CITY OF OCEANSIDE

AMENDMENT 6 TO
PROFESSIONAL SERVICES AGREEMENT

PROJECT: PURE WATER OCEANSIDE OOP AND TRACER STUDY
CONTRACT - 908142318715

THIS AMENDMENT TO PROFESSIONAL SERVICES AGREEMENT (hereinafter "Amendment"), dated _____ 20____, for identification purposes, is made and entered into by and between the CITY OF OCEANSIDE, Water Utilities Department, a municipal corporation, hereinafter designated as "CITY", and TRUSSELL TECHNOLOGIES, INC., hereinafter designated as "CONSULTANT."

RECITALS

WHEREAS, CITY and CONSULTANT are the parties to that certain Professional Services Agreement dated April 8, 2020, Amendment 1 dated June 28, 2021, and Amendment 2 dated February 23, 2022, Amendment 3 dated April 5, 2023, Amendment 4 dated August 7, 2024, and Amendment 5 dated June 30, 2025, hereinafter referred to as "Agreement", wherein CONSULTANT agreed to provide certain services to the CITY as set forth therein;

WHEREAS, the parties desire to amend the Agreement to modify the scope of work, extend the term of the agreement, and add compensation therefor.

AMENDMENT

NOW, THEREFORE, the parties hereto do mutually agree that the Agreement shall be amended as follows:

1. Section 1, Scope of Work, shall be amended to reflect and include the additional work more fully described in the letter dated July 7, 2025, incorporated herein as Exhibit A.

2. Section 8, Compensation, shall be amended to reflect that all work performed in accordance with Amendment 6 shall not exceed $4,705,669 for a total contract price not to exceed $8,102,648. All compensation shall be in accordance with the updated billing rates contained in the letter dated July 7, 2025, attached hereto and incorporated herein as Exhibit A.

3. Section 9, Timing Requirements, shall be amended to reflect that all work shall be completed in every detail to the satisfaction of the CITY by June 30, 2029.

4. Except as expressly set forth in this Amendment, the Agreement shall remain in full force and effect and is hereby ratified and reaffirmed.

SIGNATURES. The individuals executing this Amendment represent and warrant that they have the right, power, legal capacity and authority to enter into and to execute this Amendment on behalf of the respective legal entities of the CONSULTANT and the CITY.

IN WITNESS WHEREOF, the parties hereto being duly authorized on behalf of their respective entities to execute this Amendment, do hereby agree to the covenants contained in the Agreement, including this Amendment, and have caused this Amendment to be executed by setting hereunto their signatures on the dates set forth below.

TRUSSELL TECHNOLOGIES, INC.

By: _____
R. Shane Trussell, President and CEO

Date: 7/18/25

By: _____
Celine Trussell, Chief Financial Officer

Date: 7/18/2025

95-4862722
Employer ID No.

CITY OF OCEANSIDE

By: _____
Jonathan Borrego, City Manager

Date: _____

APPROVED AS TO FORM:

_____, c.1857
City Attorney

NOTARY ACKNOWLEDGMENTS OF CONSULTANT MUST BE ATTACHED.

Please see attached
Notarial Certificate.

ACKNOWLEDGMENT

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

State of California
County of San Diego)

On July 18th 2025 before me, Kenneth C Shook, Notary Public
(insert name and title of the officer)

personally appeared R. Shane Trussell,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

KENNETH C. SHOOK
Notary Public - California
San Diego County
Commission # 2390802
My Comm. Expires Jan 14, 2026

Signature Kenneth C Shook (Seal)

CALIFORNIA ALL-PURPOSE CERTIFICATE ACKNOWLEDGEMENT

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

State of: California
County of: San Diego

On July 18, 2025, before me, Angela Kerwin, Notary Public, personally appeared Celine Trussell who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of State of California that the foregoing paragraph is true and correct.

ANGELA KERWIN
Notary Public - California
San Diego County
Commission # 2468631
My Comm. Expires Oct 28, 2027

PLACE NOTARY SEAL ABOVE

WITNESS my hand and official seal.

SIGNATURE Angela Kerwin

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of attached document

Title or type of document:

Document Date:_____ Number of Pages:_____

Exhibit A

Trussell

July 7, 2025

Water Utilities Department, City of Oceanside
Aaron Cooley, P.E. – Project Manager
300 North Coast Highway
Oceanside, California 92054

Subject: Pure Water Oceanside (OOP and Tracer Study Contract) 908142318715 Amendment 6 Request

Dear Mr. Cooley,

Trussell Technologies, Inc. has been assisting the City of Oceanside with the implementation of Pure Water Oceanside with regards to State Water Resources Control Board requirements and operation of the Advanced Water Purification Facility. The City has identified opportunities for optimization at the Advanced Water Purification Facility and upstream wastewater plant and intends to address the opportunities through the PWO Optimization Project. The Optimization Project will involve changes to process design and new construction. To continue supporting the City through the new construction contract for the PWO Optimization Project, we respectfully request your consideration of the following items:

1. Extension of the contract date through June 30, 2029
2. A budget increase of $4,705,669 for the extended work proposed for FY 2026 – FY 2029. Please, refer to Scope of Work, Schedule, and Budget provided as Attachment A
3. Use of updated billing rates for work performed under this proposed Amendment 6. Trussell's current billing rates are provided as Attachment B

Best regards,

Eileen Idica

Eileen Idica, Ph.D., P.E.
Trussell Technologies, Inc.
Cell: (858) 232-8175

Cc. Mabel Uyeda, City of Oceanside
Rudy Guzman, City of Oceanside
Ron Lutge, City of Oceanside
Shane Trussell, Trussell Technologies, Inc.
Emily Townsend, Trussell Technologies, Inc.

Attachment A

City of Oceanside

Pure Water Oceanside OOP and Tracer Study Contract 908142318715 Amendment 6 Request for Additional Budget and Tasks for PWO Optimization Project FY2026 – FY2029

Trussell Technologies, Inc. has been assisting the City of Oceanside (City) with the implementation of Pure Water Oceanside with regards to State Water Resources Control Board (Division of Drinking Water (DDW) and Regional Water Quality Control Board (RWQCB)) requirements and operations support for the Advanced Water Purification Facility (AWPF). Since operation of the AWPF began in 2021, the City has identified several opportunities for optimization of maintenance and operations at both the AWPF and upstream San Luis Rey Water Reclamation Facility's Plant 2. The City plans to address these items through a PWO Optimization Project which will involve changes to design, programming modifications, replacement of select equipment, and new construction. Trussell will support the City with the PWO Optimization Project in the role of designer. To accomplish the construction improvements identified in the design, the City intends to advertise the PWO Optimization Project for a traditional construction bid.

The proposed scope of work covers the preparation of final design for the PWO Optimization Project, support for construction bid advertisement and bid evaluation, implementation of design modifications, and engineering services during construction. In addition to the PWO Optimization Project elements, the proposed scope of work includes Trussell's continued on-site support with AWPF operations and operator training to promote stable and continuous AWPF operation and injection through FY 2027. Trussell will also continue to provide the City support with regulatory activities through FY 2027 to maintain compliance with PWO's WDR/WRR permit.

Project Team

Trussell will be the prime consultant on the PWO Optimization Project and will be responsible for the project's process design and overall management. Trussell will be supported by Strategic Engineering and Automation Systems (Strategic) for programming and systems integration, West Coast Civil, Inc. for civil engineering design services, Engineering Partners, Inc. for electrical design services, Aark Engineering, Inc. for structural design services, UES for geotechnical services, Gilbert Bernal, P.E. for instrumentation and controls support, and Puzzullo Consulting for cost estimation.

Scope of Work

Task 9 – AWPF Operations Support for FY 2026 – FY 2027

Task 9.1 – Support for UF Module Repairs and Membrane Integrity Test Optimization
This task assumes that there are 27 ultrafiltration (UF) modules with broken fibers at the AWPF that need repair. Trussell will assist the City with the UF module fiber repairs by drafting a Standard Operating Procedure (SOP) for the repair process and coordinating with the AWPF operators to ensure that the SOP adheres to both the membrane manufacturer's (Hydranautics) standards as well as best practices learned from Trussell's experience with membrane repairs.

Daily Membrane Integrity Tests (MITs) are employed by AWPF operators on the UF skids to demonstrate membrane integrity and receive DDW pathogen credit through the UF membrane process. Per the PWO Title 22 Engineering Report (dated February 2021), the expected log removal credits through the UF system are 4-log for *Cryptosporidium* and 4-log for *Giardia*. Several of the UF trains have dropped below 3.5 logs for Crypto and Giardia, and require membrane module repair and investigation, given that the pathogen credit is based on the lowest performing train. If after UF module repairs, pathogen LRVs are still below 3.5 for any UF skid, Trussell will assist the operators with investigating and troubleshooting other potential sources of low MIT scores, such as failure to meet the minimum test pressures required for the MITs or other areas where air may be leaking out.

Task 9.2 – Support for Troubleshooting of CCP Analyzers and Maintaining Operation
Trussell's operations experience, regulatory knowledge, and familiarity with commonly used process analyzers result in a complete understanding of how an analyzer's performance can affect process controls and the ability of the AWPF to stay in compliance. The objective of the proposed scope is to ensure the AWPF can continue to operate by assisting AWPF operators with the assessment and troubleshooting of analyzers used to monitor critical control points within the AWPF treatment train and maintain compliance. Assessment and troubleshooting of analyzers will be prioritized based on the importance of the analyzer in maintaining regulatory compliance and the AWPF's online operation. If an analyzer used for compliance cannot be brought back online in full capacity for an extended amount of time, Trussell will assist the operators with developing workarounds so that the AWPF can continue to operate while the compliance analyzer is offline, when possible.

Task 9.3 – Support for Optimization of UF System Performance
UF system performance is centered on preventing fouling, either reversible or irreversible. Under this task, Trussell will assist the City with developing and implementing a routine cleaning schedule for the AWPF UF system. The current procedure for UF maintenance cleans (MCs) requires daily execution of two types of MCs per UF skid, which is time-consuming, demanding on operators, and impractical due to limitations on the AWPF's neutralization system and waste EQ basin volume. The current procedure for UF recovery cleans (RCs) can also be optimized to better achieve the target pH and temperature of the various cleaning solutions. Trussell will assist the City with communications between the membrane manufacturer and the development of optimized, routine cleaning procedures to increase the functionality and efficacy of the UF MCs and RCs. Trussell will assist with troubleshooting and assessment of the new cleaning procedures during implementation. Trussell will develop or enhance existing UF performance tracking spreadsheets to allow operators to clearly and efficiently monitor long-term performance and necessary maintenance.

Task 9.4 – Support for Optimization of RO System Performance
This task includes support for the operation and monitoring of the RO system to maintain consistent operation, performance, and compliance. As part of this task, Trussell will review the RO system's current setpoints and chemical dosing to optimize recovery and chemical usage and ensure membrane integrity. Trussell will develop or enhance existing RO performance tracking spreadsheets to allow operators to clearly and efficiently monitor long-term performance and necessary maintenance.

Task 9.5 – Support for Optimization of UV/AOP System Performance
The UV/AOP system continues to be one of the few systems that uses the manufacturer's predictive algorithm for operation. Variables that feed into this predictive algorithm automatically control the system (e.g., how many UV reactors are called to come online at any given time) and determine the system's energy and chemical usage. Under this task, Trussell will work with the manufacturer to investigate and optimize the automatic controls of the UV/AOP system so that

the City may obtain future energy and cost savings. For example, the sodium hypochlorite (SHC) dose to the UV/AOP system is currently controlled by the operator through SCADA but has the potential to be controlled by the UV/AOP system's algorithm and PLC. The SHC dose dictates the free chlorine residual, which must be operated at a minimum value per DDW. Increased stability of the free chlorine residual with optimized, lower dosed SHC will result in long-term chemical cost savings. Trussell will also develop or enhance existing UV/AOP performance tracking spreadsheets to allow operators to clearly and efficiently monitor long-term performance and necessary maintenance.

Task 9.6 – Support for Optimization of Post-Stabilization System Performance
Under this task, Trussell will support plant operators in optimizing and verifying dose setpoints for calcium chloride and sodium hydroxide used in post-stabilization. Trussell will support the City in determining updated setpoints based on the Langelier Saturation Index and other analytical parameters to ensure that adequate post-stabilization is achieved. Trussell will also consider pH stability in the optimization of post-stabilization chemical dosing. Trussell will develop or enhance existing post-stabilization performance tracking spreadsheets to allow operators to clearly and efficiently monitor long-term performance and necessary maintenance.

Task 9.7 – Injection Well Downhole Control Valve Evaluation
Trussell will assist the City in evaluating the existing BASKI packer valves and the use of nitrogen gas used to control the downstream injection wells. The existing BASKI packer valves and nitrogen gas system currently require frequent maintenance. As part of this task, Trussell will communicate with other water agencies and equipment vendors to gain insight on injection well design, industry standards, and alternative valve options. Trussell will assemble the findings from these communications in a Technical Memorandum (TM) that will be shared with the City. The TM will include feedback on injection well designers and construction contractors based on the communications with other water agencies.

Task 9.8 – AWPF Operations and Process Performance Meetings
This task includes attendance and participation in reoccurring AWPF operations and process performance meetings between Trussell and the City. During these meetings, Trussell will facilitate a discussion on current AWPF operations and various process data so that the City is up to date on the AWPF's performance. Beginning in FY 2026, the AWPF operations and process performance meetings will occur at a weekly frequency for a period of six months to promote stable AWPF operation and injection. Assuming stable AWPF operation and injection, the frequency of the meetings will then decrease to a biweekly frequency through the end of FY 2026. The operations and performance meetings will occur at a monthly frequency for the duration of FY 2027. Trussell will develop materials for each of these meetings summarizing data from the process performance spreadsheets and assembling the trends produced as part of Tasks 9.3 - 9.6.

Assumptions: Task 9 assumes operations support is for AWPF production up to 3.0 MGD.

Task 10 – Advanced Water Treatment Operator Training for FY 2026 – FY 2027

Task 10.1 – Training at AWPF for FY 2026 – FY 2027
On-going training with the operator team at the AWPF has been successful in transferring understanding for operation and maintenance of the various unit processes and regulatory considerations, which are key to maintaining compliance on a day-to-day basis. This task allocates one day per week (for a maximum of six months) of training by a Trussell engineer experienced in operation of the AWPF treatment process. This task also allocates 2 days per month (for a maximum of 18 months) of training for more focused sessions at the request of the operations team. These are particularly applicable to membrane cleaning and storage

procedures, which can occur on weekly and less frequent timeframes. Specific training topics will be determined with the City.

Task 11 – Regulatory Support for FY 2026 – FY 2027

Task 11.1 – Regulatory Reporting Assistance

This task includes continued regulatory reporting assistance for FY 2026 and FY 2027 (i.e., July 1, 2025 – June 30, 2027) for DDW and RWQCB requirements. This includes the following subtasks:

Task 11.1.1 – Quarterly and Annual Self-Monitoring Reports: Trussell will develop 8 quarterly reports and 2 annual reports as part of this scope, with due dates in FY 2026 and FY2027. Each report is a compiled report with table of monitoring data specific to the applicable reporting period, summaries of compliance and non-compliance, and evaluations where required by the permit.

Task 11.1.2 – Annual Summary Reports: IPR regulations require annual summary reports with additional requirements to the Annual Self-Monitoring Reports, and Trussell will develop two annual summary reports as part of this scope, with due dates in FY2026 and FY 2027.

Task 11.1.3 – Annual QAPP Updates: The AWPF's QAPP is required by the permit and Recycled Water Policy to be updated once per year and any time significant analytical monitoring for CECs changes. This task includes two QAPP updates, if needed.

Task 11.1.4 – Monthly LRV Reports: Monthly LRV Reports are due on the 10th day of the month following the reporting period. This task includes 24 monthly LRV reports, with due dates in FY2026 and FY2027, and includes working with the City to use their database system to automate portions of this report where possible.

Task 11.2 – T22 Engineering Report Update for 2026

Per DDW's Conditional Acceptance Letter and 22 CCR §60320.228(b), the City must update PWO's Title 22 Engineering Report to address any changes and submit the updated report to DDW and RWQCB at least every five years from the date of the initial approval of the report. PWO's Title 22 Engineering Report was approved by DDW on September 29, 2021 and an updated version must be submitted to DDW and RWQCB no later than September 29, 2026. The objective of this task is to provide support for the City's Title 22 Engineering Report update.

Task 11.3 – Support for Discussions with DDW and Regional Board regarding Updated WDR

The City is anticipating an update to their Waste Discharge Requirements (WDR) that will combine Pure Water Oceanside's permit (Order No. R9-2021-0100) with the Recycled Water permit (Order No. 93-07). This task proposes Trussell's support with the WDR update. Trussell's support will be as requested by the City and may include participation in meetings and discussions with DDW and SDWQCB; review of the administrative draft of the tentative order and provision of comments to the City; and review of the tentative order during the public review period and provision of comments to the City.

Task 11.4 – OOP Updates for Ongoing Optimized Operations for AWPF

Per 22 CCR §60320.222(a), the City is required by DDW to maintain a copy of the OOP that is reflective of current operations, maintenance, and monitoring. This task includes monthly updates to the OOP for one year as these items at the AWPF and for Pure Water Oceanside continue to be optimized. A digital version will be maintained on a OneDrive link accessible to the Operators and other City staff. A change log will also be included to keep track of the modifications.

Task 11.5 – OOP Comment-Review Cycles with DDW, as Requested by DDW
Additionally, per 22 CCR §60320.222(a), DDW may request updated versions of the OOP for review and verification of incorporation of DDW requested modifications. Up to 2 comment-review cycles are assumed to be necessary in FY 2026 – FY 2027 and included in this task.

Task 11.6 – Support for ROP Background Radical Scavenging Demand Sampling
This task assumes Trussell's support with the quarterly ROP background radical scavenging demand sampling over the course of one year once the AWPF returns to operation.

Task 12 – Design Phase Services for PWO Optimization Project

Task 12.1 – Prepare Basis of Design Report and 10% Design Documents
Prepare a Basis of Design Report (BODR) documenting the recommended improvements to address City-identified deficiencies at the PWO AWPF (refer to Attachment C) along with associated costs for the improvements. 10% drawings will be provided as part of the BODR as needed to show major additions/modifications.

Deliverables: BODR (including 10% design drawings) and Opinion of Probable Construction Cost (OPCC)

Task 12.2 – Prepare 30% Design Documents
Prepare 30% design drawings based on the improvements that the City decides to carry forward from the BODR. The 30% set will include draft P&IDs, plan views of most improvements, and some section views as needed for clarity, and a draft list of required specifications.

Deliverables: 30% design drawings and OPCC, list of required specifications

Task 12.3 – Prepare 60% Design Documents and Updated BODR
Prepare 60% design drawings, specifications and OPCC.

Deliverables: 60% design drawings, specifications, and OPCC; final BODR

Assumptions:
- Updating front end specifications for this project will be a collaboration between City staff and the design team. City will provide copies of all standard front end specifications in Word format to be updated by the project team. Project team will identify specification edits for which City input is needed.
- City will provide all drawing notes and specification language that must be incorporated into the design documents to meet requirements related to funding sources (e.g., WIFIA).
- The updated BODR provided with the 60% submittal will be the final version of the BODR.

Task 12.4 – Prepare 90% Design Documents
Prepare 90% design drawings, specifications and OPCC.

Deliverables: 90% design drawings, specifications, and OPCC

Assumptions: 90% design will be a refinement of the 60% design based on City feedback. No new items will be added to the design at the 90% stage.

Task 12.5 – Prepare 100% Design Documents

Prepare 100% design drawings, specifications and OPCC.

Deliverables: 100% design drawings, specifications, and OPCC

Assumptions: The 100% design documents will incorporate City feedback on the 90% submittal. This will be the set of documents issued with the bid advertisement. Any updates to the 100% submittal will be covered by addenda issued during the bid phase.

Task 12.6 – Design Coordination Meetings
This task includes time for attending the following design coordination meetings, as well as preparing agenda and meeting minutes to document action items and decisions:

- Project Kickoff (1 meeting - 4 hours)
- Design Concept Workshop (1 meeting - 8 hours)
- Technical Coordination Meetings (20 meetings - 3 hours each)
- Design Review Workshops (4 meetings - 4 hours each)

Task 13 – Bid and Advertisement Support

Task 13.1 – Bid Advertisement
Assist City staff with preparing the bid advertisement.

Assumption: City staff will upload the advertisement to their preferred online platform.

Task 13.2 – Pre-Bid Meeting
Attend the pre-bid meeting and provide agenda and meeting minutes.

Assumption: Pre-bid meeting will be in-person and include a site walk following the meeting.

Deliverable: Pre-bid meeting minutes

Task 13.3 – Requests for Information (RFIs) and Addenda
Respond to RFIs from potential bidders and issue addenda to clarify the intent of the design as needed. Once the bid process is complete, the design team will issue a set of conformed plans and specifications incorporating all addenda from the bid process.

Deliverables: RFI responses, addenda, conformed set of design documents (plans and specifications) incorporating all addenda

Task 13.4 – Bid Evaluation and Letter of Recommendation
Assist City staff with evaluating proposals and prepare a draft letter of recommendation for bid award. This task includes one in-person, 4 hour meeting to review proposals with City staff.

Deliverable: Draft letter of recommendation

Task 14 – Implementation of Design Modifications

Task 14.1 – Programming Optimization and Control Logic Documentation
Certain elements of the current control logic at Pure Water Oceanside do not promote automated and efficient operations. Furthermore, documentation of the current control logic is either lacking in sufficient detail or nonexistent. As part of Task 14.1, Trussell and Strategic will identify areas of the current control logic that require optimization (refer to Attachment D), and work iteratively to document the updated programming in the form of Process Control Narratives (PCNs) and implement the programming changes at SLR Plant 2 and the AWPF. Trussell and Strategic will

work with the plant operators to test any programming changes to ensure successful implementation. It is assumed that PCNs will only be written for programming that has been updated or contributed by Strategic under this contract. The work performed in this task will begin immediately after notice-to-proceed and will extend through the end of the new construction contract as part of PWO Optimization Project. Any programming performed after the new construction is completed will be performed by Strategic and managed by Trussell as part of this task.

Task 14.2 – *Optional*: As-Needed Implementation Support
During design for the PWO Optimization Project, the City and Trussell may identify smaller-scale design changes/optimizations with potential for their implementation to be accelerated if addressed outside of the major construction effort planned for FY 2027 – FY 2029. Funds in this task will be used to cover additional efforts required as a result of accelerating the implementation.

Task 14.3 – *Optional:* Permitting Assistance with California Air Resources Board
This task may be authorized by the City for as-needed assistance with permitting of the new emergency power generator for the SLRWRF NDN facility. This task will be led by WCC.

Assumptions:

- Trussell and WCC will attend one, in-person kick-off meeting with the City (not to exceed 4 hours) to coordinate project specific requirements.
- WCC will complete the necessary application forms for an Authority to Construct (ATC) and submit them to San Diego County Air Pollution Control District (SDAPCD). It is assumed that the Project will not require preparation of CEQA documents.
- Trussell and WCC will coordinate and attend up to three remote meetings (not to exceed 2 hours each) with the City and/or SDAPCD.
- Trussell and WCC will attend an inspection conducted by SDAPCD following completion of construction and submission of a Construction Completion Notice (CCN) to SDAPCD. A representative of the City will be present at the inspection to answer questions regarding records and equipment.

Task 14.4 – *Optional*: As-Needed Development of Standard Operating Procedures (SOPs)
As part of the PWO Optimization Project, several constructive changes will be made at SLR Plant 2 and the AWPF that will impact the operation and performance of the AWPF's unit processes. This task may be authorized by the City for as-needed support in developing up to five (5) new Standard Operating Procedures (SOPs) for AWPF unit processes that are impacted by the construction changes. An example of a SOP that could be developed is the sulfuric acid dosing strategy to prevent scaling of the AWPF's RO system that is based on the data available from the upstream phosphate analyzers installed at SLR Plant 2 as part of the new construction contract.

Task 14.5 – *Optional*: Chloramines Testing
As part of the new construction, the order of injection for liquid ammonium sulfate (LAS) and sodium hypochlorite (SHC) in the AWPF UF feed may be switched to prevent the dominant formation of dichloramines over monochloramines in the UF feed and reduce the potential for RO membrane degradation. This task may be authorized by the City for as-needed support with the investigation of chloramines speciation throughout the AWPF treatment train after the LAS and SHC injection modifications have been completed. Results and conclusions from the investigation will be summarized in a TM and shared with the City.

Task 15 – Engineering Services during Construction

This task details support provided by the design team during construction of the Project. Any

tasks not described in this section will be considered an additional service.

Assumptions:

- City or Construction Manager will manage and perform construction inspections.
- City or Construction Manager will be responsible for all documentation that must be submitted to meet requirements related to funding sources (e.g., WIFIA).

Task 15.1 – Pre-Construction Meeting
Attend the pre-construction meeting and provide meeting minutes.

Deliverable: Pre-construction meeting minutes

Task 15.2 – Construction Progress Meetings
Attend up to 52 biweekly, one-hour construction progress meetings over the course of two years.

Assumptions:

- Trussell will have two regular attendees at construction progress meetings and will allot time for one process expert to attend half of these meetings.
- Design team will have the option to attend construction progress meetings virtually.

Task 15.3 – RFIs
Review and respond to RFIs from the Contractor to clarify the intent of the design documents.

Assumption: Submittal management through an online platform will be provided by the Contractor, the Construction Manager, or the City.

Task 15.4 – Submittals
Review submittals for conformance with design and provide comments.

Assumption: Submittal management through an online platform will be provided by the Contractor, the Construction Manager, or the City.

Task 15.5 – Site Visits
The design team will conduct site visits during construction to check construction progress and to coordinate with the Contractor and operators to help resolve issues and questions related to the design.

Assumptions:

- Trussell will attend up to 10 full day (8 hour) site visits over the course of construction.
- WCC will attend up to 5 half day (4 hour) site visits over the course of construction.

Task 15.6 – Acceptance Testing
Trussell will attend up to 15 full day (8 hour) site visits over the course of construction to help facilitate equipment acceptance testing.

Task 15.7 – Walkthrough for Substantial Completion
Attend a walkthrough at substantial completion with City staff and develop a list of deficiencies that need to be corrected before final acceptance.

Deliverable: Punchlist items with photo documentation

Task 15.8 – Walkthrough for Final Completion/Closeout
Attend a final walkthrough to confirm deficiencies identified during substantial completion walkthrough have been sufficiently addressed.

Task 15.9 – Record Drawings
Incorporate Contractor redlines into conformed documents to create a set of record drawings.

Deliverable: One set of record drawings

Assumption: Contractor redlines are comprehensive and do not require field verification.

Task 16 – Project Management for FY 2026 – FY 2029

Task 16.1 – Progress Meetings
This task includes attendance and participation in regular project progress meetings, assumed to be biweekly. These are separate from the process performance meetings in Task 9.8, which are envisioned to be with the AWPF operators, the design coordination meetings in Task 12.6, the pre-bid meeting in Task 13.2, and the construction progress meetings in Task 15.2.

Task 16.2 – Project Management
This task includes management activities of the project including schedule, budget, work planning, and invoicing activities.

Assumptions
All submittals will be electronic.

Schedule

Tasks 9, 10, and 11 for the continuation of Trussell's operations, training, and regulatory support are expected to be completed within 24 months of notice-to-proceed. Task 12 (Design Phase Services for the PWO Optimization project) is expected to be completed within 12 months of notice-to-proceed. Task 13 (Bid and Advertisement Support) is expected to be completed within 18 months of notice-to-proceed. Tasks 14 (Implementation of Design Modifications), 15 (Engineering Services during Construction), and 16 (Project Management) are expected to be completed within 48 months of notice-to-proceed.

Budget

The budget breakdown by labor hours and other direct costs is shown for Trussell Technologies and sub-consultants in Table 1.

Trussell Technologies Proposed Budget for OOP/Tracer Study Contract ***
Pure Water Oceanside – Amendment 6 Request
Table 1 of 1 – Budget Breakdown For Amendment 6

Task No.		Trussell Technologies										Sub-Consultants*					ODCs**		TOTAL
	Staff Classification	Principal Engineer III	Principal Engineer II	Supervising Engineer II	Supervising Engineer I	Senior Engineer II	Engineer II	Engineer I	Office Manager II	Total Labor Hours	Labor Cost	Geoscience	West Coast Civil	Stratagent CAAS	GS Bernal (I&C)	Pozzolo Consulting	Production/Equipment	Travel	
	Hourly Billing Rate	[illegible]	[illegible]	$330	$300	$280	$230	$200	$170										
9	**AWPF Operations Support FY 2026 - FY 2027**	40	404	570	204	0	1600	0	0	2824	$ 729,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,880	$ 737,140
9.1	Support for UF Module Repairs and Membrane Integrity Test Optimization			40	44		88			172	$ 48,340							$ 888	$ 49,128
9.2	Support for Troubleshooting of CCP Analyzers and Maintaining Operation			160	162		160			480	$ 133,160							$ 1,776	$ 134,676
9.3	Support for Optimization of UF System Performance		40	184			202			426	$ 115,880							$ 888	$ 116,768
9.4	Support for Optimization of RO System Performance		40	60			84			184	$ 51,480							$ 222	$ 51,702
9.5	Support for Optimization of UV/AOP System Performance		308	214			212			484	$ 167,880							$ 1,776	$ 169,656
9.6	Support for Optimization of Post-Stabilization System Performance		40	102			128			270	$ 74,180							$ 888	$ 75,068
9.7	Injection Well Downhole Control Valve Evaluation		30	28	30		62			140	$ 40,520								$ 40,520
9.8	AWPF Operations and Process Performance Meetings	40	40	74			104			274	$ 81,340							$ 1,066	$ 82,406
10	**AWTO Training FY 2026 - FY 2027**	0	166	234	0	0	0	0	0	400	$ 120,400	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,580	$ 121,980
10.1	Training at AWPF for FY 2026 - FY 2027		164	234						400	$ 120,400							$ 1,580	$ 121,876
11	**Regulatory Support for FY 2026 - FY 2027**	12	310	60	0	0	1704	1182	0	3267	$ 442,140	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,066	$ 443,206
11.1	Regulatory Reporting Assistance	0	64	0	0		880	478		1422	$ 319,440								$ 319,440
11.1.1	*Quarterly and Annual Self-Monitoring Reports*		42					288		330	$ 60,320								$ 60,320
11.1.2	*Annual Summary Reports*		8					76		84	$ 18,880								$ 18,880
11.1.3	*Annual QAPP Updates*		4					76		80	$ 16,640								$ 16,640
11.1.4	*Monthly LRV Reports*		40				880			600	$ 201,400								$ 201,400
11.2	Title 22 Engineering Report Update for 2026		36	42				64		141	$ 38,420								$ 38,420
11.3	Support for Discussions with DDW and SDRWQCB regarding Updated WDR	6	28	28				38		98	$ 28,320								$ 28,320
11.4	OOP Updates for Ongoing Optimized Operations for AWPF		38					74		110	$ 27,700								$ 27,700
11.5	OOP Comment-Review Cycles with DDW, as Requested by DDW (up to 2 comment-review cycles)	6	30	20				42		98	$ 27,000								$ 27,000
11.6	Support for ROP Background Radiant Scavenging Demand Sampling		4				4	16		24	$ 5,620							$ 1,066	$ 6,686
12	**Design Phase Services for PWO Optimization Project**	0	230	180	630	420	380	0	0	1804	$ 552,380	$ -	$ 484,426	$ -	$ 22,882	$ 202,684	$ -	$ -	$ 1,261,380
12.1	Prepare Basis of Design Report (BODR) and 10% Design Documents		40	44	120	144	100			448	$ 120,640		$ 122,380		$ 3,240	$ 13,887			$ 261,337
12.2	Prepare 30% Designs		28	28	90	102	66			344	$ 88,330		$ 216,076			$ 41,472			$ 344,880
12.3	Prepare 60% Designs and Updated BODR		30	40	160	132	90			430	$ 114,820		$ 200,900		$ 6,480	$ 98,481			$ 421,419
12.4	Prepare 90% Designs		24	34	72	100	60			290	$ 77,180		$ 117,022		$ 6,104	$ 48,887			$ 246,676
12.5	Prepare 100% Designs		20	16	44	54	20			154	$ 42,820		$ 63,722		$ 3,806	$ 7,290			$ 117,638
12.6	Design Coordination Meetings		66		66	66				200	$ 60,620		$ 66,412		$ 3,240				$ 167,192
13	**Bid and Advertisement Support**	0	30	0	40	40	0	0	0	108	$ 31,000	$ -	$ 39,130	$ -	$ 1,944	$ -	$ -	$ 222	$ 72,296
13.1	Bid Advertisement		4		8	8				20	$ 5,760		$ 4,730						$ 10,490
13.2	Pre-Bid Meeting		6		8	8				22	$ 6,400		$ 7,187					$ 89	$ 13,676
13.3	Requests for Information (RFIs) and Addenda		8		12	12				32	$ 9,380		$ 27,273		$ 1,944				$ 38,577
13.4	Bid Evaluation and Letter of Recommendation		10		12	12				34	$ 10,080							$ 133	$ 10,213
14	**Implementation of Modifications**	0	284	610	12	182	1666	0	0	2674	$ 883,440	$ -	$ 16,167	$ 453,956	$ -	$ -	$ -	$ 4,882	$ 1,636,437
14.1	Programming Optimization and Control Logic Documentation		184	290			702			1276	$ 325,100			$ 453,956				$ 4,392	$ 783,398
14.2	Optional: As-Needed Implementation Support			90	12	182				284	$ 84,000								$ 88,880
14.3	Optional: Permitting Assistance with California Air Resources Board		10				20			30	$ 8,000		$ 16,157					$ 176	$ 24,334
14.4	Optional: As-Needed Development of Standard Operating Procedures (SOPs)		50	220			200			480	$ 127,100								$ 127,100
14.5	Optional: Chloramines Testing			60			84			144	$ 37,080							$ 444	$ 37,524
15	**Engineering Services during Construction**	0	102	84	226	262	40	0	0	714	$ 200,000	$ -	$ 140,840	$ -	$ 8,424	$ -	$ -	$ 3,166	$ 357,980
15.1	Pre-Construction Meeting		6		10	10				26	$ 8,280							$ 133	$ 8,413
15.2	Construction Progress Meetings		20		52	52				130	$ 37,440		$ 22,020					$ 1,154	$ 61,620
15.3	RFIs		8	12	24	40				84	$ 23,680		$ 45,203		$ 3,240				$ 72,123
15.4	Submittals		4	6	40	60	40			150	$ 40,760		$ 23,420		$ 5,184				$ 69,374
15.5	Site Visits		16	16	24	24				80	$ 23,600		$ 12,102					$ 666	$ 36,446
15.6	Acceptance Testing		10	32	40	40				122	$ 37,200							$ 977	$ 38,157
15.7	Walkthrough for Substantial Completion		8	10	16	16				50	$ 16,400							$ 89	$ 16,489
15.8	Walkthrough for Final Completion/Closeout		8		12	12				32	$ 9,360							$ 89	$ 9,449
15.9	Record Drawings		4		8	8				20	$ 5,760		$ 39,300						$ 45,060
16	**Project Management FY 2026 - FY2029**	142	854	88	0	0	0	473	330	0	$ 338,360	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,382	$ 342,822
16.1	Progress Meetings	66	66	88				95			$ 108,000							$ 4,382	$ 112,382
16.2	Project Management	76	718					380	330		$ 230,000								$ 230,000
	AMENDMENT 6 COSTS with OPTIONAL TASKS	282	1,843	2,234	1,082	1,040	4,186	1,614	330	11,210	$ 2,990,380	$ -	$ 1,003,596	$ 453,956	$ 32,400	$ 202,684	$ -	$ 22,641	$ 4,706,669
	AMENDMENT 6 COSTS without OPTIONAL TASKS	282	1783	1814	1030	630	3684	1614	330	10881	$ 2,762,120	$ -	$ 967,441	$ 453,956	$ 32,400	$ 202,684	$ -	$ 22,019	$ 4,480,631
	TOTAL PROJECT with OPTIONAL TASKS										$ 5,677,531	$ 481,102	$ 1,003,596	$ 453,956	$ 32,400	$ 202,684	$ 168,425	$ 43,883	$ 8,102,648
	TOTAL PROJECT without OPTIONAL TASKS										$ 5,449,271	$ 481,102	$ 967,441	$ 453,956	$ 32,400	$ 202,684	$ 168,425	$ 43,261	$ 7,857,610

Task No.			Purzullo Consulting	ODCs**		TOTAL
				Production/Equipment	Travel	
9	**AWPF Operations Support FY 2026 - FY 2027**	-	$ -	$ -	$ 7,503	$ 797,103
9.1	Support for UF Module Repairs and Membrane Integrity Test Optimization				$ 888	$ 46,128
9.2	Support for Troubleshooting of CCP Analyzers and Maintaining Operation				$ 1,776	$ 134,876
9.3	Support for Optimization of UF System Performance				$ 888	$ 116,768
9.4	Support for Optimization of RO System Performance				$ 222	$ 51,702
9.5	Support for Optimization of UV/AOP System Performance				$ 1,776	$ 189,636
9.6	Support for Optimization of Post-Stabilization System Performance				$ 888	$ 75,068
9.7	Injection Well Downhole Control Valve Evaluation					$ 40,520
9.8	AWPF Operations and Process Performance Meetings				$ 1,065	$ 82,405
10	**AWTO Training FY 2026 - FY 2027**	-	$ -	$ -	$ 1,598	$ 161,078
10.1	Training at AWPF for FY 2026 - FY 2027				$ 1,598	$ 161,078
11	**Regulatory Support for FY 2026 - FY 2027**	-	$ -	$ -	$ 1,065	$ 443,205
11.1	Regulatory Reporting Assistance					$ 316,440
11.1.1	*Quarterly and Annual Self-Monitoring Reports*					*$ 80,320*
11.1.2	*Annual Summary Reports*					*$ 16,080*
11.1.3	*Annual QAPP Updates*					*$ 16,640*
11.1.4	*Monthly LRV Reports*					*$ 201,400*
11.2	Title 22 Engineering Report Update for 2026					$ 38,420
11.3	Support for Discussions with DDW and SDRWQCB regarding Updated WDR					$ 26,320
11.4	OOP Updates for Ongoing Optimized Operations for AWPF					$ 27,760
11.5	OOP Comment-Review Cycles with DDW, as Requested by DDW (up to 2 comment-review cycles)					$ 27,680
11.6	Support for ROP Background Radical Scavenging Demand Sampling				$ 1,065	$ 6,585
12	**Design Phase Services for PWO Optimization Project**	,932	$ 202,694	$ -	$ -	$ 1,581,390
12.1	Prepare Basis of Design Report (BODR) and 10% Design Documents	,240	$ 13,997			$ 261,337
12.2	Prepare 30% Designs		$ 41,472			$ 344,868
12.3	Prepare 60% Designs and Updated BODR	,480	$ 90,461			$ 421,419
12.4	Prepare 90% Designs	,184	$ 49,507			$ 248,875
12.5	Prepare 100% Designs	,888	$ 7,258			$ 117,689
12.6	Design Coordination Meetings	,240				$ 167,192
13	**Bid and Advertisement Support**	,944	$ -	$ -	$ 222	$ 72,986
13.1	Bid Avertisement					$ 10,498
13.2	Pre-Bid Meeting				$ 89	$ 13,676
13.3	Requests for Information (RFIs) and Addenda	,944				$ 38,577
13.4	Bid Evaluation and Letter of Recommendation				$ 133	$ 10,213
14	**Implementation of Modifications**	-	$ -	$ -	$ 4,883	$ 1,028,437
14.1	Programming Optimization and Control Logic Documentation				$ 4,262	$ 783,398
14.2	*Optional*: As-Needed Implementation Support					$ 56,080
14.3	*Optional*: Permitting Assistance with California Air Resources Board				$ 178	$ 24,334
14.4	*Optional*: As-Needed Development of Standard Operating Procedures (SOPs)					$ 127,100
14.5	*Optional*: Chloramines Testing				$ 444	$ 37,524
15	**Engineering Services during Construction**	,424	$ -	$ -	$ 3,108	$ 357,980
15.1	Pre-Construction Meeting				$ 133	$ 8,413
15.2	Construction Progress Meetings				$ 1,154	$ 61,620
15.3	RFIs	,240				$ 72,183
15.4	Submittals	,184				$ 69,374
15.5	Site Visits				$ 666	$ 30,448
15.6	Acceptance Testing				$ 977	$ 38,257
15.7	Walkthrough for Substantial Completion				$ 89	$ 16,569
15.8	Walkthrough for Final Completion/Closeout				$ 89	$ 9,449
15.9	Record Drawings					$ 45,668
16	**Project Management FY 2026 - FY2029**	-	$ -	$ -	$ 4,262	$ 343,522
16.1	Progress Meetings				$ 4,262	$ 112,862
16.2	Project Management					$ 230,660

AMENDMENT 6 COSTS with OPTIONAL TASKS	00	$ 202,694	$ -	$ 22,641	$ 4,705,669
AMENDMENT 6 COSTS without OPTIONAL TASKS	00	$ 202,694	$ -	$ 22,019	$ 4,460,631
TOTAL PROJECT with OPTIONAL TASKS	00	$ 202,694	$ 168,425	$ 43,883	$ 8,102,648
TOTAL PROJECT without OPTIONAL TASKS	00	$ 202,694	$ 168,425	$ 43,261	$ 7,857,610

Trussell

TRUSSELL TECHNOLOGIES, INC.
HOURLY BILLING RATES
City of Oceanside Pure Water
Oceanside OOP/Tracer Study
Amendment 6

	Billing Rate	
	Normal Hourly Rate[1]	Expert Daily Rate[2]
Senior Company Officer	$ 400	$4,800
Principal Engineer III	$ 380	$4,560
Principal Engineer II	$ 360	$4,320
Principal Engineer I	$ 350	$4,200
Supervising Engineer III	$ 330	-
Supervising Engineer II	$ 310	-
Supervising Engineer I	$ 290	-
Senior Engineer III	$ 270	-
Senior Engineer II	$ 250	-
Senior Engineer I	$ 240	-
Engineer II	$ 220	-
Engineer I	$ 200	-
Senior Drafter I	$ 200	-
Associate Engineer II	$ 185	-
Associate Engineer I	$ 180	-
Assistant Engineer II	$ 170	-
Assistant Engineer I	$ 150	-
Lab Assistant II	$ 140	-
Lab Assistant I	$ 120	-
Senior Office Manager II	$ 200	-
Senior Office Manager I	$ 185	-
Office Manager III	$ 180	-
Office Manager II	$ 170	-
Office Manager I	$ 150	-
Office Assistant II	$ 140	-
Office Assistant I	$ 120	-

1. Time will be billed in 15 minute increments
2. Time will be billed in increments of one day

Other Direct Costs
Mileage for vehicle use to be reimbursed at current IRS rate. Travel, equipment rental and other direct costs to be reimbursed at actual cost plus 5%.

Outside Professional Services:
Outside professional services to be reimbursed at actual cost plus 8%

Trussell Technologies respectfully requests the ability to update billing rates at a frequency of every twelve (12) months, based on CPI and other cost increases. Justification for the request would be provided for review, comment, and approval.

11/13/24

Attachment C

Scope Item No.	Process or Process Area	Scope Item Name	Scope of Work	Estimated Sheet Count[1]		
				Civil/Process Mechanical	Electrical	Structural
1	Plant 2 – Primary Influent Channel	Coarse Air Bubble Mixing Diffusers	The existing facility has a coarse air bubble mixing system in the primary influent channel in front of Primary Clarifiers No. 5 and 6. A similar system with new coarse air bubble diffusers and associated piping is to be added in front of Primary Clarifiers No. 7 and 8. The design team will investiage whether the existing system can be extended (i.e., use same air source), or if a new connection to the Plant 2 blowers is needed. The design team will also verify that the blowers have sufficient capacity for the addition and consider how system extension will be integrated into SCADA.	3		1
2	Plant 2 - Instrumentation	Addition of up to Three Phosphate Analyzers	Design and construct an online phosphate analyzer system to enable optimized ferric addition in Plant 2. Select an analyzer suitable for a high solids feed with reasonable maintenance. There will be up to three phosphate analyzers: two at the primary influent channel or one at LET diversion box, and another downstream between the aeration basin effluent and the secondary clarifiers. The design team will evaluate the feasibility of installing an analyzer at the LET diversion box as part of the BODR.	4	2	
3	Plant 2 – Aeration Basin Effluent Channel	Mixed Liquor Channel Ferric Dosing	Integrate a ferric chloride dosing system that triggers the mixed liquor channel chemical pump when the downstream phosphate analyzer, located between the aeration basin effluent and secondary clarifiers, reads phosphorus concentrations exceeding 3 mg/L-P. The system should deactivate when levels fall below 2.5 mg/L-P. Controls will include the ability to set a limit on the ferric pump output to prevent overdosing and potential complications at the AWPF. New chemical metering pumps and piping are required for this item, and the design team will evaluate whether a new ferric storage tank that is closer to the dosing point is needed.	4	2	1
4	Plant 2 – Aeration Basins	Redundant Ammonia Probe	Install owner-provided ammonia probe between aeration basins 4 and 5. Connect ammonia probe signal to master control panel and integrate into existing programming.	2		
5	Plant 2 - Aeration Basins	Aeration Basin Cover Modifications	Provide new aeration basin covers for Plant 2 Aeration Basins No. 4 and 5. New covers to match existing covers on Aeration Basins No. 6 and 7.	1		
6	Plant 2 - Secondary Clarifier	Sludge Rake Arm Modifications	Extend sludge rake arms at Plant 2 Secondary Clarifiers No. 9 and 12 so that they span the full diameter of the basin.	1		
7	Plant 2 - Secondary Clarifier	Stair Modification	Modify stairs so that there is not an elevation change and trip hazard to center walkway.	1		

8	Plant 2 - Secondary Clarifier	Weir Leveling	Level the weirs in Plant 2 Secondary Clarifiers No. 9 and 12.	1		
9	Plant 2 - Secondary Clarifier	Weir Covers	Install covers on circular clarifier weirs to block sunlight and limit algae growth.	2		
10	Plant 2 - Instrumentation	Secondary Effluent Turbidimeter	Add a turbidimeter at the secondary clarifiers along with the necessary wiring and integration into SCADA (including alarms) for staff to track secondary effluent turbidity and alert staff when there is an issue.	3	2	
11	AWPF - Chemical	Chloramine Dosing and Optimization	Change the order of injection for LAS and SHC in the UF feed water to prevent the dominant formation of dichloramines over monochloramines and thereby reduce the potential for increased NDMA formation and RO membrane degradation.	1		
12	AWPF - Chemical	Chemical Piping	- Remove and replace all chemical lines and secondary containment piping with proper containment that allows for visible indication of leaks and includs valving to property drain containment piping in the event of leaks. Replace valves with proper materials to prevent future leaks. - Evaluate feasibility of moving all chemical lines to be lower and/or in trenches. - Design and install supports for vertical chemical piping as needed. - Provide secondary containment for chemical injection points to the greatest degree possible. - Evaluate sight gauges and replace with gauges that have clearly marked measurements. - Replace failed sodium hydroxide valve. - Redesign UF CIP and neutralization lines so that valves are staggered and have sufficient clearance to be able to access for maintanence. Redesign piping so that pipes are staggered and will not leak on underlying pipes. - Install an isolation valve on all chemical lines. - Confirm that all pipe and valve materials are compatible with the chemical service for which they are utilized.	11		
13	AWPF - Chemical	Calcium Chloride Tank, Piping, & Valve System	Reconfigure and simplify piping at calcium chloride storage tank.	4	1	
14	AWPF - Chemical	Sulfuric Acid System	Reconfigure the chemical storage area to accommodate a larger volume of sulfuric acid. This may include provision of an alternate CIP strategy for the RO membranes (e.g. use of specialty cleaner), consolidation of the sulfuric acid and citric acid storage area, provision of a larger sulfuric acid tank, and provision of a new outdoor citric acid storage area to the west of the AWPF. Additionally, the access issues into the sulfuric acid containment area need to be corrected.	7	1	2

15	AWPF – Chemical	Chemical Fill Station Improvements	Remove external chemical fill station boxes where necessary and modify fill connection piping to angle downward at a 45 degree angle to eliminate strain on the hose connection. Install a hose bib rack outside in the chemical fill station area. Assess the current materials used in the chemical fill stations for chemical compatibility and replace non-compatible materials with compatible materials.	2		
16	AWPF - Ultrafiltration (UF) System	Maintenance Clean Sample Tap	Add sample tap on each of the 8 UF skids to sample the maintenance clean (MC) chemical solution during MCs to confirm the strength of the MC solution.	1		
17	AWPF - UF System	Optimize UF RC System, Including Sequencing	- Increase the working volume of UF CIP Tank No. 2 and provide the ability for the CIP solution in the tank to reach the target temperature setpoint of 100 °F. Consider replacing the existing tank with a new tank that has a higher temperature resistance and a higher overflow point to allow as well as upgrading the heating capacity of the immersion heater in the UF CIP tank. - Evaluate bringing CIP chemicals directly into the tank through top penetrations.	3		
18	AWPF - UF System	Victaulic Couplings	Adjust piping, provide additional supports, and implement other measures to prevent leakage from piping on UF skids. Reroute stainless steel piping on each skid as needed.	1		
19	AWPF - RO System	RO Permeate Flush Waste Flow	Replace the Cla-Val valves on the RO permeate flush waste piping with actuated valves. Implement programming to integrate these valves into the current control strategy. Ensure the UV influent analyzer panel does not over pressurize during shutdown.	3	1	
20	AWPF - RO System	RO CIP Optimization	Route drain line to the Waste Neutralization Wet Well to prevent unintended mixing.	2		
21	AWPF - RO System	RO Concentrate Valve Settings	The RO concentrate valve is installed in a trench and is not easily accessible. Install valve touch pad or provide SCADA access to change the pressure settings.			
22	AWPF - Neutralization Basin Pump Station	Redesign NPS	Redesign the neutralization system so that the neutralization basin pumps sit up on deck rather than in the neutralization wet well, which is a corrosive environment that may decrease the life of the pumps.	3	1	
23	AWPF – Product Water Pump Station and Clearwell	Reroute Clearwell Vent to Outside of Building	Reroute clearwell vent to outside of building and replace corroded and rusted piping and supports inside the building.	1		
24	AWPF - Instrumentation	UFAS Analyzer Panel Feed Consistency	Provide corrections to ensure a steady, consistent flow into the UFAS analyzer panel. Potential solutions that will be evaluated include adjusting UF feed pump flow consistency, separating single UFAS analyzer panel into two panels fed by separate lines, and upsizing the sample line.	5	1	
25	AWPF - Instrumentation	UFAS Analyzer Panel Sediment	Provide y-strainer, cartridge filters, or screens upstream of all water quality analyzers (except the turbidimeters) on the UFAS analyzer panel to reduce the accumulation of suspended solids.	3		

26	AWPF - Instrumentation	UFAS, RO Feed, and RO Permeate Analyzer Panel Rosemount Free Chlorine Probe Removal	Obtain approval from membrane manufacturer to remove free chlorine probes from the UFAS, RO feed, and RO permeate analyzer panels without affecting membrane warranty, or replace the Rosemount probes with an alternative probe (e.g., Hach CL17sc) that can accurately measure free chlorine in the presence of chloramines.	3		
27	AWPF - Instrumentation	Addition of a Second Free Ammonia Meter to UFAS Analyzer Panel	Install a new free ammonia meter in the UF feed piping so that there are two free ammonia meters in the UF Feed: one before and one after addition of LAS and SHC. The free ammonia meter installed prior to LAS and SHC addition will help operators identify upsets to water quality incoming from SLR Plant 2.	2	1	
28	AWPF - Instrumentation	UFAS and RO Feed Analyzer Panel Free Ammonia Meter	Replace the existing free ammonia meter on the UFAS analyzer panel with an alternative that is more reliable, easier to maintain, and measures in units of "as N." Replace the free ammonia meter on the RO Feed analyzer panel with an alternative that measures both free ammonia and monochloramine so that formation of monochloramines can be more easily monitored. The unit display on the alternative meter on the RO Feed panel should also be "as N."	3	1	
29	AWPF – Instrumentation	RO Permeate Flow and Concentrate Flow Meters	- Investigate causes of false ghost flows on RO permeate and concentrate flow meters and implement measures to ensure accurate flow readings. If necessary, replace the flow meters with meters from a different manufacturer (e.g., Rosemount) for greater reliability. - Add a combined permeate flow meter per RO skid.	3	1	
30	AWPF – Instrumentation	Reconfigure UV Influent Analyzer Panel	- Consolidate the UV influent analyzers onto one instrument panel on the west side of the UV reactors. Reroute the sample line for the additional UVT analyzer to sample from the RO permeate (prior to sodium hypochlorite addition) so that the City has two online redundant UVT analyzers. - Add an independent sample tap. - Repair and replace any corroded piping and grating. - Replace the Rosemount free chlorine probe with Hach CL17sc and reconfigure the Rosemount pH probe to work independently (if possible).	4	1	
31	AWPF - Instrumentation	Replacement of UV Effluent and UPPS Amperometric Analyzers with Hach CL17sc Chlorine Analyzers	Replace amperometric analyzers at UV effluent and UPPS with new Hach CL17sc analyzers, and modify the programming to adjust the scaling on the new Hach CL17sc analyzers.	2		
32	AWPF - Instrumentation	UV and PWPS Flow Meter Modifications	Add in fittings for pitot tubes to accurately check the flows using the pitot-static method, or replace the existing Krohne flow meters with different flow meters. If the Krohne flow meters remain, modify the programming to eliminate the factor value.	4		
33	AWPF - Instrumentation	Piping and Fittings Replacement on Analyzer Panels	Replace the stainless steel piping on all analyzer panels with PVC and replace the fittings with push-to-connect fittings where applicable to make panel modifications easier.	8		
34	AWPF - Instrumentation – Upper Pump Station	Increase Size of Drain Line for UPPS Analyzer Panel	Increase drain diameter size and piping away from UPPS analyzer panel to prevent moisture buildup.	2		
35	AWPF - Programming	Composite Sampler Flushing and Pressure Issues	Complete unfinished composite sampler programming and wiring. Acquire recommended settings for panel upstream of composite sampler. Work with Chief Plant Operator to install desired 3-way valve and pressure regulator system.	2		

36	SLRWRF - Secondary Treatment	NDN Generator	Design an emergency power generator to accommodate 100% electrical load requirements for all Plant 2 upgrades tied to NDN Facility and install ATS. The generator is anticipated to be 1 to 1.5 MW. Finalize sizing and siting based on the City's proposed location. Design will meet permitting requirements established by the regional air board.	1	7	1
37	AWPF - Chemical	Chemical Transfer Skids	Evaluate the existing chemical transfer skid designs, including suction piping. Redesign the chemical transfer skids where necessary and replace non-compatible materials with compatible materials to prevent leaks. Add pump flushes where applicable. Consider installing calibration columns on chemical transfer skids.	3	1	
38	AWPF - UF System	UF Feed Strainers	Evaluate the cause of the faults and alarms at the UF feed strainers and assess if upgrades could prevent the faults and alarms from reoccuring. Implement solution.			
39	AWPF - RO System	RO Skid Grounding	Properly ground the RO skids and all instrumentation.		1	
40	AWPF - RO System	RO Skid Conduits	Check the number of wires allowed in a single conduit per the IEEE standard.			
41	AWPF - RO System	SDI System	Supply a constant UF filtrate pressure of 30 psi for SDI testing.	2	1	
42	AWPF - RO System	Stage 3 Permeate Sample Taps	Add a Stage 3 permeate sample tap to each RO skid.	1		
43	AWPF - RO System	Replace Labcock Valves on RO Skid Vessels	Replace all 1/4" labcock valves with 1/2" ball valves on each RO skid vessel so that the City can properly perform RO vessel probing.	1		
44	AWPF - Chemical	Chemical Piping for SHC Tank 1	Install chemical outlet piping from SHC Tank No. 1 that ties in with the outlet piping on SHC Tank No. 2 so that the feed and transfer pumps can pull from both tanks.	3		
45	AWPF - Instrumentation	Electrical Submetering by Process Area	Install dedicated electrical meters on each unit process so that the City can evaluate how efficiently each unit process is operating.			
46	AWPF - Chemical	RO CIP Batch Skid Optimization	Design an RO CIP batching skid at ground level with pumps and piping to pump batched CIP solution into the RO CIP tank.		3	
47	AWPF - Chemical	SHC Transfer Pumps	SHC Transfer Pump No. 2 is a spare pump with no plumbing. Plumb SHC Transfer Pump No. 2 so it can serve as a backup.	4	2	
48	AWPF - Programming	Receive Signals from Temperature Controllers on UF and RO CIP Tanks	Wire and program the temperature controllers on the UF and RO CIP tanks so that they send informational signals to SCADA, such as start, stop, and fault sigals.	1		
49	AWPF - Injection Wells	IW Downhole Control Valves	Investigate alternative downhole control valve options that do not require compressed nitrogen for modulation.			
			Subtotals	118	30	5
			Total	**153**		

[1] *Please note that the sheet counts provided for each discipline are an estimate based on best available information. The final sheet count may change based on information gathered while developing the BODR and the final selection of the scope items the City decides to pursue to 100% design.*

Attachment D

Scope Item No.	Process or Process Area	Scope Item Name	Background Context	Scope of Work
1	Plant 2 - Programming	Primary Sludge Pump Programming	Soffa removed the prior programming for the existing sludge pumps (e.g., sludge valves 7 & 8) at SLR Plant 2. As a result of the removal, operation of the pumps is less automated and more manual for the SLR Plant 2 operators. Trussell is working with TSI under our current contract to have SLR Plant 2's primary slude pumping controlled in the same manner as SLR Plant 1.	Potential additional programming for more sophisticated Plant 2 primary sludge pumping as a function of Primary Sludge Total Solids Percent. See Control Narrative attached to email.
2	Plant 2 – Primary Influent Channel	Integrate and Automate Ferric Dosing Pumps	Phosphate spikes in the AWPF feed water are higher than anticipated, creating an increase in demand for sulfuric acid and potentially leading to rapid membrane scaling, necessitating excessive chemical cleans to restore membrane performance. An online phosphate analyzer system will be designed and constructed at SLR Plant 2 to optimize upstream ferric addition at SLR Plant 2 and reduce phosphate concentrations in the AWPF feed water. The phosphate analyzer system at SLR Plant 2 will consist of two phosphate analyzers: one at the primary influent channel and another downstream between the aeration basin effluent and the secondary clarifiers.	Upgrade the current ferric dosing system to automated pumping on SCADA with three modes: constant speed, constant dose, and dose adjustment based on primary influent channel phosphate analyzer readings, using a phosphorus-to-ferric ratio calculated from historical removals.
3	Plant 2 – Aeration Basins	Redundant Ammonia Probe	Currently there is only one ammonia probe in the channel between aeration basins 6 and 7. Adding a second ammonia probe to the channel between aeration basins 4 and 5 would allow a better characterization of the influent ammonia to the secondary biological process, and act as a redundant analyzer to the single ammonia analyzer. Will install owner-provided ammonia probe between aeration basins 4 and 5.	Connect ammonia probe signal to master control panel and integrate into existing programming.
4	Plant 2 - Programming	RAS/WAS Programming	The RAS/WAS pump programming that was prepared for the AWPF contract was not integrated properly with the Hach RTC programming resulting in deficient controls for the aeration process.	Provide programming and other services for all of the Plant 2 RAS + WAS pumps, flow meters, Hach RTC, etc. Please note that Hach RTC is a vendor panel.
5	AWPF - Programming	AWPF Flow Alternatives	The AWPF can run at 1.5 MGD, 3 MGD, and 4.5 MGD and in the future will run at 6 MGD. AWPF product water has the capability of going to either (1) the injection wells (2) the lower Recycled Water Pump Station (3) the Upper Recycled Water Pump Station and/or (4) diversion. The City requires modified programming to facilitate direction of flow under a variety of circumstances.	Modify the programming to accommodate City direction for product water flows. Programming shall optimize the opening and closure of modulating valves (MOVs) to prevent pressure spikes.
6	AWPF - Programming	Injection Well Communication and Injection Optimization	The hydraulics of the groundwater basin the City is injecting into fluctuate, resulting in a buildup of pressure in the feed line requiring staff to manually manipulate pressure and/or flowrate to the injection wells (IWs) to maintain operations.	Programming to automatically connect AWPF and IWs so that operators don't need to manually adjust pressures between AWPF and the IWs.

Attachment D

7	AWPF - Programming	Composite Sampler flushing and pressure issues	The Composite Sampler at the UPPS Analyzer Panel was not configured correctly. Will acquire recommended settings for the analyzer panel upstream of composite sampler and work with Chief Plant Operator to install desired 3-way valve and pressure regulator system.	Complete unfinished programming and wiring for the composite sampler at the UPPS analyzer panel.
8	AWPF - Programming	UV AOP Operations Coordination	The City would like accurate and consistent units to be displayed and used in calculations on SCADA.	Programming to address discrepancy in units between SCADA and Trojan's PLC (e.g., required influent NaOCl parameter interpreted "as NaOCl" in SCADA vs "as Cl2" in Trojan's PLC); Investigate controls on UV/AOP trains (e.g., controls on how many reactors turn on during startup)
9	AWPF - RO System	RO Permeate Flush Waste Flow	The CLA-valves currently do not allow any water to pass through to the waste line. This causes pressurization on the permeate side of the RO membranes during a flush when the system is offline. Over pressurization of RO membranes on the permeate side can result in critical damage to RO membranes. Will replace the clay valves on the RO skids with actuated valves.	Implement programming to integrate these valves into the current control strategy.
10	AWPF - Instrumentation	Replacement of Amperometric Analyzers with Hach CL17sc Chlorine Analyzers	The amperometric analyzers (i.e., Rosemount FCL analyzers) require frequent maintenance and replacement to maintain accuracy, and the associated costs for the sensors and consummables are expensive. Will procure new CL17sc Chlorine Analyzers from Hach and replace all amperometric analyzers with the new Hach CL17sc Analyzers.	Modify the programming to adjust the scaling on the new Hach CL17sc analyzers.
11	AWPF - Instrumentation	UV and PWPS Flow Meter Modifications	UV, PWPS, & RO flow meters (Krohne) are not reading accurately. There is no calibration or checks for the flow meters to evaluate their accuracy. Will add in fittings for pitot tubes to accurately check the flows using the pitot-static method, or swap for different flow meters.	Modify the programming to eliminate the factor value if the Krohne flow meters remain.
12	AWPF - Programming – RO System	Misc. RO Programming Modifications	The City desires additional functionality for the RO system for safe shutdowns.	Program to add permeate flush button and optimize SCADA screens for dp Calcs.
13	AWPF - Chemical	SBS Transfer Pumps	The Sodium Bisulfite (SBS) transfer pumps are experiencing gear damage and premature failure due to the absence of motor soft starts in the pump local control panels. Will investigate if motor soft starts can be added within the existing LCP's. If so, will procure and install motor soft starts in the LCP's.	Program the motor soft starts to provide 0 RPM to maximum RPM over a period of at least 30 seconds.
14	AWPF - UF system	UF Skid Sorting	The UF skid sorting does not currently follow the respective control strategy (e.g., the UF skid queue sometimes reshuffles inexplicably).	Programmer to identify how skid sorting occurs and make sure position from last time of operation is maintained.

15	AWPF - RO System	RO Trains	When testing operation of all three RO trains, one of the RO trains went offline for an uknown reason. Operators modified the AWPF's RO setpoint to two trains and reset the faults on the train that went offline. All three trains showed a "ready" status and the AWPF RO setpoint was reset to three trains. Despite the ready statuses and new setpoint for all three RO trains, only two RO trains were called online when the AWPF started up again. The number of UF trains also did not increase based on the RO setpoint of three trains.	Programmer to investigate the RO train faults when trying to operate the AWPF with three trains. Investigate why the number of RO trains called online during plant restart did not follow the AWPF control strategy based on the RO setpoint and train ready statuses.
16	AWPF - Programming	Update SHC SCADA Screen	Currently the SHC transfer pump #2 is out of service on the SCADA screen and shown as a spare pump because it is not plumbed. Transfer pump #2 will be plumbed and installed so it can serve as a spare back up pump to SHC transfer pumps #'s 1 and 3.	Update SCADA screens for new SHC transfer pump configuration after transfer pump #2 is plumbed and operating as a back up pump. Consider use of an alternator after back up pump is installed.
17	AWPF - Programming	Receive Signals from Temperature Controller on UF and RO CIP Tanks	There's currently no ability to receive "start," "stop," or "fault" signals from the temperature controllers on the UF and RO CIP tanks.	Implement wiring and programming so that the temperature controllers on the UF and RO CIP tanks communicate with SCADA.
18	AWPF - Programming	Automation for Simultaneous Injection and RW Blending	Currently, simultaneous injection and blending of AWPF product water is a very manual process for the AWPF operators due to lack of automation and programming.	Implement programming to allow for automated and simultaneous injection and blending of AWPF product water.
19	AWPF - Controls	Updated Control Logic Summaries for Updated Processes	Documentation of the current AWPF control logic is lacking.	SCADA Integrations will document any changes made to the programming and control logic to implement the scope items listed above and share the documented changes with Trussell. Trussell will create updated control logic summaries and process control narratives based on SCADA Integrations' changes, and SCADA Integrations will review for accuracy.

June 30, 2025

Ms. Eileen Idica
Trussell Technologies, Inc.
224 N Fair Oaks Ave, Floor 2
Pasadena, CA 91103

Subject: **Proposal for Civil Engineering Services for City of Oceanside Advanced Water Purification Facility Optimization Project (Rev1)**

Ms. Idica,

West Coast Civil, Inc. (WCC) is pleased to submit this proposal to Trussell Technologies Inc. (CLIENT) to provide civil engineering services related to the Advanced Water Purification Facility (AWPF) Optimization Project for the City of Oceanside (PROJECT). Our Scope of Services is outlined in Section I, below:

I. SCOPE OF SERVICES

WCC will provide civil engineering services to facilitate improvements at the City's existing AWPF at the San Luis Rey Water Reclamation Facility (SLRWRF). The improvements will repair/replace existing deficiencies at the site to allow the Facility to operate properly. It is WCC's understanding that the CLIENT will perform scope associated with process design, SCADA integration, instrumentation and controls, and control narratives.

WCC will sub-contract with a licensed electrical engineering firm, Engineering Partners, Inc. (EPI) and structural engineering firm, aark engineering, Inc. (AARK) to perform the respective design services and assist WCC and the CLIENT. The associated scope of services are provided as Attachments B and C, respectively.

WCC will perform the following scope items in support of the PROJECT:

Task 1: Project Management and Meetings

Project Management
WCC will manage the contract and sub-consultants. WCC Project Manager will submit monthly invoices to the CLIENT and include status updates with each invoice. WCC will subcontract with a licensed Electrical Engineer and Structural Engineer to assist with the design process and construction support.

Kick-Off Meeting
WCC will attend a kick-off meeting with the project team and coordinate project specific requirements with CLIENT and the City of Oceanside (City). This scope assumes a single in-person meeting not exceeding four (4) hours.

Concept Design Workshop
WCC will attend a Concept Design Workshop with the City to discuss scope items associated with the Project based on the scope deficiency list provided by the CLIENT (Attachment B). This task assumes a maximum of one (1) working day.

Technical Meetings (20)
WCC will attend conference call meetings with the project team and coordinate project specific requirements with CLIENT, and their subcontractors, and the City. Coordination includes telephone conversations, e-mails, and specific breakout meetings. This scope assumes up to twenty (20) remote meetings not exceeding three (3) hours each.

Design Review Meeting (4)
WCC will attend a Design Review Meeting following each design submittal to the City (10/30/60/90) to discuss City comments and respond prior to the next submittal process.

Site Visits (5)
WCC will attend up to five (5) site visits over the course of the design process. Scope includes, but is not limited to photo documentation, operator coordination, field measurements, etc. Each trip assumes a four (4) hour duration.

Task 2: 10% Design and Basis of Design Report

Meetings and Coordination
WCC will attend conference call meetings with the project team and coordinate project specific requirements with CLIENT and their subcontractors. Coordination includes telephone conversations, e-mails, and specific breakout meetings.

10% Design Drawings
WCC will develop preliminary concept plans (10 sheets) for major scope items based on the CLIENT provided scope deficiency list with assumed sheets identified. WCC will assist CLIENT with drafting services associated with Piping and Instrumentation Diagram (P&ID) sheets. It is assumed that where feasible, the Record Drawings from the previous project will be used and marked up to reflect scope items.

Basis of Design Report
WCC will prepare a Basis of Design which documents the principles, assumptions, criteria, and considerations used for calculations and decisions required for the design of the PROJECT. This assumes one (1) submittal and one (1) resubmittal.

Soils Investigation
WCC will subcontract with a geotechnical engineer to perform a subsurface investigation for a proposed outdoor chemical tank and generator. See Attachment D for scope of work.

QAQC
WCC will review their package for quality assurance and quality control before submission to ensure the package is complete and is free of errors.

Task 3. 30% Design

Meetings and Coordination
WCC will attend conference call meetings with the project team and coordinate project specific requirements with CLIENT and their subcontractors. Coordination includes telephone conversations, e-mails, and specific breakout meetings.

30% Design Drawings (118 Sheets)
WCC will review the CLIENT comments to the 10% preliminary concept plans and develop design drawings in conjunction with the Basis of Design Report. It is anticipated that the plans will include draft P&ID's, plan views of improvements, and section views of major improvements.

30% Specifications
WCC will identify the specification sections that are anticipated for the Project in the form of a Table of Contents.

QAQC
WCC will review their package for quality assurance and quality control before submission to ensure the package is complete and is free of errors.

Task 4. 60% Design

Meetings and Coordination
WCC will attend conference call meetings with the project team and coordinate project specific requirements with CLIENT and their subcontractors. Coordination includes telephone conversations, e-mails, and specific breakout meetings.

60% Design Drawings (118 Sheets)
WCC will update the plans based on the CLIENT comments to the 30% plans and in conjunction with the Basis of Design Report.

60% Specifications
WCC will prepare the specification sections based on City validation of sections in the 30% Design. It assumed that specifications will conform to CSI standards. WCC will assist CLIENT with modification of City's front-end bid documents.

QAQC
WCC will review their package for quality assurance and quality control before submission to ensure the package is complete and is free of errors.

Task 5. 90% Design

Meetings and Coordination
WCC will attend conference call meetings with the project team and coordinate project specific requirements with CLIENT and their subcontractors. Coordination includes telephone conversations, e-mails, and specific breakout meetings.

90% Design Drawings (118 Sheets)
WCC will update the plans based on the CLIENT comments to the 60% plans and in conjunction with the Basis of Design Report.

90% Specifications
WCC will update the specification sections based on City comments.

QAQC
WCC will review their package for quality assurance and quality control before submission to ensure the package is complete and is free of errors.

Task 6. 100% Design

Meetings and Coordination
WCC will attend conference call meetings with the project team and coordinate project specific requirements with CLIENT and their subcontractors. Coordination includes telephone conversations, e-mails, and specific breakout meetings.

100% Design Drawings (118 Sheets)
WCC will update the plans based on the CLIENT comments to the 90% plans and in conjunction with the Basis of Design Report.

100% Specifications
WCC will update the specification sections based on City comments.

QAQC
WCC will review their package for quality assurance and quality control before submission to ensure the package is complete and is free of errors.

Task 7: Bid & Advertisement Support

Pre-Bid Support
WCC will assist the CLIENT and City with ensuring the bid documents are ready for bid. WCC will assist with any pre-Bid RFI's.

Advertisement Support
WCC will assist the CLIENT and City with reviewing and responding to RFI's received during the bidding process. This task assumes attendance of a pre-bid meeting in-person at the AWPF.

Conformed Set
Based on results of the advertisement period, WCC will update the plan set to reflect any changes and issue a "Conformed Set" for construction.

Task 8: Engineering Services During Construction

RFIs Reviews
WCC will respond to RFIs during construction. This task assumes a maximum of fifty (50) RFI's.

Submittal Reviews
WCC will respond review product submittals from the Contractor. This task assumes a maximum of twenty-five (25) submittal reviews.

Bi-Weekly Progress Meetings (52)
WCC will attend conference call meetings with the project team, City, and Contractor to discuss progress of work and open items. This scope assumes a remote meeting every two (2) weeks based on a construction period of two (2) years (52 meetings). This task assumes the meetings do not exceed one (1) hour each.

Site Visits (5)
WCC will attend up to five (5) site visits over the course of construction. Each trip assumes a four (4) hour duration.

Record Drawings
Once construction is completed, WCC will prepare record drawings based on contractor redlines. This assumes the Contractor redlines are comprehensive and do not need WCC field verification.

II. EXCLUSIONS

The following services are specifically excluded:

A. Any additional project related services not specifically included in Section I, Scope of Services.
B. Permitting fees.
C. Mechanical, and Plumbing Engineering.
D. Topographic Survey and Utility Locating Services.
E. Construction Management.
F. Shoring design and special inspections.
G. Environmental studies/reports and soil/groundwater sampling.
H. Reprographics and Delivery.

III. CLIENT FURNISHED SERVICES

The CLIENT will provide the following services or information:

A. Any reference drawings available.
B. Assign one person to serve as the CLIENT's project manager who has the authority to represent the CLIENT and will serve as the point of interface for all project issues and communications.

IV. FEES AND CONDITIONS

The services described in Section I, Scope of Services, will be provided on a time and material basis billed by task to CLIENT monthly, with the total budget not to exceed **$914,296.** Fees are presented in the table below in accordance with our fee rates (Attachment A).

Engineering services beyond the scope of this proposal are considered Additional Services. If requested by the Client, WCC will provide Additional Services on a time and materials basis in accordance with the attached WCC fee schedule.

WCC is not obligated to perform such Additional Services unless an amendment to this Agreement has been fully executed setting forth the scope, schedule, and fee for such Additional Service.

1. Project Management and Meetings	$ 74,474
2. 10% Design and Basis of Design Report	$ 114,130
3. 30% Design	$ 194,515
4. 60% Design	$ 194,406
5. 90% Design	$ 108,355
6. 100% Design	$ 59,003
7. Bid & Advertisement Support	$ 36,221
8. Engineering Services During Construction	$ 133,193
Total	**$ 914,296**

Sincerely,

Austin Frisby

Austin Frisby, P.E., Q.S.D.
Project Manager, West Coast Civil, Inc.
(951) 529 - 5247 | austinf@westcoastcivil.com

Anthony Gonzalez, P.E.
President, West Coast Civil, Inc.
(858) 869 - 1332 | anthony@westcoastcivil.com

Attachment E

WEST COAST CIVIL

Fee Proposal for Trussell Technologies

Attachment A

Oceanside AWPF Optimization

	Principal-in-Charge	QA/QC Reviewer	Project Manager	Senior Project Engineer	Project Engineer	Design Engineer	CADD Technician	Total Hours	Electrical Sub-Consultant (EPI)	Structural Sub-Consultant (AARS)	Geotechnical Sub-Consultant (UES)	Fee Subtotal
Hourly Rates	$ 250	$ 250	$ 225	$ 200	$ 185	$ 165	$ 135					
Task 1. Project Management and Meetings												
Project Management			40					40				$ 9,000
Kick-Off Meeting	4		4		4			12				$ 2,640
Concept Design Workshop			8	8				16				$ 3,400
Technical Meetings (20)			60		60			120				$ 24,600
Design Review Meetings (4)			12		12			24				$ 4,920
Site Visits (5)			20		20			40				$ 8,200
Task Sub-Total	4	8	144	8	96	8	8	252	$ 17,490	$ 4,224	$ -	$ 74,474
Task 2. 10% Design and Basis of Design Report												
Meetings and Coordination			12		12			24				$ 4,920
10% Design Drawings (10 Sheets)	4		12	24	72	72	40	224				$ 39,100
Basis of Design Report	2		12	24		40		78				$ 14,600
Soils Investigation			4		4			8				$ 1,640
QA/QC		12						12				$ 3,000
Task Sub-Total	6	12	40	48	88	112	40	346	$ 18,963	$ 5,258	$ 34,650	$ 114,130
Task 3. 30% Design												
Meetings and Coordination			8		8			16				$ 3,280
30% Design Drawings (118 Sheets)	8		64	100	240	240	200	852				$ 147,400
30% Specifications TOC	1		4	4		8		17				$ 3,270
QA/QC		24						24				$ 6,000
Task Sub-Total	9	24	76	104	248	248	200	909	$ 27,404	$ 7,161	$ -	$ 194,515
Task 4. 60% Design												
Meetings and Coordination			8		8			16				$ 3,280
60% Design Drawings (118 Sheets)	8		40	120	200	200	160	728				$ 126,600
60% Specifications	4		8	32		32		76				$ 14,480
QA/QC		40						40				$ 10,000
Task Sub-Total	12	40	56	152	208	232	160	860	$ 32,885	$ 7,161	$ -	$ 194,408
Task 5. 90% Design												
Meetings and Coordination			8		8			16				$ 3,280
90% Design Drawings (118 Sheets)	4		24	40	80	80	80	308				$ 53,200
90% Specifications	3		8	24		24		59				$ 11,310
QA/QC		24						24				$ 6,000
Task Sub-Total	7	24	40	64	88	104	80	407	$ 27,404	$ 7,161	$ -	$ 198,998
Task 6. 100% Design												
Meetings and Coordination			4		4			8				$ 1,640
100% Design Drawings (118 Sheets)	3		12	24	40	40	64	183				$ 30,890
100% Specifications	2		4	12		12		30				$ 5,780
QA/QC		16						16				$ 4,000
Task Sub-Total	5	16	20	36	44	52	64	237	$ 10,963	$ 5,733	$ -	$ 59,808
Task 7. Bid & Advertisement Support												
Pre-Bid Support			8		8			16				$ 3,280
Advertisement Support			12		12			24				$ 4,920
Conformed Set	2		12		40	24	32	110				$ 18,880
Task Sub-Total	2	0	32	0	60	24	32	150	$ 8,600	$ 2,941	$ -	$ 26,221
Task 8. Engineering Services During Construction												
RFI's (50)	4		50		100			154				$ 30,750
Submittals (25)	4		25		50			79				$ 15,875
Bi-Weekly Progress Meetings (52)			52		52			104				$ 21,320
Site Visits (5)			20		20			40				$ 8,200
Record Drawings		2	12		64	40	40	158				$ 27,040
Task Sub-Total	8	2	159	0	286	40	40	535	$ 20,480	$ 9,548	$ -	$ 183,193
Total for Professional Services	53	116	967	413	1116	812	616	3696	$ 154,166	$ 48,785	$ 34,650	$ 914,296

WEST COAST CIVIL

Attachment E

ATTACHMENT B

June 5, 2025

West Coast Civil
550 Seagaze Drive, Suite L101
Oceanside, CA 92054

Attn: Mr. Austin Frisby, QSD

Subj: ADVANCED WATER PURIFICATION FACILITY (AWPF), CITY OF OCEANSIDE, CA

Dear Mr. Frisby:

The following is our understanding of work to be accomplished and our associated fees for the above-mentioned project:

I. SCOPE OF WORK

Provide electrical design services per scope of work spreadsheet received 5/28/25. EPI has reviewed the scope and provided the attached spreadsheet that indicated anticipated electrical design for each scope item. The electrical design will include the following:

- Review of as-built plans.
- Field verification to determine existing conditions.
- Electrical basis of design.
- Design of power per anticipated electrical scope.
- Electrical single line diagram and panel schedules.
- Electrical load analysis.
- Short circuit calculation related to the new generator. Available fault current and breaker settings of the existing switchboard and panelboards shall be provided by the City.
- Division 26 specifications.
- Provide responses to the City's review comments on design submittals.
- Attendance at over-the-shoulder review meetings. All meetings are assumed to be virtual meetings.
- Provide support during bid phase which includes responses to bid RFIs and preparation of electrical drawings and specifications for Conformed set.
- Engineering Services During Construction and Record Drawings includes review of product submittal and shop drawings, responses to RFIs and clarifications, (5) construction site visits, and as-built drawing preparation based on contractor's markup.

The different tasks for this project are the following:

1. Task 1: Project Management and Meetings
   a. Project kickoff meeting
   b. Concept Design Workshop
   c. Technical Meetings (20)
   d. Design Review Meetings (4)
   e. Field Investigations
2. Task 2: 10% Design and Basis of Design Report (incl Field Investigation)
3. Task 3: 30% Design
4. Task 4: 60% Design
5. Task 5: 90% Design
6. Task 6: 100% Design
7. Task 7: Bid and Advertisement Support
8. Task 8: Engineering Services During Construction and Record Drawings

EPI will assume the Electrical DOR role only. Lead design firm/DOR roles by West Coast Civil (WCC).

II. INCLUSIONS, EXCLUSIONS, AND ASSUMPTIONS

1. WCC will address all civil and structural designs related to the scope items including the location of the new generator.
2. Design of instrumentation and controls are not included.
3. Assessment of existing soil condition for the installation of new generator and associated underground conduits and trenching is not included.
4. We assume there is adequate power from existing distribution panel to accommodate the new electrical devices and associated electrical appurtenances.
5. All Backgrounds will be provided to EPI in AutoCAD format.
6. All reproduction and delivery of documents are by others. Delivery of documents by electronic means (email, ftp or similar).
7. Consulting work other than electrical by others.
8. Work done in English Units.

III. FEES

Description	Amount
Task 1: Project Management and Meetings	$ 15,900
Task 2: 10% Design and Basis of Design Report	$ 9,965
Task 3: 30% Design	$ 24,913
Task 4: 60% Design	$ 29,895
Task 5: 90% Design	$ 24,913
Task 6: 100% Design	$ 9,965
Task 7: Bid and Advertisement Support	$ 6,000
Task 8: Engineering Services During Construction and Record Drawings	$ 18,600
Total Not to Exceed Amount Billed Based on T&M	**$ 140,151**

IV. RATE SCHEDULE

Rate Category	Hourly Rate
Principal	$216
Project Manager	$180
Staff Engineer	$155
Designer	$129
Drafting	$ 98
Administrative	$ 82

Thank you for this opportunity to participate in this project. If you have any questions, please feel free to give me a call.

Sincerely,

Benedick Balisi, P.E.
Engineering Partners, Inc.
P7671R1

Attachment E

ATTACHMENT C

June 5, 2025

West Coast Civil
550 Seagaze Drive, Suite L101
Oceanside, CA 92054

Attention: Austin Frisby

Subject: Structural Engineering Services for the
City of Oceanside – Pure Water Oceanside Optimization Project

Dear Mr. Frisby:

In response to your request, **aark engineering inc.** (AARK) proposes to provide to **West Coast Civil** (Client) structural engineering services for the Subject Project.

PROJECT ELEMENTS

We understand the Project Elements to include the following improvements to the existing Advanced Water Purification Facility:

- Supports and anchorage (mounting details) for three phosphate analyzers
- Foundation pad and anchorage for ferric dosing system and storage tank
- Supports and anchorage (mounting details) for ammonia probe
- Aeration basin cover hatches
- Supports and anchorage (mounting details) for weir leveling at Plant 2 secondary clarifiers
- Supports and anchorage (mounting details) for circular clarifier weirs
- Supports and anchorage (mounting details) for chemical lines, trench for chemical lines, and supports for pipe redistribution
- Secondary containment modifications and expansion for sulfuric acid and citric acid tank (includes tank foundation and anchorage if required)
- Supports and anchorage (mounting details) for UF System skip piping
- Core through existing pump station building wall for piping
- Panel support frame and mount at RO feed
- Foundation and anchorage of RO skids
- Panel support frame and mount at UV influent analyzer
- Foundation and anchorage of an emergency generator and automatic transfer switch at NDN facility
- Foundation and anchorage for RO CIP batching skid

SCOPE OF SERVICES

The Scope of Services will include the following specific structural engineering services for the above Project Elements:

Task 1: Project Management and Meetings

- Attendance of project kick-off meeting
- Attendance of ten (10) technical meetings
- Attendance of four (4) design review meetings
- Two (2) site visits to verify existing structural conditions

Task 2: 10% Design and Basis of Design Report

- Preparation of 10% (concept level) structural drawings
- Preparation of the structural portions for the Basis of Design Report (BOD)

Task 3: 30% Design

- Preparation of 30% level structural drawings incorporating comments from the owner on the 10% structural drawings
- Preparation of preliminary structural calculations
- Preparation of structural specifications Table of Contents (specifications will be provided by Client in editable format for AARK's use)

Task 4: 60% Design

- Preparation of 60% level structural drawings incorporating comments from the owner on the 30% structural drawings
- Preparation of preliminary structural calculations
- Preparation of draft structural specifications (specifications will be provided by Client in editable format for AARK's use)

Task 5: 90% Design

- Preparation of 90% level structural drawings incorporating comments from the owner on the 60% structural drawings
- Preparation of structural calculations
- Preparation of structural specifications (specifications will be provided by Client in editable format for AARK's use)

Task 6: 100% Design

- Preparation of structural drawings for construction incorporating comments from the owner and the Authority Having Jurisdiction (AHJ) on the 90% structural drawings
- Preparation of final structural calculations
- Preparation of structural specifications for construction (specifications will be provided by Client in editable format for AARK's use)

Task 7: Bid and Advertisement Support

- Response to and incorporation of bidder RFI's into the construction documents to develop a conformed set of construction drawings

Task 8: Engineering Services During Construction and Record Drawings

- Construction support services, including structural submittal review, response to structural RFI's, and up to three (3) site visits
- Preparation of as-built structural drawings based on contractor provided redlines

ASSUMPTIONS AND EXCLUSIONS

The fee proposal is contingent upon the following assumptions and exclusions:

- Complete record drawings will be provided by Client for AARK's use
- Complete and correct AutoCAD files indicating all items outlined in the Project Elements above will be provided by Client for AARK's use
- Construction documents will be prepared using AutoCAD 2D software and deliverables to Client will be in AutoCAD 2D and PDF format
- Geotechnical report signed by a geotechnical engineer licensed in the State of California will be provided (conservative soil design parameters will be used if a report cannot be provided)
- Complete structural data for all equipment requiring structural support and/or anchorage will be provided indicating the following: maximum operating weight, center of gravity location (at maximum operating weight), anchor locations and sizes
- Foundation systems other than shallow, conventional foundations (e.g. piers, piles, etc.) will not be used
- Supports and/or attachments for fire sprinklers are excluded
- Cost estimating and value engineering services are excluded
- Services to address revisions to structural design due to contractor errors or omissions during construction and unforeseeable conditions discovered during construction are excluded

PROPOSED FEE

We propose to provide the above Scope of Services on a time and materials basis with an estimated not-to-exceed fee apportioned as follows:

Task 1	$ 3,840.00
Task 2	$ 4,780.00
Task 3	$ 6,510.00
Task 4	$ 6,510.00
Task 5	$ 6,510.00
Task 6	$ 5,210.00
Task 7	$ 2,310.00
Task 8	$ 8,680.00
TOTAL NOT TO EXCEED FEE	**$ 44,350.00**

TERMS AND CONDITIONS

Additional Services

Engineering services beyond the scope of this proposal, if required, will be provided on a time and material basis in accordance with the attached fee schedule, which is adjusted annually.

Assignment

Neither party to this agreement shall transfer, sublet or assign any rights under or interest in this agreement (including, but not limited to, monies that are due or monies that may be due) without the prior written consent of the other party. Subcontracting to sub consultants normally contemplated by AARK shall not be considered an assignment for purposes of this agreement.

Corporate Protection

It is intended by the partied to this agreement that AARK's services in connection with this project shall not subject AARK's individual employees, officers or directors to any personal legal exposure for the risks associated with this project. Therefore, notwithstanding anything to the contrary contained herein, the Client agrees that the Client's sole and exclusive remedy, any claim, demand or suit shall be directed and/or asserted only against AARK, a California corporation, and not against any of AARK's individual owners, partners, employees, officers, shareholders or directors.

Dispute Resolution

Any claims or disputes made during design, construction or post-construction between the client and firm shall be submitted to non-binding mediation. Client and AARK agree that mediation will serve as the primary method for dispute resolution.

Ownership of Documents

All documents produced by AARK under this agreement shall remain the property of AARK and may not be used by the Client for any other endeavor without the prior written consent of AARK.

Payment

Invoices will be rendered monthly and shall be paid within fourteen (14) calendar days after Client has received payment from project client.

Site Access

Unless otherwise stated in this proposal, AARK shall have access to the project site for activities necessary for the performance of proposed services. AARK will take precautions to minimize damage due to these activities but has not included in the proposed fee the cost of restoration of any resulting damage.

Survivability

The provisions of this agreement shall survive the completion of services and the scope of services.

Termination of Agreement

This agreement may be terminated at any time by either party by providing a written letter of termination to the other party. Upon termination of this agreement, we will invoice for the time and material costs accumulated up to the date of termination, not to exceed the total fee proposed above. Retainers shall be credited to the final invoice. This final invoice shall be payable as indicated above.

SIGNATURES

If this proposal and its Terms and Conditions are acceptable, please sign below and return one copy to AARK. This opportunity to be of service is appreciated.

Sincerely,

Mark S Van Bibber

Mark Van Bibber, SE 5314
Principal Structural Engineer

Proposal accepted by Client or authorized representative of Client:

Signature Date

Name and Title (please print)

File: P:\WCC - West Coast Civil\00 - Proposal\Oceanside AWPF Optimization\Pure Water Oceanside Optimization Project EFP R1.docx

aark engineering inc

Attachment E

ATTACHMENT C

FEE SCHEDULE

for Professional Engineering Services

Year 2025 Hourly Rates

Personnel Classification	Hourly Rate
Principal Structural Engineer	$ 237
Senior Managing Engineer	$ 196
Senior Project Manager	$ 181
Project Manager	$ 176
Senior Project Engineer	$ 165
Project Engineer	$ 160
Assistant Engineer (EIT)	$ 129
Senior Designer	$ 124
Designer	$ 109
Administrative/Clerical	$ 78
Registered Structural Engineer Expert Witness Testimony	$ 392

Fee Schedule Notes:

1. Hourly rates shown are current rates effective January 1, 2025 and are subject to change.
2. Personnel classifications may be amended based on technological and staff changes. Any new classification will be subject to prior approval by the Client.
3. All Other Direct Costs (ODC), including subcontractor costs, will be billed at actual cost with a 10% markup, unless otherwise indicated in the Fee Proposal. Mileage will be billed at approved IRS rate, unless otherwise indicated in the Fee Proposal.

ATTACHMENT D

Attachment E

UES
1441 Montiel Road, Suite 115
Escondido, CA 92026
p. 760.746.4955 | TeamUES.com

July 1, 2025

UES Proposal No. A25165.00390

West Coast Civil
9740 Appaloosa Road, Suite 200
San Diego, California 92131

Attention: Mr. Austin Frisby
Phone: 858-869-1332 / Via Email: austinf@westcoastcivil.com

Subject: Proposal for Geotechnical Investigation
New Generator and Chemical Storage Tank
Advanced Water Purification Facility
3950 North River Road
Oceanside, California 92058

Mr. Frisby:

UES Professional Solutions, Inc. (UES) is pleased to present our proposed scope of work and budget for the requested geotechnical investigation, based on preliminary available information and our knowledge of the site and site area. We assume that the owner and/or client will arrange access to the project for our equipment and personnel. We anticipate that truck-mounted drill rig excavations will be necessary to properly assess this subject area of the site.

SCOPE AND COSTS – LIMITED GEOTECHNICAL INVESTIGATION

The goal of our preliminary geotechnical investigation will be to assess soil materials and properties at the site with respect to their suitability for support of the proposed construction. According to the information provided by you, we understand that a new generator and a chemical storage tank will be installed in the southwestern portion of the site. Based on our review of geotechnical borings in the vicinity, the site is underlain by young alluvial deposits with a high liquefaction potential extending to approximate depth of 160 feet. Groundwater is anticipated at an approximate depth of 10 to 15 feet. Our services for the geotechnical investigation, which will include borings and CPTs at the locations provided by you and preparation of a geotechnical investigation report are not anticipated to exceed **$31,500.** The scope of work is presented below.

Task 1 – Field Investigation: We will core concrete pavement where necessary, and conduct five exploratory borings to approximate depths of 170 feet, or refusal, two will be advanced using mud rotary truck-mounted drilling equipment and three with a cone penetration test (CPT) rig to investigate current geotechnical conditions and obtain data for liquefaction evaluation. Ring, sleeve, and bulk samples of the soil may be obtained for geotechnical laboratory analysis. We will conduct field investigation activities in the presence of a geologist or engineer.

Task 2 – Laboratory Analysis: Selected soil samples will be tested to identify the soils and evaluate engineering soil properties pertinent to the planned development. The laboratory budget may include, but is not limited to, tests for material gradations, moisture and in-place density, expansion potential, direct

shear, consolidation and soil corrosivity. The nature and quantities of the tests may vary depending upon soil type and site uniformity.

Task 3 – Engineering and Geologic Report Preparation: Our report will present field and laboratory data, an evaluation of site geology, liquefaction potential, and analysis of soil/formation properties. The report will present recommended foundation alternatives, and soil engineering considerations for use during construction. The report will also include grading concepts/site preparation recommendations, allowable soil bearing strengths, lateral earth pressures (active/passive), and other applicable geotechnical design parameters.

LIABILITY STATEMENT

UES is not responsible for unstable soil, unforeseen structures, cables, conduits, rock, or situations created by acts of nature. It is the responsibility of the Client to assure environmentally sensitive habitat(s) will not be disturbed by our investigation or subsequent project development. UES will minimize site disturbance due to our field activities. However, site disturbance may be noticeable after our field activities, and UES is not responsible for site restoration. UES should be notified of any environmental contamination affecting the site. Should indications (odor, staining, etc.) of contaminated soil or groundwater be encountered during our site work, UES will stop work, and notify the Client. Encountered or suspected contamination may also require notification of the appropriate governing authority by the client or property owner, as applicable. Work in possibly contaminated areas may be started, under changed scope and costs as authorized by the Client. The property owner is responsible for soils excavated from our subsurface explorations. UES would require authorization from the property owner to act as their agent for disposal of environmentally impacted soil, under additional scope and costs. The Client indemnifies UES from all environmental claims and liabilities, except those environmental claims and liabilities caused by the sole negligence or willful violations on the part of UES.

SCHEDULE OF FEES

The above estimated fees do not include additional requested services performed after issuing the geotechnical report. These services include, but are not limited to, additional plan reviews, additional addendums to the report due to modifications of the proposed improvements, etc. If necessary, additional consulting services will be provided on a time and expense basis according to the schedule presented below unless a revised proposal is requested. Subsequent field services will be subject to portal-to-portal, site time plus one hour, and/or four- and eight-hour minimums. Additional materials and subcontractor's fees will be charged on a cost plus 20% basis. UES considers this proposal and the rates provided below valid for the duration of the project; however, we reserve the right to periodically change rates. The rates below incorporate State of California Prevailing Wage requirements, as applicable to the subject project.

Principal Engineer/Geologist	$230.00/hour
Senior Engineer/Geologist	$200.00/hour
Project Engineer/Geologist	$170.00/hour
Staff Engineer/Geologist	$150.00/hour
Engineering Field Technician	$145.00/hour
Deputy Inspector	$150.00/hour
Administrative Assistant	$100.00/hour

AUTHORIZATION

Should this scope of work, as described, meet with your approval, you may authorize the work to start by signing a copy of this proposal and returning it to our office. A portion of our field services will be invoiced at project startup. Should you believe that a modified scope of work might better meet your current needs, please contact our office.

The opportunity to present this proposal is appreciated and we look forward to working with you.

Respectfully submitted,
UES

Dan T. Math, GE #2665
Area Director, Southern California
DTM/AB:lj

Andres Bernal
Senior Geotechnical Engineer

Attachments: General Conditions

Attachment E

COMPLIANCE CHECKLIST

*TO BE COMPLETED PRIOR TO COMMENCING WORK

Job Name:		**(Internal) UES/CTE Job #:**	
Customer:			
Private (Non-Prevailing Wage)			
If Private, *STOP*-- no need to fill out the below			
Federally Funded (Davis Bacon)	**If Federally Funded (Davis Bacon)- Please provide a PDF of the Wage Determination**		
CA Prevailing Wage	**DIR# (PWC-100):**	**DIR# N/A Reason:**	
Requirement	**Project Labor/Stabilization Agreement**	**Skilled & Trained (2600-03)**	**LCPTracker (or other 3rd Party System)**
Scope of Work: Surveying Field/Material Tester Off-Site Work Only			

Subcontract (UES) Amount:	$	
Main (whole) Contract Amount:	$	

Labor Compliance Contact Name & Email:		

GENERAL CONDITIONS

SECTION 1: RESPONSIBILITIES

1.1 UES PROFESSIONAL SOLUTIONS, INC. ("UES") is responsible for providing the services described under the Scope of Services.

1.2 The Client is responsible for providing UES with a clear understanding of the project's nature and scope. The Client shall supply UES with sufficient and adequate information, including, but not limited to, maps, site plans, reports, surveys, plans and specifications, and designs, to allow UES to properly complete the specified services. The Client shall also communicate changes in the nature and scope of the project as soon as possible during performance of the work so that the changes can be incorporated into the work product.

1.3 The Client acknowledges that UES's responsibilities in providing the services described under the Scope of Services section is limited to those services described therein, and the Client hereby assumes any collateral or affiliated duties necessitated by or for those services. Such duties may include, but are not limited to, reporting requirements imposed by any third party such as federal, state, or local entities, the provision of any required notices to any third party, or the securing of necessary permits or permissions from any third parties required for UES's provision of the services so described, unless otherwise agreed upon by both parties in writing.

SECTION 2: STANDARD OF CARE

2.1 Services performed by UES under this Agreement will be conducted in a manner consistent with the level of care and skill ordinarily exercised by members of UES's profession practicing contemporaneously under similar conditions in the locality of the project. No other warranty, express or implied, is made by UES hereunder.

2.2 Execution and delivery of this Agreement by UES is not a representation that UES has visited the site, become generally familiar with local conditions under which the work is to be performed, or correlated personal observations with the requirements of the Scope of Services. It is the Client's responsibility to provide UES with all information necessary for UES to provide the services described under the Scope of Services, and the Client assumes all liability for information not provided to UES that may affect the quality or sufficiency of the services so described.

SECTION 3: SITE ACCESS AND SITE CONDITIONS

3.1 Client will grant or obtain free access to the site for all equipment and personnel necessary for UES to perform the work set forth in this Agreement. The Client will notify any possessors of the project site that Client has granted UES free access to the site. UES will take reasonable precautions to minimize damage to the site, but it is understood by Client that, in the normal course of work, some damage may occur, and the correction of such damage is not part of this Agreement unless so specified in the Scope of Services.

3.2 The Client is responsible for the accuracy of locations for all subterranean structures and utilities. UES will take reasonable precautions to avoid known subterranean structures, and the Client waives any claim against UES, and agrees to defend, indemnify, and hold UES harmless from any claim or liability for injury or loss, including costs of defense, arising from damage done to subterranean structures and utilities not identified or accurately located. In addition, Client agrees to compensate UES for any time spent or expenses incurred by UES in defense of any such claim with compensation to be based upon UES's prevailing fee schedule and expense reimbursement policy.

SECTION 4: BILLING AND PAYMENT

4.1 UES will submit invoices to Client monthly or upon completion of services. Invoices will show charges for different personnel and expense classifications.

4.2 Payment is due 30 days after presentation of invoice and is past due 31 days from invoice date. Client agrees to pay a finance charge of one and one-half percent (1 ½ %) per month, or the maximum rate allowed by law, on past due accounts.

4.3 If UES incurs any expenses to collect overdue billings on invoices, the sums paid by UES for reasonable attorneys' fees, court costs, UES's time, UES's expenses, and interest will be due and owing by the Client.

SECTION 5: OWNERSHIP AND USE OF DOCUMENTS

5.1 All reports, boring logs, field data, field notes, laboratory test data, calculations, estimates, and other documents prepared by UES, as instruments of service, shall remain the property of UES. Neither Client nor any other entity shall change or modify UES's instruments of service.

5.2 Client agrees that all reports and other work furnished to the Client or his agents, which are not paid for, will be returned upon demand and will not be used by the Client for any purpose.

5.3 UES will retain all pertinent records relating to the services performed for a period of "five years or such longer period" of time required by applicable accrediting agency, unless specified in the scope of services following submission of the report or completion of the Scope of Services, during which period the records will be made available to the Client in a reasonable time and manner.

5.4 All reports, boring logs, field data, field notes, laboratory test data, calculations, estimates, and other documents prepared by UES, are prepared for the sole and exclusive use of Client, and may not be given to any other entity, or used or relied upon by any other entity, without the express written consent of UES. Client is the only entity to which UES owes any duty or duties, in contract or tort, pursuant to or under this Agreement.

SECTION 6: DISCOVERY OF UNANTICIPATED HAZARDOUS MATERIALS

6.1 Client represents that a reasonable effort has been made to inform UES of known or suspected hazardous materials on or near the project site.

6.2 Under this agreement, the term hazardous materials includes hazardous materials, hazardous wastes, hazardous substances (40 CFR 261.31, 261.32, 261.33), petroleum products, polychlorinated biphenyls, asbestos, and any other material defined by the U.S. EPA as a hazardous material.

6.3 Hazardous materials may exist at a site where there is no reason to believe they are present. The discovery of unanticipated hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work. The discovery of unanticipated hazardous materials may make it necessary for UES to take immediate measures to protect health and safety. Client agrees to compensate UES for any equipment decontamination or other costs incident to the discovery of unanticipated hazardous materials.

6.4 UES will notify Client when unanticipated hazardous materials or suspected hazardous materials are encountered. Client will make any disclosures required by law to the appropriate governing agencies. Client will hold UES harmless for all consequences of disclosures made by UES which are required by governing law. In the event the project site is not owned by Client, it is the Client's responsibility to inform the property owner of the discovery of unanticipated hazardous materials or suspected hazardous materials.

6.5 Notwithstanding any other provision of this Agreement to the contrary, Client waives any claim against UES, and to the maximum extent permitted by law, agrees to defend, indemnify, and save UES harmless from any claim, liability, and/or defense costs for injury or loss arising from UES's discovery of unanticipated hazardous materials or suspected hazardous materials including any costs created by delay of the project and any cost associated with possible reduction of the property's value. Client will be responsible for ultimate disposal of any samples secured by UES which are found to be contaminated.

SECTION 7: RISK ALLOCATION

7.1 Subject to the balance of this Section 7.1, Client agrees that UES's liabilities, losses, damages, fees, costs, and expenses (including attorneys' fees) (collectively, "**Liability**") arising from any claim on account of any breach of contract, error, omission, or professional negligence will be limited to a sum not to exceed $50,000 or UES's fee, whichever is greater (the "**Liability Cap**"). If Client prefers to have a higher Liability Cap, UES agrees to increase the Liability Cap to $1,000,000.00 upon Client's written request at the time of accepting UES's proposal, provided that Client agrees to pay an additional consideration of one percent of the total fee, or $1,000.00, whichever is greater. If Client prefers a $2,000,000.00 Liability Cap, UES agrees to increase the Liability Cap to $2,000,000.00 upon Client's written request at the time of accepting UES's proposal, provided that Client agrees to pay an additional consideration of one percent of the total fee, or $2,000.00, whichever is greater. The additional charge for the higher Liability Cap is because of the greater risk assumed and is not strictly a charge for additional professional liability insurance.

7.2 Client shall not be liable to UES, and UES shall not be liable to Client for any punitive, incidental, special, or consequential damages (including lost profits, loss of use, and lost savings) incurred by either party due to the fault of the other, regardless of the nature of the fault, or whether it was committed by Client or UES, their employees, agents, or subcontractors; or whether such liability arises in breach of contract or warranty, tort (including intentional torts and negligence), statutory, or any other cause of action.

7.3 As used in this Agreement, the terms "claim" or "claims" mean any claim in contract, tort, or statute alleging negligence, errors, omissions, strict liability, statutory liability, breach of contract, breach of warranty, negligent misrepresentation, or any other act giving rise to Liability.

SECTION 8: INSURANCE

8.1 UES represents that it and its agents, staff, and consultants employed or retained by UES, is and are protected by workers' compensation insurance, and that UES has such coverage under public liability and property damage insurance policies which UES deems to be adequate. Certificates for all such policies of insurance shall be provided to Client upon request in writing. Within the limits and conditions of such insurance, UES agrees to indemnify and save Client harmless from and all Liabilities arising from negligent acts by UES, its agents, staff, and consultants employed by it. UES shall not be responsible for Liabilities beyond the amounts, limits, and conditions of such insurance or the limits described in Section 7, whichever is less. The Client agrees to defend, indemnify, and save UES harmless from all Liabilities arising from acts by Client, Client's agents, staff, and others employed by Client.

8.2 Under no circumstances will UES indemnify Client from or for Client's own actions, negligence, or breaches of contract.

8.3 To the extent that damages are covered by property insurance, Client and UES waive all rights against each other and against the contractors, consultants, agents, and employees of the other for damages, except such rights as they may have to the proceeds of such insurance.

SECTION 9: DISPUTE RESOLUTION

9.1 All claims, disputes, and other matters in controversy between UES and Client arising out of or in any way related to this Agreement shall be submitted to mediation before and as a condition precedent to seeking other remedies provided by law.

9.2 If a dispute arises and that dispute is not resolved by mediation, then: (a) the claim will be brought in the state or federal courts having jurisdiction where the UES office which provided the service is located; and (b) the prevailing party will be entitled to recovery of all reasonable out of pocket fees, costs and expenses incurred by such party, including court costs, attorneys' fees, expert witness fees, and other claim related expenses.

SECTION 10: TERMINATION

10.1 This Agreement may be terminated by either party upon seven (7) days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof, or in the case of a force majeure event such as terrorism, act of war, public health or other emergency. Such termination shall not be effective if such substantial failure or force majeure has been remedied before expiration of the period specified in the written notice. In the event of termination, UES shall be paid for services performed to the termination notice date plus reasonable out of pocket termination expenses incurred or paid by UES in connection with such termination and the winding down of its operations.

10.2 In the event of termination, or suspension for more than three (3) months, prior to completion of all reports contemplated by this Agreement, UES may complete such analyses and records as are necessary to complete its files and may also complete a report on the services performed to the date of notice of termination or suspension. The expense of termination or suspension shall include all direct out of pocket costs incurred or paid by UES in completing such analyses, records, and reports.

SECTION 11: REVIEWS, SPECIAL INSPECTIONS, TESTING AND OBSERVATIONS

11.1 Plan review and building inspections are performed for the purpose of observing compliance with applicable building codes. Construction materials testing ("CMT") and Special Inspections are performed to document compliance of certain materials or components with applicable testing standards. UES's performance of plan reviews, Special inspections, building inspections, or CMT, or UES's presence on the site of Client's project while performing any of the foregoing activities, is not a representation or warranty by UES that Client's project is free of errors in either design or construction.

11.2 If UES is retained to provide construction monitoring or observation, UES will report to Client any observed work which, in UES's opinion, does not conform to the plans and specifications provided to UES. UES shall have no authority to reject or terminate the work of any agent or contractor of Client. No action, statements, or communications of UES, or UES's site representative, can be construed as modifying any agreement between Client and others. Client acknowledges that UES's performance of construction monitoring or observation is not a representation or warranty by UES that Client's project is free of errors in either design or construction.

11.3 Neither the activities of UES pursuant to this Agreement, nor the presence of UES or its employees, representatives, or subcontractors on the project site, shall be construed to impose upon UES any responsibility for means or methods of work performance, superintendence, sequencing of construction, or safety conditions at the project site. Client acknowledges that Client or its contractor is solely responsible for project jobsite safety.

11.4 Client is responsible for scheduling all inspections and CMT activities of UES. All testing and inspection services will be performed on a will-call basis. UES will not be responsible for tests and inspections that are not performed due to Client's failure to schedule UES's services on the project, or for any claims or damages arising from tests and inspections that are not scheduled or performed.

11.5 If the Client desires more extensive or full-time project observation to help reduce the risk of problems arising during construction, the Client shall request such services as "Additional Services" in accordance with the terms of this agreement. Should the Client, for any reason, choose not to have UES provide construction or field observation during the implementation of UES's specifications or recommendations, or should the Client unduly restrict UES's assignment of observation personnel, Client shall, to the fullest extent permitted by law, waive any claim against UES, and indemnify, defend, and hold UES harmless from any claim or liability for injury or loss arising from field problems allegedly caused by findings, conclusions, recommendations, plans or specifications developed by UES. The Client also shall compensate UES for any time spent or expenses incurred by UES in defense of any such claim. Such compensation shall be based upon UES's standard fee and rate schedule.

SECTION 12: ENVIRONMENTAL ASSESSMENTS

12.1 Client acknowledges that an Environmental Site Assessment ("ESA") is conducted solely to permit UES to render a professional opinion about the likelihood or extent of regulated contaminants being present on, in, or beneath the site in question at the time services were conducted. No matter how thorough an ESA study may be, findings derived from the study are limited, and UES cannot know or state for a fact that a site is unaffected by reportable quantities of regulated contaminants as a result of conducting the ESA study. Even if UES states that reportable quantities of regulated contaminants are not present, Client acknowledges that it still bears the risk that such contaminants may be present or may migrate to the site after the ESA study is complete.

SECTION 13: SAMPLE DISPOSAL

13.1 Non-Hazardous Samples — Test samples are substantially altered during testing and disposed of immediately upon completion. Drilling samples are disposed of thirty (30) days after submission of our report. If requested in writing, samples can be held after thirty (30) days for an additional storage fee or returned to the Client.

13.2 Hazardous Samples — If toxic or hazardous substances are involved, UES will return such samples to the Client. Or using a manifest signed by the Client, UES will have such samples transported to a location selected by the Client for final disposal. The Client agrees to pay all costs for storage, transport, and disposal of samples. The Client recognizes and agrees that UES is acting as a bailee and at no time assumes title to samples involving hazardous or toxic materials.

SECTION 14: SUBSURFACE EXPLORATIONS

14.1 Client acknowledges that subsurface conditions may vary from those observed at locations where borings, surveys, samples, or other explorations are made, and that site conditions may change with time. Data, interpretations, and recommendations by UES will be based solely on information available to UES at the time of service. UES is responsible for those data, interpretations, and recommendations but will not be responsible for other parties' interpretations or use of the information developed or provided by UES.

14.2 Subsurface explorations may result in unavoidable cross-contamination of certain subsurface areas, as when a probe or boring device moves through a contaminated zone and links it to an aquifer, underground stream, or other hydrous body not previously contaminated. UES is unable to eliminate totally cross-contamination risk despite use of due care. Since subsurface explorations may be an essential element of UES's services indicated herein, Client shall, to the fullest extent permitted by law, waive any claim against UES, and indemnify, defend, and hold UES harmless from any claim or Liability arising from cross-contamination allegedly caused by UES's subsurface explorations. In addition, Client agrees to compensate UES for any time spent or expenses incurred by UES in defense of any such claim with compensation to be based upon UES's prevailing fee schedule and expense reimbursement policy.

SECTION 15: SOLICITATION OF EMPLOYEES

15.1 Client agrees not to solicit for hire any of UES's employees with which Client had contact during the term of this Agreement for a one-year period following the expiration date or termination date of this Agreement (the "Post-Term Period") except through UES. If Client hires any such UES employee during the Post-Term Period, Client shall within five business days following written demand therefore from UES, pay UES an amount equal to one-half of the employee's then effective annualized salary, as liquidated damages. Further, Client acknowledges that the liquidated damages, stated above, are reasonable under the circumstances.

SECTION 16: ASSIGNS

16.1 Neither Client nor UES may assign this Agreement or assign or delegate any of its rights or obligations hereunder without the prior written consent of the other party.

SECTION 17: GOVERNING LAW AND SURVIVAL

17.1 This Agreement shall be governed by and construed in accordance with the laws of the jurisdiction in which the UES office performing the services hereunder is located.

17.2 If any of the provisions of this Agreement is held by a court of competent jurisdiction to be illegal, invalid, or unenforceable, the enforceability of the remaining provisions will not be impaired and will survive. Limitations of liability and indemnities will survive termination of this Agreement for any cause.

SECTION 18: INTEGRATION CLAUSE

18.1 This Agreement represents and contains the entire and only agreement and understanding among the parties with respect to the subject matter of this Agreement and supersedes any and all prior and contemporaneous oral and written agreements, understandings, representations, inducements, promises, warranties, and conditions among the parties. No agreement, understanding, representation, inducement, promise, warranty, or condition of any kind with respect to the subject matter of this Agreement shall be relied upon by the parties unless expressly set forth herein.

18.2 This Agreement may not be amended or modified except by an agreement in writing signed by the party against whom the enforcement of any modification or amendment is sought.

SECTION 19: WAIVER OF JURY TRIAL

19.1 To the extent permitted by applicable law, Client and UES hereby waive trial by jury in any action arising out of or related to this Agreement.

CLIENT APPROVAL

UES offers the Client the Proposal as listed above. Client may accept UES's offer by signing in the space provided below and returning a signed copy to UES. Such notification may be faxed or by emailing the signed general conditions. In the event the Client authorizes work without returning a signed copy, the Client agrees to be bound by the general conditions as stated herein. The proposal presented has been read, understood, and accepted by the Client effective as of the date that the executed proposal is returned to UES.

EXECUTED BY CLIENT'S AUTHORIZED REPRESENTATIVE:_____(signature)

Printed Name:_____ Title:_____

Date Accepted:_____

Client Business Name:_____

Billing Address:_____

Telephone:_____ E-mail:_____

ACCOUNTS PAYABLE INFORMATION

A/P Contact Name:_____

A/P Contact Telephone: _____ *A/P Contact E-Mail:_____

* A/P Contact E-Mail must be provided before the UES can proceed with its proposed services

June 10, 2025

Ms. Eileen Idica
Trussell Technologies, Inc.
224 N Fair Oaks Ave, Floor 2
Pasadena, CA 91103

Subject: **Proposal for Civil Engineering Services for City of Oceanside Nitrification/Denitrification (NDN) Generator Permitting Project**

Ms. Idica,

West Coast Civil, Inc. (WCC) is pleased to submit this proposal to Trussell Technologies Inc. (CLIENT) to provide permitting support services related to the Nitrification/Denitrification (NDN) Generator Permitting (Project) for the City of Oceanside (City). Our Scope of Services is outlined in Section I, below:

I. SCOPE OF SERVICES

WCC will provide permitting support services to facilitate permitting of the new NDN Generator at the City's San Luis Rey Water Reclamation Facility (SLRWRF). It is WCC's understanding that the new generator will require an Air Quality Permit from the San Diego County Air Pollution Control District (SDAPCD). This includes an Authority to Construct (ATC) before installation and a Permit to Operate (PTO) after installation.

WCC will perform the following scope items in support of the PROJECT:

Task 1: Permitting Coordination

Kick-Off Meeting
WCC will attend a kick-off meeting with the City and CLIENT to coordinate project specific requirements. This scope assumes a single in-person meeting not exceeding four (4) hours and will determine the equipment specifications, City point(s) of contact, and Project timeline.

Forms
WCC will complete the necessary application forms and submit them to SDAPCD for the ATC. It is anticipated that the application package will include the following forms:

- General Application Form
- California Environmental Quality Act (CEQA) Supplemental Application Form*

** Assumes the Project does not require a CEQA document (ie Environmental Impact Report, Mitigated Negative Declaration, Negative Declaration, or Notice of Exemption)*

One (1) submittal and one (1) resubmittal, based on SDAPCD comments, is assumed for this task.

Coordination & Meetings (3)
WCC will coordinate directly with the City, Client, and/or SDAPCD and attend up to three (3) conference call meetings. Coordination includes telephone conversations, e-mails, and specific breakout meetings. This scope assumes up to three (3) remote meetings not exceeding two (2) hours each.

SDAPCD Inspection
Following completion of construction, a Construction Completion Notice (CCN) will be submitted to SDAPCD and a SDAPCD inspection will be conducted. WCC will attend an inspection conducted by SDAPCD to ensure operation is in accordance with the permit conditions. It is WCC's understanding that a representative of the City will be present to answer questions regarding records and equipment. It is assumed that the site inspection will comply with the ATC conditions and a Startup Authorization (SA) will be issued until a final PTO is issued.

II. EXCLUSIONS

The following services are specifically excluded:

A. Any additional project related services not specifically included in Section I, Scope of Services.
B. Permitting fees.
C. Preparation of CEQA documents.
D. Reprographics and Delivery.

III. CLIENT FURNISHED SERVICES

The CLIENT will provide the following services or information:

A. Any reference drawings available.
B. Assign one person to serve as the CLIENT's project manager who has the authority to represent the CLIENT and will serve as the point of interface for all project issues and communications.

IV. FEES AND CONDITIONS

The services described in Section I, Scope of Services, will be provided on a time and material basis billed by task to CLIENT monthly, with the total budget not to exceed **$14,960**. A breakdown of anticipated hours is provided as Attachment A.

Engineering services beyond the scope of this proposal are considered Additional Services. If requested by the Client, WCC will provide Additional Services on a time and materials basis in accordance with the attached WCC fee schedule.

WCC is not obligated to perform such Additional Services unless an amendment to this Agreement has been fully executed setting forth the scope, schedule, and fee for such Additional Service.

Sincerely,

Austin Frisby

Austin Frisby, P.E., Q.S.D.
Project Manager, West Coast Civil, Inc.
(951) 529 - 5247 | austinf@westcoastcivil.com

Anthony Gonzalez, P.E.
President, West Coast Civil, Inc.
(858) 869 - 1332 | anthony@westcoastcivil.com

Attachment F

WEST COAST CIVIL — 10-Jun-25

Fee Proposal for Trussell Technologies

Attachment A

Oceanside NDN Generator Permitting Coordination

	Principal-in-Charge	QA/QC Reviewer	Project Manager	Senior Project Engineer	Project Engineer	Design Engineer	CADD Technician	Total Hours	Fee Subtotal
Hourly Rates	$ 250	$ 250	$ 225	$ 200	$ 185	$ 165	$ 135		
Task 1. Permitting Coordination									
Kick-Off Meeting	4		4		4			12	$ 2,640
Forms	4		8		12			24	$ 5,020
Coordination & Meetings (3)			12		12			24	$ 4,920
SDAPCD Inspection			4		8			12	$ 2,380
Task Sub-Total	8	0	28	0	36	0	0	72	$ 14,960
Total for Professional Services	8	0	28	0	36	0	0	72	$ 14,960

WEST COAST CIVIL

Attachment G

STRATEGIC
ENGINEERING & AUTOMATION SYSTEMS

Stephen Judd
Founder and Technical Director
Strategic Engineering & Automation Systems

27 JUNE 2025

Strategic specializes in building fully integrated, information-driven, and sustainable SCADA systems for water, wastewater, manufacturing, and electric power. By sharing our expertise and partnering with customers we are uniquely positioned to help, we deliver quality-assured solutions for real-world problems.

We specialize in full-scope SCADA lifecycle support—from system architecture and PLC/HMI programming to installation, commissioning, and long-term network maintenance. Our in-house team brings extensive experience across platforms such as Aveva InTouch/System Platform, Ignition by Inductive Automation, Rockwell FactoryTalk, and ClearSCADA. We regularly work with Allen-Bradley, Modicon, SCADAPack, Emerson ControlWave, and AutomationDirect PLCs.

We've provided integration, modernization, and support services to several companies such as: Bear Valley Electric Service, The City of Inglewood, Fallbrook, Vineyard Wind, JSP, and Specialty Minerals.

In addition to leveraging our industry connections and experience, we take a uniquely relationship-based approach to all our projects. No matter what phase of the project we're in, our customers always have a direct line to our team, and can depend on us to pick up the phone, adapt to shifting needs, and deliver our best work.

We pride ourselves on our ability to align with you to understand your areas of focus and specific project requirements. Having been controls engineers collaborating with consultants ourselves, we are uniquely equipped to understand your team's needs. In sharing your perspective, we empathize with and anticipate your team's challenges and seek to provide tailor-fit solutions for your enterprise.

Stephen Judd

"Strategic shared focus for high quality, sustainable SCADA systems"

Attachment G

Trussell

pure water ceanside

STRATEGIC ENGINEERING & AUTOMATION SYSTEMS

Time and Materials Quote

Scope Item No.	Process or Process Area	Scope Item Name	Background Context	Strategic Scope of Work	Total Hours	Systems Integrator Labor Hours	Systems Integrator Labor Costs-$202	Travel Hours*	Travel Costs-$125 (2-Hour cap)*	Process area Subtotal
1	Plant 2 - Programming	Primary Sludge Pump Programming	Soffa removed the prior programming for the existing sludge pumps (e.g., sludge valves 7 & 8) at SLR Plant 2. As a result of the removal, operation of the pumps is less automated and more manual for the SLR Plant 2 operators. Trussell is working with TSI under our current contract to have SLR Plant 2's primary slude pumping controlled in the same manner as SLR Plant 1.	Potential additional programming for more sophisticated Plant 2 primary sludge pumping as a function of Primary Sludge Total Solids Percent. See Control Narrative attached to email.	238	207	41,814	31	3,881	$45,695
2	Plant 2 – Primary Influent Channel	Integrate and Automate Ferric Dosing Pumps	Phosphate spikes in the AWPF feed water are higher than anticipated, creating an increase in demand for sulfuric acid and potentially leading to rapid membrane scaling, necessitating excessive chemical cleans to restore membrane performance. An online phosphate analyzer system will be designed and constructed at SLR Plant 2 to optimize upstream ferric addition at SLR Plant 2 and reduce phosphate concentrations in the AWPF feed water. The phosphate analyzer system at SLR Plant 2 will consist of two phosphate analyzers: one at the primary influent channel and another downstream between the aeration basin effluent and the secondary clarifiers.	Upgrade the current ferric dosing system to automated pumping on SCADA with three modes: constant speed, constant dose, and dose adjustment based on primary influent channel phosphate analyzer readings, using a phosphorus-to-ferric ratio calculated from historical removals.	99	86	17,372	13	1,613	$18,985
3	Plant 2 – Aeration Basins	Redundant Ammonia Probe	Currently there is only one ammonia probe in the channel between aeration basins 6 and 7. Adding a second ammonia probe to the channel between aeration basins 4 and 5 would allow a better characterization of the influent ammonia to the secondary biological process, and act as a redundant analyzer to the single ammonia analyzer. Will install owner-provided ammonia probe between aeration basins 4 and 5.	Connect ammonia probe signal to master control panel and integrate into existing programming.	49	43	8,686	6	806	$9,492
4	Plant 2 - Programming	RAS/WAS Programming	The RAS/WAS pump programming that was prepared for the AWPF contract was not integrated properly with the Hach RTC programming resulting in deficient controls for the aeration process.	Provide programming and other services for all of the Plant 2 RAS + WAS pumps, flow meters, Hach RTC, etc. Please note that Hach RTC is a vendor panel.	79	69	13,938	10	1,294	$15,232
5	AWPF - Programming	AWPF Flow Alternatives	The AWPF can run at 1.5 MGD, 3 MGD, and 4.5 MGD and in the future will run at 6 MGD. AWPF product water has the capability of going to either (1) the injection wells (2) the lower Recycled Water Pump Station (3) the Upper Recycled Water Pump Station and/or (4) diversion. The City requires modified programming to facilitate direction of flow under a variety of circumstances.	Modify the programming to accommodate City direction for product water flows. Programming shall optimize the opening and closure of modulating valves (MOVs) to prevent pressure spikes.	49	43	8,686	6	806	$9,492

Attachment G

6	AWPF - Programming	Injection Well Communication and Injection Optimization	The hydraulics of the groundwater basin the City is injecting into fluctuate, resulting in a buildup of pressure in the feed line requiring staff to manually manipulate pressure and/or flowrate to the injection wells (IWs) to maintain operations.	Programming to automatically connect AWPF and IWs so that operators don't need to manually adjust pressures between AWPF and the IWs.	49	43	8,686	6	806	$9,492
7	AWPF - Programming	Composite Sampler flushing and pressure issues	The Composite Sampler at the UPPS Analyzer Panel was not configured correctly. Will acquire recommended settings for the analyzer panel upstream of composite sampler and work with Chief Plant Operator to install desired 3-way valve and pressure regulator system.	Complete unfinished programming and wiring for the composite sampler at the UPPS analyzer panel.	89	77	15,554	12	1,444	$16,998
8	AWPF - Programming	UV AOP Operations Coordination	The City would like accurate and consistent units to be displayed and used in calculations on SCADA.	Programming to address discrepancy in units between SCADA and Trojan's PLC (e.g., required influent NaOCl parameter interpreted "as NaOCl" in SCADA vs "as Cl2" in Trojan's PLC); Investigate controls on UV/AOP trains (e.g., controls on how many reactors turn on during startup)	118	103	20,806	15	1,931	$22,737
9	AWPF - RO System	RO Permeate Flush Waste Flow	The CLA-valves currently do not allow any water to pass through to the waste line. This causes pressurization on the permeate side of the RO membranes during a flush when the system is offline. Over pressurization of RO membranes on the permeate side can result in critical damage to RO membranes. Will replace the clay valves on the RO skids with actuated valves.	Implement programming to integrate these valves into the current control strategy.	148	129	26,058	19	2,419	$28,477
10	AWPF - Instrumentation	Replacement of Amperometric Analyzers with Hach CL17sc Chlorine Analyzers	The amperometric analyzers (i.e., Rosemount FCL analyzers) require frequent maintenance and replacement to maintain accuracy, and the associated costs for the sensors and consummables are expensive. Will procure new CL17sc Chlorine Analyzers from Hach and replace all amperometric analyzers with the new Hach CL17sc Analyzers.	Modify the programming to adjust the scaling on the new Hach CL17sc analyzers.	118	103	20,806	15	1,931	$22,737
11	AWPF - Instrumentation	UV and PWPS Flow Meter Modifications	UV, PWPS, & RO flow meters (Krohne) are not reading accurately. There is no calibration or checks for the flow meters to evaluate their accuracy. Will add in fittings for pitot tubes to accurately check the flows using the pitot-static method, or swap for different flow meters.	Modify the programming to eliminate the factor value if the Krohne flow meters remain.	189	164	33,128	25	3,075	$38,203
12	AWPF - Programming – RO System	Misc. RO Programming Modifications	The City desires additional functionality for the RO system for safe shutdowns.	Program to add permeate flush button and optimize SCADA screens for dp Calcs.	49	43	8,686	6	806	$9,492
13	AWPF - Chemical	SBS Transfer Pumps	The Sodium Bisulfite (SBS) transfer pumps are experiencing gear damage and premature failure due to the absence of motor soft starts in the pump local control panels. Will investigate if motor soft starts can be added within the existing LCP's. If so, will procure and install motor soft starts in the LCP's.	Program the motor soft starts to provide 0 RPM to maximum RPM over a period of at least 30 seconds.	80	52	10,504	8	975	$11,479
14	AWPF - UF system	UF Skid Sorting	The UF skid sorting does not currently follow the respective control strategy (e.g., the UF skid queue sometimes reshuffles inexplicably).	Programmer to identify how skid sorting occurs and make sure position from last time of operation is maintained.	80	52	10,504	8	975	$11,479
15	AWPF - RO System	RO Trains	When testing operation of all three RO trains, one of the RO trains went offline for an uknown reason. Operators modified the AWPF's RO setpoint to two trains and reset the faults on the train that went offline. All three trains showed a "ready" status and the AWPF RO setpoint was reset to three trains. Despite the ready statuses and new setpoint for all three RO trains, only two RO trains were called online when the AWPF started up again. The number of UF trains also did not increase based on the RO setpoint of three trains.	Programmer to investigate the RO train faults when trying to operate the AWPF with three trains. Investigate why the number of RO trains called online during plant restart did not follow the AWPF control strategy based on the RO setpoint and train ready statuses.	109	95	19,190	14	1,781	$20,971

Attachment G

16	AWPF - Programming	Update SHC SCADA Screen	Currently the SHC transfer pump #2 is out of service on the SCADA screen and shown as a spare pump because it is not plumbed. Transfer pump #2 will be plumbed and installed so it can serve as a spare back up pump to SHC transfer pumps #'s 1 and 3.	Update SCADA screens for new SHC transfer pump configuration after transfer pump #2 is plumbed and operating as a back up pump. Consider use of an alternator after back up pump is installed.	69	60	12,120	9	1,125	$13,245
17	AWPF - Programming	Receive Signals from Temperature Controller on UF and RO CIP Tanks	There's currently no ability to receive "start," "stop," or "fault" signals from the temperature controllers on the UF and RO CIP tanks.	Implement wiring and programming so that the temperature controllers on the UF and RO CIP tanks communicate with SCADA.	60	52	10,504	8	975	$11,479
18	AWPF - Programming	Automation for Simultaneous Injection and RW Blending	Currently, simultaneous injection and blending of AWPF product water is a very manual process for the AWPF operators due to lack of automation and programming.	Implement programming to allow for automated and simultaneous injection and blending of AWPF product water.	109	95	19,190	14	1,781	$20,971
19	AWPF - Controls	Updated Control Logic Summaries for Updated Processes	Documentation of the current AWPF control logic is lacking.	Strategic will document any changes made to the programming and control logic to implement the scope items listed above and share the documented changes with Trussell. Trussell will create updated control logic summaries and process control narratives based on Strategic's changes, and Stategic will review for accuracy.	247	215	43,430	32	4,031	$47,461
				Sub-Total	**1991**	**1731**	**349,862**	**260**	**32,456**	**$382,118**
				Project Management, Meetings and Admin Fees - 10%						**$38,212**
				Budgetary Total						**$420,330**

Definitions:
Upstream Wastewater Facilities = San Luis Rey (SLR) Plants 1 & 2
Downstream advanced treatment facility = AWPF

***The travel time hours are based on working remotely 40% of the time and onsite the other 60%__calculated at an 8 hr day**

Trussell

Attachment G

STRATEGIC
ENGINEERING & AUTOMATION SYSTEM

Strategic Engineering & Automation Systen
1030 Via Vera Cruz, San Marcos, C
760•845•092
www.StrategicEASY.co
Mel@StrategicEasy,co

Trussell
Eileen Idica
4350 Executive Dr. Suite 300
Saan Diego, CA 92121

RATE SHEET

Standard Charges for Professional Services

PY 2025: July 1, 2025 to June 30, 2026
PY 2026: July 1, 2026 to June 30, 2027

DATE EFFECTIVE	July 1st, 2025
PAYMENT METHODS	ACH, Zelle, Check
TERMS	Net 30 Days

PROMOTIONAL DISCOUNT FOR 2025

Invoice paid electronically within 15 days	**3% discount**

SERVICE	DOLLARS/HOUR PY 2025	DOLLARS/HOUR PY 2026
Travel to and from site per day	125	145
IT/OT Services, Design Meetings, Research & Development, PLC Programming, Cybersecurity	202	222
Project Management (per invoice)	10%	10%
Advanced IT/OT Services - Network Design and Configuration, Software Configuration, Server Maintenance, Database Configuration, AutoCAD design	222	232
As needed: (Strategic Engineering & Automation will obtain approval from Trussel for as needed work prior to performing any such work) – Overtime (after 8 hours in one day, the seventh day, or after 40 hours in a week per person) – Expedite (e.g. requesting to expedite normal development or review process)	*1.5x*	

Attachment H

Novateur Enterprises, LLC

2750 E Buena Vista Dr, Chandler, Az 85249

novateurentaz@gmail.com

541.220.1016

DRAFT PROJECT PROPOSAL

PROJECT NAME	Pure Water Oceanside Optimization Project
COMPANY NAME	Trussell
POINT OF CONTACT	Eileen Idica, Ph.D., P.E.
PHONE	(858) 232-8175
EMAIL	Eileeni@trusselltech.com
COMPANY MAILING ADDRESS	
PROJECT LOCATION	Ocean Side, California, U.S.
AUTHOR	Gilbert E. Bernal, PE
DATE	05/24/2025

SCOPE OF WORK

Engineering consulting services
Provide Engineering consulting services on an as needed basis to support the Instrumentation and Controls design upgrades associated with the Pure Water Oceanside Optimization Project. Tasks include (at client's discretion): - Review of existing project specifications (including control narratives) and drawings. - Review of existing control system hardware including instrumentation, control panels, PLC and HMI hardware, network hardware. - Review of existing PLC programs and HMI applications. - Recommendations for modifications, changes, and control system improvements including drawing and specification mark-up. - Bid package development and bid review. - Services During Construction including submittal review, RFI evaluation, on-site inspections. - Participate in meetings as necessary.

EXCLUSIONS
As I do not retain PE licensure in the State of California, I am unable to provide Engineering stamping services of design documents.

Scope does not include CAD services. However, this can be negotiated if required.

DELIVERY DATE	TASK	SERVICES REQUIRED
09/25 – 09/26	Project Design	Engineering Design
09/26 – 03/27	Bid Phase	
04/27 – 03/29	Services During Construction	

CHARGE RATES		
EXPENSE	**DESCRIPTION**	**COST**
Hourly Rate	Hourly rate for Gilbert Bernal	$150.00
Rate Increase	Annual hourly rate increase effective Jan 01 each year.	7.0%
Expenses	Travel expenses	Variable

PAYMENT TERMS & CONDITIONS
Next 30 billed monthly.

APPROVAL

NOVATEUR ENTERPRISES, LLC OWNER	Gilbert E. Bernal, PE
SIGNATURE	
DATE	05/24/2025

COMMENTS

Travel expenses will be billed at cost. Airline tickets will be purchased as fully refundable. Flights not exceeding four hours in duration will be standard economy. Flights in excess of four hour duration will be economy plus (or similar) where available. Home base is Phoenix Arizona. For travel to the San Diego or Los Angeles area, I reserve the right to drive with milage billed at the standard Federal mileage billing rate of $0.70/mile.

Attachment H

		Gil Bernal's Hourly Billing Rate:	$150	Labor Cost:
12	**Design Phase Services for PWO Optimization**		**136**	**$20,400**
12.1	Prepare Basis of Design Report (BODR) and 10% Design Documents		20	$3,000
12.2	Prepare 30% Designs			$0
12.3	Prepare 60% Designs and Updated BODR		40	$6,000
12.4	Prepare 90% Designs		32	$4,800
12.5	Prepare 100% Designs		24	$3,600
12.6	Design Coordination Meetings		20	$3,000
13	**Bid and Advertisement Support**		**12**	**$1,800**
13.1	Bid Advertisement			$0
13.2	Pre-Bid Meeting			$0
13.3	Requests for Information (RFIs) and Addenda		12	$1,800
13.4	Bid Evaluation and Letter of Recommendation			$0
15	**Engineering Services during Construction**		**52**	**$7,800**
15.1	Pre-Construction Meeting			$0
15.2	Construction Progress Meetings			$0
15.3	RFIs		20	$3,000
15.4	Submittals		32	$4,800
15.5	Site Visits			$0
15.6	Acceptance Testing			$0
15.7	Walkthrough for Substantial Completion			$0
15.8	Walkthrough for Final Completion/Closeout			$0
15.9	Record Drawings			$0
		Totals:	**200**	**$30,000**

Attachment I

PUZZULLO CONSULTING
CONSTRUCTION PROJECT MANAGEMENT

June 12, 2025

Michael Sherer, P.E.
Trussell Technologies, Inc.
4350 Executive Drive, Unit 300
San Diego, CA 92121

Subject: Proposal for Cost Estimating Services for CITY OF OCEANSIDE PURE WATER OPTIMIZATION PROJECT

Dear Mr. Sherer:

Puzzullo Consulting proposes to provide the following services as applicable to the City of Oceanside Pure Water Optimization project:

1. Provide detailed cost estimating services at each level of design as developed by Trussell Technologies including.
    a. Basis of Design Report / 10% Project Design
    b. 30% Project Design
    c. 60% Project Design
    d. 90% Project Design
    e. 100% Project Design
    f. Refer to the attached matrix of approximate hours per design phase and task as developed by Trussell Technologies.
2. Provide revisions to all City of Oceanside review comments at every level of project design that pertain to cost.
3. Total fee for our services shall be $187,680 and shall only be billed on a time and material basis not to exceed $187,680. Total sum is calculated based upon an estimated 782.0 hours of participation over the life of the project and an hourly billing rate of $240/hour.

I look forward to the opportunity to work with Trussell Technologies and the City of Oceanside on this project. If you have any questions, please contact the undersigned.

Sincerely,

Jeff Puzzullo
Owner/Principal
(760) 533-3500
jpuzzullo@puzzullo.com