Santa Clara Valley Water District
CONFORMED COPY

File No.: 20-1187

Agenda Date: 1/5/2021
Item No.: 2.6.

BOARD AGENDA MEMORANDUM

SUBJECT:
Approve Amendment No. 8 to Agreement No. A3676A, with URS Corporation, for Design Services for the Anderson Dam Seismic Retrofit Project, Project No. 91864005, for a Not-to Exceed Fee of $16,715,863, Increasing the Total Not-to-Exceed Fee to $48,069,366, and extending the Agreement Term (Morgan Hill) (District 1) (Continued from December 8, 2020).

RECOMMENDATION:
Approve Amendment No. 8 to Agreement No. A3676A with URS Corporation for Design Services for the Anderson Dam Seismic Retrofit Project, Project No. 91864005, for a Not-to Exceed Fee of $16,715,863, Increasing the Total Not-to-Exceed Fee to $48,069,366, and extending the Agreement Term.

SUMMARY:
Valley Water is undertaking the Anderson Dam Seismic Retrofit Project (Project) to address seismic stability deficiencies, rehabilitate aging appurtenant facilities, and to comply with current dam safety standards. The full reservoir capacity will be restored upon completion of the Project.

Agreement A3676A with URS Corporation (Consultant) includes a scope of services to complete design documentation and prepare the construction plans, specifications, and cost estimates for the Project.

Amendment No. 8 to this Agreement will increase the not-to-exceed fee by $16,715,863 for the Consultant to perform additional design services for ADSRP efforts as well as providing engineering support design services during the construction of the ADTP. Valley Water follows best practices project management by amending a project design agreement prior to start of construction, after the design is complete; the details and complexity of construction have been defined; and the extent of design engineering support for construction has been assessed. With the ADTP design documents completed (external regulatory review is in progress) and the current schedule to advertise for bids in the next couple of months, it is timely to add the engineer-of-record design services during construction to the Agreement scope of services now.

Project Background and Previous Board Actions.

The Anderson Dam Seismic Retrofit Project (ADSRP) will correct dam seismic deficiencies and otherwise meet all current Federal Energy Regulatory Commission (FERC) and California Department of Water Resources, Division of Safety of Dams (DSOD) dam safety design standards.

Throughout 2019 to early 2020, Project staff and consultants had been progressing with preparation of 90% design plans and specifications and supporting environmental and permitting documents. On February 20, 2020, the Santa Clara Valley Water District (Valley Water) received a letter order from FERC to immediately implement ADSRP-related interim risk reduction measures, which included the construction of the Anderson Dam Tunnel Project (ADTP).

The ADTP includes construction of a diversion system to augment the existing outlet, which will consist of a diversion tunnel and outlet structure, a micro-tunnel lake tap, and modifications to Coyote Creek downstream of the project. The Project also includes reservoir bank and rim stability improvements and existing intake structure modification.

In order to comply with the FERC Order in a timely manner, staff is recommending the Board approve Amendment No. 8 to Agreement A3676A with URS Corporation for a not-to-exceed amount of $16,715,863.

Previously on April 6, 2020, the Board approved authorizing the Chief Executive Officer to negotiate and execute Amendment No, 7 to Agreement A3676A with URS Corporation up to an additional $8M. That Amendment was fully executed on June 6, 2020.

Consultant Work Performed to Date

The design services Agreement with URS for the Anderson Dam Seismic Retrofit includes the following tasks:

Task 1 - Project Management Services
Task 2 - Data Collection and Investigations
Task 2A - Phase 3, 4, 5, and 6 Geotechnical
Task 3A - Basis of Design (Approved for Design)
Task 3B - Basis of Design (Prior Approval Required)
Task 4 - 30 Percent Design Document Preparation
Task 5 - 60 Percent Design Document Preparation
Task 6 - 90 Percent Design Document Preparation
Task 7 - Final Design Document Preparation
Task 8 - Bid and Award Services
Task 9 - Supplemental Services during Design

Tasks 4 and 5 are complete. Most of the Task 2 scope is complete. Work has also been completed on the scope of Task 6 and Task 7 for ADTP.

The budget for Task 9, Supplemental Services, is being expended to fund additional necessary site investigations, preparing technical memoranda; and developing design modifications as mandated by

DSOD, FERC, and BOC requirements. The need to accelerate the ADTP ahead of the ADSRP pursuant to the FERC order of February 2020 has also resulted in additional work which has been funded by the Supplemental Services budget. The use of Supplemental Services has been carefully scoped by staff and formalized in individual task orders. Expenditures for these task orders have been closely monitored and deliverables have been reviewed for timeliness and completeness.

Staff Management of Consultant Agreements

Staff has been monitoring and managing the Consultant's performance to meet the goals and terms of the Agreement. Bi-weekly progress meetings and monthly design meetings are held with the Consultant to assess progress of the Project. As generally required in all Valley Water consultant agreements, consultants are required to submit detailed monthly progress/status reports with their invoices. These reports are scrutinized by Valley Water staff before approval of any payment to the consultants.

Another requirement in the Valley Water's consultant agreement is the preparation and implementation of an internal Quality Assurance and Quality Control (QA/QC) Plan by the Consultant for all deliverables transmitted to Valley Water. As part of the deliverable acceptance process, Valley Water also performs QA/QC review of all deliverables received from the Consultant for compliance with project scope, budget, and schedule.

For this Agreement, key Consultant deliverables are subject to additional technical review by FERC, DSOD staff, and independent experts.

Agreement A3676A Amendment History

The original Agreement with the Consultant for design services for the Anderson Dam Seismic Retrofit Project was approved by the Board on August 27, 2013 for a not-to-exceed fee of $11,384,761. Amendments Nos. 1, 2, 3, and 4 were administrative in nature (extending the Agreement term and updating the Agreement's standard terms and conditions) and were executed on December 28, 2015; August 11, 2016; February 21, 2017; and May 17, 2017, respectively.

Amendment No. 5 was approved by the Board on July 25, 2017 for a not-to-exceed fee of $6,001,165, resulting in a total not-to-exceed fee of $17,385,926. Amendment No. 5 expanded the scope of work to reflect the more extensive dam retrofit as determined from three years of geotechnical and geologic investigations and extended the Agreement term.

Amendment No 6 was approved by the Board on October 23,2018 for a not-to-exceed fees of $6,001,293, resulting in a total not-to-exceed fees of $23,387,219, extended the term of the Agreement, and modified the scope of services to reflect the additional work requested by the BOC, FERC, and DSOD.

Amendment No. 7 was approved by the CEO on June 2, 2020, after the Board authorized the CEO to negotiate and approve the Amendment. The Amendment authorized additional design services necessary after the FERC order of February 2020. The Amendment increased the not-to-exceed fees

by $7,966,284 resulting in a total not-to-exceed fees of $31,353,503 and extended the Agreement term.

Amendment No. 8 Additional Scope of Services and Time Extension

To progress the design phase to the 100% documents and provide engineering support to the construction phase of the ADTP Amendment No. 8 will allocate additional funds to Tasks 1, 3A, 3B, 6, 7, 8 and 9. Amendment No. 8 also adds new tasks 10 and 11 with corresponding not-to-exceed fees, for design engineering support during construction of ADTP as the Consultant will serve as the engineer-of-record.

The total not-to-exceed fee for Amendment No. 8 is $16,715,863. The tasks and not-to-exceed additional fees are summarized below:

1. Additional project management for extended design term Agreement. (Task 1: $199,658)

2. Additional effort for creating two Geotechnical Baseline Reports (GBRs), one each for ADTP and ADSRP. (Task 3A: $107,690)

3. Additional effort for implementing an Asbestos and Metals Air Monitoring Program. The extent of asbestos and metals air monitoring program is now defined, following the finalization of investigations, analysis, and design. The monitoring plan described in the Amendment applies to both ADTP and the larger ADSRP. Baseline monitoring (one-year duration each for ADTP and ADSRP) will be performed and this Amendment also includes a three-year regular air monitoring for ADTP. The regular monitoring for ADSRP for a period of 6 to 7 years will be included in a future amendment. (Task 3B: $5,621,480)

4. Additional 90 percent design documentation for earthquake fault mitigation design for diversion outlet structure, design due to required changes to large size cone valve, design of temporary bulkhead in downstream leg of low level outlet tunnel, additional coordination due to splitting of design between ADTP and ADSRP, preparation of ADTP and ADSRP temporary construction surveillance monitoring plans, preparation of ADSRP Quality Control Inspection Program, preparation of ADSRP temporary construction surveillance monitoring plan, preparation of Excavation Material Management Plan, SCADA designs, Coyote Road design revisions, preparing additional specifications, and updating spillway designs for ogee crest, terminal structure, and termination wing wall elements. (Task 6: $1,109,094)

5. Additional Final design documentation for fault mitigation design for diversion outlet structure, design due to required changes to large size cone valve, design of temporary bulkhead in downstream leg of low level outlet tunnel, additional coordination due to splitting of design between ADTP and ADSRP, SCADA designs, Coyote Road design revisions, preparing additional specifications, and updating spillway designs for ogee crest, terminal structure, and termination wing wall elements. (Task 7: $481,180)

6. Additional effort for ADTP bid and award services. (Task 8: $61,488)

7. Supplemental Services to provide funds for unanticipated costs associated with site specific land surveys, constructability review and risk workshops, additional engineering surveys and geotechnical investigations, additional design efforts, management of Coyote Ceanothus, analysis and design of the unlined spillway, north and south channel weir design to accommodate regulatory agencies requests, additional visual inspections of reservoir rim landslides, additional budget for restoration designs for upper parking and boat ramp, additional monthly inspection reports, design of landslide mitigations, final designs for strengthening of existing sloping intake structure, and additional PFMA and BOC meetings. (Task 9: $3,465,000)

8. Engineering design services during the construction of the ADTP (from February 2020 to December 2023). The District follows best practices project management by amending a project design agreement prior to start of construction, after the design is complete; the details and complexity of construction have been defined; and the extent of design engineering support for construction has been assessed. With design documents complete for the ADTP (external regulatory review is in progress), it is timely to add the engineer-of-record design services during construction to the Agreement scope of services now. (Task 10: $5,031,304)

9. Engineering support during ADTP construction for reservoir rim landslide mitigation strengthening of existing sloping intake structure. (Task 11: $638,969)

A summary of the tasks and fees for the proposed Amendment No. 8 is presented in Table 1.

TABLE 1

Task	Description	Total Fixed Not-to-Exceed (NTE) Fees					
		Original Agreement	Amendment No. 5	Amendme No. 6	Amendme No. 7	Amendme No. 8	Revised N FEES Tota
1	Project Management Services	$877,668	$591,973	$199,873	$1,458,97	$199,658	$3,328,151
2 and 2A	Data Collection and Investigations	$2,555,092	$747,012	$1,485,127	$389,235	$0	$5,176,466
3A	Basis of Design (Approved for Design)	$1,571,579	$405,123	$170,253	$208,897	$107,690	$2,463,542
3B	Basis of Design (Prior Approval Required)	$428,816	$1,552,146	$290,465	$867,720	$5,621,480	$8,760,627
4	30% Design Document Preparation	$1,361,525	N/A	N/A	N/A	$0	$1,361,525
5	60% Design Document Preparation	$1,408,868	$1,084,022	N/A	N/A	$0	$2,492,890
6	90% Design Document Preparation	$787,007	$403,640	$1,881,747	$1,484,071	$1,109,094	$5,665,559

7	Final Design Document Preparation	$336,182	$185,436	$335,871	$784,264	$481,180	$2,122,933
8	Bid and Award Services	$160,564	$31,813	$108,129	$10,738	$61,488	$372,732
9	Supplemental Services During Design and Construction	$1,897,460	$1,000,000	$1,529,828	$2,762,380	$3,465,000	$10,654,66
10	Engineering Support During ADTP Construction					$5,031,304	$5,031,304
11	Engineering Support During ADTP Construction (Prior Approval Required)					$638,969	$638,969
Total Agreement Not-to-Exceed Amount		**$11,384,761**	**$6,001,165**	**$6,001,293**	**$7,966,284**	**$16,715,86**	**$48,069,36**

FINANCIAL IMPACT:

There are adequate funds in the Board-adopted FY2021 budget to encumber the anticipated Consultant effort ($2 million) through the end of FY2021. Funds to cover the remaining Consultant services in FY2022 will be recommended by staff through the FY2022 budget process. The impact of this Consultant Agreement would be an increase to the total Project costs reflected in the Board adopted FY 2021-2025 Capital Improvement Program (CIP), which will be incorporated into the draft FY 2022-2026 Five-Year CIP.

CEQA:
The recommended action does not constitute a project under CEQA because it does not have a potential for resulting in direct or reasonably foreseeable indirect physical change in the environment.

ATTACHMENTS:
Attachment 1: Amendment No. 8

UNCLASSIFIED MANAGER:
Christopher Hakes, 408-630-3796

AMENDMENT NO. 8 TO AGREEMENT A3676A BETWEEN SANTA CLARA VALLEY WATER DISTRICT AND URS CORPORATION, DBA URS CORPORATION AMERICAS

This Amendment No. 8 (Amendment), effective as of the date it is fully executed by the Parties, amends the terms and conditions of Standard Consultant Agreement A3676A (Agreement) dated August 27, 2013, Amendment No. 1 dated December 28, 2015, Amendment No. 2 dated August 11, 2016, Amendment No. 3 dated February 21, 2017, Amendment No. 4 dated May 17, 2017, Amendment No. 5 dated July 25, 2017, Amendment No. 6 dated October 23, 2018, and Amendment No. 7 dated June 2, 2020 between SANTA CLARA VALLEY WATER DISTRICT (District) and URS CORPORATION, DBA URS CORPORATION AMERICAS (Consultant), collectively the Parties.

RECITALS

WHEREAS, Consultant is providing professional engineering design services for the Anderson Dam Seismic Retrofit Project (Project); and

WHEREAS, the Agreement currently expires on June 30, 2023; and

WHEREAS, the District is proceeding with design and construction of the Project in two separate phases, each with its own set of Contract Documents being prepared by Consultant: a new low-level outlet at Anderson Dam (Stage 1 Anderson Dam Tunnel Project (ADTP)) and then replacement of the entire Anderson Dam (Stage 2 – Anderson Dam Seismic Retrofit Project); and

WHEREAS, design of the ADTP is near completion; external regulatory review is in progress by the Federal Energy Regulatory Commission (FERC); the California Department of Water Resources, Division of Safety of Dams (DSOD); and an independent, technical Board of Consultants (BOC). The District currently plans to solicit bids from the short list of prequalified contractors during the first quarter of calendar year 2021; and

WHEREAS, additional design services are required from the Consultant due to new requirements from the BOC, FERC, DSOD, and environmental regulatory agencies; and

WHEREAS, the Parties desire to amend the Agreement to extend its term to provide sufficient time for Consultant to perform additional design services and construction phase engineering services as engineer-of-record during ADTP construction; increase the Total Agreement Not-to-Exceed Amount to provide for additional compensation related to the additional services; modify the Project Schedule for Consultant's performance in consideration of the added scope and extended term; and make other administrative changes.

NOW, THEREFORE, in consideration for the mutual promises and agreements stated herein and notwithstanding anything to the contrary in the Agreement and Amendment No. 1, Amendment No. 2, Amendment No. 3, Amendment No. 4, Amendment No. 5, Amendment 6, and Amendment No. 7, District and Consultant hereby agree to amend the Agreement as follows:

1. Revised Appendix One Scope of Services, is amended as set forth in the Revised Appendix One to the Revised Standard Consultant Agreement, attached hereto and incorporated by this reference.

2. Revised Attachment One Consultant's Key Staff and Subconsultants, is amended as set forth in the Revised Appendix One to the Revised Standard Consultant Agreement, attached hereto incorporated herein by this reference.

3. Revised Appendix Two, Fees and Payments, is amended as set forth in the Revised Appendix Two, Fees and Payments, attached hereto and incorporated herein by this reference.

4. Revised Appendix Three, Schedule of Completion, is amended as set forth in the Revised Appendix Three, Schedule of Completion, attached hereto and incorporated herein by this reference.

5. Revised Appendix Four, Insurance Requirements, is amended as set forth in the Revised Appendix Four, Insurance, attached and incorporated herein by this reference.

6. All other terms and conditions stated in Agreement A3676A, Amendment No. 1, Amendment No. 2, Amendment No. 3, Amendment No. 4, Amendment No. 5, Amendment No. 6, and Amendment No. 7 not otherwise amended as stated herein, remain in full force and effect.

IN WITNESS WHEREOF, THE PARTIES HAVE SET FORTH BELOW THEIR CONSENT TO THE TERMS AND CONDITIONS OF THIS AMENDMENT NO. 8 TO AGREEMENT A3676A THROUGH THE SIGNATURE OF THEIR DULY AUTHORIZED REPRESENTATIVES.

SANTA CLARA VALLEY WATER DISTRICT
Valley Water

By: _____
Chair, Board of Directors

Date: 1/5/2021

ATTEST:

_____
Michele L. King, CMC
Clerk, Board of Directors

URS CORPORATION, DBA URS CORPORATION AMERICAS
Consultant

By: Theodore Feldsher
Theodore Feldsher
Vice President

Date: 12/30/2020

Consultant's Address:

300 Lakeside Drive., Suite 400
Oakland, CA 94612

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED APPENDIX ONE TO THE
REVISED STANDARD CONSULTANT AGREEMENT
SCOPE OF SERVICES

This Revised Appendix One amends the current Revised Appendix One Scope of Services as stated herein. This Revised Appendix One Scope of Services describes the professional design services tasks to be undertaken by Consultant for the Anderson Dam Seismic Retrofit Project (ADSR)(Project) during the remainder of the Project design services phase and during construction of the Anderson Dam Tunnel Project (ADTP).

I. PROJECT OBJECTIVES (UNCHANGED)

A. The District's objectives for the Project include:

1. Stabilize the dam embankment for the Maximum Credible Earthquake (MCE) on the Calaveras and Coyote Faults;

2. Modify the existing spillway and/or raise the dam crest and make other modifications as required to accommodate the updated Probable Maximum Flood (PMF);

3. Replace the outlet works to mitigate the potential fault rupture risk from the Maximum Credible Earthquake on the Coyote Creek-Range Front fault zone; meet current State of California Department of Water Resources, Division of Safety of Dams (DSOD) emergency drawdown flow requirements, and provide additional flood management flow requirements for District's use; and

4. Incorporate other dam safety deficiencies that are identified in Problem Definition Memorandum and through the Design Phase of Project delivery.

B. Consultant's Services will support the District's objectives for the Project as follows:

1. Resolve the seismic deficiencies per Division of Safety of Dams (DSOD)/Federal Energy Regulatory Commission (FERC) standards;

2. Meet the District's Dam maintenance and operational requirements;

3. Meet the requirements identified in the District's Quality Management System procedures;

4. Meet the requirements of all federal, state, and local laws and regulations required for Project delivery;

5. Meet requirements of the resource and regulatory agencies (permitting agencies) including DSOD and FERC;

6. Result in the District's Board of Directors, FERC, and DSOD approving Project decisions.

II. INTENT (REVISED)

A. Consultant will perform the following professional design services:

1. Design the recommended Project (alternative) to resolve the seismic deficiencies with the embankment and intake and outlet works per DSOD and FERC requirements;

2. Design the recommended Project (alternative) to resolve deficiencies with the passage of the PMF (including spillway and/or crest modifications) in accordance with DSOD and FERC requirements;

3. Meet the District's maintenance and operational requirements;

4. Meet the requirements of all laws and regulations required for Project delivery;

5. Meet the requirements of resource and regulatory agencies (permitting agencies) including DSOD and FERC;

6. Produce a Final Design that will be recommended by District staff for approval by the District's Board of Directors;

7. Provide Engineering Support During Anderson Dam Tunnel Project (ADTP) Construction.

B. Consultant and its sub-consultants providing professional services described in this Scope of Services for this Agreement must be entirely unique and separate corporations from all other firms performing professional services for District relating to this Project. Consultant and its sub-consultants associated with this Agreement will be precluded from competing for construction management or construction services during the construction phase of the Project. Subcontractors, vendors, and suppliers providing non-professional services, such as but not limited to lab testing, soil borings, or other may propose and/or contract with prime consultants or the District for each of the separate professional services referenced below in Section IV. Project Delivery Approach.

C. District staff is currently preparing the necessary Project environmental documentation in conjunction with the Planning Consultant and Environmental Consultant.

III. PROJECT BACKGROUND (UNCHANGED)

A. The District manages an integrated water resources system that includes the supply of clean safe water, flood protection and stewardship of streams on behalf of Santa Clara County's 1.8 million residents and businesses. This system includes 10 dams and surface water reservoirs, three water treatment plants, nearly 400 acres of groundwater recharge ponds and more than 275 miles of streams.

One of the District's most critical water supply facilities is the Anderson Dam/Reservoir. The State of California Department of Water Resources, Division of Safety of Dams (DSOD) and the Federal Energy Regulatory Commission (FERC) have jurisdictional oversight of Anderson Dam facilities.

Anderson Dam (Dam) is an earth-fill dam with a maximum height of about 240 feet. The crest is approximately 1,400 feet long and is 25 to 43 feet wide at approximately elevation 648 feet, NAVD88. The upstream and downstream slopes are approximately 2.5 horizontal to 1 vertical (H:V). The zoned Dam includes upstream and downstream rockfill shells (Zones 1 and 4), a compacted clay core (Zones 2 and 3), and graded transition zones between the rockfill and clay core. The dam was originally constructed to elevation 641 feet, but was subsequently raised about 7 feet in 1987 using compacted fill. The existing volume of embankment is approximately 3.3 million cubic yards.

Anderson Reservoir's capacity is approximately 90,400 acre-feet, and receives water through local rainfall, from the upstream Coyote Reservoir, and from pumped water from the Federal Central Valley Project. The spillway is located on the north side of the dam and has the capability to release approximately 63,000 cubic feet per second (cfs) of water. The outlet works has the capability to release flows up to 550 cfs through a 49-inch diameter outlet pipe. The outlet works is also connected to the District's treatment plants via the District's in-county transmission system and is used to convey raw water to these plants for treatment. The reservoir water is used to supply groundwater recharge to both North County (via Coyote Creek) and South County (via Main Avenue Pipeline).

B. The Anderson Dam Seismic Retrofit (ADSR) Project was initiated based on findings from the 2011 Seismic Stability Evaluation prepared for the District by the consulting firm of AMEC Geomatrix, Inc. This study indicated there was potential for seismically induced slope instability and excessive deformation of the upstream and downstream sides of the dam due to potentially liquefiable alluvium and lower finer fill. Additionally, this study identified the potential for fault rupture to occur on the Coyote Creek Range Front faults that could damage the outlet works.

C. Planning for the ADSR began in 2012. The District retained HDR Engineering, Inc. (HDR) to perform the planning phase. During planning, additional dam safety deficiencies were identified including the inadequate outlet works capacity to draw down the reservoir per DSOD requirements, and inability to safely pass the Probable Maximum Flood (PMF), based on an updated PMF hydrologic analysis performed by HDR.

D. The Design Consultant, URS Corporation, DBA URS Corporation Americas, was hired in 2013. The major Project design components identified in the planning phase included a new high-level outlet, new low-level outlet in an oversized tunnel, spillway and dam crest modifications, and upstream and downstream buttresses to stabilize the embankment.

During the course of the design phase, additional dam safety deficiencies were identified including embankment transition zone quality, fault rupture across the embankment, and potentially liquefiable soils in the upstream dam embankment. A Modified Project has been developed to address these deficiencies.

The Modified Project calls for the replacement of most of the existing dam with embankments that will meet modern dam safety and performance standards. Much of the material from the existing dam will be reused in the embankment reconstruction. The size of the reconstructed dam will be similar to that of the existing dam. The new dam cross-section will be a compacted, zoned embankment dam with a central impervious clay core. It will include both a triple-layer chimney and horizontal blanket filter/drain/transition zones and compacted gravel shells. These features will address the previously-described dam deficiencies. All the liquefiable material at the base and foundation of the dam will also be removed.

As a result of a major spillway incident at Oroville Dam in 2017, both FERC and DSOD requested the District perform a comprehensive condition assessment of the spillway at Anderson Dam. Based on the assessment results and a subsequent spillway focused Potential Failure Mode Analysis (PFMA), a recommendation to reconstruct the spillway has been added to the Modified Project.

E. The Environmental Consultant, Horizon Water and Environmental, LLC (Horizon) was hired in early 2020. The District retained Horizon to complete the environmental documents prepared by HDR and assist the District in securing environmental regulatory permits. During design, following numerous discussions with FERC and National Marine Fisheries Services (NMFS), it has been determined that post-operation of Anderson Reservoir will need to be addressed as part of the environmental consultation, which is a significant change to the Project's approach and delivery to date. This scope of services was not included in HDR's planning phase agreement and, Horizon, having specific expertise in fisheries, was hired to complete the final environmental documents and perform the permitting work.

F. By letter dated February 20, 2020, FERC advised the District that, due to the limited outlet capacity at the existing Anderson dam and the presence of populated areas downstream of the dam, the District must take all measures available to reduce the risk of failure from an earthquake as much as possible until full remediation of the Anderson Dam is accomplished. FERC specifically directed the District to: (1) maintain the Anderson Reservoir no higher than 565 feet (NAVD88); (2) begin further lowering the reservoir to elevation 488 feet (dead pool) no later than October 1, 2020; and (3) within thirty days from the date of their letter, file with FERC's Regional Engineer, a plan and schedule for preliminary and final designs and for an overall construction schedule for the low-level outlet as soon as possible.

By response letter dated March 20, 2020 the District submitted a proposed detailed plan and schedule for the Anderson Dam Tunnel Project (ADTP) to comply with the FERC directive. The plan detailed the schedule for construction of a new low-level outlet at Anderson Dam (Stage 1) and the schedule for construction of the larger Anderson Dam Seismic Retrofit Project (Stage 2).

The Design Consultant will prepare two separate sets of plans, specifications, and cost estimates (one each for Stage 1 and Stage 2) instead of one set as previously planned and stated in their scope of services.

IV. PROJECT DELIVERY APPROACH (UNCHANGED)

The District plans to deliver this Project by retaining independent, separate consulting firms as described below:

1. The Project Management Consultant (PMC) Team led by Black & Veatch Corporation has been retained to assist with the delivery of the Project at the direction of the District.

2. The Planning Consultant (PC or Planning Team) led by HDR Engineering, Inc., has been retained to perform preliminary engineering services and to develop the required draft environmental documents (Draft Environmental Impact Report and Draft Environmental Impact Statement) in support of the Project. The Planning Consultant is responsible for defining deficiencies in existing facilities, defining criteria that provide a basis for engineering solutions to address the deficiencies, development of conceptual engineering solutions that address the deficiencies, and evaluation of the concepts and recommendation of a Project to the District for authorization by the District's Board of Directors (Board).

3. The Environmental Consultant (EC or Environmental Team) led by Horizon Water and Environment, LLC., has recently been retained to develop the required final environmental documents (Final Environmental Impact Report and Final Environmental Impact Statement) and assist in securing the environmental regulatory permits, which will include post-ADSRP construction operations. The Horizon scope of services is separate and distinct from the HDR Engineering, Inc. planning phase scope of services, as described in their agreement with the District. that include post-operations in support of the Project.

4. Consultant, serving as the Design Consultant, will perform design services in support of the Project, including developing the Project design, prepare construction documents, and providing engineering support for the bid process and during the construction phase of the Project. Engineering support during the construction phase of the ADTP is part of this Amendment. Engineering support during the construction phase of the ADSRP shall be negotiated with the Consultant as an amendment to this Agreement.

5. The Construction Management Consultant (CM or Construction Manager) will be contracted to oversee the construction contract and coordinate with the Design Consultant during construction. The Construction Management Consultant will be procured prior to the construction phase of the Project.

V. PROJECT TASKS - GENERAL CONDITIONS (UNCHANGED)

1. Consultant is required to work closely and collaborate with Project Management Consultant, Planning Consultant, Environmental Consultant, Construction Management Consultant, District Management, and District engineering, operations and maintenance staff to gain the necessary understanding of District's requirements, needs, operational constraints and preferences to address and complete key milestones and deliverables associated with this Scope of Services.

2. Review of Deliverables: At the direction of the District, reports/memoranda shall undergo preliminary review and comment by either the District or the PMC. Consultant shall incorporate preliminary comments from the District and/or the PMC prior to subsequent review and comment of deliverables by the District. As detailed herein, some deliverables (including but not limited to plans, specifications and cost estimates) are also subject to review and comment from regulatory agencies following District review process.

3. Consultant is responsible for performing the Scope of Services in compliance with all applicable federal, state, local, and District regulatory standards and guidelines.

4. Consultant shall use California State Licensed Contractors, Engineers, and Surveyors to perform the work appropriate to their licensing that is described in this Scope of Services. Consultant shall make available upon request by the District, qualifications and licensing of personnel used in execution of the work.

5. Consultant shall use Microsoft Office software and versions of applications for word processing, spreadsheets, scanned documents, and the latest version of CADD applications that meets District software application standards used at the time the Project work starts.

6. Consultant shall submit deliverables in both electronic and hardcopy format. Deliverables shall be submitted in PDF and native (editable) format, including Word documents, Excel spreadsheets, PowerPoint files, AutoCAD files, etc. The hard copy deliverables shall be printed in professional quality presentation and submitted in 5 (five) copies. District may require original copies of signed documents and/or scanned (Adobe PDF) versions.

7. Drawings shall comply with District's CADD and drafting standards (including line types, line weights, text sizes, text orientation, dimensioning, labeling/numbering system for detailed plan views and detailed section views).

8. CADD drawings prepared using different CADD software and versions must be converted to be compatible with District's CADD application. Prior to acceptance, District reserves the right to test the submitted CADD files to verify that the files are not corrupted or missing linkages (for blocks, etc., used in the drawing) and that the standards are retained during the conversion process used by the Consultant.

9. Engineering Estimates shall be prepared using the "bottom-up" methodology employed by contractors preparing bids for the construction work. The estimates must utilize a clear and logical work breakdown structure, with key assumptions on contractor productivity and equipment and labor spread for each piece of work. Labor rates shall be based on prevailing wage by craft and include both direct salary and fringes. Backup shall be included for equipment rates and material costs. A clear basis shall be provided for field and home office overhead, as well as any markups and profit.

10. The District and the PMC will facilitate access to District facilities as required for the Consultant to complete this Scope of Services.

DESIGN PHASE TASKS (REVISED)

Services to be provided by the Consultant are described by task categories described below. Refer to Revised Appendix Two, Fees and Payments, and Revised Appendix Three, Schedule of Completion which correlate with the tasks listed below.

There are eleven (11) major tasks in the design phase which include:

Task 1 - Project Management Services (REVISED)

Task 2 - Data Collection and Investigations (UNCHANGED)

Task 2A - Phase 3, 4, 5, and 6 Geotechnical (UNCHANGED)

Task 3A - Basis of Design (Approved for Design) (REVISED)

Task 3B - Basis of Design (Prior Approval Required) (REVISED)

Task 4 - 30 Percent Design Document Preparation (UNCHANGED)

Task 5 - 60 Percent Design Document Preparation (UNCHANGED)

Task 6 - 90 Percent Design Document Preparation (REVISED)

Task 7 - Final Design Document Preparation (REVISED)

Task 8 - Bid and Award Services (REVISED)

Task 9 - Supplemental Services during Design and Construction (REVISED)

Task 10 - Engineering Support During ADTP Construction (NEW)

Task 11 - Engineering Support During ADTP Construction (Prior Approval Required)(NEW)

AGREEMENT/AMENDMENT SUMMARY

Original Agreement	Amendment No. 6	Amendment No. 7	Amendment No. 8

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED APPENDIX ONE TO THE
REVISED STANDARD CONSULTANT AGREEMENT
SCOPE OF SERVICES

Task No.	Task Description	Task No.	Task Description	Task No.	Task Description	Task No.	Task Description
1	Project Management Services	1	Project Management Services	1	Project Management Services	1	Project Management Services (REVISED)
2	Data Collection and Investigations	2	Data Collection and Investigations	2	Data Collection and Investigations	2	Data Collection and Investigations (UNCHANGED)
-	-	2/2A	Data Collection and Investigations (REVISED and RETITLED)	-		-	
-	-	2A	Phase 3, 4, and 5 Geotechnical (REVISED and RETITLED)	2A	Phase 3, 4, 5 and 6 Geotechnical (REVISED and RETITLED)	2A	Phase 3, 4, 5 and 6 Geotechnical (UNCHANGED)
3A	Basis of Design (Approved for Design)	3A	Basis of Design (Approved for Design)	3A	Basis of Design (Approved for Design) (REVISED)	3A	Basis of Design (Approved for Design) (REVISED)
3B	Basis of Design (Prior Approval Required)	3B	Basis of Design (Prior Approval Required)	3B	Basis of Design (Prior Approval Required) (REVISED)	3B	Basis of Design (Prior Approval Required) (REVISED)
4	30 Percent Design Document Preparation	4	30 Percent Design Document Preparation	4	30 Percent Design Document Preparation	4	30 Percent Design Document Preparation (UNCHANGED)
5	60 Percent Design Document Preparation	5	60 Percent Design Document Preparation	5	60 Percent Design Document Preparation	5	60 Percent Design Document Preparation (UNCHANGED)
6	90 Percent Design Document Preparation	6	90 Percent Design Document Preparation	6	90 Percent Design Document Preparation (REVISED)	6	90 Percent Design Document Preparation (REVISED)
7	Final Design Document Preparation	7	Final Design Document Preparation	7	Final Design Document Preparation (REVISED)	7	Final Design Document Preparation (REVISED)
8	Bid and Award Services	8	Bid and Award Services	8	Bid and Award Services (REVISED)	8	Bid and Award Services (REVISED)
9	Supplemental Services During Design	9	Supplemental Services During Design	9	Supplemental Services During Design (REVISED)	9	Supplemental Services During Design and Construction (REVISED)

-	-	-		-	-	10	Engineering Support During ADTP Construction (NEW)
-	-	-		-	-	11	Engineering Support During ADTP Construction (Prior Approval Required) (NEW)

Notes:
Phase 1 and Phase 2 geotechnical investigations done under Task 2:
Amendment No. 1 extended the term to August 29, 2016.
Amendment No. 2 implemented administrative updates and extended the term to December 31, 2016.
Amendment No. 3 implemented administrative updates and extended the term to June 30, 2017.
Amendment No. 4 extended the term to December 31, 2017.
Amendment No. 5 increased the design scope for the modified Project and increased the NTE amount, modified the project schedule, and extended the term to July 31, 2020. Task 2A was added for Phase 3 geotechnical investigation.
Amendment No. 6 increased the design scope for the modified Project and increased the NTE amount, modified the project schedule, and extended the term to June 30, 2022. Task 2/2A was effectively a title header for Task 2 and Task 2A.
Amendment No. 7 increases the design scope for the modified Project and increases the NTE amount, modifies the project schedule, and extends the term to June 30, 2023.
Amendment No. 8 increases the design scope for the modified Project, adds engineering support during ADTP construction, and increases the NTE amount, modifies the Project schedule, and extends the term to December 31, 2023.

A detailed description of each task is listed below along with the task objectives and desired outcomes, approach, assumptions, tools used in executing the task, and a list of deliverables.

Task 1 - Project Management Services (REVISED)

1.1 Update the Project Design Work Plan (to be based on and incorporated by the District into the existing overall Anderson Dam Seismic Retrofit Project Work Plan) in accordance with the District's Quality Environmental Management System Work Instructions W75102 Create Work Plan and W73004 Design Phase WBS Item Description and Instructions (See Attachment Seven in Appendix One). The Updated Design Work Plan shall include updates to the Project objectives and requirements, constraints, detailed Project design schedule (showing major tasks and deliverables), a list of the Consultant's team members and their roles and responsibilities, updated communication protocols (internal and external), updated document control procedures and other administrative procedures.

1.2 The Updated Design Work Plan shall also include an update to the Project Quality Assurance and Quality Control (QA/QC) Plan documenting the Consultant's procedures to ensure the Consultant's services and deliverables meet District requirements and accepted practices and standards of the Consultant's profession. District reserves the right to request and review the Consultant's Project documentation demonstrating their adherence with their own quality assurance procedures. Consultant's updated QA/QC Plan shall be developed to comply with and support the Project QA/QC Plan.

1.3 Project Manager and other Consultant key staff will coordinate and attend periodic progress meetings and workshops with District staff and other agencies as needed to review, discuss and progress the work. For each meeting or workshop, the Consultant will prepare the meeting agenda and minutes and submit them for review by the PMC

and the District. A kickoff meeting will be held with the District and PMC to discuss Project objectives, constraints, information needs, roles and responsibilities, and communication protocols.

1.4 Coordinate and communicate through the PMC with appropriate regulatory agencies (FERC and DSOD), District staff, and Planning Consultant staff as necessary to execute this Scope of Services. This task includes support in drafting correspondence related to the Consultant's Project design activities as requested by the District.

1.5 Consultant is responsible for establishing and maintaining its own document control system after approval by the PMC as required to execute this Scope of Services. A document sharing system is maintained by the PMC for this Project. Access will be granted to Consultant staff to access other Project documents and reference materials, contact information, etc.

1.6 Consultant shall submit a Monthly Progress Report. The Progress Report shall document the work completed, document the execution of the tasks described in this Scope of Services and enable the PMC and District to evaluate the Consultant's progress and performance towards completion of the work. The Progress Report shall include (a) an assessment of actual versus planned progress in completing the work, including a description of the tasks and deliverables completed to date; (b) for each task, the percentage of the fees incurred for the task compared to dollar amount allocated to the task; (c) a statement that all design-phase tasks, as specified in this Agreement, together shall be completed within the agreed upon not-to-exceed total amount of the Agreement; (d) a statement that progress towards completion of the work is on schedule and will be completed within the milestones in the Agreement Project schedule; or, if completion of the work is not on schedule, then a statement of the anticipated length of the delay, the cause of the delay, measures proposed or taken to prevent or minimize the delay, and the schedule for implementation of such measures; and (e) for any proposed change to this Scope of Services, provide the supporting rationale for such change. Consultant will be provided with Progress Report samples/templates by the District.

1.7 Consultant will hold internal meetings to monitor and control schedule and cost and to develop corrective measures, if necessary.

Task 1 - Deliverables (UNCHANGED)

1. Project Work Plan including QA/QC Plan
2. Attendance at Progress Meetings and Workshops
3. Monthly Progress Reports
4. Meeting Agendas and Minutes

Task 1 - Assumptions (REVISED)

1. This scope includes a total of 116 monthly progress meetings, until December 2023.

2. Progress reports will be prepared monthly for the duration of 116 months, until December 2023.

3. Monthly progress meetings and reports from July 2019 to March 2020 are included in Task Order 9.06.48 and Task Order 9.06.53.

Task 2 - Data Collection and Investigations (UNCHANGED)

The purpose of Task 2 Data Collections and Investigations activities is to research, review, and adopt planning Phase deliverables as a basis for the Project design, as well as to conduct necessary field survey and geotechnical information to establish Project base mapping and geotechnical information. Services shall include but not be limited to:

2.1 Review relevant available reference documents and standards. A full listing of the specific documents are included in Attachments Six and Seven of Appendix One.

2.2 Prepare and submit a Planning Phase Review and Adoption Memorandum:

2.2.1 Review the Problem Definition Memorandum, Probable Maximum Flood Analysis, Conceptual Alternatives Report, Feasible Alternative Matrix Report, Staff Recommended Alternative Report, Planning Study Report, and other applicable memoranda, reports, and analyses prepared by the Planning Consultant.

2.2.2 Prepare a memorandum summarizing the findings from the review of the above-referenced documents and detail any recommended revisions or clarifications needed for moving forward with these documents as a basis for the design work. The basis of each recommended revision or clarification should be included. This memorandum and any revised version will be subject to review and approval by District.

2.3 Develop a detailed work plan for the Data Collection and Investigations for subtasks 2.4 through 2.7. This work plan will include a schedule and approach to the delivery of the Data Collection and Investigations (subtasks 2.4 – 2.7) described herein. The Data Collection and Investigations Work Plan shall be submitted for review and comment by the PMC and District prior to finalization. The District shall issue a notice-to-proceed for subtasks 2.4 through 2.7 individually, and only after review of the Data Collection and Investigation Work Plan. No work on subtasks 2.4 through 2.7 shall occur until after receipt of District notice-to-proceed for the individual subtask(s).

2.3.1 As a part of this task, the Consultant shall review previously completed relevant geotechnical reports and recommend additional investigations, if needed. The Geotechnical Work Plan shall be a chapter of the Data Collection and Investigations Work Plan. The Geotechnical Work Plan shall describe the goals of the investigations needed, the exploration locations and depths, the access and drilling methods, and the instrumentation and in-situ testing methods. The Geotechnical Work Plan will be submitted to FERC and DSOD, and revised, based on comments received from these agencies. The Geotechnical Work Plan will include the

geotechnical investigations to be completed in one or more phases to address the geotechnical data needs.

2.4 Consultant will prepare and submit a Project Base Map and data as necessary to complete required studies and prepare contract drawings for the Project. Base Map preparation shall include, but not be limited to:

2.4.1 Collect existing survey, topographical, GIS, property, easements and rights of way and utility/infrastructure data as applicable to generation of the Project Base Map for purposes of final design. The District has topographical, bathymetric, and GIS data available for the area around the dam; however, available information is suitable for reference only and surveying is required to create construction documents, as detailed in subtask 2.4.2.

2.4.2 Conduct field survey work as necessary to verify and supplement existing topographical data for the entire area of work including borrow and spoil areas. Survey work shall be adequate for preparation of base mapping data that will be used for final design. Consultant will review the District LiDAR data from 2006 that supports 1-foot contours, and will perform field surveys to verify those data. If LiDAR data is determined to be inconsistent with field surveys, the Consultant will complete additional field surveys or conduct a new LiDAR survey to support bare earth contour mapping throughout the site. The LiDAR survey, if needed, will be conducted at high density and with accuracy capable of supporting 1-foot contours. In addition, aerial photography will be obtained at 1:3600 photo scale to provide 1" = 40' scale mapping and 1-foot contours. LiDAR data together with aerial photography will be used to generate a base map covering the main dam site and the adjacent potential borrow areas at Chert Hill, Basalt Hill, and the Silica Carbonate Quarry.

2.4.3 Perform land surveying to support the LiDAR collection and validation, and to identify Project site utilities and structures for incorporation into the Project base map. Land surveying will include a GPS survey to establish precise horizontal and vertical coordinates on a local control station. Approximately 40 checkpoints will be surveyed throughout the mapping area to validate existing LiDAR data and support new LiDAR data collection, if needed. The survey will include horizontal and vertical control stations published by the National Geodetic Survey (NGS) and/or NGS-published Continuously operating Reference Stations in order to reference the Project to a specified geodetic coordinate system and vertical datum. Consultant will complete a field bathymetric survey to confirm existing ground elevations directly upstream of the dam. The bathymetric survey will be completed using boat-mounted echo sounder techniques and the data will be incorporated into the Project base map with a 2-foot contour base map.

2.4.4 Review data for existing utilities, pipelines, and other infrastructure to determine where it is necessary to verify locations for design and inclusion in final drawings. At critical locations, the Consultant will pothole existing utilities, pipelines, and other infrastructure as necessary to verify location for design and inclusion in the final drawings. Consultant shall use a contractor with a Class A or C-12 license for this

work. The District will provide available data on the expected location and depth of utilities from existing mapping and information in the District's possession.

2.4.5 Base map preparation shall conform to District Standards for GIS Products (See Attachment Five to this Appendix One, Scope of Services).

2.5 Conduct Geotechnical/Subsurface Investigations as required for detailed design and identified in the Geotechnical Work Plan described in subtask 2.3.1.

2.5.1 This Scope of Services assumes the total number of borings and drilling footage allowed for both investigation phases is as follows: for evaluating the upstream and downstream dam and buttress foundations and abutments - up to 20 borings, approximately 1,400 feet; outlet works structure and tunnel - up to 12 borings, approximately 1,600 feet; spillway and stilling basin - up to 5 borings, approximately 200 feet; cofferdam and lake sediments - up to 12 borings, approximately 400 feet; and borrow areas - up to 20 borings, approximately 1,300 feet.

2.5.2 The initial phase will be designed to provide adequate data for the basis-of-design engineering analyses, the development of the draft Geotechnical Baseline Report, and the draft Basis of Design Report. The borings will be drilled with multiple drill rigs using rotary wash, sonic, wireline coring, and vibracore methods. Consultant will collect drive samples in soil-like materials and rock core samples in the underlying bedrock. Sonic borings in the downstream embankment and toe foundations area will be drilled to collect continuous samples of rockfill and coarse alluvium. Bulk samples of the dam rockfill will be collected in up to 4 test pits excavated at selected locations on the downstream face of the dam, and select samples tested for geotechnical properties and material constituents. Samples of lake sediment will be collected by vibracore technique to allow for contaminant analysis.

2.5.2.1 Borehole geophysical investigations will include P-wave and S-wave surveys for evaluation of foundation and outlet tunnel rock properties in some of the borings as well as televiewer surveys to evaluate rock mass fracture patterns and areas of potential core loss. Hydraulic conductivity surveys will be conducted in the outlet works borings to evaluate bedrock permeability in the likely outlet tunnel section. Open standpipe piezometers will be installed in several borings to allow for measurement of groundwater levels outside of areas previous explored.

2.5.2.2 Rock core borings will be drilled in areas identified as potential sources of suitable rockfill material for the two buttresses. Borehole seismic P-wave velocity surveys and surface seismic refraction surveys will be completed in the proposed borrow areas. Several open standpipe piezometers will be installed in the proposed borrow areas to allow for groundwater measurements and cut slope stability analysis.

2.5.3 The second phase of the Geotechnical Work Plan will fill in data gaps identified during the design process at the 30% design level. Phase II work will address all potential Project risks associated with site geologic conditions. A second round of rock core borings will be drilled in proposed borrow areas to obtain detailed information for material characterization and definition of construction specification

requirements. Additional geophysical surveys and piezometers will also be completed in the proposed borrow areas.

2.5.4 Consultant shall use a driller with a valid C57 license, a California-Registered Geologist, a California-Registered Geophysicist and a California-Registered Professional Geotechnical Engineer to complete all proposed investigation work, as appropriate.

2.5.5 Laboratory Testing Program - Consultant shall develop a material testing program sufficient to gain District and regulatory acceptance; and to provide all necessary data (index and performance testing) for analysis and design of the Project. The tests will include index, hydraulic conductivity, compaction, consolidation, and strength tests. Consultant will also conduct environmental analyses on selected samples of lake sediments and serpentine rock and bedrock to evaluate the presence of naturally occurring asbestos and mercury. Consultant shall identify and use services of a qualified and certified materials testing facility. Consultant shall prepare a draft material testing program for approval by the PM, District, and regulatory agencies. The Draft Program will be refined and finalized after inspection of the soil and rock samples.

2.5.6 Develop and submit a Geotechnical Data Report - The report will include the results of all new field exploration and laboratory testing work performed by the Consultant, and the results of the investigations previously completed by others. A Draft report shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft shall be submitted to DSOD and FERC. The document will be updated to respond to agency comments, and subsequently to incorporate the second phase of geotechnical investigations.

2.6 Conduct Environmental Support Studies - Consultant will collect and evaluate engineering data that may be required to support environmental documentation by the Planning Consultant, including CEQA documents and permit applications. Activities may include, but are not limited to: (1) assist the PC in obtaining environmental clearance for design-phase exploratory investigations of dam site geologic and geotechnical conditions; (2) provide data on composition of materials to be excavated relative to environmental impacts, e.g. naturally occurring asbestos or reservoir sediment constituents; (3) estimate the number and types of equipment that will be utilized during Project construction and the duration, timing, and locations of construction activities, per CEQA requirements; (4) identify limits of temporary and permanent work areas; (5) provide 3-D renderings of proposed design for visual analysis and public presentations; and (6) describe methods for maintaining stream bypasses for minimum flows and temperature requirements for use in environmental permitting documents.

2.7 Conduct site geologic characterization and fault investigation - Consultant will review available geologic, geotechnical, geophysical and historical data relevant to characterizing the dam site geologic conditions, including the location and geometry of the Coyote Creek-Range Front (CCRF) fault zone. Consultant will conduct reconnaissance-level geologic mapping in the dam site vicinity to confirm previously

identified geologic conditions and incorporate data into an updated three-dimensional geologic model of bedrock, unconsolidated materials and fault location and geometry. Consultant shall complete a characterization of the mapped onsite fault strands of the CCRF) to better define possible constraints to Project components. The location and geometry of fault strands will be verified through progressively focused characterization of each of the previously mapped fault strands that cross Project components, consisting first of surface geophysical surveys, then shallow boreholes, and then road cut or trench exposures to define fault locations and characteristics for design. Geologic information on the direction and amount of coseismic slip, if encountered, will be documented.

2.7.1 Consultant will prepare a Geologic Field Investigation Work Plan for the site geologic characterization and fault investigation effort, including site access, exploration locations, depths and methods. The Geologic Field Investigation Work Plan will be submitted for review and approval by the PMC, the District, and the DSOD and FERC prior to proceeding with the field work. This Scope of Services assumes that the Consultant will complete one geophysical profile and shallow trench exposure near the downstream toe of the embankment. Near the Entrance Gatehouse off Cochrane Road, the Consultant will complete geophysical profiling, boreholes, and shallow trenches to verify the location of faults mapped beneath the embankment and the area of proposed downstream buttresses. Eastern and central CCRF fault strands mapped beneath and near the existing spillway will be confirmed and characterized through a series of geophysical surveying, shallow boreholes, short trenches and augmentation of an existing road cut. The eastern and central CCRF fault strands on the southern side of the dam will be characterized at key locations through a similar multi-tool investigation.

2.7.2 All field efforts will include review by District and regulatory personnel, and completed under all safety, environmental and permit requirements. The results from the site geologic characterization and fault investigation will be integrated with other geotechnical results into a revised three-dimensional geologic model and presented in a technical memorandum, which will be submitted in Draft format to the PM and District prior to submittal to the DSOD and FERC. The technical memo will be finalized after addressing all review comments. Geotechnical data from the geologic field investigations will be incorporated into the Geotechnical Data Report.

Task 2 – Deliverables (UNCHANGED)

1. Data Collection & Investigation Work Plan, including Geotechnical Investigation Work Plan
2. Planning Studies Review and Adoption Memorandum
3. Comprehensive Project Base Map
4. Geotechnical Data Report
5. Site Geologic Characterization and Fault Investigations Work Plan
6. Site Geologic Characterization and Fault Investigations Memorandum

Task 2 – Assumptions (UNCHANGED)

1. The District will provide the design, construction, and monitoring records for the dam including the records of the 1980's modifications to the spillway and outlet works, and other available documents in the District's files related to the seismic retrofit design of Anderson Dam including District site topographic data.

2. The existing topographical information is suitable for reference only and additional field surveys are necessary to verify and supplement the existing data.

3. The total number of borings, surveys, and drilling footage outlined for the site and borrow area investigations.

4. Access to the site for all data collection and field investigations will be cleared by the District. Environmental permits for the field investigations will be obtained by the PC.

5. If environmental support studies in addition to those listed herein and described in the Data Collection & Investigation Work Plan deliverable are requested, that work shall be negotiated and performed under a Task Order (See Revised Attachment Three to Revised Appendix One, Task Order Template).

Task 2A - Phase 3, 4, 5, and 6 Geotechnical (UNCHANGED)

2A.1 Consultant shall revise the Phase 3 Geotechnical Investigation Work Plan prepared as a draft under Task Order No. 9.06.12 as follows: Phase 3A and Phase 3B investigations shall be retitled to Phase 3 and Phase 4 investigations and will be prepared as a Drilling Program Plan (DPP) per FERC guidelines. The revised work plan will be tailored to the Modified Project, and address comments, if any, from the District and PMC on the draft DPP. Phase 3 and Phase 4 Investigations will be performed together and documented together for data collection purposes.

2A.2 Perform the Phase 3, 4, 5, and 6, geotechnical investigations as outlined in Tasks 2A.2.1, 2A.2.2, 2A.2.3, 2A.2.4, 2A.2.5 below. The investigations will be performed in accordance with Task 2A assumptions.

2A.2.1 <u>Phase 3 Geotechnical Investigation</u>: Drill borings to investigate potential dam core material borrow source in the vicinity of the Packwood Gravel Borrow Pit and perform an investigation to confirm subsurface conditions for 60% design of the Modified Project lake tap system. This investigation will also include additional drilling to confirm embankment foundation conditions at select locations and for the design of a temporary retaining wall during construction in the vicinity of Cochrane Road. Additional investigations will be included to explore the upstream stockpile areas. In addition, borings will be drilled to estimate the sediment thickness along potential haul routes in the reservoir area. This investigation will include explorations at the crest of the Dam to evaluate the strength of the core remnant and to test the core materials for Naturally Occurring Asbestos (NOA). Also, drill borings to investigate potential check dams for sediment control and to evaluate the haul roads to the reservoir stockpile areas.

2A.2.2 Phase 4 Geotechnical Investigation: The work shall perform a geotechnical investigation to confirm subsurface conditions for 60% design of the Modified Project diversion system and the downstream diversion outlet control structure. Excavate test pits to investigate potential dam core material borrow source within the Basalt Hill Borrow Area. Explorations will also be performed to obtain additional foundation data near the Low-level Outlet Portal. This investigation will include explorations at the crest of the Dam to evaluate the strength of the core remnant and to test the core materials for Naturally-Occurring Asbestos (NOA).

2A.2.3 Phase 5 Geotechnical Investigation: This phase of investigation shall include large-diameter sonic holes to collect upstream and downstream shell materials, and bore holes at the left abutment and outlet works to fill in the data gaps for the 90% design of the Modified Project. Explorations also will be performed to evaluate the foundation conditions for the spillway reconstruction and bridges within the Project staging area.

All materials or waters generated during boring construction or other activities associated with the borings will be safely handled, properly managed and disposed of off-site according to all applicable federal, state, and local statues regulating such activities.

2A.2.4 Additional Phase 5 Scope: Consultant shall drill up to two additional boring to find the depth of alluvium under the proposed location of the high-level outlet structure and one additional boring along the right spillway wall requested by DSOD, perform field gradation testing of large diameter sonic borings on the upstream and downstream shells of the dam, perform downhole geophysical logging of one spillway boring and seven outlet works borings, provide underwater services to free barge from anchor cables following high winds. The additional scope shall include 10 additional days of drilling for adverse drilling conditions in squeezing ground, and 8 additional days of time for providing senior FERC-approved geologists, and 8 additional days of supervisory time for coordination of up to 4 drill rigs working on-site, coordinating access into the spillway chute, and coordinating mobilization and demobilization of equipment for sonic drilling on upstream and downstream shells of the dam. This task will be funded through Task 3B.10.

2A.2.5 Phase 6 Geotechnical Investigation: Unlined Spillway Channel Alternatives Stage 1 and Stage 2 Investigations and Unlined Spillway Channel Alternatives Evaluation - Consultant shall perform Stage 1 and Stage 2 geotechnical investigations for the unlined spillway channel. Consultant shall perform laboratory testing of selected samples from the rock core and soil samples recovered from the investigations.

2A.3 Revise the Project Geotechnical Data Report to include data collected as part of the Phase 3, 4, 5, and 6 Geotechnical Investigations and the laboratory testing.

2A.4 Update the Project Site Geologic Map to include all geotechnical phases.

2A.5 Purchase four Conex boxes for storage of geotechnical investigation samples which are currently at the Project site under rental agreement between AZTEC Container and Taber Drilling, a subcontractor to Consultant. Following purchase, the District assumes full ownership and responsibility for disposition and removal of boxes (the current location of the boxes being on site) at the conclusion of Project. Also, locate all Conex boxes, existing and new, to a new location is included in Task Order 9.06.28.

Task 2A - Deliverables (UNCHANGED)

1. Phase 3, 4, 5 and 6 Drilling Program Plans
2. Phase 3, 4, 5, and 6 Geotechnical Data Report
3. Updated Geotechnical Data Report to Include all Phases
4. Updated Site Geologic Map to Include all Phases
5. Conex Boxes and Relocations

Task 2A - Assumptions (UNCHANGED)

1. It is assumed that the District will obtain and provide all permits required for the Phase 3 and Phase 4 geotechnical investigations described under Tasks 2A.2.1 and 2A.2.2.

2. Consultant will provide support to obtain required permits for the Phase 5 and Phase 6 geotechnical investigations described in Task 2A.2.3, Task 2A.2.4, and Task 2A.2.5.

3. Task 2A.2.1 (Phase 3 Geotechnical Investigation)

   a. Up to 4 borings will be performed from a barge in the vicinity of the Packwood Gravel Borrow Pit. The total length of drilling is assumed to be up to 160 feet. The borings will be drilled using the rotary wash drilling method. There will be two boring drilled in the lake tap area. The total length of drilling is assumed to be up to 155 feet. Drive samples will be collected at an average interval of 5 feet. Packer tests will be performed as directed by Consultant. Samples selected by the Consultant will be submitted for laboratory testing.

   b. Up to 3 borings will be performed for additional evaluation of the embankment foundation. The total length of drilling for these borings is assumed to be up to 195 feet. Rock coring will be performed as appropriate. It is assumed that laboratory tests will not be required for these 3 borings.

   c. One boring (drilled length up to 50 feet) will be performed to evaluate subsurface conditions in the vicinity of a temporary retaining wall near Cochrane Road. Rock coring and laboratory testing will be performed as appropriate.

   d. Up to 8 over-water soil borings totaling 320 feet will be advanced to evaluate stockpiles areas C and D. Up to 10 shallow over-water soil borings totaling 250 feet will be performed to investigate surficial conditions along potential haul routes in the reservoir area. These soil borings will be sampled every 5 feet with laboratory tests as determined by the Consultant.

e. Up to 2 soil borings will be advanced from the dam crest to obtain samples for NOA evaluation and to investigate the core remnant. These borings will be sampled approximately every 10 feet, with pressure meter testing performed in the lower approximately 100 feet of each boring. The total depth of these borings will be up to 245 feet each.

f. Up to six borings will be drilled along the alignment of the proposed haul road for a in reservoir stockpile area. The haul road borings will be drilled to a depth of 25 feet.

g. Up to six borings will be drilled at three potential check dam locations to a depth of 50 feet or to bedrock, if encountered first.

4. Task 2A.2.2 (Phase 4 Geotechnical Investigation)

   a. It is assumed that up to 12 test pits will be excavated to depths of up to 15 feet each in the residual soils in Basalt Hill Borrow Area to investigate their suitability for core borrow materials. Bulk samples of encountered soils will be collected. Selected bulk samples will be submitted for laboratory testing.

   b. Up to 3 borings will be performed to evaluate subsurface conditions for the Modified Project diversion system. The total length of drilling is assumed to be up to 230 feet for the diversion system borings. Rock coring will be performed, packer testing, and laboratory testing will be performed for these borings as determined by the Consultant. One soil/rock core boring will be advanced to a depth of about 100 feet to investigate the Low-level Outlet Portal foundation. This boring will employ continuous soil sampling and/or rock coring as is appropriate for conditions. Downhole geophysical surveying including televiewer and seismic P and S-wave will be performed in this borehole.

   c. Up to 60 samples from selected new boring and from previously drilled borings will be evaluated for NOA. Up to 30 of the samples will be evaluated for metals.

5. If environmental support studies in addition to those listed herein and described in the Data Collection and Investigations Work Plan deliverable are requested by the District, the scope of services for such studies will be negotiated and performed pursuant to a Task Order (See Attachment Three to Revised Appendix One, Task Order Template).

6. Task 2A.2.3 (Phase 5 Geotechnical Investigation)

   a. Up to eight large diameter sonic holes, four each at the upstream and downstream shell of the dam will be drilled to better understand the gradation of the material. Completing these large-diameter sonic holes will address FERC's recommendation to create large-diameter holes in the upstream shell materials. These boring will extend to a depth of approximately 100 to 140 feet.

   b. Up to two borings will be drilled at the upper left abutment to better define the bedrock contact, and to evaluate the extent and depth of excavation required for the

replacement dam to tie in. Both borings will extend to a depth of approximately 30 feet.

c. Up to eight borings extending to a depth of 80 feet behind the existing spillway walls to determine the foundation conditions and to facilitate anchor design. Crane service will be required to access the spillway borings and the borings located north of the spillway wall.

d. Up to four borings on the upstream portion of the spillway, extending to a depth of 125-150 feet below spillway crest, to determine geologic and geotechnical conditions for the new approach walls.

e. Up to twelve borings on the chute invert slab will be advanced to better understand the foundation materials below the existing spillway, and determine the depth to foundation material suitable for the new spillway invert slab. The borings will be drilled into the existing spillway slab and extend to a depth of 30 feet, or 20 feet into Franciscan Bedrock, whichever is encountered first. One of the twelve slab borings will be drilled to investigate foundation conditions of a concrete block that appears to have been repaired or replaced in the downstream center of the chute slab.

f. Up to six concrete core samples will be obtained from within and around the two mapped drummy areas within the spillway crest structure.

g. One boring extending to a depth of approximately 100 feet to investigate the conditions near high level outlet drop shaft location.

h. One boring extending to a depth of approximately 85 feet to investigate the conditions near the new diversion outlet portal location.

i. One boring extending to a depth of approximately 130 feet to explore the ground conditions near the high-level outlet works gate shaft.

j. One boring extending to a depth of 105 feet to explore the ground conditions near the low-level outlet works access tunnel portal.

k. Up to four borings will be drilled to characterize the foundation conditions for the temporary and permanent bridges over the Coyote Creek near the Staging Area 1. These borings will be advanced to a depth of approximately 40 feet.

l. Up to eight boreholes will be drilled to evaluate the use of Stockpile Area H. Up to four borings will be drilled along the alignment of the proposed haul road and four along the lower bounds of the proposed stockpile area. The haul road borings will be drilled to a depth of 25 feet and the stockpile areas will be drilled to a depth of 40 feet or to bedrock, if encountered first.

m. As part of the original scope of the Phase 3 Investigation Program, four over water borings were performed in the vicinity of the original Packwood Gravels Borrow Pit to evaluate the potential borrow source for core material. The results of the borings

indicated that sufficient quantities of core material were not available in the area investigated. Up to ten over water borings will be drilled to evaluate an additional borrow source for core material. These borings will be drilled to a depth of 40 feet or to bedrock, if encountered earlier.

7. Drive samples and piston samples will be collected during the investigations. Samples selected by the Consultant will be submitted for laboratory testing. Direct simple shear tests, cyclic simple shear tests, 6-inch consolidated isotropic undrained triaxial shear strength tests and 6-inch cyclic triaxial shear strength tests will be performed on the dam shell materials. Additional laboratory testing will be conducted on selected soil and rock samples collected from the exploratory boreholes to confirm field visual classifications and evaluate engineering characteristics.

8. If environmental support studies in addition to those listed herein and described in the Data Collection and Investigations Work Plan deliverable are requested by the District, the scope of services for such studies will be negotiated and performed pursuant to a Task Order (See Attachment Three to Revised Appendix One, Task Order Template).

9. If there is a need to revise the Drilling Program Plans approved by FERC, a written approval request providing the rationale for the revision should be submitted for the District, DSOD and FERC approvals.

10. Stage 1 of the Phase 6 investigations shall include 17 borings, 8 test strips, and 1 seismic refraction line to characterize the unlined spillway channel foundation to evaluate erosion potential and the left bank foundation materials to support potential improvements. Phase 6 Stage 2 investigations shall include 4 borings to further characterize the left bank foundation materials to support potential improvements. The cost of the Stage 1 of the Phase 6 Investigations for the unlined spillway channel will be included in the scope of Task 7 Final Design Document Preparation.

11. An investigation program will be planned and performed to support the Reservoir Rim Mitigation Final Design. The cost of this investigation will be covered under Task 6.

Task 3A - Basis of Design (Approved for Design) (REVISED)

The purpose of Task 3A Basis of Design is to perform the engineering analyses and calculations that are required to support and develop the Basis of Design for the Project. The supporting analyses, calculations, and other supporting standards and detailed design information shall be used to prepare a biddable and constructible set of Project Plans and Specifications and the Engineering Cost Estimates.

It shall be the responsibility of the Consultant to perform independent analyses to fully develop the Basis of Design without relying solely on work completed by others. Task 3A also includes the additional tasks identified due to development of the Modified Project.

3A.1 Conduct engineering analyses and prepare technical memoranda and reports as required to support the Project design. These analyses will be subject to the review of the PMC, District, and Regulatory Agencies as inputs into the Project Basis of Design.

These analyses shall include, but not be limited to the following:

3A.1.1 Design Criteria Memorandum - The Design Criteria Memorandum will define the basic criteria for the Project including District basic operations requirements, Project performance requirements, and DSOD and FERC design criteria. The Design Criteria Memorandum will include known relevant constraints such as environmental restriction dates and borrow and spoil area location constraints. The Design Criteria Memorandum will document geotechnical, civil, structural, electrical and mechanical standards to be used in the analyses and design. Pertinent codes and reference will be cited. The design criteria will be presented in a concise tabular format divided into features, issues, corresponding criteria, and remarks/references. The Design Criteria Memorandum will be issued in Draft form and updated as design progresses through the various design phases with comments from the PMC and District. A Design Criteria Workshop will be held with the PMC, District and Planning Consultant. The Draft Design Criteria Memorandum will be revised based on comments from the Workshop and a revised Draft Memoranda will be submitted to FERC and DSOD. The comments from FERC and DSOD will be responded to by the Consultant and incorporated into a third Draft Memorandum, if necessary.

3A.1.1.1 Draft Design Criteria Memorandum developed under Task 3A.1.1 will be revised to reflect the Modified Project criteria and design requirements. Subsequent changes to the design criteria will be tracked in a log, but the Draft Design Criteria Memorandum will not be updated until Task 6.2. A final update of the Design Criteria Memorandum is included in Task 6.2.

3A.1.2 Outlet System Hydraulic and Operational Analysis –Consultant shall evaluate the proposed outlet system to confirm, select, and refine the proposed system features and hydraulics as necessary to support detailed design. The outlet system shall be capable of meeting all established operational and regulatory requirements, including, but not limited to, passing the range of District operational flows in and out of the reservoir and passing the required DSOD drawdown requirement. The Outlet System Hydraulic and Operational Analysis Memorandum shall include necessary alternative analysis as required to select the configuration for final design.

Consultant shall analyze the outlet system conduit hydraulics from intake to discharge points downstream including existing infrastructure and any new outlet works required for discharge to Coyote Creek. A transient analysis will be performed to assess pressure increases in the conduit as a result of pump startup and turbine valve shutdown. Separate hydraulic analyses shall be performed for the high-level outlet. The Draft Memorandum shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft shall be submitted to DSOD and FERC. The document will be finalized after receipt and response to all comments by the Consultant.

3A.1.2.1 The Draft Outlet System Hydraulics and Operational Analysis Technical Memorandum, engineering analyses and calculations shall be updated due to the Modified Project. The Draft Memorandum shall be updated and submitted to the

District for comment. After incorporation of PMC and District comments, a Revised Draft shall be submitted to DSOD and FERC. The document will be finalized after receipt and response to all comments by the Consultant.

3A.1.3 Spillway Hydraulics - Consultant shall develop a 3-D computational fluid dynamics (CFD) model of the spillway that incorporates approach conditions, proposed spillway features (approach conditions, ogee crest, upper chute, lower chute and flip bucket terminal structure) and energy dissipation features. The model shall include the high-level outlet to confirm the sizing and orientation of primary features of the high-level outlet including inlet geometry, gate arrangement, main conveyance and convergence with the spillway. The CFD model shall illustrate the flow velocity and energy distributions for the complete range of flows anticipated up to and including the PMF and include consideration of impacts to the spillway performance resulting from potential degradation of the downstream channel. The CFD model will be calibrated with the results from the physical model tests completed by Hydro Research Science in 1986 for flows of 15,000, 40,000 and 60,000 cfs.

A Spillway Hydraulics Technical Memorandum presenting the methodology used, assumptions made, and results of the spillway hydraulics evaluation will be prepared. The Spillway Hydraulics Technical Memorandum will include digital appendices of the CFD model. The Draft Spillway Hydraulics Technical Memorandum shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft Spillway Hydraulics Technical Memorandum shall be submitted to DSOD and FERC by the Consultant. The document will be finalized after receipt and response to all comments.

3A.1.3.1 The Draft Spillway Hydraulics Technical Memorandum, engineering analyses and calculations shall be updated to reflect the Modified Project. The Draft Memorandum shall be updated and submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft shall be submitted to DSOD and FERC. The document will be finalized after receipt and response to all comments by the Consultant.

3A.1.4 Embankment Stability Analyses - Consultant shall evaluate the embankment to confirm stability during construction and other loading conditions required by the regulatory agencies. The static stability includes long-term steady-state seepage conditions and rapid drawdown conditions. At a minimum, the analyses shall consider stability of all temporary (e.g., excavated) and permanent slopes on the upstream slope as well as the downstream slope. A two-dimensional, finite-element or finite-difference modeling program shall be used to characterize the embankment.

Consultant shall develop a sufficient number of two-dimensional models to fully describe the embankment conditions from abutment to abutment. The models shall incorporate appropriate phreatic conditions for the loading conditions being evaluated. Where possible, the Consultant shall make use of previously developed input parameters, such as (1) material strength properties, and (2) hydraulic conductivities.

An Embankment Stability Analyses Technical Memorandum presenting the methodologies used, input parameters and assumptions made, and results of the analysis will be prepared. The Draft Embankment Stability Analyses Technical Memorandum shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft Embankment Stability Analyses Technical Memorandum shall be submitted to DSOD and FERC. The document will be finalized after receipt and response to all comments.

3A.1.4.1 Embankment Stability Analyses Technical Memorandum, Embankment Deformation and Settlement Analyses Technical Memorandum, and Foundation and Embankment Seepage Analyses Technical Memorandum will be combined in the Embankment Basis of Design Technical Memorandum.

3A.1.5 Embankment Deformation and Settlement Analyses - Consultant shall develop an estimate of dynamic response and seismic deformation of the remediated embankment under the MCE on the Calaveras and the Coyote Creek faults. The two-dimensional equivalent linear finite-element program QUAD4MU and the two-dimensional nonlinear finite-difference program FLAC will be used to analyze the dynamic response of the dam, i.e. seismically induced deformation and settlement. In addition to the two-dimensional analyses, the Consultant will perform three-dimensional analyses of seismic deformation to evaluate the required buttress layouts. The three-dimensional analyses will be used to assess the effects of 3D behavior on the seismic response of the dam and optimize the embankment retrofit design. Material strength properties, MCE time histories, liquefied zones and post-earthquake strength developed previously in the SSE Project and approved by DSOD and FERC, will be utilized in the analyses to the extent possible.

An Embankment Deformation and Settlement Analyses Technical Memorandum presenting the methodologies used, input parameters and assumptions made, and results of the analysis will be prepared. The Draft Embankment Deformation and Settlement Analyses Technical Memorandum shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft Embankment Deformation and Settlement Analyses Technical Memorandum shall be submitted to DSOD and FERC. The document will be finalized after receipt and response to all comments.

3A.1.6 Foundation and Embankment Seepage - Consultant shall perform foundation and embankment seepage analyses necessary for stability, dam safety permitting and for construction and operation of the dam sufficient to obtain regulatory approval from DSOD and FERC, including evaluation of the 1987 fill material to meet DSOD criteria regarding seepage during a PMF event. The embankment seepage analysis shall include all construction and expected lifetime operational conditions of the dam embankment and coordination with the embankment deformation and seismic stability analyses required above. Embankment stability and seepage analysis shall also address erosion protection against rain and wave action.

A Foundation and Embankment Seepage Technical Memorandum presenting the methodologies used, input parameters and assumptions made, and results of the

analysis will be prepared. The Draft Foundation and Embankment Seepage Memorandum shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft Foundation and Embankment Seepage Memorandum shall be submitted to DSOD and FERC. The document will be finalized after receipt and response to all comments.

3A.1.7 Outlet Works - The Outlet Works Design Technical Memorandum will document the basis of design for the new high level outlet works, low level outlet works, and tunnel design elements of both facilities. The Outlet Works Design Technical Memorandum shall document the proposed size, horizontal and vertical layout, hydraulic, structural, and geotechnical details as well as control and operational requirements, intake structure design, design of the outlet pipeline for fault offset in the tunnel, and design of the downstream controls and connections for the low-level outlet.

3A.1.7.1 High-Level Outlet - A spillway conduit (possibly gated) to satisfy DSOD's emergency 7-day drawdown criterion. The design will likely include a gated intake structure, likely with a submersible hydraulic cylinder operator, which shall be designed to remain full operable following the design seismic event. Consultant shall provide hydraulic, structural and geotechnical design details including excavation support and backfill, instrumentation for measuring and recording flow rates, water pressure, depths, gate motion and positions, corrosion protection and coating systems, cranes, hoists and rigging systems, electrical power and emergency power backup systems, and security and communication systems, as well as control and operational requirements.

3A.1.7.2 Low-Level Outlet - This Scope of Services assumes the low-level outlet works design includes a new multi-port sloping intake structure on the right abutment upstream of the spillway, a low-level outlet tunnel, downstream discharge structure(s), and a tie-in to the existing Anderson Force Main. The primary low-level outlet will consider both permanent fault displacement and severe ground shaking. The design approach will be validated based on a finite element analysis using the program ANSYS, which will capture the sliding of the pipeline on supports, imposed fault displacements, and the dynamic response of the pipe. Downstream controls for the low-level outlet will be designed to provide for District requirements, including but not limited to low and high capacity discharge to Coyote Creek, and tie-in to the Anderson Force Main.

3A.1.7.3 Tunnels - It is anticipated that both the low-level and high-level outlets will be placed within tunnels. The Outlet Works Design Technical Memorandum will include a description of the ground conditions and geotechnical design parameters which form the basis of the tunnel designs. Excavation and construction methods, constraints, and groundwater inflow control will be documented. Additionally, ground support design will be developed, including evaluation of the likely presence of low strength materials and risk of encountering adverse conditions such as squeezing conditions, raveling, flowing or running ground will be evaluated. The basis of design for lining of the tunnels will be determined, including evaluation of the risk of post-earthquake groundwater infiltration and potential ground loss in ruptured areas, and the need for including control measures as part of the tunnel excavation design.

3A.1.7.4 The scope of work for this task includes field investigations and data collection and interpretation for the Outlet Works in conjunction with other Project facilities; development of a Basis of Design Technical Memorandum; and supplementing the Basis of Design Report. Task 4 includes the subsequent preparation of plans, specifications, and engineer's cost estimates for all facilities associated with the Outlet Works, including but not limited to design of cut-and-cover grading and excavations, tunnels, pipelines, intake, connections, valves, gates, actuators, control systems for operation of all inlet/outlet works, permanent lining and structural support systems for tunnels, support and backfill for pipelines, instrumentation for measuring and recording flow rates, water pressure, depths, and valve/gate motion and positions, debris racks, corrosion protection and coating systems, cranes, hoists, monorails, and rigging systems, electrical power and emergency power backup systems, all water distribution, plumbing, and water storage systems, and security and communication systems.

3A.1.7.5 An Outlet Works Design Technical Memorandum presenting the methodologies used, input parameters and assumptions made, and results of the analysis will be prepared. The Draft Outlet Works Design Technical Memorandum shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft Outlet Works Design Technical Memorandum shall be submitted to DSOD and FERC. The document will be finalized after receipt and response to all comments.

3A.2 Geotechnical Baseline Report - Consultant shall prepare and submit a Geotechnical Baseline Report. The report shall reference : (1) the geotechnical studies previously performed on the Project site (by the Planning Consultant and others); (2) other relevant historical studies from the site vicinity, including, but not limited to, fault investigations, geological mapping and construction records; and (3) the results of geotechnical investigations performed by the Consultant (as part of this Project, see 2.5) to supplement the available data.

3A.2.1 The report shall reference the Geotechnical Data Report and present a characterization of the subsurface conditions (including but not limited to groundwater conditions, potential borrow sources, excavatability of rock, reuse as fill, tunnel ground support evaluation, final lining design, dam foundation excavation design, potential fault displacements, seismic activity and other relevant parameters) at the site, and representative graphical cross-sections that pass through the Project site. A map (or maps, as appropriate) shall be included showing the locations of known and suspected faults, landslides and other geological features in the Project vicinity.

3A.2.2 If conflicts in the data are present, those conflicts shall be identified and resolved, if possible. Consultant shall consider the likelihood that naturally-occurring asbestos (NOA) will be encountered during construction, and develop baselines to address such condition, as appropriate. Recommendations shall also be developed for additional geotechnical investigations that need to be performed during construction to establish measurable variances from baseline conditions.

3A.2.3 The Draft Geotechnical Baseline Report shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft Geotechnical Baseline Report shall be submitted to DSOD and FERC, and their comments incorporated. The Geotechnical Baseline Report will continue to be refined during the design and final contract document preparation. The Final Geotechnical Baseline Report will be checked for consistency with the Final Plans and Specifications, and will itself be a contract document along with the Geotechnical Data Report.

3A.2.4 Consultant shall prepare separate Geotechnical Baseline Reports for ADTP and ADSRP.

3A.3 Reservoir Operations Technical Memorandum - Consultant shall prepare a Reservoir Operations Technical Memorandum that addresses reservoir operations, flow releases to Coyote Creek, and management of inflows to the reservoir over the expected duration of construction. This Reservoir Operations Technical Memorandum shall establish clear baselines for inflows into the reservoir and requirements for design of temporary cofferdams. The Reservoir Operations Technical Memorandum shall further define schedule baselines for reservoir lowering to facilitate construction and for maintaining the existing intake in service, if required.

3A.3.1 As part of the evaluation, the Reservoir Operations Technical Memorandum shall address how and when the spillway and outlet works could be taken out of service while operating the reservoir within a relatively narrow band, maintaining a minimum level for resource protection and a maximum level that maintains adequate flood protection. The analysis will address flood safety risks (of being unable to maintain flood protection during construction or of reservoir rising to a level higher than accepted by FERC/DSOD), operational risk (lack of operational flexibility during construction) and technical risks of a large storm delaying the start of construction or adversely impacting construction.

3A.3.2 The Reservoir Operations Technical Memorandum presenting the methodologies used, input parameters and assumptions made, and results of the analysis will be prepared. The Draft Reservoir Operations Technical Memorandum shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft Reservoir Operations Technical Memorandum shall be submitted to DSOD and FERC. The document will be finalized after receipt and response to all comments.

3A.3.3 Consultant shall update the engineering analyses and calculations to reflect the Modified Project. The Draft Memorandum shall be updated and submitted to the District for comment as a Revised Draft Memorandum. After incorporation of PMC and District comments, a Revised Draft shall be submitted to DSOD and FERC. The document will be finalized after receipt and response to all comments by the Consultant.

3A.4 Material Development and Handling Technical Memorandum - Consultant shall prepare a Material Development and Handling Technical Memorandum with recommendations on material development and handling as required to facilitate construction. Specific recommendations (including alternatives analyses) on development of borrow and disposal areas shall be developed, along with staging requirements to facilitate these operations, including haul roads associated with borrow and disposal areas and associated reclamation of borrow areas. Borrow areas will be evaluated for quality and quantity of material suitable for rockfill as well as accessibility and environmental impacts. A Materials Balance Diagram shall be developed and presented in the Material Development and Handling Technical Memorandum to reflect excavation volumes, borrow, requirements for new fills, waste volumes and their associated shrink/swell factors.

The Material Development and Handling Technical Memorandum presenting the methodologies used, input parameters and assumptions made, and results of the analysis will be prepared. The Draft Material Development and Handling Technical Memorandum shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft Material Development and Handling Technical Memorandum shall be submitted to DSOD and FERC and their comments incorporated. The Material Balance Diagram and Material Development and Handling Technical Memorandum will be updated at the 30%, 60% and 90% design submittals.

3A.5 Cofferdam Technical Memorandum - Consultant shall prepare a Cofferdam Technical Memorandum that defines the basis of design for a temporary cofferdam to facilitate upstream embankment repairs in the dry. The Cofferdam Technical Memorandum shall focus on defining criteria for design, including location and alignment of the cofferdam, reservoir operations and levels during construction and crest elevation requirements; conveyance/bypass requirements during construction (for both flood control and environmental flows); removal after construction, particularly if the cofferdam is to be higher than the dead pool elevation; flood protection, including inflow hydrographs, for a design storm occurring during construction, cofferdam type, foundation treatment, freeboard requirements and seepage control.

3A.5.1 Consultant shall evaluate and recommend whether the cofferdam should be designed by the Consultant and included as part of the Contract Bid Documents or whether the cofferdam be designed by the Contractor as part of their temporary site works to a set of criteria provided in the Contract Specifications. Regardless of the design approach, a preliminary cofferdam design will be made in this task for constructability, scheduling and cost-estimating purposes.

3A.5.2 Cofferdam type will be evaluated and a risk analysis performed for type selection. Cofferdam construction will be coordinated with construction/reservoir schedule to establish whether the schedule affects contract approach or cofferdam type selection. Locations and alignments for the cofferdam will be evaluated. An area around the recommended cofferdam alignment will be established to permit various cofferdam designs to be considered. Considerations include constraints from potential borrow areas, disposal site for upstream excavation/dredging, intake construction, and

Project schedule. The specifications for Contractor design of the cofferdam will be developed in Tasks 4 through 7.

3A.5.3 The Cofferdam Technical Memorandum will present the methodologies used, input parameters and assumptions made, and results of the analysis will be prepared. The Draft Cofferdam Technical Memorandum shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft Cofferdam Technical Memorandum shall be submitted to DSOD and FERC. The document will be finalized after receipt and response to all comments.

3A.5.4 If the Consultant recommends that the cofferdam be designed by Consultant, the basis of design will be developed and presented in the Cofferdam Technical Memoranda and the design plans and specifications will be developed in Tasks 4 through 7.

3A.5.5 consultant shall update the engineering analyses and calculations to reflect the Modified Project. The Draft Memorandum shall be updated and submitted to the District for comment as a Revised Draft Memorandum. After incorporation of PMC and District comments, a Revised Draft shall be submitted to DSOD and FERC. The document will be finalized after receipt and response to all comments by the Consultant.

3A.6 Basis of Design Report - Consultant shall prepare a full Basis of Design Report to define the technical requirements and parameters for the entire Project including the fields of civil, geotechnical, structural, hydraulic, mechanical, electrical, instrumentation, controls, maintenance and others as appropriate. The Basis of Design Report shall include: (1) description of the general arrangement of existing and new Project facilities; (2) summary of the pertinent findings of the geotechnical investigations; (3) basis for dam, buttress and foundation material properties for use in analyses; (4) construction materials source assessment (on-site and commercial); (5) foundation characterization to assess excavation requirements and foundation acceptance criteria; (6) groundwater dewatering requirements; (7) civil and geotechnical design of the dam buttresses including stability and seismic deformation analyses; (8) design of disposal sites; (9) hydraulic and structural design of the spillway and outlet works; (10) mechanical and electrical design of the intake and outlet facilities; (11) access roadwork; and (12) the temporary cofferdam.

3A.6.1 The Basis of Design Report shall include all known and relevant constraints, such as: start and end of reservoir filling periods, environmental restriction dates, minimum flow criteria, criteria related to continuation of District water services and operations, borrow and spoil area constraints, sequencing constraints, etc. The Basis of Design Report shall include the completed Base Map and preliminary design drawings of the Project components detailing the retrofit, spillway and/or crest modifications, outlet works, and borrow/spoil areas.

3A.6.2 The Draft Basis of Design Report shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft Basis of Design Report shall be submitted to DSOD and FERC and their comments incorporated.

3A.6.3 A review workshop will be convened with the District and PMC to review the basis of design documents. A separate review meeting will be convened with the District, DSOD, FERC and the BOC to review the basis of design documents. The review meeting will be held after submittal of the documents to the regulatory agencies.

3A.6.4 The Basis of Design Report will continue to be updated through the design phase. Upon completion of final design, the Basis of Design Report shall be updated to reflect any changes or additions that occurred over the course of the design development as detailed in Task 7.

3A.7 Civil, Roads, Utilities Technical Memorandum. A basis of design for permanent site access roads, other civil works, and utilities will be prepared. This effort includes development of a preliminary design of horizontal alignment and vertical profile of Coyote Road to accommodate the raising of Anderson Dam's crest and modification of the dam's buttress and embankment fill per the Project's seismic and hydraulic requirements. This includes temporary stockpile areas for material and modifications to the lower and upper parking areas and the adjacent dirt trails. Grading limits will be established to identify environmental, right of way, utility and drainage facility impacts; and design modifications to existing Anderson Dam Trail approaches where they intersect Coyote Road.

3A.7.1 This preliminary engineering work includes determining right of way, utilities easements, construction quantities, cost estimates and permit requirements for the Project, including roadway and structures. Design elements will be studied for value engineering opportunities, and those elements where significant cost savings or other advantages can be realized will be addressed.

3A.7.2 Exhibits will be attached to the Civil, Roads, Utilities Technical Memorandum and include planimetric maps showing key dimensions and features, roadway profiles, cross–sections, and additional construction details, as necessary, to graphically show the proposed work and limits of impact. Miscellaneous calculations used to determine pavement limits will also be included.

3A.7.3 The Civil, Roads, Utilities Technical Memorandum will present the input parameters and assumptions made and results of the analysis will be prepared. The Draft Civil, Roads, Utilities Technical Memorandum shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft Civil, Roads, Utilities Technical Memorandum shall be submitted to DSOD and FERC. The document will be finalized after receipt and response to all comments.

3A.8 Instrumentation Technical Memorandum. A Technical Memorandum shall be prepared describing basis and the selection of instrumentation and instrumentation details required for construction and for permanent operation of the Anderson Dam. Instrumentation designs shall be coordinated with the District Dam Safety Program Unit to ensure system compatibility, and maintenance requirements are adequately incorporated.

3A.9 Reservoir Rim Stability Evaluation and Monitoring Plan – Consultant shall prepare a Reservoir Rim Stability Evaluation and Monitoring Plan. This scope of services includes the evaluation of five landslides that are located on the east and west shorelines of the south end of Anderson Lake that moved when the reservoir was lowered in 1987 to modify the Anderson Dam outlet works and determining potential hazards to the ADSRP during reservoir lowering and through the construction period when the reservoir is empty. Consultant shall develop conceptual buttressing alternatives for the two landslides that are present on the west shoreline and provide recommendations for monitoring the landslides during construction.

Task 3A - Deliverables (REVISED)

1. Design Criteria Memorandum (3 Drafts)
2. Outlet System Hydraulic and Operational Analysis Tech Memorandum (2 Drafts + 1 Final)
3. Spillway Hydraulics Tech Memorandum (2 Drafts + 1 Final)
4. Embankment Basis of Design Tech Memorandum (3 Drafts + 1 Final)
5. Spillway Basis of Design Technical Memorandum (2 Drafts + 1 Final)
6. Embankment Stability Tech Memorandum (2 Drafts + 1 Final)
7. Embankment Deformation and Settlement Analyses Tech Memorandum (2 Drafts + 1 Final)
8. Foundation and Embankment Seepage Tech Memorandum (2 Drafts + 1 Final)
9. Outlet Works Design Tech Memorandum (2 Drafts + 1 Final)
10. Geotechnical Baseline Report (2 Drafts/Final) for ADTP
11. Geotechnical Baseline Report (2 Drafts/Final) for ADSRP
12. Reservoir Operations Tech Memorandum (2 Drafts + 1 Final)
13. Material Development & Handling Tech Memorandum (2 Drafts + 1 Final)
14. Cofferdam Technical Memorandum (2 Drafts + 1 Final)
15. Basis of Design Report (2 Drafts + 1 Final)
16. Civil, Road and Utilities Technical Memorandum (2 Drafts + 1 Final)
17. Reservoir Rim Stability Evaluation TM (2 Drafts + 1 Final)
18. Landslide Monitoring Plan (2 Drafts + 1 Final)

Task 3A - Assumptions (UNCHANGED)

1. The alternative identified in the Planning Study Report will be adopted for the embankment stability, deformation, and seepage analysis, but based on further analysis may be changed, if the District concurs.

2. For embankment stability analyses, up to 6 cross-sections will be analyzed for temporary and permanent embankment conditions.

3. For dynamic response analyses and seismic deformation and settlement analyses, up to 3 transverse cross-sections will be analyzed with a total of 6 input time histories: 3 for Calaveras MCE, 3 for Coyote Creek MCE.

4. The planning consultant will provide the applicable specific including plant type selection and material selection for landscaping required for restoration pursuant to the final environmental and permitting documents.

5. Interim dam stability analyses will be performed using the revised design criteria recommended by FERC.

6. An alternative concept will be considered for the HLOW. The alternative concept is to tunnel through the downstream right abutment of the dam.

7. Diversion intake was originally anticipated to be an incidental structure. A larger and more complex structure is required for the diversion intake structure to mitigate the risks associated with debris blocking the intake during diversion.

8. Coyote Road was designed as a one-way road in the 30% Design. Coyote Road will be redesigned by providing two lanes between Cochrane Road to the upper parking lot on the left abutment. To accommodate this change, additional cut-and-fill, retaining walls, and a revision of the roadway design will be required.

9. Budget for this Task 3A includes Preliminary Reservoir Rim Stability analysis, stability analyses for in-lake stockpile areas for core material, and Material Development and Handling TM (additional analysis required to address the comments/requests from the regulators prior to December 31, 2019).

10. Budget for this Task 3A includes a portion of the additional analysis for spillway related to right abutment stability, foundation evaluation and design, replacement of crest and right abutment training wall tie-in to abutment to not cross property line as required. Remaining budget for these spillway related tasks is included in the scope of Task 6 90% Design Document Preparation.

11. Budget for this Task 3A includes additional effort to prepare the Basis of Design Report and a portion of other additional efforts for splitting the Project into Stage 1 and Stage 2.

Task 3B - Basis of Design (Prior Approval Required) (REVISED)

The District may require, and the Consultant shall perform, the following Optional Services during the Design Phase on an as-needed basis. Prior to performing any of these Optional Services, the Consultant must obtain written authorization from the District's Dam Safety & Capital Division Deputy Operating Officer in the form of a Task Order (See Attachment Three to Appendix One, Task Order Template). Written authorization will state the agreed-upon scope of the services, the classifications of staff performing the Optional Service, the associated not-to-exceed fees, and schedule.

A technical memorandum presenting the methodologies used, input parameters and assumptions made, and results of the study and analysis will be prepared for each sub-task. Each Draft Technical Memorandum shall be submitted to the District for comment. After incorporation of PMC and District comments, a Revised Draft shall be submitted to DSOD and FERC. Each document will be finalized after receipt and response to all comments.

3B.1 - Spillway Physical Model Study

Develop a physical model of the spillway (for full range of flows up to the revised PMF). The physical model of the proposed spillway will be built at a reasonable scale to fully assess the flow characteristics of the entire spillway (including exit conditions). The Consultant shall utilize a hydraulics laboratory with experience developing similar physical models. The final model may be subject to verification by the District and regulatory agencies.

3B.2 - Assessment of Dam Response to Fault Rupture

The potential impact of surface fault rupture on the dam will be assessed using simplified procedures such as those by Bray, Seed, and Seed (1994) to evaluate the propagation of fault rupture through embankments. The potential for and extent of cracking of the dam will be assessed based on the location and orientation of the fault displacements. The ability of the dam to withstand foundation fault offset and embankment cracking will be evaluated based on the existing dam design features such as filters and transition zones in the areas of potential offset and cracking. Key inputs to the fault rupture analysis are the foundation and embankment material characterization developed in pervious analyses, as well as findings from the design phase geotechnical investigations.

3B.3 - Finite Element Analyses of Dam Response to Fault Rupture (DELETED)

3B.4 - Test Fill

The objective of this task is to construct an embankment test fill using zone 1 materials and carry out the associated field and laboratory test program. The test fill will be used to obtain data on the excavation and compaction characteristics of the onsite construction materials, verify compaction efforts and lift thicknesses and to develop engineering parameters for dam design and construction contract document specification preparation.

3B.4.1 A test fill program plan will be prepared. The plan will include describing the objectives and design criteria. The plan also will include a construction and testing protocol that will include test fill configurations, the type of equipment to be used, lift thickness, material moisture content, and number of compactor passes. Guidance will be provided on modifying variables such as lift thickness and number of compactor passes based on conditions encountered.

3B.4.2 Consultant will retain a contractor to perform the test fill construction, and will oversee the test fill construction and testing. To accomplish the test fill objectives, Consultant will monitor variables such as lift thickness and number of compactor passes based on the results obtained as the construction work progresses. Consultant will also collect field data and sample materials for laboratory testing. Consultant will develop a laboratory testing program based on the results of the test fill program and on the field investigation and laboratory testing. Consultant will then evaluate the field and

laboratory data collected for use in design and preparation of upstream shell materials specifications.

3B.5 - Spillway Condition Assessment

The objective of this task is to conduct a comprehensive spillway condition assessment. As directed by DSOD and FERC, in light of the February 2017 spillway failure at the Oroville Dam, a more extensive evaluation of the adequacy, stability and structural integrity of appurtenant structures is necessary. Consultant will complete a reconnaissance of the geologic, hydraulic, hydrological, and structural adequacy of the spillway. Scope for this task is subject to change to ensure pending requirements from California Division of Safety of Dams are met.

3B.5.1 Consultant will review the "Supporting Technical Information" (STI) document and determine its completeness on the design, construction, operation, and performance of the spillway, and the underlying assumptions and the conclusions of the analyses of record supporting the assessment of the safety of the spillway.

3B.5.2 Consultant will conduct a geologic reconnaissance that focuses on potential geologic hazards in the spillway area subject to sliding, erosion and undermining. Information on existing geologic maps will be verified and augmented pursuant to the reconnaissance.

3B.5.3 Consultant will conduct a detailed structural survey of the spillway that focuses on the conditions of construction joints, water stops (if visible) and drainage systems.

3B.5.4 (DELETED)

3B.5.5 Consultant will prepare a draft and final report that documents the findings of Spillway Condition Assessment. The final report will incorporate review comments from the PMC and District. The final report will be submitted to DSOD and FERC.

3B.6 NOA Support Services (REVISED)

3B.6.1 Consultant will provide support to the PMC and Planning Consultant for NOA-related, potential-impact assessment with the CEQA review and documentation and, initial permit application consultations with the Air Quality Control District and other permitting agencies. When requested by the District Project Manager, Consultant will also provide NOA-related consultation services to the District's Office of General Counsel, Risk Management and Communications.

3B.6.2 Consultant will develop and conduct a baseline air monitoring program for ADTP and a second baseline air monitoring program for ADSRP. The programs will include preliminary atmospheric dispersion modeling to estimate potential air quality impacts and identify candidate air monitoring locations. The proposed sampling objectives, number and location of sampling stations, monitoring frequency and duration, sampling & analytical methods, and quality assurance program will be documented and submitted with a proposed Task Order (See Attachment Three to this Revised Appendix One, Task Order Template) for review and approval by the District. The

duration for each baseline monitoring program is assumed to be one year. Environmental clearance and permitting of sampling stations, if sampling stations are deemed necessary, will be completed by others to be determined at a later date. After the specified monitoring period, Consultant will prepare a memorandum that summarizes the results for each of the baseline air monitoring programs.

3B.6.3 Consultant will provide input for permit applications and construction contract documents. In consultation with the District, Planning Consultant and the PMC, Consultant will provide input for proposed measures to mitigate potential NOA-related impacts that will be considered in permit requirements. As needed, Consultant will support the Planning Consultant's consultation with the permitting agencies on NOA-related issues. When NOA-related permit requirements are finalized, Consultant will incorporate the requirements into the appropriate sections of the contract documents for construction.

3B.6.4 Consultant will conduct an air monitoring program during ADTP construction using the same sampling stations installed and sampled during the baseline air monitoring program for ADTP. The air monitoring program during ADTP construction will include updating of the atmospheric dispersion modeling as needed to replicate the baseline air monitoring results to estimate potential air quality impacts during construction and identify any additional candidate air monitoring locations. The proposed sampling objectives, number and location of any additional sampling stations, monitoring frequency and duration, sampling & analytical methods, and quality assurance program will be documented and submitted with a proposed Task Order (See Revised Attachment Three to this Revised Appendix One, Task Order Template) for review and approval by the District. The duration for the air monitoring program during ADTP construction is assumed to be 36 months. Environmental clearance and permitting of additional sampling stations will be performed by others, if additional sampling stations are deemed necessary. During the specified monitoring period, Consultant will prepare annual memorandums that summarizes the results for air monitoring program during ADTP construction.

3B.7 County of Santa Clara Parks Restoration (UNCHANGED)

The objective of this task is to plan and design for restoration of the County of Santa Clara Park (County Park) areas, which would be affected by the construction of the Modified Project.

3B.7.1 County Parks Restoration Analysis - Consultant shall evaluate the proposed restoration improvements to confirm, select, and refine the proposed improvements, as necessary to support detailed design. The restoration design shall be capable of meeting all County Parks planning and design requirements. The County Parks Restoration Analysis Technical Memorandum shall include necessary alternative analysis as required to meet the County Parks design requirements.

3B.8 Coyote Creek Channel Improvements (UNCHANGED)

The objective of this task is to plan and design the channel improvement for a stretch of Coyote Creek affected by Diversion system and emergency drawdown. The improvements may include

altering the channel geometry, design of erosion protection, or constructing levees. The design process will include two-dimensional hydraulic modeling and some ground survey.

3B.8.1 Coyote Creek Channel Improvement Analysis - Consultant shall evaluate the proposed channel improvements to confirm, select, and refine the proposed system features and hydraulics as necessary to support detailed design. The channel system shall be capable of meeting all established operational and regulatory requirements, including, but not limited to, passing the range of District operational flows, Diversion system, and required DSOD emergency drawdown requirements. The Coyote Creek Channel Improvements Analysis Technical Memorandum shall include necessary alternative analysis as required to select the configuration for final design.

3B.9 Burnett Avenue Bridge (DELETED)

3B.9 Unlined Spillway Channel Analysis (UNCHANGED)

The objective of this task is to develop and evaluate concepts for mitigation measures for the unlined spillway channel and design for the selected mitigation measure.

3B.9.1 Unlined Spillway Channel Alternatives Evaluation - Consultant shall perform engineering analyses including geotechnical, hydraulic, and erosion analyses to aid development and evaluation of conceptual mitigation measure alternatives for the unlined spillway channel. The alternatives evaluation memorandum shall include a recommended mitigation measure and design criteria for that mitigation measure.

3B.9.2 Unlined Spillway Channel Basis of Design - Consultant shall design the selected mitigation measures for the unlined spillway channel and document design criteria and the design in the Spillway Basis of Design Technical Memorandum.

Task 3B - Deliverables (REVISED)

1. Work Plan
2. Spillway Physical Model Study Technical Memorandum
3. Assessment of Dam Response to Fault Rupture Technical Memorandum
4. Final Element Analyses of Dam Response to Fault Rupture Technical Memorandum (DELETED)
5. Test Fill Plan (2 Drafts + 1 Final)
6. Test Fill Report Findings. (2 Drafts + 1 Final)
7. Spillway Condition Assessment Report (1 Draft+ 1 Final)
8. Baseline Air Monitoring Work Plan and Technical Memorandum (1 Draft + 1 Final) for ADTP
9. ADTP Baseline Air Monitoring Reports
10. ADTP Construction Air Monitoring Reports
11. Baseline Air Monitoring Work Plan and Technical Memorandum (1 Draft + 1 Final) for ADSRP
12. ADSRP Baseline Air Monitoring Reports
13. County Parks Restoration Analysis Technical Memorandum (2 Drafts + 1 Final)
14. Coyote Creek Channel Improvement Analysis Technical Memorandum (2 Drafts + 1 Final)

15. Unlined Spillway Channel Alternatives Technical Memorandum (2 Drafts + 1 Final)

Task 3B - Assumptions (UNCHANGED)

1. Consultant will select the appropriate subcontractor for the test fill construction and administer the subcontract.

2. The test fill program will have a total duration of 5 working days (excluding mobilization/demobilization) and the field work will be done between April 15 and October 15. One additional test fill zone and two optional test fill zones are included to the test fill program to address the BOC, DSOD, and FERC comments.

3. If needed, any required environmental clearance and permitting for the test fill construction and air monitoring stations will be completed by others.

4. The scope for the planning and design for the restoration of the affected county park properties is unknown. It is assumed that the restoration will be mainly replace-in-kind of the existing setting and facilities. An allowance for this effort of $100,000 is proposed.

5. It was assumed that the capacity of an approximately 2,000-foot-long reach of channel that shortcuts a stretch of the Coyote Creek is not sufficient to contain the increase in flow during discharges from the Diversion system during construction, and the permanent HLOW and LLOW. This stretch of Coyote Creek would require channel improvement.

6. The scope for planning and design of mitigations for the unlined spillway channel are unknown. It is assumed that the required mitigation will only involve design of additional erosion protection for the left side of the channel that might include minor structures. An allowance of $190,000 is proposed for conceptual design of conceptual mitigation alternatives and design of the selected alternative.

7. The Budget for this Task 3B includes effort for DPP Phase 6 permitting, additional DPP Phase 5, a portion of investigations for haul road to check dams inside the reservoir, and Sediment Transport Analysis.

Task 4 - 30 Percent Design Document Preparation (UNCHANGED)

The 30% design set shall establish primary drawings and specifications for all major Project components and shall include development of details at a preliminary level. Mechanical drawings will not be included as part of Task 4, 30 Percent Design Document Preparation.

4.1 Consultant shall prepare, and submit to the District, a sample drawing for District review that Drafting Standards are being adopted into the plan set.

4.2 Consultant shall prepare, and submit to the District, an index drawing numbering scheme, file naming labeling, layout, and format for District review and approval that District's requirements are being used for the Project.

4.3 For specification development for 30% design, the Consultant shall submit a specification table of contents for review. Detailed specifications will be prepared and submitted as described in Task 5, 60 Percent Design Document Preparation.

4.4 Consultant shall prepare and submit 30% drawings, specifications, and an AACE Class 4 construction cost estimate. Cost estimates for the most significant lines of the work breakdown structure shall be "bottom-up" estimates. The basis for field and office overhead, other markups, and profit shall be clearly identified in the estimate.

4.5 Consultant shall prepare a 30% Draft Construction Sequencing Plan (CSP) to identify the Consultant's intended construction sequencing to meet Project requirements, including support excavations for foundation, abutments, outlet works, stockpiling, embankment construction and other constructability considerations, including maintaining the required reservoir levels and service. This plan shall be used to guide the detailed design and shall be updated as the design is refined. The CSP shall eventually be incorporated into the specifications as a guide to the Contractor and to establish requirements to submit Contractor's own sequencing plans as needed to confirm continuance of reservoir operations.

4.6 Consultant shall submit the 30% plans and specifications and CSP to the PMC and District, and shall include for review:

4.6.1 The regulatory-driven improvements demonstrating the Project team has addressed these concerns or requirements.

4.6.2 The constructability/sequencing requirements for the Contractor.

4.6.3 Clear delineation of existing property lines and take lines (i.e. rights of way, easements, or property acquisitions) needed for Project construction and/or ongoing maintenance or access.

4.7 Consultant will conduct a 30% review meeting/workshop with the PMC and the District to review and discuss PMC/District comments.

4.8 Consultant will compile a Comment Resolution Document. The Comment Resolution Document shall list collected comments, proposed means of resolution, and means to document that resolution is completed in the next design submittal.

4.9 After incorporation of PMC and District comments, a Revised 30% Submittal shall be submitted to DSOD and FERC.

4.10 A 30% Constructability Review Workshop will be held with the District and PMC. Construction experts from the District, PMC and Consultant staff will participate in this workshop.

4.11 Subsequent to the 30% Constructability Workshop, a BOC meeting will be held with District, FERC, and DSOD, to review the 30% submittals.

4.12 Consultant shall identify the need for and attend meetings, workshops and consultations with District as needed to complete the 30% design tasks.

4.13 If, in the course of preparing the 30% documents, additional Technical Memoranda or edits to previously-finalized Memoranda (not identified for future updates in this Scope of Services) are necessary, that work shall be accomplished under Task 9 as Supplemental Services During Design.

Task 4 - Deliverables (UNCHANGED)

1. 30% Plans and Specifications (2 sets)
2. 30% Class 4 Construction Cost Estimate as defined by Association for the Advancement of Cost Engineering (AACE)
3. 30% Construction Sequencing Plan (2 drafts)
4. 30% Design Comment Resolution Document.
5. Agenda and Record for 30% Design Review Workshop(s)
6. Agenda and Record for 30% Constructability Workshop

Task 5 - 60 Percent Design Document Preparation (UNCHANGED)

The 60% design set shall include a high degree of completion of drawings and specifications for all major Modified Project components. Most details shall be present at a high level. Mechanical, Landscaping, and Security drawings will not be included as part of Task 4, 30 Percent Design Document Preparation.

5.1 Consultant shall prepare and submit 60% drawings, specifications, and an AACE Class 3 construction cost estimate. Cost estimates for the most significant lines of the work breakdown structure shall be "bottom-up" estimates based on assumed productivity, equipment, and labor spreads for the activities. The basis for field and office overhead, other markups, and profit shall be clearly identified in the estimate.

5.2 The 60% plans and specifications and a 60% Construction Sequencing Plan (CSP) shall be submitted to the PMC and District and shall include for review:

5.2.1 Changes as necessary to address the 30% submittal review comments.

5.2.2 Construction Permitting Framework - The District has retained a separate consultant for the development of a Project EIR/EIS for compliance with CEQA/NEPA. Consultant shall develop a Construction Permitting Framework document at 60% level, which will be updated to 90% level during the 90% design document preparation, listing permits that must be obtained by the Contractor. Some of the permits are related to Storm Water Pollution and Prevention Program, Dust Mitigation Plan, and Report of Waste Discharge (ROWD) for Construction Water. This document is intended to assist in the construction bidding.

5.2.3 The regulatory-driven improvements demonstrating the Project has addressed these concerns or requirements.

5.2.4 Constructability/Sequencing requirements for the Contractor.

5.2.5 Provisions regarding milestones, testing, and acceptance schedule and criteria for the Project aligned with completion and payment for the Contractor's completion of each milestone to be included in the Project specifications.

5.2.6 For specification development, the Consultant shall use the District's Standard Provisions (Boiler Plate) and the District's Special Provisions Format. Consultant shall recommend edits and additions to the District Provisions where appropriate for this Project. Consultant shall submit a recommended format for the Technical provisions, for review and approval by the District. The District has a separate bid proposal package/template that the Consultant shall provide input for as requested by the District. Multiple, intermediate submittals of Special Provision sections to the District are anticipated to reconcile referencing and formatting issues.

5.3 Consultant shall prepare a draft bid sheet at the 60% level of design, including a Technical Memorandum that explains the basis for the bid sheet and the strategies related to risk and cost uncertainty associated with work that may be difficult to define.

5.4 Consultant will conduct a 60% review meeting/workshop with the PMC and the District to review and discuss PMC/District comments.

5.5 Consultant will compile a Comment Resolution Document. The Comment Resolution Document shall list collected comments, proposed means of resolution, and means to document that resolution is completed in the next design submittal.

5.6 After incorporation of PMC and District comments, a Revised 60% Submittal shall be submitted to DSOD and FERC.

5.7 Subsequent to the 60% review meeting/workshop with DSOD and the 60% Constructability Workshop, a BOC meeting will be held with District, FERC, and DSOD, to review the 60% submittals.

5.8 Consultant shall identify the need for and attend design input meetings, workshops and consultations with District as needed to complete the 60% design tasks.

5.9 If, in the course of preparing the 60% documents, additional Technical Memoranda or edits to previously-finalized Memoranda (not identified for future updates in this Scope of Services) are necessary, that work shall be accomplished under Task 9 Supplemental Services During Design.

Task 5 - Deliverables (UNCHANGED)

1. 60% Plans and Specifications (2 sets)
2. 60% Class 3 Construction Cost Estimate as defined by AACE
3. 60% Construction Sequencing Plan (2 drafts)
4. 60% Design Comment Resolution Document
5. Draft Bid Sheet & Supporting Technical Memorandum
6. Draft Construction Permitting Framework Document

7. Agenda & Record for 60% Design Review Workshop(s)

Task 5 - Assumptions (UNCHANGED)

1. The District will be responsible for acquisition of permanent and temporary property-related rights of way and all permit application fees.

2. The District will identify any additional required items that are identified in the EIR/EIS and other environmental permit application documents prior to the preparation of the 90% design submittals.

Task 6 - 90 Percent Design Document Preparation (REVISED)

The 90% design set shall include a complete set of drawings and specifications for all major Modified Project components at a level required for Agency Permitting Review and Contractor Bidding.

6.1 Consultant shall prepare and submit 90% drawings, specifications, and a construction cost estimate (AACE Class 2). The cost estimate shall be based on an updated, detailed logical work breakdown structure based on the 90% plans, specifications, and 90% Construction Sequencing Plan.

6.2 Prepare/update the Basis of Design Report, design criteria TMs, analyses, calculations, etc., as identified in previous task descriptions. If in the course of preparing the 90% documents additional Technical Memoranda or edits to previously finalized Memoranda not identified for future updates in this Scope of Services are necessary, that work shall be accomplished under Task 9 Supplemental Services During Design.

6.3 The 90% plans and specifications and a 90% Construction Sequencing Plan (CSP) shall be submitted to the PMC and District and shall include for review:

6.3.1 Changes as necessary to address the 60% submittal review comments.

6.3.2 Consultant shall update the Construction Permitting Framework document to 90% level.

6.3.3 The regulatory-driven improvements demonstrating the Project has addressed these concerns or requirements.

6.3.4 Constructability/Sequencing requirements for the Contractor.

6.3.5 Provisions regarding milestones, testing, and acceptance schedule and criteria for the Project aligned with completion and payment for the Contractor's completion of each milestone to be included in the Project specifications.

6.4 Consultant shall prepare a draft bid sheet at the 90% level of design, including a Technical Memorandum that explains the basis for the bid sheet and the strategies related to risk and cost uncertainty associated with work that may be difficult to define.

6.5 Consultant will conduct a 90% review meeting/workshop with the PMC and the District to review and discuss PMC/District comments.

6.6 Consultant will compile a Comment Resolution Document. The Comment Resolution Document shall list collected comments, proposed means of resolution, and means to document that resolution is completed in the next design submittal.

6.7 After incorporation of PMC and District comments, a Revised 90% Submittal shall be submitted to DSOD and FERC.

6.8 BOC meeting will be held with District, FERC, and DSOD, to review the 90% submittals.

6.9 Consultant shall identify the need for and attend design input meetings, workshops and consultations with District as needed to complete the 90% design tasks.

6.10 If, in the course of preparing the 90% documents, additional Technical Memoranda or edits to previously-finalized Memoranda (not identified for future updates in this Scope of Services) are necessary, that work shall be accomplished under Task 9Supplemental Services During Design.

6.11 Update the Construction Sequencing Plan and develop a Construction Sequencing Specification. The Construction Sequencing Specification will identify key milestone dates to be met during construction, and will include specific provisions for incorporation into the Contractor's plan, as needed.

6.12 Develop a Commissioning, Training and Maintenance Plan to prepare District staff for different operational modes: through the construction milestones, start-up and testing, and through the first year of operation. This Plan shall be a comprehensive approach to:

6.12.1 Assure the facility can continue to operate through construction and not disrupt the ability to meet its delivery obligations.

6.12.2 Assist the District Operations and Maintenance staff to continue to complete their primary duties of operating the facility on a day-to-day basis and not be dedicated to supporting the Project.

6.13 Temporary Construction Emergency Action Plan (TCEAP) for ADSRP - Consultant shall prepare a TCEAP for use during construction. A TCEAP will be prepared following the DSOD/Cal OES guidelines. The TCEAP will include an inundation map.

6.14 Emergency Action Plan (EAP) - Consultant shall prepare an EAP for use during operations. The EAP will be prepared following the DSOD/Cal OES guidelines. The EAP will include an inundation map.

6.15 Quality Control and Inspection Plan (QCIP) - Consultant shall prepare a draft QCIPs for ADTP and ADSRP. QCIP will be completed after the District has put together its construction management team.

6.16 Anderson Dam Tunnel Project (Stage 1) - Consultant shall prepare a final design set for the ADTP. The final design set shall include a complete set of drawings and specifications (signed and sealed) for all major Stage 1 Project components at a level required for agency permitting review and contractor bidding.

6.17 Temporary Construction Surveillance Monitoring Plan (TCSMP) - Consultant shall prepare draft TCSMPs for ADTP and ADSRP. TCSMP will be completed after the District has put together its construction management team.

6.18 Excavation Material Management Plan (EMMP) - Consultant shall prepare EMMP for ADSRP.

Task 6 - Deliverables (REVISED)

1. Updated Basis of Design Report, Design Criteria TMs, and all supporting analyses and calculations, as identified in this Scope of Services
2. 90% Construction Sequencing Plan and Construction Sequencing Specification
3. 90% Plans and Specifications (2 sets)
4. 90% Class 2 Construction Cost Estimate as defined by AACE
5. 90% Design Comment Resolution Document including resolution of regulatory and permitting agency comments.
6. Commissioning, Training, and Maintenance Plan
7. Agenda & Record for 90% Design Review Workshop(s)
8. Temporary Construction Emergency Action Plan (2 Drafts + 1 Final)
9. Emergency Action Plan (2 Drafts + 1 Final)
10. Quality Control and Inspection Plan (2 Drafts) for ADTP
11. Quality Control and Inspection Plan (2 Drafts) for ADSRP
12. Temporary Construction Surveillance Monitoring Plan for ADTP
13. Temporary Construction Surveillance Monitoring Plan for ADSRP
14. Excavation Material Management Plan (2 Drafts + 1 Final)

Task 6 - Assumptions (REVISED)

Budget for this task includes:

1. Reservoir Rim Stability analysis and design
2. Design and documentation of a 30-Inch Bypass Line in the outlet structure instead of the previously planned 10-inch Bypass Line
3. Preparation of the dewatering plan/s
4. Preparation of the unlined spillway design

5. Update of the Construction Sequencing Plan and the Material Development and Handling Plan, stability analyses for in-reservoir stockpile areas for core material
6. Additional outlet pipe non-linear dynamic analyses requested by regulators
7. Additional FLAC analysis requested by FERC
8. Additional dynamic modelling of 78-inch pipe in outlet structure requested by regulators, additional analysis for spillway related to right abutment stability
9. Spillway design changes on ogee crest, terminal structure and termination wing wall
10. Foundation evaluation and design
11. Replacement of crest and right abutment training wall tie-in to abutment to not cross property line
12. Additional hydraulic analyses - simultaneous release to Anderson Force Main (AFM) and Coyote Creek through outlet
13. Updating Design Criteria TM for 30-inch bypass, unlined chute, etc.
14. Additional effort for electrical and SCADA
15. Additional effort to design and document AFM Relocation
16. Revised Construction Cost Estimates
17. All additional effort involved in splitting the Project into two stages (Stage 1 and Stage 2)
18. Fault mitigation design for outlet structure
19. Design changes due to large size flow control valve
20. Design of the temporary bulkhead in downstream leg of the low-level outlet tunnel
21. Automatic Data Acquisition Systems (ADAS) design support
22. Coyote Road revisions
23. Design of sediment control structures (north catch basin, south catch basin/diversion, and pipeline for providing water for fisheries, etc.)

Task 7 - Final Design Document Preparation (REVISED)

Consultant shall prepare a final design set each for Anderson Dam Tunnel Project (Stage 1) and Anderson Dam Seismic Retrofit Project (Stage 2). Each final design set shall include a complete set of drawings and specifications, signed and stamped, for all major Modified Project components at a level required for Agency Permitting Review and Contractor Bidding. The scope of Task 7 Final Design Document Preparation is listed below.

7.1 Prepare and submit 100% Design and Contract Documents for PMC and District review, which must include the items listed below.

7.1.1 Plans and Specifications that address 90% review comments and design modifications or clarifications as required to support the Commissioning, Training, and Maintenance Plan.

7.1.2 Specifications, including Standard Provisions, Special Provisions, Technical Provisions, Appendices, Notice to Bidders, geotechnical data report and geotechnical baseline report, bid documents and construction sequencing specification.

7.1.3 Engineer's Estimate (AACE Class 2)

7.1.4 Revisions as necessary to confirm and finalize the Basis of Design Report to Final Design.

7.1.5 All Engineering Analysis and Calculations completed and checked as per the QA/QC Plan and assembled in accordance with the relevant design analyses sections in the Basis of Design Report.

7.2 Consultant will submit 100% plans and specifications to FERC and DSOD for permitting review.

7.3 Consultant shall identify all applicable permitting requirements in the certified EIR/EIS, in coordination with the Planning Consultant, and integrate those requirements into the final design documents. Consultant shall assist the District in submittals and obtaining the necessary and timely permit approvals for Construction.

7.4 Compile all FERC and DSOD permitting comments, prepare a response document. Make revisions to drawings and specifications as necessary to resolve comments, and submit for approval.

7.5 After resolving all FERC and DSOD permitting issues, prepare and submit Bid Set including:

7.5.1 100% Design Comments Resolution Form.

7.5.2 Revisions to plans and specifications as required for FERC and DSOD permitting approval.

7.5.3 Revisions to Engineer's Estimate, if necessary.

7.5.4 Revisions to Basis of Design Report, if necessary.

7.5.5 Revisions to Engineering Calculations, if necessary

7.6 Consultant shall prepare a Design-to-Construction Phase Transition Report and use District's QEMS W73004 Design Phase WBS Item Descriptions and Instructions and F75101 Close-Out Checklist as guides for items to be included in the Transition Report. The report will include a description of the work that would occur during the construction phase but is not included in the construction contract documents, such as roles and responsibilities of discipline engineers and Consultants. It will also identify the special interactions that will be required with stakeholders and oversight agencies during construction, unique critical construction compliance checks, special or non-standard construction documentation requirements, and a list of required submittals.

Task 7 - Deliverables (UNCHANGED)

1. 100% Plans and Specifications (2 sets each) for Stage 1 and Stage 2

2. Bid Set that includes 100% Plans and Specifications, including Standard Provisions, Special Provisions, Technical Provisions, Appendices, Notice to Bidders, Geotechnical Data Report and Geotechnical Baseline Report and bid documents for Stage 1 and Stage 2
3. Engineering Calculations completed and checked as per the QA/QC Plan and assembled in conformance with relevant design analysis for Stage 1 and Stage 2
4. Conformed Final Basis of Design Report for Stage 1 and Stage 2
5. Engineer's Estimate (AACE Class 2) for Stage 1 and Stage 2
6. 100% Comment Resolution Document for Stage 1 and Stage 2
7. Design-to-Construction Phase Transition Report for Stage 1 and Stage 2

Task 7 - Assumptions (REVISED)

Budget for this Task 7 includes:

1. Design and documentation of a 30-Inch Bypass Line in the outlet structure instead of the previously planned 10-inch Bypass Line (part)
2. Additional analysis for spillway related to right abutment stability
3. Spillway design changes on ogee crest, terminal structure and termination wing wall, foundation evaluation and design
4. Replacement of crest and right abutment training wall tie-in to abutment to not cross property line
5. Additional effort for electrical and SCADA
6. Additional effort to design and document AFM Relocation
7. Revised Construction Cost Estimates
8. All additional effort involved in splitting the project into two stages (Stage 1 and Stage 2)
9. Fault mitigation design for outlet structure
10. Design changes due to large size flow control valve
11. Design of the temporary bulkhead in downstream leg of the low-level outlet tunnel
12. Automatic Data Acquisition Systems (ADAS) design support
13. Coyote Road revisions
14. Design of sediment control structures (north catch basin, south catch basin/diversion and pipeline for providing water for fisheries, etc.)

Task 8 - Bid and Award Services (REVISED)

The Bid Set shall include a complete set of drawings and specifications, signed and stamped, for the Modified Project at a level required for Contractor Bidding. Upon the District's request, the Consultant shall assist during the bidding processes, separately for each Stage 1 and Stage 2 by performing the services listed below.

8.1 Responding to bidders' questions pertaining to the Bid Set within two business days of receipt of District's written request. Consultant will maintain a log of bidders' questions and responses, including whether any questions require addenda to the Bid Set.

8.2 Attending the pre-bid conference, including a site visit, and assisting with preparation of documents to be distributed at the conference.

8.3 Preparing bid document addenda if clarifications or changes to documents in the Bid Set are needed, which is listed below.

8.3.1 Changes to drawings will be shown on 8.5 x 11 sheets to the extent possible.

8.3.2 Changes to drawings will be signed and stamped and will be provided within five business days of the written request from District.

8.3.3 During preparation of each addendum, the Consultant shall evaluate any construction schedule and cost impact of the addendum and submit to District for consideration prior to finalizing addendum.

8.4 Preparing a Conformed Set of construction Contract Documents after construction bids are received for use during construction.

8.5 Bid and Award Services shall be provided to ADSRP and ADTP

Task 8 - Deliverables (REVISED)

1. Written responses to bidders' questions and associated log for ADSRP
2. Written responses to bidders' questions and associated log for ADTP
3. Minutes of the pre-bid conference(s) for ADSRP
4. Minutes of the pre-bid conference(s) for ADTP
5. Addenda to bid documents for ADSRP
6. Addenda to bid documents for ADTP
7. Electronic versions of stamped and signed conformed set of construction contract documents for ADSRP
8. Electronic versions of stamped and signed conformed set of construction contract documents for ADTP
9. Wet-stamped and signed conformed set of contract documents for use during Project construction for ADSRP
10. Wet-stamped and signed conformed set of contract documents for use during Project construction for ADTP

Task 8 - Assumptions (UNCHANGED)

1. District will set up service for bidders to obtain Bid Sets.

2. District will receive all bidders' questions, convey those questions related to the Consultant's work to the Consultant, and disseminate the responses to bidders.

3. District will be responsible for generating pre-bid conference notes and disseminating the notes to bidders.

4. District is responsible for reproducing and distributing bid documents and addenda documents.

5. Budget for this task includes effort required for additional elements added to the Project for spillway right abutment stability, replacement of crest and right abutment training wall tie-in to abutment to not cross property lines, additional elements for electrical and SCADA, all additional effort involved in splitting the project into two stages (Stage 1 and Stage 2), and, additional elements of sediment control structures (north catch basin, south catch basin/diversion and pipeline for providing water for fisheries, etc.).

Task 9 - Supplemental Services During Design and Construction (REVISED)

The District may require, and Consultant will perform Supplemental Services during the Agreement term on an as-needed basis. Prior to performing any Supplemental Service, Consultant must obtain written authorization in the form of a Task Order (see Revised Attachment Three Task Order Template) approved by the Dam Safety & Capital Division Deputy Operating Officer. Written authorization will state the agreed upon scope of the services requested, classifications performing the Supplemental Services, associated not-to-exceed fees, and schedule.

A. Details of the specific scope, deliverables, schedule, and fees for any Supplemental Services will be developed with the District and submitted in writing prior to approval to begin work.

B. The Not-to-Exceed Fees for each Supplemental Services Task Order will be based on the Hourly Rate Schedule (time and material) as described in Revised Appendix Two, Fees and Payments, of this Agreement, and must include all of the following information:

   1. The total price for Consultant to complete the Supplemental Services Task Order on a Time and Materials Basis.

   2. The schedule for completing the Supplemental Services Task Order.

   3. Consultant key staff and classifications that will be assigned to complete the Supplemental Services.

C. The Supplemental Services Task Order fees will not be exceeded by the Consultant without prior written authorization from the District's Deputy Operating Officer.

D. Under no circumstances will Consultant commence the Supplemental Services until:

   1. The Supplemental Services Task Order is received, reviewed, and executed by the District's Deputy Operating Officer; and

   2. Consultant receives a Task Order Notice-To-Proceed from the District's Project Manager.

9.1 Specific Supplemental Services. Specific examples of possible Supplemental Services include, but are not limited to:

9.1.1 Condition assessment of the existing spillway;

9.1.2 Additional workshops/review meetings;

9.1.3 Additional geotechnical investigation to validate borrow sources;

9.1.4 Reservoir Rim Stability analysis and design;

9.1.5 Additional geotechnical investigations and reporting;

9.1.6 Updating ground motions;

9.1.7 Detailed foundation or rock fill strength characterization;

9.1.8 Additional meetings;

9.1.9 Design of a fish passage system;

9.1.10 Drilling Program Plan (DPP) 6 Permitting;

9.1.11 Dewatering Plan additions and/or modifications (Stage 1 and Stage 2);

9.1.12 Coyote Creek Fisheries Studies (Phase 2);

9.1.13 Additional Design Workshops;

9.1.14 Unlined Spillway Channel Stage 1 and 2 and Initial Evaluations;

9.1.15 Temporary Bridge Borings;

9.1.16 In-Reservoir Core Stockpile Borings; and

9.1.17 Additional Project Management Services; including:

9.1.17.1 Disposal Site Permitting Support;

9.1.17.2 Additional BOC Meetings; and

9.1.18 Additional Risk Workshops, including:

9.1.18.1 PFMA Workshop;

9.1.18.2 Environmental Support (design support to EIR and permits); and

9.1.19 Investigations to Characterize the Sediment in the Reservoir;

9.1.20 Sediment Transportation Analyses; and

9.1.21 Additional Engineering Support, including:

9.1.21.1 Additional Baseline Memoranda

9.1.22 Additional Engineering Support Services During Construction, that may include:

9.1.22.1 Reviewing construction Contractor's substitution requests.

9.1.22.2 Other additional services not included in Tasks 10 and 11.

9.1.22.3 As requested by District or Consultant, with District's approval, Consultant will provide additional services for any quantity of tasks and deliverables beyond those stated in Tasks 10 and 11, but not limited to:

a. Additional submittal or Request for Information (RFI) review.

b. Additional construction change order preparation.

c. Additional schedule updates review.

d. Attendance of additional partnering sessions.

e. Additional meeting participation or site visits.

f. Additional on-site monitoring.

g. Additional geotechnical/geological consultation.

h. Additional meeting attendance.

i. Additional progress reports due to construction schedule exceeding the estimated thirty-six (months).

j. Additional meeting attendance for either the Dispute Review Board or Professional Facilitated Project Partnering.

Task 10 - Engineering Support During ADTP Construction (NEW)

Consultant will provide engineering services during construction of the Project. Such services will include attending the preconstruction meeting, reviewing the construction Contractor's technical submittals, and responding to technical questions and requests for information.

10.1 Project Management Services During Construction

The purpose of this Task is to manage services to meet the requirements of this scope of services, manage staffing and expenditures, and keep Valley Water informed of progress. If requested by the District, Consultant will:

10.1.1 Manage efforts of Consultant's and subconsultants' staff.

10.1.3 Coordinate work with the District, the Construction Management Consultant, and the Program Management Consultant, if any, regarding the scheduling of meetings, attendance, site observations, and deliverables.

10.1 - Assumptions

1. Active Project construction duration will be thirty-six (36) months.

10.1 - Deliverables

1. Input to Monthly Progress Reports

10.2 Meetings and Site Visits

If requested by the District, Consultant will;

10.2.1 Attend the preconstruction conference. Consultant will respond to technical questions from the Contractor or the District.

10.2.2 Attend progress and other meetings, coordination meetings and telephone conference calls with the District's construction Contractor, District, Construction Management Consultant, and other parties as determined by District, in order to discuss and coordinate the construction progress, resolve technical issues, concerns, and related activities.

10.2.3 Perform site visits and full-time observation during construction activities as agreed with the District to verify design assumptions and provide interpretations of the design intent. Consultant shall prepare a summary report documenting the results of their observations.

Task 10.2 - Assumptions

1. Meetings will be held weekly during active construction duration. It is anticipated that meetings will be held either at the Project site or District Headquarters in San Jose, California, but could be elsewhere, at District's direction. Approximately one-half of the meetings are expected to be conducted via telephone conference call. Duration of each meeting is assumed to be 2 hours. These meetings may or may not be attended by the Contractor. "Active construction duration" means the duration that the Contractor is actively working on site.

    a. Summary of meeting discussions will be provided by e-mail by the Consultant.

    b. Meetings will be attended by the Consultant's Project Manager or their representative and representatives of other disciplines within the Consultant's firm and subconsultants as needed up to 3,184 hours.

2. Effort is estimated as follows:

a. Active Project construction duration will be thirty-six (36) months. It is assumed that construction site visits will be held during the active construction duration only. Each site visit is assumed to be one day in duration.

b. Attendance by two (2) persons at up to two (2) weekly site visits to provide engineering inspection and observations. A detailed list of site visits will be prepared at the time of task order award. A total of 6,240 labor hours is estimated.

c. Agenda will be developed by others; however, meeting minutes or notes will be by Consultant

3. In-person attendance by up to four (4) people at the preconstruction meeting, and up to three (3) people at all other on-site meetings.

4. Attendance by up to four (4) persons at the preconstruction meeting.

5. Attendance by up to three (3) persons at the 1-day partnering session.

6. Attendance by up to three (3) persons at all other meetings.

Task 10.2 - Deliverables

1. Written responses to issues raised during meetings attended by the Consultant, including the pre-construction meeting

2. Attendance at meetings and/or conference calls as required to respond to and raise issues

3. Summary report for each site visit including observations

10.3 Submittal Review

10.3.1 Consultant will review Contractor submittals as defined in the construction Contract Documents, when forwarded by the Construction Management Consultant. Consultant will create and maintain a submittal log of all submittals forwarded to the Consultant for review.

10.3.2 Consultant will review submittals forwarded by the Construction Management Consultant to check that they are complete and responsive to the contract requirements. Consultant will track through its submittal log the status of submittals and will advise the District and Construction Management Consultant of the same upon request. Submittals will be reviewed for conformance with the design intent and field conditions, as necessary and appropriate.

10.3.3 Consultant will review, respond, and return reviewed Contractor submittals and re-submittals to the Construction Management Consultant as soon as possible, and in general no later than seven days from receipt of the Contractor's submittals by the Consultant, unless otherwise specified or agreed between Consultant and District.

Consultant will promptly notify the District and the Construction Management Consultant if more time is required to respond to any submittal.

10.3.4 Consultant will notify the District and Construction Management Consultant if it has reason to believe that any submittal review comment could necessitate a Change Order. Prior to Consultant issuing finalized comments on a Contractor's Submittal that could constitute a change to the requirements of the Contract Documents, Consultant will notify the District and Construction Management Consultant.

Task 10.3 - Assumptions

1. The total number of submittal reviews is assumed to be 500.

2. Submittals of fifty (50) pages or less will be provided as Adobe PDF files. Larger submittals and submittals with 11 by 17 inches or larger drawings will be provided in paper and PDF for Consultant review.

3. All review comments will be provided electronically. Consultant will not need to print copies of submittals for return to the construction Contractor.

4. The District will assign the submittal and re-submittal numbers for tracking purposes and use by the Consultant.

5. Consultant will not need to coordinate, review, or consolidate review comments provided by third parties other than its subconsultants.

6. In case "pre-submittal," submittal review workshop, or other similar meetings are either specified in the construction Contract Documents or requested by District's Project Manager, this work will be completed under this task until it exceeds the efforts estimated in that task. Additional meetings may be required and will be performed through Task 9 – Supplemental Services During Design and Construction.

7. Shoring designs, dewatering plans, stormwater pollution prevention plans, and similar construction Contractor-prepared submittals will only be checked for compliance with specified design criteria. Consultant review will not be required for professional engineer stamped engineering calculations or drawings provided as part of any submittal. Consultant will not review contractor designs for formwork, temporary supports, or other construction means and methods except to check for conformance with specified requirements.

8. Shoring submittals will be reviewed only to determine if they are consistent with the design drawings and specifications with regards to shoring restrictions.

9. No special software or licensing will be required to be provided by the Consultant to receive or respond to submittals. EADOC or a similar method will be primary means of Project information submission and management. The District will make it available to Consultant personnel at no cost to the Consultant.

Task 10.3 - Deliverables

1. Memoranda in PDF or Microsoft Word presenting Consultant's evaluation of submittals

10.4 Requests for Information (RFI)

A. During construction, the Contractor may submit to District questions on details of the design, the construction contract, substitutions, and alternatives approaches, etc. If the Contractor's inquiry is related to the Consultant's Project design or an issue having the potential to impact the Project design, the District will ask Consultant to respond to the inquiry with written clarifications and return their response back to the District for District to address with its construction Contractor.

B. If the Consultant has reason to believe that any response to an RFI appears to have the potential to impact the construction schedule or cost, the Consultant will inform the District and the Construction Manager within two working days of identification of the issue. Where appropriate, Consultant will suggest and evaluate potential alternatives to mitigate the impacts.

10.4.1 Consultant will coordinate notification of any changes or potential changes given by the Contractor with the District and then respond on both the condition cited for the request and possible impacts on the Contractor's operations. In this manner, information will be gathered that will allow for a determination of merit on the request and quantification of the Contractor's impacts, if any. Consultant will make a preliminary assessment of the situation to identify whether additional resources or measures will be necessary for the process. All issues that have the potential to impact the time and cost of the Project will be given issue status and be addressed.

10.4.2 Consultant will respond to requests for information received from the District.

10.4.3 Consultant will respond to the District's requests for evaluation of proposed substitutions and "or equal" proposals of equipment, materials or methods, and minor design changes.

10.4.4 Consultant will render written decisions within seven calendar days unless otherwise agreed between Consultant and the District. Consultant will notify District within two working days of identification of the issue if more time is required to respond to any RFI. The District may approve an extension of time and will document approval in writing.

10.4.5 Consultant will evaluate whether its RFI response will result in a change to the requirements of the Contract Documents. If the Consultant's response to an RFI will change the requirements of the Contract Documents, Consultant must:

10.4.5.1 State in writing in Consultants' response to the RFI that the response to the RFI is a change to the requirements of the Contract Documents; and

10.4.5.2 Notify the District that the Consultant's response to the RFI is a change to the requirements of the Contract Documents.

10.4.6 Upon District request, Consultant will assist the District in ascertaining any adjustment in the Contract time or Contract Sum resulting from Contract modifications based on Consultant's response to an RFI.

Task 10.4 - Assumptions

1. Up to 400 RFIs will be reviewed by Consultant under this task.

2. RFIs related to construction means and methods will be reviewed only to assess compliance with specified requirements. The construction Contractor will be solely responsible for means and methods.

3. The District's Construction Manager will assign RFI numbers for tracking purposes.

4. Consultant will develop and use a standard response form for responding to RFIs. Responses will be emailed to the District's Project Manager and will not be sent in paper form.

5. No special software or licensing will be required to be provided by the Consultant to receive or respond to RFIs. EADOC or similar method will be primary means of Project information submission and management. The District will make it available to Consultant personnel at no cost to the Consultant.

Task 10.4 - Deliverables

1. Memoranda in PDF or Microsoft Word stating Consultant's responses to RFIs

2. Written notification of potential change orders due to RFI responses by Consultant

3. RFI documentation including drawings and specifications, including revised drawings and specifications, as necessary, will be signed and stamped if required

4. Emails and oral responses for input as requested by the District Project Manager with email follow-up documentation for all oral responses

10.5 Construction Change Order Assistance

The purpose of this subtask is for Consultant to provide support to the District with potential change orders, change orders, and related activities. The origination of the change orders may come from the District or the Contractor.

10.5.1 As requested by the District, Consultant will be required on an as-needed basis to design, write, or review change order documentation. Anticipated Consultant services may include: research and respond back to District whether work proposed by its construction Contractor warrants the need for a change order and whether it should be considered as extra work; review of design calculations and intent; review of cost estimates.

10.5.2 If a Change Order is required as the result of the probable error or omission with respect to the services performed, the Consultant must prepare and submit to the District, along with the Change Order documentation, a cost estimate for the value of Change Order Work. Only if determined by the District that the Change Order was not due to an error or omission on the part of the Consultant, Consultant will be compensated for preparation of Change Order.

Subtask 10.5 - Assumptions

1. The not-to-exceed fees for this subtask is based upon up to 520 hours of labor associated with construction change orders including reviewing proposed change orders from the construction Contractor or the District.

2. Minor clarifications to the construction Contract Documents will typically not be considered change orders.

Task 10.5 - Deliverables

1. Change order documentation including signed and stamped drawings and specifications, and cost opinions

2. Review comments on District Project Manager's analyses of potential change orders

3. Emails and oral responses for input as requested by the District's Project Manager with email follow-up documentation for all oral responses

10.6 Engineer-of-Record's Project Record Drawings

Record Drawings are necessary to accurately depict changes resulting from field conditions, design changes, Project scope changes, or other causes following adoption of the initial Construction Contract Drawings (or bid set) by the District's Board of Directors and in accordance with the conformed documents prepared by Consultant, if any.

10.6.1 Consultant will prepare and maintain a set of Engineer-of-Record's Project Record Drawings by marking up the full-size (22" x 34") conformed drawings with all changes and clarifications recommended by Consultant and accepted by District's Project Manager during Project construction. Such changes may be the result of information that was approved in RFIs, change orders, or field memoranda written by Consultant, as well as for other reasons. In order to verify that the record drawings are being maintained, Consultant will provide access to the District or its designee upon request.

10.6.2 The final Engineer-of-Record's Project Record Drawings (one set) will be submitted to District Project Manager within 15 working days of the District Project Manager's issuance of a Project completion letter to the Contractor. Consultant will complete work on this subtask as construction progresses to aid completion of the entire drawing set within the time period stipulated.

Task 10.6 - Assumptions

1. Consultant will not be required to produce CAD drawings for the marked-up Engineer-of-Record's Record Drawings.

2. The not-to-exceed fees for this subtask is based upon up to 210 hours of labor for preparation of Engineer-of-Record's Record Drawings.

3. Marked-up Engineer-of-Record's Record Drawings will only include information generated by the Engineer-of-Record. Information and as-constructed information developed and recorded by the Contractor and Construction Manager will be documented separately by those entities.

Task 10.6 - Deliverables

1. Final Engineer-of-Record's Project Record Drawings that include engineering changes recommended by Consultant and accepted by District Project Manager - one full-size copy and one set of DVDs with Adobe PDF and CADD files of these drawings.

10.7 Engineering Support for Dispute Resolution

If requested by the District, Consultant will:

Perform engineering investigations and analyses and provide recommendations to assist the District in the resolution of construction Contractor's claims and disputes or other matters that may arise during construction. All of Consultant's investigations, analyses and recommendations will be summarized and provide in writing by Consultant, upon request by District.

10.7.1 Render written opinion/recommendations within 15 working days for claims, disputes and other matters in question between the District and construction Contractor.

10.7.2 Notify the District Project Manager immediately if more time is required, for reasonable cause, to respond to dispute, claim or other matters. Consultant's request for time extension is subject to District Project Manager's approval as confirmed by email.

10.7.3 Document events and activities accurately to provide a reliable basis for investigation at a later date.

10.7.3.1 Maintain documentation and records on all relevant decisions and facts relating to disputes on an ongoing basis.

10.7.3.2 Maintain said records and make available to District personnel upon request.

10.7.4 Analyze claims for additional compensation submitted by Contractor and prepare responses.

10.7.5 When Contractor files a notice of potential claim or dispute in accordance with the Contract Documents, Consultant will:

10.7.5.1 Compile any formal data, and records which pertain to Consultant's services relating to such claim;

10.7.5.2 Prepare a summary of the dispute, by issue, clearly stating the Consultant's position on each issue;

10.7.5.3 Prepare a summary sheet with a chronological listing of events and/or items such as letters to Contractor, meetings, etc., and a brief statement of content; and

10.7.5.4 Document pertinent conversations with Contractor.

10.7.6 Compile additional documents such as:

a. Drawings, shop drawings and Technical Specifications with the areas in question highlighted or noted by other appropriate means.

b. Correspondence between Consultant and Contractor, Consultant and District,

c. Any other documentation that supports the position of the Contractor and Consultant.

10.7.7 Prepare engineering sketches for PCOs or other purposes.

10.7.8 Coordinate work with Consultant's design engineers.

10.7.9 Participate in the Project's Dispute Review Board (DRB) process, as specified in the Project Contract Documents, Standard Provisions, Section 3.13, Dispute Review Board, including but not limited to the following activities: reviewing Contractor's dispute submittals and position papers; assisting District in preparing District's dispute submittals and position papers, including rebuttals or responses to Contractor's submittals and position papers and DRB meeting presentations; attending DRB meetings and hearings; and reviewing and commenting on DRB issued recommendations for resolution of disputes, and their potential impact on the Project schedule and budget.

10.7.10 Participate in Partnering Workshops as specified in the Project Contract Documents, Standard Provisions Section 5.12 Partnering.

10.7.10.1 Consultant's lead staff and project engineer shall participate in an initial two-day partnering workshop and subsequent one-day workshops to be conducted on a quarterly basis, if requested by District, or by Contractor and District agrees.

10.7.10.2 Prepare questionnaires and lists of issues and concerns prior to each workshop.

Task 10.7 - Assumptions

1. The estimated level of effort for this subtask includes up to 464 hours of labor.

2. Services by licensed professionals or specialists not already a part of the Consultant's Project team are not included.

3. Approximately 6 partnering sessions will be held following the initial partnering meeting covered under Task 10.1.

Task 10.7 - Deliverables

1. Email written opinions on construction Contractor's claims and disputes.

2. Deliverables as described and detailed in Task 10.7 above.

10.8 Project-Specific Sub-Tasks

10.8.1 Engineering Geology and Geotechnical Services

If requested, Consultant will perform the following:

1. Inspect, approve excavation grade, approve foundation preparation, and perform geologic mapping for the Downstream Diversion Portal, relocation of the Anderson Force Main, outlet structure foundation, portion of the upstream portal above the level of Anderson Reservoir , excavation of the northern channel; and foundation excavation of the northern and southern weirs.

2. Observe tunnel construction operations and perform geologic mapping of the Diversion Tunnel, Low-Level Outlet Tunnel, High-Level Drop Shaft, and MTBM Operation Chamber.

3. Perform geologic logging of barge core drilling at upstream portal and any other exploratory drilling deemed necessary during construction.

Subtask 10.8.1 - Assumptions

1. The geotechnical tunnel engineer will be onsite on a full time basis (single shift) for 24 months during tunneling operations. Geologic mapping of the tunnel face is assumed to be required once per day of tunnel excavation.

2. The engineering geologist will be onsite for 6 months during the active phase of portal construction.

3. The engineering geologist will be onsite for 2 weeks during barge core drilling at the upstream portal.

4. Engineering geologists or geotechnical engineers will make an estimated additional 150 site visits in support of the tunneling or other geotechnical features of the project.

5. The geotechnical engineer will observe placement and compaction of backfill.

6. Quality assurance observations of pile driving and temporary shoring construction and removal will be provided by the Construction Management consultant.

7. Services under this task do not include surveying or construction materials testing.

Task 10.8 - Deliverables

1. Field memorandum with the Consultant's observations and/or findings and recommendations.

2. Daily field reports and final letter report summarizing observations and conclusions.

3. Other deliverables as described and detailed in Task 10.8 above.

Task 11 - Engineering Support During ADTP Construction. (Prior Authorization Required) (NEW)

The District may require, and the Consultant shall perform, the following Engineering Support Services during the ADTP Construction Phase on an as-needed basis. Prior to performing any of these Services, Consultant must obtain written authorization from the District's Dam Safety & Capital Division Deputy Operating Officer in the form of a Task Order (See Revised Attachment Three to Revised Appendix One, Task Order Template). A total of 3800 labor hours is estimated for these tasks to be further defined at task order award.

11.1 - Engineering Support Services for Reservoir Rim Landslide Mitigation

Consultant will provide engineering services during construction of the reservoir rim landslide mitigation at District's request. Services are expected to include review of the Contractor's engineering submittals, response to the Contractor's requests for information (RFI), preparation of changes to the construction contract documents, if required, maintaining a set of record drawings based upon information available to the Consultant, reviewing construction schedules, and engineering site support including geological inspection and observation during regrading and installation of soil anchors or other landslide mitigations.

11.2 - Engineering Support Services for Strengthening of Existing Sloping Intake Structure

Consultant will provide engineering services during strengthening of the existing sloping intake structure at District's request. Services are expected to include: reviewing of the Contractor's engineering submittals, responding to the Contractor's requests for information (RFI), preparation of changes to the construction contract documents, if required, maintaining a set of record drawings based upon information available to the Consultant, reviewing construction schedules, and engineering site support including geological inspection and observation during installation of soil anchors, as well as structural and mechanical engineers to inspect and observe improvements to the existing sloping intake structure.

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VI. ADDITIONAL TERMS AND CONDITIONS (UNCHANGED)

A. Consultant as Independent Contractor

1. Consultant will perform all Services as an independent contractor and not an agent or employee of District.

2. The expertise and experience of Consultant are material considerations for District's award and execution of this Agreement. Consultant will not assign or transfer any interest in this Agreement nor the performance of any of Consultant's obligations hereunder, without prior written consent of District, in the form of an Amendment executed by both Parties, and any attempt to so assign this Agreement, or any rights, duties or obligations arising hereunder, will be void and of no effect. Any assignment of moneys due or to become due in accordance with this Agreement, will be to the extent permitted by law, and will be subject to all proper set-offs, deductions, and withholdings in favor of the District.

B. Consultant's General Responsibilities

1. Standard of Care

a. Consultant and its sub-consultants must perform Services in accordance with those standards of care that are generally recognized as being used by competent persons in Consultant's area of specialty in the State of California.

b. Consultant and its sub-consultants must perform Services in compliance with all applicable written federal, state and local codes, statutes, laws, regulations and ordinances, including, but not limited to, environmental, energy conservation, and disabled access requirements.

2. Unless the requirements for the Scope of Services described in this Agreement are specifically modified in writing, Consultant must provide its Services and deliverables as required.

3. Consultant shall provide staff designated in Revised Attachment One, Consultant's Key Staff and Subconsultants. Any designated staff changes proposed by Consultant are subject to approval at the administrative staff level by the District Representative.

C. Confidentiality

1. Due to the nature of the services the Consultant will provide under the Agreement, there may be disclosure to the Consultant of detailed information about the District's operations, including on a need-to-know

basis information which may be protected from public disclosure by confidentiality laws, the attorney-client privilege, and/or other provisions of law which govern the nature and timing of disclosure of public information.

2. Consultant understands and acknowledges that District staff members providing information to the Consultant do so with the understanding that such information will be handled appropriately. In the event the Consultant receives such restricted or confidential information, the Consultant will limit access to the information to only those of the Consultant's employees, its subcontractors, and its subconsultants authorized by the District to have the information.

3. Consultant will notify the District's Project Manager immediately of any request by any third party to have access to the information, and will not disclose the requested information without first receiving express written authorization from the District's Project Manager. The requirements of this section will survive completion, termination, suspension, and expiration of the Agreement.

D. Project Management

1. The Project Manager for the District is Bal Ganjoo, Senior Project Manager, District Dam Safety Program & Project Delivery Unit.

2. The Project Manager for Consultant is as indicated in Revised Attachment One to Revised Appendix One, Consultant's Key Staff and Subconsultants.

3. The District's Project Manager or his designee is the only person authorized to accept Consultant's deliverables on behalf of the District.

E. Task Orders

1. Supplemental Services will be assigned to the Consultant through issuance of Task Orders. After Supplemental Services to be performed under this Agreement are identified and communicated to Consultant by the District Project Manager, the Consultant will prepare a proposed Task Order. The proposed Task Order must identify the following:

   a. Description of the services, including deliverables.

   b. The total not-to-exceed amount for Consultant to complete the services, including estimated number of hours per assigned staff to complete the services.

c. Proposed staff that will be assigned to complete the services, including resumes if not previously provided to the District Project Manager.

d. Estimated cost of each reimbursable expense, including any applicable fees.

e. Time schedule for completing the services.

f. Copies of applicable state, federal, and local permits required to complete the services, unless previously provided to the District Project Manager.

2. Consultant agrees that the not-to-exceed amount specified in a proposed Task Order will be the product of a good faith effort in exercising its professional judgment. After an agreement has been reached on the negotiable items, the finalized Task Order will be signed by the District's Dam Safety & Capital Division Deputy Operating Officer and the Consultant's Project Manager.

3. Consultant must not commence performance of services on a Task Order until it has been approved by the District's Dam Safety & Capital Division Deputy Operating Officer and Notice-to-Proceed has been issued by the District's Project Manager. No payment will be made for any services performed prior to approval or after the period of performance of the Task Order. The period of performance for Task Orders will be in accordance with dates specified in the Task Order. No Task Order will be written which extends beyond the expiration date of this Agreement. The total amount payable by the District for an individual Task Order will not exceed the amount agreed to in the Task Order.

4. Prevailing Wage Requirements: The Scope of Services may be considered by the District to be "Public Works" requiring the payment of prevailing wages. See the Revised Standard Consultant Agreement, Section II Duties of Consultant; Revised Appendix One, Revised Attachment Three, Task Order Template; and Revised Appendix Two, Fees and Payments, Article IV. Terms and Conditions, paragraph M. Prevailing Wages.

5. Task Orders can be amended provided the amendment is approved by the District Dam Safety & Capital Division Deputy Operating Officer.

F. Conflict of Interest

1. Consultant represents that there exists no actual or potential conflict of interest concerning the services to be performed under this Agreement.

2. Consultant represents that Consultant's performance under the Agreement does not require the breach of any agreement or obligation to keep in confidence the proprietary information of another party.

3. Consultant will not bring to the District or use in the performance of Consultant's duties under the Agreement any materials or documents of another party considered confidential or proprietary unless Consultant has obtained written authorization from such party, and the informed consent of the District, for the possession and use of such materials.

4. Consultant represents and warrants that during the term of the Agreement, Consultant, Consultant's parent company, Consultant's subsidiaries, or any affiliated entity sharing substantially similar ownership of or control with Consultant will not act as a consultant or expert for any party in support of any potential or active claim or legal action against the District by such party.

5. Consultant, Consultant's parent company, Consultant's subsidiaries, or any affiliated entity sharing substantially similar ownership of or control with Consultant will not submit a proposal: (i) for any contract to be awarded for design, construction management, or the construction of any project that is related to the services provided in accordance with this Agreement; (ii) in response to any request for proposal or District solicitation developed or prepared by or with the assistance of Consultant, Consultant's parent company, Consultant's subsidiaries, or any affiliated entity sharing substantially similar ownership of or control with Consultant.

G. Term and Termination

1. This paragraph 7. Term and Termination and the following paragraph 8. "Consultant's Compensation Upon Termination or Suspension" replaces paragraph #2. as stated in the Standard Consultant Agreement portion of this Agreement, at Section VI. "Changes in Work".

2. Term and Automatic Termination

   This Agreement encompasses all services for which Consultant is responsible to provide within the time limits and not-to-exceed amount set forth herein. Consultant will not undertake to provide services where it reasonably appears that the services cannot be provided, and expenses cannot be incurred within said total compensation limit and the applicable not-to-exceed amount of any Task Order.

3. District's Rights

   a. Suspension: District may, by written notice to Consultant, suspend any or all services pursuant to this Agreement or to any individual Task Order. District may subsequently terminate this Agreement

or any Task Order for convenience or determine to proceed. If a decision to proceed is not made within ninety (90) days from the date of the notice of suspension, any decision to proceed must be conditioned upon execution of a new Notice-To-Proceed or Task Order.

b. Termination for Convenience: District may, by written notice to Consultant, terminate all or part of this Agreement or any Task Order at any time for District's convenience. Upon receipt of such notice, Consultant will immediately cease all work as specified in the notice. If this Agreement or any Task Order is so terminated, Consultant will be compensated as set forth in section 5., Consultant's Compensation Upon Termination or Suspension, referenced below.

c. Termination for Breach: : If Consultant violates any of the covenants, agreements or stipulations of this Agreement or a Task Order, or if Consultant fails to fulfill in a timely and proper manner its obligations pursuant to this Agreement or any Task Order, and does not cure such failure or violation within thirty (30) days (or a reasonable extension thereof, if requested, which extension will not be unreasonably withheld) after receipt of written notice from District specifying such failure or violation, District will thereupon have the right to terminate this Agreement and any or all uncompleted Task Orders by giving written notice to Consultant of such termination.

   Such notice will specify the effective date thereof, and Consultant will not be entitled to compensation for services or expenses beyond the specified termination date.

d. If, after notice of termination for breach of this Agreement or any Task Order, it is determined that Consultant did not breach the Agreement or Task Order, the termination will be deemed to have been effected for District's convenience, and Consultant will receive payment that is allowed by this Agreement for a termination for convenience.

e. The rights and remedies provided herein to District are in addition to any other rights and remedies provided by law, this Agreement, or a Task Order.

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H. Consultant's Compensation Upon Termination or Suspension

1. In the event of termination of this Agreement or any Task Order, or suspension of services by District, Consultant shall receive compensation based on satisfactory performance, accepted by the District Project Manager, as follows:

   a. For Direct Labor - Consultant shall be entitled to receive compensation for all authorized direct labor performed prior to termination pursuant to the provisions of this Agreement or Task Order and all authorized labor expenses incurred to demobilize from the Project after the date of termination.

   b. For Reimbursable Expenses - Consultant shall be entitled to receive compensation for all authorized Reimbursable Expenses incurred prior to termination and all authorized expenses incurred to demobilize from the Project after the date of termination.

   c. In no event shall the total compensation paid for any item of service exceed the payment specified in the applicable Task Order for that item of service.

I. CALIFORNIA FAIR POLITICAL PRACTICES COMMISSION STATEMENT OF ECONOMIC INTEREST FORM 700 ("FORM 700"): Upon District's request, Consultant employees, officers, agents, subconsultants, and subcontractors shall complete, execute, and submit a Form 700 as follows:

1. Consultant employees, officers, agents, subconsultants, and subcontractors assigned to perform services pursuant to this Agreement, shall file, in a manner prescribed by the District, an Assuming Office Statement. The Assuming Office Statement shall be filed:

   a. Within 30 calendar days of the effective date of this Agreement; and

   b. Within 30 calendar days of Consultant hiring, adding, or promoting to a designated filer position employees, officers, agents, Subconsultants, and subcontractors to perform services pursuant to this Agreement.

2. Consultant's employees, officers, agents, Subconsultants, and subcontractors assigned to perform services pursuant to this Agreement, that filed an Assuming Office Statement, shall file, in a manner prescribed by the District, an amendment to their Form 700 any time there is a change to their disclosure information.

3. Consultant's employees, officers, agents, Subconsultants, and subcontractors assigned to perform services pursuant to this Agreement, that filed an Assuming Office Statement, an Annual Statement in a manner prescribed by the District, during the District's annual filing season as determined by the District;

4. Consultant's employees, officers, agents, Subconsultants, and subcontractors assigned to perform services pursuant to this Agreement, that filed an Assuming Office Statement, shall file, in a manner prescribed by the District, a Leaving Office Statement with the District when one of the following occurs:

   a. Upon termination of this Agreement; or

   b. Within 30 calendar days of Consultant employees, officers, agents, Subconsultants, and subcontractors vacating a designated filing position (i.e., removed from the Project, promotion, demotion, transfer to non-designated position, end of employment, or as a result of changes in designated filer positions in the District's Conflict of Interest Code).

5. Consultant understands and agrees that its employees, officers, agents, Subconsultants, and subcontractors may be disqualified from providing services to the District pursuant to the California Political Reform Act, Gov. Code Sections 81000 et. seq. and Government Code Section 1090. If any of Consultant's employees, officers, agents, subconsultants, and subcontractors are disqualified from providing services, on written notice from District's Project Manager, Consultant will have 15 calendar days to remove that employee(s), officer(s), agent(s), subconsultant's, and subcontractor's person from the Project and provide a replacement acceptable to the District.

6. The failure of Consultant's employees, officers, agents, subconsultants, and subcontractors to file an Assuming Office, Annual, Amended, or Leaving Office Statement within the time prescribed by the District is deemed a material breach and may result in termination of the Agreement for cause.

J. District Quality and Environmental Management System (QEMS) Fact Sheet (See Attachment Seven to Revised Appendix One)

As an on-site provider of services that has the potential to result in significant environmental impacts, Consultant is required to review the QEMS Fact Sheet, incorporated herein by this reference hereto, with any of the employee(s), sub-contractor(s), and/or subconsultant(s) ("Staff") performing services on behalf of the District, and make Staff aware of the District's Quality and Environmental Policy and their role and responsibility in achieving conformity with the expectations.

K. Release of Information Prohibited

Consultant is not permitted to provide any information concerning the Project to the media nor anyone other than authorized District personnel. Consultant will not release any information pertinent to the Project under design or construction for publication, public disclosure, or in any other manner without first obtaining clearance and a release in writing from the District. Any media inquiry at any time to Consultant relating to any matter concerning services provided or requested to be provided under this Agreement will be referred immediately to the District. Consultant will not communicate with the media regarding any such matter.

L. Formation of Agreement

1. No agreement between the Parties is formed until all applicable action items have been accomplished to the satisfaction of the District. The District Project Manager will not issue a Notice-to-Proceed until all required documents have been submitted and accepted by the District.

2. Formation of this Agreement between the Parties requires accomplishment of the following, as applicable:

   a. Execution of the Agreement by Consultant;

   b. Submission by the Consultant, and acceptance by the District, of evidence of all required insurance coverages and documents;

   c. Submission by the Consultant, and acceptance by the District, of evidence of all required Form 700 documents, if applicable;

   d. Submission by the Consultant, and acceptance by the District, of evidence of the QEMS Awareness and Training certification (See Attachment Seven to Revised Appendix One);

   e. Submission by the Consultant, and acceptance by the District, of all required Non-Disclosure Agreements ("NDA") documents as provided in Attachment Four to Revised Appendix One, if applicable;

   f. Submission by the Consultant, and acceptance by the District, of a Health and Safety Plan, if applicable;

   g. Any other requirements that are deemed necessary by the District; and

   h. Execution of the Agreement by the District.

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M. Notices

Unless otherwise specified in this Agreement, all requests for written approval or legal notices must be sent to the representatives below. All notices will be deemed to have been given when made in writing and when delivered or mailed to the representatives of the District and Consultant at their respective addresses as follows:

District:

Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3638
Attention: Christopher Hakes, Deputy Operating Officer
Dam Safety & Capital Delivery Division
Email: chakes@valleywater.org
Phone: (408) 630-3796

Consultant:

URS Corporation Americas
300 Lakeside Drive
Oakland, CA 94612
Attention: Theodore Feldsher, Vice President
Email: theodore.feldsher@aecom.com
Phone: (510) 874-3245
Claims-related notices shall be copied to:
AMER-DCSProjectClaimNotices@aecom.com

N. Good Neighbor

The District always strives to be a good neighbor to the community adjacent to its facility. Consultant will take steps so that disturbance by its actions to neighbors is minimized. Consultant, its staff, and Subconsultants will always communicate and interact with the members of the public in a polite and professional manner.

O. Choice of Law and Venue

The Parties agree that this Agreement is to be governed, construed, and enforced in accordance with the laws of the State of California. The Parties also agree that the venue of any litigation arising out of or connected with this Agreement will lie exclusively in the state trial court or Federal District Court located in Santa Clara County in the State of California, and the Parties consent to jurisdiction over their persons and over the subject matter of any such litigation in such courts, and consent to service of process issued by such courts.

P. Nonwaiver of Rights

The failure of either Party to this Agreement to object to or to take affirmative action with respect to any conduct of the other Party that is in violation of the terms of this Agreement will not be construed as a waiver thereof, or as waiver of any future breach or subsequent wrongful conduct.

Q. No Third-Party Beneficiaries

Nothing in this Agreement, whether express or implied, shall be construed to give any person or entity, other than the Parties hereto, any legal or equitable right, remedy, or claim under or in respect of this Agreement or any covenants, conditions, or provisions contained herein.

R. Severability

If a court of competent jurisdiction holds any provision of this Agreement to be illegal, unenforceable, or invalid in whole or in part for any reason, the validity and enforceability of the remaining provisions, or portions of them, will not be affected, unless an essential purpose of this Agreement would be defeated by the loss of the illegal, unenforceable, or invalid provision.

S. Debt Limitation

This Agreement is contingent on the appropriation of sufficient funding by Valley Water for the services described in this Agreement. The District is subject to laws or policies which limit its ability to incur debt in future years. Nothing in this Agreement shall constitute an obligation of future legislative bodies of the District to appropriate funds for purposes of this Agreement.

T. Revised Appendix One, Scope of Services and Revised Attachments

The following listed Attachments referred to herein are incorporated in this Revised Appendix One -Scope of Services as though set forth in full:

Revised Attachment One - Consultant's Key Staff and Subconsultants (REVISED)
Revised Attachment Two - Dispute Resolution (UNCHANGED)
Revised Attachment Three - Task Order Template (UNCHANGED)
Attachment Four - Non-Disclosure Agreement (NDA) (UNCHANGED)
Revised Attachment Five - District's Standard for GIS Products (UNCHANGED)
Attachment Six - Reference Documents (UNCHANGED)
Attachment Seven - District QEMS Procedures and Work Instructions (UNCHANGED)

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AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED ATTACHMENT ONE TO
REVISED APPENDIX ONE
CONSULTANT'S KEY STAFF AND SUBCONSULTANTS

1. The Consultant's key staff assigned to the Project are as follows:

Team Member	Project Role	Contact Information
John Roadifer	Project Manager	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-1732 john.roadifer@aecom.com
Mike Forrest	Lead Geotechnical Engineer and Deputy Project Manager	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-3012 michael.forrest@aecom.com
Sathish Murugaiah	Deputy Project Manager	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-3069 sathish.murugaiah@aecom.com
John Roadifer	Engineering Manager, Dam Engineering, Borrow/Disposal Areas, and Plans and Specifications, and Constructability/Scheduling/Cost Estimating	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-1732 john.roadifer@aecom.com
Erik Newman	Lead Dam Engineer, Plans and Specifications	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-3296 erik.newman@aecom.com
Jay Lin	Lead Tunnel Engineer	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-3024 cjay.lin@aecom.com
Jay Lin	Lead Structural Engineer, Spillway Design, and Reservoir and System Operations	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-3024 cjay.lin@aecom.com
Craig Smith	Outlet Works Design, and Structural Engineering	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-3117 Craig.j.smith@aecom.com
David Simpson	Borrow/Disposal Areas, Geologic Mapping and Characterization, and Geologic/Geotechnical Field Investigations, Seismic Hazards/Fault Evaluation	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-1775 david.simpson@aecom.com
Steve Leach	Environmental Planning and Coordination/Liaison	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-3205 steve.leach@aecom.com

Team Member	Project Role	Contact Information
Rajendram Arulnathan	Technical Reviewer	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-1763 rajendram.arulnathan@aecom.com
Robert Green	Technical Reviewer	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-3036 robert.k.green@aecom.com
Ted Feldsher	Principal in Charge and Technical Reviewer	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-3245 theodore.feldsher@aecom.com
Greg Reichert	Technical Reviewer	300 Lakeside Drive, Suite 400 Oakland, CA 94612 510-874-3090 gregory.reichert@aecom.com

2. If necessary and appropriate, the Consultant shall employ sub-consultants it deems appropriate to the complexity and nature of the required Services. All sub-consultants must, if their specialty is licensable, be licensed by the State of California to perform their specific Services. Consultant must obtain District's approval of all subconsultants. Upon District's request, Consultant must provide copies of all subconsultant contract agreements. Any delegation or subcontracting of any services by the Consultant will not operate to relieve the Consultant of its responsibilities under this Agreement.

   A. The following Subconsultants are authorized to work on the Project:

Firm	Project Role
5RMK, Inc.	Review the earthwork production assumptions presented in the Monte Carlo Analysis
Anchor Engineering, Inc.	Constructability/Scheduling and CADD
Asbestos TEM Laboratories, Inc.	NOA Testing
Beyaz and Patel, Inc.	Outlet/Pipeline Engineering
Cal Engineering and Geology, Inc.	UAV Work and Base Map Development
Cascade Drilling, L.P.	Drilling from Barge
Concentric Environmental LLC	Air Monitoring Support
Confluence Restoration	Seeding and Container Planting
Cooper Testing Labs, Inc.	Laboratory Services
Cornerstone Environmental Contractors, Inc.	Excavation of Test Pits
Design and Construction Management Services, Inc.	Constructability/Scheduling
dot.dat.inc.	Database and gINT logs

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED ATTACHMENT ONE TO
REVISED APPENDIX ONE
CONSULTANT'S KEY STAFF AND SUBCONSULTANTS

Firm	Project Role
Ed Rossillon	Hydraulics Analysis
F.W. Associates, Inc.	Electrical Engineering
Fugro USA Land, Inc.	Laboratory Testing on Test Fill
GeoDatabase Solutions	Geotechnical/Subsurface
Geosyntec Consultants, Inc.	Review Work Products
Henry T. Falvey and Associates, Inc.	Hydraulics Analysis
H.T. Harvey & Associates	Spillway Investigation Biological/ Permitting
ISI Inspection Services, Inc.	Laboratory Services
Kinnetic Laboratories, Inc.	Sediment Sampling
Lee C. Gerbig, LLC	Mechanical Engineering
Lettis Consultants International, Inc.	Seismic Hazards/Fault Evaluation
M. Lee Corporation	Cost Estimating
Marina Dee Design	CADD
NORCAL Geophysical Consultants, A Terracon Company	Geophysical Surveys
NORCAL Geophysical Consultants, Inc.	Geophysical Surveys
Northwest Hydraulic Consultants Ltd.	Hydraulic Physical Modeling, Physical Model Testing
Omni Digital Imaging LLC	Reprographics
Prohaska's Drafting Service	CADD
Robert Y. Chew Geotechnical, Inc.	Geotechnical Field Investigations
RockTest LTEE	Materials Testing
SOHA Engineers	Spillway Design Support
Rope Partner	Inspection of Weep Holes in Spillway
Taber Drilling	Geotechnical Exploration
Telamon Engineering Consultants, Inc.	Civil/Roads/Utilities Design and Surveying
Tonon USA	Laboratory Services
V and A Consulting Engineers, Inc.	Corrosion Engineering

B. Contact information for the above listed Subconsultants is as follows:

Expertise: Review the earthwork production assumptions			
Firm:	**5RMK, Inc.**	Contact:	Bruce Larabee
Address:	3685 Mt. Diablo Blvd, Suite 349 Lafayette, CA 94579	Phone:	(208) 805-2923
		Email:	Bruce.larabee@gmail.com

Expertise: Constructability/Scheduling and CADD			
Firm:	**Anchor Engineering, Inc.**	Contact:	Christopher Coles
Address:	3685 Mt. Diablo Blvd, Suite 349 Lafayette, CA 94579	Phone:	(925) 385-0950
		Email:	ccoles@anchorcm.com

Expertise: NOA Testing			
Firm:	**Asbestos TEM Laboratories, Inc.**	Contact:	Rose Yapching
Address:	600 Bancroft Way, Suite A Berkeley, CA 94710	Phone:	(510) 704-8930
		Email:	gho@beyazpatel.com

Expertise: Outlet/Pipeline Engineering			
Firm:	**Beyaz and Patel, Inc.**	Contact:	Gary Ho
Address:	1280 Civic Drive, Suite 204 Walnut Creek, CA 94596	Phone:	(415) 293-4511
		Email:	gho@beyazpatel.com

Expertise: UAV Work and Base Map Development			
Firm:	**Cal Engineering and Geology, Inc.**	Contact:	Reid Fisher
Address:	1870 Olympic Blvd., #100 Walnut Creek, CA 94596	Phone:	(925) 433-5017
		Email:	rfisher@caleng.com

Expertise: Drilling from Barge			
Firm:	**Cascade Drilling, L.P.**	Contact:	Greg Zekoff
Address:	7773 W. Seldon Lane Peoria, AZ 85345	Phone:	(623) 236-1341
		Email:	GZekoff@cascadedrilling.com

Expertise: Air monitoring support			
Firm:	**Concentric Environmental LLC**	Contact:	Kevin Graf
Address:	5422 Shafter Ave #2 Oakland, CA 94618	Phone:	(415) 570-9734

Expertise: Seeding and container planting			
Firm:	**Confluence Restoration**	Contact:	Doug Sommerville
Address:	721 Seaside St Santa Cruz, CA 95060	Phone:	(831) 359-0660
		Email:	doug@confluencerestoration.com

Expertise: Laboratory Services			
Firm:	**Cooper Testing Labs, Inc.**	Contact:	Peter Jacke
Address:	937 Commercial Street Palo Alto, CA 94303	Phone:	(650) 213-8436
		Email:	peter@coopertestinglabs.com

Expertise: Excavation of Test Pits			
Firm:	**Cornerstone Environmental Contractors, Inc.**	Contact:	Randy Fowler
Address:	P.O. Box 5127 Concord, CA 94524	Phone:	(925) 478-4102
		Email:	rfowler@cornerstineenv.com

Expertise: Constructability/Scheduling			
Firm:	**Design and Construction Management Services, Inc.**	Contact:	Sherman Honeycutt
Address:	2040 Shady Creek Place Dublin, CA 94526	Phone:	(925) 980-8590
		Email:	Sherman.Honeycutt@Design-CM.com

Expertise: Database and gINT logs			
Firm:	**dot.dat.inc.**	Contact:	Dotti Nelson
Address:	4 Sweetwater Irvine, CA 92603	Phone:	(949) 854-3522
		Email:	dotdat@cox.net

Expertise: Electrical Engineering			
Firm:	**F.W. Associates, Inc.**	Contact:	Munson Fong
Address:	330 Franklin Street, Suite 400 Oakland, CA 94607	Phone:	(510) 763-7475
		Email:	mfong@fwa-inc.com

Expertise: Laboratory Testing on Test Fill			
Firm:	**Fugro USA Land, Inc.**	Contact:	Jeffrey Locke
Address:	6100 Hillcroft Houston, TX 77081	Phone:	(713) 369-5444
		Email:	jlocke@fugro.com

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REVISED ATTACHMENT ONE TO
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CONSULTANT'S KEY STAFF AND SUBCONSULTANTS

Expertise: Geotechnical/Subsurface			
Firm:	**GeoDatabase Solutions**	Contact:	Dave Kyllonen
Address:	5594 Woodview Dr. Richmond, CA 94803	Phone:	(510) 275-4950
		Email:	dkyllonen@geodatabasesolutions.com

Expertise: Review Work Products			
Firm:	**Geosyntec Consultants, Inc.**	Contact:	Lelio Mejia
Address:	1111 Broadway, 6th Floor Oakland, CA 94607	Phone:	(510) 285-2735
		Email:	Lmejia@geosyntec.com

Expertise: Spillway Investigation Biological/ Permitting			
Firm:	**H.T. Harvey & Associates**	Contact:	Stephen Rottenborn
Address:	983 University Ave., Bldg D Los Gatos, CA 95032	Phone:	(408) 458-3205
		Email:	srottenborn@harveyecology.com

Expertise: Laboratory Services			
Firm:	**ISI Inspection Services, Inc.**	Contact:	Leslie Sakai
Address:	211 10th Street, Suite 222 Oakland, CA 94607	Phone:	(510) 900-2100
		Email:	leslie@inspectionservices.net

Expertise: Seismic Hazards/Fault Evaluation			
Firm:	**Lettis Consultants International, Inc.**	Contact:	John Baldwin
Address:	1981 N. Broadway, Suite 330 Walnut Creek, CA 94596	Phone:	(925) 482-0360 ext. 202
		Email:	Baldwin@lettisci.com

Expertise: Cost Estimating			
Firm:	**M. Lee Corporation**	Contact:	Martin Lee
Address:	311 California Street, Suite 610 San Francisco, CA 94104	Phone:	(415) 693-0236
		Email:	mlee@mleecorp.com

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CONSULTANT'S KEY STAFF AND SUBCONSULTANTS

Expertise: CADD			
Firm:	**Marina Dee Design**	Contact:	Marina Dee
Address:	55 New Montgomery St, Suite 203 San Francisco, CA 94105	Phone:	(415) 615-2759
		E-mail:	marina.dee@sbcglobal.net

Expertise: Hydraulic Physical Modeling, Physical Model Testing			
Firm:	**Northwest Hydraulic Consultants Ltd.**	Contact:	Brian Hughes
Address:	30 Gostick Place North Vancouver, BC, Canada V7M 3G3	Phone:	(604) 980-6011
		Email:	BHughes@nhcweb.com

Expertise: Reprographics			
Firm:	**Omni Digital Imaging LLC**	Contact:	Roshan Silva
Address:	1275 Fairfax Avenue #103 San Francisco, CA 94124	Phone:	(415) 748-2725
		Email:	roshan@odirepro.com

Expertise: CADD			
Firm:	**Prohaska's Drafting Services**	Contact:	John Prohaska
Address:	131 Surrey Lane San Rafael, CA 94903	Phone:	(415) 507-9107
		Email:	jprohaska@comcast.net

Expertise: Geotechnical Field Investigations			
Firm:	**Robert Y. Chew Geotechnical, Inc.**	Contact:	Robert Chew
Address:	55 New Montgomery Street, Suite 222 San Francisco, CA 94105	Phone:	(415) 512-1881
		Email:	Robert.chew@robertchewgeotechnical.com

Expertise: Inspection of Weep Holes in Spillway			
Firm:	**Rope Partner**	Contact:	Josh Crayton
Address:	125 McPherson Street Santa Cruz, CA 95060	Phone:	(775) 722-3918
		Email:	jcrayton@ropepartner.com

Expertise: Spillway Design Support			
Firm:	**SOHA Engineers**	Contact:	Stephen Lau
Address:	48 Colin P. Kelly Jr. Street San Francisco, CA 94107	Phone:	(415) 989-9900
		Email:	slau@soha.com

Expertise: Civil/Roads/Utilities Design and Surveying			
Firm:	**Telamon Engineering Consultants, Inc.**	Contact:	Mennor Chan
Address:	855 Folsom Street, Suite 142 San Francisco, CA 94107	Phone:	(415) 837-1336
		Email:	Mennor.c@telamoninc.com

Expertise: Laboratory Services			
Firm:	**Tonon USA**	Contact:	Fulvio Tonon
Address:	2028 E Ben White Blvd. #240-2660 Austin, TX 78741	Phone:	(512) 200-3051
		Email:	fulvio@tononeng.com

Expertise: Corrosion Engineering			
Firm:	**V and A Consulting Engineers, Inc.**	Contact:	Jose Villalbos
Address:	155 Grand Avenue, Suite 700 Oakland, CA 94612	Phone:	(510) 903-6600
		Email:	jvillalobos@vaengineering.com

Expertise: Hydraulics Analysis			
Firm:	**Henry T. Falvey and Associates, Inc.**	Contact:	Henry Falvey
Address:	11624 Blackfoot Road Conifer, CO 80433	Phone:	(303) 838-4920
		Email:	falvey5@q.com

Expertise: Mechanical Engineering			
Firm:	**Lee C. Gerbig, LLC**	Contact:	Lee Gerbig
Address:	5555 Royal Troon Way Avon, IN 46123	Phone:	(317) 745-1787
		Email:	leegerbigllc@gmail.com

Expertise: Hydraulics Analysis			
Firm:	**Ed Rossillon**	Contact:	Ed Rossillon
Address:	6505 W. 31st avenue Wheat Ridge, CO 80214	Phone:	(303) 233-2480
		Email:	Rosie6617@hotmail.com

Expertise: Sediment Sampling			
Firm:	**Kinnetic Laboratories, Inc.**	Contact:	Ken Kronschnabl
Address:	307 Washington Street Santa Cruz, CA 95060	Phone:	(831) 457-3950
		Email:	kkronsch@kinneticlabs.com

Expertise: Geophysical Surveys			
Firm:	**NORCAL Geophysical Consultants, A Terracon Company**	Contact:	Donald Kirker
Address:	321A Blodgett Street Cotati, CA 94931	Phone:	(707) 978-7039
		Email:	dkirker@norcalgeophysical.com

Expertise: Geotechnical Exploration			
Firm:	**Taber Drilling**	Contact:	Steve Taber
Address:	536 Galveston Street West Sacramento, CA 95691	Phone:	(916) 371-8234
		Email:	asandino@taberdrilling.com

C. Consultant Key Staff and Subconsultants

1. Consultant's key staff and Subconsultants assigned to perform the Services are identified in this Revised Attachment One to Revised Appendix One, Scope of Services.

2. The Project team organization chart and delegated responsibilities of each team member will be submitted to the District for concurrence.

3. Consultant may utilize subconsultants, subcontractors, suppliers, or vendors it deems appropriate to the complexity and nature of the required Services.

   a. Consultant must obtain the District's approval of all subconsultants. Upon the District's request, Consultant must provide copies of all subconsultant agreements.

   b. Consultant must require its delegates or subconsultants to agree, in writing, to adhere to terms and conditions of this Agreement.

4. Any delegation or use of subconsultants by Consultant will not operate to relieve Consultant of its responsibilities as described in this Agreement.

5. If any of Consultant's designated key staff persons or Subconsultants fail to perform to the satisfaction of the District, on written notice from the District, Consultant will have fifteen (15) calendar days to remove that person from the Project and provide a replacement acceptable to the District.

6. Consultant will not charge the District for the time it takes Consultant's replacement personnel to obtain the District-specific Project knowledge in the possession of the person(s) being replaced.

7. Consultant's Key Staff

   The District Project Manager may approve any revisions to Consultant's list of key staff assigned to the Project as an administrative modification to this Agreement, and such approval will be confirmed in writing.

8. Consultants Subconsultants

   a. The District Project Manager may approve any revisions to Consultant's list of authorized Subconsultants when the Subconsultant is deleted from the list and the scope of services is deleted from the Agreement or such services are assumed by the Consultant; such approval will be confirmed in writing.

   b. The District's authorized representative may approve any revisions to Consultant's list of authorized Subconsultants when a listed Subconsultant is replaced (to perform the same scope) or a new Subconsultant is added (to perform new scope), provided the firm complies with all insurance requirements established by the District for such work; such approval will be confirmed in writing.

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AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED ATTACHMENT TWO TO
REVISED APPENDIX ONE
DISPUTE RESOLUTION

1. Consultant's Questions and Concerns

Questions regarding the Terms, Conditions, and Services relating to this Agreement will be decided by the District who will furnish the decisions to Consultant in writing within 30 days after receiving a written request from Consultant.

2. Dispute Resolution

A. Alternate Dispute Resolution

District intends to use Alternate Dispute Resolution (ADR) techniques including partnering and mediation to resolve disputes relating to the Project.

B. Consultant and its Subconsultants are expected to participate in all ADR efforts.

C. The cost of partnering, training facilities, and facilitator will be borne by District.

3. Negotiations Before and During Mediation

Negotiations to resolve disputes before and during mediation are initiated for settlement purposes only and are not binding unless otherwise agreed by District and Consultant.

4. Voluntary Mediation

A. Initiation of Mediation

Any Party to a dispute or claim may initiate mediation by notifying the other Party or Parties in writing.

B. Request for Mediation

A request for mediation must contain a brief written statement of the nature of the dispute or claim, and the names, addresses, and phone numbers of all parties to the dispute or claim, and those who will represent them, if any, in the mediation.

C. Selection of Mediator

1) Upon receipt of a written request for mediation, unless otherwise agreed by the Parties, within 14 days, the Parties will confer to select an appropriate mediator agreeable to all Parties.

2) If the Parties cannot agree on a mediator, they hereby agree to accept a mediator appointed by a recognized association such as the American Arbitration Association.

D. Qualifications of a Mediator

1) Any mediator selected must have expertise in the area of the dispute and be knowledgeable in the mediation process.

2) No person shall serve as a mediator in any dispute in which that person has any financial or personal interest in the result of the mediation.

3) Before accepting an appointment, the prospective mediator must disclose any circumstances likely to create a presumption of bias or prevent a prompt meeting with the Parties. Upon receipt of such information, the Parties will confer and decide whether to select another mediator.

E. Vacancies

If any mediator becomes unwilling or unable to serve, another mediator will be selected unless the Parties agree otherwise.

F. Representation

1) Any Party may be represented by person(s) of their choice who must have full authority to negotiate.

2) The names and addresses of such person(s) must be communicated in writing to both Parties and to the mediator.

G. Time and Place of Mediation

1) The mediator will set the time of each mediation session.

2) The mediation will be held at a convenient location agreeable to the mediator and the Parties, as determined by the mediator.

3) All reasonable efforts will be made by the Parties and the mediator to schedule the first session within 60 days after selection of the mediator.

H. Identification of Matters in Dispute

1) Parties shall comply with the process as required by the mediator with regard to providing the mediator with a memorandum setting forth its position with regard to the issues that need to be resolved. At the discretion of the mediator, or otherwise agreed by the Parties, the Parties may mutually exchange such memoranda.

2) At the first session, the Parties will be expected to produce all information reasonably required for the Mediator to understand the issue(s) presented. The mediator may require each Party to supplement such information.

I. Authority of Mediator

1) The mediator does not have authority to impose a settlement on the Parties but will attempt to assist the Parties in reaching a satisfactory resolution of their dispute.

2) The mediator is authorized to conduct joint and separate meetings with the Parties and to make oral and written recommendations for settlement.

3) Whenever necessary, the mediator may also obtain expert advice concerning technical aspects of the dispute, provided the Parties agree and assume the expenses of obtaining such advice. Arrangements for obtaining such advice will be made by the mediator or the Parties, as determined by the mediator.

4) The mediator is authorized to end the mediation whenever, in the mediator's judgment, further efforts at mediation would not contribute to a resolution of the dispute between the Parties.

J. Privacy

1) Mediation sessions are private.

2) The Parties and their representatives may attend mediation sessions.

3) Other persons may attend only with the permission of the Parties and with the consent of the mediator.

K. Confidentiality

Except as provided by California or federal law or regulation:

1) The mediator will not divulge confidential information disclosed to a mediator by the Parties or by witnesses in the course of the mediation.

2) All records, reports, or other documents received by a mediator while serving as mediator, are confidential.

3) The mediator must not be compelled to divulge such records or to testify in regard to the mediation in any adversary proceeding or judicial forum.

4) The Parties must maintain the confidentiality of the mediation and must not rely on, or introduce as evidence in any arbitration, judicial or other proceedings:

   a. Views expressed, or suggestions made by the other Party with respect to a possible settlement of the dispute;

   b. Statements made by the other Party in the course of the mediation proceedings;

c. Proposals made or views expressed by the mediator; and

d. Whether the other Party had or had not indicated willingness to accept a proposal for settlement made by the mediator.

L. No Stenographic Record

There shall be no stenographic record of the mediation.

M. Termination of Mediation

1) The mediation shall be terminated:

a. By the execution of a Settlement Agreement by the Parties;

b. By a written declaration of the mediator to the effect that further efforts at mediation are no longer worthwhile; or

c. By a written declaration of a Party or Parties to the effect that the mediation proceedings are terminated.

N. Exclusion of Liability

No mediator shall be a necessary Party in judicial proceedings related to the mediation.

O. Interpretation and Application of These Mediation Provisions

The mediator will interpret and apply these mediation provisions insofar as they relate to the mediator's duties and responsibility.

P. Expenses

1) The expenses of witnesses for each Party must be paid by the Party producing the witnesses.

2) All other expenses of the mediation, including required travel and other expenses of the mediator, and the expenses of any witness called by the mediator, or the cost of any proofs or expert advice produced at the direct request of the mediator, will be apportioned as the mediator finds appropriate or as otherwise agreed to by the Parties.

5. Compensation for Participation in Mediation

Neither Consultant nor the District is entitled to compensation for time spent in or for negotiations or mediation to resolve questions or disputes between Consultant and District arising out of this Agreement.

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED ATTACHMENT THREE TO
REVISED APPENDIX ONE
TASK ORDER TEMPLATE

Task Order No. _____

Title: _____

Agreement: Standard Consultant Agreement _____ ("Agreement") Between the Santa Clara Valley Water District ("District") and _____ ("Consultant"), dated _____.

District: _____

Consultant: _____

Dollar Amount of Task Order: Not-to-Exceed $_____

1. Upon full execution of this Task Order No. _____, as set forth in the Revised Standard Consultant Agreement, Revised Appendix One, Scope of Services, Article VI. Additional Terms and Conditions, paragraph E. Task Orders, and the issuance of a Notice to Proceed by the District Project Manager, the Consultant is hereby authorized to perform the Services described in Attachment A to this Task Order. Any costs incurred, Services performed or expenditures by the Consultant before this Task Order is executed or before the issuance of the Notice to Proceed will be considered outside the contracted Scope of Services and will not be eligible for payment.

2. Both the Scope of Services to be performed and the deliverables to be provided in accordance with this Task Order are described in Attachment A which is attached hereto and incorporated by this reference. Attachment A shall include at a minimum the following:

   A. The Consultant personnel to be assigned to perform the Services, including resumes if not previously provided to the District.

   B. The total not-to-exceed fees amount for Consultant to complete the Services, including estimated number of hours required to perform the Services assigned to each Consultant classification.

   C. Estimated cost of each other direct cost and reimbursable expense, including any applicable fees.

   D. Project schedule for completing the Scope of Services.

3. The Consultant shall be compensated at fixed fees or at the hourly rates established in Revised Appendix Two, Fees and Payments, of the Agreement. The Consultant agrees that it will provide all equipment, furnish all materials, except as may be otherwise noted in the Attachment A.

4. This Task Order will become effective on the date of full execution by authorized representatives of the Parties and remain in effect until the earlier of: completion of the tasks set forth in Attachment A or [expected completion date].

5. Copies of applicable local, state and federal permits required to perform the Services described in Attachment A are attached to this Task Order, unless the Consultant previously provided the appropriate permits to the District.

6. The Consultant shall perform all Services described in Attachment A to this Task Order in accordance with the terms and conditions of the Agreement.

7. Prevailing Wage Requirements. [NOT USED]

   a. The Scope of Services described in this Task Order is considered by the District to be "Public Works" requiring the payment of prevailing wages. See Revised Standard Consultant Agreement, Revised Appendix Two, Fees and Payments, Article IV. Terms and Conditions, paragraph M. Prevailing Wages.

   b. In accordance with prevailing wage laws, the Director of the California Department of Industrial Relations (Director) has ascertained the general prevailing rate of wages and employer payments for health and welfare, pension, vacation, and similar purposes available to the particular craft, classification, or type of workers employed on the Project. These rates are set forth in the latest determination obtained from the Director, which is on file in the District's Office of the Clerk of the Board of Directors and incorporated herein by reference the same as though set forth in full. The rates are also available on the State of California Department of Industrial Relations website at http://www.dir.ca.gov.

8. Signatures:

Signature:

NAME OF CONSULTANT FIRM [PRINT NAME] [PRINT TITLE]	DATE

Signature:

SANTA CLARA VALLEY WATER DISTRICT [PRINT NAME] [PRINT TITLE]	DATE

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AMENDMENT NO. 8 TO AGREEMENT A3583A
REVISED ATTACHMENT FOUR TO
REVISED APPENDIX ONE
NON-DISCLOSURE AGREEMENT (NDA)

Santa Clara Valley Water District

SANTA CLARA VALLEY WATER DISTRICT NON-DISCLOSURE AGREEMENT (NDA)

FC 1650 (03-19-08)
Page 1 of 2

This confidentiality agreement ("Agreement") is entered into as of _____ (date), by and between Santa Clara Valley Water District (hereinafter the "District"), and _____ _____, or which together with its subsidiaries and affiliates, are individually and collectively be referred to hereinafter as the "Company."

1. During the course of Company's relationship with the District, the District has disclosed or may disclose to Company confidential information that may include but not be limited to the following kinds of information: plans, security data, vulnerability assessments, draft documents, network data, control systems data, security protocols, personnel data, computer programs, remote application access, computer information licensed to the District, and work product of the District's employees and agents, and other non-public information ("Confidential Information").

2. Company agrees:

   (i) to hold the Confidential Information in strict confidence and to take reasonable precautions to protect such Confidential Information;

   (ii) not to reproduce, transcribe, or disclose the Confidential Information, or any information derived from the Confidential Information to third parties without prior written approval by the District;

   (iii) not to make, have made, use, distribute or sell for its own purposes or for any purpose other than on behalf of the District, any item or data incorporating Confidential Information;

   (iv) to only make a minimum amount of copies of any Confidential Information that is absolutely necessary to carry out services it provides to the District;

   (v) to only disclose Confidential Information to its responsible employees who have: (a) a need to know such Confidential Information in order to carry out the services Company provides to the District; and (b) signed and returned to the District the PERSONAL NDA, attached to this Agreement as Attachment One;

   (vi) to promptly return all copies, renderings, transformations, and derivatives of the Confidential Information to the District at the termination of its working relationship with the District; or if requested by the District to destroy and certify in writing the destruction of such Confidential Information; and

   (vii) to notify the District in writing immediately when it becomes aware of any unauthorized release of the Confidential Information.

3. Company acknowledges that its compliance with this Agreement is necessary to protect the District, and that any action on Company's part that is inconsistent with this Agreement will cause the District irreparable and continuing harm. Therefore, if anything Company (including its employees and agents) does that is inconsistent with this Agreement, Company consents to the District obtaining a court order to stop its inconsistent actions and otherwise to prevent any, without the District having to post any bond or security for such order. The District may pursue other remedies available to it, all of which are nonexclusive and cumulative. This Agreement sets forth the entire agreement with respect to the Confidential Information disclosed herein and supersedes all prior or contemporaneous agreements concerning such Confidential Information, whether written or oral. All additions or modifications to this Agreement must be made in writing and must be signed by both parties. This Agreement is made under and will be construed according to the laws of the State of California.

By signing below, you acknowledge that you have read this Agreement and you have authority to agree, and do agree, on behalf of Company to all of the terms and conditions contained in this Agreement.

COMPANY

Signature: _____ Date: _____

Name: _____ Title: _____

AMENDMENT NO. 8 TO AGREEMENT A3583A
REVISED ATTACHMENT FOUR TO
REVISED APPENDIX ONE
NON-DISCLOSURE AGREEMENT (NDA)

Santa Clara Valley Water District

PERSONAL NDA

(Attachment One to the Santa Clara Valley Water District NDA)

FC 1650 (03-19-08)

I acknowledge that the Santa Clara Valley Water District ("District") will make available to me from time to time certain information that is highly confidential to the District. I acknowledge that such information is extremely sensitive and agree that I will not disclose all or any part of this confidential information to any person, firm, corporation, association, or partnership without the written permission of the District. For example, this confidential information includes but not be limited to the following kinds of information: plans, security data, vulnerability assessments, draft documents, network data, control systems data, security protocols, personnel data, computer programs, remote application access, computer information licensed to the District, and work product of the District's employees and agents, and other non-public information.

I will hold all of the District's confidential information at all times in trust and strictest confidence for the District from and after the date of its creation or disclosure to me. I will prevent the impermissible release of the District's confidential information. I will not retain nor incorporate any of the confidential information into any database or any medium other than may be required for the District's exclusive benefit. I will not duplicate or disclose or otherwise reveal such confidential information in any manner inconsistent with this agreement.

In addition, I will not perform an illegal act and I will not share the password or account access provided exclusively to me. When leaving a workstation unattended, or out of sight, I will save my work and log off or lock the workstation to prevent unauthorized access. I will make no attempt to circumvent access codes or information protection schemes or uncover security loopholes or attempt to break authentication procedures or encryption protocols. I will make no attempts to increase the level of access to which I have been authorized. I will not attempt to use or obtain access codes in an unauthorized manner or from another user. I will not allow non-employees to access District computer systems.

I agree to abide by the statements made regarding the use of confidential information, including, without limitation, any on the use of the District's network.

I acknowledge that my faithful compliance with this NDA is necessary to protect the District and that any action on my part that is inconsistent with this NDA will cause the District irreparable and continuing harm. Therefore, if anything I do is inconsistent with this NDA, I consent to the District obtaining a court order to stop my inconsistent actions and otherwise to prevent any, without the District having to post any bond or security for such order. The District may pursue other remedies available to it, all of which are nonexclusive and cumulative.

PLEASE COMPLETE THE FOLLOWING SECTION (PLEASE PRINT):

Full Name:	
Company Name:	
Phone No.:	Fax No.:
Email Address:	
What department(s) do you work with within the District?	
Signature:	Date:

AMENDMENT NO. 8 TO AGREEMENT A3583A
REVISED ATTACHMENT FIVE TO
REVISED APPENDIX ONE
SANTA CLARA VALLEY WATER DISTRICT (District)
STANDARDS FOR GIS PRODUCTS
July 2017

A. INTRODUCTION

1. A Geographic Information System (GIS) is an organized collection of computer hardware, software, and geographic data designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information.

B. GENERAL POLICIES

1. The diverse nature of GIS precludes policies that cover every situation that can arise. However, the general policies of the District as they apply to the GIS include:

   a. The District GIS standard coordinate system is California State Plane Coordinate System (Feet) using the North American Datum of 1983 California Zone 3 (NAD 83) for horizontal data and the North American Vertical Datum of 1988 (NAVD 88) for vertical data;

   b. Each dataset must have a complete, District-compliant metadata file specific to that dataset. Datasets that do not include metadata will not be accepted by the District; and

   c. All GIS products must be reviewed by the Software Services Unit or a reviewer authorized by the Software Services Unit before they can be accepted by the District.

C. DEFINITIONS

1. **ESRI**—Environmental Systems Research Institute. A GIS software company. The District is standardized on ESRI GIS software.

2. **Dataset**—Any tabular, vector, or raster data including, but not limited to, ESRI shapefile, ESRI geodatabase, dBase IV (DBF), ESRI GRID, Multiresolution Seamless Image Database (MrSID), Tag Image File (TIFF or GeoTIFF) format, or other ESRI-compliant format.

3. **Metadata**—Information that describes the content, quality, condition, origin, and other characteristics of data or other pieces of information. Metadata for spatial data may describe and document its subject matter; how, when, where, and by whom the data was collected; availability and distribution information; its projection, scale, resolution, and accuracy; and its reliability with regard to some standard. Metadata consists of properties and documentation. Properties are derived from the data source (for example, the coordinate system and projection

of the data), while documentation is entered by a person (for example, keywords used to describe the data).

3. **PRJ File**—The PRJ (projection) file contains the coordinate system information for the data.

4. **World File**—A text file containing information about where an image should be displayed in real world coordinates. When an image has a properly configured world file, GIS software can use the information (a total of six values, including the starting coordinates, the cell size in both x and y dimensions, and any rotation and scaling information) to accurately overlay the image with any other data already in that coordinate system.

D. DATASET STANDARDS

1. All GIS feature datasets will be created in ESRI shapefile, ESRI geodatabase, or other ESRI-compliant format. Tabular datasets will be in dBase IV (DBF) format, ESRI geodatabase, or other ESRI-compliant format. Image data will be in ESRI GRID, Multiresolution Seamless Image Database (MrSID), or Tag Image File (TIFF or GeoTIFF) format.

2. All GIS datasets must include coordinate system information. Shapefiles must include ESRI-compliant PRJ files and image data must include ESRI-compliant World files. PRJ files can be created using ArcGIS. Non-ArcGIS users can create a PRJ file by copying the information from Attachment Four-A Sample PRJ file for California State Plane Zone 3 NAD 83 feet, pasting it in Notepad, and then saving it as the name of the dataset with a PRJ extension. For example, the shapefile **creek.shp** should have a PRJ file named **creek.prj**.

E. METADATA STANDARDS

1. A metadata file for each dataset must be completed in order to comply with the Federal Geographic Data Committee (FGDC) Content Standards for Digital Geospatial Metadata. The Content Standard for Digital Geospatial Metadata adopted by the State Land Information Board, State of California, can be found on the Federal Geographic Data Committee website (https://www.fgdc.gov/).

2. If a new dataset is derived from an existing dataset that does not have metadata, a complete, District-compliant metadata file must be provided with the new dataset.

3. If using ArcGIS software, metadata should be created using ArcCatalog and provided in eXtensible Markup Language (XML) file format. All required fields must be completed. A list of required fields can be found in Attachment Four-B SCVWD GIS Dataset Metadata Template. Attachment Four-C SCVWD GIS Dataset Metadata Help provides information about each required field.

4. If not using ArcGIS software, metadata can be provided in Rich Text (RTF) file format using the District's metadata template, Attachment Four-B SCVWD GIS Dataset Metadata Template.

5. If the originator of the dataset is not a District employee, metadata contact information must be provided for both the originator as well as a District employee who can answer questions about the dataset.

F. PROJECT STANDARDS

1. ArcGIS Project files (MXD) provided to the District must be created so that they can be easily transferred to the District's file system without broken links to datasets or pictures. Any non-standard marker symbols, fonts, or other special files must be included with the Project. Project files must be saved with relative path names. Pictures (such as logos) must be saved as part of the document. Use of layer packages (LPK) and map packages (MPK) is encouraged.

G. APPLICATION STANDARDS

1. All desktop, web, and mobile GIS applications must be developed using technology compatible with ESRI products if they are to be transferred to the District for hosting and/or maintenance. Alternatively, the project should include budget to fund hosting, maintenance, and support of the application. The Software Services Unit must be contacted before development begins on any desktop, web, or mobile GIS application to discuss specific requirements.

H. CARTOGRAPHY STANDARDS

1. All maps must have the following standard map components:

   a. Title
   b. Legend
   c. North Arrow
   d. Scale Bar
   e. Map Date
   f. Map Author
   g. Data Sources/Credits (when applicable)

AMENDMENT NO. 8 TO AGREEMENT A3583A
REVISED ATTACHMENT FIVE TO
REVISED APPENDIX ONE
SANTA CLARA VALLEY WATER DISTRICT (District)
STANDARDS FOR GIS PRODUCTS
July 2017

I. ATTACHMENTS

The following listed Attachments referred to herein are incorporated in this document (District Standards for GIS Products) as though set forth in full:

1. Attachment A Sample PRJ File for California State Plane Zone NAD 83 Feet

2. Attachment B SCVWD GIS Dataset Metadata Template

3. Attachment C SCVWD GIS Dataset Metadata Help

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ATTACHMENT A
SAMPLE PRJ FILE FOR CALIFORNIA STATE PLANE ZONE III NAD 83 FEET

PROJCS["NAD_1983_StatePlane_California_III_FIPS_0403_Feet",GEOGCS["GCS_North_American_1983",DATUM["D_North_American_1983",SPHEROID["GRS_1980",6378137,298.257222101]],PRIMEM["Greenwich",0],UNIT["Degree",0.017453292519943295]],PROJECTION["Lambert_Conformal_Conic"],PARAMETER["False_Easting",6561666.666666666],PARAMETER["False_Northing",1640416.666666667],PARAMETER["Central_Meridian",-120.5],PARAMETER["Standard_Parallel_1",37.06666666666667],PARAMETER["Standard_Parallel_2",38.43333333333333],PARAMETER["Latitude_Of_Origin",36.5],UNIT["Foot_US",0.30480060960121924]]

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ATTACHMENT B
SCVWD GIS DATASET METADATA TEMPLATE

FGDC METADATA INFORMATION. REQUIRED INFORMATION FOR FGDC COMPLIANCE—ALL ITEMS UNDER "REQUIRED INFORMATION" MUST BE COMPLETED!

A. REQUIRED INFORMATION

1. CITATION INFORMATION

    a. ORIGINATOR:
    b. PUBLICATION DATE:
    c. TITLE:

2. DESCRIPTION INFORMATION

    a. ABSTRACT:
    b. PURPOSE:

3. TIME PERIOD OF CONTENT INFORMATION

    a. CALENDAR DATE:
    b. CURRENTNESS REFERENCE:

4. STATUS INFORMATION

    a. PROGRESS:
    b. UPDATE FREQUENCY:

5. KEYWORDS INFORMATION

    a. THEME:
    b. THESAURUS:

6. ACCESS INFORMATION

    a. ACCESS CONSTRAINTS:
    b. USE CONSTRAINTS:

7. ATTRIBUTE INFORMATION

    a. ATTRIBUTE LABEL:
    b. ATTRIBUTE DEFINITION:

ATTACHMENT B
SCVWD GIS DATASET METADATA TEMPLATE

8. POINT OF CONTACT INFORMATION SCVWD CONTACT:

   Attn: GIS Analyst
   Santa Clara Valley Water District
   5750 Almaden Expressway
   San Jose, CA 95118-3614
   (408) 630-3040

9. DISTRIBUTION CONTACT INFORMATION (If Applicable)

   a. CONTACT PERSON:
   b. CONTACT ORGANIZATION:
   c. ADDRESS:
   d. CITY:
   e. STATE OR PROVINCE:

10. METADATA CONTACT INFORMATION

    a. CONTACT PERSON:
    b. CONTACT ORGANIZATION:
    c. ADDRESS:
    d. CITY:
    e. STATE OR PROVINCE:
    f. METADATA DATE:

11. SPATIAL REFERENCE INFORMATION

    a. PROJECTION: California State plane, NAD 83, Zone 3, Feet

B. ADDITIONAL INFORMATION

1. DATA ACCURACY/QUALITY

   a. ORIGINAL SOURCE/SCALE:
   b. LOGICAL CONSISTENCY:
   c. COMPLETENESS:
   d. PROCESS DESCRIPTION:
   e. ATTRIBUTE ACCURACY REPORT:

2. NOTES:

ATTACHMENT C
SCVWD GIS DATASET METADATA HELP

FGDC METADATA INFORMATION. REQUIRED INFORMATION FOR FGDC COMPLIANCE—ALL ITEMS UNDER "REQUIRED INFORMATION" MUST BE COMPLETED!

A. REQUIRED INFORMATION

1. CITATION INFORMATION

   a. ORIGINATOR: The organization or individual who developed the data; for example, authors would be the originators of a book.

   b. PUBLICATION DATE: The date when the data set is made available for release or otherwise published. Dates can be provided as a year, a year and a month, or as a year, month, and day. Dates should be provided in the format YYYYMMDD (e.g., 20000921). If the publication date is unknown, put unknown. If the material (data) is unpublished, put unpublished material.

   c. TITLE: The name of the dataset, filename.

2. DESCRIPTION INFORMATION

   a. ABSTRACT: Abstract briefly describes the "what" aspects of the data. For example, what information is in the data set? What area is covered?

   b. PURPOSE: Purpose describes the "why" aspects. For example, why was the data set created?

3. TIME PERIOD OF CONTENT INFORMATION

   a. CALENDAR DATE: The year (and optionally month, or month and day) for which the data set corresponds to the ground, or "ground condition." The ground condition is the date for when the real world looked the way it is described by the data (e.g., the calendar date/ground condition for a set of aerial photographs would be the date or dates that the pictures were taken). Dates should be provided in the format YYYYMMDD (e.g., 20000921). If the data was collected during a series of dates, please provide a beginning date and an ending date (e.g., Beginning Date: 20020912, Ending Date: 20031225).

   b. CURRENTNESS REFERENCE: Indicate the basis on which the time period of content information was determined. Most potential users are interested in a data set's currentness with regard to the "ground

condition" (that is, when the "real world" looked the way it is described in the data set). Unfortunately, sometimes only the date that the information was recorded or published—perhaps weeks, months, or even years after it was collected—is known. Or the time period of content dates may have been derived in some other fashion (e.g., from a text phrase such as Summer, 1992). The Currentness Reference element requires the producer to identify whether the Time Period of Content dates refer to the ground condition, to some later time when the information was published, or are derived from some source. The choices for this section would be: ground condition, publication date, or free text.

4. STATUS INFORMATION

   a. PROGRESS: The state of the data set. Use words such as complete, in work, or planned.

   b. UPDATE FREQUENCY: The frequency with which changes and additions are made to the data set after the initial data set is complete. Use words such as annually, as needed, continually, daily, irregular, monthly, none planned, quarterly, unknown, weekly, or other text describing when the data is updated.

5. KEYWORDS INFORMATION

   a. THEME: Common use word or phrase (keywords) used to describe the subject of the data set. Keywords are words or phrases that index the contents of the data source; they are very useful when searching for data. Theme is not the file name (e.g., creeks.shp, pipeline.shp, etc.).

   b. THESAURUS: You must specify whether or not the theme keywords were derived from a formal thesaurus. If not, type "None"; otherwise, provide the name of the thesaurus.

6. ACCESS INFORMATION

   a. ACCESS CONSTRAINTS: Restrictions and legal prerequisites for accessing the data set. If there are no access constraints, the value of the appropriate element should be "None."

   b. USE CONSTRAINTS: Restrictions and legal prerequisites for using the data set after access is granted. If there are no use constraints, the value of the appropriate element should be "None."

ATTACHMENT C
SCVWD GIS DATASET METADATA HELP

7. ATTRIBUTE INFORMATION: Attribute Labels and Definitions must be included for each attribute.

   a. ATTRIBUTE LABEL: The name of the attribute field.

   b. ATTRIBUTE DEFINITION: A description of the attribute necessary to clarify or explain the dataset.

8. POINT OF CONTACT INFORMATION: The name of the individual/organization to contact to gain information about the data set. The current information will be used as the default for the point of contact information.

   a. SCVWD CONTACT:

      GIS Analyst
      Santa Clara Valley Water District
      5750 Almaden Expressway
      San Jose, CA 95118-3614
      (408) 630-3040

9. DISTRIBUTION CONTACT INFORMATION (If Applicable): The name of the individual/organization that is responsible for the creation and distribution of the original data set.

   a. CONTACT PERSON: The name of the individual to contact where the data set was acquired.

   b. CONTACT ORGANIZATION: The name of the organization to contact where the data set was acquired.

   c. ADDRESS: The address of the organization or the individual.

   d. CITY: The city of the address.

   e. STATE OR PROVINCE: The state or province of the address.

10. METADATA CONTACT INFORMATION: The party who is responsible for creating the metadata must be included as the metadata contact; they should be able to answer questions about or receive reports about errors in the metadata.

    a. CONTACT PERSON: The name of the individual who created the metadata.

b. CONTACT ORGANIZATION: The **organization** associated with the creation of the metadata.

c. ADDRESS: The address of the organization or the individual.

d. CITY: The city of the address.

e. STATE OR PROVINCE: The state or province of the address.

f. METADATA DATE: When the metadata was last updated (YYYYMMDD).

11. SPATIAL REFERENCE INFORMATION

a. PROJECTION: California State plane, NAD 83, Zone 3, Feet

B. ADDITIONAL INFORMATION

1. DATA ACCURACY/QUALITY

a. ORIGINAL SOURCE/SCALE: The original source and scale at which the data was derived from.

b. LOGICAL CONSISTENCY: Describes the topological integrity of the data. For example, do lines intersect only where intended? Are there any duplicate lines? Are any polygons too small? You may want to report the software used to test and verify the topological integrity of the data.

c. COMPLETENESS: Includes information about omissions, selection criteria, generalization, definitions used, and other rules used to derive the data. For example, you may want to include information about thresholds such as the minimum area for polygons.

d. PROCESS DESCRIPTION: Provide details of the steps taken to construct the data. For each detail, provide a description including the parameters or tolerances used; as well as dates, software, and the process contact. (i.e., "update log")

e. ATTRIBUTE ACCURACY REPORT: An explanation of the accuracy of the identification of entities and assignments of values in the data set and a description of the tests used. Attribute descriptions should go in this section as well.

ATTACHMENT C
SCVWD GIS DATASET METADATA HELP

2. NOTES:

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED ATTACHMENT SIX
REFERENCE DOCUMENTS

The following Reference Documents are provided on a CD.

Ref. 1 – HDR Engineering, 2013a, Problem Definition Memorandum, dated January 18, 2013.

Ref. 2 – HDR Engineering, 2013b, Conceptual Alternatives Report, dated February 28, 2013.

Ref. 3 – HDR Engineering, 2013c, Feasible Alternatives Matrix, dated April 4, 2013.

Ref. 4 – HDR Engineering, 2013d, Final Draft Staff Recommended Alternative Report, dated April 26, 2013.

Ref. 5 – HDR Engineering, 2013e, Revised Draft Planning Study Report, dated May 23, 2013.

Ref. 6 – AMEC, 2012, Evaluation of Upstream Displacement, dated July 17, 2012.

Ref. 7 – HDR Engineering, 2012a, Interim Risk Reduction Measures, dated August 6, 2012.

Ref. 8 – HDR Engineering, 2012b, Recommendations for Paleoseismic Fault Trenching, dated August 22, 2012.

Ref. 9 – HDR Engineering, 2013g, Surface Fault Rupture Evaluation, Anderson Dam Seismic Retrofit Project, dated March 6, 2013.

Ref. 10 – HDR Engineering, 2013h, Anderson Dam PMF Study Revision, Anderson Dam Seismic Retrofit Project, dated March 11, 2013.

Ref. 11 – HDR Engineering, 2013i, Review of Reservoir Drawdown Criteria, Anderson Dam Seismic Retrofit Project, dated May 2, 2013.

Ref. 12 – HDR Engineering 2013j, Limited Downstream Geotechnical Investigation Report, Anderson Dam Seismic Retrofit Project, dated May 2, 2013

Ref. 13 – HDR Engineering, 2013k, Borrow Area Field Investigation Plan, Anderson Dam Seismic Retrofit Project, dated May 28, 2013.

Ref. 14 – Black and Veatch 2012b, Risk Management Plan, dated October 10, 2012

Ref. 15 – Black and Veatch 2013a, Technical Memorandum – Constructability Review, dated March 21, 2013.

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED ATTACHMENT SEVEN
DISTRICT PROCEDURES AND WORK INSTRUCTIONS

The following District QEMS Procedures and Work Instructions are provided on a CD.

Attachment #	Document Title
1	Capital Project Delivery
2	File Instructions for Capital Projects
3	Design Phase WBS Descriptions and Instructions
4	Construction Phase Work Instructions
5	Instructions for Hazardous Substance Study
6	Advertise, Report of Bids, Award
7	Change Management Practice
8	Create Workplan
9	Checklist for Advertisement
10	Project Delivery Flowchart
11	Calculation Cover Sheet
12	Listing of Calculations Form
13	Technical Memo Template
14	30% Design Phase Quality Control Form
15	60% Design Phase Quality Control Form
16	90% Design Phase Quality Control Form
17	100% Design Phase Quality Control Form
18	Construction Submittal Comment Form
19	HSLA Form
20	Environmental Planning Guidance Section 1 - Purpose
21	Environmental Planning Guidance Section 3 - Mitigation Measure Monitoring and Reporting
22	Environmental Planning Guidance Section 4 - Responsible Agency
23	Environmental Planning Guidance Section 5 - Joint Documents
24	Closeout Checklist
25	Contractor QEMS Awareness Pamphlet (Doc. #F622D04)

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED APPENDIX TWO
FEES AND PAYMENTS

I. GENERAL (UNCHANGED)

Payment for all services performed by Consultant to the satisfaction of the District as described in Appendix One and Revised Appendix One - Scope of Services for this Agreement will be based on the Total Fixed Not-to-Exceed (NTE) Fees stated in this Revised Appendix Two for the completion of the associated tasks. The District will make payments to the Consultant according to the terms provided for in this Revised Appendix Two. Payments made by the District to the Consultant for services rendered will be considered full compensation for all personnel, materials, supplies, subconsultant(s), and equipment including reimbursable, travel, and per diem expenses incurred by the Consultant to complete the work.

II. TOTAL AUTHORIZED FUNDING (REVISED)

Total payment for services performed, as described in Appendix One and Revised Appendix One - Scope of Services, will not exceed a total amount of **$48,069,366** during the term of this Agreement. Under no conditions will the total compensation to the Consultant exceed this amount without prior written approval in the form of an amendment to this Agreement executed by the District's Board of Directors ("Board"), or Chief Executive Officer, or designee, as authorized by the Board. Consultant guarantees that it will complete the contracted Scope of Services for the Total NTE Amount stated herein.

III. COST BREAKDOWN (REVISED)

The NTE not-to-exceed total compensation of this Agreement consists of the following task fee breakdown. No services will be performed or fees paid by the District to the Consultant for Supplemental Services without prior written authorization by the District as stated in Appendix One and Revised Appendix One, Scope of Services, of this Agreement.

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AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED APPENDIX TWO
FEES AND PAYMENTS

COST BREAKDOWN (REVISED)

Task	Description	Total Fixed Not-to-Exceed (NTE) Fees					
		Original Agreement	Amendment No. 5	Amendment No. 6	Amendment No. 7	Amendment No. 8	Revised NTE FEES Total
1	Project Management Services	$877,668	$591,973	$199,873	$1,458,979	$199,658	$3,328,151
2 and 2A	Data Collection and Investigations	$2,555,092	$747,012	$1,485,127	$389,235	N/A	$5,176,466
3A	Basis of Design (Approved for Design)	$1,571,579	$405,123	$170,253	$208,897	$107,690	$2,463,542
3B	Basis of Design (Prior Approval Required)	$428,816	$1,552,146	$290,465	$867,720	$5,621,480	$8,760,627
4	30% Design Document Preparation	$1,361,525	N/A	N/A	N/A	N/A	$1,361,525
5	60% Design Document Preparation	$1,408,868	$1,084,022	N/A	N/A	N/A	$2,492,890
6	90% Design Document Preparation	$787,007	$403,640	$1,881,747	$1,484,071	$1,109,094	$5,665,559
7	Final Design Document Preparation	$336,182	$185,436	$335,871	$784,264	$481,180	$2,122,933
8	Bid and Award Services	$160,564	$31,813	$108,129	$10,738	$61,488	$372,732
9	Supplemental Services During Design and Construction	$1,897,460	$1,000,000	$1,529,828	$2,762,380	$3,465,000	$10,654,668
10	Engineering Support During ADTP Construction	N/A	N/A	N/A	N/A	$5,031,304	$5,031,304
11	Engineering Support During ADTP Construction (Prior Approval Required)	N/A	N/A	N/A	N/A	$638,969	$638,969
Total Agreement Not-to-Exceed Amount		**$11,384,761**	**$6,001,165**	**$6,001,293**	**$7,966,284**	**$16,715,863**	**$48,069,366**

NOTE: Amendment No.1, No. 2, No. 3 and No. 4 were no-cost amendments.

IV. TERMS AND CONDITIONS (REVISED)

A. Payments for work completed, as defined in Revised Appendix One and Revised Appendix One, Scope of Services, will be based on the following terms:

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED APPENDIX TWO
FEES AND PAYMENTS

1. District will pay for services provided by the Consultant according to the schedule of rates for professional, technical, and administrative personnel as listed below in the Hourly/Unit Rate Schedule and Contractors/Vendors Unit Rate Schedule.

2. The stated hourly and unit rates are effective for the term of this Agreement unless otherwise revised as indicated. After twelve (12) months from the date this Agreement is entered into by parties ("anniversary date"), and each 12 months thereafter, these hourly and unit rates may be negotiated by the Consultant and the District, provided Consultant submits written notice to District of Consultant's request to revise the hourly and unit rates ninety (90) calendar days prior to the anniversary date of this Agreement. Both parties will use as a benchmark for negotiations the percent change for the previous twelve (12) months of the "Employment Cost Index (ECI), for total compensation for private industry workers, for the San Francisco-Oakland-San Jose, CA CSA Census region and metropolitan area (not seasonally adjusted)" as published by the U.S. Department of Labor, Bureau of Labor Statistics, or 2.6%for professional, scientific and technical staff, and 1.3% for administrative staff, whichever is less. A negative index will result in rates remaining the same. Such rate revisions are subject to written approval by the District's Dam Safety & Capital Division Deputy Operating Officer.

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AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED APPENDIX TWO
FEES AND PAYMENTS

HOURLY UNIT/RATE SCHEDULE (REVISED)

Firm, Classification	Hourly Rates				
	Original Rates	Rates Effective 9/1/2017 Amendment No. 5	Rates Effective 9/1/2018 Amendment No. 6	Rates Effective 6/2/2020 Amendment No. 7	Rates Effective Upon Commencement of Amendment No. 8
URS					
Principal	$241	$257.76	$271.34	$278.39	$285.63
Project Manager	$241	$257.76	$271.34	$278.39	$285.63
Senior Manager	$195	$208.55	$219.54	$225.24	$231.10
Sr. Project Engineer/Scientist	$174	$186.09	$195.89	$200.99	$206.21
Associate Project Engineer	-	$170.00	$174.42	$178.95	$183.61
Project Engineer/Scientist	$137	$146.53	$154.25	$158.26	$162.37
Sr. Engineer/Scientist	$116	$124.07	$130.61	$134.00	$137.49
Staff Engineer Scientist	$98	$104.81	$110.33	$113.20	$116.14
Sr. GIS CADD/Graphic	$133	$142.25	$149.74	$153.64	$157.63
GIS/CAD/Graphic	$105	$112.30	$118.22	$121.29	$124.44
Editor	$120	$128.34	$135.10	$138.61	$142.22
Contract Administrator	$112	$119.79	$122.92	$129.38	$132.74
Senior Admin. Assistant	-	-	-	$108.00	$109.40
Admin. Assistant/Typist	$79	$82.12	$84.27	$85.36	$86.47
5RMK, Inc.					
Engineer and Estimator	-	-	-	$282.15	$289.49
Estimator/Scheduler	-	-	-	$220.59	$226.33
Risk Modeling	-	-	-	$200.07	$205.27
Anchor Engineering, Inc.					
Project Principal Engineer	$205	$214	$219	$230.80	$236.80
Senior Engineer	$172	$179	$184	$193.65	$198.68
Sr. Engineering Technician	$135	$141	$144	$151.99	$155.94
Staff Engineer 3, CADD/Graphics	$127	$132	$136	$142.98	$146.70
Engineering Technician, CADD/Graphics	$102	$106	$109	$114.84	$117.83
Assistant Administrator	$55	$57	$58	$60.13	$60.91
Beyaz and Patel, Inc.					
Principal Engineer	$208	$211	$222	$228.24	$234.18
Managing Engineer	$184	$187	$197	$201.91	$207.16
Pipeline Engineer	$184	$187	$197	$201.91	$207.16
Senior Engineer	$145	$147	$155	$159.11	$163.25
Engineer	$117	$119	$125	$128.39	$131.73
CADD Technician	$109	$111	$117	$119.61	$122.72
Clerical/Word Processing	$65	$66	$68	$68.65	$69.54
Cal Engineering and Geology, Inc.					
Drone Pilot	-	-	$150	$153.90	$157.90
Field Assistant	-	-	$90	$92.34	$94.74
Principal	-	-	-	$230.00	$235.98
Senior Engineer	-	-	$187	$191.86	$196.85
Project Engineer	-	-	$144	$147.74	$151.58
GIS/CADD	-	-	$115	$117.99	$121.06
Equipment Use Daily	-	-	$100	$102.60	$105.27
Daily Vehicle Allotment	-	-	$85	$86.11	$88.35
Administrative	-	-	-	$80.00	$81.04

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED APPENDIX TWO
FEES AND PAYMENTS

Firm, Classification	Hourly Rates				
	Original Rates	Rates Effective 9/1/2017 Amendment No. 5	Rates Effective 9/1/2018 Amendment No. 6	Rates Effective 6/2/2020 Amendment No. 7	Rates Effective Upon Commencement of Amendment No. 8
Concentric Environmental LLC					
Program Manager	-	-	-	-	$150.00
Design and Construction Management Services, Inc.					
Principal	$200	$208	$213	$219.47	$225.18
dot.dat.inc					
Data Processor	$70	$75	$77	$79	$81
F.W. Associates, Inc.					
Principal	$196	$204	$215	$221.06	$226.81
Project Engineer	$151	$157	$166	$169.48	$173.89
Senior Engineer	$113	$118	$124	$127.38	$130.69
CADD	$87	$91	$95	$97.90	$100.45
GeoDatabase Solutions					
Data Processor	$70	$73	$77	$78.95	$81.00
Geosyntec Consultants, Inc.					
Principal Engineer	-	$245.49	$251.87	$265.14	$272.03
H.T. Harvey & Associates					
Principal	-	-	-	$251.375	$257.91
Senior Ecologist	-	-	-	$189.81	$194.75
Senior Wildlife Ecologist	-	-	-	$171.24	$175.69
Plant Ecologist	-	-	-	$135.43	$138.95
GIS Analyst	-	-	-	$123.12	$126.32
Field Biologist 2	-	-	-	$116.96	$120.00
Technical Support	-	-	-	$87.12	$89.39
Lettis Consultants International, Inc.					
Principal	$190	$198	$203	$208.39	$213.81
Senior	$180	$188	$193	$197.52	$202.66
Senior Project	$140	$146	$150	$153.63	$157.62
Project	$125	$130	$134	$137.17	$140.74
Senior Staff	$110	$115	$118	$120.71	$123.85
Staff	$95	$99	$102	$104.25	$106.96
Technical Typing	$80	$82	$83	$84.24	$85.34
M. Lee Corporation					
Chief/Lead Estimator	$194	$207.49	$218.42	$224.10	$229.93
Project Estimator	-	-	$199.76	$204.96	$210.29
Senior Estimator	$142	$151.87	$218.42	$164.03	$168.29
Estimator	$127	$135.83	$218.42	146.70	$150.51
Marina Dee Design					
GIS/CADD/Graphic	N/A		N/A	$116.00	$119.02
Prohaska's Drafting Service					
GIS/CADD/Graphic	$88	$90	$95	$120.00	$123.12
Robert Y. Chew Geotechnical, Inc.					
Principal Engineer	$199	$207	$212.38	$223.57	$229.38
Senior Geologist	$126	$131	$134.41	$141.49	$145.17
Project Engineer	$110	$115	$117.99	$124.21	$127.44
Staff Engineer	$70	$73	$74.90	$78.85	$80.90
SOHA Engineers					
Principal	$220	$229	$241	$247.38	$253.81
Senior Project Manager	$180	$188	$198	$203.17	$208.45
Senior Project Engineer	$135	$141	$148	$152.64	$156.61
Drafter	$95	$99	$104	$107.37	$110.16

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED APPENDIX TWO
FEES AND PAYMENTS

Firm, Classification	Hourly Rates				
	Original Rates	Rates Effective 9/1/2017 Amendment No. 5	Rates Effective 9/1/2018 Amendment No. 6	Rates Effective 6/2/2020 Amendment No. 7	Rates Effective Upon Commencement of Amendment No. 8
Telamon Engineering Consultants, Inc.					
Principal	$218	$227	$233	$239.06	$245.28
Project Manager	$203	$212	$218	$223.67	$229.49
Engineer II	$140	$146	$150	$153.90	$157.90
Engineer I	$125	$130	$133	$136.46	$140.01
CADD Drafter III	$125	$130	$133	$136.46	$140.01
V and A Consulting Engineers, Inc.					
Senior Project Manager	$210	$219	$225	$236.85	$243.01
Project Manager	$200	$208	$214	$224.22	$230.05
Associate Engineer	$140	$146	$150	$157.90	$162.01
Project Administrator / Clerical	$75	$78	$79	$80.03	$81.07
Independent Consultants					
Henry T. (Hank) Falvey & Associates, Inc.	$180	$183	$188	$192.88	$197.89
Lee Gerbig	$100	$106	$110	$113.37	$116.32
Ed Rossillon	$110	$115	$118	$120.71	$123.85

NOTE: Hourly rates for Consultant and Subconsultants were not increased in Amendment No. 1, No. 2, No. 3 and No. 4. Hourly rates for Consultant and Subconsultants were approved administratively as documented in a letter from the District to Consultant dated December 21, 2018 and August 29, 2019, also documented in District's internal administrative form (FC 1165) and have been incorporated in Amendment No. 6 and No. 7.

CONTRACTORS/VENDORS HOURLY/UNIT RATE SCHEDULE

Description	Unit	Unit Rate			
		Original Rates	Rates Effective 9/1/2018 Amendment No. 6	Rates Effective 6/2/2020 Amendment No. 7	Rates Effective Upon Commencement of Amendment No. 8
Asbestos TEM Laboratories, Inc.					
CARB 435 by PLM 400 Point Count	2 Day	-	$110	$113	$116
CARB 435 by PLM 400 Point Count	3 Day	-	-	$95	$97
CARB 435 by PLM 400 Point Count	5 Day	-	$75	$77	$79
CARB 435 by PLM 400 Point Count	10 Day	-	$65	$67	$69
CARB 435 by PLM 1000 Point Count	2 Day	-	$150	$154	$158
CARB 435 by PLM 1000 Point Count	3 Day	-	-	$145	$149
CARB 435 by PLM 1000 Point Count	5 Day	-	$140	$144	$148
CARB 435 by PLM 1000 Point Count	10 Day	-	$130	$133	$136
CARB 435 by TEM EPA Quantitative	2 Day	-	$450	$462	$474
CARB 435 by TEM EPA Quantitative	3 Day	-	-	$400	$410
CARB 435 by TEM EPA Quantitative	5 Day	-	$350	$359	$368
CARB 435 by TEM EPA Quantitative	10 Day	-	$325	$333	$342
Waste Extraction Test (CAM 17)	5 Day	-	-	$175	$180
Waste Extraction Test (CAM 17)	10 Day	-	-	$160	$164
Drying/Crushing/Pulverizing/ Sieving Fees	Quart	-	$20	$21	$22
Composite Fee	Sample	-	$30	$31	$32
TEM Prep Fee	Sample	-	$75	$77	$79

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED APPENDIX TWO
FEES AND PAYMENTS

Description	Unit	Unit Rate			
		Original Rates	Rates Effective 9/1/2018 Amendment No. 6	Rates Effective 6/2/2020 Amendment No. 7	Rates Effective Upon Commencement of Amendment No. 8
Cascade Drilling, L.P.					
Mob/Demob – Sonic Drill Rig, Support Equipment, & 3-Man Drill Crew	Lump Sum	-	-	$11,500	$11,799
Mob/Demob – Sectional Barge, Guide Boat, Winches, and Crane	Lump Sum	-	-	$34,000	$34,884
Site preparation cost with crew, skidsteer to move dirt, trim trees, including restoration after completion	Lump Sum	-	-	$2,565	$2,632
Assemble & Disassemble Barge System (expect 2 days total; 1 day to assemble and 1 day to disassemble)	Day	-	-	$23,000	$23,598
Drilling & Barge Operations, including drill, barge, guide boat, shore crane for handling waste, 3-man crew, & guide boat operator (based on 10-hour shifts)	Day	-	-	$13,000	$13,338
Additional per move cost to move between locations after first anchor set	Each	-	-	$6,000	$6,156
Overtime Drill Rig/Crew, & Guide Boat Operator	Hour	-	-	$950	$975
3-Man Drill Crew & Guide Boat Operator Per Diem	Day	-	-	$850	$872
Grout/Gravel Backfill Materials	Per Foot	-	-	$8	$8
Containment, Transport, and Disposal of Excess Drill Cuttings	Lump Sum	-	-	$2,462	$2,526
55 gallon steel DOT 17H reconditioned drums	Each	-	-	$65	$67
Sanitary Services with Handwash	Each	-	-	$300	$308
Wood Core (sonic) Boxes to hold 5' of core	Each	-	-	$29	$30
Wood Core (HQ) Boxes to hold 10' of core	Each	-	-	$26	$27
Bobcat or Forklift (add 1day for pickup & 1 day for drop-off)	Day	-	-	$275	$282
Mobilization & Demobilization including project preparation of full sized truck mounted sonic drill, support equipment and three-man drill crew	Lump Sum	-	-	$4,800	$4,925
Grout backfill materials/pea gravel	Per Foot	-	-	$9	$9
Daily rate for truck mounted full sized sonic drill and three-man crew. Assumes 10-hour work days on a Monday-Friday basis.	Day	-	-	$6,400	$6,566
Weekend surcharge (Saturday or Sunday work if requested)	Day	-	-	$1,200	$1,231
Overtime beyond 10 hours on site	Hour	-	-	$950	$975
Night security based on 12 hours per night	Hours	-	-	$32	$33
Drill crew per diem	Day	-	-	$525	$539

Confluence Restoration					
Vole Exclusion Cages	Each	-	-	$125	$128
Irrigation Expansion-2 valves per plot plus controller, plumbing from New Tank	Lump sum (7-month period)	-	-	$9,500	$9,747
Weed control within 660 Basins	24 hrs/month	-	-	$2,061	$2,115
Weed Control within plots	50 hrs/month	-	-	$4,474	$4,590
Routine irrigation maintenance and inspections	32 hrs/month	-	-	$2,864	$2,938
Plot Expansion Fencing 1450LF + 12' Vehicle Gate	Lump sum (7-month period)	-	-	$45,685	$46,873
Vole Cage Removal	Each	-	-	$10	$10
Contingency for unforeseen maintenance	Lump sum (7-month period)	-	-	$15,000	$15,390
Cooper Testing Labs, Inc.					
Atterberg (Dry Prep Method)	Each	$160	$167	$171	$175
Moist & Density (2.0 to 2.5" diameter)	Each	$21	$24	$24	$25
Moist & Density (3.0" diameter)	Each	$32	$35	$36	$37
Moist & Density (4.0" diameter)	Each	$85	$91	$94	$96
Sieve Analysis with #200 Wash	Each	$105	$112	$115	$118
Bulk Sieve (if gravelly or >5Kg)	Each	$170	$181	$185	$190
Sieve & Hydrometer	Each	$175	$187	$192	$197
#200 Sieve Wash (ASTM D 1140)	Each	$75	$81	$83	$85
Specific Gravity (ASTM D854) - #4 Sieve	Each	$85	$91	$94	$96
Specific Gravity (ASTM C127) + #4 Sieve	Each	$150	$161	$165	$169
Specific Gravity (ASTM C128) - #4 Sieve	Each	$105	$113	$116	$119
Standard Proctor (ASTM D698) 4" mold	Each	$250	$267	$274	$281
Standard Proctor (ASTM D698) 6" mold	Each	$300	$319	$327	$336
Modified Proctor (ASTM D1557) 4" mold (w/assumed gs for rock corr.)	Each	$250	$267	$274	$281
Compaction Modified Proctor 6" (w/assumed gs for rock corr.)	Each	$300	$319	$327	$336
For Measured Gs for Rock Correction	Each	$150	$161	$165	$169
Max Index Density (ASTM D4253) 0.1 cubic ft. mold	Each	$230	$246	$253	$260
Max Index Density (ASTM D4253) 0.5 cubic ft. mold	Each	$350	$371	$381	$391
Minimum Density (ASTM D4254) 0.1 cubic ft. mold	Each	$115	$122	$125	$128
Minimum Density (ASTM D4254) 0.5 cubic ft. mold	Each	$230	$246	$253	$260
UU Triaxial (Back Press. Saturated)	Each	$225	$241	$247	$253
CU Triaxial	Each	$460	$482	$495	$508
Pinhole testing (ASTM D4647)	Each	-	-	$445	$457
4.0" diameter LS Triax testing w/remolding	Point	$520	$551	$565	$580
6.0" diameter LS Triax testing w/remolding	Point	$1,095	$1,159	$1,190	$1,221
High Confining Pressure Surcharge	Point	$75	$51	$53	$54
Direct Shear	Each	$200	$214	$220	$226
Falling-head Perm.	Each	$305	$326	$335	$344
Consolidation	Each	$360	$386	$396	$406
Corrosivity (Caltrans Package)	Each	$235	$246	$253	$260
Unconfined Compression - Rock (with test photos)	Each	$255	$273	$280	$287

Point Load	Per Sample	$75	$80	$82	$84
Slack Durability	Each	$185	$198	$203	$208
Brazilian Splitting	Each	$105	$112	$115	$118
Principal Consulting	Per Hour	$160	$168	$173	$177
Inspection Services, Inc.					
Atterberg	Each	$162	$173.00	$177.50	$182.12
Moist & Density	Each	$36	$39.00	$40.01	$41.05
Sieve	Each	$103.5	$111.00	$113.89	$116.85
Compaction Modified Proctor 6-in.	Each	$256.5	$274.00	$281.12	$288.43
UU Triaxial	Each	$162	$173.00	$177.50	$182.12
CU Triaxial	Each	$477	$510.00	$523.26	$536.86
Direct Shear	Each	$189	$202.00	$207.25	$212.64
Consolidation	Each	$315	$337.00	$345.76	$354.75
Field Inspector + expenses	Hour	-	$100.00	$102.60	$105.27
Travel Time	Hour	-	$75.00	$76.95	$78.95
Final Affidavit – Minimum Charge	Each	-	$260.00	$266.76	$273.70
Courier/Transportation	Each	-	$75.00	$76.95	$78.95
Gradation small/large scale	Each	-	$160.00	$164.16	$168.43
Bulk Specific Gravity and Adsorption	Each	-	$85.00	$87.21	$89.48
Permeability	Each	-	$365.00	$374.49	$384.23
Project Manager	Hour	-	-	$150.00	$153.90
Field Inspector Overtime	Hour	-	-	$153.9	$157.90
Specific Gravity Fine	Each	-	-	$120.00	$123.12
Maximum Density Curves-6"	Each	-	-	$315.00	$323.19
Oversize Correction	Each	-	-	$70.00	$71.82
Kinnetic Laboratories, Inc.					
Reservoir Sediment Sampling	Lump Sum	$16,000	$16,416	$16,843	$17,281
Mercury Testing	Each	$42	$56	$57	$58
Mobilization/demobilization	Lump Sum	-	$5,643	$5,790	$5,941
Sediment Core Collection	Lump Sum	-	$6,669	$6,842	$7,020
Asbestos Testing	Each	-	$118	$121	$124
Samples Delivered to Lab	Lump Sum	-	$513	$526	$540
NORCAL Geophysical Consultants, A Terracon Company					
Mobilization	Per Hour	$160	$171	$175	$180
Geophysical Logging	Per Hour	$205	$235	$241	$247
Standby	Per Hour	$160	$171	$175	$180
Per Diem	Per Day	$175	$187	$192	$197
Log Preparation	Each	$160	$171	$175	$180
Mobilization, Borehole logging	Per Hour	-	$171	$175	$180
Mobilization, surface geophysical surveys	Per Hour	-	$235	$241	$247
Field Borehole geophysical logging	Per Hour	-	$219	$225	$231
Down Hole Televiewer Probe	Per Day	-	$1,283	$1,316	$1,350
Down Hole Sonic Probe	Per Day	-	$802	$823	$844
Data processing Televiewer Log	Per Hole	-	$535	$549	$563
Data processing Sonic Log	Per Hole	-	$267	$274	$281
Field Surface Surveys, Associate Geophysicist	Per Hour	-	$150	$154	$158
Field Surface Surveys, Geophysical Technician	Per Hour	-	$86	$88	$90
Seismic System, 24-Channel	Per Day	-	$428	$439	$450
Electrical Resistivity STING System	Per Day	-	$561	$576	$591
Surface Methods Data Processing and Report Prep	Per Hour	-	$150	$154	$158
Standby; Geophysical Logging	Per Hour	-	$171	$175	$180

Per Diem	Per Day	-	$187	$192	$197
Field Vehicle	Per Day	-	$97	$100	$103
Caliper	Per Day	-	$374	$384	$394
Down Hole P&S Wave	Per Day	-	$1,283	$1,316	$1,350
P&S Wave Suspension Logger	Per Day	-	$1,283	$1,316	$1,350
Image Log Analysis/presentation	Per Foot	-	$4	$4	$4
Graphic Services	Per Hour	-	$86	$88	$90
Clerical Services	Per Hour	-	$73	$75	$77
All-Terrain Vehicle (ATV)	Per Day	-	$86	$88	$90
Northwest Hydraulic Consultants Ltd.					
Spillway Physical Model Study	Lump Sum	$215,000	$215,000	$215,000	$220,590
Omni Digital Imaging LLC					
B&W Copy – Letter Size	Per Page	$0.04	$0.04	$0.04	$0.04
Color Copy – Letter Size	Per Page	$0.35	$0.36	$0.37	$0.38
Color Copy – 11x17 Size	Per Page	$0.70	$0.72	$0.74	$0.76
Color Print – Over Size	Per S.F.	$6.00	$6.16	$6.32	$6.48
Rope Partner					
Rope Work	Each	-	-	$180	$185
Mobilization One-Way	Each	-	-	$1,250	$1,283
Rigging	Each	-	-	$350	$359
Taber Drilling					
Mob/Demob – Land Drill Rig	Lump Sum, Per Rig	$2,700	$2,916.12	$2,991.94	$3,069.73
Mob/Demob – Barge and Drill Rig	Lump Sum, Per Rig	$11,750	$12,690.54	$13,020.49	$13,359.02
Mob/Demob – Sonic Rig	Lump Sum, Per Rig	$4,600	$4,968.21	$5,097.38	$5,229.91
Soil Drilling and Sampling – Truck Rig	Per Foot	$77	$83.16	$85.32	$87.54
Soil Drilling and Sampling – Track Rig	Per Foot	$87	$93.96	$96.40	$98.91
Soil Drilling and Sampling – Barge	Per Foot	$129	$139.33	$142.95	$146.67
Rock Core Drilling – Truck Rig	Per Foot	$88	$95.04	$97.51	$100.05
Rock Core Drilling – Track Rig	Per Foot	$98	$105.84	$108.59	$111.41
Rock Core Drilling – Barge	Per Foot	$140	$151.21	$155.14	$159.17
Sonic Drill	Per Foot	$111	$119.89	$123.01	$126.21
Packer Testing	Each	$740	$799.23	$820.01	$841.33
Core Boxes	Each	$50	$63.72	$65.38	$67.08
Undisturbed Soil Sampling	Each	$35	$37.80	$38.78	$39.79
Assist Geophysical Logging	Per Boring	$1,180	$1,274.45	$1,307.59	$1,341.59
Grout Backfill of Borings	Per Foot	$5	$5.40	$5.54	$5.68
Install Christie Boxes	Each	$75	$81.00	$83.11	$85.27
Install Open Standpipe PVC Piezometer	Per Foot	$6	$6.48	$6.65	$6.82
Hammer Calibration	Each	$3,000	$3,240.14	$3,324.38	$3,410.81
Cutting Disposal	Per Foot	$7	$7.56	$7.76	$7.96
Small Bulldozer Mob/Demob	Lump Sum	$850	$918.04	$941.91	$966.40
Small Bulldozer	Per Day	$2,400	$2,592.11	$2,659.50	$2,728.65
Backhoe Mob/Demob	Lump Sum	$750	$810.03	$831.09	$852.70
Backhoe (Case 580E or similar)	Per Day	$1,250	$1,350.06	$1,385.16	$1,421.17
Excavator (Cat 225 or similar)	Per Day	-	$1,188.05	$1,218.94	$1,250.63
Conex Storage Container Mob/Demob	Lump Sum Per Box	-	$2,257.20	$2,315.89	$2,376.10
Conex Storage Container Mob/Demob	Lump Sum Per Box	$510	$550.82	$565.14	$579.83
Conex Storage Container (8' X 20')	Per Month/Box	$110	$118.81	$121.90	$125.07
Standby	Per Hour	$295	$318.61	$326.89	$335.39
Asbestos Analysis	Each	$462	$498.98	$511.95	$525.26
Metal Analysis (As, Ni, Cr, Cu, Co)	Each	$68	$73.44	$75.35	$77.31

Cornerstone Environmental Contractors, Inc.					
Project Director	Hour	-	$111	$114	$117
Project Manager	Hour	-	$110	$113	$116
Foreman/Operator	Hour	-	$110	$113	$116
Equipment Operator	Hour	-	$106	$109	$112
Water Truck Driver	Hour	-	$90	$92	$94
Technician	Hour	-	$86	$88	$90
JSA Preparation	Daily	-	-	$200	$205
Pickup Truck (light)	Daily	-	$120	$123	$126
Pickup Truck (7K to 12K lbs.)	Daily	-	-	$270	$277
Cat 320 Excavator	Daily	-	$1,030	$1,057	$1,084
John Deere 135 Excavator	Daily	-	$660	$677	$695
Cat 730 Articulated Dump Truck	Daily	-	$1,480	$1,519	$1,558
Cat D9T Bulldozer	Daily	-	$2,815	$2,888	$2,963
Cat 825 Soil Compactor - High Speed	Daily	-	$2,075	$2,129	$2,184
Water truck - 2,000 gal.	Daily	-	$344	$353	$362
Gradall (5,000 lbs)	Daily	-	$430	$441	$452
Truck to Relocate Containers (per event)	Daily	-	$345	$354	$363
Misc. (small tools, expendables, etc.)	Daily	-	$120	$123	$126
544 Loader	Daily	-	$834	$856	$878
Skidsteer S570	Daily	-	$319	$327	$336
Sweeper Attachment for Skidsteer S570	Daily	-	$144	$148	$152
Delivery/Pickup for 544 Loader	Daily	-	$253	$260	$267
Delivery/Pickup Skidsteer & Sweeper Attachment	Daily	-	$253	$260	$267
HAMM H16i Vibratory Smooth Drum Roller	Monthly	-	$9,788		$0
Heavy Equipment	Each Piece	-	$253	$260	$267
Mob/Demob Water Truck	Each Piece	-	$120	$123	$126
Mob/Demob Personnel	Each Piece	-	$17,000	$17,442	$17,895
Mob/Demob HAMM H16i	Each Piece	-	$253	$260	$267
Mob/demob JD 135 Excavator	Each Piece	-	$253	$260	$267
Mob/Demob Gradall	Each Piece	-	$253	$260	$267
763 Bobcat Track Loader	Daily	-	-	$621	$637
Case 580 Backhoe	Daily	-	-	$420	$431
JD 303E Mini Excavator	Daily	-	-	$356	$365
Laser Level	Daily	-	-	$65	$67
Fugro USA Land, Inc.					
TEST FILL TASK					
Modified Proctor	Each	-	-	$220	$226
Atterberg Limits	Each	-	-	$79	$81
Sieve Analysis	Each	-	-	$62	$64
Hydrometer	Each	-	-	$93	$95
Specific Gravity	Each	-	-	$80	$82
Consolidated Undrained Triaxial (6" Dia)	Each	-	-	$1,050	$1,077
Additional Stages	Each	-	-	$500	$513
Cyclic Triaxial (6" Dia)	Each	-	-	$2,150	$2,206
Additional Stages	Each	-	-	$500	$513
DSS	Each	-	-	$780	$800
Cyclic DSS	Each	-	-	$1,485	$1,524
Additional Stages	Each	-	-	$200	$205
Post Cyclic	Each	-	-	$290	$298

NOTE: Contractors and Vendors rates were not increased in Amendment No. 1, No. 2, No. 3 and No. 4. Hourly rates for Contractors and Vendors were approved administratively as documented in a letter form the District to Consultant dated December 21, 2018 and August 29, 2019, also documented in District's internal administrative approval form (FC1165),and incorporated in Amendment No. 6 and No. 7.

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED APPENDIX TWO
FEES AND PAYMENTS

Description	Unit	Rates Effective 10/23/2018 Amendment No. 6
Fugro Consultants		
1.0 CLASSIFICATION / INDEX TESTING		**B Schedule**
1.1 Soil Properties	**Method**	**Unit Price**
1.1.1 Water Content and Visual Classification	ASTM D2216/D2488	$15.00
1.1.2 Liquid and Plastic Limits: 1-Pt Method	ASTM D4318	$79.00
1.1.3 Liquid and Plastic Limits: 3-Pt Method	ASTM D4318	$95.00
1.1.4 Sample Prep: Low PI Limits	ASTM D4318	$45.00
1.1.5 Liquid Limit Only	ASTM D4318	$53.00
1.1.6 Bulk Density	ASTM D7263	$40.00
1.1.7 Specific Gravity	ASTM D854	$80.00
1.2 Grain Size	**Method**	**Unit Price**
1.2.1 Sieve Analysis through #200	ASTM D6913	$62.00
1.2.2 Additional Sieve finer than #200	ASTM D6913	$12.00
1.2.3 % Passing Single Sieve	ASTM D1140	$36.00
1.2.4 Hydrometer	ASTM D422	$93.00
1.3 Undrained Shear Strength	**Method**	**Unit Price**
1.3.1 Hand Penetrometer or Torvane	HGL-700	$6.00
1.3.2 Fall Cone	---	$38.00
1.3.3 Miniature Vane	ASTM D4648	$45.00
1.3.4 Miniature Vane: Residual Strength	ASTM D4648	$55.00
1.4 Dispersion/Erosion Properties	**Method**	**Unit Price**
1.4.1 Double Hydrometer	ASTM D4221	$186.00
1.4.2 Pinhole Dispersion	ASTM D4647	$320.00
1.4.3 Crumb Test	ASTM D6572	$32.00
1.4.4 EFA Scour: Fresh Water	Briaud	$1,550.00
1.4.4 EFA Scour: Salt Water	Briaud	$1,950.00
1.5 Permeability	**Method**	**Unit Price**
1.5.1 Permeability: Constant Head	ASTM D2434	$195.00
1.5.2 Permeability: Flexible Membrane w/ Back Pressure	ASTM D5084	$315.00
1.5.3 Permeability: 6", Flexible Membrane w/ Back Pressure	ASTM D5084	$575.00
1.5.4 Permeability: Additional Stage	---	$155.55
1.5.5 Permeability: Day Rate (over 7 days)	---	$35.00
1.6 Rheology/Viscosity	**Method**	**Unit Price**
1.6.1 Viscosity: Yield by Brookfield Rheometer	ASTM D2196	$65.00
1.6.2 Viscosity: Viscosity by Brookfield Rheometer	ASTM D2196	$450.00
1.7 Other Tests	**Method**	**Unit Price**
1.7.1 Linear Shrinkage (Bar)	ASTM D4943	$60.00
1.7.2 Volumetric Shrinkage	ASTM D427	$100.00
1.7.3 Organic Content by Oven Method	ASTM D2974	$58.00
1.7.4 Max-Min Densities	ASTM D4253/D4254	$275.00
1.7.5 Microscopic Examination	---	$105.00
1.7.6 Thermal Conductivity	ASTM D5334	$325.00
1.7.7 Salt Content	ASTM D4542	$60.00

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED APPENDIX TWO
FEES AND PAYMENTS

Description	Unit	Rates Effective 10/23/2018 Amendment No. 6
Fugro Consultants		
2.0 SAMPLE PREPARATION	**Method**	**Unit Price**
2.0.1 Sample Prep: Process Bulk Sample	---	$25.00
2.0.2 Sample Prep: Admix and Curing	---	$65.00
2.0.3 Sample Prep: Fully Softened Sample Preparation	---	$95.00
2.0.4 Sample Prep: Remold	HGL-164	$15.00
2.0.5 Sample Prep: Reconstituted Sample	HGL-161	$55.00
2.0.6 Sample Prep: Reconstituted Sample, 6" Mold	---	$100.00
2.0.7 Sample Prep: Harvard Miniature Compaction	---	$200.00
2.0.8 Sample Prep: Trimming Shale	---	$145.00
2.0.9 Sample Prep: Extrude Tube (3-foot tube)	---	$45.00
2.0.10 Sample Prep: Tube Cut	---	$25.00
3.0 STATIC STRENGTH TESTING		
3.1 Triaxial and Unconfined Compression	**Method**	**Unit Price**
3.1.1 Unconfined Compression: Soil	ASTM D2166	$55.00
3.1.2 Unconsolidated Undrained: Soil	ASTM D2850	$90.00
3.1.3 Consolidated Undrained with Pore Pressure	ASTM D4767	$600.00
3.1.4 Consolidated Drained - Sand	ASTM D7181	$550.00
3.1.5 Consolidated Drained - Silt or Clay	ASTM D7181	$750.00
3.1.6 K_0 Compression or Extension Loading	---	$1,550.00
3.1.9 Triax: Additional Stage	---	$255.00
3.1.10 Triax: Anisotropic Consolidation	---	$230.00
3.1.11 Triax: Confining Pressure > 120 psi	---	$65.00
3.1.12 Triax: Induced OCR	---	$200.00
3.1.13 Triax: Day Rate (over 7 days)	---	$35.00
3.2 Direct Shear	**Method**	**Unit Price**
3.2.1 Consolidated Drained Direct Shear: Sand Sample	ASTM D3080	$320.00
3.2.2 Consolidated Drained Direct Shear: Clay or Silt Sample	ASTM D3080	$485.00
3.2.3 Direct Shear: Residual (each cycle)	---	$75.00
3.2.4 Direct Shear: Additional Stage	---	$175.00
3.2.5 Direct Shear: Day Rate (over 7 days)	---	$35.00
3.3 Simple Shear	**Method**	**Unit Price**
3.3.1 Consolidated Undrained Direct Simple Shear	ASTM D6528	$780.00
3.3.2 Direct Simple Shear: Rapid Shear > 500%/minute	---	$1,095.00
3.3.3 Direct Simple Shear: w/ Creep Loading	---	$1,485.00
3.3.4 Direct Simple Shear: Vertical Pressure > 44 ksf	---	$1,440.00
3.4 Ring Shear	**Method**	**Unit Price**
3.4.1 Ring Shear: Residual Strength	ASTM D6467	$840.00
3.4.2 Ring Shear: Peak Strength	ASTM D7608	$840.00
3.4.3 Ring Shear: Additional Stage	---	$285.00
3.4.4 Ring Shear: Day Rate (over 5 days)	---	$155.00
3.5 Bender Element	**Method**	**Unit Price**
3.1.7 Bender Elements (Readings at setup and after consolidation)	---	$400.00
3.1.8 Bender Elements: Additional confining pressure	---	$75.00

AMENDMENT NO. 8 TO AGREEMENT A3676A
REVISED APPENDIX TWO
FEES AND PAYMENTS

Description	Unit	Rates Effective 10/23/2018 Amendment No. 6
Fugro Consultants		
4.0 DYNAMIC TESTING		
4.1 Cyclic Triaxial	**Method**	**Unit Price**
4.1.1 Cyclic Triax: CU (500 cycles)	ASTM D5311/D3999	$1,600.00
4.1.2 CyTX: Addtl Cycles (per 500 cycles)	---	$200.00
4.1.3 Resilient Modulus: 2.8" Sample	AASHTO T307-99	$405.00
4.1.4 Resilient Modulus: 4" Sample	AASHTO T307-99	$520.00
4.1.5 Resilient Modulus: 6" Sample	AASHTO T307-99	$805.00
4.2 Cyclic Simple Shear	**Method**	**Unit Price**
4.2.1 Cyclic Direct Simple Shear*	HGL-820/821	$1,485.00
4.2.2 Cyclic Direct Simple Shear: Additional 500 Cycles	---	$200.00
4.2.3 Cyclic Direct Simple Shear: Additional Stress Level	---	$200.00
4.2.4 Cyclic Direct Simple Shear: Post-Cyclic Static DSS	---	$290.00
4.2.5 Cyclic Direct Simple Shear: Induced OCR	---	$350.00
*Strain or stress controlled, 0.1 to 1 Hz, and less than 2000 cycles		
4.3 Resonant Column	**Method**	**Unit Price**
4.3.1 Resonant Column: Clay or Silt (1 stage)	ASTM D4015	$1,840.00
4.3.2 Resonant Column: Sand (1 stage)	ASTM D4015	$1,380.00
4.3.3 Resonant Column: Torsional Shear	---	$1,725.00
4.3.4 Resonant Column: Additional Stage	---	$245.00
4.3.5 Resonant Column: Day Rate (over 5 days)	---	$135.00
5.0 VOLUME CHANGE TESTING		
5.1 Constant Rate of Strain Consolidation	**Method**	**Unit Price**
5.1.1 CRS: 1-D Consolidation Using Controlled Strain Loading	ASTM D4186	$645.00
5.1.2 CRS: High Pressure (>140 ksf)	---	$1,210.00
5.1.3 CRS: Additional Unload/Reload Loop	---	$180.00
5.1.4 CRS: Day Rate (over 14 days)	---	$50.00
5.2 Incremental Consolidation	**Method**	**Unit Price**
5.2.1 Incremental Consolidation w/ Unload/Reload Loop (64 ksf max)	ASTM D2435	$635.00
5.2.2 Incremental Consolidation without Loop	ASTM D2435	$575.00
5.2.3 Incremental Consolidation: Additional Unload/Reload Loop	---	$180.00
5.2.4 Incremental Consolidation: Additional Load Increments	---	$50.00
5.3 Swell Tests	**Method**	**Unit Price**
5.3.1 Swell: ASTM D4546 Method A (price/specimen)	ASTM D4546	$300.00
5.3.2 Swell: ASTM D4546 Method B	ASTM D4546	$250.00
5.3.3 Swell: ASTM D4546 Method C	ASTM D4546	$535.00
5.3.4 Swell: Free Swell Test	---	$140.00

Description	Unit	Rates Effective 10/23/2018 Amendment No. 6
Fugro Consultants		
6.0 ROCK TESTING	**Method**	**Unit Price**
6.0.1 Rock: Unconfined Compressive Strength	ASTM D7012	$230.00
6.0.2 Rock: Unconsolidated Undrained Compressive Strength	ASTM D7012	$350.00
6.0.3 Rock: Axial & Radial Strain Measurements	ASTM D7012	$405.00
6.0.4 Rock: Pulse Velocity	ASTM D2845	$320.00
6.0.5 Rock: Splitting Tensile	ASTM D3967	$95.00
6.0.6 Rock: Point Load	ASTM D5731	$65.00
6.0.7 Slake Durability	ASTM D4644	$225.00
7.0 ANALYTICAL LABORATORY TESTING	**Method**	**Unit Price**
7.0.1 Oxidation-Reduction Potential (REDOX)	ASTM G200	$65.00
7.0.2 Sulfide	EPA 9031	$175.00
7.0.3 Metal Analysis	SM 311B	$60.00
7.0.4 Electrical Resistivity/Conductivity	ASTM G57	$80.00
7.0.5 Pore Water Extraction	ASTM D4542	$90.00
7.0.6 Calcium Carbonate	ASTM D4373	$50.00
7.0.7 pH Test: Water	EPA 150.1	$20.00
7.0.8 pH Test: Soil	ASTM G51/D4972	$55.00
7.0.9 Chloride: Soil	ASTM D512	$60.00
7.0.10 Chloride: Water	ASTM D512	$40.00
7.0.11 Sulfate: Soil	ASTM D516	$75.00
7.0.12 Sulfate: Water	ASTM D516	$40.00
7.0.13 Total Solids: Water	SM 2540B	$40.00
7.0.14 Total Suspended Solids: Water	SM 2540C	$40.00
7.0.15 Total Dissolved Solids: Water	SM 2540D	$40.00
7.0.16 Sulfate Reducing Bacteria (SRB)	SRB-BART	$150.00
7.0.17 Total Organic Carbon: Soil	Schoehlberger	$135.00
8.0 MISCELLANEOUS		**Unit Price**
8.0.1 X-Ray Tube (3' tube)		$200.00
8.0.2 Sample Photos: Before and After Testing		$45.00
9.0 SAMPLE STORAGE		**Price/cu.yd.**
9.0.1 Sample Storage, (5° to 40°C) (cu.yd.)		$65.00
9.0.2 Sample Storage, climate controlled (20° to 25°C) (cu.yd.)		$130.00
9.0.3 Sample Storage, climate controlled (10° to 15°C) (cu.yd.)		$215.00

NOTE: Effective October 23, 2018, rate increases were administratively approved.

B. Upon the written approval of the District's Deputy Operating Officer stated herein, unused fees from a completed or cancelled task may be reallocated to an uncompleted task provided that the Agreement Total Not-to-Exceed Amount is not exceeded. Transferring fees from an uncompleted task to another task will not be permitted.

C. Upon the written approval of the District's Deputy Operating Officer referenced herein, the scope of services described in a task may be reduced or eliminated. If the scope of services is reduced or eliminated, the portion of the fees attributable to that reduced or eliminated task may be allocated to revised existing tasks, or transferred to a Supplemental Services task, if provided for herein.

D. Any reduction or elimination of tasks and any inter-task transfers will be clearly noted and described in the subsequent monthly progress report to the District.

E. Services to be performed pursuant to the Supplemental Services task, if provided for herein, will commence only after issuance of a fully executed Task Order.

G. Not-to-exceed fees and services to be performed under Supplemental Services will commence only after written approval from the District Dam Safety & Capital Division Deputy Operating Officer.

H. Reimbursable Expenses

1. All reimbursable expenses not already covered in overhead may include, but are not limited to, mapping, rendering, printouts, leased equipment, mailing and delivery services, printing services, film and processing, plotting, and supplies. These other direct expenses as approved by the District Project Manager will be billed on a monthly basis at actual cost plus 5% linked to each Agreement Task, provided that the Task total NTE amount is not exceeded. Consultant shall provide receipts for each other direct expense item(s) with monthly invoices submitted. The 5% markup will be applied only once, either by Consultant or by its subconsultants, subcontractors, or vendors.

2. Equipment purchased on behalf of the District that costs $50 or more must receive the prior written approval of the District Project Manager. All equipment purchased on behalf of the District and paid for by the District shall become the property of the District and be delivered to District prior to expiration of this Agreement.

3. Travel expenses are reimbursed at actual costs. Travel and overnight accommodations, including per diem, required for performance of this Agreement will be paid at reasonable cost not to exceed the U.S. General Services Agency Per Diem Rates for Sunnyvale/Palo Alto/San Jose, California area, provided prior approval for such travel has been obtained from the District Project Manager. For air travel, District will pay the cost of a coach class or equivalent ticket. Where air travel is required, District will pay the total cost of taxi, rideshare, public transportation, or a rental car, which may include insurance, gas, fees, and taxes, and will be paid for the actual costs incurred. Vehicle rental is limited to a compact or economy model, unless prior approval has been obtained from the District Project Manager for a different type of vehicle.

4. Expenses incurred by the Consultant for Subconsultants, subcontractors and vendors, including lab services, will be reimbursed at actual cost plus 5%. Consultant shall provide invoices for all such services regardless of cost. The 5% markup will be applied only once, either by the Consultant or by its subconsultants, subcontractors, or vendors.

5. Automobile travel mileage expenses will be paid at the current IRS rate. District will not reimburse Consultant and its subconsultants for mileage and travel time to and from District Headquarters and surrounding campus located at 5700 Almaden Expressway, San Jose, California. District will reimburse Consultant and its subconsultants for mileage incurred from District Headquarters or Consultant's and subconsultants' firm addresses, whichever is closer to the destination, to Project site(s) and, if directed or authorized by the District, to meeting locations such as community outreach meetings, partnering meetings, Dispute Review Board meetings, and meetings with regulatory agencies, if directed or authorized by the District.

I. Consultant's monthly invoices will be prepared in accordance with the terms of this Revised Appendix Two and the Revised Standard Consultant Agreement Section IV. Fees and Payments and represent work performed and reimbursable costs incurred during the identified billing period and will be consistent with Appendix One and Revised Appendix One and include the following:

1. Personnel Category and employee name itemized with all labor charges by Scope of Service Task.

2. Direct charges by Scope of Service Task.

3. Consultant's summary of the amount Consultant has been billed by their subconsultants and subcontractors and further detailed by Scope of Service Task.

4. Direct charges must reflect actual fees versus the Agreement not to exceed fees in this Revised Appendix Two.

J. Before submitting monthly invoices, the Monthly Progress Report and draft invoice (in Adobe PDF format) will be provided by the Consultant for preliminary review by the District Project Manager. Upon preliminary approval by the District, the Consultant will mail the complete signed and dated hardcopy invoice, including all supporting documentation. District's preliminary review of the draft invoice does not represent final approval of the hardcopy invoice, but is intended to reduce potential for re-submittals of hardcopy invoice by Consultant.

K. Invoices will include a summary of labor expenditures, direct costs, and billed subconsultant charges. Billing statements, transmitted separately from the Monthly Progress Reports, will be organized such that the billing categories correspond with the Scope of Services tasks.

L. District's Project Manager will review invoice within five (5) working days of receipt, address any questions with Consultant's Construction Manager, and approve the undisputed amount of the invoice within ten (10) working days of receipt of the invoice. District will pay undisputed invoices within thirty (30) calendar days from date invoice is approved by District's Project Manager.

M. Prevailing Wages

1. A portion of the Services to be performed pursuant to this Agreement may be considered "Public Works" subject to California Labor Code §1771, et. seq. and the applicable implementing regulations.

2. Labor Code §1720 includes "Inspection and Land Surveying" in its definition of "Public Works." If Consultant's Services includes such work, Consultant and its Subconsultants must comply with all Labor Codes applicable to prevailing wages.

3. Consultant and its Subconsultants shall not engage in the performance of public work, as defined in California Labor Code §1771.1, unless currently registered and qualified to perform public work pursuant to California Labor Code §1725.5.

4. The General Prevailing Wage Rates issued by the California Department of Industrial Relations may be adjusted by the State throughout the term of this Agreement. Notwithstanding any other provision of this Agreement, Consultant will not be entitled to any adjustment in compensation rates in the event there are adjustments to the General Prevailing Wage Rates.

5. This Agreement is subject to compliance monitoring and enforcement by the State of California Department of Industrial Relations. Upon request, the Consultant and Subconsultants must furnish the records specified in Labor Code §1776 directly to the Labor Commissioner, in a format prescribed by the Labor Commissioner.

6. All records or documents required to be kept to verify statutory compliance with the prevailing wage requirement such as certified payroll records must be made available for audit at no cost to the District, at any time during regular business hours, upon written request by the District.

7. **California State Department of Industrial Relations Contractor and Sub-Contractor Registration Requirements**

   Prior to the District executing a Task Order for Services involving public works, as defined herein, the Consultant, and its Subconsultant(s) performing public works, must provide evidence, in the form required by the District, that Consultant and its Subconsultant(s) are in compliance with the California State Department of Industrial Relations Contractor and Sub-Contractor Registration Requirements.

N. Consultant's services will be performed by its staff members and subconsultants' staff members at the lowest hourly rates commensurate with the complexity of the required services.

O. Consultant's attention is directed to Section IV of the Revised Standard Consultant Agreement regarding Fees and Payment and the corresponding retention clause.

P. Small Business Enterprise (SBE) Participation

This Agreement provides for the Consultant to include California Department of General Services certified Small/Micro Businesses in the performance of the services, estimated to be 20 percent or more of the Total Not to Exceed Amount stated in this Revised Appendix Two and Consultant agrees to use its best efforts to meet this goal. With each monthly progress report, Consultant shall provide level of Small Business Enterprise (SBE) participation.

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AMENDMENT NO. 8 TO AGREEMENT A3555A
REVISED APPENDIX THREE
SCHEDULE OF COMPLETION

1. This Agreement commences on the date specified in the introductory paragraph of the Revised Standard Consultant Agreement portion of this Agreement. This term of this Agreement expires on **December 31, 2023**, unless, prior to its expiration, its term is modified by a written amendment hereto, signed by the Parties.

2. Consultant will commence Tasks listed in Appendix One and Revised Appendix One of this Agreement upon receipt of the Notice-to-Proceed (NTP) issued by the District.

3. Consultant will perform and complete the Services described in Appendix One and Revised Appendix One, Scope of Services, in accordance with the Project Schedule table as shown below. Consultant will coordinate services with the District to provide the timeline of all tasks and subtasks including the site visits, document review, meetings and Deliverables.

4. The approved Project Schedule will be monitored monthly. Changes to the schedule for performance of Tasks and Deliverables are subject to advance written approval by District. Consultant's attention is directed to Revised Standard Consultant Agreement, Section VII. Delays and Extensions.

5. Project Delays - Consultant will make all reasonable efforts to comply with the Project Schedule as shown here in Revised Appendix Three. In the event the Project Schedule will be delayed, Consultant will notify the District as soon as possible, providing the reason why, the length of the delay, and a description of the actions being taken to address the delay. In the event Consultant is delayed in performance of its services by circumstances beyond its control, District may in its discretion grant a reasonable adjustment in the Project Schedule. This language will prevail should any conflict or discrepancy occur between this provision and the Revised Standard Consultant Agreement portion of this Agreement, Section VII. Delays and Extensions.

6. District's Project Manager and Consultant may agree to modify the schedule specified for Consultant's performance as a written administrative modification to the Agreement and such approval will be confirmed in writing.

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AMENDMENT NO. 8 TO AGREEMENT A3555A
REVISED APPENDIX THREE
SCHEDULE OF COMPLETION

PROJECT SCHEDULE (REVISED)

Task	Description	Duration from NTP
1	Project Management Services	Duration of Agreement
2 and 2A	Data Collection and Investigations	90 months
3A	Basis of Design (Approved for Design)	96 months
3B	Basis of Design (Prior Approval Required)	124 months
4	30 Percent Design Document Preparation	52 months
5	60 Percent Design Document Preparation	84 months
6	90 Percent Design Document Preparation	102 months
7	Final Design Document Preparation	114 months
8	Bid and Award Services	120 months
9	Supplemental Services during Design and Construction	Duration of Agreement
10	Engineering Support During ADTP Construction	Duration of Agreement
11	Engineering Support During ADTP Construction (Prior Approval Required)	Duration of Agreement

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AMENDMENT NO. 8 TO AGREEMENT A3555A
REVISED APPENDIX FOUR
INSURANCE REQUIREMENTS

Please Note: Failure to comply with the instructions below could result in a delay in receiving the Notice to Proceed. The District will not be responsible for time lost or costs incurred due to failure to comply with these requirements. Please note the check-list of documents needed at the end of this Revised Appendix Four Insurance Requirements.

Without limiting the Consultant's indemnification of, or liability to, the Santa Clara Valley Water District ("District"), the Consultant must provide and maintain at its own expense, during the term of this Agreement, or as may be further required herein, the following insurance coverages and provisions as listed below.

Consultant must provide its insurance broker(s)/agent(s) with a copy of these requirements and warrants agrees that these requirements have been reviewed by Consultant's insurance agent(s) and/or broker(s), who have been instructed by Consultant to procure the insurance coverage required herein.

In addition to certificates, Consultant must furnish District with copies of all original endorsements affecting coverage required by this Revised Appendix Four. The certificates and endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. **All endorsements and certificates are to be received and approved by District before the Agreement is executed**.

If your insurance broker has any questions about the above requirements, please advise him/her to call Mr. David Cahen, District Risk Manager at (408) 630-2213.

Certificates of Insurance

Consultant shall furnish the District with a Certificate of Insurance. The certificates will be issued on a standard ACORD Form.

Consultant shall instruct their insurance broker/agent to submit all insurance certificates and required notices electronically in PDF format to the designated District Contract Administrator and email a copy to valleywater@ebix.com.

The certificates will:

1. Identify the underwriters, the types of insurance, the insurance limits, the deductibles and the policy term;
2. Include copies of all the actual policy endorsements required herein; and
3. In the "Certificate Holder" box include:

   Santa Clara Valley Water District
   5750 Almaden Expressway
   San Jose, CA 95118
   Agreement A3676A / CAS No. 4480

IMPORTANT: The agreement or CAS number must be included.

AMENDMENT NO. 8 TO AGREEMENT A3555A
REVISED APPENDIX FOUR
INSURANCE REQUIREMENTS

In the Description of Operations/Locations/Vehicles/Special Items Box:

1. Certificate Holder shall be named as Additional Insured;
2. District agreement or project number shall appear;
3. The list of policies scheduled as underlying on the Umbrella policy shall be listed; and
4. Waiver of Subrogation must be indicated as endorsed to all policies.

If Consultant receives any notice that any of the insurance policies required by this Revised Appendix Four Insurance may be cancelled or coverage reduced for any reason whatsoever, Consultant or insurer shall immediately provide written notice to the designated District Contract Administrator that such insurance policy required by this Revised Appendix Four Insurance Requirements is canceled or coverage is reduced.

Maintenance of Insurance

If Consultant fails to maintain such insurance as is called for herein, District, at its option, may suspend payment for work performed and/or may order Consultant to suspend all Consultant's work at Consultant's expense until a new policy of insurance is in effect.

Renewal of Insurance

Consultant will provide the District with a current Certificate of Insurance and endorsements within thirty (30) business days from the expiration of insurance.

Consultant shall instruct its insurance broker/agent to:

1. Submit all renewals of insurance certificates and required notices electronically in PDF format to valleywater@ebix.com

2. Provide the following information in the "Certificate Holder" box:

   Santa Clara Valley Water District
   5750 Almaden Expressway
   San Jose, CA 95118
   Agreement A3676A / CAS No. 4480

   IMPORTANT: The agreement or CAS number must be included.

Consultant must, at its sole cost and expense, procure and maintain during the entire period of this Agreement the following insurance coverage(s).

Required Coverages

1. **Commercial General/Business Liability Insurance** with coverage as indicated:

   $5,000,000 per occurrence / **$5,000,000** aggregate limits for bodily injury and property damage

   General Liability insurance must include:

a. Coverage at least as broad as found in standard ISO form CG 00 01.
b. Contractual Liability expressly including liability assumed under this contract.
c. If Consultant must be working within fifty (50) feet of a railroad or light rail operation, any exclusion as to performance of operations within the vicinity of any railroad bridge, trestle, track, roadbed, tunnel, overpass, underpass, or crossway must be deleted, or a railroad protective policy in the above amounts provided.
d. Severability of Interest.
e. Broad Form Property Damage liability.

2. **Business Auto Liability Insurance** with coverage as indicated:

$5,000,000 combined single limit for bodily injury and property damage per occurrence, covering all owned, non-owned and hired vehicles.

3. **Professional/Errors and Omissions Liability** with coverage as indicated:

$25,000,000 per claim/ **$25,000,000** aggregate

Professional/Errors and Omission Liability appropriate to the Consultant's profession, and must include:

a. If coverage contains a deductible, or self-insured retention, it shall not be greater than one hundred thousand dollars ($100,000) per occurrence/event.
b. Coverage shall include contractual liability
c. If coverage is claims-made:

    i. Certificate of Insurance shall clearly state that the coverage is claims-made.
    ii. Policy retroactive date must coincide with or precede the Consultant's start of work (including subsequent policies purchased as renewals or replacements).
    iii. Policy must allow for reporting of circumstances or incidents that might give rise to future claims.
    iv. Insurance must be maintained and evidence of insurance must be provided for at least three (3) years after completion of the contract of work.

4. **Workers' Compensation and Employer's Liability Insurance**

Statutory California Workers' Compensation coverage covering all work to be performed for the District.

Employer Liability coverage for not less than $1,000,000 per occurrence.

General Requirements

With respect to all coverages noted above, the following additional requirements apply:

1. **Additional Insured Endorsement(s):** Consultant must provide an additional insured endorsement for Commercial General/Business Liability (for both on-going and completed operations) and Business Automobile liability coverage naming the **Santa Clara Valley Water District, its Directors, officers, employees, and agents, individually and collectively,** as additional insureds, and must provide coverage for acts, omissions, etc. arising out of the named insureds' activities and work. Other public entities may also be added to the additional insured endorsement as applicable and the Consultant will be notified of such requirement(s) by the District. **NOTE:** This section does not apply to the Workers' Compensation and Professional Liability policies.

(**NOTE:** Additional insured language on the Certificate of Insurance is **NOT** acceptable without a separate endorsement such as Form CG 20 10, CG 2033, CG 2037, or CG 2038. Editions dated 07/04 are not acceptable.)

2. **Primacy Clause:** Consultant will provide evidence (either through the Certificate of Insurance, endorsement or language in the insurance contract) that consultant's insurance is primary with respect to any other insurance which may be carried by the District, its Directors, its officers, agents and employees, and the District's coverage must not be called upon to contribute or share in the loss. **NOTE:** This section does not apply to the Workers' Compensation policies.

3. **Cancellation Clause**: Consultant will provide endorsements for all policies stating that the policy will not be cancelled without 30 days prior notification to the District.

4. **Acceptability of Insurers:** All coverages must be issued by companies admitted to conduct business in the State of California, which hold a current policy holder's alphabetic and financial size category rating of not less than A- V, according to the current Best's Key Rating Guide or a company of equal financial stability that is approved by the District's Risk Manager. Non-Admitted companies may be substituted on a very limited basis at the Risk Manager's sole discretion.

   Self-Insured Retentions or Deductibles: Any deductibles or self-insured retentions will be the responsibility of Consultant. Consultant agrees that in the event of a claim they will pay down any agreed upon SIR in a prompt manner as soon as bills are incurred in order to trigger the insurance related to the SIR.

5. **Subconsultants:** The Consultant shall secure and maintain or shall be responsible for ensuring that all subconsultants performing the Contract Services secure and maintain all insurance coverages appropriate to their tier and scope of work in a form and from insurance companies reasonably acceptable to the District.

6. **Amount of Liability not Limited to Amount of Insurance:** The insurance procured by Consultant for the benefit of the District must not be deemed to release or limit any liability of Consultant. Damages recoverable by the District for any liability of Consultant must, in any event, not be limited by the amount of the required insurance coverage.

7. **Coverage to be Occurrence Based:** Except for Professional Liability, all coverage must be occurrence-based coverage. Claims-made coverage is not allowed.

8. **Waiver of Subrogation:** Consultant agrees to waive subrogation against the District to the extent any loss suffered by Consultant is covered by any Commercial General Liability policy, Automobile policy, Workers' Compensation policy described in **Required Coverages** above. Consultant agrees to advise its broker/agent/insurer and agrees to provide evidence (either through the Certificate of Insurance, endorsement or language in the insurance contract) that subrogation has been waived by its insurer.

9. **Non-compliance:** The District reserves the right to withhold payments to the Consultant in the event of material noncompliance with the insurance requirements outlined above.

AMENDMENT NO. 8 TO AGREEMENT A3555A
REVISED APPENDIX FOUR
INSURANCE REQUIREMENTS

CHECK LIST OF DOCUMENTS NEEDED

General Liability:	A.	Limits **($5,000,000)**	
	B.	Additional Insured (Endorsement)	
	C.	Waiver of Subrogation (COI, Endorsement or policy language)	
	D.	Primacy (COI, Endorsement or policy language)	
	E.	Cancellation Endorsement	

Auto Liability:	A.	Limits **($5,000,000)**	
	B.	Additional Insured (Endorsement)	
	C.	Waiver of Subrogation (COI, Endorsement or policy language)	
	D.	Primacy (COI, Endorsement or policy language)	
	E.	Cancellation Endorsement	

Umbrella:	A.	Limits ($)	
	B.	Primacy (Endorsement or policy language)	

Workers Comp:	A.	Limits **($1,000,000)**	
	B.	Waiver of Subrogation (Endorsement or policy language)	
	C.	Cancellation Endorsement	

Professional Liability:	A.	Limits **($25,000,000)**	

Consultant GL5AL5PL25_rev 7.20.2020/CAS rev. 12.29.20

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January 6,2021

URS Corporation
DBA URS Corporation Americas
300 Lakeside Drive, Suite 400
Oakland, CA 94612

Attention: Mr. Theodore Feldsher, Vice President

Subject: Amendment No. 8 to Agreement No. A3676A, with URS Corporation, for Design Services for the Anderson Dam Seismic Retrofit Project, Project No. 91864005

Enclosed please find a fully executed original copy of the aforementioned amendment to the agreement between the Santa Clara Valley Water District, and URS Corporation, which was approved by the Santa Clara Valley Water District Board of Directors on January 5, 2021.

Should you have any questions regarding the enclosed documents, please feel free to contact me by email at esans@valleywater.org, or by phone at (408) 630-2306.

Sincerely,

Eva Sans
Assistant Deputy Clerk II
Office of Clerk of the Board

Enclosure: (1)

cc: Board Records
Accounting Unit
Contract Admin Unit
Form 700 Processing Unit
Staff

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Theodore Feldsher
URS Corporation
DBA URS Corporation Americas
300 Lakeside Drive, Suite 400
Oakland, CA 94612

9590 9402 5033 9092 2994 30

2. Article Number *(Transfer from service label)*

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent
☐ Addressee

B. Received by *(Printed Name)*

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

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PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

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☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
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Sent To
Mr. Theodore Feldsher
Street and Apt. No., or PO Box No.
300 Lakeside Drive Suite 400
City, State, ZIP+4®
Oakland, CA 94612

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions