION**
Design Kickoff Workshop	1 hour
Design Review Meetings	1 hour per discipline (6 hours total)
Design Validation Meeting	2 hours

B. The following Design Review Meetings shall include the following topics, as applicable to the project:

1. Electrical
2. I&C
3. Process
4. Civil/Yard

5. Construction

6. Maintainability

C. A series of workshops shall be provided for the Design Review Meetings (if needed).

D. During final design, workshops shall be held after each design submittal.

3.3.3 POST-DS2 CONSTRUCTABILITY WORKSHOP

A. A constructability workshop shall be held upon receipt of the DS2 submittal and shall be a 2-day workshop. The constructability review is intended to provide OC SAN with an objective third-party review of the Bid Documents for effectiveness in communicating information to prospective bidders. The review shall determine if the Bid Documents have sufficient information needed to bid and construct the project and avoid misunderstandings and misinterpretations that may lead to conflict, confusion or claims during construction. This review is not a comprehensive plan check, a dimensional check or a value engineering assignment. Further, it is recognized that comments may only be given on the level of detail provided at this level of design.

B. Constructability review participants shall include OC SAN construction management staff and CONSULTANT construction management staff. Specialty CONSULTANTs and discipline engineers may also be included.

C. Each constructability review participant shall receive a package at least one week in advance. The package shall include plans and specifications, general conditions, the CPM schedule, the construction cost estimate, permits, and other pertinent information. The confirmation statements regarding the size-critical equipment as required in the Engineering Design Guidelines, Chapter 01, Design Guidelines – General Requirements, Section 01.2.15.2 “Size-Critical Equipment” shall also be included in the review package.

D. The constructability review shall be held on-site.

E. Day 1 shall start with a site visit, for the reviewers to acquaint themselves with the site conditions. After the site visit, the CONSULTANT shall make a short presentation, followed by a question-and-answer period. This is anticipated to take about 1/2 day. The second half of Day 1, and , and the first half of Day 2 shall be individual workdays for the Constructability Review Team. The CONSULTANT shall not attend, although one designated individual from the CONSULTANT’s Design Team shall remain to answers questions and gather additional information that the constructability review team might need.

F. On the afternoon of Day 2, the CONSULTANT shall return and listen to comments from the Constructability Review Team. A designated individual shall record the comments, and take notes from the workshop, to document the process.

G. Topics the Constructability Review Team must consider shall include:

1. Project consistency, discrepancies, and constructability issues
2. Contradictions, bid package strategies, and biddability issues
3. Power outages and equipment shutdowns
4. Size critical equipment requirements and constraints
5. Utility company requirements
6. Construction methods and mitigating impacts
7. Viability of equipment relocation
8. Operational requirements
9. Interim Control Plan
10. Access for maintenance
11. Access to make proper connections

12. User-friendliness and safety
13. Coordination with other projects
14. Draft Commissioning Plan
15. Public nuisance issues
16. Risk sharing
17. Construction sequencing and schedule, materials storage and work zone accessibility
18. Clarity of the scope of work, and interface activities
19. Impacts on existing operation
20. Access
21. Cost control
22. Partnering with Contractor
23. Other local conditions and constraints

H. The Constructability Review Team shall provide a list of comments, and the CONSULTANT shall respond to each comment, selecting those comments to be included in the final plans and specifications.

I. To facilitate the Constructability Review Workshop, CONSULTANT shall complete the following tasks:

1. Prepare package for constructability review participants. The package shall consist of detailed plans and specifications and other information selected by CONSULTANT. The package shall be electronically shared with (i.e., email, Bluebeam or Teams) participants at least one week prior to the workshop.
2. Coordinate an on-site location for Constructability Review Workshop.
3. Provide for a constructability review facilitator.
4. Prepare presentation on the project for the Constructability Review Team.
5. Meet with Constructability Review Team to receive comments.
6. Provide listing of constructability review comments and action taken on each comment. (The summary report of constructability review comments shall be prepared by the Constructability Review Team.)

J. All comments and recommendations of the workshop shall be incorporated into the Bid Documents at no additional cost to OC SAN.

K. Prior to DS3, the Commissioning Team shall also conduct an additional constructability review of the final Bid Documents to review clarity of the bid package, project completeness, and other issues, as necessary.

3.3.4 DESIGN PHASE MEETINGS

A. Technical Progress Meetings

1. No standalone technical progress meeting will be required. Focused and monthly project management progress meetings will be utilized to capture technical progress discussions.

B. Focused Meetings

1. Focused meetings shall be held throughout preliminary design to discuss specific issues in detail and generate comments and direction from OC SAN staff. The following tentative list of topics may be covered in these meetings:

e. Site survey

f. Site utility coordination

g. Geotechnical report

h. Cost Estimate Review

i. Quality control plan

j. Common names for facilities and equipment

k. Process Flow diagram/Operating Philosophy (several meetings as needed)

l. Permits and compliance

m. OC SAN Contractor Safety Standards and other safety requirements

n. Fire Department requirements

o. Fire protection

p. Architectural concepts

q. Survey and geotechnical requirements

r. Potholing

s. Hazardous Area classification (with OC SAN Authority Having Jurisdiction representative participating)

t. Utilities and utility tie-ins

u. Technical Definitions/equipment data sheets

v. Control concepts

w. Instrumentation and control upgrades

x. Sample P&ID; basis for equipment tag numbering

y. Sample control descriptions

z. Sample EID database

aa. Sample Real IO database

bb. Data network block diagram/network connection diagram

cc. I/O relocation plan

dd. Electrical distribution system, system controls and the related upgrades

ee. Single-line diagrams and electrical demolition

ff. Modes and analyses cases for electrical studies

gg. Criticality table update

hh. Construction sequencing

ii. Special studies

jj. Coordination with other projects

kk. Additional meetings as necessary

2. Each meeting shall generally be 1-2 hours in length. CONSULTANT shall determine how many meetings will be needed to cover these topics. CONSULTANT may suggest additional topics as necessary. Supplementary meetings may be scheduled with OC SAN staff, as necessary to allow coordination between the CONSULTANT and OC SAN staff.

3.3.5 CONSULTANT OFFICE TECHNICAL MEETINGS (COTMS)

A. OC SAN has found it mutually beneficial to visit the CONSULTANT offices from time to time to observe the detailed design in process, answer detailed technical questions, and establish lines of communications with CONSULTANT staff. During the Design Phase, CONSULTANT shall arrange for OC SAN staff to meet in CONSULTANT's work center and audit "over the shoulder" design reviews with CONSULTANT's staff. The reviews will be monitored by a member of CONSULTANT's Management Team. Signification decisions will be reported to CONSULTANTs Project Manager and OC SAN's Project Manager and logged into the Decision Log. Action items will be identified.

B. The CONSULTANT shall schedule, at a minimum, the following CONSULTANT Office Technical Meetings (COTMs):

1. Three two-hour meetings (one meeting between each design submittal)

C. The CONSULTANT shall schedule each of the above COTMs and shall coordinate with OC SAN's Project Manager to be sure the correct personnel participate in the meetings. The CONSULTANT may propose additional, eliminate, or combine COTMs as needed to support the detailed design.

D. OC SAN may also request additional "over the shoulder" design review meetings to audit the design in other areas not listed above.

3.3.6 COORDINATION WITH OTHER PROJECTS MEETINGS

A. The project shall be a complete and fully functional facility that is integrated with existing facilities and coordinated with other construction projects. CONSULTANT shall coordinate potential conflicts with the following adjacent projects and participate in the number of meetings indicated in the following table:

PROJECT COORDINATION MEETINGS		
PROJECT	**PROJECT DESCRIPTION**	**COORDINATION MEETINGS**
J-124	Digester Gas Facility Rehabilitation at Plant 1 and 2	1 meetings @ 1 hour
P2-128	Plant No. 2 Digester Replacement	1 meetings @ 1 hour
P2-138	Plant No. 2 Operations and Maintenance Complex	1 meetings @ 1 hour
Other Projects	Other Projects Coordination	2 meetings @ 1 hour

3.3.7 COMMISSIONING TEAM MEETINGS

A. Design phase commissioning team meetings shall be held on a monthly basis after completion of OC SAN's review DS1.

B. Meetings will generally be 2 hours in length. CONSULTANT shall determine how many meetings shall be needed to cover these topics and organize the topics accordingly. CONSULTANT may suggest additional topics as necessary. Supplementary meetings may be scheduled with OC SAN staff, as necessary, to allow coordination between CONSULTANT and OC SAN staff.

C. The Commissioning Team meetings shall cover the following subjects:

1. Provide a detailed review of the proposed construction sequencing plan and make recommendations for improvements. These recommendations shall be incorporated into the plans and specifications as appropriate. Possible incentives for the Contractor to finish the project early shall be explored.

2. Identify procedures, testing requirements and sequencing for commissioning.

3. Develop a detailed outline of a commissioning plan based on the results of the recommended construction sequencing plan.

4. Identify timing within the construction contract schedule when commissioning activities are required, including hold points for testing and inspection.

5. Identify roles and responsibilities of the Project Manager, Resident Engineer, Inspector, Project Engineer, PCI, Engineering support, Design CONSULTANT and Contractor.

6. Develop a timeline of commissioning

7. Develop a commissioning specification Attachment A

8. Develop standard forms for testing and commissioning documentation

9. Electrical, mechanical and process tie-ins

10. Startup requirements and testing

11. O&M training

3.3.8 PROJECT SAFETY

A. Ensure that an OC SAN Risk Management safety and security professional has been assigned to the project.

B. CONSULTANT shall prepare and meet with OC SAN Risk Management personnel at PDR to review Exhibit 11 Project Safety Checklist and Exhibit 12 Full Project Safety Review Plan.

C. CONSULTANT shall update Exhibits 11 and 12 throughout the design phases. CONSULTANT shall provide OC SAN Risk Management with the final copies of Exhibit 11 and Exhibit 12 at completion of the Design Project.

3.3.9 CONSTRUCTION SUBMITTAL ITEMS LIST MEETING

A. Meet with OC SAN between DS2 and DS3 to review the CONSULTANT's approach to developing the project Construction Submittal Items List using Exhibit 18 – and the CONSULTANT-provided specifications and discuss the grouping of submittals in commissioning packages and phases.

3.3.10 STORMWATER COMPLIANCE MEETING

A. A formal meeting shall be held with OC SAN's stormwater compliance staff to review the project scope and identify all issues during and after construction affecting compliance with stormwater regulatory requirements and OC SAN's policies and practices.

3.4 BID PHASE SUPPORT SERVICES

3.4.1 BID PHASE SUPPORT SERVICES

A. CONSULTANT shall provide the following bid period services:

1. Participate in the pre-bid meeting.

2. Prepare project drawing set and project specification addenda to provide clarification and resolve errors and omissions identified prior to bid opening.

3. Identify cost impacts associated with addenda changes.

3.4.2 BID EVALUATION ASSISTANCE

A. Participate in reviewing alternate equipment proposals from the Contractor, if applicable.

B. Participate in the evaluation of the submitted bids, furnish consultation and advice to OC SAN staff and assist with all the related equipment, cost, and other analyses as required to finalize the award decision.

C. If the lowest bidder exceeds the engineer's estimate by 10%, the CONSULTANT is required to conduct a confidential bid evaluation within two weeks from the bid due date. This evaluation shall include a detailed analysis of the deviation, providing reasons for the variance.

3.4.3 CONFORMED DOCUMENT PREPARATION

A. Within two weeks of the bid date, prepare conformed documents set (drawings, databases, specifications and other required materials) that incorporates the addenda. See Engineering Design Guidelines, Chapter 01, Design Guidelines – General Requirements, Section 01.5 "Preparation of Project Deliverables" for requirements as modified in Section 8 of this Scope of Work, "Project-Specific Deviations from OC SAN Design Guidelines" and the requirements of the CAD Manual).

4. PHASE 4 – CONSTRUCTION AND INSTALLATION SERVICES

Not in this Scope of Work.

5. PHASE 5 – COMMISSIONING SERVICES

Not in this Scope of Work.

6. PHASE 6 – CLOSE OUT

Not in this Scope of Work.

7. GENERAL REQUIREMENTS

7.0 GENERAL

7.0.1 OC SAN ENGINEERING DESIGN GUIDELINES AND STRATEGIC PLAN

A. CONSULTANT shall refer to and adhere to the requirements of OC SAN Contractor Safety Standards, OC SAN Engineering Design Guidelines, any deviations to the Engineering Design Guidelines listed below, and other OC SAN's Design Standards referenced therein. **Exhibit 16 - Spec Review using Microsoft Word and Teams**

B. **Exhibit 17 -** OC SAN Engineering Design Guidelines and Standards – Available online at **Document Center** is a complete set of the OC SAN Contractor Safety Standards and OC SAN Design Standards, the latest edition at the time of the design proposal stage.

C. The Engineering Guidelines define what plant design concepts/tools/methods and project management requirements shall be adhered to and in what manner they shall be used/provided by CONSULTANTs, e.g., requirements regarding design concepts, submittals, documentation details, use of OC SAN Master Specifications, and other related OC SAN Standards, etc.

D. Refer also to Section "CONSULTANT's Responsibilities" in OC SAN Engineering Design Guidelines Chapter 01. Refer to "Master Specifications Instructions for Use" that mandates rules and conventions to be used in all OC SAN project specifications.

E. The project Scope of Work defines whether or not each specific deliverable described in the Guidelines shall be part of the project and when each task shall take place.

F. The project Scope of Work also includes requirements that supplement and/or modify the Guidelines requirements for this project.

G. The project Scope of Work and OC SAN Engineering Design Guidelines impact CONSULTANT's project cost.

H. Except as specified in this Scope of Work, design of all facilities shall conform to the recommendations of the currently approved Master Plan for OC SAN facilities. The project shall also incorporate all applicable mitigation measures included in associated environmental documents and site-specific local requirements.

I. In addition, OC SAN will require the CONSULTANT to follow subsequent revisions of OC SAN Contractor Safety Standards, OC SAN Engineering Design Guidelines and other OC SAN Design Standards up to transmittal by OC SAN of comments on Design Submittal 2, shall be incorporated into the Design by CONSULTANT with no increase in CONSULTANT's Not-to-Exceed upper limit on fees.

J. OC SAN may update OC SAN's Master Specifications and/or add new OC SAN Master Specifications up to transmittal by OC SAN of comments on Design Submittal 2. The CONSULTANT shall utilize the new and/or modified Master Specifications for the DS3 submittal.

K. The CONSULTANT shall not begin editing the project specifications until the project team meets with OC SAN's Design Standards Custodian to discuss and receive comments regarding the CONSULTANT's proposed list of project specifications. This meeting will be used to determine which specifications are to use OC SAN's master specifications, and where other sources will be utilized.

7.0.2 PROJECT PHASES AND TASKS

A. Project tasks and deliverables shall include the requirements described in this Scope of Work. CONSULTANT shall also refer to Appendix A of OC SAN Engineering Design Guidelines for the level of detail requirements for individual deliverables in each Phase of the project not covered in the Scope of Work.

7.0.3 CONSTRUCTION SEQUENCING AND CONSTRAINTS

A. CONSULTANT shall develop with OC SAN staff and include in the Bid Documents detailed requirements for construction sequencing and constraints. These shall ensure safe and reliable operation and maintenance of OC SAN facilities. The facilities must be kept on-line and fully operational with minimal interruptions throughout construction.

7.0.4 WORKING HOURS

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

7.0.5 STANDARD DRAWINGS AND TYPICAL DETAILS

A. All the details used in the project (OC SAN's Standard Drawings and CONSULTANT-developed typical details) shall be shown on the Plans.

7.0.6 SOFTWARE

A. The CONSULTANT is expected to develop and provide the deliverables using the standard software currently approved for use by OC SAN. The standard OC SAN software includes, but is not limited to, the following:

- Windows 10 Professional
- Esri software 10.8.1 (ArcGIS Desktop, fGDB, pGDB or shapefile formats)
- Microsoft Internet Explorer 11
- AutoCAD Plant 3D version 2021 (for P&ID drawings only)
- Autodesk software version 2021 (AutoCAD, AutoCAD Map3D or compatible dwg file format)
- Microsoft Office 365
- Maximo 7.6.1.2
- Bluebeam Revu eXtreme version 2020.2.40
- Primavera P6 for scheduling

- Innovyze ICM Hydraulic Model version 9.0
- Database software as defined elsewhere in the project Scope of Work

B. 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 IT Department staff will perform the installation of this software.

C. Refer to Chapters 10 and 11 and Appendix A of OC SAN Engineering Design Guidelines for requirements on preparation of Criticality Tables and ETAP, SAT, and EID databases. Refer to OC SAN CAD Manual and to Chapter 11 and Appendix A of OC SAN Engineering Design Guidelines for requirements regarding P&ID drawings.

7.0.7 SUBMITTAL REVIEW USING BLUEBEAM

A. OC SAN has standardized on the use of Bluebeam Revu for reviewing and providing comments to PDF files. PDF files will be hosted in a Bluebeam cloud-based studio session for review. See **Exhibit 15 - Bluebeam Designer User Training** for a detailed explanation on how Bluebeam will be used to provide, validate, and close submittal review comments.

B. Prior to submitting electronic PDF files, format them as indicated in **Exhibit 14 - Bluebeam Designer Training for Submission** and “OC SAN CAD Standards Manual” prior to submission.

C. 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 quality control and reconciliation of submittal comments shall attend.

D. Bluebeam review packages shall remain open for adding responses to comments and comment resolution after submittal dates so that the true status and any unresolved comments may be carried over to later packages.

7.0.8 WORD TRACK CHANGES

A. Specifications documents and other MS-Word based deliverables will be hosted in OC SAN Teams environment for review. The guidelines for reviewing and commenting on MS-Word files, including Specifications reviews, can be found in **Exhibit 16 - Spec Review using Microsoft Word and Teams.**

7.0.9 GIS SUBMITTALS

A. CONSULTANT shall provide the following GIS deliverables propagated from approved design submittals after the design submittal is accepted. These GIS submittals will not be reviewed or presented by CONSULTANT. The purpose is to provide project specific GIS layers that could be used to visualize interproject dependencies and conflicts.

1. Electronic Submittal
    a. Kmz files for use with Google Earth
2. Final PDR
    a. Single project boundary (Polygon)
        (1) Boundary to encompass all new facilities and existing to be modified including:
            - Buildings\Structures
            - Tunnels
            - Utilities
            - Pavement
            - Street boundary (ROW to ROW) of possible alignment

b. Structures (Polygon)
    - New structure outline
    - Additions to existing structures
    - Structure label

3. DS1
    a. Project boundary - updated from PDR
    b. Structures - updated from PDR
    c. Utilities (Polyline)
        (1) Utility alignment
    d. Manholes (Point)
    e. Excavation of pits (Polygon)
        (1) Pits that will stay open for extended duration
        (2) CIPP
        (3) Tunnel - jacking and receiving
        (4) All pits should be labeled
4. DS2, DS3, and FDS
    a. Project boundary - updated from previous DS
    b. Structures - updated from previous DS
    c. Utilities - updated from previous DS
    d. Manholes - updated from previous DS
    e. Excavation of pits - updated from previous DS
    f. Critical (as defined by Dig Alert) utility crossings (Point)
        (1) Crossing of Dig Alert critical utilities
        (2) Critical utility label
            - Natural gas
            - Fuel pipeline
            - 12 kV Electrical
    g. Asphalt (Polygon)
        (1) Asphalt to be replaced

8. PROJECT-SPECIFIC DEVIATIONS FROM OC SAN DESIGN GUIDELINES (NOT USED)

9. STAFF ASSISTANCE

OC SAN staff member or designee assigned to work with CONSULTANT on the design of this project is Omeed Pour at (714) 593-7226, e-mail to: Opour@ocsan.gov.

10. EXHIBITS

Exhibit 1 - Preliminary Design Report Requirements

Exhibit 2 - Design Requirements

Exhibit 3 - Project Management Requirements

Exhibit 4 Risk Management Requirements

Exhibit 5 - Workshop and Meeting Requirements

Exhibit 6 - Quality Control Requirements

Exhibit 7 - Design Submittal Requirements Matrix

Exhibit 8 - Project Schedule Calculation

Exhibit 9 - Deliverables Quantities

Exhibit 10 – Sample Construction Cost Estimate Formats

Exhibit 11 - Project Safety Check List

Exhibit 12 - Full Project Safety Review Plan

Exhibit 13 – Not Used

Exhibit 14 - Bluebeam Designer Training for Submission

Exhibit 15 - Bluebeam Designer User Training

Exhibit 16 - Spec Review using Microsoft Word and Teams

Exhibit 17 - OC SAN Engineering Design Guidelines and Standards – Available online at Document Center

Exhibit 18 – PMWeb

Exhibit 19 - Project Reference Material

a. Planning Study (PS)20-03 Truck Loading Bay Odor Control Improvements Study
b. Geotechnical Reports for Previous Projects in P2-140 project area
    i. P2-60 Report of Geotechnical Exploration (1998)
    ii. P2-60 Stone Column Observation Report (2000)
    iii. P2-60 Supplemental Geotechnical Study (2000)
    iv. P2-92 Final Geotechnical Report (2013)
c. Drawing sets for Previous Projects in P2-140 project area
    i. P2-60
    ii. J-125
    iii. P2-92A
d. OC SAN Plant 2 Tile V Air Permit

Exhibit 20 – P2-140 Outreach Presentation

Exhibit 21 - Commissioning Procedure Training

Exhibit 22 - ORT Procedure Examples

Exhibit 23 - Pre-FAT Procedure Examples

Exhibit 24 - Sample FAT Procedure

Exhibit 25 - Sample RAT Procedure

Exhibit 26 - Sample FAT Narrative

Exhibit 27 – CFD Modeling Scope

Exhibit 28 – Outline of Deliverables

MF:op

EXHIBITS

- Exhibits 1 – 7 and Exhibits 9 – 26 to Attachment A - Scope of Work are considered reference material and were previously provided as part of the Request for Proposal

- Exhibit 8 (previously provided as part of the Request for Proposal) was replaced and included as part of the final negotiated Scope of Work

- Exhibit 27 was included as part of the final negotiated Scope of Work

- Exhibit 28 was included as part of the final negotiated Scope of Work

EXHIBIT 8

Project Schedule Calculation

Truck Loading Bay Odor Control Improvements at Plant No. 2 - P2-140

Attachment A - Scope of Work

Exhibit 8 - Project Schedule Calculation

Activity / Milestone	By	Duration, workdays	Completion Date
Administrative NTP	OC SAN		8/27/2025
Submit draft PDR	Consultant	135	3/17/2026
Review draft PDR	OC SAN	20	4/14/2026
Submit final PDR	Consultant	20	5/13/2026
Final Design NTP	OC SAN	15	6/4/2026
Submit DS1	Consultant	45	8/7/2026
Review DS1	OC SAN	20	9/4/2026
Submit DS2	Consultant	120	3/4/2027
Review DS2	OC SAN	20	4/1/2027
Submit DS3	Consultant	90	8/9/2027
Review DS3	OC SAN	20	9/7/2027
Submit FDS	Consultant	20	10/5/2027
Review FDS	OC SAN	15	10/26/2027
Final Technical Spec & Plans	Consultant	20	11/24/2027

EXHIBIT 27

Scope of CFD Modeling
Truck Loading Facility

Exhibit 27 - Scope of CFD Modeling – Truck Loading Facility

Objective:

The primary objective of the Computational Fluid Dynamics (CFD) modeling is to predict air distribution throughout the truck loading facility and support the final design of the odor collection and supply air distribution ducting systems. The PS20-03 study report recommended one configuration based on smoke testing of three alternatives. To ensure confidence in the selected approach and provide a defensible basis for final design, performance of three alternative scenarios including the configuration recommended by PS20-03 will be evaluated and compared with the existing facility's through CFD modeling.

Performance Criteria:

The CFD model will be evaluated against the following criteria to determine the effectiveness of each ventilation alternative:

- Maintain negative pressure in the loading bay under operating conditions.
- Reduce odor constituent concentrations, specifically H_2S and ammonia, to levels consistent with or below those cited in the PS20-03 report.
- Improve airflow uniformity, eliminating dead zones and achieving a proper sweeping flow pattern from air supply to exhaust.
- Use the existing configuration (without exhaust fan system) as the baseline to assess relative improvements across the alternatives.
- Performance targets will be refined in consultation with OC SAN Operations staff to ensure alignment with operational goals and regulatory expectations.

Flow Conditions:

The CFD simulation will use a steady-state model under a single operating condition, assuming that the truck bays are symmetrical and that fans operate at constant speed. This approach is appropriate given the relatively stable flow conditions during loading and unloading events.

Model Boundaries:

The model will define all air inflow and outflow boundaries, representing the supply fans (inlets) and exhaust registers (outlets). Internal heat and contaminant sources (such as the sludge drop zone) will be simplified to scalar release zones, consistent with species transport modeling assumptions.

BIM Modeling:

To support a CFD modeling and enhance long-term design value, we are suggesting laser scanning & BIM model development of the truck loading facility addition into the scope. This will enable us to develop a high-resolution BIM model that captures existing ductwork, structural features, and spatial constraints—all of which are important for reliable airflow simulation. The process will involve performing laser scanning, followed by the development of a BIM model, which will then be exported into the CFD platform for simulation.

By starting with more accurate geometry, we can generate realistic and defensible CFD results that reflect true airflow behavior within the space. In addition to supporting this project's design validation, the BIM model will serve as a valuable digital asset for OC SAN's future modifications, maintenance planning, and capital improvements.

Model Geometry:

Model geometry will be developed using laser scanning and BIM tools. A Revit-based model will be created to capture the shell of a single truck bay and all major architectural and mechanical features, including air inlets, outlets, ducting, and large equipment. This geometry will be exported to CFD software for simulation.

Alternatives to be Evaluated:

To determine the most effective odor collection and supply air distribution configuration system, following scenarios will be evaluated and compared through CFD modeling:

- Scenario 0: Existing Facility (Baseline or Reference Scenario)
- Scenario 1: PS20-03 Recommended Configuration
- Scenario 2: Optimized/Improved Configuration 1
- Scenario 3: Optimized/Improved Configuration 2

Scenario 0 will be the starting point of the modeling exercise where the existing facility's model will be developed and calibrated using the available data from PS20-03 tests as well as boundaries and geometry data gathered in the previous steps of the modeling effort. This calibrated model then will be used to develop the models for three other scenarios and used as a reference point to determine the most effective configuration. Scenarios 2 and 3 models will be developed to either verify PS20-03 recommended configuration (Scenario 1) as the most effective configuration for odor collection and supply air distribution ducting system or provide opportunities for additional improvements.

EXHIBIT 28

Outline of Deliverables

Exhibit 28 - Outline of Deliverables

PHASE 2 – Preliminary Design

Design Memo 1 – Design Validation

Executive Summary

Section 1 - PS20-03 Validation

1.1 Scope Description

1.2 Summary of Findings & Suggestions

1.3 Validation

Section 2 – CFD Simulation Report

2.1 Objective and Assumptions

2.2 Modeling Methodology

2.3 Results Summary and Design Recommendations

Design Memo 2 – Design Requirements (Civil)

Executive Summary

Section 1 – Site work Basis of Design

1.1 Codes and Standards

1.2 Demolition Requirements

1.3 Utility Requirements

1.4 Plant Utility Investigation findings

Section 2 – Engineering Basis of Design

2.1 Civil Design Parameters

2.2 Structural Design Parameters

2.3 Architectural Design Parameters

2.4 Technical specification List

Section 3 – Design Safety Requirements

3.1 Design Safety Requirements

3.2 Identify all potential project specific safety issues

3.3 Identify all potential Cal OSHA and OC San Safety issues

3.4 Identify construction safety hazards

3.5 Project Safety Review Plan

3.6 Risk Management Check list

Section 4 – Hazardous Material

4.1 Hazardous Material Survey

4.2 Mitigation and Control Plan

Section 5 – Geotechnical Investigations

5.1 Review of Existing Data

5.2 Discussion of Regional and Local Geology

5.3 Site Seismicity

5.4 Technical Design Report and Recommendations

5.5 Geotechnical Data Report

5.6 Site Survey, Potholing & Utility Investigation Report

Design Memo 3 – Design Requirements (Mechanical)

Executive Summary

Section 1 – Engineering Basis of Design

1.1 Mechanical Design Parameters

1.2 HVAC Design Parameters

1.3 Vibration Analysis

1.4 Technical specification List

Design Memo 4 – Design Requirements (E&IC)

Executive Summary

Section 1 – Engineering Basis of Design

1.1 Electrical Design Parameters

1.2 Instrumentation & Control Design Parameters

1.3 Fire Protection Design Basis

1.4 Technical specification List

Design Memo 5 – Environmental and Regulatory Requirements

Executive Summary

Section 1 – Environmental and Regulatory Requirements

1.1 CEQA – NOE Preparation Support

1.2 Project Environmental and Regulatory Requirements

1.3 Stormwater Permitting and Requirements

1.4 Permit Requirements

Section 2 – Air Quality Permitting

2.1 Review of the Existing Air Permit

2.2 Potential Modification to the Existing Permit

2.3 SCAQMD Application Preparation

Design Memo 6 – Operation and Maintenance Requirements

Executive Summary

Section 1 – Facility Operation and Maintenance

1.1 Maintainability Rules and Requirements

1.2 Facility O&M Requirements

1.3 Operation Philosophies

Design Memo 7 – Implementation Plan and Temporary Facilities

Executive Summary

Section 1 – Implementation Plan

1.1 Adjacent Projects Summary

1.2 Construction Sequencing (2 alternatives)

1.3 Contingency Plan (use of Bay in Construction)

1.4 Constructability Issues

1.5 Alternative Analysis and Shut-Down Requirements

1.6 Work Restrictions

1.7 Identify Potential Sole Sources

1.8 Temporary Facilities

Section 2 – Construction Odor Monitoring and Mitigation

2.1 Odor Monitoring requirements

2.2 Odor Mitigation Recommendations

Preliminary Design Drawings

- General
- Demolition
- Civil
- Structural
- Architectural
- Mechanical
- Electrical
- Instrumentation and Control

DRAFT Preliminary Design Report

Volume 1 – Preliminary Design Report Technical Memos

Table of Contents

Executive Summary

- Section 1 – Design Memo 1: Design Validation
- Section 2 – Design Memo 2: Design Requirements (Civil)
- Section 3 – Design Memo 3: Design Requirements (Mechanical)
- Section 4 – Design Memo 4: Design Requirements (E&IC)
- Section 5 – Design Memo 4: Environmental and Regulatory Requirements
- Section 6 – Design Memo 4: Operation and Maintenance
- Section 7 – Design Memo 4: Implementation Plan and Temporary Facilities

Volume 2 - Drawings

- General
- Cover Sheet, Location, and Vicinity Map
- Index of Drawings
- Overall site plans
- Demolition
- Civil
- Structural
- Mechanical
- Electrical and I&C

Volume 3 – Submittal Documentation

- Calculations
- Product Data and Catalog Cuts
- Decision Log
- Meeting Minutes
- Project Safety checklist
- Project Safety Review Plan
- Construction Cost Estimate

FINAL Preliminary Design Report

✓ Same as DRAFT PDR except include OC SAN comments from, but not limited to:

- Second PDR Production Workshop
- PDR Validation Workshop
- OC SAN written/Bluebeam session comments

PHASE 3 – Bid Documents

Design Submittal 1 (DS1)

Volume 1 - Submittal Documentation

- Memo to Reviewers
- Responses to Comments on Previous Submittal
- Design Information
- Commissioning Plan Materials
- Construction Submittal Item List
- Equipment and Instrumentation Database

Volume 2 – Specifications

- TOC
- Additional GR's
- Technical Specifications

Volume 3 – Drawings

- General
- Cover Sheet, Location, and Vicinity Map
- Index of Drawings
- Overall site plans
- Demolition
- Civil
- Structural
- Architectural
- Mechanical
- Fire Protection
- Electrical
- Instrumentation and Control

Volume 4 – Project Support Documentation

- Calculations
- Construction Cost Estimate
- Construction Schedule

Volume 5 – Electronic Files and Databases

- CAD files
- Word documents
- Calculation source files

Design Submittal 2 (DS2)

- Same as DS1 except further advanced, incorporating OC SAN comments from workshops, focus meetings, review meetings and Bluebeam sessions.

Design Submittal 3 (DS3)

- Same as DS2 except further advanced, incorporating OC SAN comments from workshops, focus meetings, review meetings and Bluebeam sessions.

Final Design Submittal (FDS)

- Same as DS3 except further advanced, incorporating OC SAN comments from workshops, focus meetings, review meetings and Bluebeam sessions.

Issued for Bid Submittal (IFB)

- Drawings and specifications only. Other items updated only if changed.

Conformed Documents Submittal

- Issues for Bid (IFB) drawings and specification plus any addenda.