

REVISED AGENDA
ENGINEERING AND OPERATIONS COMMITTEE MEETING
THURSDAY, DECEMBER 1, 2022 at 9:00A.M.
UWCD Headquarters, Second Floor, Santa Clara Conference Room
1701 N. Lombard Street, Oxnard CA 93030

CALL TO ORDER – OPEN SESSION 9:00a.m.

Committee Members Roll Call

1. Public Comment

The public may comment on any matter not on the agenda within the jurisdiction of the Committee. All comments are subject to a five-minute time limit.

2. Approval of the Minutes (Proposed Time: 5 minutes)

Motion

The Committee will review and consider approving the Minutes from the November 3, 2022, Engineering and Operations Committee meeting.

3. December 14, 2022, Board Meeting Agenda Motion Items

The Committee will review and discuss the following agenda items to be considered for approval at the December 14, 2022, UWCD Board of Directors meeting. The Committee will formulate a recommendation to the entire Board based on its discussions with staff. The Committee will discuss the following items:

3.1 (Board agenda item 5.2) Authorize a Contract with ESA to provide Consultant Services for CEQA and NEPA Documentation and Regulatory Permitting for the Phase 1 of the Extraction Barrier and Brackish Water Treatment Project (Environmental Services Department, Tessa Lenz) (Proposed Time: 10 minutes)

The Committee will consider recommending approval of the motion item authorizing the General Manager to execute an agreement with Environmental Science Associates (ESA) in the amount of \$908,256 [\$825,687 + 10% contingency (\$82,569)] to provide consultant services for the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) Documentation, Processing, and Regulatory Permitting for the Phase 1 of the Extraction Barrier and Brackish Water Treatment Project (EBB Water).

Continues...



3.2 (Board agenda item 5.3) Contract Award to Kennedy/Jenks Consultants, Inc. for Design Services Related to the Phase 1 of the Extraction Barrier and Brackish Water Treatment Project (CIP 8019) (Engineering Department, Dr. Maryam Bral) (Proposed Time: 10 minutes)

The Committee will consider recommending approval of the motion item authorizing the General Manager to execute a professional consulting services agreement with Kennedy/Jenks Consultants, Inc. in the amount of \$2,069,912 [\$1,881,738 plus 10% contingency (\$188,174)] to complete the design and bid documents for Phase 1 of the Extraction Barrier and Brackish (EBB) Water Treatment Project (CIP 8019).

3.3 (Board agenda item 5.4) Authorize an Amendment to the University of Iowa Contract for the Physical Modeling of the Vertical Slot for the Freeman Expansion Project (Operations and Maintenance Department, Brian Collins) (Proposed Time: 5 minutes)

The Committee will consider recommending approval of the motion authorizing an amendment to the University of Iowa contract for the operational and stress physical modeling of the Vertical Slot for the Freeman Expansion Project in the amount of \$387,165 to the full Board. The original professional consulting services agreement between UWCD and University of Iowa was executed on September 3, 2021; the first amendment to the agreement, executed on March 4, 2022, extended the scope of work for the original agreement with University of Iowa.

4. Project Highlights (Proposed Time: 15 minutes per update)

4.1 Engineering Department Update (Dr. Maryam Bral)

4.2 Environmental Services Department Update (Linda Purpus)

4.3 Operations and Maintenance Department Update (Brian Collins)

5. Future Agenda Items

The Committee will suggest topics or issues for discussion on future agendas.

ADJOURNMENT

Directors

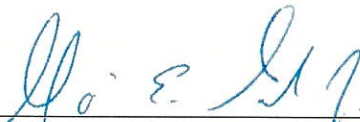
Chair Lynn Maulhardt
Gordon Kimball
Daniel C. Naumann

Staff:

Mauricio E. Guardado, Jr.	Dr. Maryam Bral	Craig Morgan
Anthony Emmert	Brian Collins	Michel Kadah
Linda Purpus	John Carman	Adrian Quiroz
Evan Lashly	Jackie Lozano	Robert Richardson
Randall McInvale	Vanessa Vasquez	
Hannah Garcia-Wickstrum	Tessa Lenz	

The Americans with Disabilities Act provides that no qualified individual with a disability shall be excluded from participation in, or denied the benefits of, the District's services, programs or activities because of any disability. If you need special assistant to participate in this meeting, or if you require agenda material in an alternative format, please contact the District office at (805) 525 4431. Notification of at least 48 hours prior to the meeting will enable the District to make appropriate arrangements.



Approved: 
Mauricio E. Guardado, Jr. General Manager


Dr. Maryam Bral, Chief Engineer


Brian Collins, Chief Operations Officer

Posted: (date) November 28, 2022

(time) 8:55a.m.

attest: *Jackie Lozano*

At: www.unitedwater.org

Posted: (date) November 28, 2022

(time) 8:50a.m.

attest: *Jackie Lozano*

At: United Water Conservation District Headquarters, 1701 N. Lombard Street, Oxnard CA 93030

MINUTES
ENGINEERING AND OPERATIONS
COMMITTEE MEETING
Thursday, November 3, 2022, at 9:00 a.m.
Board Room, UWCD Headquarters
1701 N. Lombard Street, Oxnard, CA 93030

COMMITTEE MEMBERS IN ATTENDANCE

Lynn E. Maulhardt, chair
Bruce E. Dandy, director (substituting for Director Naumann)
Gordon Kimball, director

COMMITTEE MEMBERS ABSENT

Daniel C. Naumann, director

STAFF IN ATTENDANCE

Anthony Emmert, assistant general manager
Dr. Maryam Bral, chief engineer
Brian Collins, chief operations officer
John Carman, operations and maintenance program supervisor
Dan Detmer, water resources manager
Michel Kadah, engineer
Jackie Lozano, administrative assistant
Craig Morgan, engineering manager
Josh Perez, chief human resources officer
Zachary Plummer, technology systems manager
Linda Purpus, environmental services manager
Ed Reese, technology systems specialist
Robert Richardson, senior engineer
Brian Zahn, chief financial officer

PUBLIC IN ATTENDANCE

One member of the public was in attendance but chose not to sign the attendance sheet.

Call to Order – Open Session

Chair Maulhardt called the Committee meeting to order at 9:00 a.m. The clerk of the Committee called roll. Two Committee members were present (Maulhardt, Kimball) and one was absent (Naumann).

1. Public Comments

Information Item

Chair Maulhardt asked if there were any comments or questions from the public for the Committee. None were offered.

2. Approval of Minutes

Motion

Motion to approve the Minutes of October 6, 2022, Engineering and Operations Committee meeting, Director Kimball; Second, Chair Maulhardt. Voice vote: two ayes (Maulhardt, Kimball), none opposed, one absent (Naumann). Motion carried 2/0/1.

3. November 9, 2022, Board Meeting Agenda Motion Items

The Committee reviewed and discussed the following motion items for the November 9, 2022, UWCD Board of Directors meeting to formulate Committee recommendations:

3.1 Contract Amendment to the Engineering Support Contract with Stantec Consulting Services, Inc. for the Vertical Slot Fish Passage Alternative

Engineering Manager Craig Morgan presented the motion to the Committee (presentation attached). This motion to the Board would approve a contract amendment of \$150,000. Chair Maulhardt commented on the change. Mr. Morgan explained there was a lot of change to the design from what was forecasted in May for the modeling. It took numerous runs and unforeseen work from the original contract.

There were no questions or further comments from the Directors. No public comments or questions were offered.

The Committee members were in favor of recommending approval of the motion to the full Board.

4. Project Highlights (October 2022)

4.1 Engineering Department Update (see attached slides)

Dr. Maryam Bral presented an overview of the Engineering Department's activities which included highlights from the Board of Consultants meeting, the Santa Felicia Dam Tabletop Exercise, and the department's participation at the 2022 One Water Salinity Management Innovation Summit. Also provided were updates on the Condor Point improvement project, work performed on the PTP metering system and construction activities at the Iron and Manganese Treatment Facility.

During discussion, Chair Maulhardt asked Dr. Bral to point out who the actual Board of Consultants were in the picture on the slide which she did. Chair Maulhardt also requested, when presenting this item to the Board, it would be important to point out who the consultants and the supporting people are. He went on to comment favorably on the staff's design of building out of headquarters office structures and configurations, truly making the Boardroom a multifunctional room.

Director Dandy joined the meeting at 9:19 a.m. Chair Maulhardt further commented, he was pleased staff was invited to the summit and felt it spoke well of the District.

When discussing with Dr. Bral which slides to bring forward to the Board, he recommended there would be no need to go over the construction at the lake but to go over the pipeline connection at the Iron and Manganese Treatment Facility. He stated she could touch on each slide if she wanted except for Condor Point and to shorten – summarize quickly.

Information Item. There were no further comments or questions from the Committee. No public comments or questions were offered.

4.2

Environmental Services Department Update (see attached slides)

Environmental Services Manager Linda Purpus presented department updates which included a status update on their role in the Freeman Sediment Management project and the partnership with USGS and UCLA on the pulsed flow study. There was discussion among the Committee and staff regarding the study. Director Dandy asked about United's physical role, to which Ms. Purpus responded United would take the principal author position. She added that the work her team is doing on this issue supports the District in building collaborative partnerships as well as developing the best available science. Chair Maulhardt agreed and mentioned that this speaks highly of the staff and level of science from which it's coming from. Director Kimball added that the investment in staff on the finished document only strengthens our knowledge. Ms. Purpus agreed. Chair Maulhardt recommended for her presentation to the Board to go into what exactly was discussed emphasizing on the pulsed flow study portion that this is the level of science staff is providing through the various departments and that it is consistent with the District mission and what the Board is directing staff to do.

Information Item. There were no further comments or questions from the Committee. No public comments or questions were offered.

4.3

Operations and Maintenance Department Update (see attached slides)

Chief Operations Manager Brian Collins presented an overview of the Operations and Maintenance Department activities. Included in the overview presentation were images depicting work being performed at the Freeman Diversion, as well as on both the OH and PTP pipelines. Chair Maulhardt and Mr. Collins discussed briefly the PTP failure of well no. 3. Mr. Collins mentioned staff leveraged well no. 12 to convey water to the central pipeline to supplement the water loss. The failure occurred around two weeks ago, and staff were expected to have the well repaired and back online by the end of next week. The repairs were estimated to be about \$200,000. When discussing what to bring to the Board for presentation, Chair Maulhardt recommended all, particularly the well issue.

Information item. There were no additional comments or questions from the Committee. No public comments were offered.

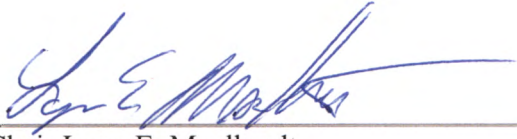
5. Future Agenda Topics

None were offered. Chair Maulhardt mentioned he's looking forward to seeing everyone on Monday.

ADJOURNMENT 9:44 a.m.

Chair Maulhardt adjourned the meeting at 9:44 a.m.

I certify that the above is a true and correct copy of the minutes of the Engineering and Operations Committee Meeting of November 3, 2022.

ATTEST: 
Chair Lynn E. Maulhardt

Motion Item 3.1

Contract Amendment with Stantec for Vertical Slot Fish Passage Alternative

❑ Contract Amendment with Stantec for \$150,820

❖ Additional Engineering Design Updates to include:

○ continued support to address agency comments on the physical modeling for submittal, in accordance with the latest stipulated order;

○ continued support provided by principal-level staff throughout the remainder of the physical modeling;

○ 3D drawings development in support of the design; and

○ CFD modeling software refinement.



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ENGINEERING DEPARTMENT
MONTHLY UPDATE

November 3, 2022



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1

Santa Felicia Dam Safety Improvement Project



BOC Meeting No. 6


- BOC Meeting No. 6 held on September 28 and 29
- Review of 60% Design of the new Outlet Works and 30% Design of the Spillway Improvements
- BOC report finalized on October 11
- BOC report and BOC tracking form e-filed with FERC on October 14 and submitted hardcopy to DSOD




3

Condor Point Improvements






Installation commenced on October 14



On schedule to complete shade structures by October 28



Construction Expected Completion Date - November 4, 2022





3


4

2

Dam Safety and Regulatory Compliance SFD Tabletop Exercise

- Held on October 20 at District Headquarters
- 58 people attended (41 in person,17 virtual)
- Emergency Action Plan updated
- Gannett Fleming provided support with TTX





4

Iron and Manganese Treatment Facility





GSE Construction removing 36" blind flange from existing Upper Aquifer System manifold on October 26



5

Iron and Manganese Treatment Facility




New 24" Filtered Water Connection to Existing 42" Upper Aquifer System Pipeline

New 14" RAW Bypass connection to Existing 42" Upper Aquifer System Pipeline

7

6

PTP Metering System Improvement

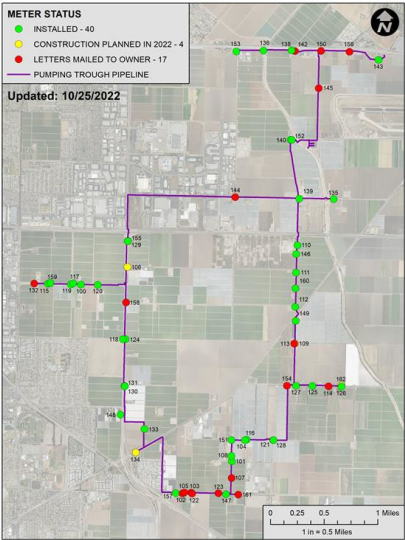


- Meters installed to date: 65% completion (40 of 61)
- A new meter installed at TO # 134 on September 29
- Future installation of five meters by the end of 2022
- Progress meeting with HJA on October 13 to discuss easement acquisition progress

METER STATUS

- INSTALLED - 40
- CONSTRUCTION PLANNED IN 2022 - 4
- LETTERS MAILED TO OWNER - 17
- PUMPING TROUGH PIPELINE

Updated: 10/25/2022



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4

Public Outreach

2022 Water Sustainability Summit



Santa Felicia Dam Safety Improvement Project
Extraction Barrier and Brackish Water Project



Laguna Rd Recycled Water Interconnection



Iron and Manganese Treatment Plant Project



Overview of Benefits and Costs




Dr. Bral attended the SCSC 2022 One Water Salinity Management Innovation Summit at MWD on October 26



SCSC
Southern California Salinity Coalition

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QUESTIONS



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ENVIRONMENTAL SERVICES DEPARTMENT MONTHLY UPDATE

November 3, 2022



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Department Summary Updates

- Permitting
 - Status update on Freeman Sediment Management project
- CESA
 - F&G Commission approved CDFW's request for six-month extension to complete status review
- Pulsed Flow Study
 - Partnership with USGS and UCLA to publish findings in peer reviewed journal



2

12



QUESTIONS



3



OPERATIONS AND MAINTENANCE
DEPARTMENT MONTHLY UPDATE

November 3, 2022



Freeman Diversion

Canal Expansion Joint Seal – Trash Rack Bearing – TID Meter





2

15

OH Delivery

OH 42" Pipeline Bore – UAS Shutdown – OH Well 16 Motor










3

16

PTP

PTP Well #3 – Peak System Demand – Well 12





17

Questions?



18

Staff Report

To: UWCD Engineering and Operations Committee

Through: Mauricio E. Guardado, Jr., General Manager

From: Dr. Maryam Bral, Chief Engineer
Tessa Lenz, Associate Environmental Scientist

Date: November 22, 2022 (December 1, 2022, Meeting)

Agenda Item: **3.1 Authorize a Contract with Environmental Science Associates to provide Consultant Services for CEQA and NEPA Documentation and Regulatory Permitting for the Phase 1 of the Extraction Barrier and Brackish Water Treatment Project**
Motion

Staff Recommendation:

The Committee will consider recommending approval of the motion item authorizing the General Manager to execute an agreement with Environmental Science Associates (ESA) in the amount of \$908,256 [\$825,687 + 10% contingency (\$82,569)] to provide consultant services for the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) Documentation, Processing, and Regulatory Permitting for the Phase 1 of the Extraction Barrier and Brackish Water Treatment Project (EBB Water).

Background:

Degraded water quality is present in approximately ten (10) square miles of the Upper Aquifer System (UAS) in the area between Port Hueneme and Point Mugu which is the result of recent and historic episodes of seawater intrusion. United Water Conservation District (District) is proposing construction of a groundwater extraction well field to intercept the intrusion of seawater near the Mugu submarine canyon (Phase 1) and a brackish water treatment plant, to treat the extracted water (Phase 2) for beneficial use within the District service area.

In 2019, the District engaged with the U.S. Navy to develop the Extraction Barrier and Brackish (EBB) Water Project at Naval Base Ventura County (NBVC) Point Mugu, which is adjacent to the Mugu submarine canyon. The U.S. Navy has expressed support for the project as it would provide water supply reliability, resiliency, and accessibility, critical to supporting military missions at NBVC and help achieve long-term groundwater sustainability in the Oxnard and Pleasant Valley Basin.

The District is also planning the future implementation phase of the project (Phase 2) that will involve treatment and distribution of product water for potable and non-potable uses, and disposal of brine. In May 2022, an Extended Desktop Treatment Modeling Evaluation Report was prepared

Agenda Item: 3.1 Authorize a Contract with ESA to provide Consultant Services for CEQA and NEPA Documentation and Regulatory Permitting for the Phase 1 of the Extraction Barrier and Brackish Water Treatment Project Motion

by Trussell Technologies, Inc. using expanded groundwater sampling data that was collected between 2020 and 2021. The report indicated that treatment is feasible and that further evaluation is needed on the efficacy of pre-treatment technologies. The District has also engaged with the Calleguas Municipal Water District (CMWD) regarding the use of the Salinity Management Pipeline (SMP) which is located within the project vicinity and appears to have available capacity to accept brine from the District's proposed and future treatment facility.

In April 2022, United completed a screening-level CEQA Initial Study and permitting work plan identifying environmental regulatory needs of the project. These products were developed in collaboration with the U.S. Navy and are the basis for the contract up for consideration. With agreement and engagement from the U.S. Navy, the current contract would cover CEQA and NEPA requirements to streamline the analysis on both the state and federal level.

Discussion: On August 8, 2022, District staff issued a Request for Qualifications/Proposals (RFQ/P) via BidNet Direct for consultant services to support CEQA and NEPA document development and environmental permitting for EBB Water, demonstration phase. On September 15, 2022, the District received five proposals. An interview panel consisting of environmental services, water resources, and engineering staff reviewed all five proposals and shortlisted the top three proposals for further evaluation. Staff coordinated individual interviews with the top three qualified firms over three consecutive weeks in the month of November. Staff shortlisted the top two firms for subsequent meetings. After staff deliberation and contacting the firm's references, ESA was selected as the most qualified firm to provide environmental consultant services for Phase 1 of the EBB Water Project. Under the agreement, ESA will provide consultant services for CEQA and NEPA documentation, processing, and regulatory permitting for the Phase 1. ESA will build upon the developed screening-level CEQA initial study and collaborate with the design team to provide regulatory guidance.

Staff recommends the Committee consider recommending approval of the motion item authorizing the general manager to execute an agreement with ESA with a contract amount of \$908,256.

Fiscal Impact:

The agreement has a not-to exceed contract total amount of \$908,256 [\$825,687 + 10% contingency (\$82,569)] is included in the Fiscal Year (FY) 2022-23 and FY 2023-24 EBB Water Capital Improvement Project (CIP) Budget, CEQA/permits task (051-400-81080; 8019-825). Sufficient funds in the amount of \$350,000 are available to carry the work through FY 2022-23.

Attachment:

Attachment A – Professional Consulting Services Agreement between United Water Conservation District and ESA (partially executed)

AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES

THIS AGREEMENT (“Agreement”) is made and entered into on _____, 2022, by and between the **United Water Conservation District**, Ventura County, California, (hereinafter “**UNITED**”), and Environmental Science Associates, (hereinafter “**CONSULTANT**”).

RECITALS:

WHEREAS, UNITED desires to obtain professional environmental consultation services in connection with the Extraction Barrier and Brackish Water Treatment Project, Demonstration Phase. (“Project”); and

WHEREAS, UNITED has selected CONSULTANT to provide such services; and

WHEREAS, CONSULTANT represents that it has the skills, experience, license, and expertise to perform these professional services for UNITED; and

WHEREAS, UNITED is desirous of engaging the services of CONSULTANT to perform these services;

NOW, THEREFORE, based on the terms and covenants set forth herein, UNITED and CONSULTANT mutually agree as follows:

1. EMPLOYMENT

A. UNITED hereby employs CONSULTANT to perform and complete the professional environmental services as set forth in Exhibit “A” (“Scope of Work/Schedule of Charges”). CONSULTANT shall perform such professional services as set forth in Exhibit “A” and shall furnish or procure the use of incidental services, equipment, and facilities reasonably necessary for the completion of services.

B. Any extra work over and above that included in the Scope of Work included in Exhibit “A” shall be in compliance with Section 3D.

C. CONSULTANT represents that its services shall be performed, within the limits prescribed by UNITED, in a manner consistent with the level of care and skill ordinarily exercised by other environmental professionals under similar circumstances at the time and in the vicinity its services are performed.

D. **Tom Barnes** shall: (a) personally perform or supervise the performance of services on a day-to-day basis on behalf of CONSULTANT; and (b)

maintain direct communication with UNITED's **Tessa Lenz** or designee in the performance of CONSULTANT's services.

E. CONSULTANT in the performance of services hereunder shall fully comply with any and all local, state and federal laws, regulations, ordinances, and policies applicable to its work, including any licensing laws applicable to CONSULTANT's profession and anti-discrimination laws pertaining to employment practices.

F. In the event of any conflict between the terms and conditions set forth in Exhibit "A" (Scope of Work/Schedule of Charges) versus those terms and conditions set forth in this Agreement, the terms and conditions set forth in this Agreement shall govern and the conflicting terms and conditions in Exhibit "A" shall not apply.

2. TERM OF AGREEMENT

Unless otherwise earlier terminated as specified in Section 8, this Agreement shall commence on the date set forth above and shall expire on **June 30, 2024**.

3. COMPENSATION

Payment by UNITED for the consulting services shall be considered as full compensation for all personnel, materials, supplies, and equipment used in carrying out the work.

A. Compensation and payments to the CONSULTANT shall be as described below:

1. UNITED shall compensate CONSULTANT on a time and expenses basis not to exceed \$908,256 (nine hundred and eight thousand, two hundred and fifty six dollars) for performing all services authorized and required by this Agreement and specified in Exhibit "A." UNITED shall compensate CONSULTANT only for actual costs incurred on a time and expenses basis, but in no event shall the total compensation be greater than the not to exceed amount above. However, the total amount paid on a time and expenses basis may be lower than the not to exceed amount above based on actual costs incurred. Payment shall be made in accordance with CONSULTANT's Schedule of Charges submitted to UNITED, included in Exhibit "A" attached and incorporated by reference herein.

2. CONSULTANT shall provide UNITED with monthly itemized invoices. Invoices shall include the categories and identities of CONSULTANT's employees performing services, a description of the services, the number of hours spent performing services, the hourly rate for each employee, CONSULTANT's actual costs and expenses, and the total amount of compensation requested by CONSULTANT for that month. Upon UNITED's request, CONSULTANT shall

include with its monthly invoices a detailed verification, including accounting records, of the work actually performed and costs and expenses incurred, along with any other documents or information reasonably requested by UNITED.

B. UNITED shall pay CONSULTANT within thirty (30) days after receipt of CONSULTANT's invoices, with the exception of any disputed amounts which shall be withheld until resolution of the dispute. If UNITED has reasonable grounds to believe that CONSULTANT will be unable to materially perform the services under this Agreement, or there exists or may exist a claim against CONSULTANT arising out of CONSULTANT's negligence or intentional acts, errors, omissions, or material breach of any provision of this Agreement, then UNITED may withhold payment of any reasonable amount due to CONSULTANT which is directly related to such negligence, intentional act, error, omission or material breach. No payment made under this Agreement shall be conclusive evidence of CONSULTANT's performance of the Agreement, either wholly or in part, and no payment shall be construed to be an acceptance by UNITED of CONSULTANT's work.

C. CONSULTANT shall notify UNITED in writing of the need for additional services required due to the circumstances beyond the CONSULTANT's control ("Additional Services"). The CONSULTANT shall obtain written authorization from UNITED before rendering any Additional Services. Compensation for all approved Additional Services shall be negotiated and approved in writing by UNITED before such Additional Services are performed by CONSULTANT. No compensation shall be paid to the CONSULTANT for any Additional Services that are not previously approved by UNITED in writing.

D. Reimbursable expenses, if applicable, are in addition to compensation for services outlined in the Scope of Work and Additional Services, and shall be paid to the CONSULTANT in accordance with the guidelines specified on Exhibit "B". Reimbursable expenses are paid at the actual costs, without mark-ups, incurred by the CONSULTANT and the CONSULTANT's employees in conduct of Agreement activities.

4. SCHEDULE OF WORK

CONSULTANT shall complete and deliver services and deliverables to UNITED in a diligent and professional manner, in accordance with the Project schedule set forth in Exhibit "A" attached and incorporated by reference herein. Time is of the essence in CONSULTANT's performance of services hereunder.

CONSULTANT's Project Manager shall keep UNITED's **Tessa Lenz** or designee informed as to the progress of work by informal reports. Neither party shall hold the other responsible for damages or delay in performance caused by acts

of God, strikes, lockouts, accidents, or other events beyond the reasonable control of the other or the other's employees and agents.

5. ASSIGNMENT OF CONTRACT

This Agreement is a professional services contract. CONSULTANT shall not assign this Agreement or any portion of the work without the prior written approval of UNITED. Any such assignment without UNITED's prior written approval shall be void. UNITED may withhold such approval for any reason in its sole discretion.

6. INDEMNIFICATION

A. To the fullest extent permitted by law, CONSULTANT agrees to indemnify, defend and hold UNITED entirely harmless from all liability arising out of:

1. Workers' Compensation and Employers Liability: Any and all claims under Workers' Compensation acts and other employee benefit acts with respect to CONSULTANT's employees or CONSULTANT's subconsultant's employees arising out of CONSULTANT's work under this Agreement; and

2. General Liability: Liability for damages for (1) death or bodily injury to person; (2) injury to, loss or theft of property; (3) any failure or alleged failure to comply with any provision of law or (4) any other loss, damage or expense arising under either (1), (2), or (3) above, sustained by the CONSULTANT or UNITED, or any person, firm or corporation employed by the CONSULTANT or UNITED upon or in connection with the Project, except for liability resulting from the sole or active negligence, or willful misconduct of UNITED, its officers, employees, agents or independent consultants who are directly employed by UNITED;

3. Professional Liability: Any loss, injury to or death of persons or damage to property caused by any act, neglect, default or omission of the CONSULTANT, or any person, firm or corporation employed by the CONSULTANT, either directly or by independent contract, including all damages due to loss or theft, sustained by any person, firm or corporation including UNITED, arising out of, or in any way connected with the services performed by CONSULTANT in accordance with this Agreement, including injury or damage either on or off UNITED property; but not for any loss, injury, death or damages caused by the sole or active negligence, or willful misconduct of UNITED.

4. The CONSULTANT, at its own expense, cost, and risk, shall defend any and all claims, actions, suits, or other proceedings, arising out of Sections 6.A.1 and 6.A.2 above, that may be brought or instituted against UNITED, its directors, officers, agents or employees, on any such claim or liability, and shall

pay or satisfy any judgment that may be rendered against UNITED, its officers, agents or employees in any action, suit or other proceedings as a result thereof.

7. INSURANCE

A. CONSULTANT shall procure and maintain for the duration of this Agreement, and for injuries which occur and claims which are made after the services herein are provided, insurance policies in accordance with the requirements set forth in Exhibit "C" attached and incorporated by reference herein. CONSULTANT shall also provide UNITED with a certificate of insurance attesting to its professional liability (errors and omissions) coverage and all required additional insured endorsements.

B. Submission of insurance certificates or endorsements or other proof of insurance shall not relieve CONSULTANT from liability under the indemnification provisions of Section 6. CONSULTANT's obligations in accordance with Section 6 shall apply whether or not such insurance policies shall have been determined to apply to any of such claims, damage, lawsuits, losses or liabilities covered by Section 6.

C. By its signature hereto, CONSULTANT certifies that it is aware of the provisions of California Labor Code Section 3700 which requires every employer to be insured against liability for workers compensation' or to undertake self-insurance as specified. CONSULTANT shall comply with these provisions before commencing work under this Agreement.

8. TERMINATION OF AGREEMENT

A. Termination for Cause

1. UNITED may terminate CONSULTANT's services for cause, whereupon this Agreement shall terminate immediately. Termination may occur regardless of whether CONSULTANT's services are completed. Any termination or special instructions from UNITED shall be made in writing.

2. Termination for cause may occur upon any of the following events: (a) CONSULTANT's material breach of this Agreement; (b) abandonment or lack of diligence in performance of the work by CONSULTANT; (c) cessation, suspension, revocation or expiration of any license needed by CONSULTANT to provide services hereunder; (d) failure of CONSULTANT to substantially comply with any local, state or federal laws, regulations, ordinances or policies applicable to its work hereunder; (e) filing by or against CONSULTANT of bankruptcy or any petition under any law for relief of debtors; or (f) conviction of CONSULTANT or its principal representative or personnel for any crime other than minor traffic offenses.

3. Subject to the provisions of Section 3.B herein, CONSULTANT shall be paid for all approved services performed and approved expenses incurred to the date of termination for cause supported by documentary evidence, including payroll records and expense reports, up to the date of the termination. In the event of termination for cause, all damages and costs associated with the termination, including increased consultant and replacement consultant costs, shall be deducted from any payments due to CONSULTANT.

4. In the event a termination for cause is determined to have been made wrongfully or without cause, then the termination shall be treated as a termination for convenience in accordance with Section 8.B below, and CONSULTANT shall have no greater rights than it would have had if a termination for convenience had been effected in the first instance. No other loss, cost, damage, expense or liability may be claimed, requested or recovered by CONSULTANT.

B. Termination Without Cause/For Convenience. This Agreement may be terminated without cause by UNITED or for UNITED's convenience upon fourteen (14) days' written notice to the CONSULTANT. In the event of a termination without cause, UNITED shall pay the CONSULTANT for all approved services performed and all approved expenses incurred under this Agreement supported by documentary evidence, including payroll records and expense reports, up until the date of the notice of termination. In addition, CONSULTANT will be reimbursed for reasonable termination costs through the payment of 3% beyond the sum due the CONSULTANT under this section through 50% completion of the CONSULTANT's portion of the Project and, if 50% completion is reached, payment of 3% of the unpaid balance of the contract to CONSULTANT as termination cost. This 3% is agreed to compensate the CONSULTANT for the unpaid profit CONSULTANT would have made under the Project on the date of termination and is consideration for entry into this termination for convenience clause.

C. In the event of termination with or without cause, CONSULTANT shall promptly provide to UNITED all Project Documents as defined in Section 9 below within five (5) calendar days from the effective date of termination. Failure to provide all Project Documents as required shall be deemed a material breach of this Agreement.

D. In the event of a dispute as to the performance of the work or an interpretation of this Agreement, or payment or nonpayment for work performed or not performed, the parties shall attempt to resolve the dispute. Pending resolution of the dispute CONSULTANT agrees to continue the work diligently to completion. If the dispute is not resolved, CONSULTANT agrees it will neither rescind the Agreement nor stop the progress of work, but CONSULTANT's sole remedy will be to submit such controversy to determination by a court having competent jurisdiction of the dispute as required by this Agreement after the Project has been completed and not before.

9. PROFESSIONAL SERVICES

A. The CONSULTANT is employed to render a professional service(s) only and any payments made to it are compensation solely for such services as it may render and recommendations it may make in the performance of services.

B. All plans, specifications, construction documents, data, records, files, communications, information, reports and/or other documents that are prepared, generated, reproduced, maintained and/or managed by the CONSULTANT or CONSULTANT's subconsultants arising from or in any way related to the services provided under this Agreement (regardless of medium, format, etc.) shall be and remain the property of UNITED ("Project Documents"). UNITED may provide the CONSULTANT with a written request for the return of the Project Documents at any time. Upon CONSULTANT's receipt of UNITED's written request, CONSULTANT shall return the requested Project Documents to UNITED within five (5) calendar days. CONSULTANT may make copies of the work generated. Failure to comply with any such written request above shall be deemed a material breach of this Agreement. Nothing in this paragraph shall be deemed a waiver of any copyright in the Project Documents prepared by the CONSULTANT. Any unauthorized reuse or modification of such Project Documents other than for purposes intended by CONSULTANT or for the Project shall be at UNITED's risk and liability.

C. CONSULTANT agrees that all dealings of the parties under this Agreement shall be confidential and no Project Documents or information developed, prepared or assembled by CONSULTANT under this Agreement, or any information made available to CONSULTANT by UNITED, shall be revealed, disseminated or made available by CONSULTANT to any person or entity other than UNITED without the prior written consent of UNITED, unless otherwise required by subpoena or applicable law or regulatory authority.

10. INDEPENDENT CONTRACTOR RELATIONSHIP

It is expressly understood between the parties that no employee/employer relationship is intended, the relationship of CONSULTANT to UNITED being that of an independent contractor. UNITED shall not be required to make any payroll deductions or provide Worker's Compensation Insurance coverage or health benefits to CONSULTANT. CONSULTANT is solely responsible for selecting the means, methods and procedures for performing its services hereunder as assigned by the UNITED and for coordinating all portions of the work so the results will be satisfactory to UNITED. CONSULTANT will supply all tools and instruments required to perform its services under this Agreement.

11. ASSISTANCE BY UNITED

It is understood and agreed that the UNITED shall, to the extent reasonable and practicable, assist and cooperate with CONSULTANT in the performance of CONSULTANT's services hereunder. Such assistance does not include, in any manner, the exercise of professional judgment for which CONSULTANT is being retained herein. Such assistance and cooperation to be provided by UNITED as applicable includes, but shall not be limited to, providing right of access to work sites; providing material available from the UNITED's files such as maps, as-built drawings, records and operation and maintenance information; and rendering assistance in determining the location of existing facilities and improvements which may be affected by the Project. CONSULTANT shall otherwise be responsible for giving all notices and complying with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority relating to the work.

12. ADDITIONAL PROVISIONS

A. Examination of Records

CONSULTANT agrees that UNITED shall have access to and the right to examine at any reasonable time and on reasonable notice CONSULTANT's documents, papers and records, including accounting records, relating to its performance under this Agreement.

B. Notice

All notices or other official correspondence relating to contractual matters between the parties shall be made by depositing the same as first-class, postage paid mail addressed as follows:

To CONSULTANT:	Tom Barnes Environmental Science Associates 626 Wilshire Boulevard, Suite 1100 Los Angeles, CA 90017
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To UNITED:	Tessa Lenz United Water Conservation District 1701 North Lombard Street, Suite 200 Oxnard, CA 93030
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or such other address as either party may designate hereinafter in writing delivered to the other party. All notices shall be agreed to have been received three (3) days after mailing.

C. No Waiver

No failure or delay by UNITED in asserting any of UNITED's rights and remedies as to any default of CONSULTANT shall operate as a waiver of the default, of any subsequent or other default by CONSULTANT, or of any of UNITED's rights or remedies. No such delay shall deprive UNITED of its right to institute and maintain any actions or proceedings which may be necessary to protect, assert or enforce any rights or remedies arising out of this Agreement or the performance of this Agreement.

D. Integration

This Agreement constitutes the entire agreement between the parties pertaining to the subject matter hereto, and supersedes all prior agreements, oral or written, and all prior or contemporaneous discussions or negotiations between the parties.

E. Modification

No alteration or variation of the terms of this Agreement shall be valid unless made in writing and signed by the parties.

F. Rules of Interpretation

The terms of this Agreement have been negotiated by the parties and the language used in this Agreement shall be deemed to be the language chosen by the parties to express their mutual intent. This Agreement shall be construed without regard to any presumption or rule requiring construction against the party causing such instrument to be drafted, or in favor of the party receiving a particular benefit under this Agreement. No rule of strict construction shall be applied against any party to this Agreement.

G. Partial Invalidity

If any term, covenant, condition, or provision of this Agreement is found by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions hereof shall remain in full force and effect, and shall in no way be affected, impaired, or invalidated thereby.

H. Incorporation of Recitals and Exhibits

The foregoing recitals and exhibits are incorporated herein as though fully set forth.

I. California Law; Dispute Resolution; Venue

This Agreement shall be interpreted and construed pursuant to the laws of the State of California, regardless of whether this Agreement is executed by any

party in another state or otherwise. If a dispute arises between the parties related to this Agreement or the breach thereof, the parties shall first attempt in good faith to settle the matter through discussion, and if unsuccessful may in their discretion mutually agree to mediate the dispute prior to filing a judicial action. The costs of a third party mediator, if utilized, shall be borne equally by the parties. If either party elects to file an action in court, such action shall be filed and heard in a court of competent jurisdiction in the County of Ventura.

J. Counterparts

This Agreement may be executed in multiple counterparts, a complete set of which shall be deemed to be an original and all of which together shall comprise but a single document. Signatures may be given via facsimile transmission and shall be deemed given as of the date of facsimile transmittal of the executed Agreement by one party to the other.

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

UNITED WATER CONSERVATION DISTRICT

By _____
Mauricio E. Guardado, Jr., General Manager

ENVIRONMENTAL SCIENCE ASSOCIATES

By Tom Barnes
Tom Barnes (Nov 21, 2022 14:51 PST)

Tom Barnes, Vice President

**EXHIBIT “A” TO AGREEMENT FOR
PROFESSIONAL CONSULTING SERVICES**

CONSULTANT shall provide professional environmental consultation services under this Agreement in accordance with work described in the attached **Scope of Work** and **Schedule of Charges**.



United Water Conservation District

**Proposal to Prepare CEQA Documentation, Processing, and
Regulatory Permitting for the
Extraction Barrier and Brackish Water Treatment Project
Demonstration Phase**



September 15, 2022

Project Team Leader: Tom Barnes
323.829.1221 | tbarnes@esassoc.com

Environmental Science Associates
esassoc.com

Section C: Scope of Work and Project Schedule

Project Scope

Task 1: Project Management

ESA will manage the scope, schedule and budget performance and ensure consistency and accuracy in work products. Over the 24-month project schedule, up to four ESA staff will participate in up to 8, 2-hour team conference calls with UWCD and Navy staff. In addition, ESA staff will attend bi-weekly one-hour project status meetings virtually, totally 25 meetings over the two-year period. Depending on the agenda, between one and four ESA staff may attend these project status meetings. The regular meetings help to maintain focus on action items and are essential to effective schedule management. We have added an additional 14 meetings for two staff to coordinate with the engineering team. ESA's Project Manager, Tom Barnes will track and update the budget and schedule. Written monthly progress reports will be submitted with billings that identify target dates for completion of current work tasks, deliverables, and meetings.

Task 2: Background Review, Project Initiation, and Project Description

ESA will review all existing documentation provided by UWCD and Navy team, including the Screening Level Initial Study previously prepared by UWCD, Extraction Barrier and Brackish Water Treatment Project Feasibility Study: Groundwater Modeling, December 2021, the Phase 1 Extraction Barrier and Brackish Water Treatment Project Feasibility Study:

Groundwater Modeling, July 2022 prepared by UWCD, and the Final Integrated Natural Resources Management Plan for Naval Base Ventura County Point Mugu and Special Areas, March 2019; and Coastal Adaptation Vision for Naval Base Ventura County Point Mugu, September 2020 prepared by the Navy.

Tom Barnes and Kevin Smith, Deputy Project Manager, will be available to attend an initial kickoff meeting in person or via a video conference platform to discuss the proposed Project and meet with United Water Conservation District's (UWCD) staff. During this meeting, ESA and UWCD will determine the appropriate level and protocol for communication with UWCD and Naval staff. ESA will present an overall Project approach and schedule, including milestones, for feedback from UWCD staff. A project approach will be refined and ESA will provide a project information request itemizing additional data considered necessary for project understanding.

In addition, ESA will participate in up to 8 progress calls with UWCD and Naval staff; typically, once every two weeks during preparation of the MND/EA. ESA will prepare brief meeting minutes and compile action items at the end of each meeting to be circulated to the team. The meeting summaries and action items will be emailed to all meeting attendees for review and concurrence.

ESA will develop a data request for additional information after review of project materials provided by UWCD and Naval team. ESA will review and update the existing Project Description prepared for the preliminary IS. We assume that the Project Description will need to reflect the most likely discharge alternative. ESA will prepare and submit a draft Project Description in electronic format (2 rounds of revisions), including project location figures and graphics. This scope assumes GIS or CAD data will be provided by the UWCD and Naval team for project figures. The Final Project Description will be used as the basis for the CEQA/NEPA analysis. The Project Description will include explanation of the construction, operation, and maintenance all project components, including the extraction wells, conveyance pipelines, outfall, and diffusor.

ESA assumes UWCD will review and provide comments to be addressed on two rounds of Project Description deliverables: one administrative draft and one screencheck draft. It is assumed one set of consolidated comments will be provided to ESA. The Project Description will be the basis for initial agency consultation as well as preparation of the technical reports.

Deliverables

- ➔ Draft Project Description (Microsoft Word and PDF format). Two rounds of revisions. ESA will revise the Draft Project Description based on receipt of consolidated set of electronic comments.

Task 3: Permitting Compliance Strategy and Alternative Evaluation

The RFP identifies three distinct discharge alternatives. Each of these alternatives presents unique technical study and permit requirements as outlined in **Table 1**. We recommend that the IS/MND analyze one discharge alternative. For purposes of this proposal, we have provided a full list of studies and permits required to discharge to Mugu Lagoon. ESA proposes to host a workshop with UCWD and the Navy to clarify work completed to date (including informal agency consultations), define alternatives, identify constraints and schedule objectives, outline screening criteria, and develop a strategy to most efficiently advance the demonstration phase of the project. We have proposed to formalize this strategic evaluation by preparing a Technical Memorandum summarizing the process and the rationale for pursuing a preferred project.

Table 1 Technical Studies and Permits for Each Alternative

LAGOON OUTFALL ALTERNATIVE	BEACH OUTFALL ALTERNATIVE	SMP OUTFALL ALTERNATIVE
Technical Studies		
<ul style="list-style-type: none"> • Air emissions/GHG/Energy • BRTR- Upland habitat • Protocol surveys (if needed) • Jurisdictional Delineations of Wetlands/Lagoon • Cultural Resources Report/ Phase 1 • Tribal Assembly Bill (AB) 52 • Lagoon and Marine Biology Study/EFH Assessment • Lagoon Discharge Dispersion and Mixing Study • TMDL Consideration Study (optional) • Sea Level Rise Assessment 	<ul style="list-style-type: none"> • Air emissions/GHG/Energy • BRTR- Upland habitat • Protocol surveys (if needed) • Cultural Resources Report/ Phase 1 • Tribal AB 52 • Marine Biology Study/EFH Assessment/Eel Grass survey • Ocean Discharge Dispersion and Mixing Study • Sea Level Rise Assessment 	<ul style="list-style-type: none"> • Air emissions/ GHG/Energy • BRTR- Upland habitat and Pipeline Route • Cultural Resources Report/ Phase 1 • Tribal AB 52 • Sea Level Rise Assessment • Update to SMP Outfall Discharge Dispersion Model (if necessary)
Permits		
<ul style="list-style-type: none"> • RWQCB-Individual NPDES Permit- Discharge Permit or Dewatering Permit • Construction Stormwater Permit • USFWS/NMFS Section 7 and EFH/MSA • USACE-CWA Section 404/RHA Section 10 • RWQCB 401 • NHPA Section 106 • CZMA Federal Consistency Determination • State Lands Lease (if needed) • CCC CDP (if needed) • CDFW 1602 (if needed) 	<ul style="list-style-type: none"> • RWQCB-Individual NPDES Permit- Discharge Permit • Construction Stormwater Permit • USFWS/NMFS Section 7 and EFH/MSA • USACE-CWA Section 404/RHA Section 10 • RWQCB 401 • NHPA Section 106 • CZMA Federal Consistency Determination • State Lands Lease • CCC CDP (if needed) 	<ul style="list-style-type: none"> • RWQCB – Updated ROWD for existing permit • Construction Stormwater Permit • NHPA Section 106 • CZMA Federal Consistency Determination • CCC CDP (if needed)

As directed by UWCD, ESA will evaluate each alternative against a list of screening criteria to support: (1) the decision to advance one alternative through CEQA/NEPA, and (2) the need to develop a defensible alternatives analysis that will be required to obtain a 401 Certification from the LARWQCB. ESA will prepare a brief Technical Memorandum presenting the results of the alternative screening workshop. ESA will provide a draft memorandum for review by UWCD and the Navy. ESA will incorporate comments into a Final Memorandum to support project implementation.

The table below outlines our initial assessment of technical studies and permits required for each alternative. This list may be modified as we better understand the status of the project designs and informal agency consultations.

Deliverables

- ➔ Workshop Presentation draft and final
- ➔ Draft Alternatives Evaluation and Selection Technical Memorandum draft and final.

Task 4: Technical Studies

Based the review of the RFP, this scope of work assumes the following technical studies will be needed to support the environmental documentation:

- Air Quality Assessment, GHG Emissions Assessment, Energy Usage Assessment
- Terrestrial Biological Resources Technical Report
- Focused Surveys (Optional)
- Lagoon and Marine Environment Technical Memorandum
- Lagoon Discharge Dispersion and Mixing Study
- TMDL Considerations Study (Optional)
- Jurisdictional Delineations of Wetlands
- Cultural Resources Technical Report
- Sea Level Rise Study

The scopes for these Technical Studies are included below. This scope of work assumes that no visual simulations, noise measurements, or traffic report will be required for purposes of CEQA/NEPA and preparation of the Mitigated Negative Declaration/Environmental Assessment (MND/EA). This scope of work assumes that all technical analysis related to groundwater and surface hydraulic modeling will be provided by UWCD or its engineering design consultant.

The RFP provides a list of potential technical studies that may be required to support the project. To clarify our approach to the scope of work, **Table 2** reproduces that list and identifies where in the ESA scope these technical issues will be compiled and assessed either through stand-alone technical studies or within the body of the IS/MND.

Table 2 ESA's Approach to the Potential Technical Studies

POTENTIAL TECHNICAL STUDY LISTED IN RFP	ESA'S APPROACH
Air quality/greenhouse gas emissions analysis	Air and GHG emissions modeling using CalEEMod described in IS with model outputs included in an Appendix
Discharge location alternative evaluation	Alternative Screening Technical Memorandum
Discharge diffusion and mixing study	Diffusion and Mixing Study for Mugu Lagoon
Biological resources assessment – including marine biological resources and essential fish habitat	Terrestrial Biological Resources Technical Report (BRTR) Lagoon and Marine Resources Technical Report Jurisdictional Delineation of wetlands
Marine life impacts – including water quality and Ocean Plan consistency (if applicable)	Included as analysis in IS supported by Lagoon and Marine Resources Technical Report
Environmentally Sensitive Habitat Areas (ESHA) assessment	Included in BRTR
Growth/ need for the project	Analysis included in IS
Cultural/ paleontological studies	Cultural Resources Technical Study
Sea level rise assessment	Sea Level Rise Technical Study
Flood hazards assessment	Analysis included in IS
Seismic and tsunami risk assessment	Analysis included in IS
Geology/ soils report	Analysis included in IS based on existing geotechnical information
Noise study	Analysis included in IS. No stand-alone study proposed.
Traffic study	Analysis included in IS. No stand-alone study proposed due to project type.
Visual impact analysis	Analysis included in IS. No simulations proposed.
Environmental justice analysis	Analysis included in IS

1. Air Quality Assessment, GHG Emissions Assessment, Energy Usage Assessment

AIR EMISSIONS

The construction activities at the Project site along with Project operation would result in emissions of criteria air pollutants such as particulate matter, ozone precursors (including volatile organic compounds commonly used in laboratories) and toxic air contaminants. The Project Site is located within the South Central Coast Air Basin (Air Basin), which is under the local jurisdiction of the Ventura County Air Pollution Control District (VCAPCD). ESA will quantify the Project's construction and operational regional emissions using the VCAPCD recommended California Emissions Estimator Model (CalEEMod) and the on-road vehicle emissions factor (EMFAC) model and the regional construction and operational emissions will be compared to the VCAPCD thresholds of significance as stated in the VCAPCD Air Quality Assessment Guidelines. The calculation of the Project's construction emissions will be based on the number and types of construction equipment that would be used at the Project site during the Project construction phases (e.g., site preparation, drilling, etc.). With regard to operational emissions, the Project's mobile-source emissions will be estimated based, in part, on the Project's trip generation rates and on vehicle miles traveled (VMT) based on CalEEMod modeling defaults or information provided by the UWCD.

ESA will assess consistency of the Project with the most recent VCAPCD Air Quality Management Plan (AQMP) and any pertinent air quality statutes and regulations at the local, regional, state, and federal level that are applicable to the Project. ESA will assess cumulative impacts by identifying new related Projects within the vicinity and address the CEQA consideration that the Project may have impacts that, although not individually significant, could be cumulatively considerable.

With regard to the air quality analysis, ESA assumes that the UWCD will provide reasonably complete and comprehensive data regarding construction and operations. Such data include but are not limited to construction schedule and fleet information, construction materials, size and location of buildings to be demolished, and cubic yards of soil to be excavated, hauled or imported out. In regard to operations, ESA assumes that UWCD will provide information regarding hazardous materials and stationary equipment used at the Project site. This data includes hazardous materials safety data sheets and stationary equipment specification sheets. ESA assumes construction and operational emissions will be analyzed for one construction scenario and one operational scenario. ESA assumes no standalone Air Quality technical report will be required. Modeling results will be appended to the MND/EA.

GREENHOUSE GAS EMISSIONS

The State Office of Planning and Research (OPR) published revised CEQA guidelines, effective on March 18, 2010, which requires a GHG analysis be prepared. ESA proposes to analyze GHG emissions in accordance with these guidelines. In general, the guidelines allow Lead Agencies to determine if a quantitative or qualitative analysis is most appropriate, and to establish specific significance criteria. The VCAPCD have not adopted specific numeric thresholds of significance applicable to the Project. However, other agencies, such as the neighboring South Coast Air Quality Management District (SCAQMD) have proposed draft thresholds.

The GHG assessment for the Project will evaluate the potential impacts associated with the Project's generation of GHG emissions during construction and operations. Similar to the air quality task, the GHG analysis will include an estimation of the Project's GHG emissions, which would be attributed to Project-related construction equipment, vehicle trips, area sources (e.g., use of landscaping equipment), energy consumption (electricity and natural gas), water consumption, and solid waste generation. Construction- and operations-related GHG emissions will be quantified using the CalEEMod and EMFAC models as discussed under the Air Quality task above. GHG emissions impacts are exclusively cumulative in nature and there are no Project-level only impacts from a GHG emissions perspective. Therefore, the GHG analysis will also satisfy the CEQA requirement for a cumulative impact analysis. ESA assumes no standalone GHG technical report will be required. Modeling results will be appended to the MND/EA.

ENERGY USAGE

ESA will quantify the project's anticipated construction energy needs based on water use for dust suppression and estimated fuel consumption for construction equipment, haul trucks, vendor trucks, and construction workers utilizing the project information and assumptions described under the Air Quality and GHG tasks. ESA will also quantify the project's anticipated new operational (maintenance) energy needs at full buildout conditions based on the estimated electricity usage for the project. The project would result in electricity usage from the pressure sustaining facility, the conveyance and distribution of water, operation of the production/extraction wells and associated monitoring wells; any increase above the baseline condition will be included in the estimated electricity usage. ESA will also estimate the transportation-related energy needs based on the estimated fuel consumption for vehicle trips and from the project for the routine maintenance and operation of the production/extraction and monitoring wells. ESA will summarize the project's anticipated energy needs and conservation measures, including project commitments, design features, and mitigation measures that would minimize and reduce the project's consumption of fuel and energy.

2. Terrestrial Biological Resources Technical Report

ESA will prepare a biological resource analysis to assess the potential terrestrial biological impacts that may arise from implementation of the proposed project. ESA biologists will conduct a reconnaissance-level biological resources survey of the project site and surrounding area to confirm current biological site conditions. The biological study area (BSA) includes a 500-foot buffer of the proposed seven (7) extraction wells and raw water pipelines including the alternate raw water pipeline. Additionally, ESA biologists will document wildlife species and vegetation communities/land cover types observed within the project site and surrounding areas. The field effort will require two biologists two 12-hour field days (including travel time and the Aquatics Resources Delineation) to observe and document current site conditions.

Prior to the biological survey, ESA biologists will conduct a desktop review to identify potential sensitive biological resources that may occur in the project area. ESA will query the following databases for records of special-status species within the project parcels: California Natural Diversity Database (CNDDDB), California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants in California, and the U.S. Fish and Wildlife Service's (USFWS's) on-line Official Species List request tool (Information, Planning and Conservation System [IPaC]). These queries will provide up-to-date documentation on special-status species occurrences and other biological resources to support the CEQA and NEPA documentation.

Upon preliminary desktop review of the aforementioned biological databases, the project site at minimum has the potential to contain suitable habitat to support a multitude of sensitive wildlife species. These sensitive wildlife species include though not limited to western snowy plover (*Charadrius nivosus nivosus*), southwestern willow flycatcher (*Empidonax trailii extimus*), tidewater goby (*Eucyclogobius newberryi*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), light-footed Ridgway's rail (*Rallus obsoletus levipes*), California least tern (*Sterna antillarum browni*), and least Bell's vireo (*Vireo bellii pusillus*). Additionally, the project site has the potential to contain suitable habitat to support sensitive plant species including Ventura marsh milk-vetch (*Astragalus pycnostachyus*) and salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*). During the field portion of the biological resources survey the biologists will evaluate the potential for habitat located within the BSA to sustain these sensitive species. Furthermore, we will provide a summary for any recommended or required focused surveys for these sensitive species.

ESA will produce a CEQA- and NEPA-level review of the biological resources present within and adjacent to the project site. The biological resources review will provide the following: (1) a discussion of the existing site conditions and findings; (2) an evaluation of the potential for sensitive species and their habitats to occur; (3) a discussion of potential project impacts to biological resources and any potential jurisdictional resources; (4) potential avoidance and minimization measures; and (5) any additional recommended surveys. The biological summary will also include a vicinity map, sensitive species location map if sensitive species are observed, vegetation communities map, map of potential jurisdictional resources, and photographs of the project site. The findings of the desktop review and biological survey will be summarized and incorporated into a standalone Biological Resources Technical Report (BRTR) to support project environmental review.

We assume that UWCD will provide the aerial basemap and project limits for mapping purposes of the project. Additionally, it is assumed that no more than one project design will be analyzed. Additional project designs can be analyzed under a separate scope and fee. This scope assumes that ESA will respond to two rounds of consolidated comments from UWCD and prepare a final version in response to the comments received. ESA assumes no focused biological surveys would be required at this time and therefore, are excluded from this scope of work.

OPTIONAL SUBTASKS – ADDITIONAL BIOLOGICAL SURVEYS

Surveys for rare plants, western snowy plover, California least tern, Belding's savannah sparrow, least Bell's vireo, southwestern willow flycatcher, and tidewater goby are included below as optional because the specific survey requirements for these species will be determined based on the initial habitat assessments.

FOCUSED RARE PLANT SURVEYS

ESA biologists will conduct focused surveys to determine the presence/absence of rare plant species within suitable habitat areas. Species of primary concern include. Special focus will be given to federally and state-listed plant species including Ventura marsh milk-vetch and salt marsh bird's-beak. The surveys will be timed to maximize detection based on the blooming periods of species with potential to occur within the survey area. Target species will be determined as part of the general biological survey and habitat assessment. It is expected that surveys will consist of up to two separate field visits that will be timed to maximize the capture of the blooming periods of rare plant species with potential to occur in the survey area. The locations of any observed rare plant individuals or populations will be recorded and mapped. A summary of rare plants detected and a map depicting rare plant locations and GIS data of any rare plants detected will be included in the BRTR.

Assumptions

- This scope and cost assumes that two rare plant surveys will be completed in two days by two biologists. Suitable habitat is subject to verification based on the results of the general biological survey and habitat assessment.
- This scope assumes that up to two surveys will allow for adequate detection of the rare plant species with potential to occur. If the habitat assessment indicates that additional surveys are warranted, these will be scoped and costed under an amendment.

FOCUSED RARE PLANT SURVEYS

ESA biologists will conduct focused surveys to determine the presence/absence of rare plant species within suitable habitat areas. Species of primary concern include. Special focus will be given to federally and state-listed plant species including Ventura marsh milk-vetch and salt marsh bird's-beak. The surveys will be timed to maximize detection based on the blooming periods of species with potential to occur within the survey area. Target species will be determined as part of the general biological survey and habitat assessment. It is expected that surveys will consist of up to two separate field visits that will be timed to maximize the capture of the blooming periods of rare plant species with potential to occur in the survey area. The locations of any observed rare plant individuals or populations will be recorded and mapped. A summary of rare plants detected and a map depicting rare plant locations and GIS data of any rare plants detected will be included in the BRTR.

Assumptions

- This scope and cost assumes that two rare plant surveys will be completed in two days by two biologists. Suitable habitat is subject to verification based on the results of the general biological survey and habitat assessment.
- This scope assumes that up to two surveys will allow for adequate detection of the rare plant species with potential to occur. If the habitat assessment indicates that additional surveys are warranted, these will be scoped and costed under an amendment.

AVIAN SURVEYS

An initial habitat assessment for special status avian species including southwestern willow flycatcher, least Bell's vireo, Belding's savannah sparrow, western snowy plover and California least tern surveys will be conducted as part of the BRTR. If determined that habitat is present within the BSA fixed radius point-count and area-transect locations will be placed/developed strategically within the bird survey area to maximize coverage of potential breeding and foraging areas for each of the species potentially present. The point-count and area-transect locations will be visited weekly during the breeding (both species) and juvenile dispersal (tern) surveys described below.

During the breeding season (March-July, five months), surveys will be conducted weekly at each of the established point-count locations and within the area-transect locations. Documentation will include all individuals and type of activity observed, nesting attempts and success/failure (e.g., abandoned or predated), foraging within the open ocean or estuary, and berm status. After the breeding season, visual surveys will be conducted weekly during the juvenile tern dispersal period (August through October, three months) to document tern foraging use of BSA. All bird surveys will start 15 minutes after sunrise and continue up to five hours following sunrise. Following completion of the surveys, ESA will prepare draft and final versions of a 45-day letter report.

Belding's savannah sparrow surveys will be conducted within suitable habitat. There is no official protocol for Belding's savannah sparrow therefore ESA recommends four site visits during the period from late February to June. Following completion of the surveys, ESA will provide a summary of the survey results within the BRTR.

Least Bell's vireo surveys will be conducted based on the USFWS Least Bell's Vireo Survey Guidelines which recommends 8 site visits at least 10 days apart during the period from April 10 to July 31. If there are no delays in the survey schedule, all 8 site visits can be completed by the end of June. Following completion of the surveys, ESA will prepare draft and final versions of a 45-day letter report.

Southwestern willow flycatcher surveys will be conducted by a permitted biologist in accordance with A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher which requires a minimum of 5 project-related surveys spaced at least 5 days apart with a minimum of one survey from May 15 to May 31, two surveys from June 1 to June 24, and two surveys from June 25 to July 17. Up to four of the five surveys will be completed as part of this subtask after submitting a pre-survey notification letter.

Surveys will be conducted starting from approximately 1 hour before sunrise until 9:00 to 10:30 AM, depending on the temperature, wind, rain, background noise, and other environmental factors. When possible, surveys will be conducted from within rather than from the perimeter of suitable habitat areas. If surveys cannot be conducted from within the habitat, surveys will be conducted by walking along the perimeter and entering habitat at intervals to broadcast the vocalizations and listen for responses. At 20-to-30-meter intervals, surveyors will listen for 10 seconds for singing flycatchers. If singing flycatchers are not heard during the initial listening period, the willow flycatcher song recording will be broadcast for 10 to 15 seconds; then surveyors will listen for approximately 1 minute for a response.

Following completion of the surveys, ESA will prepare draft and final versions of a 45-day letter report.

Assumptions

- This scope and cost assumes that up to 22 breeding surveys for species will be completed.
- This scope and cost assumes that up to 13 juvenile California least tern surveys will be completed.
- To reduce the costs associated with this task, the southwestern willow flycatcher surveyor will be accompanied by the least Bell's vireo surveyor. Should least Bell's vireo surveys not be authorized by the District, additional authorization would be necessary to include an additional staff person during these surveys for safety purposes.

TIDEWATER GOBY SURVEYS AND REPORTING

ESA will complete a tidewater goby habitat assessment and focused presence/absence surveys in accordance with USFWS-approved protocol. The habitat assessment will include a 1-day field survey to describe habitat suitability for tidewater goby within the project site. The habitat assessment will also focus on project impact areas and will evaluate the project site to propose mitigation strategies for tidewater goby, if it is determined that the species could be impacted by the project.

It is assumed that the habitat assessment results will indicate that focused presence/absence surveys for tidewater goby are warranted prior to project construction. These surveys should be timed to occur no more than 1-year prior to project construction so that negative survey results would still be considered valid at the time of construction. Surveys are assumed to take two field days with two biologists and would be completed in accordance with a methodology that is acceptable to USFWS (likely methods include beach seining and minnow traps).

Assumptions

- Fish surveys must be conducted in two sampling periods between July 1 and October 31, separated by at least 30 days as per USFWS recommendation.
- If tidewater goby are encountered in the first fish survey, ESA will consult with the USFWS on whether a second presence/absence survey is required.
- If tidewater goby are detected and USFWS requests relocation as mitigation, preparation and implementation of a relocation plan would be a separate effort. The surveys are not scoped to be relocation efforts. The final memo will not include a formal relocation plan.
- One meeting with two staff to support the District in consultation with USFWS.

EEL GRASS SURVEY

Aquatic vegetation community surveys will be conducted within the affected portion of Mugu Lagoon to detect the presence and map the extent of eel grass beds and other aquatic vegetation communities. We assume a team of 4 or 5 divers to cover both sides of the causeway. The survey would be conducted within one day. A draft survey report will be prepared including a map of identified plant communities. UWCD comments will be incorporated into a Final Survey Report.

Assumptions

- One day will be needed to obtain security clearances at the Navy Base.
- Level of effort includes travel time to and from the site for certified divers.
- The dive team may be provided by a third-party vendor that ESA will subcontract to. ESA will be responsible for quality control of the dive effort and report.
- One draft and one final version of the survey report will be prepared.

3. Lagoon and Marine Environment Technical Memorandum

LWA will prepare a Technical Memorandum (TM) that summarizes the existing literature and available information on the status of the water quality and habitat of the Mugu Lagoon and near-shore marine environment. The TM will be based on existing information sources which will be updated as needed based on site-specific reconnaissance surveys conducted for this project. The analysis will include descriptions of intertidal and subtidal habitats; descriptions of the fish and invertebrate communities; a discussion of important and sensitive marine habitats including eelgrass beds and other Habitat Areas of Particular Concern (HAPC); a description of the Essential Fish Habitat (EFH) resources; and a discussion of sensitive and protected marine resources, including harbor seal haul out areas. Following the review and description of existing resources, LWA will describe applicable regulations for the project, and utilizing an Environmental Checklist consistent with Appendix G of the CEQA Guidelines, prepare an analysis of anticipated project- and project alternative-related impact to existing resources, including EFH. Where appropriate, LWA will propose appropriate mitigation measures to minimize and reduce impacts to less-than-significant levels. In addition, the document will include a description of need and required timing for follow-up studies, including pre-construction eelgrass surveys and possible monitoring requirements.

4. Lagoon Discharge Dispersion and Mixing Study

LWA will conduct a mixing model to assess the dynamics of dilution within mixing zones in the lagoon. The approach to modeling will incorporate the proposed mode of diffusion or dispersion of the discharged extracted groundwater. The initial task is to evaluate the proposed mode of discharge to Mugu Lagoon. A single pipe discharge would be modeled differently from a diffuser (or pipe connected to a manifold with multiple outlets), as would a discharge at the mean tide level compared to a submerged discharge. Ambient tidal conditions, and density will be evaluated with proposed mode of discharge to determine the appropriate modeling framework. As Mugu Lagoon is relatively shallow, CORMIX may be the best suited dilution modeling framework for the proposed discharge. However, Visual Plumes will be evaluated as well. A system designed to spray water over the surface of the lagoon would require a more customized spreadsheet-based mass-balance approach. It is assumed that both the brackish groundwater and the reverse osmosis concentrate (ROC) are less dense than the ambient Mugu Lagoon water. The second task is to obtain data satisfying the selected model inputs, which generally include the physical configuration (geometry), and flowrate and density of the discharge; and the local benthic geometry, tidal cycle information, and ambient density/density stratification. It is assumed all necessary flows and densities will be provided by United Water. This scope assumes up to three scenarios of discharge flowrate and density may be modeled. The third task is to compile scenarios considered, model development, and calculated available dilution into a summary technical memorandum. A draft memo will be prepared and circulated for comment before finalizing.

5. TMDL Considerations Technical Memorandum

LWA will prepare a Technical Memorandum that will evaluate the potential for the proposed lagoon discharge to affect impairments that were addressed by the TMDLs. Six TMDLs are currently in effect for the Calleguas Creek Watershed (CCW):

- Nitrogen and Related Effects (in effect July 2003)

- Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation (OCP/PCBs) (in effect March 2006)
- Toxicity (in effect March 2006)
- Salts (in effect December 2008)
- Metals & Selenium (in effect March 2007)

With the exception of the Salts TMDL, the CCW TMDLs established numeric targets for Mugu Lagoon that apply to multiple matrices (water, sediment, fish tissue, and bird eggs). In addition, the Metals & Selenium TMDL established total allowable daily loads (lbs./day) of pertinent pollutants that can enter Mugu Lagoon through Revolon Slough or Calleguas Creek; such limits were established assuming those influents were the predominant discharges to Mugu Lagoon. A combined TMDL monitoring program has been underway since 2008 that includes wet and dry weather sampling events, and annual or triennial sediment and tissue sampling events. In addition, numerous special studies have been conducted that were required by the TMDLs that in some cases were used as the basis for TMDL modification or are currently being considered by the Los Angeles Regional Water Quality Control Board to support target revision.

The requirements in the CCW TMDLs that apply to Mugu Lagoon and the current status of compliance with targets and allocations will be summarized using results from the CCW TMDL monitoring program. TMDL limits that will potentially be affected by the proposed lagoon discharge will be identified by comparing the predicted quality of the discharge with existing data on Mugu Lagoon water quality and TMDL numeric targets, and qualitatively evaluating other effects of the discharge that could worsen or alleviate impairments that were addressed by the TMDLs, such as through sediment resuspension, and changes to macroalgal biomass and dissolved oxygen levels within the lagoon.

We assume that projected blended discharge water quality data for the pertinent analytes will be provided to LWA by UWCD and that LWA will provide one draft and one final Memorandum.

6. Jurisdictional Delineations of Wetlands

ESA will conduct a delineation of aquatic resources, including wetlands, to identify potential waters of the U.S. subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA); waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the federal CWA and the Porter-Cologne Water Quality Control Act; and streambed and riparian habitat subject to the regulatory jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Sections 1600 et seq. of the California Fish and Game Code.

The survey area for the aquatic resources delineation will include a 100-foot buffer of the project site. Prior to conducting the field delineation, ESA will review soils, vegetation, and watershed data available for the project area. The formal field delineation will include collection of data sufficient to determine the type, location, and extent of potentially jurisdictional wetlands and waters of the U.S. and State within the project area, as well as areas potentially subject to Section 1600 of the Fish and Game Code. All aquatic resources within the project area, including storm water facilities will be evaluated for their potential jurisdictional status.

An Aquatic Resources Delineation Report (ARDR) will be prepared based upon these findings and criteria outlined within agency guidance documents and manuals, including the Army Corps Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (March 2017), and current guidance/procedures applicable to RWQCB and CDFW. This report will be suitable for submittal to USACE, RWQCB, and CDFW. Contents of the report will include:

- A description of the regulatory framework surrounding aquatic resources including federal and state
- A description of the methods used in the aquatic resources delineation;
- A soils map of the project site;

- A site characterization for jurisdictional features and regional hydrology;
- A list of all potential jurisdictional features on the project parcels, including area (in acres);
- A map of said features at a scale no less than one inch equals 400 feet (or 1:4800);
- Wetland Delineation and/or ordinary high water mark data sheets from the field survey, if applicable; and
- Representative site photographs.

Deliverables

➔ Draft and Final ARDR

Assumptions

- Access to the survey area will be provided by the District
- The fieldwork for the aquatic resources delineation would be completed concurrently with the biological resources field effort.
- The District will provide project description information needed to prepare the ARDR. It is assumed that the ARDR will be based on a single version of project design.
- Permitting support, agency coordination or information requests, or additional site visits such as field verifications are not included in this task.

7. Cultural Resources Technical Report

ESA cultural resources staff will prepare a Cultural Resources Assessment Report that will be compliant with CEQA and Section 106 of the National Historic Preservation Act. The purpose of the assessment will be to identify any archaeological and/or paleontological resources within the project area or immediate vicinity that could be impacted by the project.

Area of Potential Effects Delineation. ESA cultural resources staff, in consultation with the UWCD and the Navy, will delineate an APE pursuant to Section 106 (36 CFR 800.4(a)). The APE will encompass the direct and indirect areas of potential impact where proposed infrastructure will be constructed, including staging and maintenance yards. A map depicting the draft APE will be submitted to UWCD and the Navy for review and approval.

Records Searches and Archival Research. ESA cultural resources staff will conduct a records search at the South Central Coastal Information Center. The purpose of the records search will be to identify previous cultural resources investigations and previously recorded archaeological resources within a 1-mile radius of the APE and historic architectural resources within 0.25 miles of the APE. Additional research will include review of available historic maps and aerial photographs, geotechnical studies, the National Register of Historic Properties (NRHP), the California Register of Historical Resources (CRHR), and the California Office of Historic Preservation's (OHP) Built Environment Resource Directory. A desktop geoarchaeological review of the APE will also be conducted by an ESA geoarchaeologist to determine the likelihood for encountering subsurface archaeological deposits and at what depths they may be encountered. ESA will also request an EDR search to obtain high-resolution Sanborn maps and historic aerial imagery of the APE.

Native American and Interested Party Consultation. A Sacred Lands File search will be requested from the California Native American Heritage Commission (NAHC) to solicit information on sensitive or undocumented Native American cultural resources in the vicinity of the project and to obtain a list of Native American contacts who are culturally and traditionally affiliated with the APE. ESA will prepare draft AB 52 and Section 106 notification letters on behalf of UWCD and the Navy, respectively. As identified in the RFP, the six tribes to be notified include Barbareno/Ventureno Band of Mission Indians, Chumash Council of Bakersfield, Coastal Band of the Chumash Nation, Northern Chumash Tribal

Council, San Luis Obispo County Chumash Council, and Santa Ynez Band of Chumash Indians. Others may also be notified based on the NAHC's listing as directed by UWCD and the Navy. All notification letters will include a description of the proposed project, maps, and contact information. ESA will follow-up with two rounds of phone calls to ensure the parties received the information, to answer questions, and to receive comments or concerns about the proposed project. All outreach and correspondence (letters, emails, phone calls) will be documented in a tracking log. ESA will also send letters of inquiry via email to identified local historical societies and preservation organizations seeking historical information on the project area and vicinity. Copies of all correspondence and the tracking log will be appended to the draft cultural resources report. If needed, ESA will also support to the UWCD during consultation meetings if any are requested. This scope of work assumes ESA cultural resources staff will attend one in-person meeting in support of AB 52 consultation.

Pedestrian Survey. A pedestrian survey of the APE will be conducted to identify and document archaeological and historic architectural resources. Archaeological survey will follow professional standards, using transects spaced no greater than 15 meters apart. The survey will be conducted by two ESA staff over a period of one 8-hour day plus travel time. Cultural resources encountered in the APE will be recorded on California State Department of Park and Recreation (DPR) 523 site record forms and plotted with sub-meter handheld GPS instruments. Previously recorded resources will be relocated and documented on DPR 523 update forms. This scope of work assumes no new cultural resources will be identified within the APE as a result of the records search or the cultural resources survey. Should cultural resources be identified any additional work associated with the formal documentation and evaluation of resources will be conducted under a separate scope and cost. Subsurface geoarchaeological testing, if needed, would also be conducted under a separate scope and cost.

Cultural Resources Assessment Report. ESA will prepare a Cultural Resources Assessment Report addressing CEQA and Section 106 requirements. The report will follow the guidelines in Archaeological Resource Management Reports (ARMR): Recommended Contents and Format, Department of Parks and Recreation, Office of Historic Preservation, State of California, 1990. The report will incorporate the methods and results of the archival research and will provide background context for the APE and its vicinity. The report will present the methods and results of the survey and will provide recommendations regarding further treatment of any potentially significant resources identified as a result of the study. The report will also recommend a Finding of Effect conclusion. A draft report will be provided to UWCD and the Navy. A final report, incorporating one round of comments, will be prepared and one hard copy and an electronic copy (PDF) will be provided.

Paleontological Resources Archival Research and Reporting. A paleontological fossil locality check will be requested from the Natural History Museum of Los Angeles County, and ESA's qualified paleontologists will conduct a literature review to identify paleontological resources within or in the vicinity of the project area and to provide an assessment of the project area's paleontological sensitivity. ESA will prepare a Paleontological Resources Assessment Report which will summarize the methods and results of the paleontological resources archival research. If the archival research indicates the project area is sensitive for the presence of paleontological resources at surface, a paleontological survey may be recommended under a separate scope and cost.

Deliverables

- ➔ APE map figure
- ➔ Draft and Final Cultural Resources Assessment Report (Microsoft Word and PDF format): ESA will revise the draft Report based on receipt of one round of consolidated set of electronic comments in tracked edits.
- ➔ Draft and Final Paleontological Resources Assessment Report (Microsoft Word and PDF format): ESA will revise the draft Report based on receipt of one round of consolidated set of electronic comments in tracked edits.

8. Sea Level Rise Study

As described in the subtasks below, ESA will perform a sea level rise analysis (SLR) and a SLR Analysis Report for the project. ESA will define the planning horizon for the project and SLR scenarios. We expect the planning horizon to be 80 to 100 years. We also expect to use SLR scenarios from the California Ocean Protection Council's (OPC) State of California Sea-Level Rise Guidance (OPC 2018 Update), including the "H++" extreme risk aversion SLR scenario recommended for critical infrastructure.

ESA will gather available data on coastal flood and erosion hazards with SLR for the well locations to assess the potential vulnerability of the proposed wells as well as future supply wells in the same proximity to sea level rise. ESA will then identify and describe potential adaptation strategies to reduce these vulnerabilities. ESA will document the hazard data, vulnerability assessment, and adaptation strategies in a SLR Analysis Report.

Coastal hazards. ESA will gather coastal flood and erosion hazards with SLR as follows:

- Coastal flood and erosion: ESA will gather coastal storm flooding, beach erosion, and groundwater hazard data with SLR from the U.S. Geological Survey's (USGS) Coastal Storm Modeling System (CoSMoS) 3.0.
- Coastal storm wave runup: ESA will gather and prepare wave runup hazard data from the Coastal Resilience Ventura data prepared by ESA. Since CoSMoS only provides the maximum extent of wave runup, rather than the high velocity wave hazard zone (similar to FEMA coastal V Zone), ESA will refine the Coastal Resilience Ventura wave runup hazard data for the project area to provide site-specific wave hazard zone data to supplement CoSMoS data.

Vulnerability assessment. ESA will compile and map the above project components and hazard data in GIS to identify and assess project component vulnerability. ESA will meet with UWCD and the Navy to review these vulnerability maps and discuss potential vulnerabilities and potential adaptation strategies.

Task 5: Mitigated Negative Declaration/Environmental Assessment

Administrative Draft MND/EA

ESA will prepare a joint MND/EA that describes and analyzes the type and magnitude of potential environmental effects resulting from implementation of proposed pilot Project that will determine if the project will cause significant impacts. The No Action Alternative will also be analyzed in accordance with NEPA requirements. Additionally, the MND/EA will include an Environmental Justice and Socioeconomics section to address NEPA requirements; ESA will use USEPA EJ Screen to conduct the analysis. The MND/EA also will include a "crosscutter analysis" describing consistency of the project with federal laws. The MND/EA will contain appropriate graphics including regional and local vicinity maps and relevant environmental issue area graphics.

ESA will prepare the Administrative Draft MND/EA for submission to the UWCD.

Deliverables

- ➔ Administrative Draft MND/EA (Microsoft Word and PDF format)

Screencheck Draft MND/EA

Once ESA has received comments from the UWCD on the Administrative Draft MND/EA, ESA will prepare the Screencheck Draft MND/EA that will be submitted jointly to UWCD and Navy. One clean copy and one track change copy will be provided to the UWCD and Navy.

Deliverables

- ➔ Screencheck Draft MND/EA (Microsoft Word and PDF format): ESA will revise the Administrative Draft MND/EA based on receipt of consolidated set of electronic comments.

Public Draft MND/EA and Notice of Intent

ESA will incorporate the comments received on the Screencheck Draft MND/EA and prepare the Public Draft MND/EA for publication. Per CEQA Guidelines Section 15072, ESA will prepare a Notice of Intent (NOI) to Adopt a MND for review by UWCD. The NOI together with the Public Draft MND/EA will be publicly distributed for 30 days as required by the CEQA Guidelines. ESA will work with the UWCD to develop a mailing list of trustee and responsible agencies, key stakeholders, members of the public, and persons requesting notice. ESA will coordinate with UWCD to submit the MND/EA and Notice of Completion (NOC) to the State Clearinghouse, as well as the Ventura County Clerk, and will submit the NOI to the local newspaper of general circulation (e.g., Ventura Star) for one-day posting of a public notice.

ESA will follow the Navy's implementing procedures for public review of the MND/EA. ESA will also work with the Navy to prepare a Finding of No Significant Impact (FONSI) documenting no significant effects would result from the Project.

Deliverables

- ➔ Mailing list for the Public Draft MND/EA
- ➔ Public Draft MND/EA with NOI, NOC, and FONSI
- ➔ Newspaper Public Notice with assumption for associated fees

Final MND/EA

After the required 30-day review period, ESA will compile all written comments received on the Public Draft MND/EA. ESA will conduct an initial review of all comments received on the Public Draft MND/EA, number them, and categorize them by subject. ESA will then prepare responses to each comment received. ESA will prepare one draft and one final responses to comments document for UWCD review. The Final MND/EA presented to the UWCD Board of Directors for consideration will consist of the Public Draft MND/EA, the comments received, the responses to comments, and the Mitigation Monitoring and Reporting Program (MMRP). ESA's Project Manager will be available for virtual attendance at one UWCD Board of Directors meeting to present the Final MND/EA and answer questions, if needed. The Public Draft MND/EA will not be reprinted or modified from its original version. This scope of work assumes a total of up to 5 comment letters will be received and that no more than 40 hours are required to respond to the letters.

ESA will prepare the MMRP to identify and delineate responsible parties for implementing mitigation measures presented in the Final MND/EA. The MMRP will include all mitigation measures, responsibility for their implementation, and method and schedule for reporting on their implementation. In addition, ESA will prepare a draft Notice of Determination (NOD) and submit to UWCD for review. Within five working days after the Board of Directors decision to approve the project, ESA will file the final NOD with the Ventura County Clerk and the State Clearinghouse. Our scope of work does not include CEQA filing fees (e.g., County Clerk, California Department of Fish and Wildlife).

NEPA Coordination

Our scope of work assumes that a joint CEQA/NEPA document will be prepared. To ensure the best pathway to accomplish NEPA, ESA will coordinate with the Navy to ensure appropriate content, format, and process requirements are achieved to the Navy's expectations. It is unclear at this time the Navy's review schedule and process needs for NEPA compliance. We have provided this subtask to accommodate discussion and incorporation of NEPA requirements needed to achieve a joint document.

Assumptions

- ➔ Assumes up to three coordination meetings with the Navy to discuss joint document requirements.
- ➔ Assumes minor format and content additions or modifications may be needed to prepare a joint document deliverable.

Deliverables

- ➔ Draft and Final Responses to Comments and MND/EA (Microsoft Word and PDF format): ESA will revise the draft and final documents based on receipt of one round of consolidated set of electronic comments.

Draft and Final MMRP and NOD (Microsoft Word and PDF format): ESA will revise the draft and final documents based on receipt of one round of consolidated set of electronic comments.

Task 6: Resource Permitting Agency Coordination

ESA will support UWCD and the Navy with agency consultation as directed. We propose to meet initially with the LARWQCB, USFWS, NMFS, and potentially CDFW in a workshop setting to introduce or update the regulators on the proposed project status and discharge alternatives under consideration. Selecting the preferred discharge alternative will be influenced by the responses of the regulatory agencies. UWCD may already have an idea of the preferences of each agency, in which case the initial workshop will be held to solidify the approach and be clear about expectations and timelines. A key issue to evaluate is whether impacts to sensitive species will require mitigation such as habitat enhancement. If NMFS, USFWS, or CDFW suggests that mitigation is required, the project implementation schedule will be at risk. After the initial workshop held in fall 2022, we anticipate the need for three to four additional meetings with the remaining regulators, including the State Lands Commission, USACE, and California Coastal Commission if a permit is required from them. These meetings would provide project overviews and establish permit timeline expectations. We anticipate that the project will require approvals from the following agencies:

Los Angeles Regional Water Quality Control Board	National Pollutant Discharge Elimination System (NPDES) Discharge of Groundwater from Construction and Project Dewatering to Surface Waters (Order No. R4-2018-0125)
	Individual NPDES Permit (Clean Water Act §402)
	NPDES Construction Stormwater General Permit (Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ)
	Clean Water Act §401 (33 USC 1341) Water Quality Certification
US Army Corps of Engineers	Clean Water Act §404 (33 USC 1344) and Rivers and Harbors Appropriation Act §10 (33 USC 403), Nationwide permit (NWP) 7 (outfall structures)
US Fish and Wildlife Service National Marine Fisheries Service	Endangered Species Act §7 (16 USC 1531); Fish and Wildlife Coordination Act (16 USC 661-667); Marine Mammal Protection Act (16 USC 1374); Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1855)
State Historic Preservation Officer	National Historic Preservation Act §106 (16 USC 470); California AB 52
California State Lands Commission	Public Resources Code §6000; (14 CCR 1900)
California Coastal Commission	California Coastal Act, Coastal Development Permit
California Department of Fish and Wildlife	California Fish and Game Code §1602

Permit Applications

DEWATERING NPDES PERMIT (CLEAN WATER ACT §402)

The RFP notes that the LARWQCB has expressed some openness in considering the project's demonstration well extraction water discharges to the Mugu Lagoon under the National Pollutant Discharge Elimination System (NPDES) Discharge of Groundwater from Construction and Project Dewatering to Surface Waters (Order No. R4-2018-0125). If this strategy is selected, LWA would prepare the application for coverage under this General Order. Use of the SMP would not require coverage under this General Order. Technical information needed for this permit would be provided largely by UWCD including a map, design, water quality data, and a reuse infeasibility statement.

INDIVIDUAL POINT SOURCE NPDES PERMIT (CLEAN WATER ACT §402)

If the LARWQCB will not allow the discharge under the General Dewatering Permit, LWA will prepare an application for coverage under an Individual Point Source NPDES permit. LWA will prepare the ROWD and NOI. UWCD would supply water quality and toxicity test results. LWA's scope is summarized below.

REVIEW AND SUMMARIZE DATA

LWA will review the applicable groundwater and receiving water data provided by United Water and specified by the Los Angeles Regional Water Quality Control Board (Regional Water Board). LWA will provide a detailed data-gathering list to facilitate the compilation of discharge and receiving water characterization data. To facilitate electronic data compilation, LWA will work with the United Water to access the data on CIWQS or GeoTracker and compare that data provided through analytical laboratory reports. In consultation with United Water, LWA will assess the data to confirm that it is representative of extracted groundwater quality and receiving water conditions and to identify any potential outliers.

REASONABLE POTENTIAL ANALYSIS AND EFFLUENT LIMIT EVALUATION

LWA will evaluate the groundwater and receiving water quality data compiled under Task 1 and prepare a Reasonable Potential Analysis (RPA) for each regulated constituent in accordance with the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP)*. The RPA is utilized to determine if there is reasonable potential for discharges to cause or contribute to exceedance of a water quality objective. LWA will conduct this analysis for priority pollutants in the California Toxics Rule and other applicable constituents from the Los Angeles Region Basin Plan. The results will be compared to the effluent limits specified in the Groundwater General Permit or effluent limits will be calculated for constituents with identified reasonable potential to determine if an individual NPDES permit will be required. If needed, LWA will conduct a similar analysis for discharges to the Pacific Ocean based on the California Ocean Plan requirements or to the SMP based on Calleguas MWD's requirements. LWA will prepare a memorandum summarizing the results of the analysis. For discharges to the SMP, Dr. Phil Roberts would provide strategic council on the need for revising the plume dispersion modelling. Dr. Roberts prepared the original plume dispersion modeling supporting the SMP's current NPDES permit.

DETERMINE APPROPRIATE PERMITTING MECHANISM

Based on the analyses conducted in Tasks 1 and 2, LWA will evaluate the regulatory implications for discharges to Mugu Lagoon compared to discharges into the SMP or direct discharge to the Pacific Ocean. This will include required effluent limits, additional infrastructure that may be needed, and ease of obtaining the permit. Included in this task is one meeting with the Regional Water Board or Calleguas MWD to discuss specific permit conditions and additional requests for information and documentation.

PREPARE PERMIT APPLICATION

Once the permitting mechanism is identified, LWA will prepare the Notice of Intent (NOI) for the Groundwater General Permit, Report of Waste Discharge (ROWD) for an individual NPDES permit, or the application for discharge into the Calleguas MWD SMP. LWA will coordinate with the Navy and United Water to obtain any additional information that may

be required. The budget is based on preparation of an NOI (or ROWD for individual permit) for discharge to Mugu Lagoon and includes completion of all standard forms, topographical maps, compilation of constituent data and data analysis, feasibility of reuse of water, and toxicity test results.

PERMIT ADOPTION

If the Groundwater General Permit is utilized, LWA will review the draft Notice of Applicability (NOA) for any requirements that may affect operation of the Demonstration Phase. If an individual permit is required, LWA will review the draft permit and assess the findings, requirements, and compliance ramifications. LWA Team will provide written comments on the draft NOA or permit and work with United Water staff to prepare a comment letter that will be submitted to the Regional Water Board. LWA will then work with United Water and Regional Water Board staff to address issues of concern and negotiate outcomes that can be supported by United Water. The NOA will be issued directly from the Regional Water Board Executive Officer. If an individual permit is required, LWA will support United Water during preparation for the permit adoption hearing including preparing draft presentation materials as needed. In addition, LWA will attend the permit hearing to assist United Water staff in responding to public comments or questions posed by Regional Water Board members. For discharges to the Pacific Ocean, LWA will respond to comments or requests as needed from the Regional Water Board or from Calleguas MWD to finalize permit requirements or final permit documents from Calleguas MWD as applicable.

NPDES CONSTRUCTION STORMWATER GENERAL PERMIT (ORDER NO. 2009-0009-DWQ AS AMENDED BY 2010-0014-DWQ AND 2012-0006-DWQ)

Construction of the Demonstration Phase will require coverage under the Construction Stormwater General NPDES Permit (CGP) if the work results in the disturbance of an acre or more of land. The State Water Resources Control Board is in the process of reissuing the CGP with an anticipated effective date of September 1, 2023. LWA will assist United Water in the preparation of the Notice of Intent (NOI) and preliminary Stormwater Pollution Prevention Plan (SWPPP) for the proposed project. The preliminary SWPPP will then be updated by the construction contractor to incorporate construction and contract specific requirements prior to the commencement of construction.

As the regulatory requirements are currently in flux, LWA will closely coordinate with United Water and the Navy to develop the approach for the SWPPP including determination of whether the Linear Underground Utility Project (LUP) or Traditional Construction Project requirements of the reissued permit would be most beneficial for the project. The tasks to obtain CGP coverage will include:

- Compile and evaluate data on the proposed project design to complete the NOI including determination of the project risk factor or LUP type.
- Draft preliminary site specific SWPPP based on industry standard templates (e.g., CASQA template) including:
 - Pollutant Source Assessment including relevant Total Maximum Daily Loads
 - RUSLE2 modeling if needed for the Calleguas Creek Metals TMDLs
 - Identification of Best Management Practices (BMPs) to address pollutant sources
 - Site and SWPPP maps based on the design plans provided by the District or Navy
 - Construction Site Monitoring Program
 - Incorporation of the permanent post construction BMPs provided by the District or Navy if needed.
- Final preliminary SWPPP revised based on comments from the United Water and the Navy

USACE/RWQCB: RIVERS AND HARBORS ACTION SECTION 10/CLEAN WATER ACT SECTION 404 PERMIT/CLEAN WATER ACT SECTION 401 CERTIFICATION

ESA will prepare permit applications pursuant to Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act for the proposed discharge. We assume that technical studies may include plume modeling and underwater conditions assessments, biological assessment (BA) and biological opinion (BO), Section 106 Report and SHPO concurrence letter. These technical studies scopes are described below.

Based on our current understanding of the project, it is anticipated that the project can be permitted under Nationwide Permit 7: Outfall Structures and Associated Intake Structures, assuming the project would have no more than minimal impacts on aquatic resources as determined by USACE. A Nationwide Permit Pre-Construction Notification (PCN) Form will be prepared for the project, including a project description (with all pertinent maps and plans), along with documentation the project has satisfied all appropriate General and Regional Conditions. The Biological Assessment and cultural resources report will also be included in the PCN package. ESA will compile information, including project designs and water quality protection best management practices to be employed during construction, and include this information with the permit application.

Section 401 of the CWA requires the discharge of dredged or fill material into waters of the United States, including wetlands, does not violate state water quality standards. As required by Section 404, a WQC must be obtained or waived prior to USACE issuing a Section 404 permit. ESA will prepare a Section 401 WQC application package for submittal to the RWQCB for the proposed project, including information required by the State Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures). For purposes of this proposal, it is assumed that UCWD will provide an alternatives analysis to satisfy the alternative analysis requirements under the Procedures.

Endangered Species Act §7 (16 USC 1531) U.S Fish and Wildlife Service and National Marine Fisheries Service; Fish and Wildlife Coordination Act (16 USC 661-667); Marine Mammal Protection Act (16 USC 1374); Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1855)

SECTION 7 CONSULTATION

The Navy is required under the Endangered Species Act to consult with USFWS and NMFS for actions that could impact critical habitat or listed species. As a result, irrespective of the NPDES permit approved by the LARWQCB, discharges to the Mugu Lagoon or to the beach will require consultation with both USFWS and NMFS. Use of the SMP would not require Section 7 consultation since the discharge facility is already approved. For the two new discharge location options, our initial approach will be to evaluate the potential for a No Effect determination. We assume that two meetings with USFWS and NMFS will be required to evaluate the approach. If a finding of Not Likely to Adversely Affect determination is pursued, ESA will prepare a BA as described in this scope. As noted in the RFP, numerous listed species occur in the area. However, impact avoidance measures should be effective in eliminating the potential for effect for most species. A not likely to adversely affect assessment for the fish species and marine mammals should complete the consultation.

ESA has recently (July 2022) obtained Biological Opinions from NMFS and USFWS for a new ocean outfall for the City of Ventura covering most of the species of concern potentially present at Mugu Lagoon. We bring the same biological resources and permitting team to this effort, including Ramona Swenson for assessment of impacts to tidewater goby and Garret Liedy for impacts to marine mammals and Southern California steelhead.

MAGNUSON-STEVEN'S FISHERY CONSERVATION AND MANAGEMENT ACT

We propose to comply with Magnuson-Stevens Fishery Conservation and Management Act coincidentally with Section 7 consultation. The BA will include an EFH Assessment required by the Act. The BA will include conclusions regarding consistency with the Act.

MARINE MAMMAL PROTECTION ACT

We propose to comply with Marine Mammal Protection Act coincidentally with Section 7 consultation. The BA will include an assessment of potential impacts to marine mammals as required by the Act. The BA will include conclusions regarding consistency with the Act.

BIOLOGICAL ASSESSMENT

ESA will prepare a Biological Assessment (BA) in support of the Section 7 Consultation with USFWS. The federally listed or proposed species to be addressed in the BA will be limited to the species known to have some potential to occur in the project impact area. The BA will have the content outlined and described below. The effects analysis and determination will be prepared for each project component.

Introduction – The introduction will describe the purpose and overview of the BA, which will also include a complete and detailed project description. The introduction will also include proposed avoidance, minimization, and compensation measures that would be implemented for the proposed project.

Environmental Setting – The environmental setting will describe the current habitat conditions of the action area, based on existing data, consistent with the baseline biological resources information discussed in the project BRR and the results of vegetation mapping and reconnaissance-level surveys. Information in this section will include vegetation classification for the project area, as well as topography, and soils, as relevant.

Federally Listed Species – The BA will list all federally threatened and endangered species potentially affected by the project and will describe their legal status, likelihood of occurrence in the project area, and the likelihood of being affected by implementation and operation of the project.

Effects Determination – The BA will analyze all pertinent data and will formulate an “effects determination” for any federally listed species that the project may affect. It is possible that the proposed project may reach a “not likely to adversely affect” determination for some federally listed species. However, when this is not possible, this determination will attempt, through reasonable assumption, to quantify any effects on species for the purpose of issuance of an Incidental Take Permit by USFWS.

National Historic Preservation Act §106 (16 USC 470); California AB 52

ESA will support the Navy’s compliance with the NHPA through preparation of a cultural resources technical report that is sufficient for Section 106 compliance. ESA will also support UWCD with AB 52 compliance. Prior to publishing the IS/MND, UWCD will need to consult with Native American tribes interested in consultation. ESA will prepare a consultation request letter for UWCD as described in the Cultural Resources Technical Report scope or work.

State Lands Commission Lease

The California State Lands Commission (SLC) has jurisdiction and management control over those public lands of the state received by the State upon its admission to the United States in 1850 (“sovereign lands”), including all ungranted tidelands and submerged lands, among other areas. Due to its location along the Pacific Ocean coastline, the project will require authorization from the SLC through issuance of a new lease. ESA will prepare a lease application with attachments for submittal to the SLC via the agency’s Online System for Customer Applications and Records (OSCAR). The application package will generally include a completed application form, supplemental information to support the application form, Project plans, existing available technical studies, and verification or status of other permits. The agency requires the submitted plans to display the SLC’s jurisdictional boundary (i.e., the mean high tide line) that has been field-verified by a licensed professional land surveyor within 6-months prior to submittal to the SLC. This scope assumes the survey will be prepared by others. The supplemental information will include a detailed permitting Project description, along with a summary of the CEQA document’s findings regarding environmental impacts.

CZMA Federal Consistency Determination / Coastal Development Permit (CDP) Support (if needed)

ESA will prepare a Coastal Zone Management Act (CZMA) consistency analysis. We assume that the analysis will consist of a project description and a matrix including relevant goals and policies of the CZMA with project consistency assessments and conclusions. ESA will conform with the Navy's requested format and content for this analysis.

Although not included in the RFP, we are proposing scope to initiate consultations with the California Coastal Commission (CCC) and prepare a Coastal Development Permit (CDP) application for submittal to the CCC. A CDP may be needed to install Mugu Lagoon or beach discharge equipment, or would be required to construct a connection to the SMP. ESA will support UWCD's consultation with the CCC, augmenting the application as required by the CCC. The CDP application will include project designs provided by UWCD, the CEQA document, and impact avoidance measures.

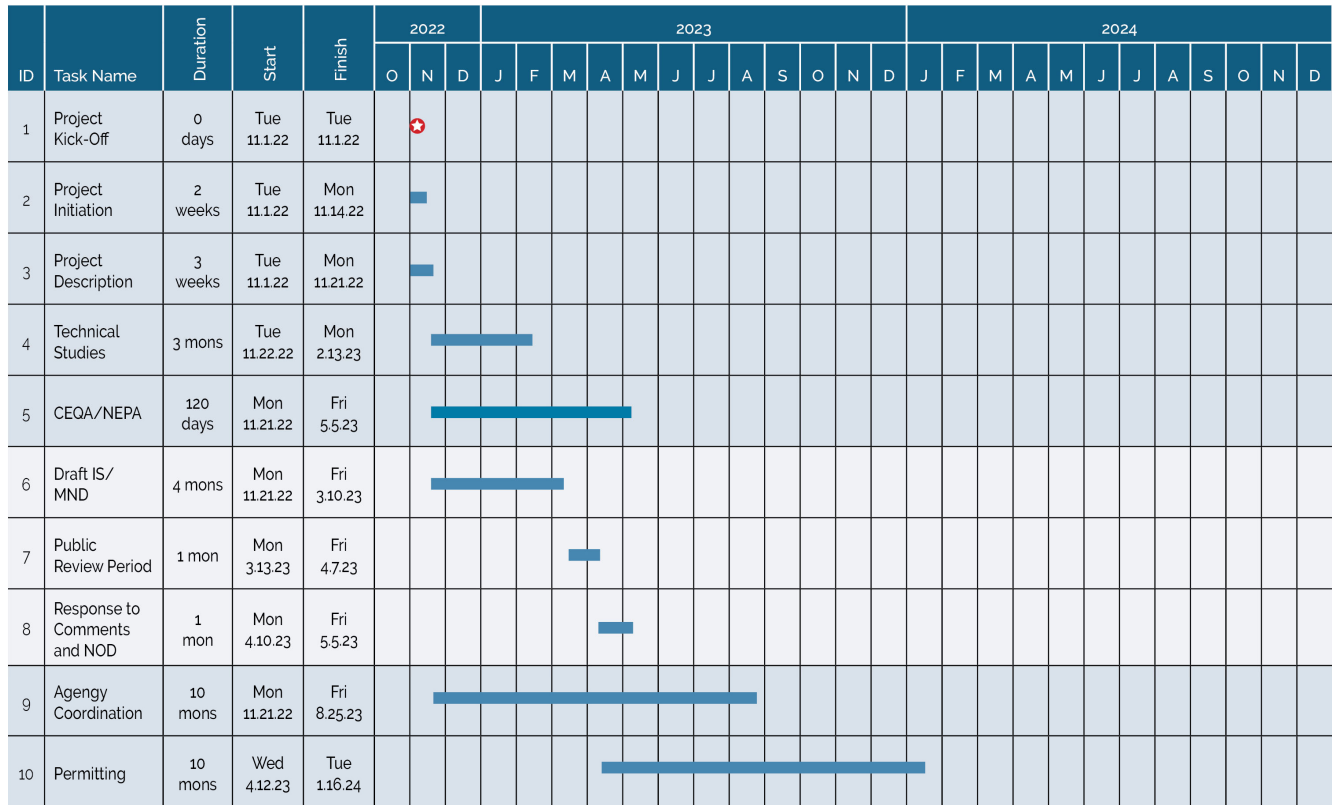
California Department of Fish and Wildlife; Fish and Game Code 1602 (if needed)

Although not included in the RFP, we anticipate that the California Department of Fish and Wildlife (CDFW) may retain jurisdiction over actions taken by a state agency in CDFW jurisdictional areas. If UWCD and the Navy have confirmed that CDFW jurisdiction is not required, then this scope would not be necessary. If necessary, ESA would prepare a Streambed Alteration Agreement for submittal to CDFW that will include all of the data collected regarding the existing conditions of the lagoon and the potential impacts of the proposed project. ESA would recommend meeting with CDFW to review the project details in order to expedite permitting.

Project Schedule

Figure C-1 shown below is ESA's proposed timeline to complete this project.

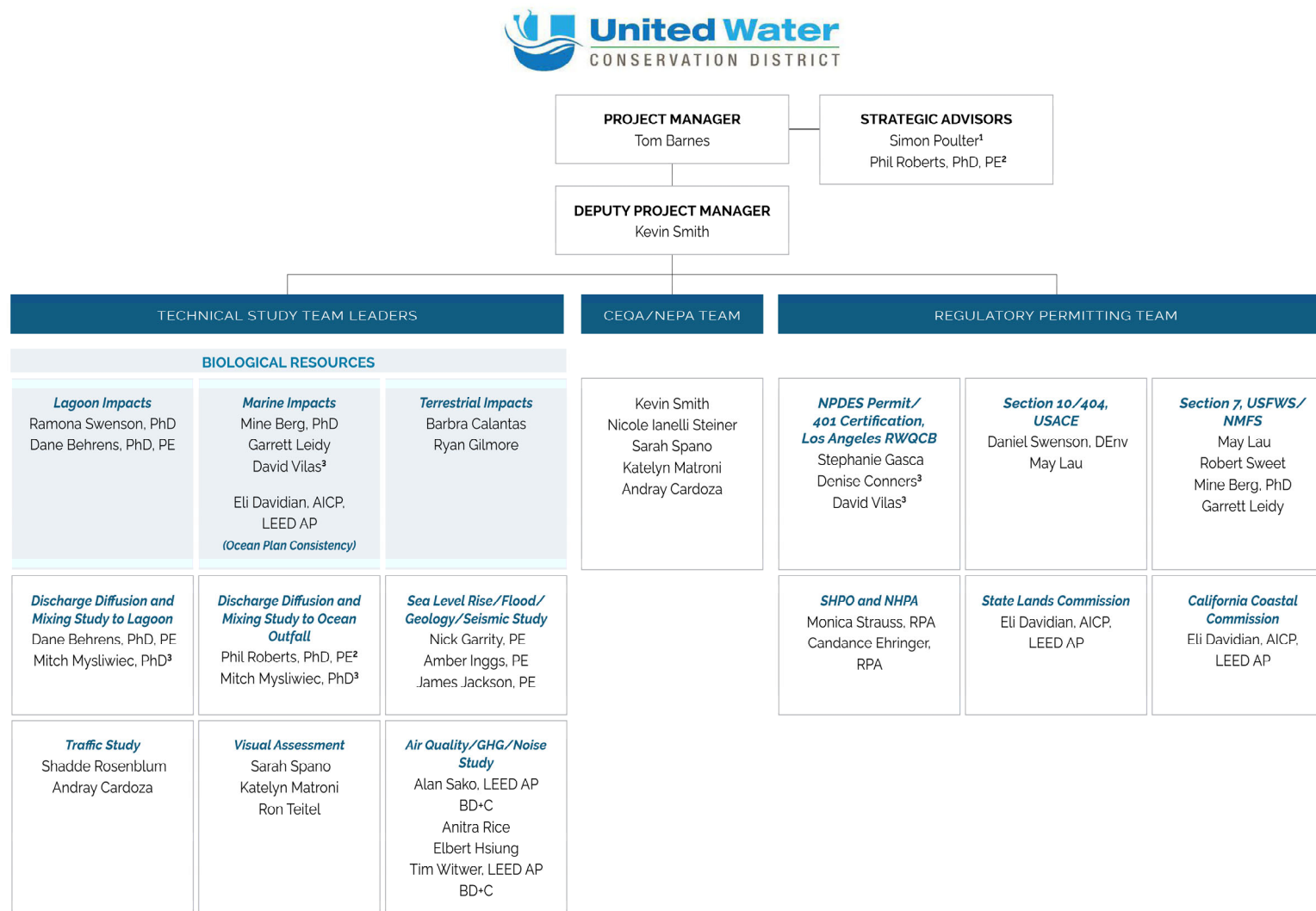
Figure C-1 Project Schedule



Organizational Chart

Figure E-1 Organizational Chart, which appears below, shows the extensive depth and reporting structure of the ESA team.

Figure E-1 Organizational Chart



Subconsultant Firms: ¹ Padre ²Sole Practitioner ³Larry Walker
All other staff are with ESA.

ESA Labor Detail and Expense Summary

Employee Names													
Labor Category		Senior Principal Consultant 3	Senior Principal Consultant 2	Managing Consultant 5	Managing Consultant 4	Managing Consultant 2	Senior Consultant 3	Senior Consultant 1	Associate Consultant 2	Project Technician 3	Project Technician 2	Total Hours	Labor Price
Task #	Task Name/Description	\$295	\$272	\$238	\$224	\$195	\$167	\$140	\$137	\$112	\$87		
1	Project Management and Meetings	4	76	12	4	125			12		60	293.00	\$ 56,843
2	Background Review and Project Init	4	16			24			4	8		56.00	\$ 11,656
3	Permitting Compliance Strategy/Alternatives Evaluation and Technical Study Need Assessment	4	32	4		32				24		96.00	\$ 19,764
4	Technical Studies											-	\$ -
4.1	Air Emissions, GHG, Energy Assessment				24		32				4	60.00	\$ 11,068
4.2	BRTR- Upland habitat	8	4			24	32		24		2	94.00	\$ 16,934
4.3	Focused Surveys (Optional)											-	\$ -
	Focused Surveys - Rare Plants (Optional)			2		6		24	40	8		80.00	\$ 11,382
	Focused Surveys - avian species (Optional)			1		6	210		300	24		541.00	\$ 80,266
	Focused Surveys - tidewater goby (Optional)			50		6	20					76.00	\$ 16,410
	Focused Surveys - aquatic vegetation (eelgrass) (Optional)		8	32			20		80	40		180.00	\$ 28,572
4.4	Lagoon and Marine Biology Study/EFH Assessment		24		12							36.00	\$ 9,216
4.5	Lagoon Discharge Dispersion and Mixing Study				24							24.00	\$ 5,376
4.6	TMDL Considerations Study				4							4.00	\$ 896
4.7	Jurisdictional Delineations of Wetlands/Lagoon/ include Department of Defense requirements	2		8			24				2	36.00	\$ 6,676
4.8	Cultural Resources Report/Phase 1/AB 52/include Department of Defense requirements/Paleo Assessment	16			24	75		65		8	2	190.00	\$ 34,891
4.9	Sea Level Rise	24		80	8					24	4	140.00	\$ 30,948
5.0	CEQA/NEPA Initial Study/Environmental Assessment											-	\$ -
5.1	Admin Draft MND	8	60	16	8	60	16	120	80	16	8	392.00	\$ 68,900
5.2	Public Draft MND		40	8	8	32	4	20	40	8	16	176.00	\$ 32,052
5.3	Final MND/Response to comments RTC	4	8			40		20	40		8	120.00	\$ 20,132
5.3	NEPA Coordination and EA Formatting		8			24		40				72.00	\$ 12,456
6	Resource Permitting											-	\$ -
6.1	Agency Engagement	8	24	16		16						64.00	\$ 15,816
6.2	RWQCB-NPDES Permit-Discharge Permit and Construction Stormwater Permit/ROWD											-	\$ -
6.3	Endangered Species Act Section 7	16	8	24		24	40	16				128.00	\$ 26,208
6.4	USACE-CWA Section 404/RH-A Section 10		8	40		24				4	4	80.00	\$ 17,172
6.5	CZMA Federal Consistency Determination			24				16		4		48.00	\$ 8,748
6.6	State Lands Lease			24	16					4	4	48.00	\$ 10,092
6.7	CCC CDP (if needed)	4	8	24		40		40		16	2	134.00	\$ 24,434
6.8	CDFW 1602 (if Needed)	2	2	40				80		4	2	130.00	\$ 22,476
												-	\$ -
Total Hours		104	326	405	132	558	398	441	620	192	122	3,298	
Total Labor Costs		\$ 30,680	\$ 88,672	\$ 96,390	\$ 29,568	\$ 108,810	\$ 66,466	\$ 61,740	\$ 84,940	\$ 21,504	\$ 10,614	\$	\$ 599,384
Percent of Effort - Labor Hours Only		3.2%	9.9%	12.3%	4.0%	16.9%	12.1%	13.4%	18.8%	5.8%	3.7%	100.0%	
Percent of Effort - Total Project Cost		4.5%	12.9%	14.0%	4.3%	15.8%	9.6%	9.0%	12.3%	3.1%	1.5%		87.0%

PROJECT COST ESTIMATE SUMMARY TABLE			
ESA Labor C (Including Optional surveys)		\$	599,384
ESA Non-Labor Expenses			
Reimbursable Expenses (see Attachment A for detail)	\$		4,000
ESA Equipment Usage (see Attachment A for detail)	\$		-
Subtotal ESA Non-Labor Expenses	\$		4,000
Subconsultant Costs (see Attachment B for detail)	\$		222,303
PROJECT TC (Not Including Optional Survey Tasks)	\$		689,057
Total Including Optional Surveys	\$		825,687

Attachment B

Cost Proposal: Subconsultant Detail

Task Number / Description		Subconsultant Costs					
		Subconsultant 1	Subconsultant 2	Subconsultant 3	Subtotal Subconsultant	Percent Fee @	Total Subconsultant
		LWA	Padre	Dr. Roberts	Cost	5%	Project Cost
Insert Budget By Task							
1	meetings	\$ 7,500	\$ 4,000		\$ 11,500	\$ 575	\$ 12,075
					\$ -	\$ -	\$ -
2	Alternatives		\$ 2,500		\$ 2,500	\$ 125	\$ 2,625
					\$ -	\$ -	\$ -
3	Technical Studies	\$ 8,000	\$ 10,000		\$ 18,000	\$ 900	\$ 18,900
					\$ -	\$ -	\$ -
4	TMDL Tech Memo	\$ 20,334			\$ 20,334	\$ 1,017	\$ 21,351
	Mixing Model	\$ 35,394			\$ 35,394	\$ 1,770	\$ 37,164
5	CEQA/NEPA	\$ 25,000	\$ 10,000		\$ 35,000	\$ 1,750	\$ 36,750
					\$ -	\$ -	\$ -
6	Permitting	\$ 62,989	\$ 11,000	\$ 15,000	\$ 88,989	\$ 4,449	\$ 93,438
					\$ -	\$ -	\$ -
7					\$ -	\$ -	\$ -
					\$ -	\$ -	\$ -
8					\$ -	\$ -	\$ -
					\$ -	\$ -	\$ -
9					\$ -	\$ -	\$ -
					\$ -	\$ -	\$ -
10					\$ -	\$ -	\$ -
					\$ -	\$ -	\$ -
					\$ -	\$ -	\$ -
					\$ -	\$ -	\$ -
					\$ -	\$ -	\$ -
Subconsultant Total		\$ 159,217	\$ 37,500	\$ 15,000	\$ 211,717	\$ 10,586	\$ 222,303

Cost Proposal: ESA Non-Labor Expenses by Task

Reimbursable Costs	Total	0%	Subtotal
		on Costs	
Project Supplies	\$ -	\$ -	\$ -
Printing/Reproduction	\$ 250	\$ -	\$ 250
Document and Map Reproductions (CD + Digital Photo)	\$ -	\$ -	\$ -
Postage and Deliveries	\$ 500	\$ -	\$ 500
Mileage	\$ 750	\$ -	\$ 750
Vehicle Rental	\$ -	\$ -	\$ -
Lodging	\$ -	\$ -	\$ -
Airfare	\$ -	\$ -	\$ -
Other Travel Related	\$ -	\$ -	\$ -
SCCIC, EDR, and LACM Fees	\$ 2,500	\$ -	\$ 2,500
-	\$ -	\$ -	\$ -
-	\$ -	\$ -	\$ -
Total Reimbursable Costs (for all tasks)	\$ 4,000	\$ -	\$ 4,000
Reimbursable Costs by Task (including mark-up)			



Exhibit B

Environmental Science Associates & Subsidiaries 2022 Schedule of Fees

I. Personnel Category Hourly Rates

Charges will be made at the Category hourly rates set forth below for time spent on project management, consultation or meetings related to the project, field work, report preparation and review, travel time, etc. The following table lists hourly rates per staff category and experience level.

Labor Category	Billing Step I	Billing Step II	Billing Step III	Billing Step IV	Billing Step V	Billing Step VI
Senior Principal Consultant	250	272	295	318	341	364
Principal Consultant	199	219	239	259	279	299
Managing Consultant	180	195	209	224	238	253
Senior Consultant	140	153	167	181	194	208
Associate Consultant	128	137	146	155	164	173
Consultant	89	97	105	114	122	135
Project Technician	62	87	112	136	161	186

- (a) The range of rates shown for each staff category reflects ESA staff qualifications, expertise and experience levels. These rate ranges allow our project managers to assemble the best project teams to meet the unique project requirements and client expectations for each opportunity.

II. Subcontracts

Subcontract services will be invoiced at cost multiplied by 1.05.

EXHIBIT “B” TO AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES

CONSULTANT shall adhere to the following **Guidelines for Expense Reimbursement**:

Incidental expenditures incurred by CONSULTANT in the course of performing work under this Agreement and submitted for reimbursement by UNITED shall comply with the following guidelines.

Receipts are required for all reimbursable expenses (with an exception for meals and lodging) and shall be furnished with the invoice. Reimbursable expenditures shall not be subject to mark-up. Only actual costs of expenditures within the limits presented below are eligible for reimbursement.

1. Reimbursable Expenditures

A. Travel Expenses

Expenses for airfare or other travel accommodations shall not exceed costs that would reasonably be expected for comparable economy or coach class accommodations.

Personal vehicles may be used when appropriate and mileage will be reimbursed at the standard Internal Revenue Service (IRS) business mileage rate (i.e., 62.5 cents per mile for last 6 months of calendar year 2022), but for a total cost no greater than the cost that would reasonably be expected for round trip economy or coach class airfare. With the exception of extenuating circumstances (e.g., transport of specialized equipment), mileage for any trip over 500 miles shall be reimbursed at a total cost no greater than would reasonably be expected for round trip economy or coach class airfare. Extenuating circumstances shall be pre-approved by UNITED.

Rental vehicle costs are reimbursable when justified by the nature of the trip. With the exception of extenuating circumstances (e.g., transport of more than 4 people or excessive cargo) the total expense for the rental vehicle shall not exceed a cost that would reasonably be expected for a standard class vehicle. Insurance for rental vehicles is not reimbursable and must be in accordance with all insurance requirements set forth in this Agreement.

B. Lodging

The cost of lodging incurred on approved CONSULTANT business trips is reimbursable. UNITED will reimburse lodging at the standard U.S. General

Services Administration (GSA) rate for Ventura County (i.e., \$182.00 per night [excluding taxes] January – September 2022). GSA rates are annually updated in October.

C. Meals

The cost of meals incurred on approved CONSULTANT Projects is reimbursable.

If UNITED is reimbursing the CONSULTANT for lodging, UNITED will reimburse for meals at the appropriate standard GSA rate for Ventura County (i.e., \$55.50 per day for first and last calendar day of PROJECT work, and \$74.00 per day for additional PROJECT work days for calendar year 2022).

If UNITED is not reimbursing the CONSULTANT for lodging, UNITED will not reimburse the CONSULTANT for meals.

D. Equipment

All reimbursable equipment must be purchased or rented at a reasonable cost, in accordance with industry standards.

E. Expendable Items

Items that are expendable (depleted) will not be returned to UNITED, as the items will be “used up” in the course of CONSULTANT’s work.

F. Non-Expendable Items

Items that are non-expendable (not depleted) will be returned to UNITED upon completion of CONSULTANT’s work.

EXHIBIT “C” TO AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES

CONSULTANT shall procure and maintain for the duration of the Agreement, and for injuries that occur and claims which are made after the services herein are performed, insurance against claims or injuries to persons or damages to property, which may arise from or in connection with the performance of the work hereunder by CONSULTANT, its agents, representatives, or employees.

Minimum Scope of Insurance

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage (occurrence Form CG 00 01 or its equivalent).
2. Insurance Services Office Form Number CA 00 01 covering Automobile Liability, Code 1 or its equivalent (any auto).
3. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.
4. Errors & Omissions Liability insurance appropriate to the CONSULTANT's profession. Architects' and engineers' coverage is to be endorsed to include contractual liability.
5. Valuable Document Insurance on all plans, specifications and other documents as may be required to protect UNITED in the amount of its full equity in such plans, specifications and other documents.

Minimum Limits of Insurance

CONSULTANT shall maintain limits no less than:

- | | |
|--|--|
| 1. General Liability:
Including operations, products
and completed operations, as
applicable. | \$1,000,000 per occurrence for bodily
injury, personal injury and property
damage. If Commercial General
Liability Insurance or other form with a
general aggregate limit is used, either
the general aggregate limit shall apply
separately to this project/location or the
general aggregate limit shall be twice
the required occurrence limit. |
| 2. Automobile Liability: | \$1,000,000 per accident for bodily injury
and property damage. |

- | | | |
|----|-------------------------------|---|
| 3. | Employer's Liability: | \$1,000,000 per accident for bodily injury or disease. |
| 4. | Errors & Omissions Liability: | \$1,000,000 per claim. |
| 5. | Valuable Document Insurance | Full Equity of all Documents |

Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by UNITED. At the option of UNITED, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects UNITED, its directors, officers, officials, employees and agents; or CONSULTANT shall provide a financial guarantee satisfactory to UNITED guaranteeing payment of losses and related investigations, claim administration and defense expenses.

Other Insurance Provisions

The commercial general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

6. For all policies required by this Agreement, UNITED and its directors, officers, officials, employees and volunteers are to be covered as additional named insureds as respects: liability arising out of work or operations performed by or on behalf of the CONSULTANT; or automobiles owned, leased, hired or borrowed by the CONSULTANT.
7. For any claims related to this Project, the CONSULTANT's insurance coverage shall be primary insurance as respects UNITED and its directors, officers, officials, employees and agents. Any insurance or self-insurance maintained by UNITED, its directors, officers, officials, employees or agents shall be excess of the CONSULTANT's insurance and shall not contribute with it.
8. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days prior written notice has been provided to UNITED (with the exception of ten (10) days for nonpayment of premium).

If General Liability, Contractors Pollution Liability and/or Asbestos Pollution Liability and/or Errors & Omissions coverages are written on a claims-made form:

9. The retroactive date must be shown, and must be before the date of the contract or the beginning of contract work.
10. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract of work.

11. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective date, the CONSULTANT must purchase an extended period coverage for a minimum of five (5) years after completion of contract work.
12. A copy of the claims reporting requirements must be submitted to UNITED for review.
13. If the services involve lead-based paint or asbestos identification/remediation, the Contractors Pollution Liability shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/remediation, the Contractors Pollution Liability shall not contain a mold exclusion and the definition of "Pollution" shall include microbial matter including mold.

Acceptability of Insurers

Insurance is to be placed with insurers qualified to do business in the State of California with a current A.M. Best's rating of no less than A: VII, unless otherwise acceptable to UNITED. Exception may be made for the State Compensation Insurance Fund when not specifically rated.

Verification of Coverage

CONSULTANT shall furnish UNITED with original certificates and amendatory/additional insured endorsements effecting coverage required by this clause. The endorsements should be on forms provided by UNITED or on other than UNITED's forms provided those endorsements conform to UNITED requirements. All certificates and endorsements are to be received and approved by UNITED before work commences. However, failure to do so shall not operate as a waiver of these insurance requirements. UNITED reserves the right to require complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications at any time.

Waiver of Subrogation

CONSULTANT hereby agrees to waive subrogation, which any insurer of contractor may acquire from vendor by virtue of the payment of any loss. CONSULTANT agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation.

The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the entity for all work performed by the CONSULTANT, its employees, agents and subcontractors.

Staff Report

To: UWCD Engineering and Operations Committee

Through: Mauricio E. Guardado Jr., General Manager

From: Dr. Maryam Bral, Chief Engineer
Robert Richardson, Senior Engineer

Date: November 22, 2022 (December 1, 2022 meeting)

Agenda Item: 3.2 Contract Award to Kennedy/Jenks Consultants, Inc. for Design Services Related to the Phase 1 of the Extraction Barrier and Brackish Water Treatment Project (CIP 8019)
Motion

Staff Recommendation:

The Committee will consider recommending approval of the motion item authorizing the General Manager to execute a professional consulting services agreement with Kennedy/Jenks Consultants, Inc. in the amount of \$2,069,912 [\$1,881,738 plus 10% contingency (\$188,174)] to complete the design and bid documents for Phase 1 of the Extraction Barrier and Brackish (EBB) Water Treatment Project (CIP 8019).

Background:

Degraded water quality is present in approximately ten (10) square miles of the Upper Aquifer System (UAS) in the area between Port Hueneme and Point Mugu which is the result of recent and historic episodes of seawater intrusion. United Water Conservation District (District) is proposing construction of a groundwater extraction well field to intercept the intrusion of seawater near the Mugu submarine canyon. The District is proposing a two-phased project approach that includes implementation of a partial groundwater extraction well field to intercept the intrusion of seawater near the Mugu submarine canyon in the first phase (Phase 1) and expansion of the extraction barrier, brackish water treatment, distribution of product water for potable and non-potable uses and disposal of brine in the second or ultimate phase (Phase 2) within the District service area.

In 2019, the District engaged with the United States (U.S.) Navy with the objective to develop the Extraction Barrier and Brackish (EBB) Water Treatment Project at Naval Base Ventura County (NBVC) Point Mugu which is adjacent to the Mugu submarine canyon. The U.S. Navy has expressed support for the project as it would promote water supply reliability, resiliency, and accessibility critical to supporting military missions at NBVC and help achieve long-term groundwater sustainability.

In December 2021, the District completed its feasibility study based on groundwater modeling supported by the Proposition 1 Groundwater Grant Program (GWGP) Planning Grant from the State Water Resources Control Board (SWRCB) and published the study results in a technical

Contract Award to Kennedy/Jenks Consultants, Inc. for Design Services Related to the Phase 1 of the Extraction Barrier and Brackish Water Treatment Project (CIP 8019)

memorandum titled: *Extraction Barrier and Brackish Water Treatment Project Feasibility Study: Groundwater Modeling* in December 2021. Multiple meetings were held with a Technical Advisory Committee (TAC) consisting of pertinent regulators and stakeholders including the Fox Canyon Groundwater Management Agency (FCGMA), various divisions of SWRCB, including the Los Angeles Regional Water Quality Control Board (LA RWQCB), and Division of Drinking Water (DDW), and the U.S. Navy. The feasibility study demonstrated that an extraction barrier will effectively draw saline water in the Oxnard aquifer back towards the coast and will stabilize or draw back the inland extent of saline water in the Mugu aquifer, to varying degrees depending on the extraction rate ranging from 5,000 to 20,000 acre-feet per year (AFY).

In July 2022, the District completed a subsequent feasibility study that evaluated the efficacy of an extraction barrier with an extraction rate of 3,500 AFY as a Phase 1 of the EBB Water Treatment Project. The Phase 1 project will test the concept of an extraction barrier at NBVC Point Mugu before investing significant resources in the construction of the Phase 2. The Phase 1 project, including seven (7) extraction wells, five (5) in the Oxnard aquifer and two in the Mugu aquifer, is designed for specific data gathering purposes related to water quality, aquifer properties and vertical flow under pumping conditions. Additional objective of the Phase 1 project is to demonstrate the even a small extraction barrier can prevent seawater intrusion in both the Oxnard and Mugu aquifers and remediate some of the impacts associated with historic seawater intrusion events in the vicinity of NBVC Point Mugu.

On July 15, 2022, the District submitted a full proposal for the Prop 1 GWGP Round 3 Implementation Grant to SWRCB with a requested grant amount of \$8.45 million to partially cover an estimated total Phase 1 project cost of \$18.57 million. The grant application included letters of support from the U.S. Navy, FCGMA, Ventura County Farm Bureau and CoLAB Ventura County. Preliminary award announcements are anticipated in Fall 2022 with grant agreement execution in early 2023. Should the District be successful in its pursuit of Prop 1 GWGP Round 3 grant funding, all construction and implementation activities must be complete by March 31, 2026.

Additionally, the District has secured \$1,317,900 for the construction of up to 18 monitoring wells or six (6) monitoring well clusters and data collection within the vicinity of the EBB Water Treatment Project. This grant funding is provided by the Department of Water Resources (DWR) Sustainable Groundwater Management (SGM) Grant Program through a grant agreement that was executed between DWR and FCGMA which included a subgrant agreement between FCGMA and the District for design and installation of the monitoring wells. There is no local cost share requirement for the SGM grant. The data collected from the monitoring wells will be in support of the EBB Water Treatment Project and the construction and implementation activities must be complete by March 31, 2025.

Discussion:

The District has been in direct collaboration with the U.S. Navy on the selection of locations for monitoring wells, extraction wells, pipelines and potential points of discharge for the Phase 1 project at NBVC Point Mugu. A total of ten (10) construction sites have been pre-screened and selected for the construction of up to eighteen (18) monitoring wells and seven (7) extraction wells. Additionally, the District and the U.S. Navy have identified three potential alternatives for

Contract Award to Kennedy/Jenks Consultants, Inc. for Design Services Related to the Phase 1 of the Extraction Barrier and Brackish Water Treatment Project (CIP 8019)

discharge of pumped brackish groundwater including: 1) the Mugu Lagoon, 2) the Pacific Ocean and 3) the Calleguas Municipal Water District (CMWD) Salinity Management Pipeline (SMP) with multiple options for each alternative. These alternatives will be evaluated, and one alternative will be selected during the environmental documentation, permitting and design phase.

On August 12, 2022, the District issued a Request for Qualifications/Proposals (RFQ/P) for design services related to the Phase 1 of the Extraction Barrier and Brackish (EBB) Water Treatment Project. The District issued the RFQ/P using the online procurement platform BidNet Direct which included notice to over five hundred and seventy (570) vendors within the California Purchasing Group. Thirty-three (33) prospective consultants and subconsultants downloaded the RFQ/P. Questions were received by multiple consultants and responses were issued via addendum. On September 22, 2022, two (2) proposals were received and only one (1) proposal was deemed complete (Kennedy/Jenks Consultants).

Kennedy/Jenks Consultants (KJ) proposal includes the following key services: site-specific analyses, including but not limited to discharge options evaluation, well site suitability assessment, well piping alignments, materials, sizing and constructability evaluation. The results of the site-specific assessments will be the basis of a preliminary design report (PDR), 30% design drawings and cost estimate development. Based on the criteria established in the PDR, KJ will develop three design packages, including (1) extraction well drilling design package consisting of technical specifications for the drilling, development construction and testing of the seven extraction wells, (2) extraction well equipping design package consisting of piping, mechanical, electrical and controls and communication infrastructure for the proposed seven extraction wells and provisions for future extraction well equipping, and (3) pipeline and discharge facility design package consisting of pipeline component of the project and site work construction. KJ will develop the design packages in 30%, 60% and 90% and 100% phases and implement District comments in the design plans during the design plans development. KJ will provide bid phase services for all the above listed design packages. Additionally, KJ will assist the District with coordination efforts with regulatory agencies during the design phase, provide technical support services to the CEQA/permitting team throughout the design phase on an as-needed basis and work closely with the CEQA/permitting team to ensure that a permissible discharge option is selected.

K/J's recent work in California include the Groundwater Banking Program in the Antelope Valley-Eastern Kern County area, deep injection well facilities for the Pure Water Monterey Groundwater Replenishment Project and various well design, construction, and maintenance services for local agencies such as Casitas Water District, CMWD and the City of Oxnard. Staff is recommending award of a professional consulting services agreement with K/J to prepare the complete design and bid documents for Phase 1 of the EBB Water Treatment Project.

Mission Goal:

Meets Mission-Related Goal B, System Reliability – Ensure that the District's existing and planned water supply, conveyance, and recharge systems meet regional needs, including emergency response.

**Contract Award to Kennedy/Jenks Consultants, Inc. for Design Services
Related to the Phase 1 of the Extraction Barrier and Brackish Water
Treatment Project (CIP 8019)**

Fiscal Impact:

The total design services cost of \$2,069,912 is included in the total design budget of \$3,057,473 for Fiscal Year (FY) 2022-23 and FY 2023-24 Capital Improvement Project (CIP) Budget (GL Account: 051-400-81020, PA Account: 8019-815). Sufficient funds in the amount of \$841,700 are available to carry the work through FY 2022-23.

Attachments:

Attachment A – Professional Services Agreement (partially executed)

AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES

THIS AGREEMENT (“Agreement”) is made and entered into on _____, 2022, by and between the **United Water Conservation District**, Ventura County, California, (hereinafter “**UNITED**”), and **Kennedy/Jenks Consultants, Inc.** (hereinafter “**CONSULTANT**”).

RECITALS:

WHEREAS, UNITED desires to professional design consultation services in connection with the **Phase 1 Extraction Barrier and Brackish Water Treatment Project** (“Project”); and

WHEREAS, UNITED has selected CONSULTANT to provide such services; and

WHEREAS, CONSULTANT represents that it has the skills, experience, license, and expertise to perform these professional services for UNITED; and

WHEREAS, UNITED is desirous of engaging the services of CONSULTANT to perform these services;

NOW, THEREFORE, based on the terms and covenants set forth herein, UNITED and CONSULTANT mutually agree as follows:

1. EMPLOYMENT

A. UNITED hereby employs CONSULTANT to perform and complete the professional engineering services as set forth in Exhibit “A” (“Scope of Work/Schedule of Charges”). CONSULTANT shall perform such professional services as set forth in Exhibit “A” and shall furnish or procure the use of incidental services, equipment, and facilities reasonably necessary for the completion of services.

B. Any extra work over and above that included in the Scope of Work included in Exhibit “A” shall be in compliance with Section 3D.

C. CONSULTANT represents that its services shall be performed, within the limits prescribed by UNITED, in a manner consistent with the level of care and skill ordinarily exercised by other engineering professionals under similar circumstances at the time and in the vicinity its services are performed.

D. **Kyle Olewnik** shall: (a) personally perform or supervise the performance of services on a day-to-day basis on behalf of CONSULTANT; and (b)

maintain direct communication with UNITED's **Senior Engineer, Robert Richardson** or designee in the performance of CONSULTANT's services.

E. CONSULTANT in the performance of services hereunder shall fully comply with any and all local, state and federal laws, regulations, ordinances, and policies applicable to its work, including any licensing laws applicable to CONSULTANT's profession and anti-discrimination laws pertaining to employment practices.

F. In the event of any conflict between the terms and conditions set forth in Exhibit A (Scope of Work/Schedule of Charges) versus those terms and conditions set forth in this Agreement, the terms and conditions set forth in this Agreement shall govern and the conflicting terms and conditions in Exhibit A shall not apply.

2. TERM OF AGREEMENT

Unless otherwise earlier terminated as specified in Section 8, this Agreement shall commence on the date set forth above and shall expire on **March 31, 2026**.

3. COMPENSATION

Payment by UNITED for the consulting services shall be considered as full compensation for all personnel, materials, supplies, and equipment used in carrying out the work.

A. Compensation and payments to the CONSULTANT shall be as described below:

1. UNITED shall compensate CONSULTANT on a time and expenses basis not to exceed **two million sixty-nine thousand nine-hundred twelve dollars (\$2,069,912) that includes 10% contingency in the amount of \$188,174 to be authorized only upon written notification from UNITED** for performing all services authorized and required by this Agreement and specified in Exhibit "A." UNITED shall compensate CONSULTANT only for actual costs incurred on a time and expenses basis, but in no event shall the total compensation be greater than the not to exceed amount above. However, the total amount paid on a time and expenses basis may be lower than the not to exceed amount above based on actual costs incurred. Payment shall be made in accordance with CONSULTANT's Schedule of Charges submitted to UNITED, included in Exhibit "A" attached and incorporated by reference herein.

2. CONSULTANT shall provide UNITED with monthly itemized invoices. Invoices shall include the categories and identities of CONSULTANT's employees performing services, a description of the services, the number of hours spent performing services, the hourly rate for each employee, CONSULTANT's actual costs and expenses, and the total amount of compensation requested by

CONSULTANT for that month. Upon UNITED's request, CONSULTANT shall include with its monthly invoices a detailed verification, including accounting records, of the work actually performed and costs and expenses incurred, along with any other documents or information reasonably requested by UNITED.

B. UNITED shall pay CONSULTANT within thirty (30) days after receipt of CONSULTANT's invoices, with the exception of any disputed amounts which shall be withheld until resolution of the dispute. If UNITED has reasonable grounds to believe that CONSULTANT will be unable to materially perform the services under this Agreement, or there exists or may exist a claim against CONSULTANT arising out of CONSULTANT's negligence or intentional acts, errors, omissions, or material breach of any provision of this Agreement, then UNITED may withhold payment of any reasonable amount due to CONSULTANT which is directly related to such negligence, intentional act, error, omission or material breach. No payment made under this Agreement shall be conclusive evidence of CONSULTANT's performance of the Agreement, either wholly or in part, and no payment shall be construed to be an acceptance by UNITED of CONSULTANT's work.

C. CONSULTANT shall notify UNITED in writing of the need for additional services required due to the circumstances beyond the CONSULTANT's control ("Additional Services"). The CONSULTANT shall obtain written authorization from UNITED before rendering any Additional Services. Compensation for all approved Additional Services shall be negotiated and approved in writing by UNITED before such Additional Services are performed by CONSULTANT. No compensation shall be paid to the CONSULTANT for any Additional Services that are not previously approved by UNITED in writing.

D. Reimbursable expenses, if applicable, are in addition to compensation for services outlined in the Scope of Work and Additional Services, and shall be paid to the CONSULTANT in accordance with the guidelines specified on Exhibit "B". Reimbursable expenses are paid at the actual costs, without mark-ups, incurred by the CONSULTANT and the CONSULTANT's employees in conduct of Agreement activities.

4. SCHEDULE OF WORK

CONSULTANT shall complete and deliver services and deliverables to UNITED in a diligent and professional manner, in accordance with the Project schedule set forth in Exhibit "A" attached and incorporated by reference herein. Time is of the essence in CONSULTANT's performance of services hereunder.

CONSULTANT's Project Manager shall keep UNITED's **Senior Engineer, Robert Richardson** or designee informed as to the progress of work by informal reports. Neither party shall hold the other responsible for damages or delay in

performance caused by acts of God, strikes, lockouts, accidents, or other events beyond the reasonable control of the other or the other's employees and agents.

5. ASSIGNMENT OF CONTRACT

This Agreement is a professional services contract. CONSULTANT shall not assign this Agreement or any portion of the work without the prior written approval of UNITED. Any such assignment without UNITED's prior written approval shall be void. UNITED may withhold such approval for any reason in its sole discretion.

6. INDEMNIFICATION

To the fullest extent permitted by law, CONSULTANT agrees to indemnify and hold UNITED entirely harmless from all liability arising out of:

1. Workers' Compensation and Employer's Liability. Any and all claims under Workers' Compensation acts and other employee benefit acts with respect to CONSULTANT's employees or CONSULTANT's subconsultant's employees arising out of CONSULTANT's work under this Agreement; and

2. General Liability. To the extent arising out of, pertaining to, or relating to the negligence, recklessness, or willful misconduct of the CONSULTANT, the CONSULTANT shall indemnify, defend and hold UNITED harmless from any liability for damages for (1) death or bodily injury to person; (2) injury to, loss or theft of property; (3) any failure or alleged failure to comply with any provision of law; or (4) any other loss, damage or expense arising under either (1), (2), or (3) above, sustained by the CONSULTANT or UNITED, or any person, firm or corporation employed by the CONSULTANT or UNITED upon or in connection with the Project, except for liability resulting from the sole or active negligence, or willful misconduct of UNITED, its officers, employees, agents, or independent consultants who are directly employed by UNITED. The CONSULTANT, at its own expense, cost, and risk, shall defend any and all claims, actions, suits, or other proceedings (other than professional negligence covered by Section A3 below) that may be brought or instituted against UNITED, its officers, agents, or employees, to the extent such claims, actions, suits, or other proceedings arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the CONSULTANT, and shall pay or satisfy any judgment that may be rendered against UNITED, its officers, agents, or employees, in any action, suit or other proceedings as a result thereof. Any costs to defend under this Section A2 shall not exceed the CONSULTANT's proportionate percentage of fault; and

3. Professional Liability. To the extent arising out of, pertaining to, or relating to the negligence, recklessness, or willful misconduct of the CONSULTANT, the CONSULTANT shall indemnify and hold UNITED harmless

from any loss, injury to, death of persons, or damage to property caused by any act, neglect, default, or omission of the CONSULTANT, or any person, firm, or corporation employed by the CONSULTANT, either directly or by independent contract, including all damages due to loss or theft, sustained by any person, firm, or corporation, including UNITED, arising out of, or in any way connected with, the Project, including injury or damage either on or off UNITED property; but not for any loss, injury, death, or damages caused by sole or active negligence, or willful misconduct of UNITED. With regard to the CONSULTANT's obligation to indemnify for acts of professional negligence, such obligation does not include the obligation to provide defense counsel or to pay for the defense of actions or proceedings brought against UNITED, but rather to reimburse UNITED for attorneys' fees and costs incurred by UNITED in defending such actions or proceedings brought against UNITED, and such fees and costs shall not exceed the CONSULTANT's proportionate percentage of fault.

7. INSURANCE

A. CONSULTANT shall procure and maintain for the duration of this Agreement, and for injuries which occur and claims which are made after the services herein are provided, insurance policies in accordance with the requirements set forth in Exhibit "C" attached and incorporated by reference herein. CONSULTANT shall also provide UNITED with a certificate of insurance attesting to its professional liability (errors and omissions) coverage and all required additional insured endorsements.

B. Submission of insurance certificates or endorsements or other proof of insurance shall not relieve CONSULTANT from liability under the indemnification provisions of Section 6. CONSULTANT's obligations in accordance with Section 6 shall apply whether or not such insurance policies shall have been determined to apply to any of such claims, damage, lawsuits, losses or liabilities covered by Section 6.

C. By its signature hereto, CONSULTANT certifies that it is aware of the provisions of California Labor Code Section 3700 which requires every employer to be insured against liability for workers compensation' or to undertake self-insurance as specified. CONSULTANT shall comply with these provisions before commencing work under this Agreement.

8. TERMINATION OF AGREEMENT

A. Termination for Cause

1. UNITED may terminate CONSULTANT's services for cause, whereupon this Agreement shall terminate immediately. Termination may occur regardless of whether CONSULTANT's services are completed. Any termination or special instructions from UNITED shall be made in writing.

2. Termination for cause may occur upon any of the following events: (a) CONSULTANT's material breach of this Agreement; (b) abandonment or lack of diligence in performance of the work by CONSULTANT; (c) cessation, suspension, revocation or expiration of any license needed by CONSULTANT to provide services hereunder; (d) failure of CONSULTANT to substantially comply with any local, state or federal laws, regulations, ordinances or policies applicable to its work hereunder; (e) filing by or against CONSULTANT of bankruptcy or any petition under any law for relief of debtors; or (f) conviction of CONSULTANT or its principal representative or personnel for any crime other than minor traffic offenses.

3. Subject to the provisions of Section 3.B herein, CONSULTANT shall be paid for all approved services performed and approved expenses incurred to the date of termination for cause supported by documentary evidence, including payroll records and expense reports, up to the date of the termination. In the event of termination for cause, all damages and costs associated with the termination, including increased consultant and replacement consultant costs, shall be deducted from any payments due to CONSULTANT.

4. In the event a termination for cause is determined to have been made wrongfully or without cause, then the termination shall be treated as a termination for convenience in accordance with Section 8.B below, and CONSULTANT shall have no greater rights than it would have had if a termination for convenience had been effected in the first instance. No other loss, cost, damage, expense or liability may be claimed, requested or recovered by CONSULTANT.

B. Termination Without Cause/For Convenience. This Agreement may be terminated without cause by UNITED or for UNITED's convenience upon fourteen (14) days' written notice to the CONSULTANT. In the event of a termination without cause, UNITED shall pay the CONSULTANT for all approved services performed and all approved expenses incurred under this Agreement supported by documentary evidence, including payroll records and expense reports, up until the date of the notice of termination. In addition, CONSULTANT will be reimbursed for reasonable termination costs through the payment of 3% beyond the sum due the CONSULTANT under this section through 50% completion of the CONSULTANT's portion of the Project and, if 50% completion is reached, payment of 3% of the unpaid balance of the contract to CONSULTANT as termination cost. This 3% is agreed to compensate the CONSULTANT for the unpaid profit CONSULTANT would have made under the Project on the date of termination and is consideration for entry into this termination for convenience clause.

C. In the event of termination with or without cause, CONSULTANT shall promptly provide to UNITED all Project Documents as defined in Section 9 below within five (5) calendar days from the effective date of termination. Failure to provide all Project Documents as required shall be deemed a material breach of this Agreement.

D. In the event of a dispute as to the performance of the work or an interpretation of this Agreement, or payment or nonpayment for work performed or not performed, the parties shall attempt to resolve the dispute. Pending resolution of the dispute CONSULTANT agrees to continue the work diligently to completion. If the dispute is not resolved, CONSULTANT agrees it will neither rescind the Agreement nor stop the progress of work, but CONSULTANT's sole remedy will be to submit such controversy to determination by a court having competent jurisdiction of the dispute as required by this Agreement after the Project has been completed and not before.

9. PROFESSIONAL SERVICES

A. The CONSULTANT is employed to render a professional service(s) only and any payments made to it are compensation solely for such services as it may render and recommendations it may make in the performance of services.

B. All plans, specifications, construction documents, data, records, files, communications, information, reports and/or other documents that are prepared, generated, reproduced, maintained and/or managed by the CONSULTANT or CONSULTANT's subconsultants arising from or in any way related to the services provided under this Agreement (regardless of medium, format, etc.) shall be and remain the property of UNITED ("Project Documents"). UNITED may provide the CONSULTANT with a written request for the return of the Project Documents at any time. Upon CONSULTANT's receipt of UNITED's written request, CONSULTANT shall return the requested Project Documents to UNITED within five (5) calendar days. CONSULTANT may make copies of the work generated. Failure to comply with any such written request above shall be deemed a material breach of this Agreement. Nothing in this paragraph shall be deemed a waiver of any copyright in the Project Documents prepared by the CONSULTANT. Any unauthorized reuse or modification of such Project Documents other than for purposes intended by CONSULTANT or for the Project shall be at UNITED's risk and liability.

C. CONSULTANT agrees that all dealings of the parties under this Agreement shall be confidential and no Project Documents or information developed, prepared or assembled by CONSULTANT under this Agreement, or any information made available to CONSULTANT by UNITED, shall be revealed, disseminated or made available by CONSULTANT to any person or entity other than UNITED without the prior written consent of UNITED, unless otherwise required by subpoena or applicable law or regulatory authority.

10. INDEPENDENT CONTRACTOR RELATIONSHIP

It is expressly understood between the parties that no employee/employer relationship is intended, the relationship of CONSULTANT to UNITED being that of an independent contractor. UNITED shall not be required to make any payroll

deductions or provide Worker's Compensation Insurance coverage or health benefits to CONSULTANT. CONSULTANT is solely responsible for selecting the means, methods and procedures for performing its services hereunder as assigned by the UNITED and for coordinating all portions of the work so the results will be satisfactory to UNITED. CONSULTANT will supply all tools and instruments required to perform its services under this Agreement.

11. ASSISTANCE BY UNITED

It is understood and agreed that the UNITED shall, to the extent reasonable and practicable, assist and cooperate with CONSULTANT in the performance of CONSULTANT's services hereunder. Such assistance does not include, in any manner, the exercise of professional judgment for which CONSULTANT is being retained herein. Such assistance and cooperation to be provided by UNITED as applicable includes, but shall not be limited to, providing right of access to work sites; providing material available from the UNITED's files such as maps, as-built drawings, records and operation and maintenance information; and rendering assistance in determining the location of existing facilities and improvements which may be affected by the Project. CONSULTANT shall otherwise be responsible for giving all notices and complying with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority relating to the work.

12. ADDITIONAL PROVISIONS

A. Examination of Records

CONSULTANT agrees that UNITED shall have access to and the right to examine at any reasonable time and on reasonable notice CONSULTANT's documents, papers and records, including accounting records, relating to its performance under this Agreement.

B. Notice

All notices or other official correspondence relating to contractual matters between the parties shall be made by depositing the same as first-class, postage paid mail addressed as follows:

To CONSULTANT:	Dawn Taffler Vice President Kennedy/Jenks Consultants 300 N. Lake Avenue, Suite 1020 Pasadena, CA 91101
To UNITED:	Robert Richardson Senior Engineer United Water Conservation District

1701 North Lombard Street, Suite 200
Oxnard, CA 93030

or such other address as either party may designate hereinafter in writing delivered to the other party. All notices shall be agreed to have been received three (3) days after mailing.

C. No Waiver

No failure or delay by UNITED in asserting any of UNITED's rights and remedies as to any default of CONSULTANT shall operate as a waiver of the default, of any subsequent or other default by CONSULTANT, or of any of UNITED's rights or remedies. No such delay shall deprive UNITED of its right to institute and maintain any actions or proceedings which may be necessary to protect, assert or enforce any rights or remedies arising out of this Agreement or the performance of this Agreement.

D. Integration

This Agreement constitutes the entire agreement between the parties pertaining to the subject matter hereto, and supersedes all prior agreements, oral or written, and all prior or contemporaneous discussions or negotiations between the parties.

E. Modification

No alteration or variation of the terms of this Agreement shall be valid unless made in writing and signed by the parties.

F. Rules of Interpretation

The terms of this Agreement have been negotiated by the parties and the language used in this Agreement shall be deemed to be the language chosen by the parties to express their mutual intent. This Agreement shall be construed without regard to any presumption or rule requiring construction against the party causing such instrument to be drafted, or in favor of the party receiving a particular benefit under this Agreement. No rule of strict construction shall be applied against any party to this Agreement.

G. Partial Invalidity

If any term, covenant, condition, or provision of this Agreement is found by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions hereof shall remain in full force and effect, and shall in no way be affected, impaired, or invalidated thereby.

H. Incorporation of Recitals and Exhibits

The foregoing recitals and exhibits are incorporated herein as though fully set forth.

I. California Law; Dispute Resolution; Venue

This Agreement shall be interpreted and construed pursuant to the laws of the State of California, regardless of whether this Agreement is executed by any party in another state or otherwise. If a dispute arises between the parties related to this Agreement or the breach thereof, the parties shall first attempt in good faith to settle the matter through discussion, and if unsuccessful may in their discretion mutually agree to mediate the dispute prior to filing a judicial action. The costs of a third party mediator, if utilized, shall be borne equally by the parties. If either party elects to file an action in court, such action shall be filed and heard in a court of competent jurisdiction in the County of Ventura.

J. Counterparts

This Agreement may be executed in multiple counterparts, a complete set of which shall be deemed to be an original and all of which together shall comprise but a single document. Signatures may be given via facsimile transmission and shall be deemed given as of the date of facsimile transmittal of the executed Agreement by one party to the other.

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

UNITED WATER CONSERVATION DISTRICT

By _____
Mauricio E. Guardado, Jr., General Manager

[CONSULTANT]

By _____
Dawn Taffler, Vice President

EXHIBIT “A” TO AGREEMENT FOR
PROFESSIONAL CONSULTING SERVICES

CONSULTANT shall provide professional engineering consultation services under this Agreement in accordance with work described in the attached **Scope of Work** and **Schedule of Charges**.

18 November 2022

United Water Conservation District

Design Services Related to Phase 1 of the Extraction Barrier and Brackish (EBB) Water Treatment Project



DRILL



EXTRACT



CONVEY

Scope of Work

This section presents the proposed scope of work by Kennedy/Jenks Consultants, Inc. (KJ) to develop Phase 1 of the EBB Project through final design and bid services based on the scope of work presented in the Request for Proposal (RFP) released by United Water Conservation District (United or District) on 12 August 2022. A summary of the proposed tasks, deliverables, including technical memorandum (TM), workshops and meetings is provided in **Table 1**. A detailed drawing list and general assumptions are provided at the end of this section.

Table 1. A Summary Scope of Work

TASK	MAJOR DELIVERABLES	MEETINGS
Task 1 - Coordination with External Consultants and Permitting Agencies	Meeting agendas, materials, and minutes	External consultants (39 mtgs) Agency coordination (6 mtgs) As-needed meetings with CEQA/Permitting Team and regulatory agencies
Task 2 - Progress Meetings and Design Workshops	Meeting agendas, materials, and minutes	Kickoff meeting (in person) Bi-weekly progress meetings (36 mtgs) United staff meetings (8 dept. mtgs) NAVFAC (6 in-person, mtgs) Design review workshops (2 in-person, 1 virtual) Site visits (3 visits to NAVFAC sites, 1 visit to SMP)
Task 3 - Project Management	Monthly invoices, progress status reports and project schedule updates	Internal and subconsultant coordination
Task 4 - Preliminary Design Investigations	Data request, basemap, hydraulic model and profile, WQ summary tables, TM - Surge Evaluation	Discuss topics during coordination meetings and workshops.
Task 5 - Options Evaluation	TM - Discharge Evaluation TM - Well Suitability Evaluation TM - Pipeline Alignment Constructability Evaluation	Discuss topics during coordination meetings, workshops, and site visits.
Task 6 - Well Drilling Design Criteria and Bid Phase Services	TM - Well Design Criteria Well Drilling Package	Discuss topics during coordination meetings, workshops, and site visits.
Task 7 - Preliminary Design Report (PDR)	PDR Outline PDR Draft and Final	PDR (30%) design review workshop (in-person - under Task 2)
Task 8 – 30% Design Drawings and Cost Estimate	30% Design Drawings and Cost Estimate	PDR (30%) design review workshop (in-person - under Task 2)
Task 9 - Design Services for Extraction Well Equipping	60%, 90%, and 100% Design Drawings, Specifications and Estimate for Well Equipping Package	60% design review workshop (in-person - under Task 2) 90% design review workshop (virtual – under Task 2)
Task 10 - Design Services for Pipeline	60%, 90%, and 100% Design Drawings, Specifications and Estimate for Pipeline and Discharge Facility Package	60% design review workshop (in-person - under Task 2) 90% design review workshop (virtual – under Task 2)
Task 11 – Bid Phase Services	Addenda, written answers to bidders' questions	Pre-bid meeting and site tour Up to a total of nine (9) addenda
Task 12 (Optional) – Pipeline to SMP Preliminary (30%) Design	Draft and final Pipeline to SMP PDR 30% Pipeline to SMP Design Drawings and Cost Estimate	Kickoff, coordination meetings and design workshops (36) Site visit
Task 13 (Optional) – Well Drilling Observation Services	Weekly status/update reports Draft and final Well Design Memo for seven wells Draft and final Recommended Pumping Rate and Depth Memorandum for seven wells Draft and final Summary of Well Construction Operations Report for seven wells	Pre-construction meeting

Task 1 – Coordination with External Consultants and Permitting Agencies

This task includes coordination with external consultants and permitting agencies. This task is specific to supporting meetings, email correspondence, and coordination with the many entities involved in the project. KJ's PM will lead all the coordination directly with United throughout the project, reporting directly to United's PM, and serving as a liaison between the KJ Team, external consultants and permitting agencies. The PM will identify key technical resources from the multi-disciplinary team to aid project coordination.

1.1 External Consultants Coordination

KJ will coordinate with external consultants, to be selected by United and under separate contracts, to support the project. Coordination efforts may include virtual meetings, providing project and schedule updates, exchange of technical information, feedback from the design team, and other information sharing. It is assumed that the following meetings would be conducted during each phase of design. Meetings will be virtual and attended by up to two KJ staff, one of which will be KJ's PM or PE.

Task 1.1 Assumptions:

- United will be the initial point of contact with consultants under separate contracts, included in all correspondence, responsible for scheduling meetings and identifying individuals for meeting attendance
- KJ will provide direction to geotechnical engineer on boring locations, to the land surveyor on boundaries and features to survey and work with the right-of-way services to identify information needed for facility siting.
- KJ's trenchless design subconsultant, Mott MacDonald, will need to coordinate the work of the geotechnical engineer. Mott MacDonald will provide recommendations for the geotechnical engineer's scope, including the number of boreholes for trenchless crossing(s), depth of boreholes, field and laboratory testing, and reporting. Mott MacDonald will need input on liquefaction and lateral spreading potential, including minimum setback from channel and identification of liquefiable layers. Mott MacDonald will review the results of the geotechnical engineer's subsurface investigation and the Geotechnical Data Report (GDR) / Geotechnical Investigation Report (GIR) to provide recommendations for trenchless construction.
- The District will contract potholing separately. KJ will provide direction on where potholes are needed as part of two meetings identified for this task. The plans will be updated with the potholing information.
- The District will contract with a materials testing company separately. KJ will provide direction to the materials testing company to obtain information about facilities that do not have as-built records or other information available, particularly the Laguna Road bridge.
- Thirty-nine (39) 1-hour virtual meetings are assumed to align with design phases as identified by the table below. The timing can be flexible depending on project needs and United preferences.

Task 1.1 Deliverables:

- Meeting agendas and meeting minutes (.pdf or .doc format)

External Consultant	Estimated # of Meetings per Phase of Design				
	Prelim Evaluation/30% Design	60% Design	90% Design	100% Design	TOTAL
Geotechnical Engineer	3	1	1		5
Land Surveyor	2				2
Right of Way Services	1			1	2
Potholing Services	1	1			2
Materials Testing Company	2	1			3
California Environmental Quality Act (CEQA) Team	10	2	2	1	15
Permitting Services	2	4	1	2	9
Grant Administration Services			1		1
Total Coordination Meetings Scoped:	22	8	5	4	39

1.2 Permitting Agency Coordination

This task includes assisting United with coordination efforts with regulatory agencies during the design phase. Coordination will include attending meetings, providing project and schedule updates, technical details, feedback from the design, and other pertinent information. This task includes up to two (2) KJ Team members attending up to six (6) coordination meetings with various agencies, as requested.

Task 1.2 Assumptions:

- United will be the initial point of contact with the regulatory agencies, included in all correspondence, responsible for scheduling meetings, and identifying individuals for meeting attendance.
- KJ's PM will coordinate with United's PM and receive explicit permission prior to contacting an outside agency.
- Six (6) 1-hour virtual meetings are assumed, scheduled by United's PM. The timing can be flexible depending on project needs and United's preferences.
- Permits will be obtained by external consultants leading permitting and/or CEQA services or contractors leading the construction work.
- KJ will provide engineering and design information, as requested, to support obtaining these permits as part of Task 1.3

Task 1.2 Deliverables:

- Meeting agendas and meeting minutes (.pdf or .doc format)

1.3 As-Needed CEQA and Permitting Technical Support

KJ will provide additional technical support services to the CEQA/Permitting Team throughout the design phase of the project on an as-needed basis (as directed by United). Activities may include estimates of earthwork quantities, truck trips, identification of facility footprints and staging areas, estimation of energy use and other quantities related to the infrastructure being designed for wells and conveyance facilities. This task does not include discharge plume or water quality modeling. This task can also be used for additional meetings with the CEQA/Permitting Team and regulatory agencies beyond the hours assumed in Tasks 1.1 and 1.2, respectively.

It is assumed that the project will be able to be performed under an Initial Study - Mitigated Negative Declaration (IS-MND) and that the CEQA/Permitting Team will lead the effort for all environmental documentation (CEQA, NEPA, IS-MND, EIR or other) and will be responsible to obtain permits needed prior to construction, as directed by United. Under this task, KJ will provide as-needed technical support up to approximately 110 hours.

Task 2 – Project Meetings and Design Workshops

This task includes coordination of the project with specific United departments, and includes regular progress meetings, workshops, and site visits with United to advance the design of the project in an efficient manner.

2.1 Progress Meetings

This task includes preparing for, attending, and conducting bi-weekly progress meetings to discuss outstanding items, solicit feedback, resolve issues, review scope status, schedule, budget and risks. KJ's PM and/or PE will attend with additional key staff as appropriate. Individuals from United's engineering, water resources, environmental, and operations & maintenance departments will participate in focused topic meetings to provide and obtain necessary technical details from the design, and other pertinent information. Navy staff may also be invited to attend progress meetings. United PM will identify and coordinate meeting participation.

Meetings will be conducted in the MSO Teams environment to reduce travel expenses. A shared Microsoft Office (MSO) Teams project site will be created to share documents and could be hosted by KJ. KJ will prepare and submit meeting agendas and meeting minutes for the progress meetings. Action items and assignments will also be provided for each meeting. This task also includes an in-person two-hour kickoff meeting at United's headquarters.

Task 2.1 Assumptions:

- Thirty-six (36) 1-hour virtual bi-weekly meetings are assumed, attended by up to two KJ staff.

- Eight (8) 1-hour virtual focused topic meetings are assumed to obtain input from each of the four departments. The timing can be flexible depending on project needs and United preferences.
- United will identify and coordinate with the appropriate individuals from each department and/or from the Navy to attend
- One 2-hour in-person project kickoff meeting is also included, to be attended by the KJ PM, PE and up to two additional KJ staff

Task 2.1 Deliverables:

- Meeting agendas (provided one week in advance to allow for District/Navy staffing needs) and meeting minutes (.pdf or .doc format)
- Action item and assignment log (.xls format)

2.2 NAVFAC In-person Meetings

This task includes assisting United with in-person, focused topic meetings with NAVFAC, beyond the progress meetings identified in Task 2.1. Effort includes preparing for and attending meetings in person, as-requested. This task would require access to Point Magu, which is also needed for the site visits identified in Task 2.4. It is assumed that there will be six (6) coordination meetings with NAVFAC and United during the design phase, attended by up to two (2) KJ team members, one of which will be KJ's PM or PE. When possible, site visits and in-person NAVFAC meetings will be aligned to minimize costs. Meetings are anticipated to be with the Public Works Office, Facilities, Engineering and Acquisition Division (FEAD) construction (environmental IR), and Pass and IDs security teams.

Task 2.1 Assumptions:

- KJ's PM will coordinate with United's PM and will not contact NAVFAC without explicit permission.
- United's PM will schedule all meetings with the Navy
- Six (6) 2-hour in-person meetings are assumed, scheduled by United's PM. The timing can be flexible depending on project needs and United preferences.
- Access to the site is supposed to be made available through license agreements between United and the Navy.
- NAVFAC staff may be invited in the Design Review Workshops (Task 2.3), as deemed appropriate by United.

Task 2.2 Deliverables:

- Meeting agendas and meeting minutes (.pdf or .doc format)

2.3 Design Review Workshops

KJ will prepare for and participate in three design review workshops, in which a PowerPoint presentation will be given to provide an update on the design. The workshops are anticipated to be two hours and will be attended by up to four KJ staff.

- PDR (30%) Design Review Workshop (in-person)
- 60% Design Review Workshop (in-person)
- 90% Design Review Workshop (virtual)

Task 2.2 Assumptions:

- The three (3) workshops are assumed to be two-hours in duration and attended by up to four (4) KJ staff. Two of the three meetings will be in person. United will provide an in-person meeting location.
- United will provide design information and coordinate with NAVFAC, as appropriate.

Task 2.2 Deliverables:

- Meeting agenda, PowerPoint Presentation, and meeting minutes (.pdf, .ppt or .doc format)

2.4 Site Visits

KJ will attend up to four (4) site visits, as summarized in the table below, and provide field observation notes, as applicable.

Task 2.3 Assumptions:

- Site visits will be six hours plus travel time per person.
- United will secure access to the NAVFAC site.

Task 2.3 Deliverables:

- Field observation notes (.pdf or .doc format)

Site Visit	Description of Activities	Phase of Design	# People	Duration (Hrs)
1	Visit Overall Project Area and potential discharge locations	Kickoff and Discharge Options Evaluation	4	8
2	Drive alignments and walk well sites (within Navy Boundary)	Preliminary Design	4	8
3	Drive alignment to SMP* (outside Navy Boundary)	Preliminary Design	4	8
4	Revisit all facility sites	60% Design	4	8

* United to consider inviting Calleguas Municipal Water District (CMWD) staff on site visit to SMP

Task 3 – Project Management

3.1 Monthly Progress Reporting

Monthly project progress status reports and invoices will be provided to United, summarizing work performed, milestones achieved, activities for each major task, and work planned for the next period. The progress status report will include a table summarizing the total budget, expenditures to date, and estimates of percentage completion by task.

Task 3.1 Assumptions:

- Eighteen (18) monthly progress reports and invoices are assumed, aligning with the anticipated duration of the project through bid services.

Task 3.1 Deliverables:

- Monthly Progress Status Reports (electronic, .pdf format)

3.2 Project Administration

This task consists of general project administration activities and oversight by the KJ Principal-In-Charge, PM and PE to manage KJ in-house staff and subconsultant activities, including project startup, subcontracting activities, meeting health and safety protocols, and project closeout. KJ will allocate resources to meet project objectives based on this scope of work and will perform project control activities to accomplish day-to-day management of the work.

3.3 Schedule Development and Update

This task includes the development of a baseline project schedule for activities defined in this scope of work following the notice to proceed and maintenance of the schedule through the life of the project. The schedule will identify the major activities at a task and subtask level and will be updated monthly, or as needed. The schedule will be prepared using Microsoft Project software and delivered electronically to United.

Task 3.3 Assumptions:

- United will provide feedback on any anticipated schedule impacts related to activities by external consultants, NAVFAC or permitting agency discussions.

Task 3.3 Deliverables:

- Draft and final versions of Baseline Project Schedule (.pdf format).
- Monthly updates of Project Schedule over eighteen (18) month project

3.4 QA/QC

This task includes providing QA/QC reviews throughout the course of the project, consistent with KJ policies. The KJ QA/QC and quality management procedures establish and maintain a structure for providing reviews of work

products and adherence to industry design standards and are integrated into KJ's project management system from project inception, through execution of final document submission. Experienced senior staff, familiar with, but not directly involved in the project work, will provide QA/QC review of work products and project deliverables. Deliverables will be assigned to and reviewed by a designated and qualified quality reviewer prior to submittal to United.

Specific QA/QC efforts on this project will include:

- Development of a Quality Assurance Plan, which will outline how QA/QC reviews will take place during the course of the work.
- Internal Concept and Criteria Review (C&CR), which consists of the team presenting the design concepts to two independent senior engineers to ensure the design concepts are in accordance with industry standards and potential issues and project risks have been identified.
- Review of all TMs, reports, cost opinions, calculations, design drawings and specifications by an appropriate reviewer independent of those performing the work.
- Constructability review will be conducted at approximately the 90% design level.

Task 4 – Preliminary Design Investigations

4.1 Data Collection & Review

Existing conditions will be defined based on available information and data from public sources, United, the Navy, and external consultants performing geotechnical, land surveying, right-of-way, CEQA, and permitting services. KJ will collect and review materials and records and incorporate the pertinent information into the design, as appropriate, requesting additional information, as needed. All Task 4 data will be uploaded and stored on the project MSO Teams site created under Task 1.

Task 4.1 Assumptions:

- United will provide pertinent information in digital format when available and coordinate with external consultants to obtain information, as appropriate.

Task 4.1 Deliverables:

- Data request provided within one (1) week of project kickoff and updated as needed.

4.2 Utility Survey

This task includes a desktop investigation of utilities present in the vicinity of project facilities to identify potential utility conflicts near pipeline alignments, well sites and discharge facilities. The utility survey will be performed by KJ utilizing Digalert (USA) to contact the local utility companies and receive maps showing the locations of the various gas, electric, telephone, communication, water, sewer, and other utilities based on available data. The NAVFAC GIS database with utility information will also be used. Utilities identified in the DigAlert and NAVFAC GIS records will be placed on the plan and profile sheets to show horizontal and vertical locations of the various utilities, and to guide design criteria and decisions.

Task 4.2 Assumptions:

- NAVFAC will provide recently updated GIS records of sewer, water, and gas, at no cost, to be incorporated into the analysis along with other pertinent utilities, including dry utilities, and subsurface information to support the design.
- Since NAVFAC requirements for potholing are unknown at this time, potholing is not included in this task and is provided as an optional task.

Task 4.2 Deliverables:

- Utility information to be added into the survey basemap file.

4.3 IRP Considerations

This task includes considerations for construction activities to minimize impact to existing IRP remedies. KJ will review the available documentation on contamination, remediation, and sampling for the three IRP sites identified. A summary of potential contaminants will be identified for each site and specifications will be developed to be

followed during construction in the event the contamination is identified. This summary and specifications will be included in the preliminary design report and 30% design package, respectively.

Task 4.3 Assumptions:

- NAVFAC will provide available documentation on remediation efforts and evaluation
- It is assumed if additional site characterizations or assessments of hazardous materials are required, United would seek additional support to collect and analyze data through external consultants or an amendment to this contract.

Task 4.3 Deliverable:

- Table of list summarizing hazardous waste that may be encountered and recommended courses of action.

4.4 Basemap with Survey Information

This task includes development of a basemap to serve as the foundation for the design. The basemap will include collected existing site condition information from the field visits, existing literature, review of topographic surveys, utility investigations, geotechnical investigation, IRP investigation report and other available information. The basemap will be to scale and include:

- Elevations
- Surveying controls
- Topography
- 3" resolution Transparent aerial imagery
- Locations of right-of-way,
- Locations of easements (if any),
- Locations of IRP sites that are likely to contain constituent concentrations in soil and GW that will restrict or influence project design and construction (including waste handling and disposal)
- Locations of geotechnical work.

Existing above and below ground utilities identified from Task 4.2 Utility Research.

Task 4.4 Assumptions:

- It is assumed that the boundary of the basemap for design includes the five well sites and their connecting pipeline alignments, shown by Figure 2-Project Location Map on page 15 of the RFP, as well as the area of discharge in Mugu Lagoon. This task does not include base-mapping along the alignment to the SMP nor the ocean outfall, which would be included in Optional Task 12, if needed.
- Surveying will be completed by a United selected surveyor under a separate contract. KJ will coordinate with United's surveyor to define the full scope of the surveying and will coordinate on the exchange of data and CAD files. Effort in this task includes review of survey data and integration by CAD designer into the preliminary design plans.
- KJ to provide specific requirements for surveying to support the 30% design and allow the survey to be used for final design.
- KJ requirements for the survey are as follows: Topography will be in United and/or Navy's preferred format (assumed to be NAD 83 horizontal coordinates based on the California State Plane Coordinate System, NAVD 88 vertical coordinates, with benchmark and basis of bearing shown). Topography will show all significant above ground features on the site area including but not limited to piping, manholes, drainage swales, fencing, bridges, box culverts, channels, and other utility features and signs. Topography will show contours at 1-foot intervals, and will include the alignment, street paving limits, and 25 feet beyond the edge of pavement on both sides of the street. All critical property lines, if applicable, should be shown, including street centerline, parcel lines, and street monumentation. Survey file will be in AutoCAD 2021/22 format and should also include a surface file that can be used to develop a profile for the proposed pipeline alignment.
- United will provide ROW services under a separate contract to review Property/Real Estate Assessments, if the need for easements on private property are required, or to address NAVFAC considerations.

Task 4.4 Deliverable:

- Basemap for area of pipeline, discharge facility and well design (.pdf and .CAD format)

4.5 Hydraulic Evaluation

This task includes developing a hydraulic model to size Phase 1 facilities, also considering future capacity requirements for the full Phase 2 project. A surge analysis will be performed to understand anticipated system hydraulics for Phase 1 and 2 conditions.

4.5.1 Hydraulic Model Development & Analysis

Flowrate maximum pumping capacity of the wells, as provided by the well suitability evaluation (see Task 5.2) will be used to conduct a hydraulic analysis of the system. A hydraulic model using Innovyze InfoWater Pro software will be developed. The model will be used to simulate the anticipated hydraulic performance of the system. The hydraulic analysis will be used to:

- Identify minimum and maximum pressures
- Identify pipeline velocities

Task 4.5.1 Assumptions:

- KJ will lead the hydraulic modeling of conveyance facilities
- Well hydraulic assumptions will be provided through consultation with United's hydrogeologists and RCSModel will be run with a steady state simulation
- Boundary conditions for Phase 2 flow conditions, at buildout, will be defined by United. It is understood that the flow conditions for phase 2 (max pumping) will be speculative and may change in Phase 2. KJ will work with United to define a conservative maximum flow to support design elements that will need to serve Phase 2 flows

Task 4.5.1 Deliverables

- Hydraulic model (electronic files)
- System hydraulic profile (to be included in PDR)
- Summary of hydraulic properties of system (to be included in PDR)

4.5.2 Surge Analysis

Information will be reviewed including well station plans, sections, pump curves, valving, operations, etc., discharge pipeline plans, profiles materials, diameters, and pressure classes, discharge location plans and sections. A surge analysis model of the system will be developed, including up to seven wells and their discharge pipelines, and the associated delivery system under various flow conditions for Phase 1 and the full Phase 2 project. Surge analyses simulations for sudden well pump trip of the wells under operating flow conditions will be performed. Based on the results of the analyses, if necessary, KJ will determine surge protection measures required to protect the system. A draft and final TM summarizing the surge results and recommendations of the analysis will be provided.

Task 4.5.2 Assumptions:

- Scott Foster Engineering, as a subconsultant to KJ, will lead the surge analysis.

Task 4.5.2 Deliverables:

- Summary of required surge protection measures necessary to protect the system in the case of a power outage
- TM – Surge Evaluation (Draft and Final) summarizing the outcomes of the surge analysis (to be included as an attachment of the PDR)

4.6 Hydrology and Water Quality Evaluations

Under this task, KJ will conduct a review and analysis of available hydrology and water quality information to support project design activities. Effort to support additional hydrologic or water quality evaluations being conducted by the CEQA/Permitting Team can be provided under Task 1.3.

4.6.1 Hydrology Evaluation

This task includes reviewing, analyzing, and summarizing hydrologic considerations as they relate to facility construction and operation. This task will provide information for the above ground facility design, civil/site grading requirements and support bid documentation. This task will include the review

of the NAVFAC's hydrology analyses that were conducted as part of its recent improvements to the base to fortify itself against storm surge and sea level rise and other studies or information provided by the CEQA/Permitting Team. Stormwater management considerations will be limited to localized at above ground sites that may need to be addressed during design to protect infrastructure during high water and storm events.

Task 4.6.1 Assumptions:

- United/NAVFAC will provide available recent analyses
- Design will conform with UFC 3-210-10 Low Impact Development

Task 4.6.1 Deliverable:

- A summary of anticipated hydrologic considerations/impacts and how they may be mitigated in design/construction will be included in PDR

4.6.2 Water Quality Evaluation

This task includes performing a high-level mass-balance analysis of the anticipated discharge water quality based on a blend of extracted water from the five well locations. Concentrations of concern (e.g., salinity) will be identified through discussions with United and the CEQA/Permitting Team. Anticipated concentrations at each well will be sampled and provided as part of the drilling performed for Task 6. This evaluation will support the CEQA/Permitting Team discussion with regulatory agency as well as the selection of materials, monitoring requirements and other design considerations by the design team. The desktop water quality analysis will include spreadsheet calculations that estimate the overall water quality profile based on measured water quality concentrations and anticipated flows, from United's GW model.

Task 4.6.2 Assumptions:

- The CEQA/Permitting Team will identify water quality constituents of concern and provide relevant water quality limits for the receiving water body for discharge
- Hydraulic water quality modeling, including CFD modeling, will not be included in this effort

Task 4.6.2 Deliverables:

- Table summarizing individual and blended well and source water qualities
- A summary of anticipated water quality considerations related to design/construction will be included in PDR.

Task 5 – Preliminary Evaluations and Technical Memorandum (TM)

KJ will apply information gathered from Task 4, United departments, and the CEQA/Permitting Team, to conduct an evaluation on discharge options, well suitability, and pipeline alignments. The approach will be to have a pre-screening of concepts to eliminate options with fatal flaws, then to take a closer look at facility requirements and costs to identify a concept to move toward preliminary 30% design. KJ will collaborate with United, the Navy, and the CEQA/Permitting team to develop criteria, assess benefits and limitations, and make recommendations. These evaluations will each have a TM that documents the analysis, outcomes and United's preferred options. KJ will coordinate with United to finalize the recommendation, which will be progressed in the final design. Cost estimates for these analyses will be for capital infrastructure, at a Class V planning level, based on recent project experience and appropriate contingencies.

5.1 Discharge Options Evaluation

KJ will identify three (3) discharge alternatives based on location: 1) the Mugu Lagoon; 2) CMWD's SMP; and 3) the Pacific Ocean. Each of these alternatives will have options for the method of discharge. These options will be presented and discussed with United and the CEQA/Permitting Team in a project coordination meeting (Task 1). A fatal flaw criteria and analysis will be identified for evaluating the discharge options. Viable discharge options will be compared using a decision matrix and ranking criteria,

as described in Task 5.1.4. KJ will produce a TM that summarizes the recommended discharge option for design.

5.1.1 Mugu Lagoon Discharge Options

KJ will identify and evaluate up to eight (8) discharge concepts direct to the Mugu Lagoon, which may include the following, though concepts may be modified as work commences:

- (1) Spray discharge from box culvert (bridge)
- (2) Point-discharge from box culvert (bridge)
- (3) Multi-port diffuser on box culvert (bridge)
- (4) Multi-port diffuser on the bed of lagoon
- (5) Bank outfall (screened)
- (6) Spray from bank
- (7) Repurpose existing infrastructure (dolphin tanks)
- (8) To be determined.

This task will include developing high level concept layout of facilities and a description of the discharge concept to the Mugu Lagoon. KJ will coordinate with the CEQA/Permitting Team to identify if the options have fatal flaws or are potentially permissible. For the potentially permissible options, assume up to four (4) options move forward for further consideration, KJ will develop concept level (Class V) facility costs, identify implementation considerations and coordinate with the CEQA/Permitting Team to identify permitting requirements. The Mugu Lagoon discharge options will be compared with other discharge options in Task 5.1.4.

5.1.2 SMP Discharge Option

KJ will identify and evaluate a discharge concept to connect to the SMP. KJ will work with the District to define the anticipated design criteria, which will take into consideration the potential future use and anticipated future needed capacity for the pipeline to carry brine from a future desalination facility. It is anticipated that to convey flow to the SMP, additional pumping head will be required. KJ will conduct a desktop analysis of the hydraulics for the alignment provided in the RFP and identify the anticipated additional head requirements for conveyance of water to the SMP. KJ will develop a high level facility cost estimate (Class V) based on an estimated pipe length, diameter, and pumping requirements, identify an implementation considerations and coordinate with the CEQA/Permitting Team to identify permitting requirements. The SMP discharge options will be compared with other discharge options in Task 5.1.4.

At this time, United would prefer not to discharge to the SMP for Phase 1 due to the higher capital and operational costs to discharge and the prolonged schedule, however, should the other discharge alternatives run into fatal flaws, the SMP is the back-up alternative. SMP Alignment options for this option will be analyzed as part of Task 5.3.2.

5.1.3 Ocean Discharge Options

KJ will identify and evaluate up to three (3) discharge concepts to the ocean:

- (1) Submerged ocean outfall
- (2) Subsurface diffuser concept - such as perforated pipe, French drain, or leach field,
- (3) spray to the ocean from an existing rock revetement.

This task will include developing high level concept layout of facilities and a description of the discharge concept to the Mugu Lagoon. KJ will coordinate with the CEQA/Permitting Team to identify if the options have fatal flaws or are potentially permissible. For the potentially permissible option for ocean discharge be identified, KJ will develop concept level (Class V) facility costs, identify implementation considerations and coordinate with the CEQA/Permitting Team to identify permitting requirements. The ocean discharge options will be compared with other discharge options in Task 5.1.4.

5.1.4 Compare Discharge Options and TM

For the viable discharge options identified in Tasks 5.1.1 through 5.1.3 a comparison analysis will be conducted. Criterion will be developed for comparing the alternatives, using a decision matrix considering the benefits, risks, relative costs (Class V), and other criteria identified in collaboration with United and the CEQA/Permitting Team, presented in a second project coordination meeting (Task 1). It is assumed that one discharge option will move forward for Preliminary Design. If the SMP discharge option moves forward as the recommended discharge option, or as an alternate discharge, alternative alignments will be explored as part of Task 5.3.2.

Work performed under this task will be summarized in a TM, which is anticipated to include the following for the recommended discharge alternative:

- Conceptual design with text description of the recommended alternative
- Diagram with anticipated location and receiving water body
- Class 5 opinion of probable construction costs (OPCC)
- Summary of permitting requirements/limitations, as provided by the CEQA/Permitting Team.

Task 5.1 Assumptions:

- CEQA/Permitting Team will provide allowable design parameters for meeting permit requirements including criteria such as permissible velocities, flow discharges, and permitting timelines/durations to inform the decision development matrix
- United and the CEQA/Permitting Team will provide feedback and input into the high-level conceptual discharge methods and discharge matrix and select the preferred discharge alternative.
- Does not include any CEQA/Permitting required water quality modeling, hydraulic or diffusion modeling of discharge alternatives
- One (1) recommended discharge facility will proceed to the 30% and ultimately the final design

Task 5.1 Deliverables:

- Decision matrix of alternative discharge methods
- TM – Discharge Evaluation (Draft and Final) summarizing the recommended discharge method, receiving water, and location

5.2 Well Suitability Evaluation

This task will begin with a field reconnaissance of each of the five (5) proposed well sites (as part of Task 2.3) to observe current site conditions at each proposed wellsite property. The KJ Team (including RCS) will work with United and the Navy to identify logistical issues associated with the proposed well construction, discussing site parameters for the each of the well sites, such as:

- Size and orientation of site for the placement of drill rig equipment and accessories and for storage of well construction materials, and where applicable, consideration of the possible construction layout for two wells.
- Temporary construction and permanent footprints will be identified to support real estate acquisition/land surveyor consultant and work on securing outgrant easements with the Navy.

- Proximity of site to areas that may be sensitive to construction noise and activities (for noise mitigation & safety issues), such as office spaces, lodging facilities, RV and camping areas, residences, etc.
- Presence of above ground and below ground utilities.
- Evaluation of existing electrical system capacity and identification potential insufficiencies.
- Source of makeup water for drilling.
- Location of and distance to possible drainage structures or planned points of discharge required for the proper discharge of fluids from well development and well testing.
- Ingress/egress of construction equipment and materials, and potential storage areas for equipment, materials, storage tanks, etc.
- Level of risk from storm surge, sea level rise and flooding to the proposed infrastructure and identify cost-effective measures to mitigate impacts such as inundation, corrosion, and contamination.

RCS will provide a hydrogeologic analysis of the data and information generated during the above tasks and prepare a TM with regard to the anticipated subsurface geologic/hydrogeologic conditions and logistical considerations at each of the five proposed properties on which wells are proposed to be drilled. The TM will include information for all seven of the proposed new wells.

Task 5.2 Assumption:

- Seven (7) extraction wells located at five (5) well sites will be evaluated, as described and shown in the RFP
- That sufficient capacity will be available from nearby power lines; if the electrical system is determined to be insufficient additional scope would need to be developed.

Task 5.2 Deliverable:

- Draft and Final TM - Well Suitability (Draft and Final) (.doc, .pdf)

5.3 Pipeline Alignment, Materials and Constructability Evaluation

There are two sections of pipeline that will be evaluated as part of this task:

1. Well Piping Alignments: These pipelines connect the wells to the anticipated discharge piping
2. Pipeline to SMP: This pipeline may connect the wells to the SMP or provide a future alignment for a brine discharge

The well piping and pipeline to SMP alignments will be screened and evaluated based on several criteria, including above-ground or below-ground installation, open cut or trenchless installation methods, potential utility conflicts, pipeline materials, and risks from potentially hazardous materials. The alignments will be scored based on weighted criteria and KJ will rank outcomes for United to select a preferred alignment.

5.3.1 Well Piping Alignment Analysis

KJ will use the pipeline alignments provided by United in Figure 2- Project Location Map (shown in solid green and dotted lines south of the Potential Pilot Treatment Location) in conjunction with the basemap to evaluate the proposed pipeline alignments. KJ will evaluate open cut or trenchless installation methods and identify the design criteria that will be used for the 30% design. This task will include the identification of a fatal flaw analysis that will include the avoidance of any potential hazardous materials.

It is anticipated that based on the well siting locations that the pipeline will need to cross the Mugu Lagoon. An initial analysis will be conducted, looking for fatal flaws based on desktop studies on the

preferred option for pipeline crossing of the Mugu Lagoon. Options that will be evaluated will include attaching the pipe to the existing bridge culvert, trenchless methods, or above ground.

5.3.2 Pipeline to SMP Alignment Analysis

This task will include identification and evaluation of up to three (3) alignment concepts for the pipeline to the SMP. These alignments will consider trenchless crossing under the Pacific Coast Highway (PCH, Highway 1) or a longer alignment that connects to the SMP further west. This initial analysis will identify fatal flaws for pipeline alignments based on desktop studies only. This task will consider environmental impacts, major roadways, total length, and will incorporate Navy preferences for the portion of the alignment within Navy property and CMWD preferences for the point of connection to the SMP. Implementation and permitting considerations will be part of identifying a preferred alignment.

An optional Task 12 has been included to perform a Preliminary 30% Design for the preferred alignment to the SMP, which would be authorized as needed. A 60/90/100% design scope has not been developed as part of this effort.

5.3.3 Pipeline Alignment Options and TM

KJ will analyze the findings of Task 5.3.1 and 5.3.2 using screening criteria and a decision matrix. The criteria will be identified in coordination with the District, but is anticipated to include cost, permitting, and implementation considerations.

The findings of the decision matrix and Tasks 5.3.1 and 5.3.2 will be summarized in a TM and will be used as the foundation for the 30% design. The TM summarizing the pipeline alignment constructability, which is anticipated to include the following:

- Evaluation and identification of potential utility conflicts
- Pipeline materials, including an evaluation of the corrosivity of the soils gathered as part of the geotechnical investigation.
- Analysis of above ground/below ground pipeline options
- Analysis of pipeline crossing on/attached to the bridge
- Tunneling methods (if required)
- Incorporate understanding of geotechnical report
- Potential obstacles and methods of overcoming these obstacles

Task 5.3 Assumptions:

- Pipeline sizes will be assumed based on the Hydraulic Evaluation (Task 4.5). Pipeline sizes will be confirmed during final design after the actual well flow rates are determined.

Task 5.3 Deliverable:

- TM – Pipeline Alignment and Constructability Evaluation (Draft and Final) summarizing the pipeline alignment constructability

Task 6 – Design Services for Extraction Well Drilling

6.1 Technical Specifications

RCS, as a subconsultant to KJ, will prepare one set of technical specifications for the drilling, development, construction, and testing of the seven new wells; all wells will be included in a single technical specification and bid package. While two general well designs will be considered in the documents (one design for the five proposed

Oxnard aquifer wells, and a second design for the two proposed Mugu aquifer wells), the actual design of the wells will be based on the results of the pilot borehole drilling/testing at the selected sites.

The technical specifications for the seven new wells will provide the technical requirements for the following well construction issues for each proposed well:

- Site preparation activities (clearing, grubbing, grading).
- Drilling/construction method for the well and drilling fluids control parameters and methods, along with parameters for plumbness and alignment of the pilot hole and final reamed borehole.
- The well pump and discharge piping will not be located within a building or enclosure.
- The pilot hole drilling depth.
- Details for performing isolated aquifer zone testing.
- Depth(s) and diameter(s) of borehole ream(s).
- Casing material types, casing diameters and casing depths.
- The type and size of casing perforations and lengths of such casing.
- The depth(s) of possible deep cement annular sanitary seal(s) or aquifer seals.
- The anticipated gravel pack gradation and depth placement.
- Mechanical, chemical and pumping development criteria.
- Water quality sampling and analysis for isolated aquifer zone testing and for the final well blend water quality samples.
- Discharge permitting requirements as required, including NPDES requirements, sampling, analysis, treatment, and compliance measures, LARWQCB requirements, and other agencies that may require notification and reporting associated with fluid discharge.
- Step drawdown test and constant rate pumping test criteria.
- Criteria and equipment for the final dynamic and static spinner surveys and depth discrete sampling.
- Final video survey, alignment survey and completion of each wellhead.
- Selection of casing materials, borehole and casing diameters, required noise mitigation measures, onsite treatment and/or disposal of drilling fluids for the construction of the proposed wells and other aspects of the construction project will be specifically tailored to each proposed new well site.
- Camera port and sounding tube details

6.2 Well Drilling Cost Estimate

RCS will prepare a detailed estimate for the probable cost of the drilling, construction and testing of the seven new proposed wells. The estimate will also include costs for on-site handling, temporary storage, testing, treatment, and disposal of all waste liquids and solids. The construction cost estimate will be based on recent contractor costs (as determined from several of our other current well construction projects).

6.3 SWPPP for Extraction Well Drilling

KJ will prepare a draft Storm Water Pollution Prevention Plan (SWPPP) to be included with the extraction well drilling construction documents. The contractor will be responsible for preparing the final SWPPP.

Task 6 Assumptions:

- Seven (7) extraction wells will be drilled, as described and shown in the RFP
- Well drilling for the seven wells will be procured as one public construction works contract
- United's front-end document will be utilized
- Finished improvements, such as the pump pedestal, will be provided as part of the well equipping construction

Task 6 Deliverables:

- Draft and final technical specifications (Word and .pdf)
- Draft and final construction cost estimate (.pdf)

Task 7 - Preliminary Design Report (PDR)

KJ will prepare a PDR that will succinctly summarize the work completed in Tasks 4 and 5. The PDR will include:

- Potential utility conflicts (Task 4.2)
- Summary of IRP Investigation and Navy Procedural Evaluation (Task 4.3)
- Completed basemap to scale with elevations (Task 4.4)
- Hydraulic analysis including model development and findings (Task 4.5)
- Water quality evaluation (Task 4.6.1)
- Hydrology evaluation (Task 4.6.2)
- Preliminary site layout for one discharge facility as recommended in the discharge options evaluation (Task 5.1). For scoping purposes, it is assumed the recommended discharge facility could be sprayers, a diffuser, or a point discharge (on a bank or attached to the bridge), any of which would ultimately discharge to the Mugu Lagoon. It is assumed that connection to the CMWD SMP, an ocean outfall, and repurposing the Navy's abandoned dolphin tank structures will not be the recommended discharge facility.
- Preliminary site layouts for the five sites and seven extraction wells, based on the outcomes of the well suitability evaluation (Task 5.2)
- Preliminary alignments, based on the outcomes of the alignment evaluation (Task 5.3).
 - Effort does not include an alternative alignment to the potential pilot treatment location
 - Optional Task 12 includes PDR for an alignment to the SMP
 - Include trenchless sub to advise on techniques
 - State that Drawings, specs and cost estimates for 60/90/100% is not included as part of this contract
 - Effort includes option to cross Mugu Lagoon via bridge attachment or trenchless technique, identifying options and recommending a preferred option
 - Mott MacDonald will advise on trenchless construction methods.
- Well suitability and hydraulics (Task 6)
- 30% design drawings (Task 8.1)
 - Refer to the Drawing List at the end of this section for a list of the sheets provided at the 30% design and final design phases for both the extraction well and pipeline drawing packages.
- OPCC (Task 8.2)
- Preliminary instrumentation/controls descriptions and diagrams
- Electrical infrastructure, assumed to include a step-down utility transformer to 480V, switchgear/switchboard/motor control center with VFDs/starters for equipment, 48-120/208V step-down transformer, and 120/208V panelboard for auxiliary loads.
- Identification of anticipated permits (based on coordination with CEQA/Permitting Team)
- Preliminary site layouts for the five sites and seven extraction wells
- List of technical specifications
- Permitting requirements

7.1 Draft PDR

An outline and a Draft PDR will be provided for United's review. The Draft PDR will include the information listed above and will be provided in .pdf and .doc formats.

7.2 Final PDR

A Final PDR will be issued to United, incorporating response to comments from United review and other input from Stakeholders (e.g., Navy). The Final PDR will be provided in .pdf and .doc formats.

Task 7 Assumptions:

- United will have a 4-week review period
- Includes effort by Mott MacDonald to document work completed related to trenchless crossings
- Comments and responses to comments will be provided either in Microsoft Word comments or through a comment log

Task 7 Deliverable:

- PDR (Draft and Final)

Task 8 - Preliminary (30%) Design Drawings and Cost Estimate

8.1 30% Preliminary Design Drawings

KJ will produce 30% preliminary design level drawings for the equipping of the extraction wells and the associated conveyance pipelines and discharge location. Anticipated sheets included in the 30% drawings are included at the end of this section.

8.2 30% Preliminary Design OPCC

KJ will prepare an OPCC for the Project, following the principles and guidelines of the Association for the Advancement of Cost Engineering (AACE) and standard KJ cost estimating procedures. The OPCC will reflect an AACE Class 3 estimate. The OPCC will be projected to the midpoint of the construction period and will be organized by the anticipated bid package.

Task 9 - Design Services for Extraction Well Equipping

Based on the design concepts and criteria established in the PDR, KJ will prepare a 60%, 90%, and 100% design submittal package for the equipping of the extraction wells for United's review. For the purposes of budgeting, the following well design assumptions are utilized:

- Seven (7) extraction wells will be provided, as shown in Figure 2 - Project Location Map (RFP).
- Extraction wells located at the same site, as shown in Figure 2 - Project Location Map (RFP), will share piping, mechanical, and electrical infrastructure as much as feasible.
- Provisions will be provided to allow efficient installation of planned future wells, as shown in Figure 2 - Project Location Map (RFP).
- Each extraction well will be equipped with a vertical turbine or submersible pump and motor. Pump selection will be provided as part of the PDR development.
- VFD will be provided. The need for VFDs will be evaluated as part of the PDR.
- The well site selection, well design, and associated infrastructure design will be based on the hydrogeology recommendations from United. KJ will be the engineer of record.
- Remote SCADA communication and control via radio telemetry will be provided. A SCADA radio survey is not provided.
- Communication may be achieved by either (1) one radio tower, with fiberoptics between wells or (2) multiple radio towers at each well site.
- Each well site will be provided with a non-ornamental perimeter fence.
- See detailed list of drawings and additional assumptions at the end of the scope.

9.1 60% Extraction Well Equipping Submittal

This task is associated with the submittal of 60% drawings, specifications, and estimate for the extraction well equipping bid package.

9.1.1 60% Extraction Well Equipping Drawings

KJ will incorporate the responses to the comments from the 30% design review, specific to the equipping of the extraction wells, and advance the 30% design drawings to 60% design, and develop additional drawings identified at the end of this section.

9.1.2 60% Extraction Well Equipping Specifications

KJ will develop 60% level well equipping specifications.

9.1.3 60% Extraction Well Equipping Cost Estimate

KJ will prepare an updated OPCC for the extraction well equipping component of the project, organized by anticipated bid package. This cost estimate will incorporate any changes from 30% design. KJ will follow the principles and guidelines of the AACE and standard KJ cost estimating procedures. The OPCC will meet the requirements of an AACE Class 2 estimate and will be projected to the midpoint of the construction period.

9.2 90% Extraction Well Equipping Submittal

This task is associated with the submittal of 90% drawings, specifications and estimate for the extraction well equipping bid package. KJ will incorporate United's review comments on the 60% Design package and prepare the 90% design submittal package for Owner review. The 90% phase will include further detailed design and refinement of the project elements developed in the preliminary and 60% design stages of the project.

9.2.1 90% Extraction Well Equipping Drawings

KJ will incorporate the responses to the comments from the extraction well equipping 60% design review, and advance the 60% design drawings to 90% design, and develop additional drawings identified at the end of this section.

9.2.2 90% Extraction Well Equipping Specifications

KJ will incorporate the responses to the comments from the extraction well equipping 60% design review and advance the 60% extraction well equipping specifications to 90% design.

9.2.3 90% Extraction Well Equipping Cost Estimate

KJ will prepare an updated OPCC for the extraction well equipping component of the project, organized by anticipated bid package. This cost estimate will incorporate any changes from 60% design. KJ will follow the principles and guidelines of the AACE and standard KJ cost estimating procedures. The OPCC will meet the requirements of an AACE Class 2 estimate and will be projected to the midpoint of the construction period.

9.3 100% Extraction Well Equipping Submittal

This task is associated with the submittal of 100% drawings, specifications, and estimate for the extraction well equipping bid package.

9.3.1 100% Extraction Well Equipping Drawings

KJ will incorporate the responses to the comments from the extraction well equipping 90% design review, and advance the 90% design drawings to 100% design, and develop additional drawings identified at the end of this section.

9.3.2 100% Extraction Well Equipping Specifications

KJ will incorporate the responses to the comments from the extraction well equipping 90% design review and advance the 90% extraction well equipping specifications to 100% design.

9.3.3 100% Extraction Well Equipping Cost Estimate

KJ will prepare an updated OPCC for the extraction well component of the project, organized by anticipated bid package. This cost estimate will incorporate any changes from 90% design. KJ will follow the principles and guidelines of the AACE and standard KJ cost estimating procedures. The OPCC will meet the requirements of an AACE Class 2 estimate and will be projected to the midpoint of the construction period.

9.4 SWPPP for Well Equipping

KJ will prepare a draft Storm Water Pollution Prevention Plan (SWPPP) to be included with the extraction well equipping construction documents. The contractor will be responsible for preparing the final SWPPP.

Task 10 – Design Services for Pipelines and Discharge Facility

Based on the design concepts and criteria established in the PDR, KJ will prepare a 60%, 90%, and 100% design submittal package for the extraction well discharge pipelines for United's review. For the purposes of budgeting, the following well design assumptions are utilized:

- The pipeline design package will include the discharge facility design.
- For the basis of this proposal, it is assumed that there will be one discharge facility and location. The discharge facility could be sprayers, a diffuser, or a point discharge (on a bank or attached to the bridge), any of which would ultimately discharge to the Mugu Lagoon.
- It is assumed that the pipeline can be constructed across the bridge or a trenchless crossing under the Mugu Lagoon. This task includes sufficient effort and number of sheets to design either type of crossing. Effort for subcontractor is included for trenchless design.
- The effort and sheet count included assumes pipeline alignments and lengths similar to those presented in Figure 2 of the RFP.
- Additional design services will be required if either the alignment to the SMP or the ocean discharge option is selected.

10.1 60% Pipeline and Discharge Facility Submittal

This task is associated with the submittal of 60% drawings, specifications, and estimate for the pipeline bid package.

10.1.1 60% Pipeline and Discharge Facility Plans

KJ will incorporate the responses to the comments from the 30% design review, specific to the pipelines, and advance the 30% design drawings to 60% design, and develop additional drawings identified at the end of this section. KJ will also coordinate

10.1.2 60% Pipeline and Discharge Facility Specs

KJ will develop 60% level pipeline specifications.

10.1.3 60% Pipeline and Discharge Facility Estimate

KJ will prepare an updated OPCC for the pipeline component of the project, organized by anticipated bid package. This cost estimate will incorporate any changes from 30% design. KJ will follow the principles and guidelines of the AACE and standard KJ cost estimating procedures. The OPCC will meet the requirements of an AACE Class 2 estimate and will be projected to the midpoint of the construction period.

10.2 90% Pipeline and Discharge Facility Submittal

This task is associated with the submittal of 90% drawings, specifications, and estimate for the pipeline bid package.

10.2.1 90% Pipeline and Discharge Facility Plans

KJ will incorporate the responses to the comments from the pipeline 60% design review, and advance the 60% design drawings to 90% design, and develop additional drawings identified at the end of this section.

10.2.2 90% Pipeline and Discharge Facility Specs

KJ will incorporate the responses to the comments from the pipeline 60% design review and advance the 60% pipeline specifications to 90% design.

10.2.3 90% Pipeline and Discharge Facility Estimate

KJ will prepare an updated OPCC for the pipeline component of the project, organized by anticipated bid package. This cost estimate will incorporate any changes from 60% design. KJ will follow the principles and guidelines of the

AACE and standard KJ cost estimating procedures. The OPCC will meet the requirements of an AACE Class 2 estimate and will be projected to the midpoint of the construction period.

10.3 100% Pipeline and Discharge Facility Submittal

This task is associated with the submittal of 100% drawings, specifications, and estimate for the pipeline and sitework construction package.

10.3.1 100% Pipeline and Discharge Facility Plans

KJ will incorporate the responses to the comments from the pipeline 90% design review and advance the 90% design drawings to 100% design, and develop additional drawings identified at the end of this section.

10.3.2 100% Pipeline and Discharge Facility Specs

KJ will incorporate the responses to the comments from the pipeline 90% design review and advance the 90% pipeline specifications to 100% design.

10.3.3 100% Pipeline and Discharge Facility Estimate

KJ will prepare an updated OPCC for the pipeline component of the project, organized by anticipated bid package. This cost estimate will incorporate any changes from 90% design. KJ will follow the principles and guidelines of the AACE and standard KJ cost estimating procedures. The OPCC will meet the requirements of an AACE Class 2 estimate and will be projected to the midpoint of the construction period.

10.4 Trenchless Design (Mott MacDonald)

Mott MacDonald will prepare design documents for a trenchless crossing of Mugu Lagoon, including plans, specifications, calculations, and cost estimates for trenchless work at the 60%, 90%, and 100% design phases. KJ effort included to coordinate trenchless design efforts.

10.5 SWPPP for Pipeline and Discharge Facilities

KJ will prepare a draft Storm Water Pollution Prevention Plan (SWPPP) to be included with the pipeline and discharge facility construction documents. The contractor will be responsible for preparing the final SWPPP.

Design Service Deliverables (Tasks 8-10):

- 30%, 60%, 90% and 100% design drawings (electronic, .pdf)
- 60%, 90% and 100% specifications (electronic, .pdf)
- 30%, 60%, 90% and 100% cost estimate (electronic, .pdf)

**A list of general and design assumptions for Tasks 8-10 are provided at the end of the scope of work section*

Task 11 – Bid Phase Services

KJ will provide Bid Phase services for both the Extraction Well Equipping and Pipeline and Discharge Facility construction packages.

11.1 Extraction Well Drilling Bid Phase Services

11.1.1 Extraction Well Drilling Pre-Bid Meeting

KJ, along with subconsultant RCS, will attend a pre-bid meeting and site tour to be conducted by United for the construction contractors to allow acquaintance of potential contractors with the work for the Extraction Well Equipping bid package.

11.1.2 Extraction Well Drilling Response to Bidder's Questions

KJ will prepare addenda during the bid period to clarify the well equipping design documents, with distribution of all addenda by United. KJ will also provide answers to written questions submitted to United by bidders and

provided in writing to KJ. Contract requirements that are changed as a result of questions and answers will be included in the issued addenda. It is assumed that KJ will prepare up to one (1) addendum.

11.1.3 Extraction Well Drilling Bid Analysis and Award Recommendation

KJ will review all bids received from contractors for responsiveness, completeness, whether the contractor(s) are responsible, and the bid amounts and will advise United of any identified discrepancies by any of the bidders. KJ will evaluate the bid results for the three (3) lowest construction package bids received and provide written recommendation to United concerning award of the Construction Contract.

11.2 Extraction Well Equipping Bid Phase Services

11.2.1 Extraction Well Equipping Pre-Bid Meeting

KJ will attend a pre-bid meeting and site tour to be conducted by United for the construction contractors to allow acquaintance of potential contractors with the work for the Extraction Well Equipping bid package.

11.2.2 Extraction Well Equipping Response to Bidder's Questions

KJ will prepare addenda during the bid period to clarify the well equipping design documents, with distribution of all addenda by United. KJ will also provide answers to written questions submitted to United by bidders and provided in writing to KJ. Contract requirements that are changed as a result of questions and answers will be included in the issued addenda. It is assumed that KJ will prepare up to nine (9) addenda.

11.2.3 Extraction Well Bid Analysis and Award Recommendation

KJ will review all bids received from contractors for responsiveness, completeness, whether the contractor(s) are responsible, and the bid amounts and will advise United of any identified discrepancies by any of the bidders. KJ will evaluate the bid results for the three (3) lowest construction package bids received and provide written recommendation to United concerning award of the Construction Contract.

11.3 Pipeline and Discharge Facility Bid Phase Services

11.3.1 Pipeline and Discharge Facility Pre-Bid Meeting

KJ will attend a pre-bid meeting and site tour to be conducted by United for the construction contractors to allow acquaintance of potential contractors with the work for the Pipeline and Discharge Facility bid package.

11.3.2 Pipeline and Discharge Facility Response to Bidder's Questions

KJ will prepare addenda during the bid period to clarify the pipeline design documents, with distribution of all addenda by United. KJ will also provide answers to written questions submitted to United by bidders and provided in writing to KJ. Includes effort by Mott MacDonald to respond to bidder's questions related to trenchless segments. Contract requirements that are changed as a result of questions and answers will be included in the issued addenda. It is assumed that KJ will prepare up to four (4) addenda.

11.3.3 Pipeline and Discharge Facility Bid Analysis and Award Recommendation

KJ will review all bids received from contractors for responsiveness, completeness, whether the contractor(s) are responsible, and the bid amounts and will advise United of any identified discrepancies by any of the bidders. KJ will evaluate the bid results for the three (3) lowest construction package bids received and provide written recommendation to United concerning award of the construction contract.

Task 11 Assumptions:

- United will prepare the agenda and minutes for the pre-bid meeting.
- The pre-bid meeting and site tour will be on the same day and in-person, attended by two KJ staff. United will coordinate with NAVFAC and attendees for base access.

Task 11 Deliverables:

- Addenda (Electronic, .pdf format).
- Written answers to bidders' questions (Electronic, .pdf format).
- Written Bid Analyses and Award Recommendations (Wells and Pipeline) (Electronic, .pdf format)

OPTIONAL TASKS

Task 12 (Optional) – Pipeline to SMP Preliminary (30%) Design

Based on the evaluations of Task 5.1 Discharge Option Evaluation, if the pipeline alternate alignment to the SMP for discharge is identified as the preferred alignment, this task will include the preliminary design work and design services for the pipeline alternate alignment and connection to the CMWD SMP. The alignment could potentially include approximately 16,800 feet of additional pipeline and would require coordination with United's surveyor and geotechnical engineer to obtain the additional survey and geotechnical investigation, an extended basemap, additional utility surveys, hydraulic and surge evaluations, water quality evaluations for discharge concentrations into the SMP, permitting and right-of-way considerations, and a connection to the SMP. This task would produce 30%, design drawings and cost estimates for the alignment and connection to the SMP. The scope and budget for finalizing the design is not included as part of this effort.

12.1 Pipeline to SMP Preliminary Investigations

12.1.1 Pipeline to SMP Site Visit

KJ will conduct a site visit to walk/drive the proposed alignment to evaluate existing conditions and identify potential conflicts. For budgeting purposes, four (4) people will attend the site visits assuming a duration of eight (8) hours. The site visit will include both the portion of the SMP alignment on Navy property as well as the portion of the alignment outside of the private property. United to consider inviting CMWD staff on site visit to SMP

12.1.2 Pipeline to SMP Hydraulic Modeling

A hydraulic model will be developed by KJ that will be utilized to simulate flows and confirm pressure conditions in the proposed alignment, based on available data. This analysis will include evaluation of the hydraulic head conditions at the groundwater pumps and the potential treatment facility to convey flows to the SMP. A hydraulic profile for the alignment will be developed under the anticipated Phase 1 conditions. Extended period simulations (EPS) and transient analysis are not included in this analysis.

12.1.3 Pipeline to SMP Utility Survey

Utility survey will be performed by KJ utilizing Digalert (USA) to contact the local utility companies and receive maps showing the locations of the various gas, electric, water, telephone, and other utilities. The utilities will be placed on the plan and profile sheets in plan by KJ to show the locations of the various utilities, and to help determine whether the pipeline alignment should be in the public right-of-way or on private land (or if needed, a mixture of both options).

12.1.4 Pipeline to SMP Basemap with Survey Information

This task includes development of a basemap to serve as the foundation for the design. The basemap will include collected existing site condition information from the field visits, existing literature, review of topographic surveys, utility investigations, geotechnical investigation, and other available information. The basemap will be to scale and include:

- Elevations
- Surveying controls
- Topography
- 3" resolution Transparent aerial imagery
- Locations of right-of-way,
- Locations of easements (if any),
- Locations of geotechnical work.

Existing above and below ground utilities identified from Task 12.1.3 Pipeline to SMP Utility Survey.

12.1.5 Pipeline to SMP Permitting, Environmental Support & Coordination

It is assumed that the CEQA/Permitting Team and District will serve as the CEQA Plus lead for the project (e.g., inclusion of the Federal cross-cutters for funding). KJ will coordinate with the CEQA/Permitting Team and District to identify potential environmental concerns and required permits. Effort for meetings with the CEQA/Permitting Team to support the 30% design is included in Task 12.4. It is assumed that KJ will provide support up to approximately 80 hours.

KJ will coordinate with permitting requirements, including encroachment permits for the County of Ventura (road) and County of Ventura Watershed Protection District and discussions with Ventura County about trenchless construction in the public right of way. This task assumes three (3) additional two-hour meetings, attended by up to 2 KJ staff, will be held with permitting agencies to support the 30% design. A preliminary list of anticipated permits for the project will be provided.

12.1.6 Review and Integration of Pipeline Supporting Studies

Similar to the pipeline design work scoped in Task 8, it is assumed that the District will provide geotechnical, land survey, right of way, potholing and materials testing services through external contracts. Effort for meetings with external consultant to support the 30% design is included in Task 12.4. This task includes review the geotechnical study, survey data, ROW, potholing and materials testing information and incorporate this information into the 30% design and recommendations.

12.2 Pipeline to SMP PDR

12.2.1 Draft Preliminary Design Report for Pipeline to SMP

30% design level work for the Pipeline to SMP will be summarized in a draft PDR, which will succinctly include the reference plans and data, and describe the purpose of the analysis, assumptions, hydraulic model outcomes, pipeline materials, appurtenances, and construction methods assuming cut and cover construction for most of the alignment. If needed, an evaluation of trenchless methods including selection of preferred trenchless methods will be provided. Information gaps and next steps will be highlighted.

12.2.2 Final Preliminary Design Report for Pipeline to SMP

KJ will incorporate the District's comments into a final PDR for the Pipeline to the SMP.

12.3 30% Pipeline to SMP Drawings

12.3.1 Pipeline to SMP 30% Drawings

Preliminary design drawings will be prepared at a 30% level, reflected on a drawing set that includes: general plan view of alignment, typical details for connection to existing pipelines, turnouts, relief valves/valve box, and other required apparatus (28 total sheets). The preliminary design will utilize survey data conducted by the District's on call surveyor.

12.3.2 Pipeline to SMP 30% OPCC

Capital cost estimates will be developed at a Class IV level, representing preliminary design, and capturing anticipated material and labor costs by discipline. Cost estimates will be developed for the preferred alignment. Given current chain supply issues, an additional contingency will be included in the

cost estimate to reflect increased bid prices received for pipeline projects in the area. Operations and Maintenance costs for the pipeline and appurtenances will be estimated.

12.4 Project Coordination for SMP 30% Design

12.4.1 Pipeline to SMP Project Meetings, Coordination and Workshop

This task includes the following anticipated meetings:

Anticipated Meeting Participants	Prelim Evaluation/30% Design	Anticipated # of KJ Staff per Meeting
SMP PDR Kickoff Meeting	1	2-3
District Coordination (incl. Navy)	8	2-3
CMWD Coordination	4	2-3
CEQA/Permitting Team Coordination	8	2
Geotechnical Engineer	3	2
Land Surveyor	2	1-2
Right of Way Services	2	1-2
Potholing Services	2	1
Material Testing Company	2	1-2
30% Design Workshop	1	4
County of Ventura	3	2
Total Coordination Meetings Scoped:	36	

External contractors are assumed to be provided by the District. These contractors include geotechnical, surveying, right-of-way, potholing, and CEQA/permitting. It is assumed that the scoping for external contractors will be led by United with input on the requirements and specifications of the scope and deliverables provided by KJ. It is assumed that all the meetings will be one hour and will be virtual with the exception of the design workshop.

12.4.2 Pipeline to SMP QA/QC

This task includes providing QA/QC reviews throughout the course of the 30% design work, consistent with KJ policies. The KJ QA/QC and quality management procedures establish and maintain a structure for providing reviews of work products and adherence to industry design standards and are integrated into KJ's project management system from project inception, through execution of final document submission. Experienced senior staff, familiar with, but not directly involved in the project work, will provide QA/QC review of work products and project deliverables. Deliverables will be assigned to and reviewed by a designated and qualified quality reviewer prior to submittal to United.

Specific QA/QC efforts on this project will include:

- Development of a Quality Assurance Plan, which will outline how QA/QC reviews will take place during the course of the work.
- Internal Concept and Criteria Review (C&CR), which consists of the team presenting the design concepts to two independent senior engineers to ensure the design concepts are in accordance with industry standards and potential issues and project risks have been identified.

- Review of all TMs, reports, cost opinions, calculations, design drawings and specifications by an appropriate reviewer independent of those performing the work.

Task 12 Assumptions:

- Drawings, specs and cost estimates for 60/90/100% is not included as part of this effort
- Hydraulic evaluation will not include EPS or surge analysis.
- The District will provide the required geotechnical, surveying and potholing
- The District will lead the scoping for external contractors. The District will provide external contractors for geotechnical, surveying, right-of-way, potholing and, CEQA/permitting.

Task 12 Deliverables:

- Draft and final Pipeline to SMP PDR
- 30% Pipeline to SMP Design Drawings
- Pipeline to SMP Class IV OPPC

Task 13 (Optional) – Well Drilling Observation Services

As noted in the RFP, construction phase services (4.e) are not included in the scope of work. It was assumed that United staff may choose to perform well drilling observation services as part of the United staff effort defined in the grant application. Should United need additional support, this optional task includes effort by RCS, with support from KJ, to perform the necessary coordination, paperwork, field work and reporting to support well drilling. This task does not include engineering services during construction for well installation or equipping.

Each subtask herein describes work to be performed for drilling each of the seven proposed new EBB wells proposed by the RFP. Therefore, **each task below will be performed seven times, one time for each well constructed**, with the exception of Task 15.1 project management activities.

13.1 Well Drilling Observation Project Management

Project management services for well drilling observation will include:

- Project coordination and administration,
- Providing a weekly status/update reports during the construction of the well,
- RCS will maintain this registration throughout the project, and a registered Ventura County well inspector will remain in responsible charge of the RCS portion of the well construction project. This registration has been required of RCS for prior Ventura County well construction work

13.2 Pre-Construction Meeting

Prepare for and attend a pre-construction meeting for the well and review information provided by the drilling contractor who has been awarded the well construction contract by United. Discuss key issues in the technical specifications and review the Contractor-proposed mobilization and scheduling of personnel and equipment to the site. This meeting will also better acquaint the drilling firm with the well construction site and help define the logistical issues at the well site, such as: nearest available water and electrical supply; placement of equipment with respect to buried utilities; and disposal of drilling fluids. Importantly, it will be the driller's responsibility during this meeting to inform United what will need to be done to prepare the site for the required work, and when work will actually commence, including a detailed schedule for completing each task of well construction.

13.3 Conductor Casing and Rig Mobilization

Provide a field geologist to observe the installation of the conductor casing into its borehole; log the drill cuttings collected by the driller; and perform telephone coordination during drill rig mobilization, drilling of the conductor casing, and installation of sound barrier walls. This subtask is to help keep United informed on the progress of the initial Contractor activities during mobilization and conductor casing installation. Ventura County Public Works will be contacted for a sanitary cement seal inspection by the drilling company at least 24 hours prior to pumping the cement into place.

13.4 Geologic Logging of Pilot Hole

As stated in the RFP for the project, United hydrogeologists estimate the depths of the target aquifers to be on the order of 250 to 340 ft bgs beneath the proposed well sites. RCS anticipates that the average drilling rate by the reverse circulation drilling method could be on the order of 10 feet per hour at each well site; thus, the Contractor will require approximately 25 to 34 hours of drilling time per well. Drilling is anticipated to be performed on a 24-hour per day basis, so it is possible that such drilling could take approximately 2 days to complete per well. During drilling, the RCS geologist will be present on a part-time basis to geologically log the cuttings (formation samples) collected by the driller, because, in our opinion, there is sufficient control of the subsurface geologic data from historic wells in the region compiled by United to warrant this part-time work at the site.

During pilot hole drilling, samples of representative formation materials will be collected by the Contractor during drilling to provide grain size distribution curves of these materials. Grain size testing is needed to select the final slot size for the casing perforations and the gradation of the final gravel pack. Grain size distribution tests will be performed on selected representative formation samples by the casing manufacturer. While onsite, the RCS geologist can be available to discuss drilling conditions and the results of in-progress geologic logging with United personnel; frequent emails will also be provided.

13.5 Downhole Geophysical Survey Log Analysis

RCS geologists will observe and review the downhole geophysical surveys (i.e., electric logs) of the pilot borehole at the well site to help identify the depths and thicknesses of the target Oxnard and Mugu aquifers. RCS will review and compare data from nearby geophysical logs (provided by United and from RCS-in house files, as available), along with the geologic log, to help select specific depth zones to be target for isolated aquifer zone testing (if performed), and for the casing perforations.

Geophysical logging is conducted to accurately determine the depth(s) to water, and the thickness and lateral continuity of the target water-bearing formations (aquifers) in the subsurface, based on their electronic signatures. Geologic logging is used as physical evidence to help support any interpretations made on the depth and nature of subsurface materials penetrated. RCS will provide United with an independent opinion as to the correlated depths of the perched aquifer, the Oxnard Aquifer, and the Mugu aquifer at the wellsite, and well as the interpreted depths of key confining layers (aquitards). These data are needed to provide a recommendation for the specific water-bearing zones to target as part of the isolated aquifer zone testing, and to help select the final depths for placement of the required blank and perforated casing. The new E-log will be correlated to the E-logs and cross sections previously reviewed and prepared by United.

13.6 Isolated Aquifer Zone Testing (If Performed)

RCS geologists will observe downhole isolated aquifer zone testing of groundwater in selected aquifers in the pilot hole at the drill site. RCS will select specific depth zones on the basis of review and analysis of drill cuttings, the new E-log, other E-logs for wells and test holes drilled in the area as compiled by United. At this time, a maximum of three (3) zones are anticipated to be selected for isolated aquifer zone testing in the open pilot borehole. Such down-hole testing in the open borehole is important to help identify the possible presence of certain groundwater analytes and/or contaminants that may currently be present near the borehole.

RCS geologists will be present during the latter stages of zone development during temporary pumping with a submersible pump to collect samples for water quality testing. During pumping, our field geologist will observe/monitor the following field parameters in each test zone:

- Temperature
- pH
- Electrical conductivity (EC)
- Turbidity
- Possible odors
- Possible sand production

- Static water levels
- Pumping water levels
- Pumping rates
- Calculations of possible specific capacity values

Monitoring of the above-listed parameters is necessary to help determine whether or not formation water is being produced and to help identify the rates of possible groundwater production from each tested zone. Further, the collected samples will need to be of sufficient clarity to obtain representative groundwater samples for water quality analysis. Monitoring of pumping water levels, static water levels and specific capacities of each zone will also provide preliminary data on the relative production capabilities of each zone. Costs for transport and analysis of the collected samples will be borne by the Contractor, as will be required by the technical specifications.

13.7 Final Well Design Memorandum, Monitor Borehole Ream(s) and Caliper Survey

Communicate in-progress findings to United and prepare a Draft of the Final Construction Design Memorandum for the new well. A Draft of this Final Well Design Memorandum will be submitted to United for review. Following receipt of any United comments, RCS will prepare the Final Design Memorandum and submit it to United and the driller. This Final Well Design Memorandum will provide the Final recommendations for the following elements:

- Casing lengths and diameters.
- Type and depths of the perforations.
- Perforation sizes (slot sizes).
- Accessory tubing.
- The type and gradation of the gravel pack, based on testing of actual samples of selected drill cuttings.
- Depth of the cement seal(s) and bottom-hole seal (if needed).
- Recommended depth of the test pump intake for development and testing.

Also, during this task, RCS will provide telephone communication with the driller during the final reaming of the borehole at the well site and will make one site visit to check on reaming operations. When reaming operations have been completed, the RCS field geologist will review the results of the caliper survey of the final reamed borehole at the well site to help verify the appropriate depths and diameters for the ream have been attained.

13.8 Casing, Gravel Pack and Cement Seal Installation

The installation of the casing, gravel pack and the cement seal are considered to be a vital task in the construction of the new well, because deviation from the recommended design could impact the production capacity of the well. RCS geologists will be present on a full-time basis to monitor, record and check for Contractor compliance with the Final well design during the installation of the recommended well blank and perforated casing, gravel pack, and cement seal for the initial well. Thus, such monitoring will be conducted to help permit conformance with the appropriate methods and materials in the specifications and/or recommendations based on downhole conditions.

During casing installation, RCS geologists will spot check the slot width of the casing perforations, observe and record the lengths of the blank and perforated casing being installed, and observe and record the type and amount of gravel pack and cement being emplaced downhole.

13.9 Well Development (Mechanical and Chemical Methods)

Provide an RCS geologist on a part-time basis to monitor well development by mechanical and chemical methods for the new well. Monitoring development operations and checking for conformance with the technical specifications is useful because proper mechanical and chemical development of the new well is another vital activity during well construction. When onsite, the RCS geologist will spot check Contractor compliance with NPDES discharge requirements, and other discharge requirements as necessary.

13.10 Well Development (Pumping Methods)

An RCS geologist will be present on a part-time basis to monitor well development by pumping methods. The geologist will also be present during start-up of pumping development and at other occasional time intervals to spot-check the progress of this pumping development. Contractor compliance with NPDES requirements (and any other applicable discharge requirements) will also be spot checked.

13.11 Step Drawdown Testing

RCS will provide a geologist to install a pressure transducer, and to also monitor step drawdown testing at the new well site, on a part-time basis. It is anticipated that four pumping rates will be recommended for this test. During testing, water levels in the new well will be recorded automatically with the use of an RCS pressure transducer, which will also be used to monitor and record water levels during the subsequent constant rate pumping test.

13.12 Constant Rate Pumping Testing

Provide an RCS geologist, on a part-time basis, in order to monitor water level drawdown and recovery after the final constant rate pumping test (aquifer test). Critical times will be those during the first few hours of drawdown and recovery measurements. The contractor's pump crew will also be used to conduct occasional water level measurements (using their electric tape sounder) to maintain the monitoring schedule recommended by RCS geologists. It is anticipated, at this time, that the constant rate discharge test will be 24 to 48 hours in duration. The RCS pressure transducer used during the step test will also be used during the constant rate pumping test to automatically record changes in water levels.

Field water quality values of pH, EC, temperature, and turbidity of the well discharge will be obtained by the RCS field geologist during both of the pumping tests. Water samples of the final well blend from the new well will be collected near the end of the constant rate test and delivered to a United-approved laboratory for water quality analyses.

At the end of aquifer testing, the Contractor will be required in the technical specifications to perform a "dynamic" flow meter (spinner) survey of the well to help identify the current flow regime of the various perforated zones in the new well. The technical specifications will provide for appropriately-sized camera ports/sounding tubes to permit this survey. In addition, RCS geologists will be present to collect depth-specific samples and a complete suite of Title 22 analytes, and the drilling Contractor will transport and have the samples analyzed at a State-Certified testing laboratory (which will be required by our technical specifications).

The accurate collection of reliable aquifer test data is important to provide an adequate analysis of aquifer transmissivities and production capabilities for the new well. Further, these data are used in conjunction with water quality data to establish the final well blend water quality in the new well. Field monitoring of water levels in the new well during aquifer testing is vital in helping to determine the final operational pumping rate for the new well.

13.13 Casing Alignment Testing, Video Survey, Static Spinner Survey, and Well Disinfection

An RCS geologist will be present to observe a gyroscopic survey for the alignment/plumbness testing of the well casing, a video survey and a static spinner survey. Further, for the video survey, it is important to check that the survey log is of sufficient quality to reliably document as-built well conditions. Finally, a static spinner survey can be performed to document the down well flow regime under non-pumping conditions. Following these surveys, the Contractor will need to chlorinate the new well for final well disinfection.

13.14 Recommended Pumping Rate and Pump Depth Setting Memorandum

Based on the step drawdown and constant rate pumping test data, RCS shall provide a Memorandum to discuss static and pumping water levels, and the current specific capacity for the new well. This Memorandum will also provide our recommendations to United for the final operational pumping rate and pump depth setting for the permanent pump; these parameters will include factors for anticipated declines in specific capacity over time and anticipated seasonal variations in water levels based on modeling work by United.

Thereafter, KJ engineers can provide all final design parameters for the permanent pump, wellhead, tie-in to the existing pipeline system, and other above ground structures/equipment.

Because of our working knowledge of the changes in pumping rates, specific capacity, well efficiency and annual volumes of groundwater produced by former/existing United wells, RCS recognizes that the original post-construction pumping rates from each new well during the final pumping tests will be greater than those that will eventually be available from each new well, over the long term. RCS will endeavor to account for the anticipated changes in pumping rates and volumes in each well over time by being conservative in its selection of a recommended pumping rate for the new permanent pump in each well.

13.15 Preparation of Summary of Well Construction Operations Report

A Summary of Well Construction Operations Report will be prepared to help document the drilling, construction, testing activities, and materials used during the construction. This report will include the following items:

- A basic chronology of well construction and testing.
- Description of earth materials encountered, including a copy of our geologic log.
- Copies of all geophysical logs, including caliper and spinner surveys.
- Results of sieve analysis, including plots of grain size curves.
- Table of well construction materials and depths.
- As-built well design drawings.
- Field water quality results, water levels and discharge rates during zone testing and constant rate discharge tests.
- Analytical reports showing water quality results for isolated aquifer zone testing and the final well blend sample.
- Well development logs from the drilling contractor.
- Pumping test data for the step drawdown test, constant rate test and water level recovery measurements.
- Analysis of pumping test data, including well performance and plots of drawdown relationships as a function of flow rate and time.
- Evaluation of the spinner log data and depth specific water quality sampling under pumping conditions.
- Plumbness and alignment data.
- Other pertinent data relating to materials used.
- Conclusions and recommendations for basic operational use.
- RCS will provide United with a Draft for review (without all supporting appendices) and then a Final Summary of Well Construction Operations report. The report, including all drawings, tables, and appendices, will be provided to United in .pdf format.
- Seven separate, independent reports will be prepared, one for each of the new EBB Wells.

Task 13 Assumptions:

- Seven (7) extraction wells will be drilled, as described and shown in the RFP
- Well drilling for the seven wells will be procured as one public construction works contract
- The driller(s) will be required to obtain required Ventura County well drilling permits.
- Well owner (United or Navy) to sign permits
- RCS geologists will register as Well Inspectors with Ventura County
- Level of effort assumes 3 zone tests are performed for each well

Task 13 Deliverables:

- Weekly status/update reports (email)
- Draft and final Well Design Memorandum for seven wells (.pdf)
- Draft and final Recommended Pumping Rate and Depth Memorandum for seven wells (.pdf)

- Draft and final Summary of Well Construction Operations Report for seven wells (Word, .pdf)

Task 14 (Optional) – Conformed Documents

Task 14.1 – Extraction Well Equipping Conformed Documents

KJ will prepare a conformed set of construction documents for extraction well equipping based on changes made via addenda during the bid phase. KJ will also incorporate the executed contract documentation for the selected bidder (provided by United).

Task 14.1 Deliverables:

- Conformed drawings for extraction well equipping (Electronic, .pdf).
- Conformed Specifications for extraction well equipping (Electronic, .pdf).

Task 14.2 - Pipeline Conformed Documents

KJ will prepare a conformed set of construction documents for extraction well equipping based on changes made via addenda during the bid phase. KJ will also incorporate the executed contract documentation for the selected bidder (provided by United).

Task 14.2 Deliverables:

- Conformed drawings for pipeline (Electronic, .pdf).
- Conformed Specifications for pipeline (Electronic, .pdf).

Task 15 (Optional) – Scour Analysis

Mott MacDonald, as a subconsultant to KJ, will perform an analysis of scour potential along the trenchless crossing for the pipeline under Mugu Lagoon which could be included during the preliminary design phase. Risk of pipeline exposure will be evaluated for event-based scour caused by strong tidal currents and/or nearby river flows (excluding tsunamis and waves). Mott MacDonald will provide a Technical memorandum with recommendation for scour potential and minimum pipe depth.

Task 16 (Optional) – As-Requested Support - Contingency

This task provides an additional contingency for as-requested services, such as additional alternatives evaluations, meetings, 3D facilities rendering, potholing plans, presentations or other activities, on a time and materials basis. KJ can work with United to define level of effort and deliverables based on services requested.

General Assumptions

The following general assumptions apply to the scope of work in Tasks 1 to 11, as well as optional tasks, if authorized.

General Design Assumptions:

- The project will be competitively bid and constructed through a Design-Bid-Build project delivery approach.
- Design effort assumes three separate bid packages.:
- Bid Package 1: Well Drilling
- Bid Package 2: Extraction Well Equipping
- Bid Package 3: Pipeline and Discharge Facility
- The 30% design will include bid packages 2 and 3 submitted together, while subsequent submittals will be separate, standalone bid packages.
- All drawings will be prepared in AutoCAD format on 22x34 inch sheets.
- All drawings and specifications will be stamped and signed by a California Registered Professional Engineer for each applicable discipline.
- Specifications will be prepared in Microsoft Word format and in accordance with the Construction Specification Institute (CSI) Master Format.
- United will be responsible for advertisement and PS&E reproduction
- All hydrogeological modeling will be conducted by United; the KJ Team is not responsible for modeling or demonstrating the effectiveness of the extraction wells.
- Well sites have been selected by United, the KJ Team will identify fatal flaws based on site investigation and well suitability evaluation, but is not responsible for the performance of the well or extraction barrier concept upon completion of Phase 1

Structural Design Assumptions:

- KJ standard details and specifications will be used for the structural design of the project.
- It is anticipated this project will be designed in accordance with the 2022 California Building Code, ASCE 7-16, ACI 318-19, AASHTO, Uniform Facilities Criteria (UFC), NAVFAC, and any applicable reference standards in the 2022 CBC. This will also include project specific design criteria where applicable.
- It is assumed a geotechnical report will be provided with adequate information relating to the site conditions, provide design recommendations, seismic design criteria, site-specific response spectra, and other applicable information required to complete the design of this project. The geotechnical report will be provided within adequate time to complete the design. KJ to provide specific instructions to the geotechnical engineer (through United) on information that is needed as part of Task 1 external consultant coordination activities.
- Record drawings, as-built, and/or record shop drawings will be provided at the start of the project for any portion of the work anticipated, including the existing bridge and any associated existing structures. Testing, surveying, scanning of existing conditions is outside the scope of the structural design assumptions. KJ will provide specific instructions to a materials testing company (through United) to obtain information about facilities that do not have as-built records or other information available as part of Task 1 external consultant coordination activities.
- Existing bridge record drawings and existing calculations will be provided to verify additional weight to the structure.
- Equipment anchorage design to be provided by others as deferred submittal and submitted to the EOR for review. KJ will review for compliance with the project specifications.

Electrical Design Assumptions:

- KJ will provide suggested equipment tagging and nomenclature standards for all equipment and instrumentation for review by United, prior to the 30% submittal. Approved standards will be carried through final design.
- Exterior lighting is limited to the immediate well areas. Roadway/pathway lighting is not included.
- Design for a standby generator system is not included, however provisions to install one at a later date will be provided.

- Design of auxiliary systems such as fire, PA, and security is not included
- Electrical equipment will be housed in weather-resistant enclosures
- Electrical switchgear design will be in accordance with Southern California Edison standards

Geotechnical Assumptions:

- Geotechnical investigations to support the design are being performed by an external contractor under a separate contract, are not included in this scope of work and are assumed to be the responsibility of United. KJ to provide specific instructions to the geotechnical engineer (through United) on information that is needed as part of Task 1 external consultant coordination activities.

Responsibilities and Exclusions:

- Submittal review comments by United, NAVFAC and other stakeholders will be furnished as one conformed set of comments per submittal package and provided within four (4) weeks from submittal date.
- Technical specifications will be prepared using KJ' guide specifications and follow CSI Master Format.
- SCADA and PLC programming is not included in our scope of work, as this is assumed to be provided by the Contractor. KJ will provide performance specifications and HMI/SCADA templates to integrate the new system into the District's existing SCADA system.
- Acoustical analyses/noise study is not included in our scope of work.
- Landscaping and irrigation design is not included in our scope of work.
- Architectural design is not included in our scope of work. It is assumed that the electrical equipment at each well site will be housed in a prefabricated structure.
- Automatic fire-extinguishing systems will not be required for any of the facilities.
- Surveying services to support the design are not included in our scope of work and are assumed to be the responsibility of United. KJ will coordinate with the District's surveyor regarding the scope of the survey as part of Task 1 external consultant coordination activities.
- Field verification or potholing to determine the horizontal and vertical locations of the existing underground utilities is not included in this scope of work and is assumed to be provided by United. The District will contract potholing separately. KJ will provide direction on where potholes are needed as part of meetings identified in Task 1.1. The plans will be updated with the potholing information.
- Preparation of a draft SWPPP is included in our scope of work. and finalizing and implementing the SWPPP is assumed to be the responsibility of Contractor.
- Preparation of traffic control plans are not included in our scope of work and are assumed to be the responsibility of the Contractor, if required.
- Design of a dewatering system is not included in our scope of work.
- Design of a shoring system, falsework, formwork, bracing systems or temporary supports are not included in our scope of work.
- Design for temporary services, including but not limited to water, sewer, electricity, telephone, and gas, are not included in our scope of work.
- Engineering services during construction (ESDC) and startup and testing are not included in our scope of work and are assumed to be part of a future authorization.
- County of Ventura Building or Engineering Department review or permits will not be required.
- Permitting is assumed to be led by, and the responsibility of, United and its selected CEQA/Permitting consultant, including all required permitting fees. KJ has included an as-needed CEQA and permitting technical support task (Task 1.3) to assist United in these efforts, if needed.
- Navy documents indicate IRP Sites do not require further action and therefore environmental evaluation and mitigation, including contaminated soils or GW, should they be found during excavation, is not included in our current scope of work but can be provided on an as-needed basis under an amendment to this agreement.

- KJ will provide the services required in accordance with the skill and care which would be exercised by comparable qualified design professionals performing similar services at the time and place such services are performed.
- Project will start in January 2023 and Bid Phase Services will be completed by August 2024.

Drawling Lists

Table 2. Extraction Well Siting Sheets, Description and Design Level

Extraction Well Siting					
Sheet	Description	30%	60%	90%	100%
General					
G-1	Title, Vicinity Map and Location Map	✓	✓	✓	✓
G-2	List of Drawings	✓	✓	✓	✓
G-3	Abbreviations, Symbols and General Notes	✓	✓	✓	✓
G-4	Overall Site Key Map	✓	✓	✓	✓
G-5	Hydraulic Profile	✓	✓	✓	✓
Civil					
C-1	Civil Notes and Abbreviations	✓	✓	✓	✓
C-2	Civil Legend	✓	✓	✓	✓
C-3	Site and Yard Piping Plan - Site 1	✓	✓	✓	✓
C-4	Site and Yard Piping Plan - Site 2	✓	✓	✓	✓
C-5	Site and Yard Piping Plan - Site 3	✓	✓	✓	✓
C-6	Site and Yard Piping Plan - Site 4	✓	✓	✓	✓
C-7	Site and Yard Piping Plan - Site 5	✓	✓	✓	✓
C-8	Horizontal Control and Paving Plan - Site 1		✓	✓	✓
C-9	Horizontal Control and Paving Plan - Site 2		✓	✓	✓
C-10	Horizontal Control and Paving Plan - Site 3		✓	✓	✓
C-11	Horizontal Control and Paving Plan - Site 4		✓	✓	✓
C-12	Horizontal Control and Paving Plan - Site 5		✓	✓	✓
C-13	Grading and Drainage Plan - Site 1		✓	✓	✓
C-14	Grading and Drainage Plan - Site 2		✓	✓	✓
C-15	Grading and Drainage Plan - Site 3		✓	✓	✓
C-16	Grading and Drainage Plan - Site 4		✓	✓	✓
C-17	Grading and Drainage Plan - Site 5		✓	✓	✓
C-18	Standard General Civil Details -1		✓	✓	✓
C-19	Standard General Civil Details -2		✓	✓	✓
C-20	Standard General Civil Details -3		✓	✓	✓
C-21	Standard General Civil Details -4		✓	✓	✓
Mechanical					
M-1	Mechanical Plan - Site 1	✓	✓	✓	✓
M-2	Mechanical Sections - Site 1		✓	✓	✓
M-3	Mechanical Plan - Site 2	✓	✓	✓	✓
M-4	Mechanical Sections - Site 2		✓	✓	✓
M-5	Mechanical Plan - Site 3	✓	✓	✓	✓
M-6	Mechanical Sections - Site 3		✓	✓	✓
M-7	Mechanical Plan - Site 4	✓	✓	✓	✓
M-8	Mechanical Sections - Site 4		✓	✓	✓
M-9	Mechanical Plan - Site 5	✓	✓	✓	✓
M-10	Mechanical Sections - Site 5		✓	✓	✓
M-11	Mechanical Details -1			✓	✓
M-12	Mechanical Details -2			✓	✓
Structural					
S-1	Structural General Notes and Abbreviations		✓	✓	✓
S-2	Special Inspection and Testing Notes		✓	✓	✓
S-3	Standard Details		✓	✓	✓
S-4	Foundation Plan - Site 1		✓	✓	✓
S-5	Sections and Details - Site 1				✓
S-6	Foundation Plan - Site 2			✓	✓
S-7	Sections and Details - Site 2				✓
S-8	Foundation Plan - Site 3			✓	✓
S-9	Sections and Details - Site 3				✓
S-10	Foundation Plan - Site 4			✓	✓
S-11	Sections and Details - Site 4				✓
S-12	Foundation Plan - Site 5			✓	✓
S-13	Sections and Details - Site 5				✓
Electrical					
E-1	Electrical Abbreviations and Notes	✓	✓	✓	✓
E-2	Electrical Symbols - 1	✓	✓	✓	✓
E-3	Electrical Symbols - 2	✓	✓	✓	✓
E-4	Electrical Details - 1		✓	✓	✓
E-5	Electrical Details - 2			✓	✓
E-6	Overall Electrical Site Plan	✓	✓	✓	✓
E-7	Enlarged Area Plan - 1		✓	✓	✓
E-8	Enlarged Area Plan - 2		✓	✓	✓
E-9	Electrical Single Line Diagram - 1	✓	✓	✓	✓
E-10	Electrical Single Line Diagram - 2	✓	✓	✓	✓

Extraction Well Siting					
Sheet	Description	30%	60%	90%	100%
E-11	Electrical Equipment Elevations		✓	✓	✓
E-12	Electrical Panelboard Schedules		✓	✓	✓
E-13	Electrical Luminaire Schedule		✓	✓	✓
E-14	Electrical Control Schematics - 1		✓	✓	✓
E-15	Electrical Control Schematics - 2		✓	✓	✓
E-16	Conduit Block Diagram - 1		✓	✓	✓
E-17	Conduit Block Diagram - 2		✓	✓	✓
E-18	Conduit Block Diagram - 3			✓	✓
E-19	Conduit and Cable Schedules - 1		✓	✓	✓
E-20	Conduit and Cable Schedules - 2		✓	✓	✓
E-21	Conduit and Cable Schedules - 3			✓	✓
E-22	Electrical Site Plan - Site 1		✓	✓	✓
E-23	Electrical Site Plan - Site 2		✓	✓	✓
E-24	Electrical Site Plan - Site 3		✓	✓	✓
E-25	Electrical Site Plan - Site 4		✓	✓	✓
E-26	Electrical Site Plan - Site 5		✓	✓	✓
Process Instrumentation					
I-1	Instrumentation Legend	✓	✓	✓	✓
I-2	Process Legend	✓	✓	✓	✓
I-3	Network Architecture Diagram		✓	✓	✓
I-4	Control Panel Elevations and BOM		✓	✓	✓
I-5	Control Panel Wiring Diagram		✓	✓	✓
I-6	P&ID - 1	✓	✓	✓	✓
I-7	P&ID - 2	✓	✓	✓	✓
I-8	P&ID - 3	✓	✓	✓	✓
I-9	P&ID - 4	✓	✓	✓	✓
I-10	P&ID - 5	✓	✓	✓	✓
Total # of Sheets Per Submittal =		30	73	82	87

Table 3. Pipeline and Discharge Facility Sheets, Description and Design Level

Pipeline					
Sheet	Description	30%	60%	90%	100%
General					
G-1	Title, Vicinity Map and Location Map	✓	✓	✓	✓
G-2	List of Drawings	✓	✓	✓	✓
G-3	Abbreviations, Symbols and General Notes	✓	✓	✓	✓
G-4	Overall Site Key Map	✓	✓	✓	✓
G-5	Hydraulic Profile	✓	✓	✓	✓
Civil					
C-1	Civil Notes and Abbreviations	✓	✓	✓	✓
C-2	Civil Legend	✓	✓	✓	✓
C-3	Plan and Profile -Groundwater Delivery - Segment 1 - Sta. 100+00 to Sta. 110+00	✓	✓	✓	✓
C-4	Plan and Profile -Groundwater Delivery - Segment 1 - Sta. 110+00 to Sta. 120+00	✓	✓	✓	✓
C-5	Plan and Profile -Groundwater Delivery - Segment 1 - Sta. 120+00 to Sta. 129+00	✓	✓	✓	✓
C-6	Plan and Profile -Groundwater Delivery - Segment 2 - Sta. 200+00 to Sta. 210+00	✓	✓	✓	✓
C-7	Plan and Profile -Groundwater Delivery - Segment 2 - Sta. 210+00 to Sta. 220+00	✓	✓	✓	✓
C-8	Plan and Profile -Groundwater Delivery - Segment 2 - Sta. 220+00 to Sta. 227+00	✓	✓	✓	✓
C-9	Plan and Profile -Groundwater Delivery - Segment 3 - Sta. 300+00 to Sta. 310+00	✓	✓	✓	✓
C-10	Plan and Profile -Groundwater Delivery - Segment 3 - Sta. 310+00 to Sta. 314+50	✓	✓	✓	✓
C-11	Plan and Profile - Discharge Facility - Sta. 0+00 to Sta. 10+00	✓	✓	✓	✓
C-12	Plan and Profile - Discharge Facility - Sta. 10+00 to Sta. 20+00	✓	✓	✓	✓
C-13	Plan and Profile - Discharge Facility - Sta. 20+00 to Sta. 25+00	✓	✓	✓	✓
C-14	Discharge Facility Plan and Sections	✓	✓	✓	✓
C-15	Discharge Facility Details		✓	✓	✓
C-16	Utility Relocation - Plan and Profile		✓	✓	✓
C-17	Trenchless Launch Site Enlarged Plan	✓	✓	✓	✓
C-18	Trenchless Receiving Site Enlarged Plan	✓	✓	✓	✓
C-19	Cathodic Protection Details - 1		✓	✓	✓
C-20	Cathodic Protection Details - 2		✓	✓	✓
C-21	Crossing Details		✓	✓	✓
C-22	Standard General Civil Details -1		✓	✓	✓
C-23	Standard General Civil Details -2		✓	✓	✓
C-24	Standard General Civil Details -3		✓	✓	✓
C-25	Standard General Civil Details -4		✓	✓	✓
Structural					
S-1	Structural General Notes and Abbreviations		✓	✓	✓
S-2	Special Inspection and Testing Notes		✓	✓	✓

Pipeline					
Sheet	Description	30%	60%	90%	100%
S-3	Standard Details		✓	✓	✓
S-4	Bridge Pipe Support Plan - I			✓	✓
S-5	Bridge Pipe Support Plan - II			✓	✓
S-6	Bridge Pipe Support Details - I			✓	✓
S-7	Bridge Pipe Support Details - II				✓
S-8	Discharge Facility Details - I			✓	✓
S-9	Discharge Facility Details - II				✓
Total # of Sheets Per Submittal =		21	33	37	39

Table 4. Pipeline to SMP Preliminary Design Facility Sheets, Description for 30% Design Level Only

Pipeline to SMP Preliminary (30%) Design					
Sheet	Description	30%	60%	90%	100%
General					
G-1	Title, Vicinity Map and Location Map	☐			
G-2	List of Drawings	✓			
G-3	Abbreviations, Symbols and General Notes	✓			
G-4	Overall Site Key Map	✓			
G-5	Hydraulic Profile	✓			
Civil					
C-1	Civil Notes and Abbreviations	✓			
C-2	Civil Legend	✓			
C-3	Plan and Profile STA: 0+00 to 10+00	✓			
C-4	Plan and Profile STA: 10+00 to 20+00	✓			
C-5	Plan and Profile STA: 20+00 to 30+00	✓			
C-6	Plan and Profile STA: 30+00 to 40+00	✓			
C-7	Plan and Profile STA: 40+00 to 50+00	✓			
C-8	Plan and Profile STA: 50+00 to 60+00	✓			
C-9	Plan and Profile STA: 60+00 to 70+00	✓			
C-10	Plan and Profile STA: 70+00 to 80+00	✓			
C-11	Plan and Profile STA: 80+00 to 90+00	✓			
C-12	Plan and Profile STA: 90+00 to 100+00	✓			
C-13	Plan and Profile STA: 100+00 to 110+00	✓			
C-14	Plan and Profile STA: 110+00 to 120+00	✓			
C-15	Plan and Profile STA: 120+00 to 130+00	✓			
C-16	Plan and Profile STA: 130+00 to 140+00	✓			
C-17	Plan and Profile STA: 140+00 to 150+00	✓			
C-18	Plan and Profile STA: 150+00 to 160+00	✓			
C-19	Plan and Profile STA: 160+00 to 170+00	✓			
C-20	Plan and Profile STA: 170+00 to 178+00	✓			
C-21	Utility Relocation - Plan and Profile				
C-22	Trenchless Launch Site Enlarged Plan	✓			
C-23	Trenchless Receiving Site Enlarged Plan	✓			
C-24	Connection Details - 1	✓			
C-25	Connection Details - 1				
C-26	Cathodic Protection Details				
C-27	Cathodic Protection Details				
C-28	Standard General Civil Details - 1				
C-29	Standard General Civil Details - 2				
C-30	Standard General Civil Details - 3				
C-31	Standard General Civil Details - 4				
Structural					
S-1	Structural General Notes and Abbreviations				
S-2	Special Inspection and Testing Notes				
S-3	Standard Details				
S-4	Bridge Pipe Support Plan - I				
S-5	Bridge Pipe Support Plan - II				
S-6	Bridge Pipe Support Details - I				
S-7	Bridge Pipe Support Details - II				
S-8	Discharge Facility Details - I				
S-9	Discharge Facility Details - II				
Total # of Sheets Per Submittal =		28	0	0	0

Anticipated Project Schedule

Category	Task / Description		Permitting	2022		2023												2024												2025		2026
				Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan-Aug	Sept-Dec	Jan-Mar
Project Coordination & Management		NTP				→																										
	1	Coordination with External Consultants and Permitting Agencies	🏠			📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞		
	1.1	External Consultant Coordination																														
	1.2	Permitting Agency Coordination																														
	1.3	As-Needed CEQA and Permitting Technical Support																														
	2	Project Meetings and Design Workshops			📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	📞	
	2.1	Progress Meetings																														
	2.2	NAVFAC In-person Meetings																														
	2.2	Design Review Workshops (3)													🧩		🧩		🧩													
	2.3	Site Visits (4)			👤	👤			👤						🧩		🧩		🧩													
	3	Project Management																														
Preliminary Design & Well Drilling	4	Preliminary Design Investigations																														
	5	Preliminary Evaluations and Technical Memorandum™																														
	5.1	Discharge Options Evaluations	🏠					📝	🕒	🕒	★																					
	5.2	Well Suitability Evaluation	🏠			📝	🕒	🕒	★																							
	5.3	Pipeline Alignment, Materials and Constructability Evaluation	🏠			📝	🕒	🕒	★																							
	6 & 11	Well Drilling Design & Bid-Phase Services																														
	13	Well Drilling Construction (2 drill rigs)	**										📝	🕒	🕒	★																
	7	Preliminary Design Report											📝	🕒	🕒	★																
8	Preliminary (30%) Design Drawings and Cost Estimate											📝	🕒	🕒	★																	
Well Equipping	9	Design Services for Extraction Well Equipping																														
	9.1	60% Design																	★	🕒	🕒											
	9.2	90% Design																			★	🕒	🕒									
	9.3	100% Design																				★										
	11	Bid Phase Services -Well Equipping																				👤										
**	Well Equipping Construction	🏠																						→	🔧							
Pipeline & Discharge	10	Design Services for Pipelines																														
	10.1	60% Design																	★	🕒	🕒											
	10.2	90% Design																			★	🕒	🕒									
	10.3	100% Design																				★										
	11	Bid Phase Services -Pipeline																				👤										
**	Pipeline Construction	🏠																						→	🔧							
Pipeline to SMP (Optional)	12	Pipeline to SMP Preliminary (30%) Design	**																													
	12.1	Pipeline to SMP Preliminary Investigations	**																													
	12.2	Pipeline to SMP PDR	**													📝	🕒	🕒	★													
	12.3	Pipeline to SMP 30% Drawings	**													📝	🕒	🕒	★													
	12.4	Project Coordination for SMP 30% Design	**																													
External Activities																																
Right-of-Way	**	MOU & Easement Acquisition																														
Environmental Documentation	**	CEQA/NEPA Documentation																														
Permits	**	Apply & Obtain Permits	🏠																													
		Permit Compliance & Monitoring Reports																														
Project Assessment & Evaluation Plan	**	Preparation of PAEP																														
	**	PAEP Annual Updates																														
Additional Outreach & Coordination	**	Regulators, Navy, Public Meetings																														
LEGEND:			→	NTP		📝	Draft Submittal		👤	Pre-Bid Meeting		🏠	Indicates that consideration of permitting through coordination with permitting team is required																**		Indicates task not scoped but included in schedule	
			📞	Call/Meeting		★	Final Submittal		🔧	Construction Start		🏠	Indicates that a permit is required for task																		Work under separate contracts	
			🧩	Workshop		🕒	4-Week United/Navy Review Period																									

Budget

Table 5. Summary of Estimated Level of Effort and Cost for Tasks 1 to 11 + Optional Tasks

TASK DESCRIPTION	KJ Total Hours	KJ Total Labor	Subconsultants (incl. markup)				ODCs	Total Labor + Subs + Expenses
			RCS	Scott Foster	Mott MacDonald	RF Yeager		
Task 1 – Coordination with External Consultants and Permitting Agencies	338	\$80,155	-	-	\$5,405	-	\$0	\$85,560
Task 2 – Project Meetings and Design Workshops	454	\$112,610	\$1,898	-	-	-	\$3,960	\$118,468
Task 3 – Project Management	410	\$104,900	-	-	\$35,780	-	\$0	\$140,680
Task 4 – Preliminary Design Investigations	318	\$63,690	\$4,777	\$18,876	-	-	\$880	\$88,223
Task 5 – Preliminary Evaluations and Technical Memorandum	595	\$127,115	\$38,500	-	\$40,561	\$21,956	\$0	\$228,132
Task 6 – Well Drilling Design Criteria and Bid-Phase Services	46	\$10,730	\$28,296	-	-	-	\$0	\$39,026
Task 7 - Preliminary Design Report (PDR)	200	\$45,680	\$8,749	-	\$31,427	-	\$0	\$85,856
Task 8 - Preliminary (30%) Design Drawings and Cost Estimate	942	\$187,995	-	-	-	-	\$0	\$187,995
Task 9 - Design Services for Extraction Well Equipping	2,178	\$451,185	-	-	-	-	\$0	\$451,185
Task 10 – Design Services for Pipelines	1,214	\$233,180	-	-	\$174,015	-	\$0	\$407,195
Task 11 – Bid Phase Services	141	\$32,430	\$4,743	-	\$9,604	-	\$2,640	\$49,417
TOTAL Tasks 1-11	6,836	\$1,449,670	\$86,964	\$18,876	\$296,792	\$21,956	\$7,480	\$1,881,738

OPTIONAL TASKS DESCRIPTION	KJ Total Hours	KJ Total Labor	Subconsultants (incl. markup)				ODCs	Total Labor + Subs + Expenses
			RCS	Scott Foster	Mott MacDonald	RF Yeager		
Task 12 (Optional) – Pipeline to SMP Preliminary (30%) Design	1,439	\$290,325	-	-	\$31,427	-	\$0	\$321,752
Task 13 (Optional) – Well Drilling Observation Services	245	\$61,845	\$741,833	-	-	-	\$0	\$803,678
Task 14 (Optional) – Conformed Documents	100	\$17,420	-	-	-	-	\$0	\$17,420
Task 15 (Optional) – Scour Analysis	28	\$6,420	-	-	\$30,840	-	\$0	\$37,260
Task 16 (Optional) – As-Requested Support - Contingency	255	\$50,000	-	-	-	-	\$0	\$50,000
TOTAL Optional Tasks 12-16	2,067	\$426,010	\$741,833	\$0	\$62,267	\$0	\$0	\$1,230,110

Table 6. Summary of Estimated Level of Effort and Cost for Tasks 1 to 11 + Optional Tasks (by Fiscal Year)

TASK DESCRIPTION	Total Phase 1 Fee	FY 2022/23	FY 2022/24	FY 2022/25
Task 1 – Coordination with External Consultants and Permitting Agencies	\$85,560	\$42,780	\$29,946	\$12,834
Task 2 – Project Meetings and Design Workshops	\$118,468	\$53,310	\$35,540	\$29,617
Task 3 – Project Management	\$140,680	\$47,831	\$46,424	\$46,424
Task 4 – Preliminary Design Investigations	\$88,223	\$70,579	\$17,645	\$0
Task 5 – Preliminary Evaluations and Technical Memorandum	\$228,132	\$171,099	\$57,033	\$0
Task 6 – Well Drilling Design Criteria and Bid-Phase Services	\$39,026	\$3,903	\$35,124	\$0
Task 7 - Preliminary Design Report (PDR)	\$85,856	\$42,928	\$42,928	\$0
Task 8 - Preliminary (30%) Design Drawings and Cost Estimate	\$187,995	\$28,199	\$159,796	\$0
Task 9 - Design Services for Extraction Well Equipping	\$451,185	\$22,559	\$360,948	\$67,678
Task 10 – Design Services for Pipelines	\$407,195	\$0	\$0	\$407,195
Task 11 – Bid Phase Services	\$49,417	\$0	\$0	\$49,417
TOTAL Tasks 1-11	\$1,881,738	\$483,189	\$785,384	\$613,165

OPTIONAL TASKS DESCRIPTION	Total Fee (if authorized)	FY 2022/23	FY 2022/24	FY 2022/25
Task 12 (Optional) – Pipeline to SMP Preliminary (30%) Design	\$321,752	\$160,876	\$160,876	\$0
Task 13 (Optional) – Well Drilling Observation Services	\$803,678	\$80,368	\$723,311	\$0
Task 14 (Optional) – Conformed Documents	\$17,420	\$0	\$0	\$17,420
Task 15 (Optional) – As-Requested Support - Contingency	\$37,260	\$12,668	\$12,296	\$12,296
Task 16 (Optional) – As-Requested Support - Contingency	\$50,000	\$17,000	\$16,500	\$16,500
TOTAL Optional Tasks 12-16	\$1,230,110	\$253,912	\$896,482	\$29,716

Table 7. Detailed Fee Estimate for Tasks 1 to 11

January 1, 2022 Rates	Eng-Sci-9 David F	Eng-Sci-8 Bill Y/Mitt L	Eng-Sci-8 Dawn T	Eng-Sci-8 Jeff M	Eng-Sci-7 Gregg B / Sarah K	Eng-Sci-8 Steve M	Eng-Sci-7 Paul P	Eng-Sci-7 Zach D	Eng-Sci-7 Peter S	Eng-Sci-6 Kyle O	Eng-Sci-6 Mike W	Eng-Sci-6 Ray L	Eng-Sci-6 Paul C	Eng-Sci-6 Brandon H	Eng-Sci-6 Jake S	Eng-Sci-6 Mark P	Eng-Sci-6 Janet H	Eng-Sci-5 Aaron C	Eng-Sci-5 Carmia P	Eng-Sci-4 Kevin C/Katie M	Eng-Sci-3 Evelyn C	Eng-Sci-3 Jack S	Eng-Sci-3 Ricardo M	Eng-Sci-3 Jonathan M O	Eng-Sci-2 Staff Eng	CAD-Design	Sr. CAD-Tech	Project Assistant	Admin. Asst.		KJ	Sub	Sub	Sub	Sub	KJ	KJ	KJ							
Classification:	\$310	\$295	\$295	\$295	\$275	\$295	\$275	\$275	\$275	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$220	\$220	\$205	\$190	\$190	\$190	\$190	\$190	\$165	\$160	\$145	\$130	\$110	Total	Labor	Richard Slade & Associates	Scott Foster Engineering	Mort MacDonald	RF Yeager	Sub-Markup	ODCs	ODCs Markup	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses		
Hourly Rate:	\$310	\$295	\$295	\$295	\$275	\$295	\$275	\$275	\$275	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$220	\$220	\$205	\$190	\$190	\$190	\$190	\$190	\$165	\$160	\$145	\$130	\$110	Hours	Fees	Fees	Fees	Fees	Fees	10%	Fees	10%						
Task 1 – Coordination with External Consultants and Permitting Agencies																																													
1.1 External Consultants Coordination (39 mtgs)		6	24	8						78	39		4									39									198	\$48,265			\$4,914		\$491		\$0	\$48,265	\$5,405	\$0	\$53,670		
1.2 Permitting Agency Coordination (6 mtgs)			6							12	12																				30	\$7,650					\$0		\$0	\$7,650	\$0	\$0	\$7,650		
1.3 As-Needed CEQA and Permitting Technical Support	2	4	2	2	2		2	2		24	4	8		4					12			16	12						14	110	\$24,240					\$0		\$0	\$24,240	\$0	\$0	\$24,240			
Task 1 - Subtotal	2	10	32	10	2	0	2	2	0	114	55	8	4	4	0	0	0	0	0	12	0	55	12	0	0	0	0	0	0	14	0	338	\$80,155	\$0	\$0	\$4,914	\$0	\$491	\$0	\$0	\$80,155	\$5,405	\$0	\$85,560	
Task 2 – Project Meetings and Design Workshops																																													
2.1 Progress Meetings (36 progress mtgs, 1 kickoff, 8 focused topic meetings)			28							52	52											12									144	\$36,020	\$1,725					\$173	\$400	\$40	\$36,020	\$1,898	\$440	\$38,358	
2.2 NAVFAC Coordination (6 mtgs, in person)		8	16							48	48																				120	\$30,600					\$0	\$800	\$80	\$30,600	\$0	\$880	\$31,480		
2.3 Design Review Workshops (3)			6	2						18	12											12									50	\$11,990					\$0	\$1,600	\$160	\$11,990	\$0	\$1,760	\$13,750		
2.4 Site Visits (4)			16							32	32	24	16									20									140	\$34,000					\$0	\$800	\$80	\$34,000	\$0	\$880	\$34,880		
Task 2 - Subtotal	0	14	62	0	0	0	0	0	0	150	144	24	16	0	0	0	0	0	0	0	0	44	0	0	0	0	0	0	0	0	0	454	\$112,610	\$1,725	\$0	\$0	\$0	\$173	\$3,600	\$360	\$112,610	\$1,898	\$3,960	\$118,468	
Task 3 – Project Management																																													
3.1 Monthly Progress Reporting (18 reports)										27	9																		10	46	\$10,120					\$0		\$0	\$10,120	\$0	\$0	\$10,120			
3.2 Project Administration			12							108	72																		8	200	\$48,680			\$32,527		\$3,253	\$0	\$48,680	\$35,780	\$0	\$84,460				
3.3 Schedule Development and Updates										6	6											12									24	\$5,220				\$0	\$0	\$5,220	\$0	\$0	\$5,220				
3.4 QA/QC	36	64	8	8	4				4	8	4		4																		140	\$40,880					\$0		\$0	\$40,880	\$0	\$0	\$40,880		
Task 3 - Subtotal	36	64	20	8	4	0	0	0	4	149	91	0	4	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	18	0	410	\$104,900	\$0	\$0	\$32,527	\$0	\$3,253	\$0	\$0	\$104,900	\$35,780	\$0	\$140,680	
Task 4 – Preliminary Design Investigations																																													
4.1 Data Collection & Review										4	4											4	4			16			4	36	\$6,560	\$4,343					\$434		\$0	\$6,560	\$4,777	\$0	\$11,337		
4.2 Utility Survey										2	4												8			32			4	50	\$8,710					\$0	\$800	\$80	\$8,710	\$0	\$880	\$9,590			
4.3 IRP Evaluation										16									8												24	\$5,680				\$0		\$0	\$5,680	\$0	\$0	\$5,680			
4.4 Base Mapping with Survey Information											8			8								12				40				68	\$12,600					\$0		\$0	\$12,600	\$0	\$0	\$12,600			
4.5 Hydraulic Evaluation																															0	\$0				\$0		\$0	\$0	\$0	\$0	\$0			
4.5.1 Hydraulic Model Development & Analysis										4			12									48									64	\$13,040				\$0		\$0	\$13,040	\$0	\$0	\$13,040			
4.5.2 Surge Analysis					4																	4									8	\$1,860		\$17,160		\$1,716	\$0	\$1,860	\$18,876	\$0	\$20,736				
4.6 Hydrology & Water Quality Evaluations																															0	\$0				\$0		\$0	\$0	\$0	\$0	\$0			
4.6.1 Hydrology Evaluation	4									4				4								24									36	\$7,760				\$0		\$0	\$7,760	\$0	\$0	\$7,760			
4.6.2 Water Quality Evaluation	8									4				4								16									32	\$7,480				\$0		\$0	\$7,480	\$0	\$0	\$7,480			
Task 4 - Subtotal	12	0	0	0	4	0	0	0	0	34	16	0	12	16	0	0	0	0	0	8	0	96	24	0	0	48	40	0	0	8	318	\$63,690	\$4,343	\$17,160	\$0	\$0	\$2,150	\$800	\$80	\$63,690	\$23,653	\$880	\$88,223		
Task 5 – Preliminary Evaluations and Technical Memorandum																																													
5.1 Discharge Options Evaluation																															0														
5.1.1 Mugu Lagoon Discharge Options			1		6					2	6						4					16				24					59	\$11,885				\$0		\$0	\$11,885	\$0	\$0	\$11,885			
5.1.2 SMP Discharge Option			1		6					2	12						4					16				24					65	\$13,355				\$0		\$0	\$13,355	\$0	\$0	\$13,355			
5.1.3 Ocean Discharge Options			1		24					2	4						4					16				24					75	\$16,345				\$0		\$0	\$16,345	\$0	\$0	\$16,345			
5.1.4 Compare Discharge Options and TM			2		6					2	4										8				24				8	54	\$10,070				\$0		\$0	\$10,070	\$0	\$0	\$10,070				
5.2 Well Suitability Evaluation	2	2								4	8		16												16					48	\$10,710	\$35,000				\$3,500		\$0	\$10,710	\$38,500	\$0	\$49,210			
5.3 Pipeline Alignment, Materials and Constructability Evaluation																															0	\$0				\$0		\$0	\$0	\$0	\$0	\$0			
5.3.1 Well Piping Alignment Analysis		8								2	16	12			32								8			24					102	\$23,030				\$0		\$0	\$23,030	\$0	\$0	\$23,030			
5.3.2 Pipeline to SMP Alignment Analysis		8								2	16	12			32								8			24					102	\$23,030				\$0		\$0	\$23,030	\$0	\$0	\$23,030			
5.3.3 Pipeline Alignment Options and TM		8									8	4			24								8			28			8	90	\$18,690			\$36,874	\$19,960	\$5,683		\$0	\$18,690	\$62,517	\$0	\$81,207			
Task 5 - Subtotal	2	26	5	0	42	0	0	0	0	18	74	28	16	0	88	0	12	0	0	0	56	0	0	0	188	0	0	0	16	595	\$127,115	\$35,000	\$0	\$36,874	\$19,960	\$9,183	\$0	\$0	\$127,115	\$101,017	\$0	\$228,132			
Task 6 – Well Drilling Design																																													
6.1 Technical Specifications		1									8																				9	\$2,255	\$21,470				\$2,147		\$0	\$2,255	\$23,617	\$0	\$25,872		
6.2 Construction Cost Estimate		1									4						4														9	\$2,255	\$2,127				\$213		\$0	\$2,255	\$2,340	\$0	\$4,595		
6.3 SWPPP for Extraction Well Drilling										4	8									16											28	\$6,220	\$2,127				\$213		\$0	\$6,220	\$2,340	\$0	\$8,560		
Task 6 - Subtotal	0	2	0	0	0	0	0	0	0	4	20	0	0	0	0	0	4	0	0	16	0	0	0	0	0	0	0	0	0	0	46	\$10,730	\$25,724	\$0	\$0	\$0	\$2,572	\$0	\$0	\$10,730	\$28,296	\$0	\$39,026		

Table 7. Detailed Fee Estimate for Tasks 1 to 11 (con't)

January 1, 2022 Rates	Eng-Sci-9 David F	Eng-Sci-8 Bill Y/Mitt L	Eng-Sci-8 Dawn T	Eng-Sci-8 Jeff M	Eng-Sci-7 Gregg B / Sarah K	Eng-Sci-8 Steve M	Eng-Sci-7 Paul P	Eng-Sci-7 Zach D	Eng-Sci-7 Peter S	Eng-Sci-6 Kyle O	Eng-Sci-6 Mike W	Eng-Sci-6 Ray L	Eng-Sci-6 Paul C	Eng-Sci-6 Brandon H	Eng-Sci-6 Jake S	Eng-Sci-6 Mark P	Eng-Sci-6 Janet H	Eng-Sci-5 Aaron C	Eng-Sci-5 Carina P	Eng-Sci-4 Kevin C/Katie M	Eng-Sci-3 Evelyn C	Eng-Sci-3 Jack S	Eng-Sci-3 Ricardo M	Eng-Sci-3 Jonathan M O	Eng-Sci-2 Stan Eng	CAD-Design	Sr. CAD-Tech	Project Assistant	Admin. Assist.	Total	KJ	Sub	Sub	Sub	Sub	KJ	KJ	KJ	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses	
Classification:	Eng-Sci-9 David F	Eng-Sci-8 Bill Y/Mitt L	Eng-Sci-8 Dawn T	Eng-Sci-8 Jeff M	Eng-Sci-7 Gregg B / Sarah K	Eng-Sci-8 Steve M	Eng-Sci-7 Paul P	Eng-Sci-7 Zach D	Eng-Sci-7 Peter S	Eng-Sci-6 Kyle O	Eng-Sci-6 Mike W	Eng-Sci-6 Ray L	Eng-Sci-6 Paul C	Eng-Sci-6 Brandon H	Eng-Sci-6 Jake S	Eng-Sci-6 Mark P	Eng-Sci-6 Janet H	Eng-Sci-5 Aaron C	Eng-Sci-5 Carina P	Eng-Sci-4 Kevin C/Katie M	Eng-Sci-3 Evelyn C	Eng-Sci-3 Jack S	Eng-Sci-3 Ricardo M	Eng-Sci-3 Jonathan M O	Eng-Sci-2 Stan Eng	CAD-Design	Sr. CAD-Tech	Project Assistant	Admin. Assist.	Total	KJ	Sub	Sub	Sub	Sub	KJ	KJ	KJ	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses	
Hourly Rate:	\$310	\$295	\$295	\$295	\$275	\$295	\$275	\$275	\$275	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$245	\$220	\$220	\$205	\$190	\$190	\$190	\$190	\$165	\$160	\$145	\$130	\$110	Hours	Fees	Fees	Fees	Fees	Fees	10%	Fees	10%	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses	
Task 7 - Preliminary Design Report (PDR)																																											
7.1 Draft Preliminary Design Report	4	8	8	4	2		4	4		16	8	16	2	12	4							24	18						8	142	\$32,960	\$7,954			\$795		\$0	\$32,960	\$8,749	\$0	\$41,709		
7.2 Final Preliminary Design Report	2	2	2							4	4	8		6	2							12	12						4	58	\$12,720			\$28,570	\$2,857		\$0	\$12,720	\$31,427	\$0	\$44,147		
Task 7 - Subtotal	6	10	10	4	2	0	4	4	0	20	12	24	2	18	6	0	0	0	0	0	0	36	30	0	0	0	0	0	0	12	200	\$45,680	\$7,954	\$0	\$28,570	\$0	\$3,652	\$0	\$0	\$45,680	\$40,176	\$0	\$85,856
Task 8 - Preliminary (30%) Design Drawings and Cost Estimate																																											
8.1 30% Preliminary Design Drawings																														0	\$0					\$0		\$0	\$0	\$0	\$0	\$0	
30% Extraction Well Equipping Drawings					22		26	76	6		33		12	12	15						24	45	51	24	82			165	593	\$121,055						\$0		\$0	\$121,055	\$0	\$0	\$121,055	
30% Pipeline Drawings					10				3			39			6						23		73				134	19	307	\$57,380						\$0		\$0	\$57,380	\$0	\$0	\$57,380	
8.2 30% Preliminary Design OPCC												4		4			24					4	4					2	42	\$9,560						\$0		\$0	\$9,560	\$0	\$0	\$9,560	
Task 8 - Subtotal	0	0	0	22	10	0	26	76	9	0	33	43	12	16	21	0	24	0	0	47	49	128	24	82	0	134	184	0	2	942	\$187,995	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$187,995	\$0	\$0	\$187,995	
Task 9 - Design Services for Extraction Well Equipping																																											
9.1 60% Extraction Well Equipping Submittal																														0	\$0					\$0		\$0	\$0	\$0	\$0	\$0	
9.1.1 60% Extraction Well Equipping Drawings					26		31	91	7		8		32	32	17						29	53	61	29	98			197	711	\$145,250						\$0		\$0	\$145,250	\$0	\$0	\$145,250	
9.1.2 60% Extraction Well Equipping Specifications							8	8			4			24		4		4				24	24						4	104	\$22,680						\$0		\$0	\$22,680	\$0	\$0	\$22,680
9.1.3 60% Extraction Well Equipping Cost Estimate											2			4			16					6								28	\$6,530						\$0		\$0	\$6,530	\$0	\$0	\$6,530
9.2 90% Extraction Well Equipping Submittal																														0	\$0					\$0		\$0	\$0	\$0	\$0	\$0	
9.2.1 90% Extraction Well Equipping Drawings					26		31	91	7		8		32	32	17						29	53	61	29	98			197	711	\$145,250						\$0		\$0	\$145,250	\$0	\$0	\$145,250	
9.2.2 90% Extraction Well Equipping Specifications							16	16			4			24		2		4				24	24						12	126	\$27,470						\$0		\$0	\$27,470	\$0	\$0	\$27,470
9.2.3 90% Extraction Well Equipping Cost Estimate											2			2			12					6								22	\$5,060						\$0		\$0	\$5,060	\$0	\$0	\$5,060
9.3 100% Extraction Well Equipping Submittal																														0	\$0					\$0		\$0	\$0	\$0	\$0	\$0	
9.3.1 100% Extraction Well Equipping Drawings					13		15	46	4		4		16	16	9						14	27	31	14	49			99	357	\$72,950						\$0		\$0	\$72,950	\$0	\$0	\$72,950	
9.3.2 100% Extraction Well Equipping Specifications							8	8			2			16		2		2				16	16						8	78	\$16,700						\$0		\$0	\$16,700	\$0	\$0	\$16,700
9.3.3 100% Extraction Well Equipping Cost Estimate											1			2			8					2								13	\$3,075						\$0		\$0	\$3,075	\$0	\$0	\$3,075
9.4 SWPPP for Well Equipping											4	8									16									28	\$6,220						\$0		\$0	\$6,220	\$0	\$0	\$6,220
Task 9 - Subtotal	0	0	0	65	0	0	109	260	18	4	43	0	80	152	43	8	36	10	0	88	211	217	72	245	0	0	493	0	24	2178	\$451,185	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$451,185	\$0	\$0	\$451,185
Task 10 – Design Services for Pipelines and Discharge Facility																																											
10.1 60% Pipeline and Discharge Facility Submittal																														0	\$0					\$0		\$0	\$0	\$0	\$0	\$0	
10.1.1 60% Pipeline and Discharge Facility Drawings					12				3		8	32			7						27		87				160	23		359	\$66,640					\$0		\$0	\$66,640	\$0	\$0	\$66,640	
10.1.2 60% Pipeline and Discharge Facility Specs					4						4	16										24							4	52	\$11,000					\$0		\$0	\$11,000	\$0	\$0	\$11,000	
10.1.3 60% Pipeline and Discharge Facility Estimate											2	4					16					4								26	\$6,150					\$0		\$0	\$6,150	\$0	\$0	\$6,150	
10.2 90% Pipeline and Discharge Facility Submittal																														0	\$0					\$0		\$0	\$0	\$0	\$0	\$0	
10.2.1 90% Pipeline and Discharge Facility Drawings					8				3		8	32			7						27		87				160	23		355	\$65,540					\$0		\$0	\$65,540	\$0	\$0	\$65,540	
10.2.2 90% Pipeline and Discharge Facility Specs					4						4	16										24							12	60	\$11,880					\$0		\$0	\$11,880	\$0	\$0	\$11,880	
10.2.3 90% Pipeline and Discharge Facility Estimate											2	4					12					4								22	\$5,170					\$0		\$0	\$5,170	\$0	\$0	\$5,170	
10.3 100% Pipeline and Discharge Facility Submittal																														0	\$0					\$0		\$0	\$0	\$0	\$0	\$0	
10.3.1 100% Pipeline and Discharge Facility Drawings					4				2		4	16			3						14		44				80	11		178	\$32,910					\$0		\$0	\$32,910	\$0	\$0	\$32,910	
10.3.2 100% Pipeline and Discharge Facility Specs					2						2	12										16							8	40	\$7,900					\$0		\$0	\$7,900	\$0	\$0	\$7,900	
10.3.3 100% Pipeline and Discharge Facility Estimate											2	2					8					4								16	\$3,700					\$0		\$0	\$3,700	\$0	\$0	\$3,700	
10.4 Trenchless Design (Mott MacDonald)											4	8	12									16						8		48	\$10,080		\$158,195			\$15,820	\$0	\$10,080	\$174,015	\$0	\$184,095		
10.5 SWPPP for Pipelines and Discharge Facility											8	12									30							8		58	\$12,210					\$0		\$0	\$12,210	\$0	\$0	\$12,210	
Task 10 - Subtotal	0	0	0	0	34	0	0	0	8	12	56	146	0	0	17	0	36	0	0	98	0	310	0	0	0	400	73	0	24	1214	\$233,180	\$0	\$0	\$158,195	\$0	\$15,820	\$0	\$0	\$233,180	\$174,015	\$0	\$407,195	
Task 11 – Bid Phase Services																																											
11.1 Extraction Well Drilling Bid Phase Services																														0	\$0					\$0		\$0	\$0	\$0	\$0	\$0	
11.1.1 Extraction Well Drilling Pre-Bid Meeting											4		2																	6	\$1,470	\$500			\$50	\$800	\$80	\$1,470	\$550	\$880	\$2,900		
11.1.2 Extraction Well Drilling Response to Bidder's Questions											1		2																	3	\$735	\$2,500			\$250		\$0	\$735	\$2,750	\$0	\$3,485		
11.1.3 Extraction Well Drilling Bid Analysis and Award Recommendation											1		2																	3	\$735	\$1,312			\$131		\$0	\$735	\$1,443	\$0	\$2,178		
11.2 Extraction Well Equipping Bid Phase Services																																											

Table 8. Detailed Fee Estimate for Tasks 12 to 16

[illegible]

Schedule of Charges



Client/Address: United Water Conservation District
1701 North Lombard Street, Suite 200
Oxnard, CA 93030

Contract/Proposal Date: September 22, 2022

Schedule of Charges

January 1, 2022

PERSONNEL COMPENSATION

Classification	Hourly Rate
Engineer-Scientist-Specialist 1	\$140
Engineer-Scientist-Specialist 2	\$165
Engineer-Scientist-Specialist 3	\$190
Engineer-Scientist-Specialist 4	\$205
Engineer-Scientist-Specialist 5	\$220
Engineer-Scientist-Specialist 6	\$245
Engineer-Scientist-Specialist 7	\$275
Engineer-Scientist-Specialist 8	\$295
Engineer-Scientist-Specialist 9	\$310
CAD-Technician	\$130
Senior CAD-Technician	\$145
CAD-Designer	\$160
Senior CAD-Designer	\$175
Project Assistant	\$130
Administrative Assistant	\$110
Aide	\$90

Direct Expenses

Reimbursement for direct expenses, as listed below, incurred in connection with the work, will be at cost plus ten percent for items such as:

- Maps, photographs, 3rd party reproductions, 3rd party printing, equipment rental, and special supplies related to the work.
- Consultants, soils engineers, surveyors, contractors, and other outside services.
- Rented vehicles, local public transportation and taxis, travel and subsistence.
- Project specific telecommunications and delivery charges.
- Special fees, insurance, permits, and licenses applicable to the work.
- Outside computer processing, computation, and proprietary programs purchased for the work.

Reimbursement for vehicles used in connection with the work will be at the federally approved mileage rates or at a negotiated monthly rate.

If prevailing wage rates apply, the above billing rates will be adjusted as appropriate.

Overtime for non-exempt employees will be billed at one and a half times the Hourly Rates specified above.

Rates for professional staff for legal proceedings or as expert witnesses will be at rates one and one-half times the Hourly Rates specified above.

Excise and gross receipts taxes, if any, will be added as a direct expense.

EXHIBIT “B” TO AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES

CONSULTANT shall adhere to the following **Guidelines for Expense Reimbursement**:

Incidental expenditures incurred by CONSULTANT in the course of performing work under this Agreement and submitted for reimbursement by UNITED shall comply with the following guidelines.

Receipts are required for all reimbursable expenses (with an exception for meals and lodging) and shall be furnished with the invoice. Reimbursable expenditures shall not be subject to mark-up. Only actual costs of expenditures within the limits presented below are eligible for reimbursement.

1. Reimbursable Expenditures

A. Travel Expenses

Expenses for airfare or other travel accommodations shall not exceed costs that would reasonably be expected for comparable economy or coach class accommodations.

Personal vehicles may be used when appropriate and mileage will be reimbursed at the standard Internal Revenue Service (IRS) business mileage rate (e.g., 62.5 cents per mile for calendar year 2022, but for a total cost no greater than the cost that would reasonably be expected for round trip economy or coach class airfare. With the exception of extenuating circumstances (e.g. transport of specialized equipment), mileage for any trip over 500 miles shall be reimbursed at a total cost no greater than would reasonably be expected for round trip economy or coach class airfare. Extenuating circumstances shall be pre-approved by UNITED.

Rental vehicle costs are reimbursable when justified by the nature of the trip. With the exception of extenuating circumstances (e.g. transport of more than 4 people or excessive cargo) the total expense for the rental vehicle shall not exceed a cost that would reasonably be expected for a standard class vehicle. Insurance for rental vehicles is not reimbursable and must be in accordance with all insurance requirements set forth in this Agreement.

B. Lodging

The cost of lodging incurred on approved CONSULTANT business trips is reimbursable. UNITED will reimburse lodging at the standard U.S. General Services Administration (GSA) rate for Ventura County (e.g., \$182.00 per night [excluding

taxes] for the months of October 2020 and January – September 2021). GSA rates are annually updated in October.

C. Meals

The cost of meals incurred on approved CONSULTANT Projects is reimbursable.

If UNITED is reimbursing the CONSULTANT for lodging, UNITED will reimburse for meals at the appropriate standard GSA rate for Ventura County (i.e., \$49.50 (or 75% of a daily rate) per day for first and last calendar day of PROJECT work, and \$66.00 per day for additional PROJECT work days for calendar year 2021.

If UNITED is not reimbursing the CONSULTANT for lodging, UNITED will not reimburse the CONSULTANT for meals.

D. Equipment

All reimbursable equipment must be purchased or rented at a reasonable cost, in accordance with industry standards.

E. Expendable Items

Items that are expendable (depleted) will not be returned to UNITED, as the items will be “used up” in the course of CONSULTANT’s work.

F. Non-Expendable Items

Items that are non-expendable (not depleted) will be returned to UNITED upon completion of CONSULTANT’s work.

EXHIBIT “C” TO AGREEMENT FOR PROFESSIONAL CONSULTING SERVICES

CONSULTANT shall procure and maintain for the duration of the Agreement, and for injuries that occur and claims which are made after the services herein are performed, insurance against claims or injuries to persons or damages to property, which may arise from or in connection with the performance of the work hereunder by CONSULTANT, its agents, representatives, or employees.

Minimum Scope of Insurance

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage (occurrence Form CG 00 01 or its equivalent).
2. Insurance Services Office Form Number CA 00 01 covering Automobile Liability, Code 1 or its equivalent (any auto).
3. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.
4. Errors & Omissions Liability insurance appropriate to the CONSULTANT's profession. Architects' and engineers' coverage is to be endorsed to include contractual liability.
5. Valuable Document Insurance on all plans, specifications and other documents as may be required to protect UNITED in the amount of its full equity in such plans, specifications and other documents.

Minimum Limits of Insurance

CONSULTANT shall maintain limits no less than:

- | | |
|--|---|
| 1. General Liability:
Including operations, products and completed operations, as applicable. | \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. |
| 2. Automobile Liability: | \$1,000,000 per accident for bodily injury and property damage. |

3. Employer's Liability: **\$1,000,000** per accident for bodily injury or disease.
4. Errors & Omissions Liability: **\$1,000,000** per claim.
5. Valuable Document Insurance **Full Equity of all Documents**

Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by UNITED. At the option of UNITED, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects UNITED, its directors, officers, officials, employees and agents; or CONSULTANT shall provide a financial guarantee satisfactory to UNITED guaranteeing payment of losses and related investigations, claim administration and defense expenses.

Other Insurance Provisions

The commercial general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

6. For all policies required by this Agreement, UNITED and its directors, officers, officials, employees and volunteers are to be covered as additional named insureds as respects: liability arising out of work or operations performed by or on behalf of the CONSULTANT; or automobiles owned, leased, hired or borrowed by the CONSULTANT.
7. For any claims related to this Project, the CONSULTANT's insurance coverage shall be primary insurance as respects UNITED and its directors, officers, officials, employees and agents. Any insurance or self-insurance maintained by UNITED, its directors, officers, officials, employees or agents shall be excess of the CONSULTANT's insurance and shall not contribute with it.
8. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days prior written notice has been provided to UNITED (with the exception of ten (10) days for nonpayment of premium).

If General Liability, Contractors Pollution Liability and/or Asbestos Pollution Liability and/or Errors & Omissions coverages are written on a claims-made form:

9. The retroactive date must be shown, and must be before the date of the contract or the beginning of contract work.
10. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract of work.

11. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective date, the CONSULTANT must purchase an extended period coverage for a minimum of five (5) years after completion of contract work.
12. A copy of the claims reporting requirements must be submitted to UNITED for review.
13. If the services involve lead-based paint or asbestos identification/ remediation, the Contractors Pollution Liability shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/ remediation, the Contractors Pollution Liability shall not contain a mold exclusion and the definition of "Pollution" shall include microbial matter including mold.

Acceptability of Insurers

Insurance is to be placed with insurers qualified to do business in the State of California with a current A.M. Best's rating of no less than A: VII, unless otherwise acceptable to UNITED. Exception may be made for the State Compensation Insurance Fund when not specifically rated.

Verification of Coverage

CONSULTANT shall furnish UNITED with original certificates and amendatory/ additional insured endorsements effecting coverage required by this clause. The endorsements should be on forms provided by UNITED or on other than UNITED's forms provided those endorsements conform to UNITED requirements. All certificates and endorsements are to be received and approved by UNITED before work commences. However, failure to do so shall not operate as a waiver of these insurance requirements. UNITED reserves the right to require complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications at any time.

Waiver of Subrogation

CONSULTANT hereby agrees to waive subrogation, which any insurer of contractor may acquire from vendor by virtue of the payment of any loss. CONSULTANT agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation.

The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the entity for all work performed by the CONSULTANT, its employees, agents and subcontractors.



Staff Report

To: UWCD Engineering and Operations Committee

Through: Mauricio E. Guardado, Jr., General Manager

From: Brian Collins, Chief Operations Officer
Craig Morgan, Engineering Manager

Date: November 14, 2022 (December 1, 2022, Meeting)

Agenda Item: **3.3 Authorize an Amendment to the University of Iowa Contract for the Physical Modeling of the Vertical Slot for the Freeman Expansion Project**
Motion

Staff Recommendation:

The Committee will consider recommending approval of the motion authorizing an amendment to the University of Iowa contract for the operational and stress physical modeling of the Vertical Slot for the Freeman Expansion Project in the amount of \$387,165 to the full Board. The original professional consulting services agreement between UWCD and University of Iowa was executed on September 3, 2021; the first amendment to the agreement, executed on March 4, 2022, extended the scope of work for the original agreement with University of Iowa.

Discussion:

On November 23, 2020, per a Federal Court order, staff delivered a physical model plan that contained a schedule to conduct physical modeling at one laboratory. After United filed a Motion to Modify the Court ordered completion by October 31, 2022.

To complete the physical modeling, consisting of 1:12 and 1:24 scale models of the hardened ramp and 1:12 and 1:24 scale models of the vertical slot, within the mandated timeline, two modeling labs were utilized. The Bureau of Reclamation (BOR) conducted physical modeling for the hardened ramp and the University of Iowa conducted physical modeling for the vertical slot.

On December 8, 2021, the Board approved modeling expenditures of \$667,774 to conduct a 1:8 scale modeling for the vertical slot alternative. The 1:8 scale modeling will not be performed. However, the physical modeling effort at the University of Iowa will require funding of \$387,165 to accomplish the vertical slot operational and stress test (1:12 and 1:24) modeling.

Fiscal Impact:

Approval of this item would result in an expenditure of \$387,165. Funding for this motion was approved in the December 8, 2021 Board Meeting, supplemental appropriation, agenda item 4.2.

Agenda Item: 3.3 Authorize an Amendment to the University of Iowa Contract for the Physical Modeling of the Vertical Slot for the Freeman Expansion Project
Motion

Attachments:

Attachment A – UWCD University of Iowa Physical Modeling Contract Amendment for Vertical Slot PSA Amendment No. 2

AMENDMENT No. 2
TO THE PROFESSIONAL SERVICE AGREEMENT

The Professional Service Agreement (hereinafter referred to as “Agreement”) made effective September 3, 2021, by and between United Water Conservation District (hereinafter "United"), and the University of Iowa (hereinafter referred to a “Consultant”), for the purpose of providing professional construction and materials testing services in connection with Freeman Diversion Rehabilitation Project, is here by amended as follows:

Agreement

On September 3, 2021, United Water Conservation District entered into an agreement with the University of Iowa to obtain professional construction and materials testing services provided in connection with Freeman Diversion Rehabilitation Project.

Scope of Work

This amendment dated December __, 2022, provides for additional services consisting of an extension work scope timeline to complete operational and stress physical modeling. The scope of work is listed in more detail in the attached proposal.

Contract Term

This contract amendment will extend the period of performance to March 31, 2023.

Compensation

The not to exceed cost for the additional work described above is \$387,165. The total amended contract amount is \$2,087,910. The conditions of the original Agreement dated September 3, 2021, shall remain in full force and effect except as amended herein.

United Water
Conservation District

University of Iowa

Mauricio E. Guardado, Jr.
General Manager

Wendy Beaver
Executive Director, Sponsored
Programs

AMENDMENT No. 2
TO THE PROFESSIONAL SERVICE AGREEMENT
Attachment A – Scope of Work and Schedule



College of Engineering

IIHR—Hydroscience and Engineering
University of Iowa
100 C. Maxwell Stanley Hydraulics Lab
Iowa City, Iowa 52242-1585
319-335-5238
iihr.uiowa.edu

November 15, 2022

Brian Collins
Chief Operations Officer
United Water Conservation District
brianc@unitedwater.org

RE: Contract Amendment #2 – Detailed Hydraulic Testing and Schedule Extension for the Freeman Diversion Rehabilitation Project

Mr. Collins:

Below are the scope of work items and cost summary for further modifications and detailed hydraulic testing on the 1:12 and 1:24 scale models for the Vertical Slot Fish Ladder alternative for the Freeman Diversion. The scope of work and associated costs in this amendment are in lieu of the previous authorization of \$667,774 for the 1:8 scale model which is no longer being pursued. The scope of work includes the following tasks:

1. Continue revisions and testing of the desander on the 1:24 scale model until desired performance is achieved.
2. Once the desander design is complete, perform detailed hydraulic testing on the 1:24 scale model to support Stantec's hydraulic design requests. These tests include measurements of water surface elevation and flow velocity at specified locations inside and outside of the diversion and its associated structures.
3. Modify the 1:12 scale model to include the secondary AWS screen panels and modify the secondary screen floor to a parabolic shape.
4. Perform detailed hydraulic testing on the 1:12 scale model to support Stantec's hydraulic design requests.
5. Perform comprehensive tests on the 1:24 scale model with the final desander in support of diversion operations and sediment management.
6. Write a second technical report that summarizes all model testing from Nov. 1, 2022, through the end of the project.
7. Decommission the physical models upon completion of the project.

All costs associated with completing the remaining scope of work and extending the project schedule from October 31, 2022, to March 31, 2023, are shown below.

New SOW Budget Breakdown

Cost Category	Labor	Non-labor	Total
Management/Travel	\$32,342	\$0	\$32,342
Construction	\$143,374	---	\$143,374
Model Ops	\$153,847	---	\$153,847
Materials/Supplies/Machine Rentals	---	\$57,601	\$57,601
Total	\$329,564	\$57,601	\$387,165

Overall Budget Breakdown

Original NTE Contract Amount	\$1,364,024
Am. 1, Additional SOW Part A	\$336,721
Am. 1, Additional SOW Part B	\$667,774
Current NTE Contract Amount	\$2,368,519
This Am. 2 proposal, Removes Am. 1 SOW Part B	(\$667,774)
This Am. 2 proposal, Supplemental SOW	\$387,165
New Revised NTE Contract Amount	\$2,087,910

Please let me know if you have any questions, need additional information, or would like to discuss the scope of work, budget, or schedule. The budget and scope can be revised as needed in the future based on results from physical model testing and future decisions by United.

Sincerely,



Troy Lyons, P.E., Ph.D.

Associate Director

IIHR – Hydrosience and Engineering |The University of Iowa

319-335-5319 | 319-321-2669 (m)

iihengineering.com; iihr.uiowa.edu

To: Engineering and Operations Committee Members

Through: Mauricio E. Guardado Jr., General Manager

From: Maryam A. Bral, Chief Engineer
Craig A. Morgan, Engineering Manager
Robert J. Richardson, Senior Engineer
Michel Kadah, Engineer
Adrian Quiroz, Associate Engineer
Erik Zvirbulis, GIS Analyst

Date: November 14, 2022 (December 1, 2022, meeting)

Agenda Item: 4.1 Monthly Engineering Department Report
Information item

Staff Recommendation:

The Engineering and Operations Committee members will receive this summary report from the Engineering Department regarding its activities for the month of November 2022.

Discussion:

1. Santa Felicia Dam Safety Improvement Projects

- Spillway Improvement Project
 - On November 7, Staff submitted to the California Department of Water Resources, Division of Safety of Dams (DSOD) an Application for Dam Repair or Alteration to initiate the review process of the Spillway Improvement Project. An electronic payment of \$75,382 was submitted to DSOD. This payment is 20% of the total application fee that was calculated based on the project estimated cost. The remaining application fee will be submitted to DSOD in two future payments along with future design packet submittals.
 - On November 9, Engineering, Water Resources, and Environmental Service Department staff met with GEI Consultants (GEI) and Catalyst Environmental Solutions (Catalyst) to discuss construction schedule and environmental constraints.
 - Staff prepared a PowerPoint presentation on the Santa Felicia Dam Safety Improvement Project (SFDSIP) for the Department of Water Resources (DWR) interagency meeting.
 - Staff coordinated with GEI and updated the proposed construction schedule to be as consistent as possible with the construction schedule that was confirmed to be acceptable to the Federal Energy Regulatory Commission (FERC) by FERC via a letter correspondence date September 29, 2022 letter to the District.
-

4.1 Monthly Engineering Department Report Information Item

- Based on the proposed construction schedule and the required level of reservoir elevation during construction of the new Outlet Work and the spillway improvements, Engineering and Water Resources staff updated the hydrological risk assessments and prepared a reservoir elevation probability analysis to be discussed at the November 15 DWR interagency meeting (Please see the additional discussions in the Santa Felicia Dam Safety updates).
- On November 15, Staff attended the interagency meeting with DWR and the Los Angeles Department Water and Power (LADWP) at the DWR Southern California Operations and Maintenance Center at Castaic (Castaic Office). During the meeting, the SFDSIP, project construction schedule and hydrological risk assessments were discussed.
- Outlet Works Improvement Project
 - The above updates reported for the Spillway Improvement Project are also applicable to the Outlet Works Improvement Project.
- FERC License Amendment Application, NEPA Documentation and Section 7 Consultation
 - On November 10, Staff met with NMFS engineer, Mr. Steve Thomas to answer his questions related to the design of the fish screen for the new Outlet Works. This meeting was requested by Mr. Thomas who has recently got involved with the project and started reviewing the 30% design of the fish screens. Mr. Thomas acknowledged the receipt of the District's response to NMFS pre-consultation comments dated January 27, 2022. During this brief meeting, Staff informed Mr. Thomas that the District has completed the 30% design phase in 2021 and the 60% design phase in September 2022 and started the 90% design of the outlet works in October 2022. Staff answered some of the questions related to the fish screen design and respectfully requested Mr. Thomas to provide his comments in writing to FERC for the District's review and response. Mr. Thomas was informed that per NMFS request, correspondence between the District and NMFS should take place via FERC.
 - Staff has received FERC comments on the draft Biological Assessment (BA) report that was submitted to FERC on August 9. FERC forwarded a copy of the draft BA to NMFS for review and comment on August 15 but to date Staff has not received NMFS comments on the draft BA.
 - On October 24, Staff e-filed a response letter to the January 27, 2022 NMFS comment letter on the fish screen design with FERC. The response letter was prepared on April 18, 2022 but due to an administrative error it was not e-filed with FERC.
 - FERC has requested Staff to e-file the revised BA after receiving both FERC and NMFS comments on the draft BA. On November 14, 2022, via an email to FERC, Staff informed FERC that the District is planning to request a time extension to submit the revised BA to FERC. The requested due date cannot be determined until NMFS comments are received.

4.1 Monthly Engineering Department Report Information Item

- Loan and Grant Applications
2021 FEMA HMGP

- No update to report.

Prepare CA Match – FEMA HMGP

- No update to report.

WIFIA Loan

- Engineering and Finance departments meet with the EPA WIFIA loan administrator weekly for half an hour to discuss the loan process and advancement. On November 16, Staff received a list of legal due diligence questions from the EPA WIFIA loan administrator. Both engineering, water resources and finance departments are working on the questions and expect to have it completed by early December. Prior to submission, the legal counsel will review Staff response to the legal due diligence questions.

- Santa Felicia Dam Safety

- On November 15, 2022, Staff participated in an interagency workshop with the DWR's Southern Field Division and the Los Angeles Department of Water and Power (LADWP) at DWR's Castaic Office (See Figure 1). The purpose of the workshop was to discuss the Santa Felicia Dam Safety Improvement Project and ways that DWR and LADWP could support the district to reduce risk during construction of the project. It was acknowledged by the agencies that additional coordination meetings are needed between DWR, LADWP and United. This is expected to be the first of several workshops between these agencies. The next workshop is expected to take place in early February 2023. Following the workshop, DWR offered staff a tour of Pyramid Dam (See Figure 2).
 - The District is required to conduct an EAP Tabletop and an EAP Functional Exercise on a 5-year basis. The last tabletop exercise was conducted in 2018 while the last functional exercise was conducted in 2019. These exercises were due in 2023 and 2024 respectively, however, as an Interim Risk Reduction Measure (IRRM), the District committed to conducting these exercises one year earlier to enhance emergency preparedness. The District has retained GF to support the planning and facilitating of these exercises per an agreement with GF that was executed on August 9, 2022. The tabletop exercise was completed on October 20, 2022. A draft after-action report will be submitted for District review on December 2, 2022. Staff and GF have begun planning for the 2023 SFD EAP Tabletop Exercise. The first planning meeting was conducted on November 3, 2022, On November 18, 2022, Staff e-filed the 90-day notification letter to FERC notifying them that the 2023 SFD EAP Functional Exercise will be held on February 23, 2023.

4.1 **Monthly Engineering Department Report** **Information Item**

- Per the SFD Dam Safety Surveillance Monitoring Plan, the spillway underdrain system is to be inspected on a three-year basis. On November 15, 2022, Staff executed Task Order No.2 under the On-Call Services Agreement with HDR Engineering, Inc for services related to the 2022 SFD Spillway Underdrain Inspection. The video inspection was conducted on November 17 and 18, 2022 (See Figure 3). HDR will summarize their findings in an inspection report and submit the first draft to staff by December 07, 2022.
- Per FERC guidelines, the Santa Felicia Dam Owner's Dam Safety Program is to receive an independent external audit on a 5-year basis. On May 09, 2022, staff executed a professional services agreement with Gannett Fleming (GF), Inc to conduct the audit. In September 2022, GF conducted interviews with dam safety personnel. On September 26, 2022, GF conducted an inspection of the SFD and Lombard Headquarters facilities. GF summarized their findings in a draft report that was submitted to staff on October 28, 2022. Staff are in the process of reviewing the report and will submit comments to GF no later than December 02, 2022. The final ODSP Audit report will be submitted to FERC by December 31, 2022.

2. **Condor Point Improvement Project**

- Construction of the picnic site improvements at Condor Point and at the Juan Fernandez Boat Launch Facility were completed on November 04, 2022 (See Figures 4 and 5). The improvements include six (6) new ramada shaded picnic sites at Condor Point and two (2) new metal shaded picnic sites at Juan Fernandez. An informational kiosk structure was also installed however, due to production delays the informational panels will be delivered in February 2023. In addition, new picnic tables have been ordered for the new sites but due to supply chain delays, these will not be delivered until May of 2023. A status update on the advancement of the project was e-filed with FERC on November 04, 2022. On November 09, 2022, FERC granted an extension of time through May 31, 2022, for the District to complete the installation of the new picnic tables and the informational panels.

3. **Freeman Diversion Expansion-**

- Staff, USBR, the University of Iowa, Stantec and NHC participate in rotating weekly calls with NMFS and CDFW to provide updates on physical modeling, CFD modeling and design alternations.
- On October 31, staff shared electronic physical model reports from both USBR and the University of Iowa with NMFS and CDFW. This met the deadline set forth in the 10/13/2021 order granting United Water Conservation District's motion to modify the injunction.

4. **Iron and Manganese Treatment Facility**

- Meetings:

4.1 Monthly Engineering Department Report Information Item

- Weekly coordination meetings between staff and the District's construction manager (HDR, Inc.)
- Weekly construction progress meetings hosted by HDR and attended by GSE Construction, Taft Electric, Kennedy Jenks Consultants (KJ) and staff.
- GSE Construction has submitted approximately 326 out of a total of 359 submittal packages anticipated for the project. HDR and design engineer (KJ) have provided responses on approximately 308 submittal packages including a requirement to comply with the Buy American Act (BAA).
- GSE Construction has submitted approximately 118 Requests for Information (RFIs) to date. HDR, KJ and the District have been providing responses.
- Twenty (20) Change Orders (COs) have been fully executed to date amounting to a net total of \$1,118,384.12. This represents 12% of the original contract amount (\$9,342,900.00). Four (4) of these COs amounting to \$662,910.19 or 7.1% of the original contract amount are directly related to compliance with the BAA which is a federal grant requirement (the project was not originally bid with this requirement in place). Therefore, only \$455,473.93 or 4.9% of COs have resulted in additions or modifications to the original scope of work.
- Staff reviewed and provided comments on the final draft Operations, Maintenance and Monitoring Plan (OMMP) which is required by the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW) prior to start-up and operation of the facility. The OMMP was finalized and submitted to DDW on November 10, 2022.
- GSE Construction continued construction of the following (See Figures 6, 7 and 8):
 - 24" Raw Water Pipeline (RAW)
 - 24" Filtered Water (FW) Connection
 - 20" Backwash Supply Pipeline (BWS)
 - 18" connections to RAW
 - 12" RAW Flushing Pipelines
 - Backwash Supply Metering Vault
 - 8" Air Supply Pipeline
 - 8" Filter Drain (FD) Pipe
 - 8" Return Wash Water (RWW)
 - 8" Overflow (OF)
 - 4" Utility Water (UW)
 - 3" Chlorine Solution Lines, Double Contained
 - 2.5" Utility Water (UW)
 - Various underground sample lines
 - Various underground electrical conduits
 - Filter face piping
 - Filter vessel internals
 - Laboratory/Electrical/Blower Building
 - i. Framing for drywall

4.1 Monthly Engineering Department Report Information Item

- ii. HVAC
 - iii. Interior electrical
 - iv. Special inspections (fire dept., mechanical/electrical/plumbing)
 - The tentative date for construction completion and implementation is January 26, 2023. A total of seven (7) inclement weather days have been counted.
5. OH System Backup Generator at the El Rio Booster Plant
- No update to report. The project was completed, and Staff are currently waiting on FEMA programmatic grant closeout.
6. PTP Metering Improvement Project-
- Total number of Meters installed: 40 of 61 or 65.5% complete.
 - An additional four (4) Meter installations are planned by the end of 2022.
 - Easement acquisition completion: 23 of 41 obtained or 56.1% complete
 - On October 25, staff met internally to discuss the progress of the easement acquisition which HJA is performing for the District.
7. PTP Recycled Water Connection – Laguna Road Pipeline Project
- On November 11, Staff received the final draft of the Preliminary Design Report and drawings along with Kennedy Jenks responses to Staff comments. Staff is currently in the process of reviewing the final drafts.
8. Rice Avenue Grade Separation Project and Impact on PTP
- In a correspondence letter dated July 6, 2022 to CalTrans District 7 Right of Way (CalTrans), the District pointed out that granting the two easements (a grant deed and a temporary construction easement for Parcels 81216-1 and 81216-2, respectively) requested by CalTrans at the PTP Well Site No. 4 will obstruct and potentially delay future well repairs and maintenance work unless the County of Ventura guarantees the transfer of parcel located on the southeast side of the well site to the District.
 - In response, CalTrans modified the Right of Way Contract – State Highway (agreement) by including the July 6, 2022 correspondence letter in the agreement and submitted it to the District for signature on August 15. Through this agreement, CalTrans has offered a sum of \$6,300 for the two easements and stated that the temporary construction easement for a period of 45 months starting on November 17, 2023 will expire on July 16, 2027.
 - On October 17, the District received a Notice of Intent (NOI) from CalTrans related to acquisition of the two easements. Through this NOI CalTrans notified the District that the California Transportation Commission (Commission) will be asked by CalTrans on December 7 and December 8, 2022 to adopt a Resolution of Necessity (Resolution). If adopted, the Resolution authorizes CalTrans to acquire the District property by eminent domain. Within six months of the adoption of the Resolution, CalTrans will decide whether to file a complaint in Superior Court commencing the eminent domain proceedings. The
-

4.1 Monthly Engineering Department Report Information Item

District is not planning to contest the NOI and this position is supported by the legal counsel.

- On November 16, through a phone conversation with Staff, CalTrans expressed interest in reaching a mutual agreement with the District in lieu of a lawsuit. CalTrans encouraged the District to provide a counteroffer to CalTrans offer of a sum of \$6,300 for the two easements. CalTrans also informed Staff that the State is in the process of acquiring the land next to the PTP Well Site No. 4 but the process could take a long time. Staff restated the District's need for more space at the well site and a guarantee that the parcel adjacent to the well site once purchased will be transferred to the District at the completion of the Project.
- On November 21, via an email correspondence to CalTrans, Staff restated the District's counteroffer which is the advanced approval of the County's Board of Supervisors for the parcel transfer to the District pending the completion of the land purchase by the State and the Project.

9. State Water Project (SWP) Interconnection Pipeline Project

- On October 26, 2022, the City informed Staff via email that at the October 25 Ventura Water Commission meeting, the Commission directed the City Staff to proceed with modifying the interagency agreement to include three parties, the City, Calleguas Municipal Water District (CMWD) and United Water Conservation District (United). Casitas Water District (Casitas) could be added as a party to the agreement at a future date if Casitas decides to do so and the proposed contract terms are acceptable to the City and other project participants. This decision was reached because despite Casitas commitment to pay towards the project design, Casitas is not ready to commit to the terms of the interagency agreement.
- The City of Ventura, CMWD, Casitas and United (joined the meeting virtually) met on October 28 to receive Stantec's presentation on the hydraulic model results that have been reported in a technical memorandum titled: State Water Project Interconnection Pipeline and Blending Station Project Hydraulic Analysis, Draft Technical Memorandum 04. The key assumptions, baseline criteria and findings of the hydraulic analysis include the following:
 - Bidirectional flow delivery between the City and Calleguas.
 - An interconnection pipeline of approximately 7 miles, with turn outs for future connections for United use. The City leads the design of approximately 4 miles (or five segments) pipeline and facilities and Calleguas will lead the design of approximately 3 miles (or one segment) of the 7 miles pipeline.
 - Interconnection pipeline will be constructed using both open and trenchless technologies.
 - 13 cubic feet per second (cfs) flow delivery from the City to Calleguas by gravity
 - 14.7 cfs flow from Calleguas to the City by gravity.
 - 24-inch HDPE DR 7 or 28-inch HDPE DR 7 or DR 7.3 pipes for the SCR undercrossing using trenchless horizontal directional drilling technology and 30-inch steel pipes for all

4.1 Monthly Engineering Department Report Information Item

other pipeline segments. Jack and bore construction will be used at key intersections. Micro tunneling is not a viable method due to the length of the SCR undercrossing.

- Alternative scenarios include upsizing the HDPE pipeline to 28-inch and steel pipe to 36-inch.

Note - that Casitas continues to participate in project meetings even though it is not formally a party of the interagency agreement.

- The City is modifying the interagency agreement with three participating parties and once completed, it will be submitted to Calleguas and United for review and approval
- The City also reported that the oral arguments hearing for the California Water Impact Network (CWIN) vs City of Buena Ventura case has been rescheduled to December 14, 2022.

10. Extraction Barrier and Brackish Water Treatment Project

- Meetings:
 - November 1, 2022
 - 1st interview (formal) with Environmental Science Associates (ESA) for CEQA/Permits services
 - November 8, 2022
 - 1st interview (formal) with Rincon Consultants for CEQA/Permits services
 - Scoping meeting with Kennedy/Jenks Consultants for design services
 - November 14, 2022 – Interview (formal) with Catalyst Environmental Solutions for CEQA/Permits services
 - November 16, 2022 – 2nd interview (informal) with Rincon Consultants for CEQA/Permits services
 - November 17, 2022
 - 2nd interview (informal) with ESA for CEQA/Permits services
 - Staff held a CEQA/Permits consultant selection meeting
- Grants:
 - Phase 1 Extraction Barrier Project - Prop 1 Round 3 Ground Water Grant Program (GWGP) – State Water Resources Control Board (SWRCB) – preliminary award announcements anticipated in Fall 2022.
 - Monitoring Wells - Sustainable Groundwater Management (SGM) Grant Program – *no updates to report*
- CEQA/NEPA:
 - Selected ESA and UWCD entered negotiations to provide environmental consultant services for California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) documentation, processing, and regulatory permitting. A separate staff report (motion item) provides background and discussion of the procurement process.
- Design:

4.1 Monthly Engineering Department Report Information Item

- Selected Kennedy/Jenks for design services and entered negotiation. A separate staff report (motion item) provides background and discussion of the procurement process.

11. Asset Management/ CMMS System

- Staff continues to work on tables and graphs for the end of year reporting from the Santa Felicia Dam monthly inspection reporting Survey123 app data exports.

12. Main Supply Line Sodium Hypochlorite Injection Facility-

- No updates to report.

13. Lake Piru Recreation Area – 2022 Pavement Maintenance Program

- Staff received a proposal in the amount of \$246,798.41 from Horizons Construction Co. Int'l, Inc. (Horizons) to perform the 2022 asphalt pavement repair. The project will include repair of approximately 34,600 square feet of the existing damaged asphalt concrete pavement for Olive Grove Campground adjacent roads. It also includes the pavement repair of approximately 18,500 square feet to the area between the park ranger's office and the Marina parking lot in the Lake Piru Recreation Area. The work is anticipated to start after the Thanksgiving holidays and expected to be completed in approximately 3-4 weeks.

14. Other Topics, Meetings and Training

- November 2 – Craig Morgan, Michel Kadah, and Adrian Quiroz attended FERC, D2SI Security Branch Fall Webinar Annual Security Compliance Certification (ASCC) Requirements and Security Inspection Findings.
- November 14-18 – Robert Richardson, Craig Morgan and Dr. Bral observed construction progress of a jack and bore operation under the District's 42" OH Pipeline at Rose Avenue and La Puerta Avenue as part of the Del Sol High School project.
- November 15 – Staff from Engineering, Environmental Services and Water Resources departments received a tour of Pyramid Dam from the DWR Southern Field Division.
- November 16 – Dr. Bral and Robert Richardson met with Third Pillar Solar and Pleasant Valley County Water District staff at the Pleasant Valley Terminal Reservoir to discuss a potential floating solar power cover project.
- November 17 – Robert Richardson virtually attended the California Coastal Commission meeting to observe California American Water Co.'s appeal regarding the decision to deny a permit for construction and operation of a well field, pipelines, and associated infrastructure at CEMEX sand mining facility to be used to provide source water for a desalination facility located in the coastal zone in Monterey County. The Appeal and Coastal Development Permit application was approved.
- November 17 – Dr. Bral and Craig Morgan attended the AWA Waterwise water information series and received a briefing from Anthony Goff, GM from Calleguas, Mauricio E. Guardado, Jr., GM UWCD and Mike Flood, GM, Casitas.

4.1 Monthly Engineering Department Report Information Item



Figure 1 – Staff participating at workshop with DWR on November 15, 2022



Figure 2 – Staff at tour of Pyramid Dam on November 15, 2022



Figure 3 – Santa Felicia Dam Spillway Underdrain Inspection



Figure 4 – New ADA Accessible Picnic Site at Condor Point



Figure 5 – New Metal Shaded Picnic Sites at Juan Fernandez



Figure 6 – Filter Face Piping Construction on November 17, 2022



Figure 7 – RAW Pipeline Tie-In to Well 12 and 13 Manifold



Figure 8 – New Fe/Mn Treatment Plant Site on November 17, 2022

4.1 Monthly Engineering Department Report Information Item



Figure 9 – Rose Avenue and La Puerta Jack & Bore Crossing under 42” OH Pipeline

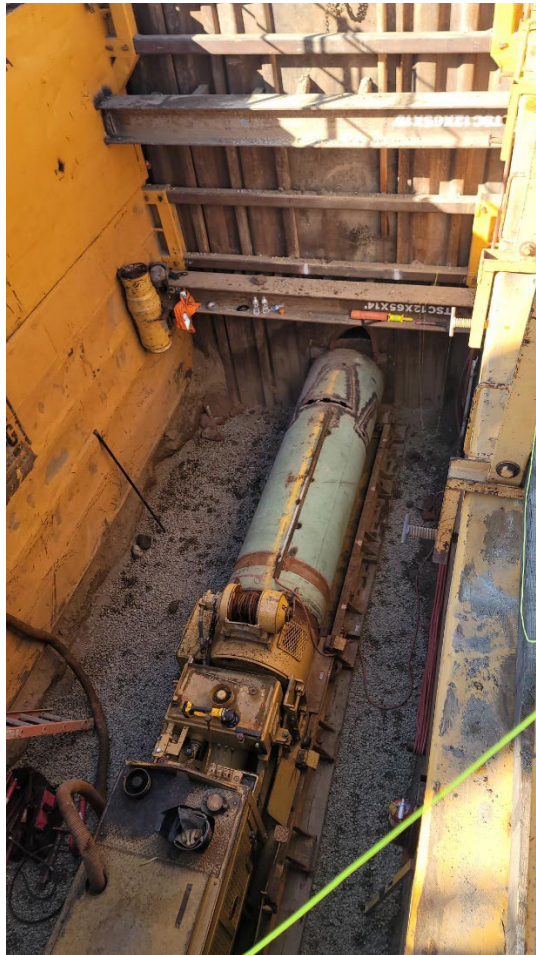


Figure 10 – Jack & Bore Machine in Pit on La Puerta Avenue



Staff Report

To: Engineering and Operations Committee Members

Through: Mauricio E. Guardado, Jr., General Manager
Anthony A. Emmert, Assistant General Manager

cc: Dr. Maryam Bral, Chief Engineer

From: Linda Purpus, Environmental Services Manager

Date: November 14, 2022 (December 1, 2022, meeting)

Agenda Item: 4.2 Monthly Environmental Services Department Report
Information Item

Staff Recommendation:

The Engineering and Operations Committee members will receive and file this staff report from the Environmental Services Department regarding its activities for the month of November 2022.

Discussion:

1. Santa Felicia Project Operations and Federal Energy Regulatory Commission (FERC) License Support

- Water Release Plan and Water Release and Ramping Rate Implementation Plan

Under the Water Release Plan and FERC license for the Santa Felicia Project, United Water Conservation District (United) is required to make certain water releases from the Santa Felicia Dam for steelhead habitat and migration, when specific triggers are met. Triggers for habitat water releases are based on cumulative rainfall within the water year. United evaluates whether the trigger is met on the first day of each month, between January and June. Each month that the trigger is not met, the minimum required habitat water release is seven (7) cubic feet per second (cfs). The trigger for enhanced habitat water releases was not met on June 1, therefore, the minimum required habitat water release will remain at 7 cfs for the rest of the calendar year.

- Dissolved Oxygen Monitoring Plan

On November 15, 2022, the State Water Resources Control Board (SWRCB) issued a letter approving the 2022 Dissolved Oxygen Monitoring Report for the Santa Felicia Project. The annual report detailed the results of monitoring activities conducted during the 2021 calendar year, consultation meetings held between United and SWRCB staff, and proposed improvement measures intended to provide supplemental dissolved oxygen to water releases conducted through the hydropower turbine units at the Santa Felicia outlet works. Environmental Services staff is and has been coordinating efforts with Engineering and O&M staff to implement

4.2 Monthly Environmental Services Department Report Information Item

measures proposed in the 2022 annual report. The next annual Dissolved Oxygen Monitoring Report will summarize the results of the improvement measures and will be submitted to SWRCB by March 31, 2023.

- Santa Felicia Fish Passage Pre-Implementation Studies

During the month of November, fall field sampling was conducted in accordance the Santa Felicia Fish Passage Pre-Implementation Study Plan. Crews from Cramer Fish Sciences, with support from District staff and a volunteer from the California Conservation Corps, conducted sampling for *O. mykiss* with backpack electrofishers in middle Piru and Agua Blanca Creeks from November 7-11, November 14-18, and on November 28 and 30, 2022. Logistical adjustments were iteratively implemented to accommodate for inclement weather (rain and wind) during these periods; however, all project goals were met. As of November 27, 2022, a total of 630 *O. mykiss* were implanted with Passive Integrated Transponder (PIT) tags, and 12 sites were sampled with multiple pass depletion electrofishing techniques during this fall season effort. Fish traps (fyke and rotary screw traps) were installed in preparation for operation during the December release of United's State Water Project (SWP) Table A water from Pyramid Dam and will remain deployed throughout the 2022-23 winter season (dependent upon flow conditions). The final field sampling event associated with this project is planned for spring of 2023.

- California Department of Water Resources (DWR) and Los Angeles Department of Water and Power (LADWP) FERC License (No. 2426) – South State Water Hydropower Project (Pyramid Lake)

Staff has continued to coordinate and meet with stakeholders in regard to the Clean Water Act Section 401 water quality certification for the South State Water Project (SSWP) FERC relicensing and the District's pursuit to increase importation of SWP deliveries. Stakeholders include DWR, LADWP, SWRCB, National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), U.S. Forest Service (USFS), California Department of Fish and Wildlife (CDFW), and American Whitewater. Meetings were conducted on November 2, 7, and 16, 2022, and have focused on resolving DWR and United's amendment request before the SWRCB as well as informing development of an evaluation under the California Environmental Quality Act (CEQA) to support a future amendment to the SSWP FERC license.

- United Water Conservation District v. FERC, Court Case in Abeyance

On September 29, 2010, the U.S. Court of Appeals granted the District a motion to hold the court case "United Water Conservation District v. FERC" in abeyance and directed the District to file status reports every 60-days. United filed the court case to challenge the biological opinion issued by National Marine Fisheries Service (NMFS) on FERC's issuance of a license for the Santa Felicia Project. On November 11, 2022, the seventy-third status update was filed with the U.S. Court of Appeals for District of Columbia Circuit.

4.2 Monthly Environmental Services Department Report Information Item

2. Freeman Diversion Sediment Management

On November 22, 2022, United successfully completed the “streamlined” sediment management work at the Freeman Diversion, which included extending the channel excavated in September 2022 an additional 100 feet upstream. On November 7, 2022, United received an executed amendment from CDFW to the Lake and Streambed Alteration Agreement, authorizing United to complete the channel extension for Freeman Sediment Management activities. On November 18, 2022, United received an Erosivity Waiver under the Construction General Permit from SWRCB, in accordance with the National Pollutant Discharge Elimination System (NPDES), authorizing the work. Environmental Services staff conducted supplemental project site surveys on November 9 and 18, 2022, and provided an on-site biological monitor during excavation activities on November 21 and 22, 2022. Environmental Services staff will prepare post-project reports in accordance with the project’s permits and authorizations and oversee implementation of compensatory mitigation measures for the project.

3. Extraction Barrier and Brackish (EBB) Water Treatment Project

On August 8, 2022, staff released a Request for Qualifications and Proposals (RFQ/P) for conducting environmental assessments consistent with California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), and providing associated environmental permitting consultant services to support the EBB Water Treatment Project Demonstration Phase. On September 15, 2022, United received five proposals. An interview panel consisting of Environmental Services, Water Resources, and Engineering staff interviewed the top three qualified firms during the month of November. Subsequent meetings were held with the top two firms. After staff deliberation, Environmental Science Associates (ESA) was selected as the most qualified firm to provide environmental consultant services for the EBB Water Treatment Project Demonstration Phase. Staff’s recommendation for consultant selection has been provided to the General Manager and will be presented to the Board of Directors in the form of a motion recommending the Board of Directors consider authorizing the General Manager to execute a contract with ESA in the amount of \$908,256 for the project.

4. Quagga Mussel Management

Staff continues to conduct routine monitoring under the Quagga Mussel Monitoring and Control Plan (QMMCP) including monthly water quality sampling, monthly veliger (microscopic planktonic larvae) sampling, monthly artificial substrate sampling in Lake Piru (plate sampling), and natural substrate sampling in lower Piru Creek (surface surveys).

5. Miscellaneous

- On November 15, 2022, Tessa Lenz and Randall McInvale accompanied Engineering and O&M staff to a workshop with DWR and LADWP in Castaic to discuss the Lake Piru Emergency Action Plan and Santa Felicia Dam Safety Improvement Project (SFDSIP). United seeks support from DWR and LADWP to reduce interim risk during construction of the SFDSIP. Following the workshop, staff was provided a tour of the Pyramid Dam facilities.

4.2 **Monthly Environmental Services Department Report** **Information Item**

- On October 26, 2022, Evan Lashly attended a meeting of the Watershed Wide Arundo Management group. The meeting was organized by Stillwater Sciences, the Santa Clara River Conservancy, and the University of California Santa Barbara who are collaborating with agencies and stakeholders on the development of a watershed wide Arundo management plan.

Staff Report

To: Engineering and Operations Committee Members

Through: Mauricio E. Guardado, Jr., General Manager
Brian Collins, Chief Operations Officer

From: John Carman, Programs Supervisor

Date: November 14, 2022 (December 1, 2022, Meeting)

Agenda Item: 4.3 Monthly Operations and Maintenance Department Report
Information Item

Staff Recommendation:

The Engineering and Operations Committee members will receive this staff report from the Operations and Maintenance department regarding its activities for the month of November.

1. Water Releases, Diversions

- Lake Piru dropped 1.1 feet in November to 14,041 acre-feet (AF) of storage.
- 0 AF of water was diverted by the Freeman Diversion facility in November.
- 0 AF of water was diverted to the Saticoy recharge basins in November (metered).
- 0 AF of surface water was delivered to the El Rio recharge basins in November.
- 0 AF of surface water was delivered to the PTP system in November.
- 0 AF of surface water was delivered C customers in November.
- 0 AF of surface water was delivered to Pleasant Valley County Water District in November.

2. Major Facilities Update

- **Santa Felicia Dam**
 - On December 1, 2022, the lake level was 80.0 feet below the spillway lip.
 - Habitat water releases from Santa Felicia Dam (SFD) were maintained at 7 cubic feet per second (cfs), for the month of November, as per the Water Release and Ramping Rate Implementation Plan for Lower Piru Creek.
 - November 15, 2022, staff attended EAP & IRRM workshop with DWR & LADWP and toured Lake Pyramid facilities.
 - Staff completed PLC conversion for low flow bypass valves on November 29, 2022.
-

Agenda Item: 4.3 Monthly Operations and Maintenance Department Report
Information Item

- **Freeman Diversion, Saticoy, and El Rio Recharge Facilities**

- Flows at the Freeman Diversion averaged zero cfs for the month of November, with zero cfs of surface water being diverted on December 1, 2022.
- District staff from all locations convened at Saticoy for the annual month long Desilt Basin Cleanout Project, 42,390 cubic yards hauled as of November 29, 2022.
- November 8, 2022, staff provided tour of Desilt Basin Cleanout project and Freeman Diversion Facilities to Palmdale Water District.
- Static water levels (distance of water from the well pad to the water table):

	2022	2021	2020
Saticoy	142'	148'	117'
El Rio	145.4'	138.7'	115.5'
PTP	144' - 176'	129' - 174'	118' - 155'

- **Oxnard-Hueneme (OH) Delivery System**

- Staff maintained a collaborative presence with daily inspections for the City of Oxnard sewer line upgrades, contractor Toro Construction which will be boring below United's 42 inch OH Pipeline on Rose Avenue.
- Quarterly TTHM Disinfection Byproduct report submitted to State Water Resources Control Board Division of Drinking Water.

- **Pleasant Valley County Water District (PVCWD)**

- PVCWD received surface water from the Conejo Creek Project and received some highly treated recycled water from the City of Oxnard's Advanced Water Purification Facility (AWPF).

- **Pumping Trough Pipeline (PTP)**

- During the month of November, the PTP system demand was met with PTP wells and supplemented with Wells 12 and 13 via gooseneck air gap piping.
- Staff installed a radio antenna on PTP Res tower, linking PTP turnout #139 to network.
- Staff configured and replaced PTP #157 six inch Endress Hauser mag meter.

- **Instrumentation**

- Staff completed security camera installation and server transition to Genetec systems.
- Instrumentation staff installed Yagi antennae at PTP Well # 5.
- November 30, 2022, staff replaced Santa Felicia Dam Emergency Action Plan Piru Fire Station siren batteries.

Agenda Item: 4.3 Monthly Operations and Maintenance Department Report
Information Item

- **Lake Piru Water System**

- All chlorine residuals and turbidity readings for the drinking water system were within proper ranges for the month of November.
- Staff performed quarterly inspection and added media to filter vessels.
- Monthly pH, turbidity and coliform samples were obtained for Lake Piru, as part of the Long Term 2 Enhanced Surface Water Treatment Rule compliance monitoring.

3. Operations and Maintenance Projects Update

- The Iron and Manganese grant funded project is progressing well at El Rio Booster Plant, projected completion date March 30, 2023.

4. Other Operations and Maintenance Activities

- The Santa Felicia Dam Emergency Action Plan sirens located in Piru were exercised on November 4, 2022.
- The monthly inspection of Santa Felicia Dam was performed.
- Monthly bacteria samples were obtained for the PTP system.
- Monthly meter readings were obtained for the OH, PTP, and PV Pipelines.
- Completed and electronically transmitted the monthly OH Pipeline report to the State Water Resources Control Board Division of Drinking Water.
- Static water levels were obtained for all El Rio, Saticoy, and PTP wells.
- Weed abatement continued throughout the District.
- Action priority update biweekly meetings for operations staff were continued.

5. Safety and Training

- During the months of November, approximately 3100 hours of O & M department work were performed with no reportable accidents.
- With the Desilting project requiring support across multiple sites, this month's safety training was postponed to the following month. Each morning, tailgate safety meetings were conducted prior to commencing operations. The Risk and Safety Manager also visited the project site (in some cases, unannounced) and reported staff was operating safely and all the proper road signage and communication tools were in place. The Control Systems team also completed the NFPA 70E Electrical Safety training, which complies with NFPA 70E and Cal/OSHA requirements for staff who work at or near energized electrical systems at or less than 600 volts.

Agenda Item: 4.3 Monthly Operations and Maintenance Department Report
Information Item

- Tailgate safety meetings were conducted at all individual O&M field locations and the topics included refresher training on equipment used at the various O & M locations.

Attachment: Operations Log for November