

File No. 140608

**Committee Item No.** 11  
**Board Item No.** \_\_\_\_\_

## **COMMITTEE/BOARD OF SUPERVISORS**

## AGENDA PACKET CONTENTS LIST

**Committee:** Budget & Finance Committee

Date July 16, 2014

## Board of Supervisors Meeting

Date \_\_\_\_\_

### Cmte Board

<input type="checkbox"/>	<b>Motion</b>
<input type="checkbox"/>	<b>Resolution</b>
<input type="checkbox"/>	<b>Ordinance</b>
<input type="checkbox"/>	<b>Legislative Digest</b>
<input type="checkbox"/>	<b>Budget and Legislative Analyst Report</b>
<input type="checkbox"/>	<b>Youth Commission Report</b>
<input type="checkbox"/>	<b>Introduction Form</b>
<input type="checkbox"/>	<b>Department/Agency Cover Letter and/or Report</b>
<input checked="" type="checkbox"/>	<b>MOU</b>
<input type="checkbox"/>	<b>Grant Information Form</b>
<input type="checkbox"/>	<b>Grant Budget</b>
<input type="checkbox"/>	<b>Subcontract Budget</b>
<input type="checkbox"/>	<b>Contract/Agreement</b>
<input type="checkbox"/>	<b>Form 126 – Ethics Commission</b>
<input type="checkbox"/>	<b>Award Letter</b>
<input type="checkbox"/>	<b>Application</b>
<input type="checkbox"/>	<b>Public Correspondence</b>

**OTHER** (Use back side if additional space is needed)

**Completed by:** Linda Wong **Date:** July 11, 2014

**Completed by:** \_\_\_\_\_ **Date:** \_\_\_\_\_

1 [Contract Amendment - URS Corporation - Engineering Support Services - \$28,500,000]  
2

3 **Resolution authorizing the General Manager of the Public Utilities Commission to**  
4 **execute amendment No. 4 to an agreement with URS Corporation, increasing the length**  
5 **of the agreement by up to two years, nine months, until May 24, 2019, for a total**  
6 **duration of fifteen years and nine months, and increasing the estimated cumulative**  
7 **contract amount from \$24,000,000 to \$28,500,000 for engineering support services for**  
8 **the Water Enterprise Water System Improvement Program-funded Agreement No. CS-**  
9 **716, Calaveras Dam Replacement, pursuant to Charter, Section 9.118(b).**

10  
11 WHEREAS, On June 10, 2003, in Resolution No. 03-0117, the San Francisco Public  
12 Utilities Commission (SFPUC) awarded Agreement No. CS-716, Engineering Services,  
13 Calaveras Dam Replacement Project (Project), to URS Corporation, and authorized the  
14 SFPUC General Manager to negotiate and execute a professional services agreement, in the  
15 amount of \$4,000,000, and with a term of four years, concluding on September 10, 2007; and

16 WHEREAS, On July 26, 2005, in Resolution No. 05-0120, the SFPUC approved  
17 Amendment No. 1 to Agreement No. CS-716 to continue URS Corporation professional  
18 engineering services for detailed and final design of the Project, increasing the original  
19 agreement amount by \$8,000,000 to \$12,000,000 and extending the agreement term by two  
20 years to September 10, 2009; and

21 WHEREAS, On March 11, 2008, in Resolution No. 08-0041, the SFPUC approved  
22 Amendment No. 2 to Agreement No. CS-716 to continue the provision of professional  
23 engineering services by URS Corporation to provide additional services related to the final  
24 design of the Project as well as environmental support services to facilitate the completion of  
25 California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA)

1 documents and obtain required environmental permits, increasing the agreement amount by  
2 \$1,900,000 to \$13,900,000; and

3 WHEREAS, On May 12, 2009, in Resolution No. 09-0079, the SFPUC approved  
4 Amendment No. 3 to Agreement No. CS-716 to continue the provision of professional  
5 engineering services by URS Corporation to provide additional design, environmental and  
6 permitting services needed to address naturally occurring asbestos (NOA) at the Project site  
7 during construction as well as fisheries issues during future operation of the Project, provide  
8 designs to mitigate environmental impacts associated with construction of the Project to be  
9 implemented under the Habitat Reserve Program, provide supplemental dam safety  
10 engineering analyses requested by the California Division of Safety of Dams (DSOD), and  
11 ongoing permitting support; and to provide engineering support during construction, start-up,  
12 and commissioning of the project, increasing the agreement amount by \$10,100,000 to  
13 \$24,000,000 and extending the agreement term by seven years to September 10, 2016; and

14 WHEREAS, On May 27, 2014, in Resolution No. 14-0087 the SFPUC approved  
15 Amendment No. 4 to Agreement No. CS-716 to provide additional engineering support during  
16 construction, start-up, and commissioning of the project, increasing the agreement amount by  
17 \$4,500,000 to \$28,500,000 and extending the agreement term by two years, nine months to  
18 May 24, 2019; and

19 WHEREAS, The General Service Agency's Contract Monitoring Division (CMD)  
20 originally established sub consulting goals of 13% Minority Business Enterprise (MBE) and  
21 8% Women Business Enterprise (WBE) participation, and URS Corporation proposed to meet  
22 this goal with MBE/WBE participation of 15% and 9%, respectively, as part of the original  
23 Agreement; and

1           WHEREAS, The actual MBE/WBE participation as of April 2014 is approximately  
2       14.4% due to several significant scope of work changes that occurred during the course of the  
3       contract and significantly impacted URS Corporation's ability to meet the original goal; and

4           WHEREAS, URS Corporation, the SFPUC, and CMD have agreed upon a 2.2%  
5       subconsulting goal for Amendment 4, and a project total MBE/WBE subconsulting  
6       participation of 12.1% by the expiration of the term of CS-716 as amended; and

7           WHEREAS, The services requested under Amendment 4 are within the framework of  
8       the five phases of work originally planned to be executed under the CS-716 contract  
9       agreement, including: Phase 1 – conceptual engineering; Phase 2 – 65% and 95% detailed  
10      design documents; Phase 3 – 100% final design documents; Phase 4 – engineering support  
11      services during construction; and Phase 5 – startup, commissioning, and close-out; and

12           WHEREAS, Funds for this agreement are available from Project CUW37401 –  
13      Calaveras Dam Replacement; and

14           WHEREAS, Charter Section 9.118(b) requires that contracts with a value in excess of  
15      \$10,000,000 be approved by resolution of the Board of Supervisors; now, therefore, be it

16           RESOLVED, That the Board of Supervisors authorizes the General Manager of the  
17      San Francisco Public Utilities Commission to execute Amendment No. 4 to Water Enterprise  
18      Water System Improvement Program-funded Agreement No. CS-716, Calaveras Dam  
19      Replacement, with URS Corporation to provide engineering support during construction, start-  
20      up, commissioning, and close-out of the project, increasing the agreement by \$4,500,000, for  
21      a total agreement amount of \$28,500,000, and with a time extension of two years, nine  
22      months, for a total agreement duration of fifteen years, nine months; and, be it

23           FURTHER RESOLVED, That within thirty (30) days of the approval of Amendment No.  
24      4 to extend the term by two years, nine months being fully executed by all parties, the General  
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1 Manager of the San Francisco Public Utilities Commission shall provide the final contract  
2 modification to the Clerk of the Board for inclusion in the official file.  
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1 Manager of the San Francisco Public Utilities Commission shall provide the final contract  
2 modification to the Clerk of the Board for inclusion in the official file.

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<b>Item 11</b> <b>File 14-0608</b>	<b>Department:</b> San Francisco Public Utilities Commission
<b>EXECUTIVE SUMMARY</b>	
<b>Legislative Objectives</b>	
<p>The proposed resolution would authorize the General Manager of the Public Utilities Commission to execute the fourth amendment to a contract with URS Corporation for professional engineering services, increasing the length of the agreement by up to two years and nine months until May 24, 2019, and increasing the cumulative contract amount by \$4,500,000 from \$24,000,000 to \$28,500,000</p>	
<b>Key Points</b>	
<ul style="list-style-type: none"><li>• The Calaveras Dam Replacement Project is a 16-year, \$718,000,000 project to replace the existing dam at the Calaveras Reservoir for seismic safety. Construction is currently in the third year of a seven-year construction timeline.</li><li>• URS Corporation has provided professional engineering services for this project since September 11, 2003, including the planning and design phases of the dam as well as the current construction phase. The Public Utilities Commission (PUC) would like to retain URS Corporation as the Engineer of Record through the remainder of the construction and close-out phases.</li><li>• The proposed resolution would allow URS Corporation to remain on contract through May 24, 2019, at which point the PUC expects the project to be completed. The PUC does not expect to have to extend the contract further, barring any unexpected site conditions that would impact the construction timeline.</li></ul>	
<b>Fiscal Impact</b>	
<ul style="list-style-type: none"><li>• The proposed extension would increase the allowable contract amount by \$4,500,000 from \$24,000,000 to \$28,500,000.</li><li>• This contract is funded by Water Revenue Bonds as part of the \$4.765 billion Water System Improvement Program. If approved, the \$28,500,000 cost of the URS Corporation contract would make up 0.6 percent of the total allowable bond issuance amount.</li></ul>	
<b>Recommendation</b>	
<ul style="list-style-type: none"><li>• Approve the proposed resolution.</li></ul>	

**MANDATE STATEMENT/BACKGROUND****Mandate Statement**

City Charter Section 9.118(b) states that any contract entered into by a department, board or commission that either (1) has a term of more than ten years, (2) requires expenditures of \$10 million or more, or (3) requires a modification of more than \$500,000 is subject to Board of Supervisors approval.

**Background**

The Calaveras Dam Replacement Project is the largest project of the \$4.765 billion Public Utilities Commission (PUC) Water System Improvement Program to repair, replace, and seismically upgrade the Hetch Hetchy Regional Water System. This 16-year project will cost a total of \$718,000,000 and will replace the current dam at Calaveras Reservoir in the Sunol Valley.

According to the PUC, the current dam at Calaveras Reservoir is 89 years old and lies within 1,500 feet of the active Calaveras Earthquake Fault. In 2001, PUC lowered water levels in the reservoir to less than 40 percent of normal operating capacity in response to seismic concerns. The new dam currently under construction is directly downstream of the existing dam, and would address seismic concerns as well as return the reservoir to its historical storage capacity of 96,850 acre-feet (31 billion gallons). The reservoir provides approximately half of the Hetch Hetchy Regional Water System's local Bay Area water storage, which the PUC states is critical for supplying water during times of drought and when Sierra Nevada water is not available.

**DETAILS OF PROPOSED LEGISLATION**

The proposed resolution would approve the fourth amendment in the amount of \$4,500,000 to an existing contract between the Public Utilities Commission and URS Corporation to provide engineering services for the Calaveras Dam Replacement Project.

PUC entered into the original contract with URS Corporation to provide professional engineering services for the Calaveras Dam Replacement Project in September 2003 following a competitive solicitation process. The original contract was for \$4 million and a term of 48 months, and therefore, was not subject to Board of Supervisors approval. The PUC subsequently entered into three contract amendments, resulting in the existing total authorized not-to-exceed contract amount of \$24,000,000, as shown in Table 1 below.

Table 1: Original Contract Agreement and Contract Amendments

Contract Amendment	Board of Supervisors Approval	Term (months)	Expiration	Increased Amount of Contract Amendment	Total Contract Amount	URS Corporation Duties
Original	N/A	48	9/10/2007	-	\$4,000,000	Conceptual engineering, including repair or replacement alternatives, conceptual designs, cost estimates, project schedules, and selection of preferred alternatives.
1	File 05-1361	24	9/10/2009	\$8,000,000	\$12,000,000	Conceptual engineering and design, detailed design, final design, design services during construction, start-up, and commissioning.
2	File 08-0363	No Change	9/10/2009	\$1,900,000	\$13,900,000	Additional final design, environmental services, and permitting support services.
3	File 09-0637	84	9/10/2016	\$10,100,000	\$24,000,000	Additional design, environmental and permitting support services needed prior to construction, and engineering support during construction, start-up, and commissioning of the project.
4	Proposed	33	5/24/2019	\$4,500,000	\$28,500,000	Engineering support during construction, start-up, and commissioning of the project through completion.

According to the PUC, it is typical for an engineering and design consultant to remain on a large and complex project like the Calaveras Dam for a long duration. As described below, there have been significant unforeseen site conditions that have expanded the scope of the Calaveras Dam replacement project. In order to maintain continuity of engineering and design services over the entire course of design and construction, the PUC would like to retain URS for the remainder of the construction and close-out phases.

Construction on the dam began in August 2011 with an original projected completion date of July 2015. According to the PUC, unexpected geologic features were found during construction that required additional design and construction to ensure the long-term stability of the slope of the left abutment area. These changes increased costs and extended the project timeline. The Board of Supervisors approved the sale and appropriation of \$90,000,000 of Water

Revenue Bonds in June 2014 (Files 14-0484 and 14-0479) for the Calaveras Dam Project, increasing the project budget from \$620,000,000 to \$710,000,000. The PUC states that an additional \$8,000,000 will be allocated from existing and future appropriation for a total project budget of \$718,000,000. The final construction completion date has been moved back by three years from the prior date of July 2015 to November 2018. As of May 2014, construction was approximately 60% complete. Following completion of construction, there is a close-out phase that includes testing and re-filling of the reservoir, with the entire project expected to be completed in mid-2019.

The proposed fourth contract amendment would allow URS Corporation to remain the Engineer-of-Record for the Calaveras Dam Replacement Project through final construction and close-out phases of the project. According to the PUC, URS Corporation's engineering support over the remainder of the contract will include reviewing submittals, responding to Requests for Information and California Division of Safety of Dam (DSOD) requests, revising drawings and specifications to address project issues that arise during construction, attending construction meetings at the site, and providing assistance during start-up and commissioning of the project.

#### FISCAL IMPACT

The proposed fourth amendment to the contract with URS Corporation would allow the total contract amount to increase by \$4,500,000 or 18.8 percent from \$24,000,000 to \$28,500,000. As shown in Table 2 below, the PUC has spent \$22,732,518 on the contract to date and owes \$222,567 in retained payments, totaling \$22,955,085. According to the PUC, the balance of \$1,044,915 from the existing authorized amount of \$24,000,000 (\$24,000,000 less \$22,955,085) is the total amount billed or to be billed by URS Corporation to the PUC from February 2014 through July 2014 but which PUC has not yet paid.

**Table 2: Contract Payments to URS Corporation for Engineering Services  
on the Calaveras Dam Replacement Project**

Year	Total Paid	Retention Owed*	To-Be Billed through July 2014	Total
2003	\$0	\$0	\$0	\$0
2004	\$2,690,653	\$0	\$0	\$2,690,653
2005	\$665,508	\$0	\$0	\$665,508
2006	\$3,383,531	\$0	\$0	\$3,383,531
2007	\$3,379,389	\$0	\$0	\$3,379,389
2008	\$2,508,837	\$0	\$0	\$2,508,837
2009	\$1,375,293	\$0	\$0	\$1,375,293
2010	\$2,758,123	\$0	\$0	\$2,758,123
2011	\$1,881,908	\$0	\$0	\$1,881,908
2012	\$1,576,119	\$0	\$0	\$1,576,119
2013	\$1,531,707	\$163,951	\$0	\$1,695,658
2014†	\$981,451	\$58,616	\$1,044,915	\$2,084,982
<b>Total</b>	<b>\$22,732,518</b>	<b>\$222,567</b>	<b>\$1,044,915</b>	<b>\$24,000,000</b>

\*Retention is a percentage of payment on task orders that is retained until SFPUC deems the work is completed satisfactorily.

†For 2014, SFPUC paid URS Corporation up through Jan 31, 2014 reporting period. The delay in payment was caused by URS Corporation delay in sending invoice to SFPUC.

The proposed fourth contract amendment of \$4,500,000 covers approximately 40% of remaining construction followed by the close-out phase, which includes monitoring the re-fill of the dam to operating capacity, preparing testing plans, and completing final record drawings. The budget of \$4,500,000 is shown in Table 3 below.

**Table 3: Budget for Fourth Amendment**

	<b>Expenditures July 2014 to November 2013</b>
<b>Construction Support</b>	
Project Management	\$350,000
Meetings	340,000
Review of Documents	650,000
Respirator Fit Testing and Medical Exams	30,000
Engineering and Design Support	1,100,000
Other Support Services	450,000
Surface Geologic Mapping and Inspections	750,000
Review of Grouting, Tie-backs and Rock Reinforcement	180,000
Technical Support for Change Orders	300,000
Quality Review	50,000
<b>Construction Support Subtotal</b>	<b>\$4,200,000</b>
<b>Project Completion</b>	
Review of Monitoring Data	\$50,000
Testing Plan	75,000
Complete and Check As-Built Document	75,000
Technical Support for Claim Settlement	100,000
<b>Project Completion Subtotal</b>	<b>\$300,000</b>
<b>Total</b>	<b>\$4,500,000</b>

**RECOMMENDATION**

Approve the proposed resolution.



# San Francisco Water Power Sewer

Services of the San Francisco Public Utilities Commission

RECEIVED  
BOARD OF SUPERVISORS  
SAN FRANCISCO

APR 2 AM 11:20  
le

525 Golden Gate Avenue, 13th Floor

San Francisco, CA 94102

T 415.554.3155

F 415.554.3161

TTY 415.554.3488

**TO:** Angela Calvillo, Clerk of the Board  
**FROM:** Erin Hagan, Policy and Government Affairs Manager  
**DATE:** June 2, 2014  
**SUBJECT:** Resolution authorizing the General Manager of the San Francisco Public Utilities Commission to execute amendment No. 4 to an agreement with URS Corporation, increasing the length of the agreement by up to two years, nine months, until May 24, 2019 for a total duration of fifteen years and nine months, and increasing the estimated cumulative contract amount from \$24,000,000 to \$28,500,000.

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Attached please find a resolution approving an SFPUC contract amendment with URS Corporation for engineering support services for the Water Enterprise Water System Improvement Program-funded Agreement No. CS-716, Calaveras Dam Replacement, pursuant to Charter Section 9.118(b).

The following is a list of accompanying documents (3 sets):

1. Board of Supervisors Resolution
2. SFPUC Resolution 03-0117
3. SFPUC Resolution 05-0120
4. SFPUC Resolution 08-0041
5. SFPUC Resolution 09-0079
6. SFPUC Resolution 14-0087
7. CS-716 Contract Agreement
8. CS-716 Contract Amendment No 1
9. CS-716 Contract Amendment No 2
10. CS-716 Contract Amendment No 3A
11. CS-716 Contract Amendment No 3B

Please contact Erin Hagan at 554-0706 if you need any additional information on these items.

Edwin M. Lee  
Mayor

Vince Courtney  
President

Ann Moller Caen  
Vice President

Francesca Vietor  
Commissioner

Anson Moran  
Commissioner

Art Torres  
Commissioner

Harlan L. Kelly, Jr.  
General Manager



146608

## **PUBLIC UTILITIES COMMISSION**

City and County of San Francisco

RESOLUTION NO.

**03-0117**

WHEREAS, The Calaveras Dam Project is ready to proceed to the conceptual engineering phase to develop dam repair or replacement project alternatives, conceptual designs, cost estimates, project schedules, and selection of preferred alternatives in preparation for detailed design and construction; and

WHEREAS, The completion of the conceptual engineering phase requires professional engineering expertise in the specific field of dam design and construction, the specialized fields of geotechnical, seismic, and hydraulic engineering, as well as civil, mechanical, hydraulic, and structural engineering; and

WHEREAS, Services are anticipated to begin in July 2003 and the duration of this agreement is 48 months; and

WHEREAS, The estimated cost of services for this agreement is \$4,000,000; and

WHEREAS, HRC subconsulting goals of 13% MBE and 8% WBE participation have been established and approved for this agreement by the HRC Contract Compliance Officer assigned to the SFPUC; and

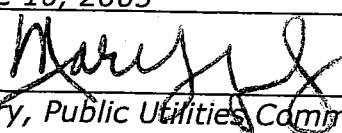
WHEREAS, Funding will be from the 2002 Proposition A CIP bond fund appropriations for Fiscal Years 2003-2004 and 2004-2005 for Project No. CUW374 - Calaveras Dam Replacement; and

WHEREAS, The URS Corporation was determined to be the highest ranked responsive proposer; now, therefore, be it

RESOLVED, That this Commission hereby approves the selection of URS Corporation, for Professional Services Agreement No. CS-716, Calaveras Dam Project Conceptual Engineering, and authorizes the General Manager of the San Francisco Public Utilities Commission to negotiate and execute a professional services agreement with URS Corporation for an amount not to exceed \$4,000,000 and a duration of forty-eight months from the Notice to Proceed; and, be it

FURTHER RESOLVED, That this Commission hereby directs the General Manager to assemble and retain the services of a technical review panel, with relevant technical expertise and experience to provide an independent review of the findings and recommendations made by URS Corporation in the conceptual engineering phase, and possibly subsequent professional engineering work phases, and advise the General Manager, staff, and this Commission as to the validity and appropriateness of those recommendations for meeting project objectives.

*I hereby certify that the foregoing resolution was adopted by the Public Utilities Commission at its meeting of June 10, 2003*

  
\_\_\_\_\_  
Secretary, Public Utilities Commission

## PUBLIC UTILITIES COMMISSION

City and County of San Francisco

RESOLUTION NO. 05 - 0120

WHEREAS, On June 10, 2003, per Resolution No. 03-0117, the Public Utilities Commission awarded Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement, to URS Corporation to provide engineering support services for five phases of the Calaveras Dam Project; and authorized the General Manager of the San Francisco Public Utilities Commission to negotiate and execute a professional services agreement for Phase 1, in the amount of \$4,000,000, and with a term of 48 months with URS Corporation; and

WHEREAS, The original term was for 48 months from the notification of contract award, concluding on September 10, 2007; and

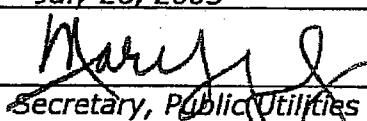
WHEREAS, Amendment No. 1 is being issued to continue URS Corporation professional engineering service support to Phases 2 and 3 of the project, increasing the agreement amount by \$8,000,000 to \$12,000,000 and extending the agreement term by 60 months to September 10, 2012, in order to accommodate providing services through start up and commissioning; and

WHEREAS, HRC subcontracting goals of 17.4% MBE and 3.4% WBE participation have been established and approved for this agreement by the HRC Contract Compliance Officer assigned to the SFPUC. URS Corporation is committed to meeting the HRC goals established; and

WHEREAS, Funds for this project are available from Project No.CUW37401 – Calaveras Dam Replacement; now, therefore, be it

RESOLVED, That this Commission hereby approves Amendment No. 1 to Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement, to perform professional engineering services for Phases 2 and 3 of a five-phase assistance agreement, consisting of conceptual engineering/design, detailed design, final design, design services during construction, and start-up/commissioning, previously awarded to URS Corporation; and authorize the General Manager of the San Francisco Public Utilities Commission to execute this amendment increasing the agreement by \$8,000,000, for a total agreement amount of \$12,000,000, and with a time extension of 720 consecutive calendar days, for a total agreement duration of 2,180 consecutive calendar days; and request approval of the Board of Supervisors for this amendment to Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement, with URS Corporation.

*I hereby certify that the foregoing resolution was adopted by the Public Utilities Commission at its meeting of* July 26, 2005

  
\_\_\_\_\_  
Secretary, Public Utilities Commission

## **PUBLIC UTILITIES COMMISSION**

City and County of San Francisco

RESOLUTION NO. **08-0041**

WHEREAS, On June 10, 2003, per Resolution No. 03-0117, this Commission awarded Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project, to URS Corporation to provide engineering support services for Phase 1 of five phases (Phase 1 - conceptual engineering; Phase 2 – 65% and 95% detailed design; Phase 3 – 100% final design; Phase 4 – engineering support services during construction; and Phase 4 – startup and commissioning) of the Calaveras Dam Replacement Project; and authorized the General Manager of the San Francisco Public Utilities Commission to negotiate and execute a professional services agreement for Phase 1 (Conceptual Engineering) in the amount of \$4,000,000 with URS Corporation; and

WHEREAS, On July 26, 2005, per Resolution No. 05-0120, this Commission awarded Amendment No. 1 to Agreement No. CS-716 to continue URS Corporation professional engineering services for Phase 2 (65% and 95% Detailed Design) and Phase 3 (100% Final Design) of the Calaveras Dam Replacement Project, increasing the original agreement amount by \$8,000,000 to \$12,000,000; and

WHEREAS, Amendment No. 2 is being requested to increase the Agreement amount by \$1,900,000 to \$13,900,000, in order to provide additional engineering services for the final design as well as environmental support services to support the completion of CEQA and NEPA documents and obtain required environmental permits; and

WHEREAS, HRC established subconsulting goals of 13% MBE and 8% WBE participation, and URS proposed to meet this goal with MBE/WBE participation of 15% and 9%, respectively, as part of the original Agreement; and

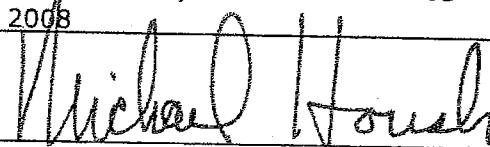
WHEREAS, the actual MBE/WBE participation as of February 2008 is 22% due to several scope of work changes that occurred during the course of the contract and significantly impacted URS's ability to meet the goal; and

WHEREAS, the HRC Contract Compliance Officer assigned to the SFPUC has approved Amendment No. 2 based on URS's commitment to notify HRC of any proposed subconsultant additions and/or substitutions throughout the term of Amendment No. 2; and

WHEREAS, Funds for this agreement are available from Project CUW37401 – Calaveras Dam Replacement; now, therefore, be it

RESOLVED, That this Commission hereby approves Amendment No. 2 to Water Enterprise Water System Improvement Program-funded Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project, with URS Corporation to provide additional final design, environmental and permitting support services; and authorizes the General Manager of the San Francisco Public Utilities Commission to execute this Amendment, increasing the Agreement by \$1,900,000 for a total Agreement amount of \$13,900,000 upon approval of the Board of Supervisors for this amendment to Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement, with URS Corporation.

*I hereby certify that the foregoing resolution was adopted by the Public Utilities Commission at its meeting of* March 11, 2008

  
Michael D. Hough  
Secretary, Public Utilities Commission

## PUBLIC UTILITIES COMMISSION

City and County of San Francisco

RESOLUTION NO.

**09-0079**

WHEREAS, On June 10, 2003, per Resolution No. 03-0117, this Commission awarded Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project, and authorized the General Manager of the San Francisco Public Utilities Commission (SFPUC) to negotiate and execute a professional services agreement, in the amount of \$4,000,000, and with a term of four years, concluding on September 10, 2007, with URS Corporation; and

WHEREAS, On July 26, 2005, per Resolution No. 05-0120, this Commission awarded Amendment No. 1 to Agreement No. CS-716 to continue URS Corporation professional engineering services for detailed and final design of the Calaveras Dam Replacement Project, increasing the original agreement amount by \$8,000,000 to \$12,000,000 and extending the agreement term by two years to September 10, 2009; and

WHEREAS, On March 11, 2008, per Resolution No. 08-0041, this Commission awarded Amendment No. 2 to Agreement No. CS-716 to continue URS Corporation professional engineering services to provide additional engineering services for the final design as well as environmental support services to facilitate the completion of California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) documents and obtain required environmental permits, increasing the agreement amount by \$1,900,000 to \$13,900,000; and

WHEREAS, Amendment No. 3 is being requested to increase the agreement amount by \$10,100,000 to \$24,000,000 and extend the agreement term by seven years to September 10, 2016, in order to provide additional design, environmental and permitting services needed prior to construction to address the naturally occurring asbestos (NOA) and fisheries issues, provide designs to mitigate impacts associated with the Calaveras Dam Replacement Project to be implemented under the Habitat Reserve Program, provide supplemental dam safety engineering analyses requested by the California Division of Safety of Dams (DSOD), and ongoing permitting support; and to provide engineering support during construction, start-up, and commissioning of the project; and

WHEREAS, Human Rights Commission (HRC) established sub consulting goals of 13% Minority Business Enterprise (MBE) and 8% Women Business Enterprise (WBE) participation, and URS Corporation proposed to meet this goal with MBE/WBE participation of 15% and 9%, respectively, as part of the original Agreement; and

WHEREAS, The actual MBE/WBE participation as of April 2009 is approximately 21% due to several scope of work changes that occurred during the course of the contract and significantly impacted URS Corporation's ability to meet the goal; and

WHEREAS, URS Corporation, SFPUC, and HRC have agreed upon a 18% subconsulting goal for Amendment 3, and a project total MBE/WBE subconsulting participation of 19% by the expiration of this agreement; and

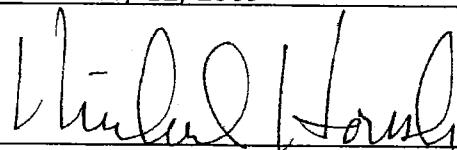
WHEREAS, The services requested under Amendment 3 are within the framework of the five phases of work originally planned to be executed under the CS-716 contract agreement, including: Phase 1 – conceptual engineering; Phase 2 – 65% and 95% detailed design documents; Phase 3 – 100%

final design documents; Phase 4 – engineering support services during construction; and Phase 5 – startup and commissioning; and

WHEREAS, Funds for this agreement are available from Project CUW37401 – Calaveras Dam Replacement; now, therefore, be it

RESOLVED, That this Commission hereby approves Amendment No. 3 to Water Enterprise Water System Improvement Program-funded Agreement No. CS-716, Calaveras Dam Replacement, with URS Corporation to provide additional design, environmental and permitting support services needed prior to construction; and to provide engineering support during construction, start-up, and commissioning of the project, and authorizes the General Manager of the San Francisco Public Utilities Commission to execute Amendment No. 3, increasing the agreement by \$10,100,000, for a total agreement amount of \$24,000,000, and with a time extension of seven years, for a total agreement duration of thirteen years, subject to Board of Supervisors approval pursuant to Charter Section 9.118.

*I hereby certify that the foregoing resolution was adopted by the Public Utilities Commission at its meeting of* May 12, 2009



*Secretary, Public Utilities Commission*

## **PUBLIC UTILITIES COMMISSION**

City and County of San Francisco

RESOLUTION NO. 14-0087

WHEREAS, On June 10, 2003, per Resolution No. 03-0117, this Commission awarded Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project, and authorized the General Manager of the San Francisco Public Utilities Commission (SFPUC) to negotiate and execute a professional services agreement, in the amount of \$4,000,000, and with a term of four (4) years, concluding on September 10, 2007, with URS Corporation; and

WHEREAS, On July 26, 2005, per Resolution No. 05-0120, this Commission awarded Amendment No. 1 to Agreement No. CS-716 to continue URS Corporation professional engineering services for detailed and final design of the Calaveras Dam Replacement Project, increasing the original agreement amount by \$8,000,000 to \$12,000,000 and extending the agreement term by two (2) years to September 10, 2009; and

WHEREAS, On March 11, 2008, per Resolution No. 08-0041, this Commission awarded Amendment No. 2 to Agreement No. CS-716 to continue URS Corporation professional engineering services to provide additional engineering services for the final design as well as environmental support services to facilitate the completion of California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) documents and obtain required environmental permits, increasing the agreement amount by \$1,900,000 to \$13,900,000; and

WHEREAS, On May 12, 2009, per Resolution No. 09-0079, this Commission awarded Amendment No. 3 to Agreement No. CS-716 to continue URS Corporation professional engineering services to provide additional design, environmental and permitting services needed prior to construction to address the naturally occurring asbestos (NOA) and fisheries issues, provide designs to mitigate impacts associated with the Calaveras Dam Replacement Project to be implemented under the Habitat Reserve Program, provide supplemental dam safety engineering analyses requested by the California Division of Safety of Dams (DSOD), and ongoing permitting support; and to provide engineering support during construction, start-up, and commissioning of the project, increasing the agreement amount by \$10,100,000 to \$24,000,000 and extending the agreement term by seven (7) years to September 10, 2016; and

WHEREAS, Amendment No. 4 is being requested to increase the agreement amount by \$4,500,000 to \$28,500,000 and extend the agreement term by two (2) years, nine (9) months, in order to provide additional engineering support during construction, start-up, and commissioning of the project; and

WHEREAS, Contract Monitoring Division (CMD) established subconsulting goals of 13% Minority Business Enterprise (MBE) and 8% Women Business Enterprise (WBE) participation, and URS Corporation proposed to meet this goal with MBE/WBE participation of 15% and 9%, respectively, as part of the original Agreement; and

WHEREAS, The actual MBE/WBE participation as of April 2014 is approximately 14.4% due to several significant scope of work changes that occurred during the course of the contract and significantly impacted URS Corporation's ability to meet the goal; and

WHEREAS, Based on the cumulative contract dollar amount to date and projected amounts in Amendment No. 4, CMD has approved this amendment resulting in a projected MBE/WBE subconsulting participation of 12.1% by the expiration of this agreement; and

WHEREAS, Funds for this agreement are available from Project CUW37401 – Calaveras Dam Replacement; now, therefore, be it

RESOLVED, That this Commission hereby approves Amendment No. 4 to Water Enterprise, Water System Improvement Program-funded Agreement No. CS-716, Calaveras Dam Replacement, with URS Corporation to provide engineering support during construction, start-up, and commissioning of the project, and authorizes the General Manager of the San Francisco Public Utilities Commission to negotiate and execute Amendment No. 4, increasing the agreement up to \$4,500,000, for a total agreement amount of \$28,500,000, and with a time extension up to two (2) years, nine (9) months, for a total agreement duration of fifteen (15) years, nine (9) months, subject to Board of Supervisors approval pursuant to Charter Section 9.118.

*I hereby certify that the foregoing resolution was adopted by the Public Utilities Commission at its meeting of May 27, 2014.*

*Alonna Hood*

*Secretary, Public Utilities Commission*



W374.01.PL.1D.2.F  
SAN FRANCISCO PUBLIC UTILITIES COMMISSION

1155 Market St., 7th Floor, San Francisco, California 94103-1522  
Tel. (415) 554-0702 • Fax (415) 554-3225 • [www.ci.sf.ca.us](http://www.ci.sf.ca.us)  
MICHAEL E. QUAN - MANAGER



September 22, 2003

file : W374.01.PL.1D.2.F  
Contract

WILLIE L. BROWN, JR.  
MAYOR

E. DENNIS NORMANDY  
PRESIDENT  
ASHOK KUMAR BHATT  
VICE PRESIDENT  
ANN MOLLER CAEN  
JEFFREY A. CHEN  
ROBERT J. COSTELLO

PATRICIA E. MARTEL  
GENERAL MANAGER

Mr. Guilaine Roussel  
Senior Vice President  
URS Corporation  
221 Main Street, #600  
San Francisco, CA 94105

RE: 1) Notice of Contract Award—Conceptual Engineering Report for Calaveras Dam (CS-716)  
2) Transmittal—Executed Agreement between the City and County of San Francisco Public Utilities Commission and URS Corporation.

Dear Mr. Roussel :

This letter provides *notification of contract award* for the following contracted work:

DOCUMENT REFERENCE No.: BPUC04000193—*Work may not be charged against this blanket purchase order number.*

SCOPE:

The consultant shall develop and implement a plan for comprehensive geotechnical investigation, developing and evaluating project alternatives, investigating potential alternative dam sites, developing conceptual level designs, cost estimates, and schedules, recommending a preferred alternative, providing technical support during the environmental review process, and other services described in the RFP dated January 23, 2003.

EFFECTIVE DATE:

September 11, 2003 through September 10, 2007

CONTRACT TO DATE:

Total value of contract not to exceed \$4,000,000.

The above-referenced document number is assigned to the blanket purchase order only. Invoices must be charged against specific task orders only after a *Notice to Proceed* has been issued.

Should you have any questions, please do not hesitate to contact me at (415) 554-3148.

Sincerely,

*Linda M. Denari*

Linda M. Denari

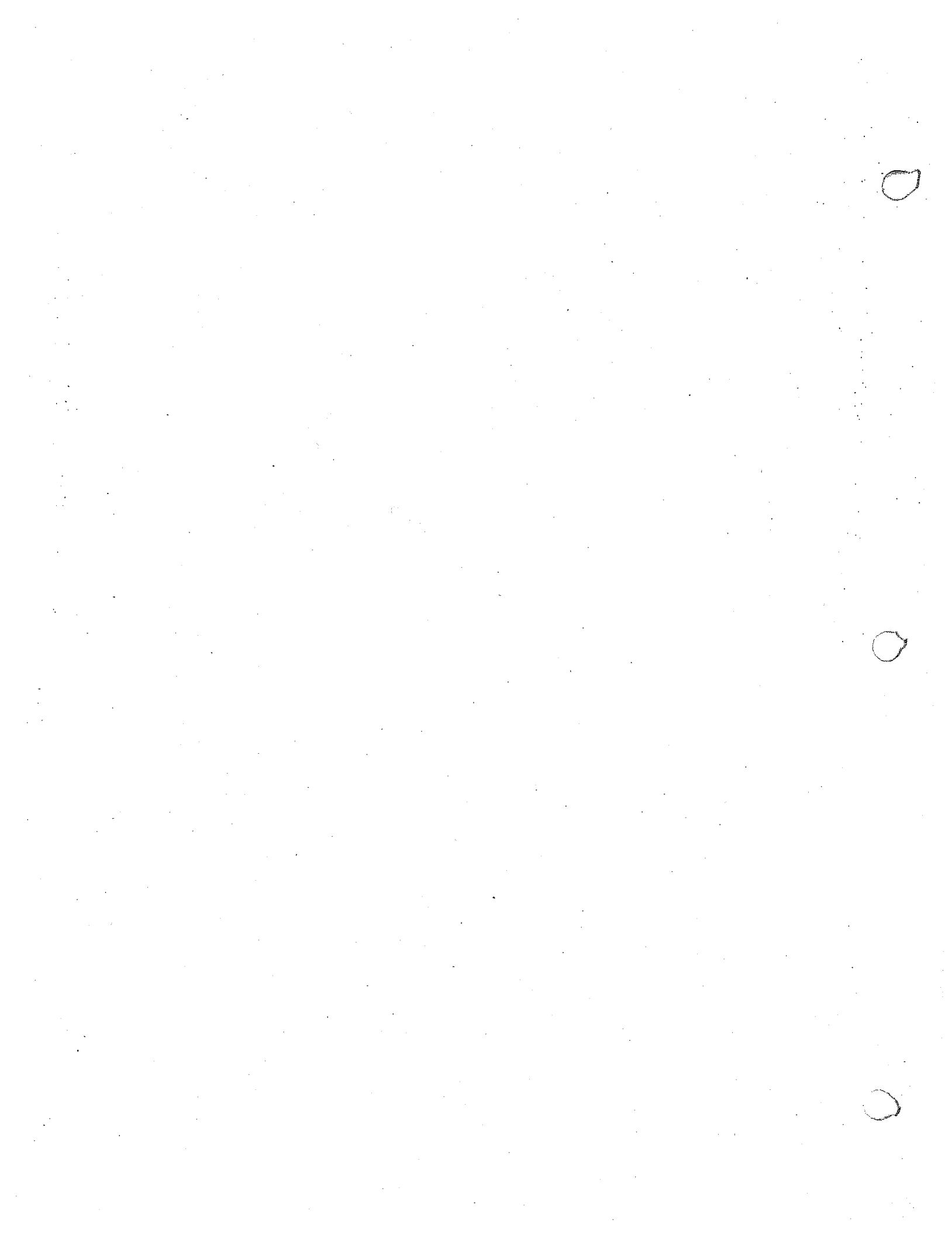
Contract Administration

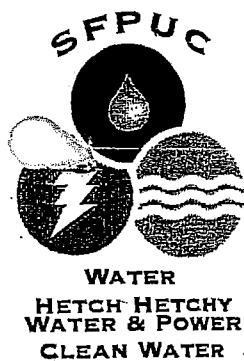
Enclosure: Executed Agreement

cc: Barbara Palacios

File/tlt-CS-716

**COPY**





SAN FRANCISCO PUBLIC UTILITIES COMMISSION



**AGREEMENT BETWEEN**

**THE CITY AND COUNTY OF SAN FRANCISCO**

**AND**

**URS CORPORATION**

**TO FURNISH  
ENGINEERING DESIGN SERVICES**

**FOR THE**

**CONCEPTUAL ENGINEERING FOR CALAVERAS DAM, CS-716**

**SEPTEMBER 2003**

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## ATTACHMENTS

1. Calculation of Charges
2. Services to be Provided
3. Projected Task Budget
4. Preliminary Project Schedule

providing technical support during the environmental review process, and other services described in the Request for Proposals (RFP) dated January 23, 2003 which are incorporated herein by reference.

This Agreement initiates the Conceptual Engineering phase of repairing or replacing Calaveras Dam. The Consultant will produce Conceptual Engineering documents with the project details needed for the SFPUC to make an informed selection of the preferred alternative for design and construction, and to advance the Project through the environmental review and permitting process required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The Consultant will produce a preferred dam design alternative that is acceptable to the Division of Safety of Dams (DSOD) that can then be advanced with certainty through the permitting process.

#### **1.2. AGREEMENT DATE AND TERM OF AGREEMENT**

The effective date of this Agreement is the date of its certification by the Controller. The term of this agreement shall be **forty-eight (48) months** from the effective date. The Conceptual Engineering shall be completed within the first **eighteen (18) months** from the effective date; during the remaining term of the agreement, the Consultant shall provide engineering and technical support for the completion of the environmental review process (CEQA/NEPA).

#### **1.3. SCHEDULE OF SERVICES**

Time is of the essence for this Agreement in respect to the performance of all provisions of this Agreement and in respect to all Project schedules, in which a definite time for performance by the Consultant and the Consultant's Consultants is specified; provided, however, that the foregoing shall not be construed to limit or deprive a party of the benefits of any grace period provided for in this Agreement. The parties acknowledge that delay is one of the greatest causes of waste and increased expense in any project. The Consultant shall act diligently in anticipating and performing their required tasks in a manner so as to not unreasonably delay the prosecution of any services or work with respect to the Project.

#### **2. DEFINITIONS**

For all purposes of this Agreement, the following definitions shall apply:

## **2.1. ADDITIONAL SERVICES**

shall mean the services that the City, in writing, authorizes the Consultant to perform which are in addition to the services included within Basic Services. The written authorization to perform Additional Services must include a statement describing the services as Additional Services. In the event the City believes certain services to be part of Basic Services which the Consultant contends are Additional Services, the Consultant shall not perform such services until the Consultant provides the City with written notice of the contention and the reasons thereof and the City thereafter instructs the Consultant in writing to proceed, in which case the issue with respect to whether the services are Additional Services shall be determined pursuant to Article 23 below.

## **2.2. APPROPRIATE AUTHORITIES**

shall mean any private, local, municipal, county, state, regional or federal authority or agency having jurisdiction of any kind over the Project. This term is intended to include those agencies and authorities that may require information or the filing of plans, specifications, etc., in connection with the Project on either a voluntary or non-voluntary basis.

## **2.3. CONSULTANT/CONTRACTOR**

shall mean URS Corporation.

## **2.4. AUTHORIZATION**

shall be the Term Purchase Agreement, Contract Order or Purchase Order of the City and County of San Francisco properly executed by the Project Manager, and the SFPUC General Manager and certified by the Controller for the specific funding of this Agreement or any modification thereof and other written approvals by the City.

## **2.5. BASIC SERVICES**

shall mean the services described in Article 3 below that the Consultant is required to provide for the Fee and Reimbursable Expense/Other Direct Costs provision set forth in Article 4 below.

## **2.6. CITY**

shall mean the City and County of San Francisco, a municipal corporation.

**2.7. CONCEPTUAL ENGINEERING/ REPORT (CER)**

shall mean the technical work or tasks that produce data or information required to lead to the development of conceptual level designs for a project, with sufficient level of detail for the selection of a preferred alternative, and sufficient detail to advance the project through environmental and other permitting processes. The CER is the report that documents the findings and recommendations of work completed as well as the selection of the preferred project alternative.

**2.8. CONSULTANT PROJECT MANAGER**

shall mean one prime individual, empowered by the Consultant and representing the entire consultant team, whose responsibility is to direct, coordinate and control the entire team in its efforts successfully to prepare and complete the Basic Services described herein, regardless of any other key persons provided.

**2.9. CONSULTANT PRINCIPAL-IN-CHARGE**

shall mean the individual empowered by the Consultant to ensure that the Consultant team has the resources and support it needs to carry out the work to the City's full satisfaction; who is responsible for monitoring the performance of the Consultant team; and who commits corporate resources and legally obligates the corporation.

**2.10. CONTROLLER**

shall mean the Controller of the City and County of San Francisco.

**2.11. CITY CONSULTANTS**

are consultants under direct contract with the City such as geotechnical and civil engineers. Communication by the Consultant with City Consultants shall be through the Project Manager only, unless authorized by the City to do otherwise. When authorized by the City to make such direct communication, the City shall be copied promptly on all such communication. If such authorized communication is oral, then the Consultant shall provide the City with written confirmation of the same.

**2.12. CITY STAFF TEAM**

Shall mean employees of the City assigned to work on this project by the City's Project Manager.

**2.13. MAYOR**

shall mean the Mayor of the City and County of San Francisco or his designee or his authorized representative.

**2.14. PROJECT MANAGER (PM)**

shall mean the City personnel designated by the Mayor or the SFPUC General Manager to represent the City in all matters pertaining to the Project.

**2.15. REQUEST FOR PROPOSAL (RFP)**

shall mean the City's Request for Proposals for professional conceptual engineering design services for this Project and the Consultant's Proposal to provide such services. All requirements of the RFP and the representations made in the Consultant's Proposal that are not in conflict with provisions of this contract are hereby incorporated by reference and made an integral part of the contract as though fully set forth herein. With respect to any conflict or ambiguity between this Agreement and the RFP, this Agreement shall control except where the RFP refers to services not otherwise mentioned in this Agreement, in which case and to such extent the RFP shall control.

**2.16. PUC GENERAL MANAGER**

shall mean the San Francisco Public Utilities General Manager or her authorized representative.

**2.17. SUBCONTRACTOR/SUBCONSULTANT**

shall mean those firms or individuals contracted by the Consultant to perform specified services related to this Agreement.

**2.18. SFPUC**

shall mean the San Francisco Public Utilities Commission.

**3. SERVICES CONSULTANT AGREES TO PERFORM**

**3.1. BASIC SERVICES**

The Consultant shall provide as its Basic Services all conceptual engineering design and related technical services as required to carry out the Project described in Article 1. Portions of Basic Services shall not become part of the Contract until authorized

by the City as described more fully in Article 3.2 - Task Orders. Basic Services shall include, without limitation, the following:

- a. Confirm that the scope of work as described in Attachment 2 – Services to be Provided in its response to the RFP is complete.
- b. Provide qualified personnel to perform work as described in the tasks of Attachment 2 – Services to be Provided, which is hereby incorporated by reference during the agreement period. The City reserves the right to change the Approach proposed for the Tasks presented in Attachment 2 – Services to be Provided, in response to new or differing information that is uncovered or developed over the course of the Project.
- c. Ensure timely delivery of quality services within proposed budget. The budget to complete each task is included in Attachment 3 – Projected Task Budget, and the corresponding project schedule is included in Attachment 4 – Preliminary Project Schedule.
- d. Contract for or employ, at Consultant's expense within the Basic Services fee, the normal consulting services as may be necessary or required. The Consultant shall submit for approval by the City and the Human Rights Commission any changes in the subconsultants listed in Attachment 1 – Calculation of Charges.
- e. Designate Steven R. Ritchie as Principle-in-Charge, Noel C. Wong as Project Manager, whose roles shall be as defined in the RFP submittal produced by URS. The representatives of the Consultant who shall, so long as their respective performances continue to be acceptable to the City, remain in charge of the Consultant's services for the Project. Any changes in assignment or replacement of the Consultant's Project Representative or of any other personnel of Consultant or, of any of the Consultant's Consultants listed in Attachment 1 – Calculation of Charges, whether or not as a result of death, disability, or otherwise, may be done only with the prior written consent of the City, which consent may be given or withheld in the sole, subjective (but not arbitrary) discretion of the City.
- f. Meet regularly with the City's Project Manager and Review Team at reasonable frequencies to be determined by the Project Manager so as to keep the design on the desired track and promptly resolve any questions and

issues that may arise. City's Review Team includes the City's consultants and City staff assigned to work on this project as described in Article 3.1(b) of this agreement.

- g. Comply with requirements of codes, regulations, and current written interpretation thereof published and in effect during the Consultant's services. In the event of changes in such codes, regulations or interpretations during the course of the Project that were not and could not have been anticipated by the Consultant and which result in a substantive change to the conceptual engineering designs, the Consultant shall not be held responsible for the resulting additional costs, fees or time, and shall be entitled to reasonable additional compensation for the time and expense of responding to such changes.
- h. Assist in establishing a means of electronic communication and fully participate in the City's effort to develop an electronic file for this project of all correspondence with related attachments.
- i. Submit invoices with proper supporting documentation in accordance with the terms of this Agreement.
- j. Attend meetings with the Project Manager, City and State of California agencies, commissions and committees, and other Appropriate Authorities as described in this Agreement in connection with the Project. Such meetings shall be held at reasonable times and frequencies and with proper notice. It is anticipated that the following meetings and/or presentations to the following groups will be required:
  - (1) Project Manager Meetings: Weekly, or as often as necessary, through the completion of the Final Draft CER.
  - (2) Board of Supervisors and Committees of the Board of Supervisors. Not less than (2), but no more than (4). The purpose of these meetings will be to assist the Project Manager to present design concepts and answer questions.
  - (3) SFPUC. Not less than (2), but no more than (4). The purpose of these meetings will be to assist the Project Manager to present design concepts and answer questions.
  - (4) Others: To be determined.

- (5) Partnering: If implemented at the discretion of the City, meet as reasonably required by the partnering program developed by the City through the conceptual design phase.
- (6) Community or Environmental Groups: anticipate not less than three (3), no more than six (6) presentations to other community or environmental protection groups.
- (7) State and County Authorities, and Park Districts, including, but not limited to, the Alameda and Santa Clara Counties, East Bay Regional Park District, and the State Fire Marshall: not less than three (3) meetings, no more than five (5) meetings.
- (8) Division of Safety of Dams: As necessary.

### **3.2. TASK ORDERS**

Performance of the professional engineering and related technical services will be executed according to a task order process. Attachment 2 – Service to be Provided describes the proposed tasks to complete the Project. A final task order scope proposal will be negotiated between the SFPUC Project Manager and the Consultant and then submitted to the Program Management Bureau (PMB) Manager for approval. Labor rates, overhead rates and certain other unit costs or prices, including profit will be accordance with Attachment 1 – Calculation of Charges. The estimated budget for each task shall be as specified in Attachment 3 – Projected Task Budget.

Contract Administration will forward all task order requests and proposals to other City Departments to determine whether City staff can provide any portion of the services. Then, the task order request will be processed for Controller certification of funding, after which a *Notice to Proceed* will be issued. The Consultant is hereby notified that work cannot commence until the Consultant receives a written Notice to Proceed in accordance with Chapter 6 of the San Francisco Administrative Code. Any work performed without a Notice to Proceed will be at the Consultant's own commercial risk. The calculations of costs and methods of compensation for all task orders under this contract shall be in accordance with the billing rates set forth in Attachment 1 – Calculation of Charges.

### **3.3. STANDARD OF PERFORMANCE**

The Consultant's obligation is to perform all of its services in accordance with generally accepted standards of professional practice in the design and construction administration of projects of similar size, scope, and complexity.

### **3.4. ADDITIONAL GEOTECHNICAL SERVICES**

In the event that dam permitting agencies require significant addition of scope to the geotechnical field investigation program proposed in Attachment 2 – Services to be Provided, and the proposed changes impact the budget for the task, the Consultant will submit the additional scope and budget in writing to the SFPUC Project Manager for approval prior to beginning work. Payment for these Additional Geotechnical Services shall be in accordance with Article 4.1.1(5).

### **3.5. REPORTS**

The Contractor shall submit written reports as requested by the SFPUC Project Manager. Reports shall be thorough, competent, and professional. Draft reports submitted for review shall be analyzed for technical content clarity, language or technical content shall be subject to resubmission as referred to in Article 4.1.4 – Payment does not Imply Acceptance of Work. The SFPUC Project Manager shall determine the format for the content of such reports. Submission of all reports shall be in accordance with the schedule set forth in individual task orders. The reports, including any copies, shall be submitted on recycled paper and printed on double-sided pages to the maximum extent possible.

## **4. COMPENSATION**

In no event shall the amount of this Agreement exceed **\$4,000,000 (four million dollars)**. No charge shall be incurred under this Agreement nor shall any payments become due to the Consultant until reports, documents, or services as required under this Agreement are received from the Consultant and approved by the City as being in accordance with this Agreement, or until the City agrees that services covered under the payment request have been satisfactorily performed.

### **4.1. CALCULATION OF COMPENSATION**

The City shall compensate the Consultant as follows:

#### **4.1.1. PAYMENT SCHEDULE**

- (1) The Consultant will submit monthly invoices for Basic Services with fees to be charged on an hourly basis within the course of each task. Fees paid will be based on the actual hours charged up to the percentage of work completed in the task, subject to the estimated budget per task as noted in Attachment 3 – Projected Task Budget. Costs remaining unspent in each task and/or Task Order may be reallocated to other tasks and/or Task Orders at the discretion of the SFPUC Project Manager.
- (2) All invoices submitted to the City for services performed under this Agreement shall describe the work completed for each task and subtask, identify the percentage of completion for the tasks, cost expended for each task, estimated cost to complete the task, total task budget, and shall be in accordance Invoice Requirements, as defined in Attachment 1 – Calculation of Charges.
- (3) For both lump sum and hourly work, the Consultant shall furnish copies of invoices submitted by sub-consultants to substantiate payment, and the invoices shall provide the same type of information requested above, together with the percentage and cost of work completed by MBE/WBE sub-consultants.
- (4) The Consultant shall receive compensation only for those Additional Services authorized in writing by the SFPUC Project Manager in accordance with the rate schedule found in Attachment 1- Calculation of Charges, which includes subconsultant fee schedules.
- (5) The Consultant shall receive compensation for Additional Geotechnical Services described in Article 3.3 and authorized by the SFPUC Project Manager at a rate equivalent to direct labor rates plus overhead, and Other Direct Costs associated with the work, in accordance with the rate schedule in Attachment 1 – Calculation of Charges; direct fee or profit will not be paid for these services.
- (6) The hourly rates on Attachment 1 – Calculation of Charges, shall be the best discount given to any client of the Consultant under similar circumstances.
- (7) Allowable mark-ups for Professional Consultants shall be 1.05 times the subconsultants' bill to the Consultant; reimbursable expenses, i.e., Other Direct

Costs, as defined in Attachment 1 – Calculation of Charges, will be reimbursed at actual cost – no mark up shall be included.

(8) Alternatively, a lump or guaranteed maximum fee for Additional Services may be authorized by the City prior to commencement of work on these services.

(9) In no event shall the City be liable for interest or late charges for any late payments.

(10) No deductions shall be made from the Consultant's compensation on account of penalty, liquidated damages or other sums withheld from payments to the Contractor or on account of the cost of changes in the work other than those for which the Consultant is responsible.

(11) Payments of Reimbursable Expenses/Other Direct Costs, as described in Attachment 1 – Calculation of Charges, shall be made monthly upon presentation by the Consultant of an itemized statement of expenses incurred with a detailed cost breakout.

(12) The Other Direct Costs allowances set forth in Attachment 1 provide only for costs which are defined as part of Basic or Additional Services Fees and are not subject to the MBE/WBE participation requirements of Chapter 12D of the San Francisco Administrative Code.

(13) Subject to the provisions of Article 7.3 below, if the Project is suspended for more than one hundred twenty (120) days or abandoned in whole or in part, the Consultant shall be compensated for services performed prior to receipt of written notice from the City of such suspension or abandonment. If the Project is resumed after being suspended for more than three months, the Consultant's compensation shall be subject to re-negotiation. Modification of the Consultant's compensation shall be based on increased costs incurred due to the project delay, but shall exclude costs (including labor) for work not performed for the project.

#### **4.1.2. WITHHOLDING OF PAYMENT**

The City may reasonably withhold payment to the Consultant pending resolution, in an amount equal to questioned, disputed or disapproved amounts, or for work not completed or delivered as required by this Agreement or for amounts incurred by the City in connection with the Consultant's negligent errors or omissions. Payments for other amounts due on the same or other invoice shall not be unreasonably withheld

or delayed. The City shall endeavor to issue payments of undisputed amounts to the Consultant within thirty (30) days following the receipt of invoices.

#### **4.1.3. DISALLOWANCE**

In the event the Consultant claims or receives payment from the City for a service, reimbursement for which is later disallowed by the City, the Consultant shall promptly refund the disallowed amount to the City upon the City's request. At its option, the City may offset the amount disallowed from any payment due or to become due to the Consultant.

#### **4.1.4. PAYMENT DOES NOT IMPLY ACCEPTANCE OF WORK**

The issuance of any progress payment by the City, or the receipt thereof by the Consultant, shall in no way lessen the liability of the Consultant to correct unsatisfactory work although the unsatisfactory nature of such work may or may not have been apparent or detected at the time such payment was made.

#### **4.1.5. LIQUIDATED DAMAGES**

Left blank by agreement of the parties.

### **5. CITY'S RESPONSIBILITIES**

The administration and management of this agreement is a team effort among SFPUC staff and the Consultant. The primary City responsibilities in administration and management of this agreement are:

1. Designate a Project Manager who shall coordinate his/her duties with the Consultant as provided herein.
2. Ensure that the Consultant has adequate quality control process, and review Consultant deliverables for conformance with the technical requirements of the contract and task orders.
3. Maintaining liaison and direct communications with the Consultant and promptly resolve any questions and issues that may arise.
4. Compensating the Consultant in a timely manner for satisfactorily completed work.
5. Providing required information and materials.
6. Closing out the contract in a timely manner.

## 6. DOCUMENTS

### 6.1. OWNERSHIP OF DOCUMENTS

- a. All Construction Documents, including Drawing Sets, CADD files and other computer files prepared by the Consultant shall be made and remain the property of the City; provided, however, that the Consultant shall be entitled to one reproducible copy thereof and CADD files, made at the Consultant's expense. As part of Basic Services, Consultant shall provide the City with one licensed copy of software that will allow the City to view the electronic CADD files if Consultant supplies files in a software format that is not used by the City. The Consultant shall also supply files in both read-only and read-write format. Additionally, specifications for any computer hardware required to use the software and files is to be provided by the Consultant.
- b. All presentation drawings and models shall be and remain the property of the City.
- c. Should the City or any other person, firm or legal entity, without the Consultant's participation, use, re-use, or modify the Consultant's drawings, specifications or other documents prepared under this Agreement, the City agrees to notify the Consultant of said intended use. The Consultant shall not be responsible for any loss, costs or expenses incurred by any party arising out of such use, re-use or modification of the Consultant's drawings, specifications, and other documents except as provided under Article 7.3.d.
- d. The City acknowledges that in using magnetic media data may be lost in translation from one format to another, or that electronic data may be altered, whether inadvertently or otherwise, and that there is a risk that errors or omissions may appear in any subsequent output as a result of software/hardware failure.

## 7. TERMINATION OF AGREEMENT

### 7.1. BY EITHER PARTY

Either party may terminate this Agreement, in whole or in part, in writing, if the other party substantially fails to fulfill its obligations under this Agreement through no fault of the terminating party. However, no such termination may be effected unless the

other party is given: (1) not less than ten (10) calendar days written notice (delivery by certified mail, return receipt requested) of its intent to terminate; and (2) an opportunity for consultation and to rectify failures of obligations within thirty (30) days of consultation with the terminating party before termination becomes effective.

## **7.2. BY CITY**

The City may terminate this Agreement, in whole or in part, in writing, for its convenience if the termination is for good cause (such as for legal or financial reasons, major changes in the work or program requirements) and the Consultant is given: (1) thirty (30) calendar days written notice (delivered by certified mail, return receipt requested) of the City's intent to terminate; and (2) an opportunity for consultation with the City before termination becomes effective.

## **7.3. CONDITIONS OF TERMINATION**

- a. If the City terminates this Agreement for default or for convenience, an equitable adjustment in the price provided for in this Agreement shall be made, but: (1) no amount shall be allowed for anticipated profit on unperformed services or other work (except as provided in Article 7.3.a. above); and (2) in the event of default by the Consultant, any payment due to the Consultant at the time of termination may be adjusted to the extent of any additional costs the City incurs because of the default. The equitable adjustment in price shall include a reasonable profit for services or other work performed. The equitable adjustment for any termination shall provide for payment to the Consultant for services rendered and expenses incurred before the termination in addition to termination settlement costs the Consultant reasonably incurs relating to commitments which had become firm before the termination.
- b. Upon receipt of a termination action under Articles 7.1. or 7.2., the Consultant shall (1) promptly discontinue all services affected (unless the notice directs otherwise); and (2) deliver or otherwise make available to the City all data, drawings, specifications, reports, estimates, summaries, and such other information and materials as the Consultant and its consultants may have accumulated in performing this Agreement, whether completed or in progress.

- c. Upon termination under Articles 7.1. or 7.2., the City may take over the work and prosecute the same to completion by agreement with another party, with City forces or otherwise. The City maybe free to engage another consultant or to utilize such plans, drawings, specifications and other work prepared by the Consultant for the Project. Such Consultant shall expressly assume the responsibility of "Consultant of Record". The Consultant of Record shall be responsible for negligent errors and omissions on such plans, drawings, specifications and other work.
- d. If, after termination for failure of the Consultant to fulfill contractual obligations, it is determined that the Consultant had not so failed, the termination shall be deemed to have been effected for the convenience of the City. In such an event, an adjustment of the fee shall be made pursuant to Article 7.3.b.
- e. If the City fails to make payment when due to the Consultant for services and expenses which both parties agree to have been properly rendered, the Consultant may, upon 60 days written notice to the City, suspend performance of services under this Agreement until payment is received. In the event of said suspension, the Consultant shall have no liability for delay or damage caused to the City as a result of the suspension.

## **8. SUCCESSORS AND ASSIGNS**

- 1. This Agreement shall be binding upon the City and its respective successors and assigns.
- 2. Neither the performance of this Agreement nor any part thereof, nor any funds due or to become due thereunder may be assigned by the Consultant without the prior written consent and approval of the City.

## **9. NOTICES**

Any notice may be served effectively upon the City by delivering it in writing or by telegram, or by depositing it in a United States mail deposit box with postage thereon fully prepaid and addressed to the City at the address set forth below; and in the case of the Consultant, may be served effectively upon the Consultant by delivering it in writing or by telegram, or by

depositing it in a United States mail deposit box with postage thereon fully prepaid and addressed to the Consultant at the address as set forth below. In addition, any notice may be served effectively by delivering or mailing it, as in this paragraph provided, addressed to any other place or places at the City or the Consultant, by written notice served upon the other, from time to time may designate.

<u>CITY'S</u>	<u>ADDRESS:</u>	<u>CONSULTANT'S ADDRESS:</u>
Barbara Palacios SFPUC 1155 Market Street, 6 <sup>th</sup> Floor San Francisco, CA 94103		Noel Wong URS Corporation 500 12 <sup>th</sup> Street, Suite 200 Oakland, CA 94607-4014

#### **10. INSURANCE**

1. Without in any way limiting Consultant's liability pursuant to the "Indemnification" section of this Agreement, Consultant must maintain in force, during the full term of the Agreement, insurance in the following amounts and coverages:
  - a. Workers' Compensation, in statutory amounts, with Employers' Liability Limits not less than \$1,000,000 each accident; and
  - b. Commercial General Liability Insurance with limits not less than \$5,000,000 each occurrence Combined Single Limit for Bodily Injury and Property Damage, including Contractual Liability, Personal Injury, Products and Completed Operations; and
  - c. Commercial Automobile Liability Insurance with limits not less than \$5,000,000 each occurrence Combined Single Limit for Bodily Injury and Property Damage, including Owned, Non-Owned and Hired auto coverage, as applicable.
  - d. The City has arranged with Aon Risk Services, Inc. of Northern California Insurance Services, (the "OCIP Administrator") for certain of its projects including this Project to be insured under a Project Professional Liability Insurance Policy ("Project Professional Policy"). The Project Professional Policy covers Consultant and its subconsultants as per the named insured provisions of the Project Professional Policy. Any type of professional insurance coverage or limits of liability in addition to the Project Professional Policy that Consultant or any subconsultant desires for its or their own protection, or that is required by applicable laws or regulations, shall be Consultant's or its subconsultant's sole responsibility and expense and shall

not be billed to the City. Consultant understands and agrees that in the event both the Project Professional Policy and Consultant's practice professional coverage is applicable to a claim, the Project Professional Policy shall be primary.

(1) Consultant shall be responsible, at its own expense, for all deductibles or self-insured retentions set forth in the Project Professional Policy to the extent losses payable under the Project Professional Policy are attributable to Consultant's services, acts or omissions, or the acts or omissions of any of Consultant's subconsultants, or any other entity or party for whom Consultant may be responsible. The City, in its sole discretion, has the right to determine the Consultant or other Project consultant's share of the deductible or self-insured retention for purposes of allocating the deductible or self-insured retention to the responsible party under the Project Professional Policy. Consultant's maximum deductible or self-insured retention under the Project Professional Policy shall be based on the amount of fees approved by the City to be payable to Consultant under the Agreement, as determined at the time a claim is made, as follows:

\$ 10,000 per claim for contracts with max. compensation from \$15,000 - \$499,999  
\$ 25,000 per claim for contracts with max. compensation from \$500,000 - \$999,999  
\$ 50,000 per claim for contracts with max. compensation from \$1,000,000 - \$4,999,999  
\$ 75,000 per claim for contracts with max. compensation from \$5,000,000 - \$9,999,999  
\$100,000 per claim for contracts with max. compensation from \$10,000,000 or greater

(2) The City shall pay the costs of premiums for the Project Professional Policy. The City will receive or pay, as the case may be, all adjustments to such costs, whether by way of dividends, retroactive adjustments, return premiums, other moneys due, audits or otherwise. Each Consultant and each of its subconsultants hereby assign to the City the right to receive all such adjustments. The City assumes no obligation to provide insurance other than that specified in this Amendment and the Project Professional Policy. The City's furnishing of professional coverage shall in no way relieve or limit, or be construed to relieve or limit, Consultant or any of its subconsultants of any responsibility, liability, or obligation imposed by the Contract Documents, the Project Professional Policy, or by law, including without limitation any indemnification obligations which Consultant or any of its subconsultants has to the City thereunder. The City reserves the right at its option, without obligation to do so, to furnish other insurance coverage of various types and limits provided that such coverage is not less than that specified in the Contract Documents.

(3) The Project Professional Policy shall apply only to those operations of Consultant performed in connection with the Project. The Project Professional Policy is summarily described as follows:

Project Professional Policy (Primary)	Summary Description
	Professional liability insurance covering all Project Consultants, engineers, and design consultants, as defined in the language of the Professional Liability Policy, with respect to their professional work in connection with the Project. The insurance policy will be of a "claims-made form", and will have a combined limit of liability of \$25,000,000 per Claim and \$25,000,000 in the Aggregate, inclusive of defense costs and expenses, over the term of the policy and will include a ten (10) year Extended Reporting Period commencing February 1, 2005. Consultant, on behalf of itself and its subconsultants, hereby consents to the joint defense, panel defense, Program Manager, and settlement provisions of the Project Professional Policy, including that insureds thereunder must waive any cross-claims or third-party claims for negligence, contribution, indemnification or otherwise, arising out of any incident, circumstance, event or claim under the Project Professional Policy, and against any other insured, and that the insurer shall have final authority to settle any claim.
(4)	Consultant shall comply, and assure that its subconsultant's comply with all of the requirements outlined in the Project Professional Policy. Consultant shall cooperate fully with the Project Professional Policy insurer.
(5)	Consultant hereby acknowledges, and will require all of its subconsultants to acknowledge in writing, that the City and the OCIP Administrator are not agents, partners or guarantors of the insurance companies providing coverage under the Project Professional Policy and that the City is not responsible for any claims or disputes between or among Consultant, its subconsultants, and any insurer. Any type of insurance coverage or limits of liability in addition to the Project Professional Policy that Consultant or any subconsultant requires for its or their own protection, or that is required by applicable laws or regulations, shall be Consultant's or its subconsultant's sole responsibility and expense and shall not be billed to the City.
(6)	The City may, for any reason, modify or discontinue the Project Professional Policy or professional coverage, or request that Consultant or any of its subconsultants obtain and thereafter maintain at the City's expense during the performance of the Project, all (or a portion thereof as specified by the City) of the professional coverages. The form,

content, limits of liability, cost, and the insurer issuing such replacement insurance shall be subject to the City's approval.

- (7) The costs of professional liability insurance provided will not be an Other Direct Cost reimbursed by the City. Consultant and its subconsultants warrant to the CITY that, to the extent practicable, no costs for professional liability insurance for which such parties are provided coverage by the Professional Liability Policy are included in any payment for Consultant's services. Within five (5) days of execution of this Agreement, Consultant shall provide a true and accurate report to the City, on a form required by the City, of Consultant's and its subconsultant's reduction in professional liability insurance costs due to eligibility for coverage by the Professional Liability Policy.
- (8) Consultant agrees that the City or its representatives may audit Consultant's or any of its subconsultant's books and records, insurance coverages, insurance cost information, or any information that Consultant provides to the City to confirm their accuracy and to assure that costs of professional liability insurance are not included in any payment for the services.

2. Commercial General Liability and Business Automobile Liability Insurance policies must provide the following:

- a. Name as Additional Insured the City and County of San Francisco, its Officers, Agents, and Employees.
- b. That such policies are primary insurance to any other insurance available to the Additional Insureds, with respect to any claims arising out of this Agreement, and that insurance applies separately to each insured against whom claim is made or suit is brought.

3. All policies shall provide thirty days' advance written notice to City of cancellation mailed to the following address:

San Francisco Public Utilities Commission  
Contract Administration  
1155 Market Street, 7<sup>th</sup> Floor  
San Francisco, CA 94103

4. Should any of the required insurance be provided under a claims-made form, Consultant shall maintain such coverage continuously throughout the term of this Agreement and, without lapse, for a period of three years beyond the expiration of this Agreement, to the

effect that, should occurrences during the contract term give rise to claims made after expiration of the Agreement, such claims shall be covered by such claims-made policies.

5. Should any of the required insurance be provided under a form of coverage that includes a general annual aggregate limit or provides that claims investigation or legal defense costs be included in such general annual aggregate limit, such general annual aggregate limit shall be double the occurrence or claims limits specified above.
6. Should any required insurance lapse during the term of this Agreement, requests for payments originating after such lapse shall not be processed until the City receives satisfactory evidence of reinstated coverage as required by this Agreement, effective as of the lapse date. If insurance is not reinstated, the City may, at its sole option, terminate this Agreement effective on the date of such lapse of insurance.
7. Before commencing any operations under this Agreement, Consultant must furnish to City certificates of insurance, and additional insured policy endorsements, in form and with insurers satisfactory to City, evidencing all coverages set forth above, and shall furnish complete copies of policies promptly upon City request.
8. Approval of the insurance by City shall not relieve or decrease the liability of Consultant hereunder.

## **11. INDEMNIFICATION**

1. To the fullest extent permitted by law, Consultant shall assume the defense of, indemnify and save harmless the City and its officers and employees (collectively "Indemnitees") from any claim, loss, damage, injury (including, without limitation, injury to or death of an employee of the Consultant or its subconsultants) and liabilities of every kind, nature and description (including, without limitation, incidental and consequential damages, court costs, attorney's fees and costs of investigation) that arise directly or indirectly, in whole or in part, from (1) the services under this Agreement, or any part thereof, (2) any act or omission of the Consultant and subconsultant to the Consultant, anyone directly or indirectly employed by them, or anyone that they control (collectively "Liabilities"), even if such Liabilities are caused in part by the negligence of any Indemnitee, subject to the provisions set forth herein.

To the extent, however, that the foregoing provision imposes an obligation on the Consultant which does not involve any negligence or other breach of obligation on the part of Consultant or its subconsultants, then, provided that Consultant is in compliance

with its insurance obligations under Article 10 above, such obligations shall be limited to the extent to which it is covered by Consultant's insurance and that of its subconsultants.

In no event, however, shall Consultant's liability or indemnification responsibilities be so limited in the event of negligence or other breach of obligation on the part of the Consultant or its subconsultants.

2. The Consultant assumes no liability whatsoever for the sole negligence or willful misconduct of any Indemnitee or the contractors of any Indemnitee.
3. The Consultant's indemnification obligations of claims involving "Professional Liability" (claims involving acts, errors or omissions in the rendering of professional services) and "Economic Loss Only" (claims involving economic loss which are not connected with bodily injury or physical damage to property) shall be limited to the extent of the Consultant's negligence or other breach of duty.
4. Consultant shall also indemnify, defend and hold harmless all Indemnitees from all suits or claims for infringement of the patent rights, copyright, trade secret, trade name, trademark, service mark, or any other proprietary right of any person or persons in consequence of the use by the City, or any of its officers, employees, or agents, of articles or services to be supplied in the performance of Consultant's services under this Agreement.

## **12. NONDISCRIMINATION: PENALTIES**

### **12.1. CONTRACTOR SHALL NOT DISCRIMINATE**

In the performance of this Agreement, Contractor agrees not to discriminate against any employee, City and County employee working with such contractor or subcontractor, applicant for employment with such contractor or subcontractor, or against any person seeking accommodations, advantages, facilities, privileges, services, or membership in all business, social, or other establishments or organizations, on the basis of the fact or perception of a person's race, color, creed, religion, national origin, ancestry, age, height, weight, sex, sexual orientation, gender identity, domestic partner status, marital status, disability or Acquired Immune Deficiency Syndrome or HIV status (AIDS/HIV status), or association with members of such protected classes, or in retaliation for opposition to discrimination against such classes..

## **12.2. SUBCONTRACTS**

Contractor shall incorporate by reference in all subcontracts the provisions of §§12B.2(a), 12B.2(c)-(k), and 12C.3 of the S.F. Administrative Code (copies of which are available from Purchasing) and shall require all subcontractors to comply with such provisions. Contractor's failure to comply with the obligations in this subsection shall constitute a material breach of this Agreement.

## **12.3. NONDISCRIMINATION IN BENEFITS**

Contractor does not as of the date of this Agreement and will not during the term of this Agreement, in any of its operations in San Francisco, on real property owned by San Francisco, or where work is being performed for the City elsewhere in the United States, discriminate in the provision of bereavement leave, family medical leave, health benefits, membership or membership discounts, moving expenses, pension and retirement benefits or travel benefits, as well as any benefits other than the benefits specified above, between employees with domestic partners and employees with spouses, and/or between the domestic partners and spouses of such employees, where the domestic partnership has been registered with a governmental entity pursuant to state or local law authorizing such registration, subject to the conditions set forth in §12B.2(b) of the S.F. Administrative Code.

## **12.4. CONDITION TO CONTRACT**

As a condition to this Agreement, Contractor shall execute the "Chapter 12B Declaration: Nondiscrimination in Contracts and Benefits" form (form HRC-12B-101) with supporting documentation and secure the approval of the form by the San Francisco Human Rights Commission.

## **12.5. INCORPORATION OF ADMINISTRATIVE CODE PROVISIONS BY REFERENCE**

The provisions of Chapters 12B and 12C of the S.F. Administrative Code are incorporated in this Section by reference and made a part of this Agreement as though fully set forth herein. Contractor shall comply fully with and be bound by all of the provisions that apply to this Agreement under such Chapters, including but not limited to the remedies provided in such Chapters. Without limiting the foregoing,

Contractor understands that pursuant to §12B.2(h) of the S.F. Administrative Code, a penalty of \$50 for each person for each calendar day during which such person was discriminated against in violation of the provisions of this Agreement may be assessed against Contractor and/or deducted from any payments due Contractor.

### **13. MINORITY/WOMEN/LOCAL BUSINESS ORDINANCE**

#### **13.1. COMPLIANCE**

Contractor understands and agrees to comply fully with all provisions of Chapter 12D.A ("Minority/Women/ Local Business Utilization Ordinance-IV") of the San Francisco Administrative Code and agrees to include this paragraph in all subcontracts made in fulfillment of the Contractor's obligations under this Agreement. Said provisions are incorporated herein by reference and made a part of this Agreement as though fully set forth. Contractor's willful failure to comply with Chapter 12D.A is a material breach of contract.

#### **13.2. ENFORCEMENT**

If Contractor willfully fails to comply with any of the provisions of Chapter 12D.A, the rules and regulations implementing Chapter 12D.A, or the provisions of this Agreement pertaining to MBE or WBE participation, Contractor shall be liable for liquidated damages in an amount equal to Contractor's net profit on this Agreement, or 10% of the total amount of this Agreement, or \$1,000, whichever is greatest. The Director of the City's Human Rights Commission (HRC) may also impose other sanctions against Contractor authorized in Chapter 12D.A, including declaring the Contractor to be irresponsible and ineligible to contract with the City for a period of up to five years or revocation of the Contractor's MBE or WBE certification. The Director of HRC will determine the sanctions to be imposed, including the amount of liquidated damages, after investigation pursuant to §12D.A.16C.

By entering into this Agreement, Contractor acknowledges and agrees that any liquidated damages assessed by the Director of the HRC shall be payable to City upon demand. Contractor further acknowledges and agrees that any liquidated damages assessed may be withheld from any monies due to Contractor on any contract with City.

Contractor agrees to maintain records necessary for monitoring its compliance with Chapter 12D.A for a period of three years following termination of this contract.

### **13.3. SUBCONTRACTING GOALS**

The subcontracting participation goal for this contract is **13% MBE** and **8% WBE**. The Consultant shall fulfill the subcontracting commitment made in its bid or proposal. Each invoice submitted to the City for payment shall include the information required in HRC Form 6. Failure to provide HRC Form 7 with each invoice submitted by the Consultant shall entitle the City to withhold 20% of the amount of that invoice until HRC Form 7 is provided by the Consultant.

Contractor shall not participate in any back contracting to the Contractor or lower-tier subcontractors, as defined in Chapter 12D.A, for any purpose inconsistent with the provisions of Chapter 12D.A, its implementing rules and regulations, or this Section.

The Consultant shall resolve, to the satisfaction of the San Francisco Human Rights commission, any 12B or 12D issue outstanding at the execution of this Agreement, such as shared profits for a specially designated employee.

### **13.4. SUBCONTRACT LANGUAGE REQUIREMENTS**

Contractor shall include in all subcontracts with MBEs or WBEs made in fulfillment of Contractor's obligations under this Agreement, a provision requiring Contractor to compensate any MBE or WBE subcontractor if Contractor does not fulfill its commitment to use the MBE or WBE subcontractor. Such provisions shall also state that it is enforceable in a court of competent jurisdiction.

Subcontracts shall require the subcontractor to maintain records necessary for monitoring its compliance with Chapter 12D.A for a period of three years following termination of this contract.

### **13.5. PAYMENT OF SUBCONTRACTORS**

Contractor shall pay its subcontractors within three working days after receiving payment from the City unless Contractor notifies the Director of HRC in writing within ten working days prior to receiving payment from the City that there is a bona fide dispute between Contractor and its subcontractor and the Director waives the three-day payment requirement.

Contractor further agrees, within ten working days following receipt of payment from the City, to file an affidavit with the SFPUC Project Manager, using HRC Form 9 "Sub-Contractor Payment Affidavit", under penalty of perjury, that the Contractor has paid all subcontractors. The affidavit shall provide the names and addresses of all

subcontractors and the amount paid to each. Failure to provide such affidavit may subject Contractor to enforcement procedure under Administrative Code §12D.A.16.

#### **14. ERRORS AND OMISSIONS**

If during the course of the project, should any modifications be required due to errors or omissions on the part of the Consultant or its sub-consultants during the Conceptual Engineering work, the Consultant shall not be compensated for the cost of developing, preparing, or implementing the revised tasks to correct said errors or omissions nor shall the Consultant be compensated in its fee for the cost of extras made necessary by errors or omissions.

#### **15. MODIFICATIONS**

The Consultant shall do no work in addition to or beyond the scope of the Basic Services set forth and contemplated by this Agreement unless and until it is authorized to do so by the issuance to it of a "Modification of Contract," duly executed and bearing the Controller's certification pursuant to Sections 6.22H of the San Francisco Administrative Code that funds are available for additional work.

#### **16. INDEPENDENT CONTRACTOR**

The Consultant shall be deemed at all times an independent contractor and shall be wholly responsible for the manner in which it performs the service required of it by the terms of this Agreement. The Consultant shall be liable for any act or acts of its own, of its agents or employees, and nothing contained herein shall be construed as creating the relationship of employer and employee between the City and the Consultant or its agents and employees.

#### **17. BUDGET AND FISCAL PROVISIONS**

This Agreement is subject to the budget and fiscal provisions of the Charter of the City and County of San Francisco. Any amount of the City's obligation hereunder shall not at any time exceed the amount certified by the Controller for the purpose and period stated in such advance authorization.

This section controls against any and all other provisions of this Agreement.

## **18. CONFLICT OF INTEREST**

The Consultant states that it is familiar with the provision of Section 15.103, Appendix C of the 1996 Charter of the City and County of San Francisco, and Sections 87100 et seq. of the California Government Code, and certifies that it is not aware of any facts which would constitute a violation of said provisions.

## **19. AUDIT AND INSPECTION OF RECORDS**

The Consultant agrees to maintain and make available to the City accurate books and accounting records relative to its activities under this Agreement. The Consultant will permit the City to audit, examine and make excerpts and transcripts from such books and records and to make audits of all invoices, materials, payrolls, records or personnel and other data related to reimbursables and additional services provided on an hourly basis, whether funded in whole or in part under this Agreement. The City shall audit all such records relating to Basic Services at its discretion, upon reasonable notice to the Consultant. The Consultant shall maintain such data and records in an accessible location and condition for a Period of not less than four years after final payment under this Agreement or until after final audit has been resolved, whichever is later. A clause similar to this shall be included in all sub-agreements between the Consultant and subconsultants giving the City the same rights against the subconsultants. Canceled checks of payments to subconsultants must be maintained by the Consultant and made available to the City upon request.

## **20. SUBCONTRACTING**

1. The Consultant is permitted to subcontract portions of the services to be performed under this Agreement only after the prior written approval by the City. The Consultant shall be responsible for its sub-consultants or sub-contractors throughout the course of the work to be performed under this Agreement. Execution of this Agreement shall constitute approval of the firms and individuals listed on Attachment 1 as sub-consultants and/or subcontractors on this Project.
2. Substitutions may be made for any consultants listed on Attachment 1 for (1) failure to perform to a reasonable level of professional competence, (2) inability to provide sufficient staff to meet the Project requirements and schedules, or (3) unwillingness to negotiate reasonable contract terms or compensation.

3. The City will reserve the right to request specific consultants with specific expertise to be added to the team, if the City determines that specific expertise is lacking in the project team or if the City believes it is in the City's best interest to assign a particular sub-consultant to the Consultant.
4. Substitutions of MBE/WBE/LBE firms shall be made on equal basis (minority for minority, women for women) upon written request by the Consultant and written approval by the City and the Human Rights Commission. The Consultant shall hold harmless, indemnify and defend the City from any claim that may arise out of any approval of substitutions.

## 21. TAXES

- (1) Payment of any taxes, including possessory interest taxes and California sales and use taxes, levied upon or as a result of this Agreement, or the services delivered pursuant hereto, shall be the obligation of Contractor.
- (2) Contractor recognizes and understands that this Agreement may create a "possessory interest" for property tax purposes. Generally, such a possessory interest is not created unless the Agreement entitles the Contractor to possession, occupancy, or use of City property for private gain. If such a possessory interest is created, then the following shall apply:
  - A) Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that Contractor, and any permitted successors and assigns, may be subject to real property tax assessments on the possessory interest;
  - B) Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that the creation, extension, renewal, or assignment of this Agreement may result in a "change in ownership" for purposes of real property taxes, and therefore may result in a revaluation of any possessory interest created by this Agreement. Contractor accordingly agrees on behalf of itself and its permitted successors and assigns to report on behalf of the City to the County Assessor the information required by Revenue and Taxation Code section 480.5, as amended from time to time, and any successor provision.

- C) Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that other events also may cause a change of ownership of the possessory interest and result in the revaluation of the possessory interest. (see, e.g., Rev. & Tax. Code section 64, as amended from time to time). Contractor accordingly agrees on behalf of itself and its permitted successors and assigns to report any change in ownership to the County Assessor, the State Board of Equalization or other public agency as required by law.
- D) Contractor further agrees to provide such other information as may be requested by the City to enable the City to comply with any reporting requirements for possessory interests that are imposed by applicable law.

## **22. PROPRIETARY or CONFIDENTIAL INFORMATION OF CITY**

The Consultant understands and agrees that, in the performance of the work or services under this Agreement or in contemplation thereof, the Consultant may have access to private or confidential information which may be owned or controlled by the City and that such information may contain proprietary or confidential details, the disclosure of which to third parties would be damaging to the City. The Consultant agrees that all such information disclosed by the City to the Consultant shall be held in confidence and used only in the performance of the Agreement. The Consultant shall exercise the same standard of care to protect such information as is used to protect its own proprietary or confidential data.

## **23. ADMINISTRATIVE REMEDY FOR AGREEMENT INTERPRETATION**

The parties shall attempt in good faith to resolve by negotiating any disagreements between them concerning the interpretation of this Agreement. If a dispute persists, the Consultant shall continue to perform services in accordance with the City's interpretation of the Agreement, provided that if the dispute is resolved in the Consultant's favor, the Consultant shall be compensated for extra costs incurred in complying with the City's interpretation but not legal fees and costs incurred in resolving the dispute.

## **24. SEVERABILITY**

If any term or provision of this Agreement shall be found to be illegal or unenforceable, then, notwithstanding, this Agreement shall remain in full force and effect and such term or provision shall be deemed stricken.

**25. ENTIRE AGREEMENT**

All of the Agreement between the parties is included herein and no warranties expressed or implied, representations, promises, or statements have been made by either party unless endorsed hereon in writing, and no change or waiver of any provision hereof shall be valid unless made in writing and executed in the same manner as this Agreement.

**26. MACBRIDE PRINCIPLES**

The City and County of San Francisco encourages companies doing business with the City to abide by the MacBride Principles set forth in Chapter 12F of the San Francisco Administrative Code. In general, the MacBride Principles urge companies doing business in Northern Ireland to move towards resolving employment inequities in Northern Ireland. Acknowledgment of the MacBride Principles will be a part of the contract between the City and the Consultant.

**27. TROPICAL HARDWOOD BAN**

The City urges contractors not to import, purchase, obtain, or use for any purpose, any tropical hardwood or tropical hardwood product.

**28. RESOURCE CONSERVATION**

Chapter 21A of the S.F. Administrative Code ("Resource Conservation") is incorporated herein by reference. Failure by Consultant to comply with any of the applicable requirements of Chapter 21A will be deemed a material breach of contract.

**29. DRUG-FREE WORKPLACE POLICY**

The Consultant acknowledges and recognizes that, pursuant to the Federal Drug-Free Workplace Act of 1989, 41 U.S.C. §701, the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited on City premises.

**30. GUARANTEED MAXIMUM COSTS**

1. The City's obligation hereunder shall not at any time exceed the amount certified by the Controller for the purpose and period stated in such certification.
2. Except as may be provided by City ordinances governing emergency conditions, the City and its employees and officers are not authorized to request the Consultant to perform services or to provide materials, equipment and supplies that would result in the Consultant performing services or providing materials, equipment and supplies that are beyond the scope of the services, materials, equipment and supplies agreed upon in the

contract unless the agreement is amended in writing and approved as required by law to authorize the additional services, materials, equipment or supplies. The City is not required to reimburse the Consultant for services, materials, equipment or supplies that are provided by the Consultant which are beyond the scope of the services, materials, equipment and supplies agreed upon in the contract and which were not approved by a written amendment to the Agreement having been lawfully executed by the City.

3. The City and its employees and officers are not authorized to offer or promise to the Consultant additional funding for the contract which would exceed the maximum amount of funding provided for in the contract for the Consultant's performance. Additional funding for the contract in excess of the maximum provided in the contract shall require lawful approval and certification by the Controller of the City. The City is not required to honor any offered or promised additional funding for a contract which exceeds the maximum provided in the contract unless such additional funding has received the lawful approval and certification of the Controller.
4. The Controller is not authorized to make payments on any contract for which funds have not been certified as available in the budget or by supplemental appropriation.

### **31. QUALIFIED PERSONNEL**

Work under this Agreement shall be performed only by competent personnel under the supervision of and in the employment of the Consultant or its subconsultants. The Consultant will conform with the City's reasonable requests regarding assignment of personnel, but all personnel, including those assigned at the City's request and those City employees that are included in the project delivery team at the direction of the City shall be supervised by the Consultant.

### **32. RESPONSIBILITY FOR EQUIPMENT**

The City shall not be responsible for any damage to persons or property as a result of the use, misuse or failure of any equipment used by the Consultant, or by any of its employees, even though such equipment be furnished, rented or loaned to the Consultant by the City. The acceptance or use of such equipment by the Consultant or any of its employees shall be construed to mean that the Consultant accepts full responsibility for and agrees to exonerate, Indemnify, defend and save harmless the City from and against any and all claims for any damage or injury of any type arising from the use, misuse or failure of such

equipment, whether such damage be to the Consultant, its employees, the City employees or third parties, or to property belonging to any of the above.

**33. ASSIGNMENT**

The services to be performed by the Consultant are personal in character and neither this Agreement nor any duties or obligations hereunder shall be assigned or delegated by the Consultant unless approved by written instrument executed and approved in the same manner as this Agreement; Partners of the Joint Association may incorporate or change their names; provided such incorporation or change does not decrease their obligation or liability under this Agreement.

**34. NON-WAIVER OF RIGHTS**

The omission by either party at any time to enforce any default or right reserved to it, or to require performance of any of the terms, covenants, or provisions hereof by the other party at the time designated, shall not be a waiver of any such default or right to which the party is entitled, nor shall it in any way affect the right of the party to enforce such provisions thereafter.

**35. OTHER CONDITIONS OF SERVICES**

The Consultant shall have the right to include representations of the design of the Project, including photographs of the exterior and interior, among the Consultant's promotional and professional materials. The Consultant's materials shall not include the City's confidential or proprietary information and shall first be submitted for the City's review.

**36. AGREEMENT MADE IN CALIFORNIA; VENUE**

The formation, interpretation and performance of this Agreement shall be governed by the laws of the State of California. Venue for all litigation relative to the formation, interpretation and performance of this Agreement shall be in San Francisco or as provided by Code of Civil Procedure Section 394; the venue for litigation in a county other than San Francisco pursuant to Section 394 will be Alameda County or San Mateo County.

### **37. SUBMITTING FALSE CLAIMS**

Pursuant to San Francisco Administrative Code Chapter 6, Article V, any contractor, subcontractor or consultant who submits a false claim shall be liable to the City for three times the amount of damages that the City sustains because of the false claim. A contractor, subcontractor or consultant who submits a false claim shall also be liable to the City for the costs, including attorney's fees, of a civil action brought to recover any of those penalties or damages, and may be liable to the City for a civil penalty of up to \$10,000 for each false claim. A contractor, subcontractor or consultant will be deemed to have submitted a false claim to the City if the contractor, subcontractor or consultant: (a) Knowingly presents or causes to be presented to an officer or employee of the City a false claim or request for payment or approval; (b) Knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by the City; (c) Conspires to defraud the City by getting a false claim allowed or paid by the City; (d) Knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to pay or transmit money or property to the City; (e) Is a beneficiary of an inadvertent submission of a false claim to the City, subsequently discovers the falsity of the claim, and fails to disclose the false claim to the City within a reasonable time after discovery of the false claim.

### **38. INCIDENTAL AND CONSEQUENTIAL DAMAGES**

The Consultant shall be responsible for incidental and consequential damages resulting from the Consultant's negligent acts or omissions. Nothing in this Agreement shall constitute a waiver or limitation of any rights that the City may have under applicable law.

### **39. LIABILITY OF THE CITY**

THE CITY'S OBLIGATIONS UNDER THIS AGREEMENT SHALL BE LIMITED TO THE PAYMENT OF THE COMPENSATION PROVIDED FOR IN ARTICLE 4 OF THIS AGREEMENT. NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT, IN NO EVENT SHALL THE CITY BE LIABLE, REGARDLESS OF WHETHER ANY CLAIM IS BASED ON CONTRACT OR TORT, FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT OR THE SERVICES PERFORMED IN CONNECTION WITH THIS AGREEMENT.

#### 40. OTHER AGREEMENTS BETWEEN THE CITY AND THE CONSULTANT

Through its execution of this Agreement, the Consultant certifies that neither it nor any of its employees has any interest, however remote, in any other Agreement with the City, whether or not such Agreement is with Consultant's respective firms, affiliate firms or through separate employment, except as expressly itemized below. The Consultant understands and agrees that failure to disclose such information may result in termination of this Agreement pursuant to Article 7 above.

City Department	Contract Description	Reference No.
1. SFDPW	As-Needed Risk Assessment and Management Planning Services	Contract not yet certified. Prior contract was 173,048
2. SFDPW	As-Needed Geotechnical Engineering Services	173,090
3. SFPUC	Environmental Documentation Services	CS-672
4. SF Public Transportation Dept.	MUNI Engineering and Construction Div., Architectural and Engineering Services, Islais Creek Maintenance and Operations Facility	NA
5. CCSF Treasure Island Development Authority	EIR - Treasure Island	4342-00/01
6. SFPUC	As-needed Operational Support Services	CS-699.E

#### **41. WORKS FOR HIRE**

If, in connection with services performed under this Agreement, the Consultant or its subconsultants create artwork, copy, posters, billboards, photographs, videotapes, audio tapes, systems designs, software, reports, diagrams, surveys, source codes or any other original works of authorship, such works of authorship shall be works for hire as defined under Title 17 of the United States Code, and all copyrights in such works are the property of the City. If it is ever determined that any works created by the Consultant or its subconsultants under this Agreement are not works for hire under U.S. law, the Consultant hereby assigns all copyrights to such works to the City. The City hereby grants to the Consultant a free license to use such works solely for the purpose of marketing, i.e., to document the Consultant's experience and capabilities, and to use or re-use details which are not unique to the design of the Project, which details would not otherwise be copyrightable under Title 17 of the United States Code. With respect to any other use or purpose, the Consultant must obtain the prior express written permission of the San Francisco Director of Public Works.

#### **42. COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT**

The Consultant acknowledges that, pursuant to the Americans with Disabilities Act (ADA), programs, services and other activities provided by a public entity to the public, whether directly or through a contractor, must be accessible to the disabled public. The Consultant shall provide the services specified in this Agreement in a manner that complies with the ADA and any and all other applicable federal, state and local disability rights legislation. The Consultant agrees not to discriminate against disabled persons in the provision of services, benefits or activities provided under this Agreement and further agrees that any violation of this prohibition on the part of the Consultant, its employees, agents or assigns will constitute a material breach of this Agreement.

#### **43. EQUAL BENEFITS ORDINANCE**

The Consultant shall comply with the Equal Benefits Ordinance provisions of San Francisco Administrative Code Chapter 12B. The ordinance is incorporated herein by reference as though set forth in full.

#### **44. SUNSHINE ORDINANCE**

In accordance with San Francisco Administrative Code section 67, et seq., contracts, contractors' bids, responses to requests for proposals and all other records of communications between the City and persons or firms seeking contracts shall be open to

inspection immediately after a contract has been awarded. Nothing in this provision requires the disclosure of a private person's or organization's net worth or other proprietary financial data submitted for qualification for a contract or other benefit until and unless that person or organization is awarded the contract or benefit. Information provided that is covered by this paragraph will be made available to the public upon request.

#### **45. CONSTRUCTION**

All paragraph captions are for reference only and shall not be considered in construing this Agreement.

#### **46. COMPLIANCE WITH LAWS**

The Consultant shall keep itself fully informed of the City's Charter, codes, ordinances and regulations and of all state and federal laws in any manner affecting the performance of this Agreement, and Consultant must at all times comply with all applicable laws.

#### **47. SOLE BENEFIT**

This Agreement is intended for the sole benefit of the City and the Consultant, and is not intended to create any third-party rights or benefits.

#### **48. EARNED INCOME CREDIT (EIC) FORMS**

1. Contractor shall provide EIC Forms to each Eligible Employee at each of the following times: (i) within thirty (30) days following the date on which this Agreement becomes effective (unless Contractor has already provided such EIC Forms at least once during the calendar year in which such effective date falls); (ii) promptly after any Eligible Employee is hired by Contractor; and (iii) annually between January 1 and January 31 of each calendar year during the term of this Agreement.

2. Failure to comply with any requirement contained in subparagraph (a) of this Section shall constitute a material breach by Contractor of the terms of this Agreement. If within thirty (30) days after Contractor receives written notice of such a breach, Contractor fails to cure such breach or, if such breach cannot reasonably be cured within such period of thirty (30) days, Contractor fails to commence efforts to cure within such period or thereafter fails to diligently pursue such cure to completion, the City may pursue any rights or remedies available under this Agreement or under applicable law.
3. Any Subcontract entered into by Contractor shall require the subcontractor to comply, as to the subcontractor's Eligible Employees, with each of the terms of this Section.
4. Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Section 12O of the San Francisco Administrative Code.

#### **49. REQUIRING MINIMUM COMPENSATION FOR EMPLOYEES**

Contractor agrees to comply fully with and be bound by all of the provisions of the Minimum Compensation Ordinance (MCO), as set forth in San Francisco Administrative Code Chapter 12P (Chapter 12P), including the remedies provided, and implementing guidelines and rules. The provisions of Chapter 12P are incorporated herein by reference and made a part of this Agreement as though fully set forth. The text of the MCO is available on the web at [www.ci.sf.ca.us\MCO](http://www.ci.sf.ca.us\MCO). Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Chapter 12P. Consistent with the requirements of the MCO, Contractor agrees to all of the following:

1. For each hour worked by a Covered Employee during a Pay Period on work funded under the City contract during the term of this Agreement, Contractor shall provide to the Covered Employee no less than the Minimum Compensation, which includes a minimum hourly wage and compensated and uncompensated time off consistent with the requirements of the MCO. For the hourly gross compensation portion of the MCO, the Contractor shall pay \$9.00 an hour through December 31, 2001. On January 1, 2002, Contractor shall increase the hourly gross compensation to \$10.00 an hour; provided, however, that if Contractor is a Nonprofit Corporation or a public entity, it shall be required to pay the increased amount only if the City makes the finding required by Section 12P.3(a)(ii) of the San Francisco Administrative Code. If Contractor is required to increase the gross hourly compensation to \$10.00 an hour, it shall provide the 2.5% annual increase required by the MCO for each of the next three years.
2. Contractor shall not discharge, reduce in compensation, or otherwise discriminate

against any employee for complaining to the City with regard to Contractor's compliance or anticipated compliance with the requirements of the MCO, for opposing any practice proscribed by the MCO, for participating in proceedings related to the MCO, or for seeking to assert or enforce any rights under the MCO by any lawful means.

3. Contractor understands and agrees that the failure to comply with the requirements of the MCO shall constitute a material breach by Contractor of the terms of this Agreement. The City, acting through the Contracting Department, shall determine whether such a breach has occurred.
4. If, within 30 days after receiving written notice of a breach of this Agreement for violating the MCO, Contractor fails to cure such breach or, if such breach cannot reasonably be cured within such period of 30 days, Contractor fails to commence efforts to cure within such period, or thereafter fails diligently to pursue such cure to completion, the City, acting through the Contracting Department, shall have the right to pursue the following rights or remedies and any rights or remedies available under applicable law:
  - A. The right to charge Contractor an amount equal to the difference between the Minimum Compensation and any compensation actually provided to a Covered Employee, together with interest on such amount from the date payment was due at the maximum rate then permitted by law;
  - B. The right to set off all or any portion of the amount described in Subsection (d)(1) of this Section against amounts due to Contractor under this Agreement;
  - C. The right to terminate this Agreement in whole or in part;
  - D. In the event of a breach by Contractor of the covenant referred to in Subsection (b) of this Section, the right to seek reinstatement of the employee or to obtain other appropriate equitable relief; and
  - E. The right to bar Contractor from entering into future contracts with the City for three (3) years.Each of the rights provided in this Subsection (d) shall be exercisable individually or in combination with any other rights or remedies available to the City. Any amounts realized by the City pursuant to this subsection shall be paid to the Covered Employee who failed to receive the required Minimum Compensation.
5. Contractor represents and warrants that it is not an entity that was set up, or is being used, for the purpose of evading the intent of the MCO.

6. Contractor shall keep itself informed of the current requirements of the MCO, including increases to the hourly gross compensation due Covered Employees under the MCO, and shall provide prompt written notice to all Covered Employees of any increases in compensation, as well as any written communications received by the Contractor from the CITY, which communications are marked to indicate that they are to be distributed to Covered Employees.
7. Contractor shall provide reports to the City in accordance with any reporting standards promulgated by the City under the MCO, including reports on subcontractors.
8. The Contractor shall provide the City with access to pertinent records after receiving a written request from the City to do so and being provided at least five (5) business days to respond.
9. The City may conduct random audits of Contractor. Random audits shall be (i) noticed in advance in writing; (ii) limited to ascertaining whether Covered Employees are paid at least the minimum compensation required by the MCO; (iii) accomplished through an examination of pertinent records at a mutually agreed upon time and location within ten (10) days of the written notice; and (iv) limited to one audit of Contractor every two years for the duration of this Agreement. Nothing in this Agreement is intended to preclude the City from investigating any report of an alleged violation of the MCO.
10. Any subcontract entered into by Contractor shall require the subcontractor to comply with the requirements of the MCO and shall contain contractual obligations substantially the same as those set forth in this Section. A subcontract means an agreement between the Contractor and a third party which requires the third party to perform all or a portion of the services covered by this Agreement. Contractor shall notify the Department of Administrative Services when it enters into such a subcontract and shall certify to the Department of Administrative Services that it has notified the subcontractor of the obligations under the MCO and has imposed the requirements of the MCO on the subcontractor through the provisions of the subcontract. It is Contractor's obligation to ensure that any subcontractors of any tier under this Agreement comply with the requirements of the MCO. If any subcontractor under this Agreement fails to comply, City may pursue any of the remedies set forth in this Section against Contractor.
11. Each Covered Employee is a third-party beneficiary with respect to the requirements of subsections (a) and (b) of this Section, and may pursue the following remedies in the event of a breach by Contractor of subsections (a) and (b), but only after the Covered Employee has provided the notice, participated in the administrative review hearing, and

waited the 21-day period required by the MCO. Contractor understands and agrees that if the Covered Employee prevails in such action, the Covered Employee may be awarded: (1) an amount equal to the difference between the Minimum Compensation and any compensation actually provided to the Covered Employee, together with interest on such amount from the date payment was due at the maximum rate then permitted by law; (2) in the event of a breach by Contractor of subsections (a) or (b), the right to seek reinstatement or to obtain other appropriate equitable relief; and (3) in the event that the Covered Employee is the prevailing party in any legal action or proceeding against Contractor arising from this Agreement, the right to obtain all costs and expenses, including reasonable attorney's fees and disbursements, incurred by the Covered Employee. Contractor also understands that the MCO provides that if Contractor prevails in any such action, Contractor may be awarded costs and expenses, including reasonable attorney's fees and disbursements, from the Covered Employee if the court determines that the Covered Employee's action was frivolous, vexatious or otherwise an act of bad faith.

12. If Contractor is exempt from the MCO when this Agreement is executed because the cumulative amount of agreements with this department for the fiscal year is less than \$25,000 (\$50,000 for nonprofits), but Contractor later enters into an agreement or agreements that cause contractor to exceed that amount in a fiscal year, Contractor shall thereafter be required to comply with the MCO under this Agreement. This obligation arises on the effective date of the agreement that causes the cumulative amount of agreements between the Contractor and this department to exceed \$25,000 (\$50,000 for nonprofits) in the fiscal year.

## 50. REQUIRING HEALTH BENEFITS FOR COVERED EMPLOYEES

Unless exempt, Contractor agrees to comply fully with and be bound by all of the provisions of the Health Care Accountability Ordinance (HCAO), as set forth in San Francisco Administrative Code Chapter 12Q, including the remedies provided, and implementing regulations, as the same may be amended from time to time. The provisions of Chapter 12Q are incorporated herein by reference and made a part of this agreement as though fully set forth. The text of the HCAO is available on the web at [www.ci.sf.ca.us/HCAO](http://www.ci.sf.ca.us/HCAO). Capitalized terms used in this Section and not defined in this agreement shall have the meanings assigned to such terms in Chapter 12Q.

1. For each Covered Employee, Contractor shall provide the appropriate health benefit set

forth in Section 12Q.3 of the HCAO. If Contractor chooses to offer the health plan option, such health plan shall meet the minimum standards set forth by the San Francisco Health Commission.

2. Notwithstanding the above, if the Contractor is a small business as defined in Section 12Q.3(d) of the HCAO, it shall have no obligation to comply with part (a) above.
3. Contractor's failure to comply with the HCAO shall constitute a material breach of this agreement. City shall notify Contractor if such a breach has occurred. If, within 30 days after receiving City's written notice of a breach of this Agreement for violating the HCAO, Contractor fails to cure such breach or, if such breach cannot reasonably be cured within such period of 30 days, Contractor fails to commence efforts to cure within such period, or thereafter fails diligently to pursue such cure to completion, City shall have the right to pursue the remedies set forth in 12Q.5(f)(1-5). Each of these remedies shall be exercisable individually or in combination with any other rights or remedies available to City.
4. Any Subcontract entered into by Contractor shall require the Subcontractor to comply with the requirements of the HCAO and shall contain contractual obligations substantially the same as those set forth in this Section. Contractor shall notify City's Office of Contract Administration when it enters into such a Subcontract and shall certify to the Office of Contract Administration that it has notified the Subcontractor of the obligations under the HCAO and has imposed the requirements of the HCAO on Subcontractor through the Subcontract. Each Contractor shall be responsible for its Subcontractors' compliance with this Chapter. If a Subcontractor fails to comply, the City may pursue the remedies set forth in this Section against Contractor based on the Subcontractor's failure to comply, provided that City has first provided Contractor with notice and an opportunity to obtain a cure of the violation.
5. Contractor shall not discharge, reduce in compensation, or otherwise discriminate against any employee for notifying City with regard to Contractor's compliance or anticipated compliance with the requirements of the HCAO, for opposing any practice proscribed by the HCAO, for participating in proceedings related to the HCAO, or for seeking to assert or enforce any rights under the HCAO by any lawful means.
6. Contractor represents and warrants that it is not an entity that was set up, or is being used, for the purpose of evading the intent of the HCAO.
7. Contractor shall keep itself informed of the current requirements of the HCAO.

8. Contractor shall provide reports to the City in accordance with any reporting standards promulgated by the City under the HCAO, including reports on Subcontractors and Subtenants, as applicable.
9. Contractor shall provide City with access to records pertaining to compliance with HCAO after receiving a written request from City to do so and being provided at least five business days to respond.
10. City may conduct random audits of Contractor to ascertain its compliance with HCAO. Contractor agrees to cooperate with City when it conducts such audits.
11. If Contractor is exempt from the HCAO when this Agreement is executed because its amount is less than \$25,000 (\$50,000 for nonprofits), but Contractor later enters into an agreement or agreements that cause Contractor's aggregate amount of all agreements with City to reach \$75,000, all the agreements shall be thereafter subject to the HCAO. This obligation arises on the effective date of the agreement that causes the cumulative amount of agreements between Contractor and the City to be equal to or greater than \$75,000 in the fiscal year.

## **51. FIRST SOURCE HIRING PROGRAM**

- 1) Incorporation of Administrative Code Provisions by Reference - The provisions of Chapter 83 of the San Francisco Administrative Code are incorporated in this Section by reference and made a part of this Agreement as though fully set forth herein. Contractor shall comply fully with, and be bound by, all of the provisions that apply to this Agreement under such Chapter, including but not limited to the remedies provided therein. Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Chapter 83.
- 2) First Source Hiring Agreement.
  - A) Contractor will comply with First Source interviewing, recruitment and hiring requirements, which will provide the San Francisco Workforce Development System with the exclusive opportunity to initially provide Qualified Economically Disadvantaged Individuals for consideration for employment for Entry Level Positions. The duration of the First Source interviewing requirement shall be ten (10) days, unless business necessity requires a shorter period of time.;

- B) Contractor will comply with requirements for providing timely, appropriate notification of available Entry Level Positions to the San Francisco Workforce Development System so that the System may train and refer an adequate pool of Qualified Economically Disadvantaged Individuals to participating Employers;
- C) Contractor agrees to use good faith efforts to comply with the First Source hiring requirements. A Contractor may establish its good faith efforts by filling: 1) its first available Entry Level Position with a job applicant referred through the First Source Program; and, 2) fifty percent (50%) of its subsequent available Entry Level Positions with job applicants referred through the San Francisco Workforce Development System. Failure to meet this target, while not imputing bad faith, may result in a review of the Contractor's employment records.

- 3) Hiring Decisions. - Contractor shall make the final determination of whether an Economically Disadvantaged Individual referred by the System is "qualified" for the position.
- 4) Exceptions - Upon application by Employer, the First Source Hiring Administration may grant an exception to any or all of the requirements of Chapter 83 in any situation where it concludes that compliance with this Chapter would cause economic hardship.
- 5) Liquidated Damages- Violation of the requirements of Chapter 83 is subject to an assessment of liquidated damages in the amount of \$2,070 for every new hire for an Entry Level Position improperly withheld from the first source hiring process. The assessment of liquidated damages and the evaluation of any defenses or mitigating factors shall be made by the FSHA.
- 6) Subcontracts - Any subcontract entered into by Contractor shall require the subcontractor to comply with the requirements of Chapter 83 and shall contain contractual obligations substantially the same as those set forth in this Section.

## 52. PROHIBITION ON POLITICAL ACTIVITY WITH CITY FUNDS

In accordance with San Francisco Administrative Code Chapter 12.G, Contractor may not participate in, support, or attempt to influence any political campaign for a candidate or for a ballot measure (collectively, "Political Activity") in the performance of the services provided under this Agreement. Contractor agrees to comply with San Francisco Administrative Code Chapter 12.G and any implementing rules and regulations promulgated by the City's Controller. The terms and provisions of Chapter 12.G are incorporated herein by this

reference. In the event Contractor violates the provisions of this section, the City may, in addition to any other rights or remedies available hereunder, (i) terminate this Agreement, and (ii) prohibit Contractor from bidding on or receiving any new City contract for a period of two (2) years. Funds paid to Contractor for services performed hereunder and which were not for a Political Activity, are not subject to the restrictions of San Francisco Administrative Code Chapter 12.G.

#### **53. PRESERVATIVE-TREATED WOOD CONTAINING ARSENIC**

As of July 1, 2003, Contractor may not purchase preservative-treated wood products containing arsenic in the performance of this Agreement unless an exemption from the requirements of Chapter 21G is obtained from the Department of Environment under Section 21G.5 of the Administrative Code. The term "preservative-treated wood containing arsenic" shall mean wood treated with a preservative that contains arsenic, elemental arsenic, or an arsenic copper combination, including, but not limited to, chromated copper arsenate preservative, ammoniacal copper zinc arsenate preservative, or ammoniacal copper arsenate preservative. Contractor may purchase preservative-treated wood products on the list of environmentally preferable alternatives prepared and adopted by the Department of the Environment. This provision does not preclude Contractor from purchasing preservative-treated wood containing arsenic for saltwater immersion. The term "saltwater immersion" shall mean a pressure-treated wood that is used for construction purposes or facilities that are partially or totally immersed in saltwater.

#### **54. SERVICES PROVIDED BY ATTORNEYS**

Any services to be provided by a law firm or attorney must be reviewed and approved in writing in advance by the City Attorney. No invoices for services provided by law firms or attorneys, including, without limitation, as subcontractors of Contractor, will be paid unless the provider received advance written approval from the City Attorney.

#### **55. PUBLIC ACCESS TO MEETINGS AND RECORDS**

If the Consultant receives a cumulative total per year of at least \$250,000 in City funds or City-administered funds and is a non-profit organization as defined in Chapter 12L of the S.F. Administrative Code, Consultant shall comply with and be bound by all the applicable provisions of that Chapter. By executing this Agreement, the Consultant agrees to open its meetings and records to the public in the manner set forth in §§12L.4 and 12L.5 of the Administrative Code. Consultant further agrees to make-good faith efforts to promote community membership on its Board of Directors in the manner set forth in §12L.6 of the

Administrative Code. The Consultant acknowledges that its material failure to comply with any of the provisions of this paragraph shall constitute a material breach of this Agreement. The Consultant further acknowledges that such material breach of the Agreement shall be grounds for the City to terminate and/or not renew the Agreement, partially or in its entirety.

## **56. NOTIFICATION OF LIMITATIONS ON CONTRIBUTIONS**

This paragraph applies if this contract is in excess of \$50,000 over a 12-month period or less and is for: (1) personal services; or (2) the selling or furnishing of any material, supplies or equipment; or (3) any combination of personal services and the selling or furnishing of any material, supplies or equipment. San Francisco Campaign and Governmental Conduct Code (the "Conduct Code") Section 3.700 et. seq., and San Francisco Ethics Commission Regulations 3.710(a)-1 – 3.730-1, prohibit the public officials who approved this contract from receiving: (1) gifts, honoraria, emoluments or pecuniary benefits of a value in excess of \$50; (2) any employment for compensation; or (3) any campaign contributions for any elective office for a period of up to six years from individuals and entities who are "public benefit recipients" of the contract. Public benefit recipients of the contract are: (1) the individual, corporation, firm, partnership, association, or other person or entity that is a party to the contract; (2) an individual or entity that has a direct 10% equity, or direct 10% participation, or direct 10% revenue interest in that party at the time the public benefit is awarded; or (3) an individual who is a trustee, director, partner or officer of the contracting party at the time the public benefit is awarded.

Consultant understands that any public official who approved this contract may not accept campaign contributions, gifts, or future employment from Consultant except as provided under the Conduct Code. Consultant agrees to notify any other individuals or entities that may be deemed "public benefit recipients" under the Conduct Code because of this contract. Upon request, Consultant agrees to furnish, before this contract is entered into, such information as any public official approving this contract may require in order to ensure such official's compliance with the Conduct Code. Upon request, the City agrees to provide, before this contract is entered into, Consultant with a list of public officials who, under the Conduct Code, approved this contract. Failure of any public official who approved this contract to abide by the Conduct Code shall not constitute a breach by either the City or Consultant of this contract. Notwithstanding anything to the contrary in this contract, neither party shall have the right to terminate the contract due to any failure by the other party to provide the information described in this paragraph.

Dated at San Francisco, California, this \_\_\_\_\_ day of \_\_\_\_\_, 2003.

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the day first mentioned above.

CITY

RECOMMENDED BY:

Patricia E. Martel

Patricia E. Martel  
General Manager  
San Francisco Public Utilities Commission

CONTRACTOR

By signing this Agreement, I certify that I comply with the requirements of the Minimum Compensation Ordinance, which entitle Covered Employees to certain minimum hourly wages and compensated and uncompensated time off.

I have read and understood paragraph 26, the City's statement urging companies doing business in Northern Ireland to move towards resolving employment inequities, encouraging compliance with the MacBride Principles, and urging San Francisco companies to do business with corporations that abide by the MacBride Principles.

Gailane Roussel

Printed Name

SENIOR VICE PRESIDENT

Title

LIRS CORPORATION

Company Name

221 MAIN STREET, SUITE 600

Address

SAN FRANCISCO, CA 94105-1917

City, State, ZIP

(510) 874-3163

Phone Number

94-1716908

Federal Employer ID Number

APPROVED:

Judith A. Blackwell  
Judith A. Blackwell  
Director, Office of Contract Administration

**Attachment No. 1**  
**Calculation of Charges**

Calaveras Dam Conceptual Engineering  
Agreement No. CS-716

Attachment 1  
Calculation of Charges

The consultant shall submit, in detail, proposed costs and fees for requested task(s). The consultant will be required to define the detailed scope for the task under this agreement. All costs associated with the development of the scope of work shall be borne by the Consultant.

Eligibility of project costs, direct and overhead, will be determined per the Code of Federal Acquisition Regulations (FAR)—Title 48, Volume I, Parts 1-51 and other appropriate financial standards.

1. Fees:

- Direct Labor is limited to actual salaries of project personnel
- Direct fee shall be 10% or less
- Total compensation multiplier not-to-exceed 3.0

2. Maximum Billing Rates:

- Maximum hourly compensation shall not exceed \$160/hour, which may be adjusted annually in accordance with Section 7. Exceptions to this rate will be considered on a case-by-case basis and subject to written pre-authorization by the SFPUC Project Manager and Bureau/Division Manager.
- Hourly billing rates shall be calculated as follows by multiplying the actual hourly salary rate of an employee by the multiplier, which includes all the rates for direct rate, overhead (including other-direct and miscellaneous costs), salary burden, fringe benefits and profit.
- Clerical and administrative costs shall be included as part of the overhead rate. The only exception to this provision shall be clerical and administrative time utilized in the production of a specific deliverable.

Prime Consultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
URS Corporation					
Noel Wong	Principal / Proj. Mngr.	69.96	1.56	2.82	197.29
Mike Forrest	Sr. Consultant	58.50	1.56	2.82	164.97
Mark Schmoll	Consultant	49.10	1.56	2.82	138.46
Greg Reichert	Sr. Consultant	56.62	1.56	2.82	159.67
Steve Ritchie	Principal	70.90	1.56	2.82	199.94
John Bischoff	Principal	103.50	1.56	2.82	291.87
Denise Heick	Sr. Consultant	64.50	1.56	2.82	181.89
Lelio Mejia	Sr. Consultant	70.86	1.56	2.82	199.83
Gil Lawton	Sr. Consultant	51.42	1.56	2.82	145.00
David Hughes	Sr. Project Engineer	44.94	1.56	2.82	126.73
Ted Feldscher	Sr. Project Engineer	41.00	1.56	2.82	115.62
John Roadifer	Sr. Project Engineer	37.36	1.56	2.82	105.36
M. Tabatabaie	Sr. Consultant	55.28	1.56	2.82	155.89
Phil Respass	Sr. Project Geologist	34.68	1.56	2.82	97.80
Tom Kolbe	Sr. Project Geologist	34.10	1.56	2.82	96.16
Ray Rice	Sr. Consultant	65.00	1.56	2.82	183.30
S. Salah-Mars	Sr. Consultant	57.90	1.56	2.82	163.28
Dario Rosidi	Sr. Project Engineer	44.12	1.56	2.82	124.42

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Robert Green	Sr. Consultant	49.32	1.56	2.82	139.08
Ivan Wong	Sr. Consultant	53.26	1.56	2.82	150.19
Clark Fenton	Sr. Project Professional	35.14	1.56	2.82	99.09
T. MacDonald	Sr. Consultant	58.48	1.56	2.82	164.91
S. Ekanayake	Project Engineer	36.26	1.56	2.82	102.25
Anne Connell	Consultant	50.00	1.56	2.82	141.00
M. Czarnecki	Principal	84.22	1.56	2.82	237.50
Dave Harder	Sr. Consultant	57.70	1.56	2.82	162.71
Tracy Johnson	Consultant	51.44	1.56	2.82	145.06
Tom Sweet	Consultant	52.00	1.56	2.82	146.64
George Chiu	Sr. Project Engineer	40.86	1.56	2.82	115.23
Chris Mueller	Sr. Consultant	56.74	1.56	2.82	160.01
Galen Nagle	Consultant	44.24	1.56	2.82	124.76
Dan Drew	Sr. Project Engineer	44.24	1.56	2.82	124.76
Ken Eichstaedt	Consultant	50.50	1.56	2.82	142.41
S. Bertolucci	Sr. Project Engineer	42.50	1.56	2.82	119.85
Lee Gerbig	Sr. Consultant	55.00	1.56	2.82	155.10
Bob Heinen	Sr. Consultant	56.02	1.56	2.82	157.98
Seth Gentzler	Project Engineer	34.56	1.56	2.82	97.46
John Paxton	Sr. Project Engineer	39.65	1.56	2.82	111.81
Shel Coudray	Sr. Consultant	55.00	1.56	2.82	155.10
Roy Watts	Sr. Project Engineer	35.84	1.56	2.82	101.07
C. Horowitz	Project Engineer	31.90	1.56	2.82	89.96
Doug Wright	Project Scientist	34.04	1.56	2.82	95.99
Steve Leach	Consultant	45.82	1.56	2.82	129.21
Sean Dexter	Scientist	27.24	1.56	2.82	76.82
Sal Todaro	Consultant	48.40	1.56	2.82	136.49
Tim Volz	Sr. Consultant	61.54	1.56	2.82	173.54
Des Garner	Consultant	52.56	1.56	2.82	148.22
Lois Autie	Sr. Project Engineer	42.72	1.56	2.82	120.47
D. Hirsch	Project Scientist	32.56	1.56	2.82	91.82
	Consultant	49.60	1.56	2.82	139.87
	Sr. Project Professional	44.64	1.56	2.82	125.88
	Project Professional	42.51	1.56	2.82	119.88
	Staff Professional	36.80	1.56	2.82	103.78
	Engineer / Scientist	30.82	1.56	2.82	86.91
	CAD	24.80	1.56	2.82	69.94
	Tech. Typist / Proj. Ad.	22.67	1.56	2.82	63.93

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
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**Camp Dresser & McKee Inc.**

C. Von Bargen	Vice President	71.94	1.784	3.06	220
Jon Toyoda	Vice President	71.68	1.784	3.06	220
Polly Boissevain	Principal	50.47	1.784	3.06	155
W. J. Moncrief	Senior Engineer	55.54	1.784	3.06	170
Ernest Sturtz	Associate	50.87	1.784	3.06	156
Paul Giorsetto	Vice President	61.21	1.784	3.06	187
Phillippe Daniel	Vice President	67.55	1.784	3.06	207
Paul Meyerhoff	Senior Vice President	80.00	1.784	3.06	245
Paul Brown	Senior Vice President	80.00	1.784	3.06	245
	Senior Engr./Scientist	50.00	1.784	3.06	153
	Engr./Scientist	45.00	1.784	3.06	138
	Staff Engr./Scientist	35.00	1.784	3.06	107
	Draftsperson/Designer/Technician	45.00	1.784	3.06	138
	Contract Administrator	30.00	1.784	3.06	92
	Word Processor	30.00	1.784	3.06	92
	Administrative Assistant	35.00	1.784	3.06	107
	Clerk	20.00	1.784	3.06	61

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
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**Dan B. Steiner Consulting Engineer**

Dan B. Steiner	Consulting Engineer	135.00			135.00
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate

**Engineering/Remediation Resources Inc.**

Cynthia Liu	Principal	48.56	1.73	3.0	146.00
	Sr. Project Engineer	37.01	1.73	3.0	111.00
	Project Manager	42.19	1.73	3.0	127.00
	Word Processor	16.24	1.73	3.0	49.00
	CADD Operator	23.10	1.73	3.0	69.00

<sup>1</sup> For general categories, hourly rates shown are representative only, actual hourly rates will be used for calculation of Billing Rates.

<sup>2</sup> CDM's actual FAR Overhead Rate is 1.784. CDM is currently negotiating with SFPUC for rates on another contract, and will use those approved rates for this contract. With 10% fee, the Total Compensation Multiplier is 3.06

<sup>3</sup> It is assumed that the rates for the identified key CDM staff are not capped at a maximum hourly compensation rate. The full billing rates are indicated.

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
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### ENTRIX

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
Tom Taylor	Sr. Consultant 2	50.00	1.7659	3.0	150.00
	Sr. Mgmt. Consultant	77.87	1.7659	capped	160.00
	Sr. Consultant 2	61.90	1.7659	capped	160.00
	Sr. Consultant 1	56.38	1.7659	capped	160.00
	Sr. Project Scientist	40.69	1.7659	3.0	122.07
	Project Scientist/Engr	32.22	1.7659	3.0	96.66
	Sr. Staff Scientist	23.89	1.7659	3.0	71.67
	Staff Scientist	20.38	1.7659	3.0	61.14
	Asst. Staff Scientist	17.00	1.7659	3.0	51.00
	Project Assistant	17.50	1.7659	3.0	52.50
	Technical Editor	35.58	1.7659	3.0	106.47
	Computer Specialist	19.79	1.7659	3.0	59.37
	Project Coordinator	21.98	1.7659	3.0	65.94

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
Beth Goldstein	Principal II	55.00	--	--	126.00
M. Hannaford	Principal I	65.00	--	--	149.00
	Administrative	27.00	--	--	55.00
	Senior Engineer	65.00	--	--	115.00

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
Dave Smith	Principal	54.80	1.656	2.92	160.00
Michael Deas	Senior Scientist	49.67	1.656	2.92	145.00
A. Merritt-Smith	Principal	54.80	1.656	2.92	160.00

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
Mike Gazit	Consulting Engineer	110.00	--	--	110.00

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
Robert Chew	Principal Engineer				130.00
	Sr. Engr/Geologist				110.00
	Proj. Engr/Geologist				85.00
	Staff Engr/Geologist				75.00
	Tech. Illustrator				60.00
	Word Processor				60.00

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Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
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**Telamon Engineering Consultants, Inc.**

Mennor Chan	Principal	45.00	1.80	3.00	135.00
	Project Manager	40.00	1.80	3.00	120.00
	Project Engineer	30.00	1.80	3.00	90.00
	Engineer	27.00	1.80	3.00	81.00
	Drafter/Mapping CAD	24.00	1.80	3.00	72.00
	Admin/Accounting	24.00	1.80	3.00	72.00
	Clerical	11.00	1.80	3.00	33.00
E. A. Oehlert	Survey Party Chief	30.00	1.80	3.00	90.00
	Surveyor (2-m crew)	58.50	1.80	3.00	175.00

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
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**William Lettis & Associates, Inc.**

William Lettis	Principal	72.43	2.6614	2.9275	175.00
Keith Kelson	Principal	58.61	2.6614	2.9275	160.00
Jeff Unruh	Principal	53.08	2.6614	2.9275	155.39
	Principal	55.43	2.6614	2.9275	160.00
	Senior Geologist	45.89	2.6614	2.9275	134.34
	Project Geologist	33.17	2.6614	2.9275	97.11
	Sr. Staff Geologist	26.54	2.6614	2.9275	77.70
	Staff Geologist	24.33	2.6614	2.9275	71.22
	Technician	14.09	2.6614	2.9275	41.25
	Graphics/CAD	25.99	2.6614	2.9275	76.08
	Technical Typist	30.41	2.6614	2.9275	68.00

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
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**YEI Engineers, Inc.**

Patrick Mallilin	Lead Mech Engr	45.00	1.59	2.85	128.25
Dennis Dias	Lead Elec Engr	48.89	1.59	2.85	139.34
	Principal	54.23	1.59	2.85	154.56
	Sr. Elec/Mech Engr	34.00	1.59	2.85	96.90
	Elec/Mech Engr	28.15	1.59	2.85	80.23
	Sr. CADD Designer	22.59	1.59	2.85	64.38
	CADD Operator	17.83	1.59	2.85	50.82
	Project Administrator	25.53	1.59	2.85	72.76
	Admin. Assistant	18.78	1.59	2.85	53.52

3. **Staff Changes:** The SFPUC Project Manager must approve the assignment of staff prior to beginning a task order as well as any staff changes proposed by Consultant. The SFPUC Project Manager can also request the replacement or removal of team members at his/her discretion.
4. **Additional Subcontractors:** Second-tier and pass-through subcontracting is prohibited. However, in the event that the prime contractor and its approved subcontractors lack the necessary skills or expertise to perform requested services that are within the scope of the contract, additional subcontractors may be added

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to the contractor team. In such circumstances, the SFPUC or HRC Compliance Officer may suggest firms capable of performing the work and submit a proposal to the contractor.

**5. Other Direct Costs (ODC):**

All ODCs are subject to pre-approval in writing by the SFPUC Project Manager and Bureau/Division Manager.

- ODCs are limited to out-of-town travel (outside nine Bay Area counties), specialty printing, use of specialty computer hardware, software and project equipment not provided by the SFPUC.
- Vehicle mileage within the San Francisco Bay Area may be reimbursed at .365 cents per mile for travel from consultant's home office to SFPUC facilities only. Standard commute costs are not reimbursable.
- ODCs shall not include any labor charges or *pass-throughs*, with the exception of subcontracting for *non-professional services* required for field investigations, preparation of topographic surveys, and other non-professional services as approved by the SFPUC.
- ODCs shall not include labor or costs that should be included in the firm's overhead (e.g. telephone calls and faxes originating in the firm's home office, standard computer use charges, computer hardware or software, communication devices, electronic equipment, etc.)
- Meals including refreshments and working lunches with SFPUC staff will not be reimbursed.
- No equipment to be used by SFPUC staff will be purchased through this Agreement. Any equipment purchased to be used by Contractor or its subcontractors will not be directly charged to this Agreement. Such purchases will be included in the appropriate firm's overhead.
- All ODCs will be reimbursed at actual cost--no mark up shall be included.

**6. Subconsultant Fees:**

- Subject to above restrictions
- Shall be subject to written pre-approval by the SFPUC Project Manager
- Subconsultant administration markup is limited to actual cost not to exceed 5%

**7. Direct Labor Rates:** Direct labor payroll rates can be adjusted annually. The amount of the adjustment will be limited to a maximum of the CPI (San Francisco Bay Area for wages) for the previous year. Adjustments for individual Consultant employees may exceed the maximum provided that the total adjustment dollars for Consultant employees dedicated to this contract does not exceed the maximum dollars based on the total direct salary paid on the contract for the previous year plus the CPI. Any adjustment would be made once per year and the first adjustment shall not be made any earlier than six months after the execution of this Agreement.

**8. Retention:** five percent (5%) of each invoice payment will be withheld for each task order. When the work for the task order or defined critical milestones has been completed to the satisfaction of the SFPUC Project Manager and all work products have been received and approved by the SFPUC Project Manager, the Consultant may request that the retention be released. In lieu of money retention, an irrevocable letter of credit acceptable to the City will be accepted.

**9. Relocation Costs:** The SFPUC will not pay relocation costs for Consultant staff assigned to the contract on a full-time or on-going basis. During the project, if staff with special skills is needed for specific tasks and those skills are not available from Consultant staff in the San Francisco Bay Area, travel and temporary housing costs may be charged to the contract if those charges are pre-approved by the SFPUC. Any travel and temporary housing costs will be reimbursed at cost or the Federal Government's CONUS standards, whichever is lower.

**10. Invoice Requirements:** The consultant shall submit one original invoice package with the appropriate HRC reporting forms and supporting documentation to substantiate the time, mileage and Other Direct Costs for the prime and subconsultants. A standard invoice format shall be developed by the consultant anticipating project complexity and used thereafter. Each invoice must be with an HRC form seven (7) to identify the participation and amount payable to the subconsultants. Timesheets, cards or logs must include a brief description of when and what work was performed memorializing the day's progress. Mileage logs must

include the beginning and ending mileage to substantiate the variable portal-to-portal distance and local driving required while performing the work. Any "Other Direct Costs" must be substantiated with receipts including a brief description for each receipt memorializing the purpose. Complete invoice packages should be sent directly to the SFPUC Project Manager.

HRC form nine (9) must be sent to the Project Manager within ten (10) days of receiving payment for each invoice to document the subcontractor's payment by the prime contractor.

HRC form eight (8) must be sent to the Project Manager with the final invoice for each task order to authenticate the total subcontractor participation and close out the Purchase Order Release.

11. Audit: All costs submitted for payment by Consultant are subject to audit.

Calaveras Dam CER, CS-716  
**Estimated Hours for Staff Proposed to be Excluded from the Billing Rate Cap**

Personnel	Classification	Hourly Rate	Actual Rate	Overtime Rate	Total Compensation Rate	Billing Multiplier	Estimated Hours*	Estimated Roles	Area of Expertise
<b>URS Corporation</b>									
Noel Wong	Principal / Proj. Mngr.	69.96	1.56		2.82	197.29	1,600	Project Manager	Dam Engineering
Mike Forrest	Senior Consultant	58.50	1.56		2.82	164.97	1,100	Engineering Manager	Dam Engineering
Steve Ritchie	Principal	70.90	1.56		2.82	199.94	100	Principal-in-Charge	Water Resources
John Blischoff	Principal	103.50	1.56		2.82	291.87	40	QA Officer	Dam Engineering
Denise Heick	Senior Consultant	64.50	1.56		2.82	181.89	240	Environmental Liaison	CEO/ A. Compliance
Leilo Mejia	Principal	70.86	1.56		2.82	199.83	80	Discipline Leader/QA	Geotechnical Engineering
Ray Rice	Senior Consultant	65.00	1.56		2.82	183.30	16	Peer Review	Engineering Geology
Sad Salah-Mars	Senior Consultant	57.90	1.56		2.82	163.28	80	Discipline Leader/QA	Earthquake Engineering
Tom MacDonald	Senior Consultant	58.48	1.56		2.82	164.91	40	Discipline Leader/QA	Hydrology & Hydraulics
Marty Czarnecki	Principal	84.22	1.56		2.82	237.50	16	Peer Review	Structural Engineering
Dave Harder	Senior Consultant	57.70	1.56		2.82	162.71	24	Peer Review	Hydraulic Structures
Chris Mueller	Senior Consultant	56.74	1.56		2.82	160.01	24	Discipline Leader/QA	Tunnel Engineering
Tim Volz	Senior Consultant	61.54	1.56		2.82	173.54	16	Peer Review	Pipelines
<b>Camp Dresser &amp; McKee Inc.</b>									
C. Von Bargen	Vice President	71.94	1.784		3.06	220.00	Task Leader	System Operations	
Jon Toyoda	Vice President	71.68	1.784		3.06	220.00	850 Task Leader	Conveyance & PP	
Phillippe Daniel	Vice President	67.55	1.784		3.06	207.00	Discipline Leader/QA	Water Quality/Treatment	
W. J. Moncrief	Senior Engineer	55.54	1.784		3.06	170.00	120 Senior Engineer	Pipelines	
Paul Giorsetto	Vice President	61.21	1.784		3.06	187.00	80 Discipline Leader/QA	Instrumentation & Control	
Paul Meyerhofer	Senior Vice President	80.00	1.784		3.06	245.00	Peer Review	Water Resources	
Paul Brown	Senior Vice President	80.00	1.784		3.06	245.00	80 Task Leader	Decision Support	
<b>William Lettis &amp; Associates, Inc.</b>									
William Lettis	Principal	72.43	2.6614		2.9275	175.00	160 Discipline Leader/QA	Seismic Hazards	

\*Estimated hours for basic tasks only, excluding optional and ancillary tasks, for an individual or a group of individuals combined.

**Attachment No. 2**  
**Service to be Provided**

**Calaveras Dam Conceptual Engineering  
Agreement No. CS-716**

**Attachment 2**  
**Services to be Provided**

**Calaveras Dam Conceptual Engineering**  
**Agreement No. CS-716**

The work under this Agreement consists of providing professional engineering services for the Conceptual Design phase of the Calaveras Dam Project, which will evaluate the alternatives to repair the existing Calaveras Dam or replace the dam with one of equal or enlarged capacity.

During this phase the alternatives identified during Preliminary Engineering will be further developed, evaluated, and conceptual level designs, cost estimates, construction schedules will be prepared, and a preferred alternative will be recommended.

The conceptual engineering phase will evaluate the dam (including geotechnical conditions of the proposed dam sites), spillway, outlet works, water conveyance facilities, road and utility relocation, and decommissioning of existing dam and appurtenant works, if necessary.

SFPUC engineering staff will have a significant role in the conceptual engineering studies for the conveyance facilities, road, and utility relocation work (Tasks 10 and 12), and will assume the lead for the detailed design of these facilities during detailed design.

There will be several projects that will occur concurrent with the Calaveras Dam Project. These projects include: Alameda Creek Fisheries, Sunol Quarries, Alameda Creek Release Valve, Sunol WTP Expansion, and Sunol Treated Water Reservoir. Effective coordination with SFPUC staff by the Consultant is expected which will be critical to the success of all of the projects.

In addition, active involvement of SFPUC staff throughout the project will be critical to promoting cooperation, and ultimately getting buy-in on recommended alternatives. As part of the work activities for each task, it is expected that the Consultant will conduct topic-specific meetings/workshops with smaller subgroups of the SFPUC project team (Operations, Planning, Engineering, etc) to discuss and resolve operations, maintenance and technical issues. Such meetings/workshops will be carried out in addition to the planned review meetings with the SFPUC management team, Calaveras Advisory Panel and the Division of Safety of Dams (as shown in Attachment 4 - Preliminary Project Schedule and discussed under Tasks 15 and 16),

Furthermore, an integral component of the Conceptual Design phase is the requirement that the Consultant will provide training to the SFPUC's engineering staff (Task 21). The primary goal of the training program is to provide opportunities for increasing the knowledge of the SFPUC's engineering staff in areas of planning, design, construction management and operations of a dam project. It is expected that upon completion of this phase of the project, the SFPUC's engineering staff will gain an in-depth knowledge of the Consultant's work on Calaveras Dam, and be thoroughly prepared to manage the next phase of the project.

The contract duration for this Agreement will be four (4) years. As indicated in Attachment 4 - Preliminary Project Schedule, the majority of the tasks are to be completed in the first eighteen (18) months, so that the environmental documentation phase can begin. For the remaining thirty (30) months of the contract, the Consultant will provide engineering support during the environmental documentation phase (Task 17).

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**Services to be Provided**

SFPUC staff will assemble a Calaveras Advisory Panel comprised of technical experts in dam planning, design, construction, geotechnical engineering, and other fields related to dam design and operation, to provide an independent review of project approach, recommendations, and other project deliverables prepared by the Consultant for Conceptual Engineering, and advise the SFPUC General Manager, staff, and the Commission as to the validity and appropriateness of those recommendations for meeting project objectives. The participation of the Calaveras Advisory Panel would be at the direction of the SFPUC.

**Attachment 2**  
**Services to be Provided**

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**TASK 1 BACKGROUND INFORMATION**

**Task 1.1 Review of Background Information**

Under this task, the Consultant will review historical project background information to confirm completeness of the scope of work, and identify available information so as not to duplicate efforts or data.

**Approach**

- Complete a compendium of available information and log the information to a master index that will be continually updated as new information becomes available. The index of information will be available on a website.
- Set up a "project library" that will be central point for all existing information and which will be updated with new information as the project progresses. This library would be accessible to SFPUC and other project consultants.

**Assumptions**

- SFPUC will provide Consultant with copies of all relevant documents, maps, photographs available within SFPUC and/or other consultants working for SFPUC.

**Deliverables<sup>1</sup>**

- Report on critical historical background information to confirm the completeness of the scope of work for the RFP. This report will include a master index of information.

**Task 1.2 Review of Seismic Stability Report with Respect to Interim Operating Reservoir Level**

Under this task, the Consultant will review the Final Olivia Chen Consultant's (OCC) Seismic Stability Report to assess the reasonableness of the interim operating reservoir level, and if additional analyses are required to address any significant unresolved issues presented in the Peer Review Technical Memorandum in the Contingency Action Plan.

**Approach**

- Review the Final OCC Report to assess the reasonableness of the interim operating reservoir level, specifically with regard to the comments presented in the Peer Review Technical Memorandum in the Contingency Action Plan.

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<sup>1</sup> General notes on Deliverables for all tasks:

- a) Unless specifically stated otherwise, Consultant will provide 20 hard copies and one electronic copy on a CD for each draft and final deliverable.
- b) Consultant will submit one draft and one final version of each deliverable unless specifically stated otherwise.
- c) SFPUC will consolidate and provide Consultant with all review comments of draft submittals in a summary table format.

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- Evaluate the need to perform additional analyses to confirm or revise the interim operating reservoir level.
- Identify the work and the associated costs and time that would be needed to perform the reanalysis to assess a new interim operating reservoir level, if needed.
- Communicate the results of our review with SFPUC, the Calaveras Advisory Panel, and DSOD.

**Assumptions**

- If the computer input or output files of the original analyses are required, SFPUC will collect such data from OCC.

**Deliverables**

The deliverables will include a short memorandum on Consultant's review of Final OCC Report on the analysis of the existing Calaveras Dam, specifically with regard to the interim operating reservoir level and comments presented in the Peer Review Technical Memorandum, and recommendations regarding the need for additional analyses.

**Task 1.3 Reanalysis of Interim Operating Reservoir Level (Optional)**

Under this task, the Consultant will conduct reanalysis of interim operating reservoir Level if the review of the Final OCC Report demonstrated that the interim operating level might be increased, and if SFPUC, Calaveras Advisory Panel and DSOD agree that the reanalysis is justified.

**Approach**

- Characterize material properties of the existing dam for use in reanalysis. If needed, adjust assumptions and/or parameters used in previous analyses.
- Perform dynamic response and deformation analyses based on an approach and methodology (and revised assumptions and parameters) that are acceptable to DSOD.

**Assumptions**

- The final scope of work, budget and schedule for this task will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on this task.

**Deliverables**

- Technical memorandum on the assumptions, methodology, results and recommendations for an increased interim operating reservoir level.

**TASK 2 DEVELOPMENT OF PROJECT OBJECTIVES AND GENERAL EVALUATION CRITERIA**

The objectives for this task are threefold: (1) establish a set of overall project objectives; (2) confirm a list of project alternative concepts; and (3) develop a set of general evaluation/selection criteria by which the alternatives concepts will be screened (as part of Tasks 9 and 10). The alternatives to be evaluated will be within the following three categories:

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- repair or replace dam for the same reservoir storage – 96,850 acre-feet;
- repair or replace dam for increased reservoir storage – up to 420,000 acre-feet; and
- repair or replace dam for same storage with provisions for future enlargement – up to 420,000 acre-feet.

**Approach**

- Work on this task will commence at the same time that work plans are being developed for the field investigations (Tasks 4, 5 and 6):
- Develop basic criteria for selection of concepts to repair or replace Calaveras Dam. Considerations will include:
  - Confirmation of list of project alternatives developed during preliminary engineering
  - Rationale and confirmation of the proposed replacement dam site location(s).
  - Reservoir operation levels during construction (that include draining the reservoir and removing the dam prior to construction) and long-term operations.
  - Basis for dam and foundation material properties for analysis
  - Potential fault rupture
  - Landslide hazard potential
  - Stability factors of safety
  - Seismic design criteria (ground motion parameters)
  - Structural design requirements
  - Design storm and flood
  - Freeboard requirements
  - Outlet works hydraulic and operation criteria, including reservoir emptying criteria
  - Operational, conveyance and water quality criteria (as provided by SFPUC)
  - Ability to raise the repaired or replacement dam to increase storage
  - Construction sequence, cost and duration
  - Short-term and long-term environmental impacts
- Use standards from various agencies such as the US Bureau of Reclamation, Army Corps of Engineers, and applicable codes, and regulatory requirements that are generally acceptable to DSOD.
- Work with SFPUC Planning, EIR consultant(s) and representatives conducting the Alameda Watershed Management Plan (AWMP) and related stakeholder groups to understand potential environmental constraints.
- Conduct a workshop with the SFPUC to get input on constraints for reservoir operation and project objectives.

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- Organize and conduct workshop with SFPUC and Calaveras Advisory Panel to review and confirm the list of project alternatives developed during preliminary phase (as part of Task 15.1 and 16).
- Meet with SFPUC and DSOD to obtain concurrence of general evaluation/selection criteria (as part of Task 15.2) after presentation to and review by the Calaveras Advisory Panel.

**Assumptions**

- SFPUC will identify and facilitate the coordination with the various SFPUC representatives and/or consultants.

**Deliverables**

- Project Objective and Evaluation/Selection Criteria Memorandum, which will include a list of project alternative concepts and a summary of applicable codes, regulatory requirements, and local and state ordinances.

**TASK 3 ENVIRONMENTAL CLEARANCE FOR FIELD INVESTIGATION WORK PLAN**

The objectives of this task are to obtain the necessary environmental clearances and/or permits from resource agencies to carry out the proposed field investigation work (to be performed under Task 4, 5 and 6, and shown in Figure A-1) which has the potential to impact both biological and cultural resources.

**Approach**

Work closely with SFPUC environmental staff during preparation of the work plan for the proposed field investigation program (which is done concurrently under Task 4.1). Our approach will focus on early identification of sensitive resources potentially present on or near proposed access roads, borings, test pits, fault trenches, and geophysical survey sites and avoidance so that state and federal permits are not required. This will be confirmed by conducting informal consultation with these agencies with SFPUC representatives as the main point of contact.

The following issues will be addressed:

- Field investigation impacts on sensitive environmental resources
- Avoidance or minimization of impacts, or mitigation of unavoidable impacts
- Habitats utilized by Alameda whipsnake, red-legged frog, foothill yellow-legged frog, California tiger salamander, and serpentine-endemic plants located in the vicinity of the Dam
- Section 106 compliance for sensitive cultural resources
- The following activities are proposed for biological and cultural resources:
- Identify sensitive biological and cultural resources known to occur in the proposed field investigation area. These resources will be identified based on literature reviews, occurrence records in electronic databases, and archival records.
- Review the proposed field investigation work plan and conduct a field review to evaluate potential impacts to sensitive biological and cultural resources.

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- Develop avoidance and minimization measures and identify necessary environmental clearances.
- Together with SFPUC, consult with resource agencies.
- If necessary, Consultant will assist the SFPUC with acquiring the necessary environmental clearances.

Avoidance and minimization measures might include:

- Procedures for completing the investigation;
- Work hours;
- Spark control and fire hazards;
- Drill water handling and erosion control procedures;
- Boring abandonment;
- Site restoration; and
- Adjustments to exploration locations as required.

**Assumptions**

- SFPUC will be the key point of contact with regulatory and resource agencies with respect to this work, and will review and submit the final permit applications. Consultant will prepare the applications with input from SFPUC, and assist the SFPUC with acquiring the necessary environmental clearances as needed. It is assumed that SFPUC will be the permittee, and will pay for any permit fees.

**Deliverables**

- The results for this task will be incorporated into the work plan of the proposed field investigation submitted under Task 4.1.
- If no permit applications to resource agencies are required, no separate deliverables will be submitted under this task.
- If permit applications to resource agencies are required, Consultant will prepare the permit applications with input from SFPUC, and SFPUC will review and submit the applications. The additional deliverables, if needed, may include:
  - ACOE Nationwide Permit Notification will include information required for the applicable Nationwide Permit.
  - CDFG Stream and Lakebed Alteration Notification will include the information required on the current CDFG notification and checklist forms.
  - RWQCB Section 401 Water Quality Certification/Waiver application will be completed.
  - USFWS consultation documentation will include conversation records that document informal consultation with USFWS staff.
  - Cultural resources letter report to meet CEQA and NEPA/NHPA requirements for reporting. The confidential letter report will include a summary of the archival and background literature review conducted to provide input to the field investigation work plan. The report will also summarize the results of any field surveys conducted in

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advance of the field investigations, including recommendations for avoidance or other mitigation measures necessary to complete the field investigation program. Any cultural resources observed during the surveys will be recorded (or updated as appropriate) on California DPR 523 forms (at a minimum DPR 523 Primary Forms will be prepared) which will be included with the report. The report will also summarize the results of any agency coordination conducted as part of this effort.

**TASK 4      DAM FOUNDATION AND RELATED GEOTECHNICAL INVESTIGATIONS**

**Task 4.1      Work Plan**

This task will prepare the Work Plan for the proposed field investigations ready for SFPUC and DSOD review and acceptance, that clearly states objectives of all investigation work.

**Approach**

- Prepare draft work plan for review by SFPUC
- Revise as needed and finalize the work plan of the proposed field investigations (that will be performed under Task 4, 5 and 6, and shown in Figure A-1 and Table A-1). In general, the work will be performed in a two-phased approach. Phase I will be a broad coverage; and Phase II exploration will be performed immediately afterwards to fill in the data gaps identified from the first phase
- The proposed investigation will focus on collection of data for the evaluation of dam replacement alternatives established in Task 2. Information required for evaluation of repair alternatives will be developed and reported under Task 9.1 based on data collected on the existing dam and evaluated under Task 1.2 (and Task 1.3 if necessary). No new investigations are proposed at the existing dam.
- Minimize ground disturbance and restoration needs.
- Optimize field investigations with parallel efforts by multiple teams.
- Incorporate inputs from the environmental clearance work performed under Task 3 and comments from the resource agencies into the work plan.
- Obtain acceptance of Work Plan by SFPUC, DSOD, and Calaveras Advisory Panel as part of Tasks 15.1, 15.2 and 16).

**Assumptions**

- Consultant expects that permitting agencies will not require significant changes of the proposed field investigation program. If changes are required that will impact the approved budgets, Consultant will submit such changes for review and approval of additional scope and budget in writing by the SFPUC Project Manager prior to beginning the work.

**Deliverables**

- Field investigation Work Plan for foundation, borrow areas, water conveyance facilities (including pipelines and pump stations in the Sunol Valley), water treatment plant and faults. The Work Plan will include a description of the geologic mapping, drilling, test pit, fault trenching and geophysical methods that will be used for the site investigations. Standard procedures including ASTM guidelines for sampling, rock coring and packer

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## Attachment 2 Services to be Provided

testing will be included. The location of all access roads, temporary core storage and drill rig storage areas, borings, geophysical surveys, test pits and trench locations will be provided along with the purpose of each activity. Avoidance and minimization of impacts on biological and cultural resources, and any requirements from resource agencies will be incorporated in the work plan. A schedule for completion of the investigations will be included. Boring abandonment and site restoration procedure will be described along with a list of planned geotechnical laboratory testing. The roles and responsibilities of field personnel, including requirements for QA/QC procedures in the field, will be defined. A site specific Health and Safety Plan, including procedures for handling of potential hazardous materials encountered during field investigations, will also be included as an appendix to the Work Plan.

### **Task 4.2 Topographical Maps**

This task will generate orthophotographs and topographic maps (base maps) of the project site for field investigation work and conceptual engineering studies.

#### **Approach**

- Research and acquire available aerial photos and topographical maps of the project site.
- Conduct aerial photography and generate orthophotographs and topographic maps between existing dam and downstream for one mile, and for the proposed road relocation.
- Set aerial ground control. USGS vertical datum will be used unless otherwise directed by SFPUC.
- Schedule aerial photography.
- Locate by field survey all borings, test pits, fault trenches, and geophysical test locations, and pipelines within this area.
- Perform bathymetric survey of reservoir bottom, upstream of dam. The bathymetric survey area will extend 1000 feet south (upstream) from the shoreline at the dam and 1500 feet in an east-west direction. Bathymetric survey will be performed using a depth sounder with telemetry link to a shore-based total station to provide location.

#### **Assumptions**

- For areas of the project that are not covered by the above new topographical and bathymetric mapping, existing USGS topographical maps or other maps previously prepared by the SFPUC will be utilized as base maps for conceptual engineering studies.

#### **Deliverables**

- Topographic maps (base maps) of dam site area at 1" = 50 feet.
- Orthophotographs at 1" = 50 feet, and stereo aerial photographs at 1" = 500 feet. Orthophotographs will cover the reservoir area to provide information on faulting. However, topographic maps of area inundated by the existing reservoir will not be prepared.
- Bathymetry at 1" = 50 feet.
- Survey data and survey field notes.

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**Task 4.3 Geotechnical Investigations**

Under this task, the Consultant will conduct field explorations/investigations program developed in Task 4.1 and related laboratory and engineering analysis on collected samples and data to characterize geologic and geotechnical conditions in the dam spillway, reservoir rim, pipelines and pump station in the Sunol Valley. The following will be addressed:

- Dam foundation geology (rock type and strength)
- Groundwater levels
- Excavation depth and seepage potential
- Liquefaction potential and depth and aerial extent of landslides at dam, reservoir rim, and pipeline
- Effect of raising reservoir level on rim stability and access road relocation.

The work will be performed in a two-phased approach. Phase I will be a broad coverage; Phase II exploration will be performed immediately afterwards to fill in the data gaps identified from the first phase.

**Approach**

- Map geology and identify exploration locations for initial Phase I exploration.
- Perform initial Phase I exploration (drilling, geophysics, water pressure testing) and laboratory analyses on soil and rock samples to evaluate their engineering properties (see Table A-1 and Figure A-1) for proposed explorations and objectives). Alternative drilling methods other than bucket auger borings including rock coring or sonic drilling methods may be required to investigate landslide areas if large rocks in the Franciscan mélange result in refusal to drilling during bucket auger drilling.
- Perform preliminary assessment of landslide hazards and liquefaction susceptibility.
- Keep SFPUC and DSOD informed of results of the investigation results. Identify areas needing additional exploration, update work plan and obtained concurrence from SFPUC and DSOD.
- Perform Phase II exploration and laboratory analyses to evaluate engineering properties (see Table A-1 and Figure A-1) for proposed explorations and objectives).

**Assumptions**

Field investigation is planned to be carried out under normal average weather conditions from about mid-October 2003 to mid-February 2004. If worse than average weather conditions occur (as defined by the monthly rainfall data maintained by the National Weather Service Mt. Hamilton site in Livermore), additional mobilization and de-mobilization, or additional environmental mitigations to remain in compliance with any permit or schedule requirements may be necessary and approval by SFPUC for extra services will be required.

**Deliverables**

- No separate deliverables will be prepared for this subtask. The work products will be included in Task 4.4 Geotechnical Data Report and Technical Memorandum.
- Core samples collected from the investigations of Task 4 and 5 will be stored in on-site, temporary storage facilities provided by the Consultant during the investigation period.

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Upon the completion of the Phase II investigations, Consultant will deliver the core samples in durable containers/boxes to a location designated by SFPUC (such as the Sunol Yard) for more permanent storage (approximately 500 square feet) so that the core samples will be available for review during future detailed design and construction phases.

**Task 4.4 Foundation Geotechnical Data Reports**

This task will provide a comprehensive geotechnical data report on dam foundation for submittal to SFPUC and DSOD, and a separate technical memorandum for the pipeline and pumping plant facilities.

**Approach**

- Compile all field data for the dam foundation (for replacement dam alternatives downstream of the existing dam) and reservoir rim investigations into a report with supporting appendices including geologic maps, borings and test pit logs, geophysical results, groundwater levels, packer and lab test results for submittal to SFPUC and DSOD.
- The Foundation Geotechnical Data Report for the dam will be used to assess engineering properties of foundation rock, including strength of shear zones and joints, stripping depths and hydraulic conductivity, and suitability for various dam type constructions (RCC, concrete face rockfill or earth/rockfill). The properties for use in analyses will be documented in Task 9.2 and Task 14. Also, landslides will be delineated. The Foundation Geotechnical Data Report will contain work products from Task 4.3 including geologic map of the dams site, drill core logs, water pressure test data tables, geophysical test plots, and laboratory test data.
- Compile all field data for the pipeline(s) and pump station plant into a separate technical memorandum.
- Include results of the Task 6 fault investigations as an appendix to each report.

**Assumptions**

- The information required for evaluation of repair alternatives will be developed based on data collected on the existing dam, and will be reported under Task 9.1.

**Deliverables**

- Foundation Geotechnical Data Report that will contain the items listed in Subtasks 4.1 to 4.3, a map of geologic hazards for the dam and reservoir rim and results of Task 6 fault investigations for the dam foundation.
- Technical Memorandum that will contain results of pipeline and pump station investigations, a map of geologic hazards and results of Task 6 fault investigations for these facilities.

**TASK 5 BORROW SOURCE EVALUATIONS**

**Task 5.1 Geotechnical Investigations**

The objectives of this task are to characterize geologic conditions and material properties of the on-site native materials proposed for dam construction to resolve the following:

- Engineering properties of soil and rock materials in borrow areas

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- Quantity and quality of available borrow materials
- Use of existing dam materials for embankment dam fill
- Excavation characteristics of rock borrow areas
- Potential break-down of rock materials under compaction equipment
- Stability of borrow area excavated slopes

**Approach**

- Map borrow area geology.
- Evaluate characteristics of existing dam materials for use as core and shell zones of dam. Data on the existing materials will be obtained from the Final OCC Report; new borings will not be drilled in the existing dam.
- Perform initial Phase I exploration (drilling, geophysics, test pits) laboratory analyses (see Table A-1 and Figure A-1 for proposed explorations and objectives).
- Keep SFPUC and DSOD informed of results of the investigation results. Identify areas needing additional exploration, update work plan and obtain concurrence from SFPUC and DSOD.
- Perform Phase II exploration and laboratory analyses.

**Assumptions**

- Field investigation is planned to be carried out under normal average weather conditions from about mid-October 2003 to mid-February 2004. If worse than average weather conditions occur (as defined by the monthly rainfall data maintained by the National Weather Service Mt. Hamilton site in Livermore), additional mobilization and de-mobilization, or additional environmental mitigations to remain in compliance with any permit or schedule requirements may be necessary and approval by SFPUC for extra services will be required.
- Based on the proposed exploration locations, it is expected that the borrow material samples that are removed during the field investigations will not be tested for hazardous materials.

**Deliverables**

No separate deliverables will be prepared for this subtask. The work products will be included in Task 5.4 Borrow Materials Geotechnical Data Report.

**Task 5.2 Hazardous Waste Evaluation**

For this task, the Consultant will characterize hazardous waste contamination at Calaveras Test Site to estimate the extent of TCE contamination of groundwater and soils. The contaminated area will be excluded from the borrow excavations.

**Approach**

- Research, document and summarize information on the hazardous waste contamination.
- Delineate avoidance area.

**Attachment 2**  
**Services to be Provided**

**Assumptions**

- The work for this task will be based on research of available literature and documentation. Field investigation and laboratory testing are not considered. If required, such services will be reviewed and approved by the SFPUC Project Manager as extra services prior to beginning of work.

**Deliverables**

- Technical Memorandum on results of research on hazardous waste contamination.

**Task 5.3 Commercial Materials Source Assessment**

Under this task, the Consultant will research commercially available materials (sand, gravel, aggregate, riprap) to assess the quantity, quality, and cost of sand, gravel, RCC/concrete aggregate and rock products.

**Approach**

- Collect relevant information of commercially available materials based on earlier surveys taken by SFPUC customers in the Sunol Valley.
- Prepare questionnaire for commercial sand/gravel/rock suppliers (e.g., the source about 5 miles north of Calaveras Dam; e.g., quarries in the Sunol Valley) to get information on production, quality data, delivery options, and cost.
- Evaluate and assess the quantity, quality and cost of the commercially available materials.

**Assumptions**

- Data on commercial materials will be based on that provided by the suppliers. Field investigation and laboratory testing will not be conducted.

**Deliverables**

- Technical Memorandum on results of research and assessment on commercially available materials. The technical memorandum will include the completed questionnaires from the commercial material suppliers and map of their locations.

**Task 5.4 Borrow Materials Geotechnical Data Report**

This task will provide a comprehensive geotechnical data report on borrow materials to characterize the borrow areas and to provide reliable quantities and quality assessments for various dam type construction (RCC, concrete face rockfill or earth/rockfill).

**Approach**

- Compile all field data into a report with supporting appendices including geologic maps, borings and test pit logs, geophysical results, groundwater levels and lab test results. Submit report to SFPUC. The properties of the borrow materials for use in design analyses will be documented in Task 9.

Attachment 2  
Services to be Provided

**Deliverables**

Borrow Materials Geotechnical Data Report that will contain the items listed in Subtasks 5.1 to 5.3. This report will also include the following:

- Geologic map, drill core logs, test pit logs, geophysical test plots, and laboratory test data.

**TASK 6 FAULT INVESTIGATIONS**

**Task 6.1 Fault Rupture And Hazard Identification**

This task will identify seismic hazards at alternative dam site footprints and along water conveyance facilities based on detailed mapping and data review to address the following issues:

- Identification of all fault traces in the project area
- Preliminary classification of active, conditionally active and inactive faults
- Evaluation of impact on dam site selection and dam type design alternative

**Approach**

- Perform preliminary assessment of fault activity based on detailed mapping and data review. This work will be carried out concurrently with Task 4.1 and will serve as input to Task 6.2.
- Identify hazards important to site selection and design, warranting further detailed investigation.

**Deliverables**

- Technical Memorandum on fault rupture hazards addressing location of active, conditionally active and inactive fault strands, estimates of amounts of coseismic displacement, and likely sense of fault slip. This technical memorandum will include text on approach, methods, results, conclusions, recommendations for field investigation (to be performed under Task 6.2) and figures illustrating results and conclusions.

**Task 6.2 Fault Rupture And Hazard Characterization**

This task will conduct detailed characterization of hazards important for site selection and design to address the following issues:

- Characterization of active and conditionally active faults in terms of degree of activity, sense and amount of slip, and structural association
- Preliminary evaluation of impact on dam site selection and dam type design alternative.

**Approach**

- This task will be performed concurrently with Tasks 4.3 and 5.1.
- Prepare input for work plan on fault trench locations for incorporation into the field investigation work plan (prepared under Task 4.1) for review and acceptance by the SFPUC, Calaveras Advisory Panel and DSOD.
- Characterization of fault rupture hazards will involve two activities:

## Attachment 2 Services to be Provided

- Trench investigation of identified active and conditionally active faults where further work may provide evidence of activity or inactivity.
- Assessment of the amount and sense of slip on identified active and conditionally active faults based on trench data, geomorphic expression, and kinematic analysis.
- Keep SFPUC and DSOD informed of preliminary results of trenching and character of faults encountered and if necessary revise work plan and obtain concurrence from SFPUC and DSOD.

### **Assumptions**

Field investigation is planned to be carried out under normal average weather conditions from about mid-October 2003 to mid-February 2004. If worse than average weather conditions occur (as defined by the monthly rainfall data maintained by the National Weather Service Mt. Hamilton site in Livermore), additional mobilization and de-mobilization, or additional environmental mitigations to remain in compliance with any permit or schedule requirements may be necessary and approval by SFPUC for extra services will be required.

### **Deliverables**

Technical Memorandum on fault location, fault activity, amount of expected coseismic displacement, and expected sense of slip. The Technical Memorandum will include text on approach, methods, results, conclusions, recommendations and figures illustrating results and conclusions.

### **Task 6.3 Seismic Source Characterization And Ground Motion Assessment**

This task will develop site-specific design parameters for the Maximum Credible Earthquake (MCE) and Operating Basis Earthquake (OBE) to address the following:

- Site and near-source effects on ground motions (directivity and fling)
- Reservoir-triggered seismicity (RTS)
- Coseismic fault rupture on secondary or subsidiary faults

### **Approach**

- Evaluate orientation, geometry, rupture dimensions, rupture process, and recurrence of significant seismic sources.
- Calculate MCE and OBE magnitudes for significant seismic sources based on state-of-the-art empirical relationships between rupture dimensions and magnitude.
- Calculate controlling MCE and OBE design ground motion parameters including design response spectrum, using empirical attenuation relationships and numerical models.
- Evaluate potential for RTS at dam site based on analyses of contributing factors of reservoir volume and depth, tectonic setting, and pre-existing faults.

### **Deliverables**

- Technical Memorandum on ground motion design parameters including seismic source characterization, development of MCE and OBE ground motions (with response spectra) and assessment of possible RTS.

**Attachment 2**  
**Services to be Provided**

**Task 6.4 Selected Dam Site Investigations (Optional)**

This task will provide a detailed fault assessment of the selected preferred dam site to document the absence of any previously undetected faults at the selected dam site. This task would be conducted if results of Tasks 6.1 and 6.2 are inconclusive on fault activity and is needed for damsite location and/or dam type selection, and if requested by SFPUC, the Calaveras Advisory Panel or by DSOD.

**Approach**

- Revise work plan and update environmental clearance under Task 3 as needed.
- Excavate trench along or near dam site axis to document presence or absence of previously undetected faults.
- Characterize faults, if identified, in terms of activity and, if active or conditionally active, assess amount and sense of potential slip.
- Provide detailed hazard assessment for site selection and geologic and seismic design criteria.

**Assumptions**

- The final scope of work, budget and schedule for this task will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on this task.

**Deliverables**

- Trench excavation plan (map)
- Technical Memorandum on investigation of fault locations near dam site axis. The Technical Memorandum will include text on approach, methods, results, conclusions and recommendations and figures illustrating results and conclusions.

**TASK 7 HYDROLOGY AND HYDRAULICS STUDIES**

The objectives of this task are to determine the size, configuration and location of spillway and inlet/outlet facilities. The following are considerations for the conceptual design of the spillway and inlet/outlet facility:

- Spillway -
  - Spillway arrangement and location for a replaced or enlarged dam considering geologic features and hazards including foundation conditions, and fault and landslide proximity and incorporation of potential borrow area excavation
  - Evaluation of spillway width compared to depth to determine optimum configuration for a spillway for a replaced or enlarged dam
- Inlet/Outlet Facility -
  - Determination of inlet/outlet capacity requirements based on both dam safety and overall SFPUC conveyance and treatment system requirements based on SFPUC objectives. This work will be coordinated with Task 10.1.

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- Evaluation of inlet/outlet type, arrangement and location for a replaced or enlarged dam considering water quality and capacity requirements, interim operation issues and geologic features and hazards
- Utilization of upstream portion of existing outlet tunnel in the new tunnel inlets and outlets.
- Relocation of pipeline during replacement dam foundation excavation

### **Approach**

- Determine the overall requirements for the spillway and outlet, and match a structure meeting those requirements to the site limitations. For a repair alternative, the existing spillway and outlet will be utilized and modified as-needed. For an RCC dam alternative, the spillway and the outlet works would be incorporated in the dam. For an embankment dam, the spillway and outlet would be located on an abutment; large landslides would be avoided.
- Determine spillway discharge requirements from a design storm based on procedures outlined in HMR 58 and develop an inflow hydrograph. Route flood hydrograph through various sizes of reservoirs and spillway configurations under consideration.
- In addition to a spillway with a standard approach and open chute, other spillways including side channel or labyrinth weirs and a combined spillway/outlet works tunnel will be examined in an effort to reduce overall project costs.
- Consider a sloping intake connected to a tunnel driven through an abutment for the inlet/outlet facility for the embankment dam options similar to recent projects constructed in locations with high seismic demands.
- For the inlet/outlet design, consider the following:
  - DSOD emergency drawdown requirements
  - Ultimate SFPUC demands including Sunol Valley water treatment plant potential expansion
  - A range of streamflow release capabilities that may be required as advised by SFPUC
  - The ability to transfer water to fill an expanded Calaveras Reservoir
  - Operation of existing facilities during construction, if needed
  - Inlet elevations to maximize water quality flexibility
  - Use of multiple inlets and outlets
  - Provision of a low level outlet to drain the reservoir

### **Deliverables**

Due to the difference in function of the spillway and inlet/outlet works, separate technical memoranda will be prepared for these structures as follows:

- Spillway Technical Memorandum documenting the basis of design, including design flood, flood routing, spillway weir crest selection, spillway chute and stilling basin considerations, and geotechnical issues will be evaluated for all potential project alternatives (repair, replacement and enlargement) and a general arrangement plan and profile drawings will

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**Services to be Provided**

be developed for the most promising alternatives. Include computer input and output for flood routing analysis.

- Inlet/outlet Works Technical Memorandum will outline the proposed normal, drought and emergency reservoir operation, and evaluate the basis of design for flow capacity, inlet locations, conduit sizing and energy dissipation for all potential project alternatives (repair, replacement and enlargement). General arrangement plan and profile drawings will be developed for the most promising alternatives.

**TASK 8 ENVIRONMENTAL CONSIDERATIONS**

The objectives include the following:

- Identification of environmental considerations for all dam repair, replacement and enlargement alternatives being considered in other tasks.
- Evaluation of relative environmental impacts among the various alternatives, and identify the appropriate range of alternatives for Least Environmentally Damaging Practicable Alternative (LEDPA) evaluation.
- Minimization or avoidance of potential long- and short- term environmental impacts to the extent practicable.
- Coordination of evaluation with the AWMP process.

Key issues include the following:

- Key biological and cultural resource issues:
  - Aquatic habitats potentially occupied by California red-legged frog
  - Terrestrial habitats suitable for Alameda whipsnake, the Bay checkerspot butterfly, and rare plants that occur on serpentine soils
  - Wetland and riparian habitats regulated under Sections 401 and 404 of the federal Clean Water Act and Section 1600 of the California Fish and Game Code
  - Coordination with AWMP process
  - Coordination with SFPUC and COE/EPA to identify practical alternatives
  - Evaluation of areas judged to be sensitive for historic or prehistoric cultural resources that would be affected by construction activities and the project footprint, including an increased inundation level

**Approach**

The preliminary environmental analysis will consider (1) impacts related to various project alternatives and (2) impacts related to construction (short-term and long-term). The analysis will identify impacts and methods for reducing the impacts (i.e., preliminary mitigation measures).

Identify environmental considerations associated with the project, including potential impacts of new pipelines, borrow areas, access roads or barges, dam footprints, haul roads, and road relocations. Potential considerations may include biological, cultural, visual, recreational, water quality, air, noise and traffic. Evaluate methods for reducing impacts resulting from borrow and quarry operations, and prepare estimates of truck traffic haul load intensity for the overall project. The relative environmental impacts of the various alternatives will be evaluated based upon existing data developed as part of the potential Watershed AWMP planning process. This

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data will be utilized in conjunction with other existing data sources, aerial photo mapping, and site reconnaissance surveys.

The specific activities proposed to evaluate biological resource considerations:

- Review existing data from the AWMP, CNDB, and previous SFPUC projects (e.g. previous pipeline projects); expand maps and tables developed in Task 3 (above) to include all project footprint areas.
- Work closely with the SFPUC, COE/EPA on coordination regarding Least Environmentally Damaging Practicable Alternative (LEDPA) relative to Section 404(b)(1).
- Evaluate dam alternatives based on preliminary dam design and construction scenarios. This will include the scenario that the existing dam and reservoir could be removed during construction.
- Summarize the potential impacts to special status species, wetlands, and other sensitive biological resources for each alternative; incorporate the alternatives analysis into the environmental considerations report.
- Maintain on-going coordination with the AWMP process including data exchange, agency coordination, and status updates.

The specific activities proposed to evaluate cultural resource considerations:

- Review all Class I and Class III data developed under Task 3.
- Conduct a review of historic maps at the Bancroft Library.
- Conduct a targeted on-the-ground-informal field visit of borrow and quarry operations and areas judged to be sensitive for historic or prehistoric cultural resources that would be affected by an increased inundation level.
- Prepare a screening level analysis based on the results of the archival and field reconnaissance.

**Assumptions**

- Availability of adequate existing data to evaluate alternatives
- SFPUC and its EIR consultant will have early coordination with resource agencies to evaluate the range of alternatives required for consideration; and early COE/EPA coordination regarding Least Environmentally Damaging Practicable Alternative (LEDPA) relative to Section 404(b)(1).

**Deliverables**

- Technical Memorandum on environmental considerations that will include maps and tables summarizing environmental resources potentially affected the alternative dam configurations. The biological resources portion of the Technical Memorandum will summarize the existing, available biological resource data for the proposed dam site alternatives, results of the site reconnaissance surveys, site selection criteria and appropriate avoidance and minimization measures. The cultural resources component of this deliverable will be a stand-alone confidential cultural resources technical report that will summarize available Class I and Class III (archival and field survey) data. This research will be augmented by a review of data available at the Bancroft Library at U.C. Berkeley to identify potential historic sites. The Technical Memorandum will also

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summarize the results of a targeted cultural resources field survey program that will focus on areas judged to have a high sensitivity for cultural resources. The Technical Memorandum will include completed California DPR 523 forms for any archaeological or built environment features that are encountered during the survey (for both previously unrecorded sites and sites that require re- recordation). The Technical Memorandum will also provide recommendations for alternative selection based on the assessed sensitivity of cultural resources for each alternative.

- LEDPA analysis report that describes the project purpose and need, the range of practical alternatives and the rationale for selection of the LEDPA. The LEDPA report would include the information required by the EPA under Section 404(b)(1) of the federal Clean Water Act, which is required for all Section 404 permits issued by the Army Corps of Engineers.
- DPR 523 Primary Forms, if required.

**TASK 9 DEVELOPMENT OF CONCEPTUAL-LEVEL DAM ALTERNATIVES**

**Task 9.1 Repair Existing Dam Concept**

The objectives of this task are to further develop and evaluate the repair alternatives called for in the preliminary engineering report, and confirmed in Task 2. Repair concepts to be considered in the alternatives evaluation include upstream and downstream buttresses, with and without stone column treatment. The following issues will be addressed:

- Technical viability of the repair alternatives
- Liquefaction potential of repaired dam and resulting deformations
- Damage potential of repaired dam
- Seismic stability of repaired dam
- Reactivation of right abutment landslide under dam during construction
- Time for reservoir outage
- DSOD concerns

**Approach**

- Develop alternative concept drawings for repair such as using stone columns and upstream and downstream buttresses.
- Evaluate existing embankment and alluvial foundation properties reported in the OCC Final Report (2003) and establish values to be used in this conceptual engineering study.
- Perform stability analyses of repair alternatives considering information reported in the OCC Final Report (2003); and work completed under Task 1.2 and data collected from the borrow area geotechnical investigation (for use in buttress design).
- Perform seismic deformation analyses and evaluate potential damage to the repaired dam.

**Assumptions**

- Data on existing dam will be developed based on evaluation of information reported in the OCC Report (2003).

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**Services to be Provided**

**Deliverables**

- Technical Memorandum on the repair concept that will provide the results of the technical viability of the repair concept

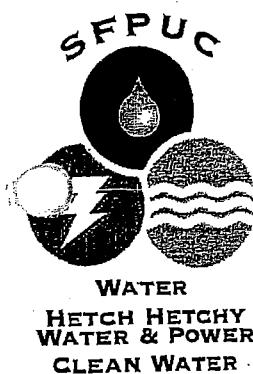
**Task 9.2 Replacement Dam Concept**

The objectives of this task are to develop replacement alternatives. The following issues will be addressed:

- Ability to build a new dam for same reservoir storage (96,850 acre-feet), increased reservoir storage (up to 420,000 acre-feet) or for same storage with provision for future enlargement
- Avoidance of large landslides, such as those on the right abutment
- Avoidance of active faults or conditionally active faults if present in the foundation
- Consideration of foundation shear zones that could pose stability problems, especially for an RCC dam
- Design of dam to make maximum use of on-site borrow materials
- Feasibility of reservoir utilization during construction
- Restoration of borrow areas and environmental issues
- Decommissioning of existing dam including possible demolition and/or removal of the dam prior to construction of replacement dam.
- Modifications of Alameda Creek Diversion Dam and Tunnel for enlarged reservoir alternatives

**Approach**

- Develop alternative concept drawings for replacement such as RCC, concrete face rockfill, and/or earth- and rockfill dams based on findings of Tasks 4, 5, and 6.
- Incorporate findings of Task 10 – Conveyance Facilities for replacement and/or enlargement alternatives.
- Develop strength parameters of the embankment materials and foundation rock based on Tasks 4 and 5.
- Evaluate use of on-site colluvial soils, broken-down sandstone, and alluvium at upstream end of reservoir for embankment dam core materials.
- Evaluate on-site rock sources for effective zoning of a concrete face rockfill dam.
- Perform stability analyses for each alternative dam type.
- Evaluate the need and options for the modification of Alameda Creek Diversion Dam and Tunnel for enlarged dam alternatives.



## SAN FRANCISCO PUBLIC UTILITIES COMMISSION



City and County of San Francisco  
Purchasing Department  
City Hall, Room 430  
1 Cr. Carlton B. Goodlet Place  
San Francisco, California 94102 - 4685

### AGREEMENT BETWEEN THE CITY AND COUNTY OF SAN FRANCISCO AND

URS CORPORATION  
221 Main Street, Suite 600  
San Francisco, CA 94105-1917

THIS AGREEMENT is made and entered into by and between the City and County of San Francisco (the "City"), a municipal corporation acting through its San Francisco Public Utilities Commission (SFPUC), and URS Corporation (the "Consultant").

WHEREAS, the City desires that the Consultant render geotechnical and design engineering services to conduct the conceptual engineering for the repair or replacement of Calaveras Dam; and

WHEREAS, the Consultant represents that it possesses the requisite professional expertise, experience and resources to render said services in accordance with the terms of this Agreement; and,

WHEREAS, approval for said Agreement was obtained from a Civil Service Commission Notice of Action for Contract No. 4098-02/03 on March 3, 2003:

NOW, THEREFORE, the City and the Consultant agree as follows:

#### 1. THE PROJECT

##### 1.1. DESCRIPTION

The City does hereby engage the Consultant to perform, under the terms and conditions in this Agreement, professional engineering and related technical services to conduct the Conceptual Engineering of the repair or replacement of Calaveras Dam (the "Project"). The Consultant shall develop and implement a plan for comprehensive geotechnical investigation, developing and evaluating project alternatives, investigating potential alternative dam sites, developing conceptual level designs, cost estimates, and schedules, recommending a preferred alternative,

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**Assumptions**

- Dam types to be considered in the alternatives evaluation include concrete face rockfill, roller compacted concrete (RCC), and earth/rockfill.

**Deliverables**

- Technical Memorandum on concept replacement alternatives that will include results of stability analyses, design basis, and plans and sections in sufficient detail to show main components

**Task 9.3 Evaluation Of Dam Concepts**

Based on Project Objectives and Evaluation/Selection Criteria established in Task 2, this task will evaluate and rank repair and replacement alternatives to provide the work results/information necessary to recommend the preferred alternative.

**Approach**

- The general process for dam type evaluation is for screening to occur after the geologic hazard assessment to consider dam location/type issues and after the geotechnical investigation to consider significant economic issues and drivers.
- Technical feasibility and structural integrity would be based on stability analyses described in Tasks 9.1 and 9.2.
- Cost effectiveness will be based on the cost estimation completed in Task 13.
- Relative long-term operation and maintenance costs/life cycle costs will be considered for the system components. Owners of reservoirs will be contacted to provide these costs for input in the estimate.
- Develop construction plans and layouts showing the site development as a contractor would develop including staging areas, borrow areas, stockpile areas for imported and on-site materials, disposal areas and access.
- Construction sequencing to address the site as it would be occupied by a contractor through completion of the project and reservoir filling.
- Evaluate constructability, operability, and maintainability of the alternatives.
- Quantify areas of both permanent and temporary disturbance.
- Ranking of each alternative with respect to the key issue factors would be done in matrix format. The ranking weighting factors would be assessed together with SFPUC staff. Such a ranking would provide for a rational basis for alternative evaluation with the ultimate goal of identifying the preferred alternative.

**Deliverables**

- Technical Memorandum on concept alternative evaluation and ranking that will document the basis of the alternatives evaluation and ranking process. Technical memorandum will include technical discussions on the alternatives, matrix comparison tables, and cost estimates from Task 13.
- Figures will be prepared of the plans, sections, and main details of the alternative dam types.

**Attachment 2**  
**Services to be Provided**

## **TASK 10 CONVEYANCE FACILITIES**

The overall objectives of Task 10 are to:

- Identify the required new and/or expanded conveyance facilities (outlet towers, pipelines, pump stations, water treatment plant capacity, and specialty valves) consistent with overall project objectives identified in Task 2, and conceptual level dam alternatives identified in Task 9.
- Identify, evaluate, and compare conveyance facility alternatives for recommendation of preferred alternatives to SFPUC.
- Work with SFPUC to prepare a conceptual design (10% level) report for the conveyance facilities selected by the SFPUC. This report will be included as Volume II of the Conceptual Engineering Report prepared under Task 14.

### **Approach**

- Task 10.1 is the planning level evaluation of the conveyance facilities, and it includes four subtasks, 10.1a through 10.1d. These subtasks will be performed in parallel with Task 9. The evaluation will include facilities both within Sunol Valley (10.1b) and outside of Sunol Valley (10.1c). The goal of this task is to review alternatives and select the preferred alternatives for the conceptual design.
- Tasks 10.2 through 10.4 provide the 10% level conceptual design for those facilities recommended to and accepted by the SFPUC in Task 10.1. The conceptual design will include the conveyance facilities directly related to the Calaveras Dam Project within Sunol Valley only. Task 10.2 will start after completion of Task 10.1.

### **Task 10.1 Conditions and Needs Planning Assessment**

#### ***10.1a Planning Assumptions and Condition Assessment***

This task will identify planning assumptions that will be used to size and evaluate the conveyance facilities. This task will then provide a qualitative assessment of the condition of the existing conveyance facilities in the Sunol Valley to assist in the determination of which facilities may be replaced as part of the Calaveras project.

### **Approach**

- Incorporate project objectives and general evaluation criteria from Task 2, and conceptual level dam alternatives from Task 9.
- Meet with SFPUC to review capacities, demand, operational, and facility alternatives.
- Through review of information and drawings, meetings with SFPUC engineering and operational staff, and site visits, the qualitative assessment of the existing facilities will be developed. This effort will be focused on facilities that could be impacted by the construction of new pipelines and/or pumping facilities.
- Provide preliminary review of capacity and maintenance condition of existing pumping and transmission facilities within the Sunol Valley.

### **Deliverables**

- Meeting minutes.

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**Services to be Provided**

- Results of this subtask will be reported in a Technical Memorandum prepared under subtask 10.1d.

**10.1b Sunol Valley Facilities**

The objectives of this task are to:

- Develop preliminary conveyance and treatment plant capacity needs in the Sunol Valley.
- Identify the location and size of the potential new and impact to existing facilities in the Sunol Valley. These will include new pipelines, major modifications to the existing San Antonio Pump Station (SAPS), and need for an expanded Sunol Valley Water Treatment Plant (SVWTP).
- Prepare preliminary level evaluation of the pipelines, and pump stations.

**Approach**

- Based on the conceptual level dam alternatives developed in Task 9 identify up to six alternative capacities for the conveyance facilities. These may include the following scenarios:
  - Maintain existing reservoir capacity and conveyance capacity
  - Maintain existing reservoir capacity with transfers to Calaveras Reservoir
  - Expanded reservoir with no transfers into Calaveras
  - Expanded reservoir with Hetch Hetchy transfers at low transfer rate
  - Expanded reservoir with Hetch Hetchy transfers at high transfer rates
  - Expanded reservoir with phasing of facilities
- Utilize existing SFPUC hydraulic models developed to evaluate capacity of existing pipeline and pumping facilities. Consultant will either use the existing SynerGEE model (previously Stoner), or H2ONet models. The preference is to use the H2ONet model with the updated demand distribution developed recently for the Stoner model. For either model the potential new facilities will be added, both within and outside of the Sunol Valley.
- Utilize existing CDM hydraulic and operational models to identify alternatives to meet capacity requirements for each alternative including Sunol Valley pipelines, pump stations and treatment capacities. It is assumed that alternatives will be developed for replacement size, and enlarged size for Calaveras Dam as defined in Task 2. The facilities within the Sunol Valley that will be included with the planning evaluation are: Calaveras Dam inlet/outlet capacity; Calaveras Pipeline(s)(existing and parallel); connections to the Sunol Siphons; San Antonio Pump Station; connections to San Antonio Reservoir; Sunol Siphons; Sunol Valley Water Treatment Plant capacity; Sunol Valley treated water storage capacity.
- Based on the criteria and objectives developed in Task 2, evaluate the inflow, outflow and treatment capacity requirements. It is assumed that the Sunol Valley Water Treatment Plant will be expanded to 240 mgd as identified in earlier plans. The Sunol Valley Water Treatment Plant expansion treatment plant evaluations as part of this task will be limited to identifying whether capacity in excess of 240 mgd will be required.

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- Identify pipeline corridors/alignments for new pipelines based on topographic mapping developed in other tasks.
- Identify potential geotechnical conditions or major cost elements for alternatives.
- Evaluate liquefaction susceptibility, fault rupture and landslide hazards along pipeline corridor.
- Incorporate work completed under Task 8 which will identify potential environmental fatal flaws, and/or significant mitigation measures that affect the feasibility and cost of potential new facilities, and provide input into engineering alternatives for siting and alignment that reduce or minimize environmental impacts.
- Develop preliminary cost and phasing information for conveyance facilities in the Sunol Valley.

**Deliverables**

- Results of this subtask will be reported in a Technical Memorandum prepared under subtask 10.1d.

**10.1c Facilities Outside of Sunol Valley**

This task will identify the potential need for major transmission facilities outside of the Sunol Valley that may be required to operate the Calaveras Reservoir.

**Approach**

- Based on the capacity sizes developed earlier in this task, identify the potential need and linkage for major conveyance facilities outside of the Sunol Valley. These may include San Joaquin Pipeline No. 4, Irvington Tunnel, and Bay Division Pipeline No. 5.
- The purpose of this planning level assessment is to determine if any of these facilities will be critical to the operation of the different reservoir and conveyance facility sizes, and the timing associated with these facilities.

**Deliverables**

- Results of this subtask will be reported in a Technical Memorandum prepared under subtask 10.1d.

**10.1d Analysis and Comparison of Conveyance Alternatives**

This task will analyze and compare alternatives developed above in this task, and work with SFPUC to identify and recommend conveyance alternatives to be carried forward into conceptual design in Tasks 10.2 through 10.4.

**Approach**

- Develop preliminary figures indicating facility requirements, possible operation and sizing, and locations of facilities. Meet with SFPUC (and other stakeholders) to obtain buy-in on recommended alternatives.
- Analyze alternatives for the following three dam capacity scenarios:
  - Replacement capacity
  - Expansion to 420,000 acre-feet

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- Phased expansion to 420,000 acre-feet
- Prepare a draft technical memorandum presenting the feasibility level assessment of the alternatives, both within the Sunol Valley, and potential conveyance facility requirements outside of the valley.
- The comparison will include the following elements for each of the scenarios:
  - Capital cost of conveyance facilities
  - Operational cost of conveyance facilities
  - Operational and reliability impacts and benefits
  - Discussion of environmental and/or geotechnical fatal flaws and mitigation costs
  - Potential phasing of conveyance facilities. It is assumed that any phasing will be a single step from 96,850 acre-feet of storage to 420,000 acre-feet.
  - Identification of potential for hydroelectric power generation at the SVWTP.
- Conduct a workshop specifically for this task to screen alternatives to be included in the conceptual design.
- The technical memorandum will be finalized after the workshop.

**Deliverables**

- Technical Memorandum on Conveyance Facilities that will include Technical Memorandum on geologic hazards and subsurface investigations from Task 4, and planning level assessment of project replacement and enlargement for pipeline and pumping facilities both within the Sunol Valley, and potential conveyance facility requirements outside of the valley.
- Workshop materials including results of preliminary alternatives analysis and meeting minutes.

**Task 10.2 Engineering Work Plan**

Work on Tasks 10.2 through 10.4 will be conducted in partnership of the Consultant and staff from SFPUC. However, until the Task 10.1 Condition and Needs Planning Assessment workshop is completed, the scope, scale, and conveyance improvements associated with the preferred project are unknown.

The purpose of Task 10.2 is to prepare an engineering work plan to identify the major elements included in the conceptual design. The SFPUC will review this document and decide the respective roles and responsibilities of SFPUC and Consultant staffs in the preparation of the 10% level design necessary for the Conceptual Engineering Report (CER) for Conveyance Facilities. The tasks and respective responsibilities of Consultant and SFPUC staffs that are preparing the CER for Conveyance Facilities will be clearly defined.

**Approach**

- Consultant will prepare a draft engineering work plan defining tasks, task objectives, deliverables, and schedule for the conduct of Task 10.4, Conceptual Engineering Report. Key disciplines and staff level requirements will be identified. The work plan will also define QA/QC and production responsibilities.

## Attachment 2 Services to be Provided

- Consultant will prepare a draft outline of the Conceptual Engineering report, and preliminary lists of tables and figures.
- The SFPUC will review the draft work plan and outline and develop recommendations for which elements of the design that the SFPUC may prepare.
- Responsibilities for each section of the Conceptual Engineering report will be designated in one of three ways: 1) SFPUC, 2) Consultant, or 3) joint effort. In the case of sections requiring joint effort, the lead entity (SFPUC or Consultant) will be specified, with a brief description of how the work will be shared.
- Detailed estimates of the level of effort for design will be developed by the Consultant and SFPUC.
- Appropriate opportunities for technology transfer/knowledge transfer will be identified.
- Upon approval of the work plan for this task, Consultant will conduct a "kick-off" meeting with the SFPUC design staff.

### **Assumptions**

- The current scope and level of effort only includes the conceptual design for pipelines and a pump station in the Sunol Valley.
- Consultant will identify its budget by subtask or work group.
- SFPUC staff will develop budgets for its staff and furnish these estimates to Consultant for incorporation into the work plan.

### **Deliverables**

- Work Plan estimated to be an 8 to 12 page document, most of the responsibilities will be defined in tables.
- Kickoff workshop agenda and meeting summary.

### **Task 10.3 Coordination with SFPUC**

This task provides for coordination between Consultant and SFPUC staff during preparation of the CER for Conveyance Facilities (Task 10.4).

### **Approach**

- Consultant will conduct bi-weekly coordination meetings with key members of the project team including its staff and SFPUC staff.
- Consultant and SFPUC staff will review interim and informal progress submittals prepared by SFPUC for those CER sections that are being led by, or prepared in conjunction with, SFPUC staff.
- Consultant will monitor the progress of the CER and report to the SFPUC project manager the status of each section including those sections being prepared by, or in conjunction with SFPUC staff. Consultant will maintain a project file in eRoom that provides the latest version of sections of the CER, meeting agenda, meeting summaries, a project schedule and other information needed by all team members.

**Attachment 2**  
**Services to be Provided**

**Assumptions**

- Coordination meetings to be held at SFPUC offices and will last approximately 90 minutes.
- SFPUC will furnish Consultant PM with bi-weekly status updates of SFPUC progress by earned value and estimated cost at completion.

**Deliverables**

- Meeting handouts and notes.

**Task 10.4 Conceptual Engineering Report (CER)--Conveyance**

This task will prepare the Conceptual Engineering Report for Conveyance Facilities.

**Approach**

- Based on facilities recommended by Consultant in Task 10.1, the project team will prepare the CER for the Conveyance Facilities.
- The Task 10 CER will include conveyance facilities for three different size dam projects—replacement only, phased expansion (initial 96,850 acre-feet expanded to 420,000 acre-feet), or construction (to 420,000 acre-feet).
- Required new and/or expanded conveyance facilities (outlet towers, pipelines, pump station, and specialty valves) will be identified.
  - If additional hydraulic capacity is required to and from the reservoir, considerations include using the existing pipelines (if possible), a parallel pipeline installed while maintaining the existing pipeline, and replacing the existing pipeline (or replace only certain sections)
  - Incorporation of work completed under Task 8 which will identify potential environmental fatal flaws, and/or significant mitigation measures that affect the feasibility and cost of potential new facilities, and provide input into engineering alternatives for siting and alignment that reduce or minimize environmental impacts.
- Develop preliminary figures indicating facility requirements, possible operation and sizing, and locations of facilities. Meet with SFPUC (and other stakeholders) to discuss alternatives.
- Identify potential geotechnical conditions or major cost elements for alternatives.
- The conceptual level design for pipelines will include:
  - Preliminary alignments for pipelines including plan on 11-inch x 17-inch drawings at 1" = 100 ft horizontal. A separate profile will be prepared and 1" = 10 ft vertical scale, and 1"=200 ft horizontal scale.
  - Pipe material evaluation and recommendations.
  - Planning level surge analysis including development of a simplified surge model, evaluation of proposed surge protection alternatives for pipelines and pump station, and identification of potential surge protection devices.
  - Preliminary identification of thrust restraint system.
  - Pipe joint recommendations (type, weld requirements)

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- Preliminary recommendation of cathodic protection system (impressed current, sacrificial anode, or none).
- Valve type and actuator type recommendation.
- Valve pit conceptual layout 11-inch x 17-inch sketch showing general arrangement and approximate inside dimensions of structure.
- Conceptual SCADA requirements (type of system, approximate number of data points, simplified block diagram)
- Electrical power requirements (for motorized valves and/or SCADA).
- Conceptual connection(s) to other supplies.
- The 10% level conceptual design for pump stations will include:
  - Pump station layout showing number and type of pumps (plan view 11-inch x 17-inch sketch).
  - Description and sketch of building (if desired by staff) to house new pumps and/or electrical gear.
  - Civil plan view showing conceptual grading, paving and drainage improvements.
  - Conceptual pump system head curve showing range of operating head conditions and typical pump selection.
  - Preliminary evaluation of engine vs. motor driven pumps.
  - Electrical power requirements—source, voltage.
  - Yard piping showing interconnections with existing yard piping (plan view 11-inch x 17-inch sketch).
  - Compilation of major design criteria.
- Cost, schedule and constructability of facilities will be developed under Task 13.
- The current scope and level of effort only includes the conceptual design for pipelines and a pump station in the Sunol Valley.
- Consultant will conduct two one-day “training” workshops with SFPUC design staff specifically for this task. The first one will focus on evaluations of options. The second one will focus on the design requirements for the proposed preferred option.

**Assumptions**

- Alternatives evaluated in Task 10 and summarized in Task 10.1 Technical Memorandum, but not carried forward into conceptual design will not be repeated in the CER—Conveyance Facilities.
- Conceptual design of potential modifications to the existing or future expanded 240 mgd Sunol Valley WTP treatment process is not included.
- Pipeline plan and profile drawings will be prepared on 11-inch x 17-inch media and will not be half-size reductions.
- Conceptual pipeline design will not include any of the following: detailed surge evaluation, site specific geotechnical evaluation, identification of right-of-way or property acquisition

## Attachment 2 Services to be Provided

needs, identification of construction easement needs, tunneling, identification and location of minor existing utilities other than other SFPUC pipelines, laydown or staging areas for construction contractor, details of appurtenances (e.g. air relief stations, vacuum relief stations, access manways, marker posts, water quality sample stations), and potholing to locate existing underground utilities.

- Conceptual pump station design will not include any of the following: architectural drawings, landscape architecture drawings, structural conceptual design of new building (if any), noise control assessment, hazardous material assessment of existing facility, pump control description, pump system process & instrumentation diagram (P&ID), assessment of existing pump station facility capacity or condition, assessment of existing pump station building seismic suitability, conceptual design of a new Hatch Hatchy electrical substation or dedicated high voltage feed line if existing Hatch Hatchy substation does not have sufficient power for proposed pumps, potholing to locate existing underground utilities, and ADA or other code upgrades to existing SAPS facilities.

### **Deliverables**

- Conceptual Engineering Report for Conveyance Facilities that will include conceptual level design for project replacement and enlargement for pipeline and pumping facilities within the Sunol Valley.

## **TASK 11 OPERATION OF RESERVOIR DURING CONSTRUCTION**

### **Task 11.1 Operation of Reservoir During Construction**

This task will develop a plan to maintain and maximize the use of Calaveras Reservoir and runoff during the construction period. Two scenarios will be considered: existing dam remains in place during construction or removed prior to construction of new dam. This will include impacts on available water and water quality for normal delivery and/or construction use. A winterization plan will be developed.

### **Approach**

- Based on the construction sequencing and proposed timing of the startup of the new/expanded reservoir, identify when the reservoir storage capacity may be reduced, or the existing conveyance facilities may not be available, and the potential impact of high flow runoff on construction conveyance of water from reservoir during construction.
- Identify sequencing for new conveyance facility requirements, and switch-over requirements to the new facilities.
- Evaluate the pros/cons, including cost/benefit analysis, for the two scenarios being considered.
- Develop a preliminary plan, including winterizing.
- Estimate time that reservoir will be out of service, and resulting cost.

### **Assumptions**

- SFPUC Operations will be available to work closely with Consultant to identify potential issues and solutions.

**Attachment 2**  
**Services to be Provided**

**Deliverables**

- Technical Memorandum documenting: criteria (SFPUC and regulatory requirements/desires) for operation during construction; plan for achieving these criteria showing how reservoir would be operated, timing for any dam decommissioning, drawdown, impacts on construction sequencing, etc.; the existing, temporary and new facilities (gates, valves, conduits, etc) that would need to be operational during specific phases of construction; sequencing and switch-over requirements for new facilities; and impacts on water availability and quality and general operations.

**Task 11.2 Operation of Reservoir Prior to Construction – Reservoir Water Quality & Habitat Management**

The objectives of this task are to assist the SFPUC in the development of an interim operating plan prior to commencement of construction regarding:

- Water quality problems and operational constraints when the reservoir is drawn down to lower elevations
- Identification of operational and/or treatment options to improve the available storage capacity
- Sensitive habitat encroachment during reservoir restriction

**Approach**

- Confirm DSOD operational constraints in the near-term based on results from Tasks 1.2 and 1.3 (if needed).
- Work with SFPUC Operations to identify potential water quality problems associated with lower water levels.
- Work with SFPUC Operations to identify potential in-reservoir and out-of-reservoir treatment options.
- Workshop or meetings with SFPUC project team to review options. If options include changes to reservoir storage levels, meetings with DSOD will be held.
- Evaluate wetland and special status species habitats that may be affected by the reservoir restriction and develop operational and/or treatment options to reduce future inundation impacts to these habitats

**Assumptions**

- The final scope of work, budget and schedule for this task will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on the task.

**Deliverables**

- Technical Memorandum documenting: criteria (SFPUC and regulatory requirements/desires) for operation prior to construction; plan showing how reservoir could be operated to meet these criteria (rule curve); impacts on water availability and quality; the need for any temporary facilities to reduce such impacts; and any implications to future construction sequencing.

**Attachment 2**  
**Services to be Provided**

**Task 11.3 Alternatives to Improve Water Supply Availability**

This task will develop both short-term and long-term alternatives that will either maximize continued use of the Calaveras Reservoir through construction or identify other methods of improving the supply availability from other local water sources, including San Antonio Reservoir, during the period of restricted operation of Calaveras Reservoir.

This task should take into account long-term system projects currently being planned in the region, to identify opportunities satisfy the objectives of multiple projects through the implementation of one project. This task will also build on the recommendations for operational changes identified in Task 11.2.

**Approach**

- Obtain information on related SFPUC projects currently planned in the region.
- Identify operational (as part of Task 11.2) and capital modifications that will allow increased use of local water sources (both San Antonio and Calaveras Reservoirs) to be treated at the SVWTP. Prepare a short technical memorandum, listing the concepts and a brief description for distribution prior to meeting with SFPUC staff.
- Identify potential treatment options within the Calaveras Reservoir, both near-term prior to dam replacement and/or expansion, and long-term after construction.
- Conduct workshop with SFPUC staff (Operations and engineering design) to screen the concepts identified, and possibly identify new/different options; facilitate discussion of potential advantages/disadvantages or other issues associated with the concepts. Develop shortlist of concepts to conduct feasibility evaluations.
- Identify potential facility requirements for the short-listed concepts, including cost estimates, and general environmental considerations (potential for meeting CEQA requirements with Categorical Exemption, Negative Declaration, or Environmental Impact Report), and estimated time to implement.
- Conduct follow-up workshop with SFPUC staff to discuss and rank concepts developed, and select a preferred alternative for subsequent design phases.

**Assumptions**

- This task will incorporate and build upon the recommendations of Task 11.2.
- The SFPUC will provide information on on-going related projects in the area, which are either in the planning or conceptual engineering phase.
- Two workshops

**Deliverables**

- Preliminary technical memo incorporating the operational/treatment options identified in Task 11.2 and identifying operational and facility modifications to improve availability of local water sources.
- Workshop handouts, minutes.
- Technical memo presenting the preliminary design concepts (both written criteria, and initial sketches) and cost estimates for the short-listed concepts, incorporating ranking and

**Attachment 2**  
**Services to be Provided**

other comments provided by SFPUC staff at workshop. Recommendations for subsequent design phases should be included.

**Task 11.4 Emergency Action Plan Update (Optional)**

This task will provide an Updated Emergency Action Plan. The emergency action plan should correspond to conditions of reservoir operated at restricted level.

**Approach**

- Modify existing Emergency Action Plan
- Address structural integrity of the upstream inlet structure and the downstream release value if dam deformation did occur as requested by DSOD.
- Update downstream inundation map

**Assumptions**

- The final scope of work, budget and schedule for this task will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on the task.

**Deliverables**

- Updated Emergency Action Plan based on FERC and FEMA Guidelines including notification flowcharts, delineation of authority and responsibilities, dam failure flood descriptions and inundation maps, and training requirements for personnel with responsibilities under the plan.

**TASK 12 ROAD AND UTILITY RELOCATION**

Task 12 will identify the required road and utility relocations consistent with overall project objectives identified in Task 2, and conceptual level dam alternatives identified in Task 9, due to construction of an enlarged reservoir (420,000 acre-feet).

The Consultant will work with SFPUC to prepare a conceptual design (10% level) report for the road and utility relocations. This report will be included as Volume III of the Conceptual Engineering Report prepared under Task 14.

**Approach**

- Task 12.1 is the planning level evaluation of the road and utility relocation. This task will be performed in parallel with Task 9.
- Tasks 12.2 through 12.4 provide the 10% level conceptual level design for the road and utility relocation. Task 12.2 will start after completion of Task 12.1.

**Task 12.1 Conditions and Needs Planning Assessment**

This task will identify the portion of the roadway and utilities (including power transmission lines and towers) that require relocation due to construction of an enlarged reservoir (420,000 acre-feet).

**Approach**

- Incorporate project objectives and general evaluation criteria from Task 2.

**Attachment 2**  
**Services to be Provided**

- Meet with SFPUC to discuss environmental, geotechnical risks (landslide potential), and road drainage requirements. Concur on the road and utility relocations to be included in the conceptual design.
- The technical memorandum will be finalized after the workshop.

**Deliverables**

- Technical Memorandum on road and utilities that require relocation.
- Meeting materials and minutes.

**Task 12.2 Engineering Work Plan**

Work on Tasks 12.2 through 12.4 will be conducted in partnership of the Consultant and staff from SFPUC.

The purpose of Task 12.2 is to prepare an engineering work plan to identify the major elements included in the conceptual design. The SFPUC will review this document and decide the respective roles and responsibilities of SFPUC and Consultant staffs in the preparation of the 10% level design necessary for the Conceptual Engineering Report (CER) for Road and Utility Relocations. The tasks and respective responsibilities of Consultant and SFPUC staffs that are preparing the CER for Road and Utility Relocation will be clearly defined.

**Approach**

- Consultant will prepare a draft engineering work plan defining tasks, task objectives, deliverables, and schedule for the conduct of Task 10.4, Conceptual Engineering Report. Key disciplines and staff level requirements will be identified. The work plan will also define QA/QC and production responsibilities.
- Consultant will prepare a draft outline of the Conceptual Engineering report, and preliminary lists of tables and figures.
- The SFPUC will review the draft work plan and outline and develop recommendations for which elements of the design that the SFPUC may prepare.
- Responsibilities for each section of the Conceptual Engineering report will be designated in one of three ways: 1) SFPUC, 2) Consultant, or 3) joint effort. In the case of sections requiring joint effort, the lead entity (SFPUC or Consultant) will be specified, with a brief description of how the work will be shared.
- Detailed estimates of the level of effort for design will be developed by the Consultant and SFPUC.
- Appropriate opportunities for technology transfer/knowledge transfer will be identified.
- Upon approval of the work plan for this task, Consultant will conduct a "kick-off" meeting with the SFPUC design staff.

**Assumptions**

- Consultant will identify its budget by subtask or work group.
- SFPUC staff will develop budgets for its staff and furnish these estimates to Consultant for incorporation into the work plan.

**Attachment 2**  
**Services to be Provided**

**Deliverables**

- Work Plan estimated to be a 4 to 6 page document, most of the responsibilities will be defined in tables.
- Kickoff workshop agenda and meeting summary.

**Task 12.3 Coordination with SFPUC**

This task provides for coordination between Consultant and SFPUC staff during preparation of the CER for Road and Utility Relocation (Task 12.4).

**Approach**

- Consultant will conduct bi-weekly coordination meetings with key members of the project team including its staff and SFPUC staff.
- Consultant and SFPUC staff will review interim and informal progress submittals prepared by SFPUC for those CER sections that are being led by, or prepared in conjunction with, SFPUC staff.
- Consultant will monitor the progress of the CER and report to the SFPUC project manager the status of each section including those sections being prepared by, or in conjunction with SFPUC staff. Consultant will maintain a project file in eRoom that provides the latest version of sections of the CER, meeting agenda, meeting summaries, a project schedule and other information needed by all team members.

**Assumptions**

- Coordination meetings to be held at SFPUC offices and will last approximately 90 minutes.
- SFPUC will furnish Consultant PM with bi-weekly status updates of SFPUC progress by earned value and estimated cost at completion.

**Deliverables**

- Meeting handouts and notes.

**Task 12.4 Conceptual Engineering Report (CER)—Road and Utility Relocation**

This task will prepare the Conceptual Engineering Report for Road and Utility Relocation.

**Approach**

- The 10% level conceptual design for the road and utility relocation will include:
  - Delineation of portion of roadway that needs to be re-routed.
  - Delineation of utilities, including power transmission lines and towers, that need to be relocated.
  - Definition of design parameters and identification of potential alternative routes.
  - Identification of right-of-way issues for the alternatives.
  - Confirmation of the potential environmental issues related to each route (also see below).
  - Estimation of cost of each alternative.

## Attachment 2 Services to be Provided

- Incorporation of work completed under Task 8 which will identify potential environmental fatal flaws, and/or significant mitigation measures that affect the feasibility and cost of the road and utility relocation, and provide input into engineering alternatives for siting and alignment that reduce or minimize environmental impacts.
- The conceptual level design for road relocation will include preliminary alignments for the road relocation including plan on 11-inch x 17-inch drawings at 1" = 100 ft horizontal. A separate profile will be prepared and 1" = 10 ft vertical scale, and 1"=100 ft horizontal scale. (Topographical maps will be produced in Task 4.2.)
- Consultant will conduct two one-day "training" workshops with SFPUC design staff specifically for this task. The first one will focus on evaluations of options. The second one will focus on the design requirements for the proposed relocation options.

### **Assumptions**

- Alternative routes evaluated in Task 12 and summarized in Task 12.1 Technical Memorandum, but not carried forward into conceptual design will not be repeated in the CER - Road and Utility Relocation.
- Conceptual road and utility relocation design will not include any of the following: site specific geotechnical evaluation, identification of construction easement needs, laydown or staging areas for construction contractor, and potholing to locate existing underground utilities.

### **Deliverables**

- Conceptual Engineering Report for Road and Utility Relocation that will include alignments and vertical profiles of new roadway, grading and drainage.

## **TASK 13 DEVELOPMENT OF COST ESTIMATES AND SCHEDULES**

Under this task the Consultant will conduct constructability review and develop reliable construction cost estimates and schedules for use in evaluating and ranking of alternatives.

### **Approach**

- Conduct constructability review for the development of costs for equipment, materials, and labor components of direct construction costs associated with the dam construction. Productivity will be based on schedule constraints and assessments of potential equipment spreads.
  - Constructability of the alternatives
  - Physical, environmental and schedule constraints
  - Equipment rates will be obtained from published data on local leasing, rental or ownership rates.
  - Labor rates will be based on published local prevailing wages.
  - Material rates will be based on vendor quotes.
  - Percentages will be added for overhead and profit.

## Attachment 2 Services to be Provided

- Contingency will be added based on the level of the cost estimate for conceptual design purposes.
- The accuracy of the estimate will be identified.
- The construction schedule, including CPM, will be developed using the program Primavera or MS Project.
- Develop planning level construction cost estimates for the pipelines and pump station.
- Schedules and cost estimates will be prepared in a format consistent with guidelines being developed by SFPUC Project Controls.

### **Assumptions**

- The construction cost estimates will be prepared in accordance with the Class 4 definition established by the Association for the Advancement of Cost Engineering International (AACE, 1997).
- The level of effort to prepare the schedules and cost estimates in a format consistent with guidelines being developed by SFPUC Project Controls are comparable to the budgeted level of effort of preparing schedules and cost estimates shown in the example CER provided by SFPUC.

### **Deliverables**

Technical Memorandum documenting the basis of the cost and schedule estimates. All cost and schedule estimate documentation, including electronic files, will be provided. Estimates of cost components for materials, labor, and equipment, indirect costs, profit, and bond; and estimates of productivity, schedules, critical paths (CPMs) and the interdependency of the various activities will be included.

### **TASK 14 DEVELOPMENT OF CONCEPTUAL ENGINEERING REPORT**

Provide a Conceptual Engineering Report that summarizes the results of the above studies, and documents the SFPUC review and rationale for the selection of the preferred alternative for the three categories of project alternatives identified in Task 2.

### **Approach**

- The results of the above task studies will be summarized in the Conceptual Engineering Report. An executive summary will be included. Description of SFPUC review and rationale for selection of the preferred alternative will also be included.
- Documentation of the conceptual design (10% level) of the preferred alternative for each category will include base plans, sections, main details of the dam and appurtenant works, design criteria and parameters and a list of specifications.
- The Conceptual Engineering Report will be issued twice: Final and Revised Final. The Final CER will be issued upon the completion of the above technical tasks, about 18 months from NTP. The Revised Final CER will be issued upon the completion of the environmental review process, about 42 months after NTP, and will incorporate the changes as a result of the review process.

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#### **Assumptions**

- The Conceptual Engineering Report will follow the proposed outline shown in Exhibit A-1 and the example CERs provided by the SFPUC Project Manager.
- The CER for conveyance facilities will be Volume II of the Conceptual Engineering Report.

#### **Deliverables**

- Final and Revised Final Conceptual Engineering Report. The Revised Final CER will reflect changes as a result of the environmental review process.

### **TASK 15 DESIGN REVIEW MEETINGS/WORKSHOPS WITH SFPUC AND DSOD**

#### Task 15.1 Review Meetings with SFPUC

#### Task 15.2 Review Meetings with DSOD

The Consultant will meet with SFPUC Project Team and Management Team periodically to review and develop solutions for significant design and related project issues towards the formulation of the preferred project alternative(s).

The Consultant will also meet and coordinate with DSOD to obtain their input on dam-related design issues and concurrence towards the development of preferred project alternative(s).

#### **Approach**

- Organize and schedule 9 review meetings with the SFPUC Project Team and Management Team, and 7 review meetings at approximately the time intervals shown in Figure A-1. The meetings will be set to review significant design and related project issues in order to advance conceptual engineering towards the formulation of the preferred project alternative(s).
- Work with SFPUC's Project Manager to prepare agendas well before the meetings to assure all critical issues are covered.
- Prepare and conduct the review meetings to present the results of the major deliverables, receive comments and to propose resolutions to issues. Key subject areas to be reviewed in meetings with SFPUC and DSOD are:
  - Design criteria
  - Geotechnical investigation work plans for foundation, borrow areas, and faulting
  - Seismic ground motions
  - Hydrology and hydraulics
  - Environmental considerations (SFPUC only)
  - Conceptual alternatives
  - Conveyance facilities (SFPUC only)
  - Operation of reservoir during construction
  - Construction cost and schedule (SFPUC only)

## Attachment 2 Services to be Provided

- Conceptual Engineering Report
- As shown in Attachment 4 - Preliminary Project Schedule, the DSOD review meetings will be conducted after the review meetings with the SFPUC and Calaveras Advisory Panel. (The Calaveras Advisory Panel meetings are covered under Task 16). In general, the DSOD review meetings will only cover subject areas under their jurisdiction (as compared to those noted as SFPUC only); and all design issues and decisions would have been reviewed by the SFPUC Management Team and Calaveras Advisory Panel. This approach should streamline and strengthen the review and approval process with DSOD.

### **Assumptions**

- Allowed for 9 workshops with SFPUC and 7 meetings with DSOD at approximately the time intervals shown in Attachment 4 - Preliminary Project Schedule.
- Review meetings with SFPUC will be held at SFPUC's offices in San Francisco, and meetings with DSOD in DSOD's office in Sacramento. At least one of the meetings with SFPUC and/or DSOD will include a site visit and the meeting would be held at SFPUC's facilities in Sunol.

### **Deliverables**

- Meeting presentation materials, hand-outs, and minutes indicating decisions reached on significant design issues.

## **TASK 16 CALAVERAS ADVISORY PANEL MEETINGS**

Under this tas, the Consultant will meet with the Calaveras Advisory Panel periodically to present recommendations on significant design and related project issues towards the formulation of the preferred project alternative(s).

### **Approach**

- Work with SFPUC's Project Manager to organize and schedule 5 review meetings with the Calaveras Advisory Panel at approximately the proposed time intervals shown in Attachment 4 - Preliminary Project Schedule. As approved by the SFPUC, the meetings will be set to review significant design and related project issues in order to advance conceptual engineering towards the formulation of the preferred project alternative(s).
- Work with SFPUC's Project Manager to prepare agendas well before the meetings to assure all critical issues are covered.
- Prepare and conduct the review meetings to present the results of the major deliverables, receive comments and to propose resolutions to issues. The issues would be similar to those identified in Task 15. If requested, assist SFPUC to prepare questions for each Calaveras Advisory Panel meeting to obtain their input to resolve issues. The issues will be kept in an up-to-date matrix, with potential resolutions.
- It is recommended that the first Calaveras Advisory Panel meeting would be to review the conceptual engineering approach and design criteria (prepared under Task 2) and filed investigation program (prepared under Task 4.1).

**Attachment 2**  
**Services to be Provided**

**Assumptions**

- Allowed for 5 meetings with the Calaveras Advisory Panel at facilities provided by the SFPUC.

**Deliverables**

- Presentation materials for the Calaveras Advisory Panel meetings
- Meeting minutes documenting questions asked by the CAP, and subsequent discussion on issues raised by the CAP and responded by the Consultant.

**TASK 17     ENGINEERING SUPPORT DURING PREPARATION OF  
ENVIRONMENTAL DOCUMENTS AND PERMIT APPLICATIONS**

This task will provide technical data and support for preparation of the environmental documents and permit applications.

**Approach**

- Provide supplemental information required to support the environmental review. Issues related to soils, geology, seismicity, water resources and construction will be addressed with input from the team members responsible for these areas.
- As requested by SFPUC's Project Manager, provide or develop additional information on construction related impacts or additional mapping and related drawings for project alternatives.

**Assumptions**

- Consultant will provide engineering and other technical support services as requested and authorized by the SFPUC Project Manager or his/her designee.

**Deliverables**

- Technical Memoranda of project alternatives on an as-needed basis

**TASK 18     PUBLIC OUTREACH**

For this task, the Consultant will work under the supervision of the SFPUC Communications Outreach Manager and will provide public outreach assistance, as needed to build support for the project through the conceptual design phase.

**Approach**

Consultant will work under the supervision of the SFPUC Public Outreach Manager and will perform the following tasks as necessary, including but not limited to: updating stakeholder databases, creation of summary documents from meetings, meeting logistics, and other public outreach assistance, as needed, to build support for the project through the conceptual design phase. Develop messages on:

- Need for project
- Need for rapid delivery
- Relation to rest of CIP

**Attachment 2**  
**Services to be Provided**

**Assumptions**

Consultant will provide public outreach support services as requested and directed by the Communications Public Outreach Manager and the SFPUC Project Manager or his/her designee.

**Deliverables**

Update project databases of community groups, individuals, and elected officials, as needed. Deliverables may include, but are not limited to: PowerPoint presentations, fact sheets, mailing lists, printing, postage, rental of facilities for public meetings, renting audio/visual equipment, procurement of refreshments and materials for public meetings.

**TASK 19 PROJECT MANAGEMENT AND MEETINGS WITH SFPUC**

The Consultant will manage and control all related project tasks through close coordination with SFPUC, discuss project status, progress and forthcoming work, discuss issues to be resolved and proposed solutions through completion within estimated schedule and cost.

**Approach**

- Prepare a project specific Project Management Plan that defines roles and responsibilities of all team members including subconsultants and subcontractors; task scope, budgets, and schedules; and staff contact information.
- Prepare a project specific Quality Assurance Plan that defines independent technical reviews and detail checking of all draft and final work products.
- Develop Health and Safety Plan for consultant team staff working on the project.
- Attend monthly meetings with SFPUC. Current key issues and future issues will be discussed at each meeting. Proposed resolution of issues will also be discussed.
- Prepare monthly progress reports to discuss work completed for the month, work to be completed for the next month, schedule status, budget status, and issues for resolution. Budget status will be evaluated by earned value to estimate percent complete for each task for comparison with the amount spent.
- Prepare and maintain a computer-based tabulation of review comments for technical memoranda, reports, and other documents that will include a field for the Consultant's responses.

**Assumptions**

- Consultant will prepare the Project Management Plan, Quality Assurance Plan and Health and Safety Plan with one cycle of draft review by the SFPUC.

**Deliverables**

- Project Management Plan
- Quality Assurance Plan
- Health and Safety Plan

Attachment 2  
**Services to be Provided**

- Meeting summaries on project status and work to be done for preparation for the next meeting. Decision and action items will be summarized at the end of each meeting summary.
- Monthly progress reports, invoices and HRC Forms

**TASK 20 ADDITIONAL TECHNICAL SERVICES (As-Needed)**

This task provides for other related, yet currently undefined work which may be required by DSOD or other regulatory agencies, or other work that is identified by the SFPUC as necessary for completing the project.

**Approach**

- Prepare scope, schedule and budget for tasks that may be required by DSOD or other regulatory agencies for SFPUC's Project Manager review and approval.
- Complete tasks in accordance with scope, schedule and budget as approved by SFPUC's Project Manager.

**Assumptions**

- The final scope of work, budget and schedule for this task will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on the task.

**Deliverables**

- To be determined

**TASK 21 SFPUC GED STAFF TRAINING PROGRAM**

Conduct a training and technology-transfer program which is an integral component of all SFPUC Professional Services Contracts. The primary goal of the program is to provide opportunities for increasing the knowledge level and expertise of the SFPUC engineering staff in areas in which the Consultant is recognized. Through such training opportunities, SFPUC expects its staff to gain an in-depth knowledge of the Consultant's work on this project and be thoroughly prepared to manage the next phase of the project.

**Approach**

- Prepare a training plan in conjunction with SFPUC Training Coordinator and Engineering Managers for SFPUC's Project Manager review and approval. The plan will identify the subjects and contents of the training program and methods for delivery, and define the expected learning objectives and outcomes. The corresponding Consultant's scope, schedule and budget will also be submitted for review and approval.
- In identifying and proposing subjects and contents for the training program, Consultant will, to the extent possible, utilize or build on existing materials that have been developed and used previously.
- Upon approval of the SFPUC's Project Manager, plan and carry out the training program in accordance with the agreed-upon scope, schedule and budget.

**Attachment 2**  
**Services to be Provided**

- Work with SFPUC Training Coordinator, collect and review feedback from participants after each training session. As appropriate, incorporate participants' comments and suggestions in future training sessions.

**Assumptions**

- The final scope of work, budget and schedule for this task will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on the task.
- Training will be conducted at facilities provided by the SFPUC except for site visits.

**Deliverables**

- Work Plan for Training and Technology-transfer Program.
- For each training session: agenda, handouts, feedback forms and other materials as appropriate. The exact content of the deliverables will be determined based on the training content and subjects requested and approved.

Attachment 2  
Services to be Provided

Table A-1  
PROPOSED SITE INVESTIGATIONS  
CALAVERAS DAM PROJECT

EXPLORATION TYPE / NO. <sup>1</sup>	LOCATION	TYPE <sup>2</sup>	DEPTH / LENGTH <sup>3</sup>	FORMATION <sup>2</sup>	PIEZOMETER <sup>2</sup>	ACCESS	GOAL OF INVESTIGATION	IN-SITU TESTING		COMMENTS
								CB-1	CB-2	
<b>PHASE I DAM FOUNDATION</b>										
CB-1	left abutment, us	core, inclined	60	150	Tts	No	On existing road	dam foundation	dam foundation	packer
CB-2	left abutment, ds	core, vert.	180	Tts	No	On existing road	dam foundation	dam foundation	dam foundation	packer
CB-3	valley bottom, ds	core, inclined	60	300	Fill/Tts/sp	Yes	On existing road	dam foundation, contact	dam foundation, contact	packer, televiwer
CB-4	valley bottom, ds	core, inclined	60	300	fm/sp	Yes	On existing road	dam foundation, fault	dam foundation, fault	packer, televiwer
CB-5	right abutment, ds	core, vert.	150	fm/Tts	yes		On existing road	dam foundation	dam foundation	packer
CB-6	right abutment, ds	core, inclined	60	120	fm	yes	New 300' dozer road	dam foundation, fault	dam foundation, fault	packer, televiwer
CB-7	right abutment axis	core, vert.	225	Qls/fm	no		On existing road	dam foundation	dam foundation	packer
BA-8	right abutment, us	bucket	75	Qls/fm	no		On existing road	landslide depth	landslide depth	none
BA-9	right abutment, us	bucket	75	Qls/fm	no		On existing road	landslide depth	landslide depth	none
BA-10	right abutment, ds	bucket	75	Qls/sp	no		On existing road	landslide depth	landslide depth	none
BA-11	right abutment, ds	bucket	75	Qls/sp	no		By existing road	landslide depth	landslide depth	none

**Attachment 2**  
**Services to be Provided**

**Table A-1**  
**PROPOSED SITE INVESTIGATIONS**  
**CALAVERAS DAM PROJECT**

EXPLORATION	LOCATION	TYPE	DEPTH / LENGTH	FORMATION	PIEZOMETER	ACCESS	GOAL OF INVESTIGATION		IN-SITU TESTING	COMMENTS
							IN-SITU TESTS	TESTS		
BA-12	right abutment, landslide downstream of dam	bucket	100	Qls/fm	no	On existing road	landslide depth	none	Need to improve/regrade road	
BA-13	left abutment, ds	bucket	75	Qls/Tls	no	On existing road	landslide depth	none	May need to improve/regrade road	
BA-14	left abutment, landslide downstream of dam	bucket	75	Qls/Tls	no	On existing road	landslide depth	none	May need to improve/regrade road	
TP-1 to TP-6	landslides near dam	test pit	20	Qls	no	To be determined	landslide limits / geologic contacts	none	Location to be determined during geologic mapping	
RS-1	Upper left abutment	seismic refraction	1,200	Qls/Tls	NA	On existing roads	Weathering and landslide depth	NA		
RS-2	Lower right abutment/valley bottom	seismic refraction	1,400	Qls/fm/sp	NA	On existing roads	Weathering and landslide depth, fault	NA		
RS-3	Upper right abutment	seismic refraction	1,200	Qls/Tls/sp	NA	On existing roads	Weathering and landslide depth, fault	NA		

**Table A-1**  
**PROPOSED SITE INVESTIGATIONS**  
**CALAVERAS DAM PROJECT**

CALAVERAS DAM PROJECT							
EXPLORATION NO.	LOCATION	TYPE	DEPTH / LENGTH (ft)	FORMATION <sup>2</sup>	PIEZOMETER	ACCESS	COMMENTS
							IN-SITU TESTING
CB-15	Phase rock borrow	core, vert.	150	Ts	no	On existing road	down-hole seismic velocity Need to improve/regrade road
CB-16	sandstone borrow area, above left abutment	core, vert.	150	Ts	no	On existing road	down-hole seismic velocity Need to improve/regrade road
CB-17	sandstone borrow area, above left abutment	core, vert.	100	Ts/sp?	no	New 500' dozer road	down-hole seismic velocity
CB-18	sandstone borrow, downstream of left abutment	core, vert.	100	Ts/sp?	no	New 300' dozer road	down-hole seismic velocity
RS-4	sandstone borrow area, above left abutment	seismic refraction	1,100	Ts	NA	On existing roads	Weathering depth NA
RS-5	sandstone borrow area, above left abutment	seismic refraction	550	Ts/sp	NA	On existing roads	Weathering depth NA
RS-6	sandstone borrow, downstream of left abutment	seismic refraction	550	Ts	NA	Through low brush	Weathering depth NA
TP-7 to TP-10	upstream borrow area	test plt	20	Qal	no	On existing roads	borrow materials none
TP-11 to TP-15	colluvial borrow area	test plt	20	Ksh, Ts	no	On existing roads	borrow materials none

Attachment 2  
Services to be Provided

Table A-1  
PROPOSED SITE INVESTIGATIONS  
CALAVERAS DAM PROJECT

EXPLORATION TYPE / NO. <sup>2</sup>	LOCATION	TYPE	DEPTH / LENGTH ( <sup>3</sup> )	FORMATION <sup>2</sup>	PIEZOMETER	ACCESS	GOAL OF INVESTIGATION	IN-SITU TESTING		COMMENTS
								INVESTIGATION	TESTING	
PIPELINE / PUMP STATION	AB-19 to AB-21	Pipeline and Pump Station	auger boring	50	Fill/Qal/Tts	no	On existing roads	structure foundation	none	
PHASE I INVESTIGATIONS	CB-22 to CB-26	To be determined	core	100-200			To be determined	To be determined		Location/purpose of Phase II investigations to be determined after completion of Phase I
	BA27 to BA-30	To be determined	bucket	75						
	TP-16 to TP-21	To be determined	test pit	20			To be determined	To be determined		
	RS-7 to RS-9	To be determined	seismic refraction	1,100			To be determined	To be determined		

Notes: 1: CB = HQ-3 wireline core boring, BA = 30-Inch bucket auger boring, TP = Test pit, RS = Seismic refraction Line.

2: Qal = alluvium, Qls = Landslide, Tts = Temblor Sandstone, fm = melange, sp = serpentinite / glaucophane blueschist.



Figure A-1  
Proposed Exploration Map  
CS-716

**Attachment 2**  
**Services to be Provided**

**Exhibit A: Calaveras Dam Conceptual Engineering Report  
Outline**

1.0 Executive Summary	7.0 Borrow Source Investigations
2.0 Introduction	7.1 Rockfill Sources
2.1 Background	7.2 Earthfill Sources
2.2 Purpose and Scope	7.3 Imported Materials (gravel, aggregate)
2.3 Organization of Report	
3.0 Existing Project Features	8.0 Hydrology and Hydraulics Studies
3.1 Dam, Spillway and Outlet	8.1 Design Storm
3.2 Pipeline	8.2 Watershed Characterization
3.3 Pumping Plant	8.3 Flood Routing
3.4 Water Treatment Plant	
4.0 Design Criteria	9.0 Environmental and Mitigation Considerations
4.1 Reservoir Operation Levels	10.0 Development of Conceptual-Level Alternatives
4.2 Embankment and Foundation Material Properties	10.1 Repair Existing Dam
4.3 Stability	10.2 Replacement Dam Concepts
4.4 Seismic Design	11.0 Conveyance Facilities
4.5 Fault Rupture Considerations	12.0 Operation of Reservoir During Construction
4.6 Structural Design	13.0 Road Utility Relocation
4.7 Design Storm and Flood	14.0 Cost Estimation
4.8 Freeboard Requirements	14.1 Basis
4.9 Outlet Works Hydraulic, Operation, and Emptying	14.2 Results
4.10 Conveyance and Water Quality	15.0 Construction Schedules
4.11 Environmental Impacts	16.0 Evaluation of Alternatives
4.12 Construction Cost and Duration	16.1 Evaluation Criteria and Ranking Methodology
5.0 Foundation and Related Geotechnical Investigations	16.2 Discussion
5.1 Abutments	17.0 Conclusions and Recommendations
5.2 River Channel	
5.3 Landslides	18.0 References
6.0 Fault Investigations	List of Tables
6.1 Regional Seismic Setting	List of Figures
6.2 Fault Activity Assessment	List of Appendices
6.3 Ground Motions	
6.4 Reservoir Triggered Seismicity	

**Attachment No. 3**  
**Projected Task Budget**

**Calaveras Dam Conceptual Engineering  
Agreement No. CS-716**

Attachment 3  
Projected Task Budget

**Calaveras Dam Conceptual Engineering  
(Agreement No. CS-716)**

**Part A - Summary**

<b>Summary of Estimated Costs</b>		
<b>Basic Tasks</b>		
Task 1	Background Information	\$ 42,000
Task 2	Development of Project Objectives & General Criteria	59,000
Task 3	Environmental Clearance for Field Investigation Work Plan	33,000
Task 4	Dam Foundation and Related Geotechnical Investigations	760,000
Task 5	Borrow Source Evaluations	348,000
Task 6	Fault Investigations	271,000
Task 7	Hydrology and Hydraulics Studies	127,000
Task 8	Environmental Considerations	122,000
Task 9	Development of Conceptual Level Dam Alternatives	387,000
Task 10	Conveyance Facilities	483,000
Task 11	Operation of Reservoir During Construction	103,000
Task 12	Road and Utility Relocation	105,000
Task 13	Development of Cost Est. and Schedules	71,000
Task 14	Development of Conceptual Engineering Report	91,000
Task 15	Design Review Meetings/Workshops	117,000
Task 16	Calaveras Advisory Panel Meetings	70,000
Task 17	Eng. Support During Prep. of Env. Docs. And Permit Applications	103,000
Task 18	Public Outreach	76,000
Task 19	Project Management and Meetings with SFPUC	321,000
Task 20	Additional Technical Services (As-Needed)	60,000
Task 21	SFPUC GED Staff Training Program	Subtotal \$ 3,749,000
		\$ 3,749,000
<b>Total for Basic Tasks</b>		<b>\$ 3,749,000</b>
Total for As-Needed Tasks (Task 20)		\$ 80,000
Total for Optional Tasks (Tasks 1.3, 6.4 and 11.4)		\$ 171,000

**Attachment No. 4**  
**Preliminary Project Schedule**

Calaveras Dam Conceptual Engineering  
Agreement No. CS-716

**ATTACHMENT 4**  
**PRELIMINARY PROJECT SCHEDULE**

ID	Task Name	Duration	Start	Finish	2004												2005											
					Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar				
1	Notice of Award	1 day	Wed 8/17/03	Wed 8/17/03																								
2	1.0 Background Information	29 days	Thu 9/18/03	Tue 10/2/03																								
3	1.1 Review Background Information	29 days	Thu 9/18/03	Tue 10/2/03																								
4	1.2 Review of Seismic Stability Report with Respect to Inform Operating Reservoir Level	10 days	Thu 9/18/03	Wed 10/2/03																								
5	2.0 Development of Project Objectives and General Criteria	46 days	Wed 9/24/03	Wed 11/2/03																								
6	3.0 Environmental Clearance for Field Investigation Work Plan	15 days	Thu 9/25/03	Wed 10/15/03																								
7	4.0 Dam Foundation and Related Geotechnical Investigations	127 days	Thu 9/18/03	Fri 3/1/04																								
8	4.1 Work Plan	20 days	Thu 9/18/03	Wed 10/16/03																								
9	4.2 Topographic Maps	31 days	Thu 10/16/03	Thu 11/27/03																								
10	4.3 Geotechnical Investigations	75 days	Tue 10/28/03	Mon 2/6/04																								
11	4.4 Foundation Geotechnical Data Report	48 days	Wed 1/7/04	Fri 3/1/04																								
12	5.0 Borrow Source Evaluations	97 days*	Tue 10/28/03	Wed 3/10/04																								
13	5.1 Geotechnical Investigations	75 days	Tue 10/28/03	Mon 2/6/04																								
14	5.2 Hazardous Waste Evaluation	24 days	Fri 12/26/03	Wed 1/28/04																								
15	5.3 Commercial Materials Source Assessment	24 days	Fri 12/26/03	Wed 1/28/04																								
16	5.4 Borrow Materials Geotechnical Data Report	45 days	Thu 1/6/04	Wed 3/10/04																								
17	6.0 Fault Investigations	94 days	Thu 9/18/03	Tue 12/27/04																								
18	6.1 Fault Rupture and Hazard Identification	42 days	Thu 9/18/03	Fri 1/14/04																								
19	6.2 Fault Rupture and Hazard Characterization	43 days	Mon 1/17/04	Wed 1/14/04																								
20	6.3 Seismic Source Characterization and Ground Motion Assessment	45 days	Wed 1/28/03	Tue 1/27/04																								
21	7.0 Hydrology and Hydraulics Studies	44 days	Tue 1/27/04	Tue 1/27/04																								
22	8.0 Environmental Considerations	66 days	Thu 4/29/04	Thu 8/26/04																								
23	9.0 Development of Conceptual-Level Dam Alternatives	173 days*	Wed 12/20/04	Fri 5/24/04																								
24	9.1 Repair Existing Dam Concept	85 days	Wed 1/28/04	Tue 4/27/04																								
25	9.2 Replacement Dam Concept	86 days	Wed 1/28/04	Wed 5/26/04																								
26	9.3 Evaluation of Dam Concepts	87 days	Thu 5/27/04	Fri 8/24/04																								
27	10. Construction Facilities	86 days	Wed 5/26/04	Wed 6/26/04																								
28	11. Operation of Reservoir During Construction	43 days	Wed 4/28/04	Fri 6/25/04																								
29	12. Road and Utility Relocation	59 days	Thu 5/6/04	Tue 7/27/04																								
30	13. Development of Cost Estimates/Schedules/Constructability Reviews	80 days	Thu 5/6/04	Wed 8/25/04																								
31	14. Development of Conceptual Engineering Report	66 days	Mon 8/27/04	Mon 10/27/04																								
32	15. Design Review Meetings/Workshops with SFPUC and DSOD	318 days	Fri 10/10/03	Fri 12/10/04																								
33	15.1 Review Meetings with SFPUC	306 days	Fri 10/10/03	Fri 12/24/04																								
34	15.2 Review Meetings with DSOD	308 days	Fri 10/10/03	Fri 12/17/04																								
35	16. Calaveras Advisory Panel Meetings	306 days*	Fri 10/10/03	Fri 3/29/05																								
36	17. Engineer Review During Prep. of Env. Docs. and Permit Applications	197 days*	Wed 12/20/04	Wed 9/17/05																								
37	18. Public Outreach	305 days*	Wed 12/20/04	Mon 3/26/05																								
38	19. Project Management and Meetings* with SFPUC	369 days*	Wed 9/17/05																									
		Task																										
		Meeting																										

NSD/4/NASD/11\_Xdvalvav\_GeoCalaveras\_CERScheduleCalaveras CERSchedule updated 8-28-05.mpp

Summary  
Project Summary

Critical Tasks  
Critical Tasks



## SAN FRANCISCO PUBLIC UTILITIES COMMISSION

Infrastructure Resource Management  
Contract Services

1145 Market Street, Suite 100•San Francisco, California•94103  
415-554-3497•Fax 415-554-3225



1300  
October 26, 2005

Mr. Guilaine Roussel  
Senior Vice President  
URS Corporation  
221 Main Street, #600  
San Francisco, CA 94105

GAVIN NEWSOM  
MAYOR

RICHARD SKLAR  
PRESIDENT

ANN MOLLER CAEN  
VICE PRESIDENT

E. DENNIS NORMANDY  
ADAM WERBACH  
RYAN L. BROOKS

SUSAN LEAL  
GENERAL MANAGER

RE: 1) Notice of Contract Amendment Certification—Conceptual Engineering Report for Calaveras Dam (CS-716)  
2) Transmittal—Executed Amendment #01 to the Master Agreement between the City and County of San Francisco Public Utilities Commission and URS Corporation.

Dear Mr. Roussel:

This letter provides *notification of amendment certification* for Extension of term and Contract Value of the contract as follows:

**DOCUMENT REF. NO.:** BPUC04000193 (COSF06006740)—*Work may not be charged against this blanket purchase order number.*

**SCOPE:** As per attached First Amendment.

**CONTRACT DURATION:** September 11, 2003 through September 10, 2009

**CONTRACT VALUE:** Total value of contract has been increased by \$8,000,000.00 for a total budgeted amount not to exceed \$12,000,000.00.

Should you have any questions, please do not hesitate to contact me at (415) 554-3190.

Sincerely,

Wendy Iwata  
Manager-Contract Services

Enclosure: Executed Amendment#01  
cc: David Rogers  
File/tlt-CS-716amend#01

**Tina, Teresita**

---

**From:** Rogers, David  
**sent:** Tuesday, November 15, 2005 1:11 PM  
**To:** Tina, Teresita  
**Cc:** Iwata, Wendy; Hallowell, Prince; Tang, Gilbert  
**Subject:** FW: Officer For Calaveras Dam Project

Please note the change.

Dave

-----Original Message-----

From: Noel\_Wong@URSCorp.com [mailto:Noel\_Wong@URSCorp.com]  
Sent: Tuesday, November 15, 2005 11:52 AM  
To: DRogers@sfwater.org  
Cc: Edgar\_Johnson@URSCorp.com; John\_Bischoff@URSCorp.com;  
Laly\_Flores@URSCorp.com; Michael\_Forrest@URSCorp.com  
Subject: Officer For Calaveras Dam Project

Dave,

Thanks for your message. I have actually instructed our San Francisco office to be on the look out for the contract and the NTP. Sorry that they were returned back to you. Let's make the change from Guilaine Roussel to John Bischoff. For all contract matters related to Calaveras, please contact

John A. Bischoff, P.E.  
Senior Vice President  
URS Corporation  
1333 Broadway, Suite 800  
Oakland, CA 94612

Tel. (510) 874-1701

Thanks.

Noel C. Wong, P.E.  
URS Corporation  
1333 Broadway, Suite 800  
Oakland, CA 94612  
Direct: 510-874-3112  
Mobile: 510-508-3112  
Fax: 510-874-3268  
E-mail: noel\_wong@urscorp.com

=====

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**CITY AND COUNTY OF SAN FRANCISCO**  
OFFICE OF CONTRACT ADMINISTRATION  
PURCHASING DIVISION

**FIRST AMENDMENT**

THIS AMENDMENT ("Amendment") is made as of **July 26, 2005**, in San Francisco, California, by and between **URS Corporation** ("the Consultant"), and the **City and County of San Francisco**, a municipal corporation ("the City"), acting by and through its Public Utilities Commission.

**RECITALS**

WHEREAS, the City and the Consultant have entered into the Agreement (CS-716) dated September 11, 2003 for the furnishing of conceptual engineering services for the Calaveras Dam;

WHEREAS, the City and the Consultant desire to modify the Agreement on the terms and conditions set forth herein;

WHEREAS, approval for this Amendment was obtained from the San Francisco Public Utilities Commission, Resolution No. 05-0120 on July 26, 2005;

WHEREAS, approval for this Amendment was obtained from the Civil Services Commission on September 6, 2005 through a Notice of Action for Contract No. CS-716;

WHEREAS, approval for this Amendment was obtained from the Board of Supervisors on September 20, 2005, File No. 05136;

NOW, THEREFORE, the Consultant and the City agree as follows:

**1. Definitions.** The following definitions shall apply to this Amendment:

(a) **Agreement.** The term "Agreement" shall mean the Agreement dated September 11, 2003 between the Consultant and the City, pursuant to SFPUC Resolution No.03-0117.

(b) **Other Terms.** Terms used and not defined in this Amendment shall have the meanings assigned to such terms in the Agreement.

**2. Modifications to the Agreement.** The Agreement is hereby modified as follows:

(a) **Section 2. Definitions.**

*Section 2.19 Other Definitions is hereby added to the Agreement, as follows:*

**Detailed Design.** The term "Detailed Design" shall mean the Detailed Design Documents prepared by Consultant and developed to 35%, 65%, and 95% stages of the Design Development phase of the project design, also known as Phase II.

**Final Design.** The term "Final Design" shall mean the Construction Documents prepared by the Consultant at the 100% completion of the Final Design phase of the project design, also known as Phase III.

**Design Drawings.** The term "Design Drawings" shall mean drawings prepared by the Consultant and provided to the general engineering contractor so that the constructed dam, spillway, inlet structure and other appurtenant structures would operate and function entirely as intended.

**Technical Specifications.** The term "Technical Specifications" shall mean written descriptions prepared by the Consultant of materials, processes, equipment, systems, standards, and desired quality of workmanship for the project. In a contract with design drawings, the technical specifications complement the design drawings. With design drawings and the technical specifications, the general engineering contractor should be able to provide the desired product, which operates, and functions as intended. Technical specifications will include specifications that are unique to the project as well as standard specifications.

**Standard Specification.** The term "Standard Specification" shall mean an adopted, published specification that may be used in multiple applications, with or without revisions.

**Project Manual.** The term "Project Manual" shall mean the bid documents prepared and assembled by the Consultant consisting of an Invitation to Bid, contracting requirements, bidding forms, agreement forms, general conditions, special conditions, general requirements, and the technical specifications. The design drawings for the contract are appended to and incorporated into the Project Manual. The Project Manual, together with the design drawings and all addenda issued prior to bid are the basis for the construction contract.

**Engineer's Cost Estimate.** The term "Engineer's Cost Estimate" shall mean the complete construction cost estimate prepared by the Consultant for final design in accordance with the Association for the Advancement of Cost Engineering International Recommended Practice No. 18R-97, Cost Estimate Classification System. The engineer's cost estimate shall be a Level 1, suitable for bidding.

(b) **Section 1.1. Description.**

*Section 1.1.A. Description of Phases II and III is hereby added to the Agreement, as follows:*

**1.1.A. Description of Phases II and III**

The City does hereby engage the Consultant to furnish, under the terms and conditions in this Agreement and Amendment, geotechnical and design engineering professional services to complete the Detailed Design (Phase II) and Final Design (Phase III) for the Calaveras Dam Replacement Project (the "Project"), as described in the Final Conceptual Engineering Report dated October 14, 2005. The Consultant shall assist the City's environmental representative and Environmental Review consultant in evaluating the potential impacts of the construction of the Project. This Amendment initiates and completes the Detailed Design and Final Design phases of replacing Calaveras Dam to the historic nominal storage of 96,850 acre feet. During the Detailed Design and Final Design phases the Consultant shall participate in value engineering sessions conducted by the City and other independent consultants. The Consultant shall prepare design drawings, technical specifications, standard specifications, and an engineer's cost estimate during the Final Design stage. The object of the Detailed Design and Final Design phases is to produce a dam design that is acceptable to the Division of Safety of Dams (DSOD), which can then be advanced with certainty through the preparation of the Project Manual, Invitation for Bids, and award of one or more construction contracts.

**(c) 1.2. Agreement Date and Term of the Agreement.**

Section 1.2 of the Agreement currently reads as follows:

The effective date of this Agreement is the date of its certification by the Controller. The term of this agreement shall be **forty-eight (48) months** from the effective date. The Conceptual Engineering shall be completed within the first **eighteen (18) months** from the effective date; during the remaining term of the agreement, the Consultant shall provide engineering and technical support for the completion of the environmental review process (CEQA/NEPA).

*Such section is hereby amended in its entirety to read as follows:*

**1.2 Agreement Date and Term of the Agreement**

The effective date of this Agreement is the original date of its certification by the Controller. The term of this agreement shall be **seventy-two (72) months** from the effective date. The Conceptual Engineering shall be completed within the first **eighteen (18) months** from the effective date. During the remaining term of the agreement, the Consultant shall complete and provide **Detailed Design and Final Design, as well as** engineering and technical support for the completion of the environmental review process (CEQA/NEPA).

**(d) 3.1 Basic Services.** *Section 3.1.A. Basic Services for Phases II and III is hereby added to the Agreement as follows:*

**3.1.A Basic Services for Phases II and III**

The Consultant shall provide as its Basic Services all Detailed Design Phase II and Final Design Phase III and related technical services as required to carry out the Project described in Article 1. Portions of Basic Services shall not become part of the Contract until authorized by the City as described more fully in subsections 3.2 –Task Orders. Basic Services shall include, without limitation, the following:

- a. Confirm that the scope of work as described in Revised Attachment 2 dated August 18, 2005 – Services to be Provided, which is hereby incorporated by reference during the agreement period as negotiated with the City, is complete.
- b. Provide qualified personnel to perform work as described in the tasks of Revised Attachment 2 dated August 18, 2005 – Services to be Provided. The City reserves the right to change the approach proposed for the Tasks presented in Revised Attachment 2 – Services to be Provided, in response to new or differing information that is uncovered or developed over the course of the Project.
- c. Ensure timely delivery of quality services within proposed budget. The budget to complete each task is included in Revised Attachment 3 dated August 18, 2005 – Projected Task Budget, which is hereby incorporated by reference, and the corresponding project schedule is included in Revised Attachment 4 – Preliminary Project Schedule dated August 18, 2005 which is hereby incorporated by reference.
- d. Contract for or employ, at the Consultant's expense within the Basic Services fee, the normal consulting services as may be necessary or required. The Consultant shall submit for approval by the City and the Human Rights Commission any changes in the subconsultants listed in Revised Attachment 1 – Calculation of Charges dated August 18, 2005, which is hereby incorporated by reference.

- e. Designate John A. Bischoff as Principle-in-Charge, Noel C. Wong as Project Manager, whose roles shall be as defined in the RFP submittal produced by URS. The representatives of the Consultant shall, so long as their respective performances continue to be acceptable to the City, remain in charge of the Consultant's services for the Project. Any changes in assignment or replacement of the Consultant's Project Representative or of any other personnel of the Consultant or, of any of the Consultant's subconsultants listed in Attachment 1 – Calculation of Charges, whether or not as a result of death, disability, or otherwise, may be done only with the prior written consent of the City, which consent may be given or withheld in the sole, subjective (but not arbitrary) discretion of the City.
- f. Meet regularly with the City's Project Manager and Review Team at reasonable frequencies to be determined by the City's Project Manager so as to keep the design on the desired track. The City's Review Team includes the City's consultants and City staff assigned to work on this project as described in Section 3.1(b) of this agreement.
- g. Comply with requirements of codes, regulations, and current written interpretation thereof published and in effect during the Consultant's services. In the event of changes in such codes, regulations or interpretations during the course of the Project that were not and could not have been anticipated by the Consultant and which result in a substantive change to the drawings, the Consultant shall not be held responsible for the resulting additional costs, fees or time, and shall be entitled to reasonable additional compensation for the time and expense of responding to such changes.
- h. Assist in establishing a means of electronic communication and fully participate in the City's effort to develop an electronic file for this project of all correspondence with related attachments.
- i. Attend meetings with the Project Manager, City and State of California agencies, commissions and committees, and other appropriate authorities as described in this Agreement in connection with the Project. Such meetings shall be held at reasonable times and frequencies and with proper notice. It is anticipated that the following meetings and reviews will be required:
  - 1. Project Manager Meetings: Weekly, or as often as necessary, through the completion of Detailed Design, Final Design, and preparation of the Engineer's Cost Estimate.
  - 2. Board of Supervisors and Committees of the Board of Supervisors. Not less than (2), but no more than (4). The purpose of these meetings will be to assist the Project Manager to present design concepts and answer questions.
  - 3. SFPUC. Not less than (10), but no more than (14). The purpose of these meetings will be to assist the Project Manager to present design concepts and answer questions.
  - 4. Others: To be determined.
  - 5. Partnering: If implemented at the discretion of the City, meet as reasonably required by the partnering program

developed by the City through the design and construction phases.

6. Community or Environmental Groups: anticipate not less than three (4), no more than six (8) presentations to other community or environmental protection groups.
7. State Authorities including, but not limited to, the State Fire Marshall: not less than three (4) meetings, no more than five (6) meetings.
8. Division of Safety of Dams: As necessary.

(e) 4. **Compensation.** Section 4 Compensation (first paragraph) currently reads as follows:

In no event shall the amount of this Agreement exceed **Four Million Dollars (\$4,000,000)**. No charge shall be incurred under this Agreement nor shall any payments become due to Contractor until reports, documents or services as required under this Agreement are received from the Consultant and approved by the City as being in accordance with this Agreement, or until the City agrees that services covered under the payment request have been satisfactorily performed.

*Said paragraph of said section is hereby amended in its entirety to read as follows:*

#### 4. Compensation

Compensation shall be made in monthly payments on or before the first day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. **In no event shall the amount of this Agreement exceed Twelve Million Dollars (\$12,000,000), which sum includes Four Million Dollars (\$4,000,000) for the Conceptual Engineering phase.** The breakdown of costs associated with this Agreement appears in Appendix B, "Calculation of Charges," attached hereto and incorporated by reference as though fully set forth herein.

No charges shall be incurred under this Agreement nor shall any payments become due to the Consultant until reports, services, or both, required under this Agreement are received from the Consultant and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Consultant in any instance in which the Consultant has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall the City be liable for interest or late charges for any late payments.

The Controller is not authorized to pay invoices submitted by the Consultant prior to the Consultant's submission of HRC Form 7, "Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report." If HRC Form 7 is not submitted with the Consultant's invoice, the Controller will notify the department, the Director of HRC and the Consultant of the omission. If the Consultant's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Consultant has ten days to file an affidavit using HRC Form 9, "Sub-Contractor Payment Affidavit," verifying that all subcontractors have been paid and specifying the amount.

**(f) 9. Notices.** Section 9 of the Agreement currently reads as follows:

Any notice may be served effectively upon the City by delivering it in writing or by telegram, or by depositing it in a United States mail deposit box with postage thereon fully prepaid and addressed to the City at the address set forth below; and in the case of the Consultant, may be served effectively upon the Consultant by delivering it in writing or by telegram, or by depositing it in a United States mail deposit box with postage thereon fully prepaid and addressed to the Consultant at the address as set forth below. In addition, any notice may be served effectively by delivering or mailing it, as in this paragraph provided, addressed to any other place or places at the City or the Consultant, by written notice served upon the other, from time to time may designate.

CITY'S ADDRESS:

Barbara Palacios  
SFPUC  
1155 Market Street, 6<sup>th</sup> Floor  
San Francisco, CA 94103

CONSULTANT' ADDRESS:

Noel Wong  
URS Corporation, Inc.  
500 12<sup>th</sup> Street, Suite 200  
Oakland, CA 94607-4014

*Such section is hereby amended in its entirety to read as follows:*

**9. Notices**

Any notice may be served effectively upon the City by delivering it in writing or by telegram, or by depositing it in a United States mail deposit box with postage thereon fully prepaid and addressed to the City at the address set forth below; and in the case of the Consultant, may be served effectively upon the Consultant by delivering it in writing or by telegram, or by depositing it in a United States mail deposit box with postage thereon fully prepaid and addressed to the Consultant at the address as set forth below. In addition, any notice may be served effectively by delivering or mailing it, as in this paragraph provided, addressed to any other place or places at the City or the Consultant, by written notice served upon the other, from time to time may designate.

CITY'S ADDRESS:

David Rogers  
SFPUC  
1155 Market Street, 6<sup>th</sup> Floor  
San Francisco, CA 94103  
DRogers@sfrwater.org

CONSULTANT'S ADDRESS:

Noel Wong  
URS Corporation, Inc.  
1333 Broadway, Suite 800  
Oakland, CA 94612  
Noel\_Wong@URSCorp.com

**(g) 10. Insurance**

*Section 10.1.d is hereby amended in its entirety to read:*

Without in any way limiting the Consultant's liability pursuant to the "indemnification" section of the Agreement, the Consultant must maintain in force, during the full term of the Agreement, insurance in the following amounts and coverages:

- (1) Workers' Compensation, in statutory amounts, with Employers' Liability Limits not less than \$1,000,000 each accident;
- (2) Comprehensive General Liability Insurance with limits not less than \$5,000,000 each occurrence Combined Single Limit for Bodily Injury and Property Damage, including Contractual Liability, Personal Injury, Products and Completed Operations;
- (3) Commercial Automobile Liability Insurance with limits not less than \$5,000,000 each occurrence Combined Single Limit for Bodily Injury and Property Damage, including Owned, Non-owned and Hired auto coverage, as applicable.
- (4) Professional liability insurance with limits not less than \$10,000,000 each claim with respect to negligent acts, errors or omissions in connection with professional services to be provided under this Agreement and any deductible not to exceed \$50,000 each claim.

- (1) Name as Additional Insured the City and County of San Francisco, its Officers, Agents, and Employees.
- (2) That such policies are primary insurance to any other insurance available to the Additional Insureds, with respect to any claims arising out of this Agreement, and that insurance applies separately to each insured against whom claim is made or suit is brought.
- (3). All policies shall provide thirty days' advance written notice to City of cancellation mailed to the following address:

City And County of San Francisco

San Francisco Public Utilities Commission

Contract Services

1145 Market Street, 1<sup>st</sup> Floor

San Francisco, CA 94103

(4). Should any of the required insurance be provided under a claims-made form, Contractor shall maintain such coverage continuously throughout the term of this Agreement and, without lapse, for a period of three years beyond the expiration of this Agreement, to the effect that, should occurrences during the contract term give rise to claims made after expiration of the Agreement, such claims shall be covered by such claims-made policies.

(5). Should any of the required insurance be provided under a form of coverage that includes a general annual aggregate limit or provides that claims investigation or legal defense costs be included in such general annual aggregate limit, such general annual aggregate limit shall be double the occurrence or claims limits specified above.

(6). Should any required insurance lapse during the term of this Agreement, requests for payments originating after such lapse shall not be processed until the City receives satisfactory evidence of reinstated coverage as required by this Agreement, effective as of the lapse date. If insurance is not

reinstated, the City may, at its sole option, terminate this Agreement effective on the date of such lapse of insurance.

(7). Before commencing any operations under this Agreement, Contractor shall do the following: (a) furnish to City certificates of insurance, and additional insured policy endorsements with insurers with ratings comparable to A-, VIII or higher, that are authorized to do business in the State of California, and that are satisfactory to City, in form evidencing all coverages set forth above, and (b) furnish complete copies of policies promptly upon City request.

(8) Approval of the insurance by City shall not relieve or decrease the liability of Contractor hereunder.

**(h) Attachment One**

*Attachment One of the Agreement is replaced in its entirety by the Attachment One to Amendment One, dated July 26, 2005, attached hereto and fully incorporated herein.*

**(i) Attachment Two**

*Attachment Two of the Agreement is replaced in its entirety by the Attachment Two to Amendment One, dated July 26, 2005, attached hereto and fully incorporated herein.*

**(j) Attachment Three**

*Attachment Three of the Agreement is replaced in its entirety by the Attachment Three to Amendment One, dated July 26, 2005, attached hereto and fully incorporated herein.*

**(k) Attachment Four**

*Attachment Four of the Agreement is replaced in its entirety by the Attachment Four to Amendment One, dated July 26, 2005, attached hereto and fully incorporated herein.*

**(l) Limitations on Contributions. Section 56 is hereby replaced in its entirety as follows:**

**56. Limitations on Contributions**

Through execution of this Agreement, the Consultant acknowledges that it is familiar with section 1.126 of the City's Campaign and Governmental Conduct Code, which prohibits any person who contracts with the City for the rendition of personal services or for the furnishing of any material, supplies or equipment to the City, whenever such transaction would require approval by a City elective officer or the board on which that City elective officer serves, from making any campaign contribution to the officer at any time from the commencement of negotiations of the contract until the later of either (1) the termination of negotiations for such contract or (2) three months after the date the contract is approved by the City elective officer or the board on which that City elective officer serves.

**(m) Preservative-treated Wood Containing Arsenic.** *Section 53 is hereby replaced in its entirety, as follows:*

**53. Preservative-treated Wood Containing Arsenic**

The Consultant may not purchase preservative-treated wood products containing arsenic in the performance of this Agreement unless an exemption from the requirements of Chapter 13 of the San Francisco Environment Code is obtained from the Department of the Environment under Section 1304 of the Code. The term "preservative-treated wood containing arsenic" shall mean wood treated with a preservative that contains arsenic, elemental arsenic, or an arsenic copper combination, including, but not limited to, chromated copper arsenate preservative, ammoniacal copper zinc arsenate preservative, or ammoniacal copper arsenate preservative. The Consultant may purchase preservative-treated wood products on the list of environmentally preferable alternatives prepared and adopted by the Department of the Environment. This provision does not preclude the Consultant from purchasing preservative-treated wood containing arsenic for saltwater immersion. The term "saltwater immersion" shall mean a pressure-treated wood that is used for construction purposes or facilities that are partially or totally immersed in saltwater.

**(n) Supervision of Minors.** *Section 57 is hereby added to the Agreement, as follows:*

**57. Supervision of Minors**

The Consultant, and any subconsultants, shall comply with California Penal Code section 11105.3 and request from the Department of Justice records of all convictions or any arrest pending adjudication involving the offenses specified in Welfare and Institution Code section 15660(a) of any person who applies for employment or volunteer position with the Consultant, or any subconsultant, in which he or she would have supervisory or disciplinary power over a minor under his or her care.

If the Consultant, or any subconsultant, is providing services at a City park, playground, recreational center or beach (separately and collectively, "Recreational Site"), Contractor shall not hire, and shall prevent its subcontractors from hiring, any person for employment or volunteer position to provide those services if that person has been convicted of any offense that was listed in former Penal Code section 11105.3 (h)(1) or 11105.3(h)(3).

If the Subconsultant, or any of its subconsultants, hires an employee or volunteer to provide services to minors at any location other than a Recreational Site, and that employee or volunteer has been convicted of an offense specified in Penal Code section 11105.3(c), then the Consultant shall comply, and cause its subconsultants to comply with that section and provide written notice to the parents or guardians of any minor who will be supervised or disciplined by the employee or volunteer not less than ten (10) days prior to the day the employee or volunteer begins his or her duties or tasks. The Consultant shall provide, or cause its subconsultants to provide City with a copy of any such notice at the same time that it provides notice to any parent or guardian.

The Consultant shall expressly require any of its subconsultants with supervisory or disciplinary power over a minor to comply with this section of the Agreement as a condition of its contract with the subcontractor.

The Consultant acknowledges and agrees that failure by the Consultant or any of its subconsultants to comply with any provision of this section of the Agreement shall constitute an Event of Default.

**(o) Conflict of Interest.** *Section 18 is hereby replaced in its entirety to read as follows:*

## 18. Conflict of Interest

Through its execution of this Agreement, the Consultant acknowledges that it is familiar with the provision of Section 15.103 of the City's Charter, Article III, Chapter 2 of the City's Campaign and Governmental Conduct Code, and Section 87100 et seq. and Section 1090 et seq. of the Government Code of the State of California, and certifies that it does not know of any facts which constitutes a violation of said provisions and agrees that it will immediately notify the City if it becomes aware of any such fact during the term of this Agreement.

**(p) Prohibition on Political Activity with City Funds.** *Section 52 is hereby replaced in its entirety to read as follows:*

## 52. Prohibition on Political Activity with City Funds

In accordance with San Francisco Administrative Code Chapter 12.G, the Consultant may not participate in, support, or attempt to influence any political campaign for a candidate or for a ballot measure (collectively, "Political Activity") in the performance of the services provided under this Agreement. The Consultant agrees to comply with San Francisco Administrative Code Chapter 12.G and any implementing rules and regulations promulgated by the City's Controller. The terms and provisions of Chapter 12.G are incorporated herein by this reference. In the event the Consultant violates the provisions of this section, the City may, in addition to any other rights or remedies available hereunder, (i) terminate this Agreement, and (ii) prohibit the Consultant from bidding on or receiving any new City contract for a period of two (2) years. The Controller will not consider the Consultant's use of profit as a violation of this section.

**(q) 58. Nondisclosure of Private Information.** Section 58 is hereby added to the Agreement, as follows:

As of March 5, 2005, the Consultant agrees to comply fully with and be bound by all of the provisions of Chapter 12M of the San Francisco Administrative Code (the "Nondisclosure of Private Information Ordinance"), including the remedies provided. The provisions of the Nondisclosure of Private Information Ordinance are incorporated herein by reference and made a part of this Agreement as though fully set forth. Capitalized terms used in this section and not defined in this Agreement shall have the meanings assigned to such terms in the Nondisclosure of Private Information Ordinance. Consistent with the requirements of the Nondisclosure of Private Information Ordinance, the Consultant agrees to all of the following:

(a) Neither the Consultant nor any of its Subconsultants shall disclose Private Information obtained from the City in the performance of this Agreement to any other Subcontractor, person, or other entity, unless one of the following is true:

(i) The disclosure is authorized by this Agreement;

(ii) The Contractor received advance written approval from the Contracting Department to disclose the information; or

(iii) The disclosure is required by law or judicial order.

(b) Any disclosure or use of Private Information authorized by this Agreement shall be in accordance with any conditions or restrictions stated in this Agreement. Any disclosure or use of Private

Information authorized by a Contracting Department shall be in accordance with any conditions or restrictions stated in the approval.

(c) Private Information shall mean any information that: (1) could be used to identify an individual, including without limitation, name, address, social security number, medical information, financial information, date and location of birth, and names of relatives; or (2) the law forbids any person from disclosing.

(d) Any failure of the Consultant to comply with the Nondisclosure of Private Information Ordinance shall be a material breach of this Agreement. In such an event, in addition to any other remedies available to it under equity or law, the City may terminate this Agreement, debar the Consultant, or bring a false claim action against the Consultant.

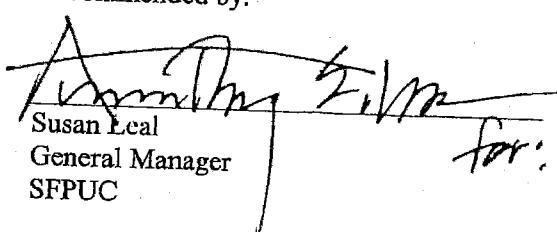
**3. Effective Date.** Each of the modifications set forth in Section 2 shall be effective on and after [specify either "the date of this Amendment" or other effective date(s)].

**4. Legal Effect.** Except as expressly modified by this Amendment, all of the terms and conditions of the Agreement shall remain unchanged and in full force and effect.

IN WITNESS WHEREOF, the Consultant and City have executed this Amendment as of the date first referenced above.

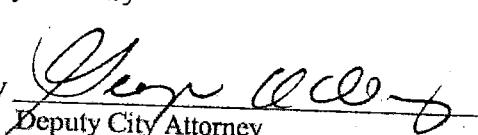
**CITY**

Recommended by:

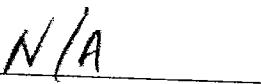
  
Susan Leal  
General Manager  
SFPUC

Approved as to Form:

Dennis J. Herrera  
City Attorney

By   
Deputy City Attorney

Approved:

  
Naomi Little  
Director of Office of Contract Administration/  
Purchaser

**CONTRACTOR**

URS Corporation

By 

Print Name Louis Armstrong

Title Vice PRESIDENT

**Attachment 1 (Revised for Amendment No. 1)**  
**Calculation of Charges**  
**July 26, 2005**

The consultant shall submit, in detail, proposed costs and fees for requested task(s). The consultant will be required to define the detailed scope for the task under this agreement. All costs associated with the development of the scope of work shall be borne by the Consultant.

Eligibility of project costs, direct and overhead, will be determined per the Code of Federal Acquisition Regulations (FAR)—Title 48, Volume I, Parts 1-51 and other appropriate financial standards.

**1. Fees:**

- Direct Labor is limited to actual salaries of project personnel
- Direct fee shall be 10% or less
- Total compensation multiplier not-to-exceed 3.0

**2. Maximum Billing Rates:**

- Maximum hourly compensation shall not exceed \$180/hour, which may be adjusted annually in accordance with Section 7. Exceptions to this rate will be considered on a case-by-case basis and subject to written pre-authorization by the SFPUC Project Manager and Bureau/Division Manager.
- Hourly billing rates shall be calculated as follows by multiplying the actual hourly salary rate of an employee by the multiplier, which includes all the rates for direct rate, overhead (including other direct and miscellaneous costs), salary burden, fringe benefits and profit.
- Clerical and administrative costs shall be included as part of the overhead rate. The only exception to this provision shall be clerical and administrative time utilized in the production of a specific deliverable.

Prime Consultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>URS Corporation</b>					
Noel Wong	Principal / Proj. Mngr.			capped <sup>1</sup>	197.29
Mike Forrest	Sr. Consultant	63.64	2.82	179.46	
Mark Schmoll	Consultant	51.48	2.82	145.17	
Greg Reichert	Sr. Consultant	60.66	2.82	171.06	
John Bischoff	Principal-in-charge		capped <sup>1</sup>	291.87	
Denise Heick	Sr. Consultant		capped <sup>1</sup>	181.89	
Lelio Mejia	Sr. Consultant		capped <sup>1</sup>	199.83	
David Hughes	Sr. Project Engineer	49.26	2.82	138.91	
Ted Feldsher	Sr. Project Engineer	42.94	2.82	121.09	
John Roadifer	Sr. Project Engineer	42.08	2.82	118.67	
Dave Simpson	Consultant	47.12	2.82	132.88	
Phil Respass	Sr. Project Geologist	36.60	2.82	103.21	
Tom Kolbe	Sr. Project Geologist	36.68	2.82	103.44	
S. Salah-Mars	Sr. Consultant	67.54	capped <sup>2</sup>	180.00	
Robert Green	Sr. Consultant	51.02	2.82	143.88	
Ivan Wong	Sr. Consultant	59.96	2.82	169.09	

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Attachment 1 (Revised for Amendment No. 1)  
Page 1 of 6

Prime Consultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>URS Corporation</b>					
T. MacDonald	Sr. Consultant	61.34		2.82	172.98
Anne Connell	Consultant	52.88		2.82	149.12
Dave Harder	Sr. Consultant	60.10		2.82	169.48
Tracy Johnson	Consultant	53.80		2.82	151.72
George Chiu	Sr. Project Engineer	41.98		2.82	118.38
Chris Mueller	Sr. Consultant	67.78		capped <sup>2</sup>	180.00
Galen Nagle	Consultant	49.46		2.82	139.48
Ken Eichstaedt	Consultant	54.58		2.82	153.92
S. Bertolucci	Sr. Project Engineer	45.68		2.82	128.82
Seth Gentzler	Project Engineer	39.84		2.82	112.35
John Paxton	Sr. Project Engineer	41.38		2.82	116.69
Shel Coudray	Sr. Consultant	55.00		2.82	155.10
Doug Wright	Project Scientist	35.68		2.82	100.62
Steve Leach	Consultant	50.82		2.82	143.31
Lois Autie	Sr. Project Engineer	45.90		2.82	129.44

1 Capped per Billing Rate set in Original Contract of September 2003.

2 Capped per Maximum Billing Rate of \$180.

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>Camp Dresser &amp; Mckee Inc.</b>					
CDM is not scheduled to provide any services under basic tasks for Amendment No. 1. If and when their services are required, their updated rates will be submitted to SFPUC for review and approval.					
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>Dan B. Steiner Consulting Engineer</b>					
Dan Steiner is not scheduled to provide any services under Amendment No. 1. If and when their services are required, their updated rates will be submitted to SFPUC for review and approval.					
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>Michael A. Stevens Consulting Engineer</b>					
Michael A. Stevens	Consulting Engineer	125.00			125.00
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>Engineering/Remediation Resources Inc.</b>					
ERRI is not scheduled to provide any services under Amendment No. 1. If and when their services are required, their updated rates will be submitted to SFPUC for review and approval.					

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>ENTRIX</b>					
Entrix is not scheduled to provide any services under Amendment No. 1. If and when their services are required, their updated rates will be submitted to SFPUC for review and approval.					
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>Hydroconsult Engineers, Inc.</b>					
HEI is not scheduled to provide any services under Amendment No. 1. If and when their services are required, their updated rates will be submitted to SFPUC for review and approval.					
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>Merritt Smith Consulting</b>					
Merritt Smith Consulting is not scheduled to provide any services under Amendment No. 1. If and when their services are required, their updated rates will be submitted to SFPUC for review and approval.					
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>Robert Y. Chew Geotechnical, Inc.</b>					
Robert Chew	Principal Engineer	65.38	136%	2.893	180.00
Mark McKee	Senior Engineer	39.28	163%	2.893	113.64
Eric Ntambakwa	Project Engineer	28.61	163%	2.893	82.77
Stephen Njoloma	Staff Engineer	25.00	163%	2.893	72.33
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>Telamon Engineering Consultants, Inc.</b>					
Mennor Chan	Principal	45.00	188%	2.95	132.75
Mennor Chan	Project Manager	41.00	188%	2.95	120.95
Stella Chiu	Engineer III	28.84	188%	2.95	85.08
Edmundo Salgado	Engineer I	18.49	188%	2.95	54.55
Irene Liu	CAD Drafter II	25.00	188%	2.95	76.67
Angeles Cortez	Administration	27.00	188%	2.95	79.65
Denmark Manansala	Word Processor	12.00	188%	2.95	35.40

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>William Lettis &amp; Associates, Inc.</b>					
William R. Lettis	Principal Geologist	76.02	163%	2.8952	180.00
Keith I. Kelson	Principal Geologist	61.37	163%	2.8952	177.68
Jeffrey L. Bachhuber	Principal Engineering Geologist	59.71	163%	2.8952	172.87
John N. Baldwin	Senior Geologist	48.65	163%	2.8952	140.85
Steve C. Thompson	Project Geologist	33.17	163%	2.8952	96.03
Sean T. Sunderman	Senior Staff Geologist	29.30	163%	2.8952	84.83
Robert W. Givler	Staff Geologist	28.47	163%	2.8952	82.43
Jason F. Holmberg	Graphics	28.47	163%	2.8952	82.43
Julie M. Bradaric	Technical Typing	32.34	163%	2.8952	93.63
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
<b>YEI Engineers, Inc.</b>					
Douglas Yung	Principal	56.26	153%	2.78	156.55
Dennis Dias	Project/Lead Engineer	50.73	153%	2.78	141.16
Patrick Mallillin	Project/Lead Engineer	46.69	153%	2.78	129.92
Lawrence Lam	Senior Engineer	50.16	153%	2.78	139.57
George Cheung	Senior Engineer	46.21	153%	2.78	128.58
Marcus Tam	Senior Engineer	31.13	153%	2.78	86.62
Richard Dong	Engineer	30.08	153%	2.78	83.70
Sandy Ao	Engineer	21.16	153%	2.78	58.88
Karen Schwartz	Engineer	29.21	153%	2.78	81.28
Hubert Hidalgo	Engineer	29.93	153%	2.78	83.28
Shew Ho	Designer/Technician	23.43	153%	2.78	65.20
Paul Wingerd	Auto Cad/Technician	18.50	153%	2.78	51.48
Carol Knight	Administrative Support	26.49	153%	2.78	73.71
Sonia Siu	Administrative Support	20.98	153%	2.78	58.38

3. **Staff Changes:** The SFPUC Project Manager must approve the assignment of staff prior to beginning a task order as well as any staff changes proposed by Consultant.
4. **Additional Subcontractors:** Second-tier and pass-through subcontracting is prohibited. However, in the event that the prime contractor and its approved subcontractors lack the necessary skills or expertise to perform requested services that are within the scope of the contract, additional subcontractors may be added to the contractor team. In such circumstances, the SFPUC or HRC Compliance Officer may suggest firms

capable of performing the work and submit a proposal to the contractor. Subcontracting for *non-professional services* required for field investigations and preparation of topographic surveys will be treated as Other Direct Costs and are exempted from this requirement.

**5. Other Direct Costs (ODC):**

All ODCs are subject to pre-approval in writing by the SFPUC Project Manager and Bureau/Division Manager.

- ODCs are limited to out-of-town travel (outside nine Bay Area counties), specialty printing, use of specialty computer hardware, software and project equipment not provided by the SFPUC.
- Vehicle mileage within the San Francisco Bay Area may be reimbursed at .365 cents per mile for travel from consultant's home office to SFPUC facilities only. Standard commute costs are not reimbursable.
- ODCs shall not include any labor charges or *pass-throughs*.
- ODCs shall not include labor or costs that should be included in the firm's overhead (e.g. telephone calls and faxes originating in the firm's home office, standard computer use charges, computer hardware or software, communication devices, electronic equipment, etc.)
- Meals including refreshments and working lunches with SFPUC staff will not be reimbursed.
- No equipment to be used by SFPUC staff will be purchased through this Agreement. Any equipment purchased to be used by Contractor or its subcontractors will not be directly charged to this Agreement. Such purchases will be included in the appropriate firm's overhead.
- All ODCs will be reimbursed at actual cost--no mark up shall be included.

**6. Subconsultant Fees:**

- Subject to above restrictions
- Shall be subject to written pre-approval by the SFPUC Project Manager
- Subconsultant administration markup is limited to actual cost not to exceed 5%

**7. Direct Labor Rates:** Direct labor payroll rates can be adjusted annually. The amount of the adjustment will be limited to a maximum of the CPI (San Francisco Bay Area for wages) for the previous year. Adjustments for individual Consultant employees may exceed the maximum provided that the total adjustment dollars for Consultant employees dedicated to this contract does not exceed the maximum dollars based on the total direct salary paid on the contract for the previous year plus the CPI. Any adjustment would be made once per year and the first adjustment shall not be made any earlier than six months after the execution of this Agreement.

**8. Retention:** five percent (5%) of each invoice payment will be withheld for each task order. When the work for the task order or defined critical milestones has been completed to the satisfaction of the SFPUC Project Manager and all work products have been received and approved by the SFPUC Project Manager, the Consultant may request that the retention be released. In lieu of money retention, an irrevocable letter of credit acceptable to the City will be accepted.

**9. Relocation Costs:** The SFPUC will not pay relocation costs for Consultant staff assigned to the contract on a full-time or on-going basis. During the project, if staff with special skills is needed for specific tasks and those skills are not available from Consultant staff in the San Francisco Bay Area, travel and temporary housing costs may be charged to the contract if those charges are pre-approved by the SFPUC. Any travel and temporary housing costs will be reimbursed at cost or the Federal Government's CONUS standards, whichever is lower.

**10. Invoice Requirements:** The consultant shall submit one original invoice package with the appropriate HRC reporting forms and supporting documentation to substantiate the time, mileage and Other Direct Costs for the prime and subconsultants. A standard invoice format shall be developed by the consultant anticipating the project complexity and used thereafter. Each invoice must be with an HRC form seven (7) to identify the participation and amount payable to the subconsultants. Timesheets, cards or logs must include a brief

description of when and what work was performed memorializing the day's progress. Mileage logs must include the beginning and ending mileage to substantiate the variable portal-to-portal distance and local driving required while performing the work. Any "Other Direct Costs" must be substantiated with receipts including a brief description for each receipt memorializing the purpose. Complete invoice packages should be sent directly to the SFPUC Project Manager.

HRC form nine (9) must be sent to the Project Manager within ten (10) days of receiving payment for each invoice to document the subcontractor's payment by the prime contractor.

HRC form eight (8) must be sent to the Project Manager with the final invoice for each task order to authenticate the total subcontractor participation and close out the Purchase Order Release.

11. **Audit:** All costs submitted for payment by Consultant are subject to audit.

CS-716

Attachment 1 (Revised for Amendment No. 1)

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**Calaveras Dam Replacement Project**

**Agreement No. CS-716**

**Amendment No. 1**

**Detailed Design and Final Design**

Conceptual engineering and design studies were initiated to address alternatives for remediating the existing dam or construction of a new replacement or enlarged dam and appurtenances to restore the reservoir to its original intended function or to provide for an enlarged reservoir. Based on the results of an alternatives analysis, the preferred alternative is a replacement earthfill dam located downstream of the existing dam with an open chute spillway. The dam design includes the ability for enlargement for future generations.

The conceptual engineering design for a dam located downstream of the existing Calaveras Dam was presented in a Conceptual Engineering report (CER). The dam would replace the existing dam and would restore the maximum reservoir level to a pre-2001 DSOD restriction level of elevation 756.2 feet. The recommended Calaveras Dam Replacement Project includes the following:

- Replacement of the existing dam with a new dam located downstream of the existing dam.
- The new dam would have a nominal reservoir storage of 96,850 acre-feet (normal maximum water surface elevation, NMWS, elevation = 756.2 feet).
- The new dam would accommodate enlargement up to 386,000 acre-feet<sup>1</sup> (NMWS elevation = 890 feet<sup>2</sup>).
- The project will include new outlet works for seismic safety, improved operations and maintenance, and accommodations for releases for environmental purposes.
- At this time the project does not include design of a second pipeline<sup>3</sup> to convey water from the new dam to the SVWTP. This feature, or others to improve conveyance reliability in the event of a Hetch-Hetchy outage, are being reviewed and may be implemented as a project separate from the Calaveras Replacement Dam Project. However, the scope presented herein does include an allowance to permit the continued evaluation of how best to proceed with this project.

One of the design parameters calls for the potential inclusion of the dam in a larger dam in the future. This concept resulted from the realization that costs to achieve this purpose are minimal compared with costs to construct a replacement dam that does not have the ability to be enlarged. In order to address this in the design, an upper limit on the size of a future reservoir had to be identified. Since there is no knowledge of whether there will be a future need for Calaveras Reservoir to be larger than the proposed 96,850 acre-feet (and if there will be a need, what size it would be), an engineering solution to the question of reservoir size was evaluated. It was determined that a reasonable upper limit on the elevation of a future reservoir would be 890 feet, which is the elevation of the Alameda Creek Diversion Tunnel intake. This is the highest reservoir elevation that would not require modification of the diversion facilities. If a

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<sup>1</sup> Core and filter dimensions within the new dam will be constructed to accommodate enlargement of the dam to 386,000 acre-feet.

<sup>2</sup> Approximate invert elevation of the Alameda Creek Diversion Tunnel.

<sup>3</sup> Alternatively, replace the existing pipeline with a new and larger pipeline.

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reservoir at elevation 890 were to be built in the future, it would have a storage capacity of approximately 386,000 acre-feet.

This attachment covers the scope of work, budget and schedule for developing the detailed and final design of the Calaveras Dam Replacement Project. The scope and budgets are developed based on the estimated levels of effort required to design the project to facilitate the review and approval of the DSOD and to competitively bid the construction work. It does not include engineering services during construction or start-up and commissioning. The scope of work is divided into the following task groups:

- Task Group A: Project Management
- Task Group B: Field Investigations
- Task Group C: Engineering Studies
- Task Group D: Design Package
- Task Group E: Permitting Support
- Task Group F: Pre-construction CM Interaction
- Task Group G: Project Meetings
- Task Group H: Phase 5 – Bid Period Services

Tasks for which SFPUC will be the lead and URS will provide support are designated within the Scope of Work section of this attachment. In addition, responsibilities are outlined for those tasks where URS will take the lead, but the SFPUC Engineering Design Bureau (EDB) will be performing portions of the design. Finally, there are a number of optional tasks that would be initiated, if needed, and authorized by SFPUC's Project Manager.

The project schedule is shown on Attachment 4 and the proposed geotechnical investigation plan is presented on Figure 1. The cost estimate for URS' services is presented in Attachment 3. Appendix A presents additional scope information for the spillway hydraulic model testing.

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**CALAVERAS REPLACEMENT DAM  
DETAILED DESIGN AND FINAL DESIGN  
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**CALAVERAS REPLACEMENT DAM  
DETAILED DESIGN AND FINAL DESIGN  
SCOPE OF WORK**

**TASK GROUP A – PROJECT MANAGEMENT**

**Task 1 – Project Management Plan – Design Phase**

**Objectives**

Prepare a project specific Project Management Plan that defines roles and responsibilities of all team members for tasks assigned to URS as the task leader, including subconsultants subcontractors and SFPUC staff assigned to the task; task scope, budgets, and schedules; and staff contact information.

**Approach**

- Upon Notice to Proceed, URS will develop a Project Management Plan (PMP) to serve as the roadmap for the team in carrying out our work under the contract. The PMP will be developed from the PMP used for the CER and will be prepared in accordance with the most recent WSIP procedures.
- The PMP will include invoicing and progress reporting procedures, document control procedures, filing and documentation, drafting standards, and communication distribution lists (including address/phone/fax/e-mail) and procedures.

**Assumptions**

- SFPUC will provide any provisions that are desired to be included in the PMP.

**Deliverables**

Project Management Plan <sup>4</sup>

**Task 2 – Project Goals and Design Criteria Memorandum**

**Objectives**

The objectives for this task are to establish project goals and develop design criteria for final design of the replacement dam, spillway and outlet works.

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<sup>4</sup> General notes on Deliverables for all tasks:

- Consultant will submit one draft and one final version of each deliverable unless specifically stated otherwise.
- Consultant will provide 20 hard copies and one electronic copy on a CD for each draft and final deliverable unless specifically stated otherwise.
- SFPUC will consolidate and provide Consultant with all review comments of draft submittals in a summary table format.

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***Approach***

Develop design criteria that will include:

- Basis for dam and foundation material properties for analysis
- Stability factors of safety
- Seismic design criteria (ground motion parameters)
- Structural design requirements
- Design storm and flood
- Freeboard requirements
- Outlet works hydraulic and operation criteria, including reservoir emptying criteria, water quality and fish protection requirements at the intake tower and requirements for stream maintenance releases into Calaveras Creek.
- Standards from various agencies such as the US Bureau of Reclamation, Army Corps of Engineers, and applicable codes, and regulatory requirements that are acceptable to DSOD.

Work with SFPUC Planning and EIR consultants to understand potential environmental constraints.

***Assumptions***

- SFPUC will identify and facilitate the coordination with the various SFPUC representatives and/or consultants.

***Deliverables***

- Design Criteria Memorandum, which will include a summary of applicable codes, regulatory requirements, and local and state ordinances.

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**Task 3 – Operations Review (SFPUC Lead)<sup>5</sup>**

**Task 4 – Quality Assurance Audits (SFPUC Lead)**

**Task 5 – Health and Safety Review (SFPUC Lead)**

**Task 6 – Value Engineering (SFPUC Lead)**

**Task 7 – Constructability Review (SFPUC Lead)**

**Task 8 – Risk Management Review (SFPUC Lead)**

**Task 9 – Hazards Operations Analysis and Risk Management (SFPUC Lead)**

**Task 10 – Capitalization Plan – Financing and Accounting (SFPUC Lead)**

***Objectives***

The objective of Tasks 3 to 10 is to support SFPUC on an as-needed basis.

***Approach***

URS will attend meetings and provide memoranda to support SFPUC.

***Assumptions***

The budgets shown for these tasks are allowances for URS' services to be provided on an as-needed basis and as permissible by the allocated budget allowance.

***Deliverables***

Meeting summaries, memoranda, and comments on SFPUC's products for these tasks.

**Task 11 – Work Plan for Phases 6 and 7**

***Objectives***

The objective of this task is to prepare the work plan (scope, schedule and budget) for future Phase 6 – Engineering Services during Construction and future Phase 7 – Engineering Services during Start-up and Commissioning.

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<sup>5</sup> SFPUC has a lead role and URS has a support role.

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**Approach**

Outlines of the scope and approach for future Phase 6 – Engineering Services during Construction and future Phase 7 – Engineering Services during Start-up and Commissioning will be developed during Final Design.

**Deliverables**

- Work plans (scope, schedule and budget) for future Phase 6 – Engineering Services during Construction and future Phase 7 – Engineering Services during Start-up and Commissioning.

**Task 12 – URS Project Management (Design Phase)**

**Objectives**

Manage the progress and quality of all related project tasks through close coordination with SFPUC, discuss project status, progress and forthcoming work, discuss issues to be resolved and proposed solutions through completion within estimated schedule and cost.

**Approach**

- Upon Notice to Proceed, URS will prepare a project specific Quality Assurance Plan that defines independent technical reviews and detail checking of all draft and final work products. Subcontractors will also be required to comply with the requirements of the QA Plan, which will be monitored by our designated QA/QC Officer. The QA Plan will include all required QA forms and guidance documents. The SFPUC will provide input to the QA Plan to govern staff assigned to perform portions of the design work under a URS task leader.
- Attend bi-monthly meetings with SFPUC. Current key issues and future issues will be discussed at each meeting. Proposed resolution of issues will also be discussed.
- Prepare monthly progress reports to discuss work completed for the month, work to be completed for the next month, schedule status, budget status, and issues for resolution. Budget status will be evaluated by earned value to estimate percent complete for each task for comparison with the amount spent.
- Prepare a site-specific Health and Safety Plan for the URS project team, including procedures for handling of potential hazardous materials encountered during field investigations. The SFPUC will retain responsibility for the Health and Safety of its staff assigned to perform portions of the design work under a URS task leader.

**Assumptions**

- SFPUC will provide any provisions that are desired to be included in the QA Plan.

**Deliverables**

- Quality Assurance Plan (included as a section of the Project Management Plan (see Task A1).

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- Health and Safety Plan.
- Meeting summaries on project status and work to be done for preparation for the next meeting. Decision and action items will be summarized in each meeting summary.
- Monthly progress reports, invoices and HRC Forms

## **TASK GROUP B – FIELD INVESTIGATIONS**

### **Task 1 – Geotechnical Investigation Work Plan**

#### ***Objectives***

Prepare Work Plan for the proposed field investigations ready for SFPUC, CTAP and DSOD review, that clearly states objectives of all investigation work.

#### ***Approach***

A draft Work Plan will be prepared that is based on the work plan prepared for the conceptual investigation in 2003, for review by SFPUC, CTAP, and DSOD. In general, the work will be performed in a two-groups. Group I will include first priority investigations that can be accomplished with a Categorical Exclusion; and Group II will include second priority investigations and that will require further environmental clearances.

- The roles and responsibilities of field personnel, including requirements for QA/QC procedures in the field, will be defined. Coordination with the design engineers will be required so that geotechnical evaluations can be made as the work progresses.
- A schedule of the field investigations will be included, which will be updated weekly during the fieldwork to keep SFPUC and DSOD apprised of work status and upcoming specific investigation work.
- Inputs from the environmental clearance work performed under Task 3 and comments from the resource agencies will be incorporated into the Work Plan.
- Table 1 in this attachment will be updated to include descriptions of the geologic mapping, drilling, test pits, rock mechanics testing, and geophysical methods that will be used for the site investigations, along with the purpose of each activity.
- Figure 1 in this attachment will be updated to include access roads, temporary core storage and drill rig storage areas, borings, geophysical surveys, and test pits.
- Standard procedures including ASTM guidelines for sampling, rock coring and packer testing will be included.
- A list of planned geotechnical laboratory testing with ASTM testing procedures will be included.
- Avoidance and minimization of impacts on biological and cultural resources, and any requirements from resource agencies will be incorporated in the Work Plan. The intent is to minimize ground disturbance and restoration needs.

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- Boring abandonment and site restoration procedure will be described.

**Assumptions**

- Consultant expects that permitting agencies will not require significant changes of the proposed field investigation program. If changes are required that will impact the approved budgets, Consultant will submit such changes for review and approval of additional scope and budget in writing by the SFPUC Project Manager prior to beginning the work.

**Deliverables**

- Field investigation Work Plan for foundation and borrow areas.

## **Task 2 – Environmental Clearance and Permitting**

**Objectives**

The proposed geotechnical investigations will require environmental review and permitting to comply with federal and state environmental laws and SFPUC requirements. This task includes preparation of required documentation and agency coordination associated with the following environmental clearance and permitting requirements:

- SFPUC Land and Resources Management Section (LMRS)
- California Environmental Quality Act (CEQA) review by the City of San Francisco Planning Department;
- U.S. Fish and Wildlife Service (USFWS) Endangered Species Act informal coordination;
- California Department of Fish and Game (CDFG) 1600 notification;
- U.S. Army Corps of Engineers (ACOE) Nationwide Permit notification;
- San Francisco Bay Regional Water Quality Control Board Water Quality Certification; and
- State Water Resources Control Board SWPPP notification.

**Approach**

URS will coordinate environmental compliance for proposed geotechnical investigation sites to comply with the following federal and State laws:

- Federal Clean Water Act (Section 404 and Section 401);
- California Environmental Quality Act; and
- California Fish and Game Code (Section 1600).

The proposed geotechnical investigation work sites will require different levels of environmental compliance. The environmental compliance requirements are:

- **Minimal Impact** – Sites with no potential for significant environmental impacts;

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- **Potentially Significant Impact** – Sites that may require mitigation to avoid potentially significant environmental impacts. This group can be further divided into two subgroups:
  - **CEQA Review Only** – Sites that only require CEQA review and do not require other resource agency permits or formal review; and
  - **CEQA Review and Resource Agency Permitting** – Sites that will require CEQA review and also require permits or other review prior to initiating ground-disturbing work.

URS will implement the following steps to facilitate the environmental review:

- Field review of the proposed geotechnical investigation sites to determine whether the work would potentially affect historic or prehistoric cultural resources, special status species, sensitive natural communities, wetlands, non-wetland aquatic habitats regulated under the Clean Water Act, or bed and bank areas regulated under the California Fish and Game Code. Sites that require CEQA review and additional permitting would be identified during the field review.
- Transmittal of data to support the CEQA-review process. URS will provide the results of the field review to the City of San Francisco to support the CEQA review.
- Preparation of permit applications for submittal to the ACOE, RWQCB, CDFG, and the USFWS for sites that would affect resources regulated by these agencies.
- Coordination with City and agency staff to facilitate the application reviews and implementation of mitigation measures required by the CEQA document and final permits from the resource agencies.

**Assumptions**

- Field review of proposed geotechnical sites would require three days.
- SFPUC will make all necessary arrangements for URS access to the watershed as needed.
- No formal surveys or delineations of wetlands or waters are required – wetlands and other waters or special status species will be evaluated based on visual assessment of the proposed investigation sites.
- The City of San Francisco will conduct the CEQA review for the geotechnical investigation.
- Consultation with the USFWS can be completed informally and will not require a habitat conservation plan under Section 10 or formal Section 7 consultation as defined by the federal Endangered Species Act.
- Mitigation measures can be developed that would avoid take of federal or state listed species.
- The City of San Francisco will be responsible for any permit application fees.
- The ACOE will authorize the proposed geotechnical investigation sites under Nationwide Permit #6 for Survey Activities with no additional Section 106 compliance for cultural resources.

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- One round of client review for each deliverable.
- A conceptual mitigation plan would be developed that will adequately address the mitigation requirements of the ACOE, the RWQCB, CDFG and the USFWS. Development of a detailed mitigation and monitoring plan would require a separate scope and cost estimate.
- Cultural resources documentation would be incorporated into an addendum to the previous survey report prepared for the first round of geotechnical investigation by URS.
- SFPUC will conduct any monitoring of geotechnical investigation work that is required to comply with the terms and conditions of the environmental permits.
- Maximum of one archeological site identified and recorded. Site evaluation (testing) would require a separate scope and cost estimate.

***Deliverables***

- Draft Field Review Technical Memorandum to summarize field observations and proposed measures to avoid or minimize potentially significant impacts identified during the field review.
- Final Field Review Technical Memorandum to incorporate changes to the draft report based on one round of review by the client.
- Draft and Final letter to the ACOE to confirm authorization under Nationwide Permit #6. This letter will summarize the proposed activities within ACOE jurisdiction and request verification that the activities are authorized under Nationwide Permit #6.
- Draft and final application to the Regional Water Quality Control Board for a Section 401 water quality certification.
- Draft and final notification and project questionnaire for submittal to the California Department of Fish and Game Streambed Alteration Agreement program.

**Task 3 – Supporting Work Plans**

***Objectives***

The objective of this task is to develop the Stormwater Pollution Prevention Plan (SWPPP) and State Water Resources Control Board Notification for the geotechnical investigation.

***Approach***

URS will revise the SWPPP prepared for the geotechnical investigation performed for the CER in 2003-2004 to address the proposed final design investigation. The SWPPP will include best management practices (BMPs) for both wet and dry season work.

***Assumptions***

- URS will prepare one draft and one final version of the SWPPP based upon one round of review by the SFPUC.

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- SFPUC will conduct monitoring of geotechnical investigation work that is required to comply with the terms and conditions of the SWPPP.

***Deliverables***

SWPPP and notification to the State Water Resources Control Board.

**Task 4 – Reservoir and Calaveras Road Topographical Maps**

***Objectives***

The objective for this task is to generate a topographical maps of the reservoir area and the portion of Calaveras Road north of the damsite that will require improvement for heavy equipment access.

***Approach***

- Standard ground checked aerial photograph-based topographical mapping techniques will be utilized to create the topographic map of the reservoir area above the water line. This map will be combined with bathymetric survey data from the 2003-2004 investigation and the topographic data of the reservoir prior to dam construction. The coverage area will be 20,000 feet north to south and 10,000 feet east to west. The map scale will be 1" = 200 feet and the contour interval will be 2 feet.
- The road will cover an area of 2500 feet square and will include the two sharp turns about ½ mile north of the gate to the site. The map scale will be 1" = 100 feet and the contour interval will be 2 feet.

***Deliverables***

- Topographic maps (base maps) of the reservoir and road relocation areas.
- Stereo photographs will cover the reservoir area
- Survey data and survey field notes.

**Task 5 – Field Investigation**

***Objectives***

The objective for this task is to characterize the geologic and geotechnical conditions in the proposed dam, spillway, outlet tower, appurtenant works, and borrow areas.

***Approach***

The approach will be to perform drilling (rock core, rotary wash, and bucket auger), water pressure testing, geophysical surveys, test pits, and laboratory analysis of samples obtained during the field investigation. The investigation will be conducted in the grouped approach as described in Task B1: Task B5.1 (Group I) is the first priority investigation and Task B5.2 (Group II) is the second priority investigation. Task B5.2 will

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be directed to investigating specific project components, if needed. This task is consistent with Comment 6 in the May 11, 2005, CTAP #4 Report.

For final design, geotechnical investigations will be needed to confirm design assumptions and to refine the design. The investigations in the dam and spillway foundation, new inlet tower, and borrow areas will be conducted to supplement the data gathered for conceptual engineering. The investigation program will be designed to:

- Obtain data to evaluate the required depth and extent of the concrete cutoff or grout curtain in Temblor Sandstone. This will include an evaluation of the spatial trends of hydraulic conductivities in the Temblor Sandstone.
- Evaluate foundation excavation depths required in the Franciscan Complex and Temblor Sandstone.
- Characterize the strengths of the Franciscan mélange shale.
- Characterize the extent and depth of the right abutment landslide to evaluate stabilization and removal alternatives.
- Characterize the hydraulic conductivities of the Temblor Sandstone/Franciscan Complex contact
- Evaluate the earthfill properties of the Temblor Sandstone for use as shell zone materials and alluvium in Borrow Area E for use in the core zone.
- Evaluate potential sources of gravels in the vicinity of Borrow Area E.
- Characterize existing dam fill at the downstream toe of the cofferdam.

The geotechnical investigation program will involve similar types of work as were performed for conceptual engineering. These would include the following:

- Field geologic mapping and preparing geologic maps;
- Conducting seismic refraction surveys;
- Drilling bucket auger borings;
- Excavating test pits;
- Drilling rock core borings and conducting packer tests;
- Performing downhole acoustic televiewer and other geophysical logging; and
- Performing downhole rock mechanics tests in the mélange shale to evaluate deformation moduli and strength using a pressuremeter and/or dilatometer in four or five selected core borings.

The Final Investigation Plan is shown on Figure 1 and summarized in Table 1. This table indicates the estimated depths, access, goals, and proposed in-situ testing at each investigation location. Access to investigation sites will make use of existing roads to the maximum practicable extent. Sites that are not accessible via existing roads will require the use of skid rigs or helicopter transport of drill rigs and equipment. Helicopter transport will be used where skid rigs are not allowed due to environmental constraints and where skid rigs cannot be used due to topographical constraints.

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**Assumptions**

- SFPUC will provide 1 to 2 full-time staff for field coordination activities and technology transfer, similar to what was done for the investigation for the conceptual engineering phase.
- Field investigation is planned to be carried out under normal average weather conditions from about November 2005 to April 2006. If worse than average weather conditions occur (as defined by the monthly rainfall data maintained by the National Weather Service Mt. Hamilton site in Livermore), additional mobilization and de-mobilization, or additional environmental mitigations to remain in compliance with any permit or schedule requirements may be necessary and approval by SFPUC for extra services will be required.
- Table 1 indicates the assumptions for access to the various investigation locations.

**Deliverables**

No separate deliverables will be prepared for this task. The work products will be included in Task B9, Geotechnical Data Report.

**Task 6 – Laboratory Testing**

**Objectives**

The objective for this task is to develop laboratory test data to assist in the:

- characterization of the geologic and geotechnical conditions in the dam and spillway foundation and abutments,
- characterization of the cyclic resistance and pore pressure generation characteristics of the dam construction materials, and
- development of material properties for use in the static and dynamic analyses of the dam embankment.

**Approach**

Static and cyclic triaxial tests will be performed on laboratory-reconstituted samples of sandstone and alluvial clay compacted to the field densification requirements that will be specified for the shell and core zones of the embankment fill. The samples will be tested under unconsolidated, isotropically and anisotropically consolidated conditions, with effective cell pressures that will encompass the full range of stresses within the dam. Undrained (UU, ICU & ACU) and strain-rate-controlled drained tests (CD) [alluvium only] will be run for use in immediate post construction, rapid-drawdown and long-term stability analyses.

The Temblor Sandstone (shell) will be assumed to break down during excavation and compaction to a silty-sand matrix with some gravel. The silty sand matrix will control the strength and cyclic characteristics of the compacted sandstone. Re-constituted samples of the silty-sand matrix will be prepared from samples of rock core broken down in the laboratory. Strain-controlled isotropic and anisotropic cyclic triaxial tests will be run on laboratory-reconstituted samples of sandstone shell materials to assess strain modulus

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over a range of stains and to characterize the non-linear behavior of the material during strong ground shaking.

Geotechnical laboratory tests will be performed on laboratory-reconstituted samples of sandstone and alluvial clay to characterize the materials and develop data for evaluating the triaxial test results. The test will include:

- Laboratory compaction [ASTM D1557 and DWR S-10],
- Grain size distribution and percent finer than No. 200 [ASTM D422],
- Specific gravity [ASTM D854],
- Atterberg limits [ASTM D4318],
- Pinhole dispersion tests [ASTM D4647],
- Falling head permeability [ASTM D4318].

Laboratory tests on representative samples of rock core will include unconfined-compression tests and point load tests.

Representative samples of filter and drain materials obtained from select potential off-site commercial sources will be tested for gradation (ASTM C117 and C136), durability (ASTM C33) and pH (EPA 9045). The potential drain materials will be tested under the following standards:

- Absorption [ASTM C127]
- Specific gravity [ASTM C127 & C128]
- Abrasion resistance [ASTM C131]
- Sodium sulfate [ASTM C88]

**Assumptions**

This program is based on the field investigation program discussed in (Task B5).

**Deliverables**

No separate deliverables will be prepared for this task. The work products will be included in Task 10, Geotechnical Data Report.

**Task 7 – Test Fill Program**

**Objectives**

The objective of this task is to construct an embankment test fill 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 contract document specification preparation.

**Approach**

This task will be broken down into the following tasks:

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- Task 7.1 - Test Fill Program Plan
- Task 7.2 - Test Fill Field Program (Optional):
  - Subcontract preparation
  - Construction oversight
  - Laboratory testing
  - Data evaluation

Task 7.1 - Test Fill Program Plan

URS will design the test fill program that will include describing the objectives and design criteria. The work will involve identifying potential material borrow sources and test fill locations. Test fill borrow locations will be based on the information developed during the field investigation. URS will develop a construction and testing protocol that will include test fill configurations, the type of equipment to be used, lift thicknesses, material moisture content, and number of compactor passes. Guidance will be provided on modifying variables such as lift thicknesses and number of compactor passes based on conditions encountered.

Task 7.2 - Test Fill Field Program (Optional)

After review of the test fill program plan, SFPUC and URS will decide whether to proceed with the field program. The decision will be based on evaluation of environmental permitting requirements, CTAP's review of the technical merit of the plan, and associated costs.

Subcontract Preparation

URS will prepare a subcontract to construct the test fill, which will be based on time and materials. Small local earthworks contractors will be identified and their equipment and labor hourly rates will be solicited. We expect that the main equipment could include an excavator, loader, dump truck(s), bulldozer with ripper, tamping-foot compactor, grader, and water truck.

Construction Oversight

URS will oversee the test fill construction and testing. To accomplish the test fill objectives, URS will monitor variables such as lift thickness and number of compactor passes based on the results obtained as the work progresses. URS will also collect field data and sample materials for laboratory testing.

Laboratory Testing

URS will develop a laboratory testing program based on the results of the test fill program and on the field investigation and laboratory testing.

Data Evaluation

URS will evaluate the field and laboratory data collected for use in design and preparation of earthfill specifications.

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**Assumptions**

- The final scope of work, budget and schedule for Task 7.2 will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on the task.
- SFPUC will provide 1 to 2 full-time staff for field coordination activities and technology transfer, similar to what was done for the investigation for the conceptual engineering phase.
- The assumptions indicated Task B2 also apply to this task. URS will select the appropriate subcontractor for the test fill and administer the subcontract.
- The test fill program will have a total duration of 5 working days (excluding mobilization/demobilization) and the field work will be done during the dry season.

**Deliverables**

- Task 7.1: Test fill plan
- Task 7.2 (Optional): Test fill report of findings.

**Task 8 – Grouting Test Program**

**Objectives**

The objective of this task is to provide data to evaluate the technical viability of grouting the pervious Temblor Sandstone in the left abutment. The test program will closely replicate the production grouting program. The results of the grouting test will be used in the evaluation of the seepage control alternatives, namely, the cutoff wall and the grout curtain (Task C3).

**Approach**

This task will consist of the following tasks:

- Task 8.1 - Grouting Test Program Plan
- Task 8.2 – Grouting Test Field Program (Optional)
  - Subcontract preparation
  - Field test program oversight
  - Data evaluation

**Task 8.1 - Grouting Test Program Plan**

URS will design the grouting test program, which will include describing the objectives and design criteria. Basically, it is envisioned that the grouting test pad will include a 40-foot long by 15-foot-wide test section along which two low-mobility grout (LMG) curtains would be constructed followed by two permeation grout curtain lines between the LMG curtains. We propose to excavate a trench 10 to 15 feet deep in the abutment and conduct the grouting in the bottom of the trench. The trench will be backfilled and the road will be restored after the grout test program has been completed. The location of grouting test pad will be near, or on the gravel road, west of the existing spillway (east side of Observation Hill).

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Procedures and requirements will be developed that include:

- Grout hole drilling – equipment, hole spacing, diameter, and orientation.
- Grouting – mixing and pump equipment, grout proportioning and mixing, injection pressures, and staging. The objective is to have zero-bleed grout mixes.
- Evaluation of closure criteria. – assessment of closure results. This will involve conducting verification water pressure tests.
- Water pressure testing – assessment of hydraulic conductivities.
- Verification core holes – observation of grout-filled fractures.

The grout testing program will include televIEWER logging of 10 holes to observe fracture opening conditions.

Task 8.2 – Grouting Test Field Program (Optional)

After review of the grouting test program plan, SFPUC and URS will decide whether to proceed with the field program. The decision will be based on evaluation of environmental permitting requirements, CTAP's review of the technical merit of the plan, and associated costs.

Subcontract Preparation

URS will prepare a subcontract for the test grouting program, which will be based on time and materials. Grouting contractors will be identified and their equipment and labor hourly rates will be solicited.

Field Test Program Oversight

A URS engineer/engineering geologist will work with the contractor to conduct the test grouting program. In addition, a staff geologist/engineer will assist with data collection and reduction during the test grouting field work.

Data Evaluation

URS will evaluate the grouting test data, with the objective of assessing the technical viability of grouting as a seepage control measure. In particular, we will assess the practical closure criteria and target hydraulic conductivities (lugeon values) to be expected in the full-scale grouting program.

Assumptions

- The final scope of work, budget and schedule for Task 8.2 will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on the task.
- SFPUC will provide 1 to 2 full-time staff for field coordination activities and technology transfer, similar to what was done for the investigation for the conceptual engineering phase.
- The assumptions indicated Task B2 also apply to this task.

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- URS will select the appropriate subcontractor for test grouting program and administer the subcontract.
- Grout test program will have a total duration of approximately 8 weeks and the field work will be done during the dry season.

***Deliverables***

- Task 8.1: Grouting test program plan
- Task 8.2 (Optional): Grouting test report of findings

**Task 9 – Geotechnical Data Report**

***Objectives***

The objective of this task is to provide a comprehensive geotechnical data report summarizing the results of the field investigations and laboratory testing.

***Approach***

- The Geotechnical Data Report will include the results of the investigation performed for the CER and previous investigations.
- All field data will be compiled into a report with supporting appendices, including geologic maps, logs of borings and test pits, geophysical survey results, groundwater levels, borehole packer test data, rock mechanics test data, and laboratory test results.
- A draft report will be completed and submitted to SFPUC for comments and these comments will be incorporated into the final report.

***Deliverables***

Draft and final Geotechnical Data Report.

**Task 10 – Geotechnical Interpretive Report**

***Objectives***

The objective of this task is to address the nature of the geotechnical conditions that could be encountered during construction of the proposed dam and appurtenant works.

***Approach***

The Geotechnical Interpretive Report will integrate and interpret the collected data presented in the Geotechnical Data Report and help define the site geotechnical conditions. It will include geologic and engineering analyses regarding dam foundation conditions, borrow sources, foundation objectives, estimated foundation excavation depths, cutoff/grouting depths and construction considerations. This report will be used to develop the bid drawings (Task Group D).

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***Deliverables***

Draft and final Geotechnical Interpretive Report.

**Task 11 – Environmental Clearance for Test Fill and Test Grouting Programs**

***Objectives***

The objective of this task is to prepare the required documentation and agency coordination for the test fill and test grout programs, similar to what is described in Task B2 for the geotechnical investigation.

***Approach***

The approach for this task would be similar to Task B2. In addition, a SWPPP for this work will be prepared as described in Task B3.

***Assumptions***

Similar to Task B2.

***Deliverables***

Similar to Tasks B2 and B3.

**TASK GROUP C – ENGINEERING STUDIES**

**Task 1 – Design Earthquake Ground Motions**

***Objectives***

Develop site-specific design parameters for the Maximum Credible Earthquake (MCE) based on updates from PEER NGA.

***Approach***

- Obtain new attenuation relationships from the ongoing Pacific Earthquake Engineering Research (PEER) Center's Next Generation of Attenuation (NGA) Project.
- Evaluate the appropriateness of the new attenuation relationships with respect to the spectrum used for the CER analyses, and select the spectrum for use in final design.
- Calculate MCE design ground motion parameters including design response spectra, using empirical attenuation relationships and numerical models.
- Evaluate 3 to 4 accelerograms in addition to the Lucerne Valley record that was used for the CER.

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***Assumptions***

- The new attenuation relationships from the ongoing PEER Center's NGA Project will be available in time for use in final design (by February 2006). If not, we will use the CER spectrum.

***Deliverables***

- Technical Memorandum on ground motion design parameters for the MCE ground motions (with response spectra).

**Task 2 – Stability and Seismic Deformation Analyses**

***Objectives***

The objectives for this task are to:

- Evaluate and refine the design by assessing the stability of the embankment under various loading conditions that include end-of-construction, emergency reservoir drawdown, operational drawdown and steady-state seepage.
- Evaluate the long-term stresses and deformations of the embankment.
- Study the dynamic response to the design earthquake motions.
- Calculate potential deformations induced by the design earthquake motions.

***Approach***

- Static stability will be assessed using the computer program UTEXAS3. The rapid drawdown stability analysis method proposed by Duncan et al. will be used.
- Two-dimensional plane-strain finite-difference analyses will be used to simulate the long-term static stress condition within the dam. The analysis will simulate the construction of the dam by numerically constructing the dam in layer increments and will include seepage forces in the core under full reservoir load.
- Dynamic finite element response analyses will be run using the computer programs QUAD4M and FLAC. These programs will compute the dynamic stresses induced in the dam by the design earthquakes and thus allow an evaluation to be made of the pore pressure generation and cyclic and post-cyclic strength and deformation characteristics of the dam materials. The overall dynamic and post earthquake stability of the can then be verified together with an assessment of potential earthquake-induced embankment deformations. The analyses will be run for three horizontal acceleration time histories developed based on the target MCE response spectrum.

***Assumptions***

- None.

***Deliverables***

Dam Analysis Technical Memorandum

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### **Task 3 – Seepage Cutoff/Grouting**

#### ***Objectives***

The objectives for this task are to develop the design of the foundation cutoff alternatives identified during conceptual engineering, evaluate their feasibility and construction constraints and then select the preferred alternative to include in the Contract Documents. The work will address the ideas and opinions on the foundation cutoff concepts provided during the CER CTAP meetings.

#### ***Approach***

- Preliminary design packages will be prepared for the foundation cutoff alternatives identified during conceptual engineering. This work will include the preparation of preliminary construction drawings and specifications for each of the cutoff alternatives identified during conceptual engineering. The work will incorporate the information developed during the field exploration program and the grouting test program. The purpose of this work is to allow the potential costs and construction constraints to be further evaluated based on specific requirements and the designs will serve as a basis for discussions with specialist contractors and industry experts. Concepts considered feasible will be further refined based on input from specialist contractors and industry experts.
- The left abutment grouting alternative (exterior curtains of low mobility grout providing confinement to two interior rows of permeation grout lines) will be designed based on the results of the grouting test program. Grout-take, injection pressures and split-spacing requirements will be assessed and technically acceptable and economically feasible closure criteria will be developed. Grouting design objectives and proposed specification requirements will be discussed with DSOD. A cut-and-cover grout gallery under the core of the dam will be considered for the grouting alternative as recommended by the CTAP.
- Constructability issues including access for heavy construction equipment will be evaluated and discussed in detail with select specialist concrete cutoff and grouting contractors. Site visits with the specialist contractors will be arranged so that site specific issues and constraints, particularly with respect to work on the steep left abutment slope in the Temblor sandstone, can be reviewed and evaluated.
- Preliminary construction access plans will be prepared to evaluate access to the steep left abutment Temblor sandstone and associated construction costs. The plans will assess the feasibility and potential cost of constructing staged access haul roads to facilitate cutoff construction. The access plans will be specific to the construction requirements of each type of potential foundation alternative. Quantity takeoffs will be made and cost estimates of construction access will be developed for alternative comparison purposes.
- Potential construction risks and advantages will be evaluated. Risk consequences will include the direct costs as well as indirect costs and potential impact on construction schedule and project delivery date.

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**Assumptions**

- The field grouting test program (Task B8) will be carried out early in the final design schedule so that the data can be used in the selection and design of the left abutment cutoff.

**Deliverables**

- Dam Foundation Cutoff Evaluation and Design Technical Memorandum

**Task 4 – Abutment Stability Analyses/Landslide Treatment Evaluation**

**Objectives**

The objectives for this task are to assess the stability of the existing right abutment landslide immediately upstream of the axis of the new replacement dam and to develop stabilization treatment alternatives.

**Approach**

- The area extent of the landslide will be assessed from surface mapping carried out during the field investigation activities. Similarly, the borings drilled through the slide will be the basis of the estimates of the basal surface depth and configuration, and current groundwater depth.
- Stability analyses [UTEXAS3] will be performed to evaluate the relative reduction in stability due to dam foundation excavation impacts on the toe of the slide. A suite of analyses will be run to assess the sensitivity of the computed stability to changes in variables such as the depth and configuration of the basal surface, residual strength of the slide surface material, and the depth of groundwater.
- Various stabilization and treatment alternatives will be evaluated to mitigate dam foundation excavation impacts and to increase the stability of the slide to compensate for inundation of the toe due to the increase in reservoir surface elevation. Alternatives include partial removal of the head of the slide, tieback stabilization, abutment drainage, or combinations of these.

**Assumptions**

- The basal slide surface will be identified in the field investigation borings.

**Deliverables**

- Abutment Stability Analyses/Landslide Treatment Evaluation Technical Memorandum

**Task 5 – Spillway Design (URS Lead, SFPUC EDB Structural Staff Performing Designated Subtasks)**

**Objectives**

The design for the spillway will consider the following:

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- Safely passing the Probable Maximum Flood while meeting residual freeboard requirements.
- Balancing the cut requirement for the spillway with the fill requirement for the dam.
- Minimizing the quantity of structural concrete needed for walls and slabs.
- Developing a curved chute design that provides acceptable hydraulic performance over the full range of flows.
- Developing a stilling basin design that results in a discharge velocity acceptable for discharge into Calaveras Creek.
- Developing a stilling basin that can assist in dissipating the energy associated with discharges from the 72-inch diameter fixed cone valve.
- Developing a design that minimizes maintenance costs.

**Approach**

URS will designate a task leader responsible for overall coordination of the design. In general, URS will perform the overall geotechnical, hydraulic and civil design and structural design of the spillway, and will determine the location, critical/controlling design forces and the allowable deflection and displacement for any bridges crossing the spillway. The SFPUC EDB will provide structural design for the bridges crossing the spillway:

- Review and confirm the hydraulic basis of design for the spillway. Select a crest profile and length and route the design flood.
- Relocate the spillway from the location included in the Conceptual Engineering Report to a location somewhat closer to the dam embankment to reduce the overall excavation. Develop preliminary plan and profile drawings for use in the hydraulic model study (Task 6).
- Modify the plan and profile based on the results of the hydraulic model study.
- Detail the geotechnical basis of design specific to spillway development including temporary excavation slopes, foundation anchor capacities in the native material along the spillway route, backfill and drainage provisions, loading conditions (static and seismic), bearing pressures and sliding resistance for native and backfill materials.
- Develop the structural basis of design for the spillway crest, chute and stilling basin, including loading conditions (normal, seismic and PMF), and factors of safety for stability (sliding, flotation and overturning). Complete design analyses and refine the preliminary design to improve overall cost effectiveness.
- Locate and develop the basis of design of the two spillway bridges.
- **SFPUC EDB Subtask.** Complete the structural design of the two spillway bridges and the associated portion of the spillway.
- **URS/SFPUC Joint Subtask.** Task Coordination. Coordinate the work of the URS and EDB staff. This will involve regular meetings with the various discipline leaders and design engineers, and visits by the URS task leader and discipline leaders to the

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EDB design office (or the EDB structural lead to the URS office) several times a week during critical portions of the design.

- Determine erosion protection requirements along the spillway and where the stilling basin discharges to Calaveras Creek.

**Assumptions**

- The design will be based on an ungated ogee crest spillway with a curved upper chute and stilling basin as described in the Conceptual Engineering Report.
- A physical hydraulic model will be constructed to assist in the development of the hydraulic design because of the unknowns associated with the curved upper chute. Of particular concern are the wall heights necessary to contain high discharges from the curved portion of the downstream to the stilling basin and the flow pattern entering the stilling basin.
- The existing 72-inch diameter fixed cone valve will be relocated to discharge into the spillway stilling basin.
- SFPUC EDB will be responsible for quality control for those subtasks where EDB is the responsible designer.

**Deliverables**

- Spillway Design Report

## Task 6 – Spillway Hydraulic Model Testing

**Objectives**

Confirm acceptable hydraulic performance for the spillway and stilling basin while minimizing overall costs. Of particular concern are the wall heights necessary to contain waves that might develop due to the curved portion of the spillway chute. Also of concern is that an uneven flow pattern entering the stilling basin might reduce the basin's effectiveness.

**Approach**

- The model study will be performed at Colorado State University. The approach to this task is described in Appendix A.

**Assumptions**

- The model will be a design tool to assist in the design of the spillway. As such, the designer will be directly involved in both the development of the model, in directing modifications to the model to improve hydraulic performance and in determining the acceptability of the chosen design.

**Deliverables**

Spillway Model Test Technical Memorandum.

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**Task 7 – Outlet Works Design (URS Lead, SFPUC EDB Mechanical, Electrical and Structural Staff Performing Designated Subtasks)**

**Objectives**

Develop the design for the inlet outlet facilities. The following will be considered in the design:

- Maintaining or improving upon the discharge capacity of the existing inlet-outlet system.
- Ease and safety of operation of the completed system.
- Reliability and maintainability of the completed system.
- Developing a constructible design that can be scheduled with minimal impacts to other construction activities and with minimal impacts to existing reservoir operations.
- Reuse of existing facilities (adits, outlet conduit and valves) where appropriate.
- Improve utility services to the site

**Approach**

URS will designate a task leader responsible for overall coordination of the design. In general, URS will perform the geotechnical and civil design, and will determine the critical/controlling design forces and the allowable deflection and displacement for the structures. The SFPUC EDB will provide structural design for the above ground portion of the new inlet tower and the access bridge to the tower, and mechanical and electrical design for all of the outlet works, including the tower, the downstream shutoff valves, the fixed cone outlet valve and the stream maintenance release valve.

- **URS/SFPUC Joint Subtask.** Task Coordination. Coordinate the work of the URS and EDB staff. This will involve regular meetings with the various discipline leaders and design engineers, and visits by the URS task leader and discipline leaders to the EDB design office several times a week during critical portions of the design.
- **URS/SFPUC Joint Subtask.** Confirm the overall requirements for the outlet, and develop a structure that meets those requirements while fitting within the site limitations.
- **URS/SFPUC Joint Subtask.** Confirm the location and general arrangement of the tower and shaft.
- **SFPUC EDB Subtask.** Confirm size, location and number of intakes and conduits and develop plan and profile for the entire system.
- **SFPUC EDB Subtask.** Confirm system hydraulic capacity based on the plan and profile.
- **URS/SFPUC Joint Subtask.** Establish scheduling requirements based on overall dam construction schedule and reservoir operational requirements.
- **URS/SFPUC Joint Subtask.** Prepare overall demolition plan for the existing tower and ancillary facilities including existing valve vault and Potassium Permanganate

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Building. URS will develop overall plan based on scheduling requirements, EDB will prepare plans for mechanical and electrical demolition.

- Develop the geotechnical basis of design including expected shaft and tunnel excavation conditions and temporary and permanent support requirements.
- **SFPUC EDB Subtask.** Develop design for connecting new piping to existing conduits.
- Develop the structural basis of design for the tower including loading conditions (normal and static) and factors of safety for stability. Design the shaft and the overall connection between the tower and the shaft.
- **SFPUC EDB Subtask.** Analyze the tower using SAP 2000 or a similar finite element model and complete tower structural design. Design access bridge to the tower.
- **URS/SFPUC Joint Subtask** Complete 72-inch and 44-inch conduit design, extending the 72-inch conduit downstream and including a new valve vault, wye and connections to the relocated fixed cone valve and existing Calaveras pipeline. URS will develop overall arrangement and trench design, EDB will complete mechanical and electrical design.
- **SFPUC EDB Subtask.** Develop design for the ventilation of the intake structure
- **SFPUC EDB Subtask.** Develop design for the elevator/hoist system
- **SFPUC EDB Subtask.** Develop design for draining the intake tower
- **SFPUC EDB Subtask.** Complete intake tower piping design including selection of appropriate valves
- **SFPUC EDB Subtask.** Develop design to relocate 72-inch diameter fixed cone valve and discharge to new spillway stilling basin.
- **SFPUC EDB Subtask.** Coordinate with Alameda Creek Fishery Enhancement Project to design a system for making stream maintenance releases to Alameda Creek.
- **SFPUC EDB Subtask.** Develop electrical design of new intake tower including lighting, ventilation, valve power and control.
- **SFPUC EDB Subtask.** Complete design of utility electrical service improvement, on-site standby power, valve monitoring and control
- **SFPUC EDB Subtask.** Develop electrical design for lighting, ventilation, valve power and control within valve vault and at relocated fixed cone valve.
- **SFPUC EDB Subtask.** Complete miscellaneous metal/access platform/stairs design

**Assumptions**

- The design will be based on "Intake Tower Option 2 – New Tower" as described in the Conceptual Engineering Report.
- The existing 72-inch diameter outlet pipe installed in the tunnel under the dam in 1992 is acceptable for continued long-term use.

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- The existing 72-inch diameter fixed cone valve will be relocated to discharge into the new spillway stilling basin.
- SFPUC will confirm the size for the stream maintenance release valve.
- SFPUC or its SCADA consultant will prepare any plans and specifications necessary to intertie with the existing SCADA system.
- SFPUC EDB will be responsible for quality control for those subtasks where EDB is the responsible designer.

***Deliverables***

- Outlet Works Design Report

**Task 8 – Project Specific Operations Plan (SFPUC Lead)**

***Objectives***

Develop the facilities operation plan. Tie operation of the rehabilitated Calaveras Reservoir into the SFPUC's overall water supply system while balancing:

- Overall beneficial use of water generated by the local watershed
- Operation of the Alameda Creek Diversion
- Drought operation strategies
- Sunol Valley Water Treatment Plant capabilities, requirements and limitations
- Conveyance facilities capabilities and limitations
- Maintenance of environmental quality in the reservoir and in the downstream creek
- Maintenance of overall water quality for both municipal use and release to Calaveras Creek
- Efforts to minimize the occurrence and duration of uncontrolled spills

***Approach***

- Review and build upon the reservoir operations plan included in the Conceptual Engineering Report. Work with SFPUC operations, engineering, planning, and project management staff to incorporate SFPUC requirements and any changes resulting from implementation of the Water System Improvement Program.
- Incorporate Agreements or Memorandums of Understanding with resource agencies
- Include dam safety operational requirements. Describe reservoir evacuation procedures. Incorporate or reference instrumentation and monitoring requirements. Describe expected seismic performance and include (or reference) requirements related to inspection following seismic events.

***Assumptions***

- The SFPUC will lead the development of the operations plan and will be its primary author. URS will assist in the development by facilitating the compilation of baseline

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data and operational requirements and will assist as necessary in producing and publishing the plan.

***Deliverables***

Meeting summaries, memoranda, and comments on the Project Specific Operations Plan.

**Task 9 – Operations Strategy during Construction**

***Objectives***

A construction plan will be developed that minimizes impacts to current operations during the construction of the replacement dam. The following will be considered in the design:

- Maintaining the reservoir within the present operating limits (Elevation 690 to Elevation 705.45) during construction.
- Maintaining an operational outlet works though out the rainy season (November-April)
- Minimizing any impacts to water quality within the reservoir
- Maximizing beneficial use of inflow into the reservoir
- Approach
- Confirm with SFPUC operations staff operational requirements and system needs.
- Review operational requirements with draft construction schedule. Determine potential impacts of schedule constraints resulting from operations.
- Together with the SFPUC, determine an optimal approach that balances operational and construction needs.

***Assumptions***

- During the rainy season, the existing dam will be maintained in such a state that it can safely store water on a temporary basis up to the existing spillway level until the new spillway is operational.
- There will not be a requirement to release flows to Calaveras Creek during the construction period for stream maintenance purposes.
- The newly installed hypolimnetic oxygenation system will eliminate the need for the continued use of the Potassium Permanganate facility during the construction period.

***Deliverables***

- Design memorandum detailing the reservoir operations strategy, including any limitations in reservoir operations and construction scheduling. The construction schedule limitations will be written so as to be readily incorporated into the "Progress and Completion" section of the contract specifications.

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## **Task 10 – Start-up and Commissioning Plan**

### ***Objectives***

The objective of this task is to prepare a start-up and commissioning plan for the Calaveras Dam Replacement Project.

### ***Approach***

The plan will address the following:

- Outlet works operation;
- Operations and maintenance; and
- Inspections and monitoring the performance of the dam during the first year after completion of construction.

The plan will be used for Task Group J, Phase 7, Start-up and Commissioning.

### ***Assumptions***

### ***Deliverables***

Start-up and Commissioning Plan

## **TASK GROUP D – DESIGN PACKAGE**

A detailed design package will be prepared for the dam, spillway, intake tower. The design package will include drawings and technical specifications ready for bidding, an Engineer's construction cost estimate for use in evaluation of bids, and a construction schedule.

The design package submitted under Design Group D does not include the following:

- Environmental mitigation
- Design of the Potassium Permanganate Facility

The following assumptions are also included:

- The plans and specifications will be prepared assuming one bid package.
- The design package assumes normal post-construction restoration of the site. The package does not include biological or cultural mitigation measures.
- SFPUC will develop the drawings, specifications, and construction cost estimates for SCADA systems.
- SFPUC will be the point of contact with Alameda and Santa Clara Counties to obtain information and criteria for improvement work on Calaveras Road.

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## Task 1 – Contracting Plan

### **Objectives**

Develop a contracting plan for the project. It may be advantageous to separate the cutoff/grouting from the rest of the work to minimize the potential for costly delays and claims arising from extended a construction period for this relatively high risk work. This will involve evaluations of single and two construction packages.

### **Approach**

The following will be considered in this task: (1) multiple contracts and (2) pre-qualification of contractors.

Develop overall construction schedules for a single construction contract and two construction contact packages. These schedules will be compared to assess the construction durations of single versus two construction contracts. The benefits of single versus two construction contracts will be evaluated and a recommended contracting plan will be developed.

Develop a pre-qualification package. Pre-qualifications will be aimed at short-listing pre-qualified contractors to bid the work for the Calaveras Dam Replacement Project. Pre-qualifications will focus on projects of similar dollar value, scope and complexity as the Calaveras Dam Replacement Project. The contractor will be required to submit key personnel that they propose to commit to the project, project abstracts for which the key personnel have been involved, and their financial standing and bonding capacity.

### **Assumptions**

- SFPUC will enforce the pre-qualification process; i.e., only contractors who have pre-qualified will be allowed to bid.

### **Deliverables**

- Technical memorandum on the contacting plan
- Pre-qualification criteria.

## Task 2 – 35% Detailed Design (Drawings, Tech Spec Outline, Cost Estimate & Schedule Update)

### **Objectives**

Develop the 35% detailed design.

### **Approach**

- The results of studies in Task Group B and Task Group C will be used to advance the design from 10% to 35%.
- The drawings indicated for 35% on Table 2 will be produced in AutoCAD using Standard SFPUC format.
- The technical specification outline (Table 3) will be updated.

Attachment 2 to Amendment No. 1

Services to be Provided

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- The construction cost estimate presented in the CER will be advanced based on the 35% detailed design.
  - Equipment rates will be obtained from published data on local leasing, rental or ownership rates
  - Labor rates will be based on published local prevailing wages
  - Material rates will be based on vendor quotes
  - Percentages will be added for overhead and profit
  - Design contingency appropriate for the level of design will be added
- The construction schedule presented in the CER will be advanced based on the 35% detailed design. The schedule, including CPM, will be developed using MS project.

***Assumptions***

- SFPUC will provide additional drawings and information related to the existing facilities as identified.

***Deliverables***

- 35% Drawings (15 half-size bound copies, 1 half-size unbound copy, 2 full-size bound copies; 1 full-size unbound copy)
- Technical Specification Outline (15 bound copies)
- Cost Estimate and Schedule Update Report (15 bound copies)

**Task 3 – 65% Detailed Design (Drawings, Tech Specs, Cost Estimate & Schedule Update)**

***Objectives***

Develop the detailed design to 65%.

***Approach***

- Incorporate comments from SFPUC, CM, CTAP, and DSOD. Written responses to the comments will be prepared as a deliverable.
- The drawings indicated for 65% in Table 2- will be produced using Standard SFPUC format.
- Technical specifications will be developed following the Construction Specifications Institute (CSI) format and in accordance with SFPUC guidelines.
- The construction schedule and construction cost estimate will be advanced based on the 65% detailed design.

***Assumptions***

- SFPUC will provide comments on previous submittal in matrix format.
- Caltrans specifications format will not be required for the two spillway bridges.

Attachment 2 to Amendment No. 1

Services to be Provided

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***Deliverables***

- 65% Drawings (15 half-size bound copies, 1 half-size unbound copy, 2 full-size bound copies, 1 full-size unbound copy)
- Technical Specifications (15 bound copies)
- Cost Estimate and Schedule Update Report (15 bound copies)
- Responses to comments from SFPUC and CM in matrix format.

**Task 4 – Review and Assistance in Preparation of Division 0 and 1 Project Specifications**

***Objectives***

Assist SFPUC in the preparation of Division 0 and Division 1 project specifications. Division 0 includes bidding requirements, contract forms, general conditions and supplementary conditions of the contract. Division 1 includes general requirements of the contract.

***Approach***

- Review SFPUC's General Conditions for construction and make recommendations for special provisions to the General Conditions.
- Evaluate with SFPUC the use of escrow bid documents, partnering, and a Disputes Review Board for minimizing costs associated with changes and claims.
- Review bidding requirements and contract forms and make recommendations for revisions as applicable for this project.
- Conduct a workshop to determine SFPUC and URS responsibilities as lead for each Division 1 specification.

***Assumptions***

- SFPUC will provide Division 0.
- SFPUC will provide input to the Division 1 specifications at the 65% level.

***Deliverables***

- Memorandum detailing recommendations for Special Provisions to the General Conditions of the contract documents.
- Table of Bid Items for insertion by SFPUC into Section 00410, Schedule of Bid Prices.
- Division 1 specifications.

Attachment 2 to Amendment No. 1

Services to be Provided

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**Task 5 – 95% Detailed Design (Drawings, Tech Specs, Cost Estimate & Schedule Update)**

***Objectives***

Develop the detailed design to 95%.

***Approach***

- Incorporate comments from SFPUC, CM, CTAP, and DSOD. Written responses to the comments will be prepared as a deliverable.
- Complete final design details for all project components.

***Assumptions***

- SFPUC will provide comments on previous submittal in matrix format.

***Deliverables***

- 95% Drawings (15 half-size bound copies, 1 half-size unbound copy, 2 full-size bound copies, 1 full-size unbound copy)
- Technical Specifications (15 bound copies)
- Cost Estimate and Schedule Update Report (15 bound copies)
- Responses to comments from SFPUC and CM in matrix format.

**Task 6 – Incorporate Permit Requirements**

***Objectives***

Incorporate requirements of permitting agencies such as U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Fish and Game, and other regulatory agencies into the Detailed Design Documents.

***Approach***

- Permitting requirements will be incorporated into the 65, 95, and 100% drawings and technical specifications as they are identified.

***Assumptions***

- It is assumed that most of the permitting requirements will be incorporated at the 95% level of design.

***Deliverables***

- No separate deliverable; permitting requirements will be incorporated at the 95% and 100% levels of design.

Attachment 2 to Amendment No. 1

Services to be Provided

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**Task 7 – 100% Detailed Design (Drawings, Tech Specs, Cost Estimate & Schedule Update)**

**Objectives**

Finalize the detailed design and produce 100% drawings and technical specifications ready for bidding. Produce a final construction cost estimate and schedule for use in evaluation of bids.

**Approach**

- Incorporate comments from SFPUC, CM, CTAP, and DSOD. Written responses to the comments will be provided as a deliverable.

**Assumptions**

- SFPUC will provide comments on previous submittal in matrix format.
- Responsible individuals from the SFPUC EDB will stamp and sign the structural, mechanical and electrical drawings that were prepared by EDB.

**Deliverables**

- 100% Drawings (15 half-size bound copies, 1 half-size unbound copy, 2 full-size bound copies, 1 full-size unbound copy, 1 full-size mylar unbound copy).
- Technical Specifications (15 bound copies).
- Cost Estimate and Schedule Update Report (15 bound copies).
- Responses to comments from SFPUC and CM in matrix format.
- Electronic copy of AutoCAD drawings.
- Electronic copy of specifications in MS Word and Adobe Acrobat PDF.

**Task 8 – Package for Two Construction Contracts (Optional Task)**

**Objectives**

The objective of this optional task is to provide an allowance for two construction contracts, as discussed in Task D1.

**Approach**

Prepare two sets of bidding and construction documents. This will include preparing two sets of Special Provisions, General Requirements, and selected technical specifications, such as excavation.

**Assumptions**

Attachment 2 to Amendment No. 1

Services to be Provided

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***Deliverables***

Two sets of construction documents.

**TASK GROUP E – PERMITTING SUPPORT (SFPUC LEAD)**

***Objectives***

Assist SFPUC by requested providing technical data and support for preparation of permit applications.

***Approach***

- Assist SFPUC to prepare the application for approval to construct from DSOD.
- Assist SFPUC to prepare applications for environmental permits.
- The permit requirements will be incorporated in the specifications (Task D6).

***Assumptions***

- URS will provide engineering and other technical support services as requested and authorized by the SFPUC.

***Deliverables***

- Requested information in the form of memoranda on an as-needed basis.

**TASK GROUP F – PRE-CONSTRUCTION CM INTERACTION (SFPUC LEAD)**

***Objectives***

The construction manager (CM) will need to support and enforce the contract specifications. The objective of this task is to assist SFPUC to conduct reviews of the construction plans and specifications with the CM to obtain their input and “buy-in”.

***Approach***

- Assist SFPUC to conduct review meetings of the 35% plans and outline of specifications, and the 65%, 95% and 100% plans and specifications.
- SFPUC and CM will provide comments on plan/specification set in matrix format and URS will respond to the comments. Resolutions to the comments will be incorporated into the succeeding submittal of plans and specifications.

***Assumptions***

- SFPUC and CM will provide comments in matrix format within three weeks of receipt of a plan/specification set.

Attachment 2 to Amendment No. 1

Services to be Provided

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***Deliverables***

- Meeting agendas
- Responses to comments from SFPUC and CM in matrix format.

**TASK GROUP G – PROJECT MEETINGS (SFPUC LEAD)**

**Task 1 – SFPUC Meetings**

***Objectives***

- Meet with SFPUC periodically to review and develop solutions for significant design and related project issues.

***Approach***

- Prepare for and attend 8 review meetings with SFPUC to review significant design and related project issues through completion of Final Design, Phase 4 (end of 2008). Approximate meeting dates are shown on the Project Schedule (Attachment 4).
- Work with SFPUC to prepare agendas before the meetings to assure all critical issues are covered.

Prepare and conduct the review meetings to present the results of the major deliverables, receive comments and to propose resolutions to issues. Key subject areas to be reviewed in meetings with SFPUC are those indicated in Task G2 plus environmental considerations and construction cost and schedule.

***Assumptions***

- Allowed for 8 workshops with SFPUC through completion of final design.
- Review meetings with SFPUC will be held at SFPUC's offices in San Francisco, Millbrae, or Sunol.

***Deliverables***

- Meeting presentation materials, agendas, hand-outs, and minutes indicating decisions reached on significant design issues.

**Task 2 – DSOD Meetings**

***Objectives***

- Meet and coordinate with DSOD to obtain their input on dam-related design issues.

Attachment 2 to Amendment No. 1

Services to be Provided

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**Approach**

- Prepare for and attend 8 review meetings with DSOD to review significant design and related project issues through completion of Final Design, Phase 4 (end of 2008). Approximate meeting dates are shown on the Project Schedule (Attachment 4).
- Work with SFPUC to prepare agendas well before the meetings to assure all critical issues are covered.
- Prepare and conduct the review meetings to present the results of the major deliverables, receive comments and to propose resolutions to issues. Key subject areas to be reviewed in meetings with DSOD are:
  - Project Goals & Design Criteria Memorandum
  - Geotechnical Investigations [includes Work Plan; field data (monthly during field visits), laboratory testing data; large scale field fill test; grouting test; Geotechnical Data Report; and Geotechnical Interpretive Report].
  - Engineering Studies and technical memoranda [includes design earthquake ground motions; stability and seismic deformation analyses; seepage cutoff and grouting evaluations; abutment stability analyses and landslide treatment evaluation; spillway design and hydraulic model testing; outlet works design; and operations during construction]
  - Plans and technical specifications at 35%, 65%, 95% and 100% levels.
- The DSOD review meetings will be conducted after the review meetings with the SFPUC and Calaveras Technical Advisory Panel (CTAP). (The CTAP meetings are covered under Task G3). In general, the DSOD review meetings will only cover subject areas under their jurisdiction; and all design issues and decisions would have been reviewed by the SFPUC and the CTAP. This approach should streamline and strengthen the review and approval process with DSOD.

**Assumptions**

- Allowed for 8 meetings with DSOD through completion of final design.
- Review meetings with DSOD will be held in DSOD's office in Sacramento, and at least one of the meetings with DSOD will include a site visit and the meeting would be held at SFPUC's facilities in Sunol.

**Deliverables**

- Meeting presentation materials, agendas, hand-outs, and minutes indicating decisions reached on significant design issues.

Attachment 2 to Amendment No. 1

Services to be Provided

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### **Task 3 – CTAP Meetings**

#### ***Objectives***

- Meet with Calaveras Technical Advisory Panel (CTAP) periodically to present recommendations on significant design and related project issues.

#### ***Approach***

- Prepare for and attend 7 review meetings with the CTAP to review significant design and related project issues through completion of Final Design, Phase 4 (end of 2008). Approximate meeting dates are shown on the Project Schedule (Attachment 4).
- Work with SFPUC to prepare agendas well before the meetings to assure all critical issues are covered.
- Prepare and conduct the review meetings to present the results of the major deliverables, receive comments and to propose resolutions to issues. The issues would be the same as those identified in Task G1.
- Assist SFPUC to prepare questions for each CTAP meeting to obtain their input to resolve issues.
- Respond to CTAP's comments in a matrix format.

#### ***Assumptions***

- Allowed for 7 meetings with the CTAP at facilities provided by the SFPUC through completion of final design.

#### ***Deliverables***

- Presentation materials and agendas for the CTAP meetings.
- Responses to the CTAP's comments in matrix format.

### **TASK GROUP H – PHASE 5 - BID PERIOD SERVICES (SFPUC LEAD)**

#### ***Objectives***

URS will assist SFPUC during the bidding period.

#### ***Approach***

Provide the following support as requested by SFPUC in the following items:

- Support advertisement for bidding.
- Participate in the conduct of the pre-bid meeting.
- Respond to bidder's questions and prepare addenda to the plans and specifications.
- Assist in bid evaluation.

Attachment 2 to Amendment No. 1

Services to be Provided

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- Assist in SFPUC meetings.

***Assumptions***

- URS will provide bid period support services as requested and authorized by the SFPUC.

***Deliverables***

- Written responses to bidder's inquiries and addenda to plans and specifications.
- Requested information in the form of memoranda on an as-needed basis.

## **Tables**

**Table 1**  
**Calaveras Dam Replacement Project**  
**Final Investigation Plan**

GROUP	EXPLORATION TYPE / NO.	LOCATION	Ground Elevation	Structure Elevation	Additional Drilling	DEPTH / LENGTH (ft)	Formation <sup>2</sup>	PIEZOD	ACCESS	GOAL OF INVESTIGATION		
										IN-SITU TESTING	PIEZOD	IN-SITU TESTING
<b>DAM FOUNDATION</b>												
2	CB-27	left abutment, axis	810	610	0	200	Tls	No	helicopter	dam find/gROUTing		
1	CB-28	left abutment, axis	760	550	0	200	Tls	No	on existing road	dam find/gROUTing		
1	CB-29	left abutment, axis	700	500	0	200	Tls	Yes	helicopter	dam find/gROUTing		
2	CB-30	left abutment, axis	680	460	0	200	Tls/fm	Yes	helicopter	dam find/cutoff		
1	CB-31	valley bottom, axis	610	410	0	200	Tls/fm	Yes	helicopter	dam find/cutoff		
1	CB-32	valley bottom, axis	600	400	0	200	fm	yes	on existing road	dam find/gROUTing		
1	CB-33	right abutment, axis	650	450	0	200	fm	no	helicopter	dam find/gROUTing		
2	CB-34	right abutment, axis	870	670	0	100	fm	no	helicopter	dam find/gROUTing		
2	CB-35 <sup>3</sup>	valley bottom, core trench edge	595	525	0	70	fm	on existing road	dam find	dam find		
1	CB-36	valley bottom, core trench edge	606	505	0	100	fm	on existing road	helicopter	dam find		
2	CB-37	right abutment, core trench edge	655	535	0	100	fm	on existing road	helicopter	dam find		
1	CB-38	right abutment, core trench edge	775	665	0	100	fm	on existing road	helicopter	dam find		
1	CB-38 <sup>3</sup>	valley bottom, shell	600	500	0	100	fm	on existing road	helicopter	dam find		
2	CB-40	right abutment, shell	625	525	0	100	fm	on existing road	helicopter	dam find		
1	CB-41 <sup>3</sup>	valley bottom, shell	580	540	0	40	Tls	on existing road	helicopter	dam ind, (3C <sub>a</sub> -2 outlet)		
1	CB-42	right abutment, shell	670	570	0	100	fm	on existing road	helicopter	dam find		
2	CB-43	right abutment, shell	750	700	0	50	fm	on existing road	helicopter	dam find		
2	CB-44	left abutment, shell	590	540	0	50	Tls	NA	on existing road	helicopter	dam find	
2	CB-45	left abutment, shell	765	610	20	175	Tls	on existing road	helicopter	dam ind/soil/valley find/(3C <sub>a</sub> -2 outlet)		
2	CB-46	left abutment, shell	745	695	0	50	Tls	on existing road	helicopter	dam ind/soil/valley find/(3C <sub>a</sub> -2 outlet)		
2	TP-20	right abutment	0	15	Qls	15	Qls	on existing road	on existing road	dam find		
2	TP-21	right abutment	0	15	Qls	NA	on existing road	on existing road	landslide contact	landslide contact		
2	TP-22	valley bottom toe	0	15	Qal	15	Qal	on existing road	on existing road	transfer pipeline find		
1	RW-1	valley bottom, u/s toe	665	550	0	115	fl, Qal	on existing road	on existing road	dam find/soil improvement zone		
1	RW-2	valley bottom, u/s toe	710	550	0	160	fl, Qal	on existing road	on existing road	dam find/soil improvement zone		
1	RS-15	valley bottom				650	Cal/fm		on existing road	dam find		
1	RS-16	valley bottom				550	Cal/fm		on existing road	dam find		
1	RS-17	valley bottom				800	Cal/fm		on existing road	dam find		
1	RS-18	right abutment				800	fm		on existing road	dam find		
1	RS-19	right abutment				650	fm		on existing road	dam find		
1	RS-20	right abutment				800	fm		on existing road	dam find		

**Table 1**  
**Calaveras Dam Replacement Project**  
**Final Investigation Plan**

GROUP	EXPLORATION TYPE / NO. <sup>1</sup>	LOCATION	Ground Elevation	Structure Elevation	Additional Drilling	DEPTH / LENGTH (ft)	Formation <sup>2</sup>	PIEZO	ACCESS	GOAL OF INVESTIGATION		IN-SITU TESTING
										GOAL OF INVESTIGATION	IN-SITU TESTING	
<b>RIGHT ABUTMENT LANDSLIDE</b>												
1	CB-47	right abutment	1050	1000	0	50	Qls		helicopter	landslide thickness	none	
2	CB-48	right abutment	1105	1055	0	50	Qls		helicopter	landslide thickness	none	
2	CB-49	right abutment	1005	955	0	50	Qls		helicopter	landslide thickness	none	
2	BA-12 (if needed)	right abutment	700	600	0	100	Clis/fm		on existing road	landslide thickness	none	
1	BA-13 (if needed)	right abutment	770	670	0	100	Clis/fm		on existing road	landslide thickness	none	
1	BA-14 (if needed)	right abutment	780	710	0	70	Kau		on existing road	landslide thickness	none	
2	BA-15 (if needed)	right abutment	820	750	0	70	Kau		on existing road	landslide thickness	none	
<b>SPILLWAY</b>												
2	CB-50	approach channel	860	740	20	140	Tls	no	helicopter	spillway fnd & shell mats	none	
1	CB-51	left abutment, axis	950	640	50	360	Tls		helicopter	3Ca-1 spillway (3Ca-2 dam frdgroting)	packer, borehole camera	
2	CB-52	spillway chute	905	740	20	185	Tls	NA	helicopter	spillway fnd & shell mats	down-hole seismic vel.	
1	CB-53	spillway chute	760	710	20	70	Tls	NA	on existing road	spillway fnd & shell mats	none	
2	CB-54	spillway chute	725	650	20	95	Tls	NA	on existing road	spillway fnd & shell mats	none	
1	CB-55	spillway chute	615	560	20	75	Tls/fm	no	helicopter	spillway fnd, Tsf/fm contact	down-hole seismic vel.	
1	CB-56	spillway chute	590	560	20	50	fm		helicopter	spillway fnd	down-hole seismic vel.	
<b>NEW INTAKE TOWER</b>												
1	CB-57 <sup>3</sup>	intake tower	760	600	30	190	fm	no	dozer	intake tower foundation	borehole camera	
<b>BORROW AREA E</b>												
1	TP-23 to 42	Borrow Area E				12 to 15			reservoir bottom	core materials	none	
1	BA-16	Borrow Area E			35				reservoir bottom	core & drain materials	none	
1	BA-17	Borrow Area E			35				reservoir bottom	core & drain materials	none	
1	BA-18	Borrow Area E			45				reservoir bottom	core & drain materials	none	
1	BA-19	Borrow Area E			45				reservoir bottom	core & drain materials	none	
1	BA-20	Borrow Area E			45				reservoir bottom	core & drain materials	none	
1	BA-21	Borrow Area E			55				reservoir bottom	core & drain materials	none	
1	BA-22	Borrow Area E			50				reservoir bottom	core & drain materials	none	
1	BA-23	Borrow Area E			60				reservoir bottom	core & drain materials	none	
1	BA-24	Borrow Area E			55				reservoir bottom	core & drain materials	none	
1	BA-25	Borrow Area E			55				reservoir bottom	core & drain materials	none	
1	BA-26	Borrow Area E			50				reservoir bottom	core & drain materials	none	
1	BA-27	Borrow Area E			50				reservoir bottom	core & drain materials	none	
1	BA-28	Borrow Area E			50				reservoir bottom	core & drain materials	none	
1	BA-29	Borrow Area E			50				reservoir bottom	core & drain materials	none	
1	BA-30	Borrow Area E			50				reservoir bottom	core & drain materials	none	
2	TP-43 to 62	Borrow Area E			12 to 15				reservoir bottom	core & drain materials	none	
2	BA-31 to 40	Borrow Area E			40 to 60				reservoir bottom	core & drain materials	none	

**Table 1**  
**Calaveras Dam Replacement Project**  
**Final Investigation Plan**

GROUP	EXPLORATION TYPE / NO. DISPOSAL AREA BERM	LOCATION	Ground	Structure	Additional	DEPTH /	PIEZO	ACCESS	GOAL OF INVESTIGATION	IN SITU TESTING
			Elevation	Elevation	Drilling	LENGTH (ft)				
2	CB-58	left abutment				50	fm/fsp	helicopter	berm foundation level	none
1	CB-59	valley bottom				75	fm/fsp	barge	berm foundation level	none
2	CB-60	right abutment				50	kau	helicopter	berm foundation level	none
1	RS-21	right abutment				530	kau	—	berm foundation level	none

Notes: 1: CB = HQ-2 wireline core boring, EA = 3.0-inch bucket auger boring, I = inclined, P = Piezometer TP = Test pit, RS = Seismic refraction line

2: Qal = alluvium, Qls = Landslide, Ts = Terciary Sandstone, Ksn = shale, fm = fine-grained, sp = serpentinite, gneiss = granite, blueschist

3: Survey of existing outlet pipe and other underground features required prior to drilling

4: Group 2 locations would be confirmed based on results of Phase 1 explorations

Exploration Group Summary	Group 1	Group 1	Group 2	Group 2
	Qty.	(footage)	Qty.	(footage)
Core Borings (Helicopter)	9	1310	11	1175
Core Borings (non-helicopter)	9	1075	6	540
Rotary Wash Borings	2	275	0	0
Bucket Auger Borings	17	900	12	670
Seismic Refraction Lines	7	4,780	0	0
Test Pits	24	0	23	0

**Table 2**  
**List of Drawings**

Drawing No.	Drawing Name	Responsibility	35%	65%	95% & 100%
<b>GENERAL</b>					
GN-1	Title Sheet	URS	X	X	X
GN-2	Sheet Index	URS	X	X	X
GN-3	Abbreviations and Symbols	URS	X	X	X
GN-4	Location and Vicinity Maps	URS	X	X	X
GN-5	General Arrangement	URS	X	X	X
GN-6	Survey Control	URS		X	X
GN-7	Hydrologic Information and Storage/Area Curves	URS		X	X
<b>EXISTING CONDITIONS</b>					
EC-1	Existing Dam Plan and Center Cross Section	URS	X	X	X
EC-2	Existing Conditions, Sheet 1 of 4 (subject; titles?)	URS	X	X	X
EC-3	Existing Conditions, Sheet 2 of 4	URS	X	X	X
EC-4	Existing Conditions, Sheet 3 of 4	URS	X	X	X
EC-5	Existing Conditions, Sheet 4 of 4	URS	X	X	X
<b>DEMOLITION</b>					
DM-1	General Demolition Plan	URS	X	X	X
<b>EXCAVATION AND FOUNDATION TREATMENT</b>					
FD-1	General Excavation Plan	URS	X	X	X
FD-2	Excavation Pay Limits	URS		X	X
FD-3	Cofferdam Excavation Plan	URS	X	X	X
FD-4	Cofferdam Excavation Sections	URS	X	X	X
FD-5	Spillway Excavation Plan, Sheet 1 of 2	URS	X	X	X
FD-6	Spillway Excavation Plan, Sheet 2 of 2	URS	X	X	X
FD-7	Spillway Excavation Sections, Sheet 1 of 2	URS	X	X	X
FD-8	Spillway Excavation Sections, Sheet 2 of 2	URS	X	X	X
FD-9	Right Abutment Excavation Plan	URS	X	X	X
FD-10	Right Abutment Excavation Sections and Details	URS	X	X	X
FD-11	Dam Foundation Excavation Plan	URS	X	X	X
FD-12	Dam Foundation Excavation Sections	URS	X	X	X
FD-13	Surface Treatment Details	URS		X	X
FD-14	Secant Pile Cutoff Plan and Profile	URS	X	X	X
FD-15	Grout Curtain Plan and Profile	URS	X	X	X
FD-16	Grout Curtain Sections and Details	URS		X	X

**Table 2**  
**List of Drawings**

Drawing No.	Drawing Name	Responsibility	35%	65%	95% & 100%
<b>DAM</b>					
EM-1	Embankment Plan	URS	X	X	X
EM-2	Maximum Section and Profile	URS	X	X	X
EM-3	Crest Details	URS	X	X	X
EM-4	Sections, Sheet 1 of 2	URS	X	X	X
EM-5	Sections, Sheet 2 of 2	URS	X	X	X
EM-6	Embankment Details, Sheet 1 of 2	URS		X	X
EM-7	Embankment Details, Sheet 2 of 2	URS		X	X
EM-8	Downstream Zone 2 / Zone 3 Footprint - Plan and Sections	URS	X	X	X
EM-9	Downstream Embankment Toe Plan	URS	X	X	X
EM-10	Surface Drainage and Bench Details	URS		X	X
<b>INSTRUMENTATION</b>					
IN-1	Instrumentation Plan	URS	X	X	X
IN-2	Dam Section, Sheet 1 of 3	URS	X	X	X
IN-3	Dam Section, Sheet 2 of 3	URS	X	X	X
IN-4	Dam Section, Sheet 3 of 3	URS	X	X	X
IN-5	Piezometer Details, Sheet 1 of 2	URS		X	X
IN-6	Piezometer Details, Sheet 2 of 2	URS		X	X
IN-7	Inclinometer Details	URS		X	X
IN-8	Seismometer Installation Details	URS		X	X
IN-9	Survey Monument Details	URS		X	X
IN-10	Terminal Buildings and Vaults	URS		X	X
IN-11	Toe Drain Weir, Plan and Sections	URS		X	X
IN-12	ADAS System	URS	X	X	X
IN-13	ADAS Details, Sheet 1 of 2	URS		X	X
IN-14	ADAS Details, Sheet 2 of 2	URS		X	X
IN-15	Meteorological Station - Details	URS		X	X
IN-16	Instrumentation Schedule	URS		X	X
<b>BORROW AREAS</b>					
BA-1	Borrow Area E Plan and Section	URS	X	X	X
BA-2	Borrow Area B1 Plan and Section	URS	X	X	X
<b>DISPOSAL AREAS</b>					
DA-1	Disposal Area 1 Plan and Section	URS	X	X	X
DA-2	Disposal Area 3 Plan	URS	X	X	X
DA-3	Disposal Area 3 Section and Dike Details	URS	X	X	X

**Table 2**  
**List of Drawings**

Drawing No.	Drawing Name	Responsibility	35%	65%	95% & 100%
<b>SPILLWAY</b>					
SP-1	Plan and Profile Sheet 1	URS	X	X	X
SP-2	Plan and Profile Sheet 2	URS	X	X	X
SP-3	Crest Structure & Upper Chute - Excavation	URS		X	X
SP-4	Chute - Excavation	URS		X	X
SP-5	Lower Chute and Stilling Basin - Excavation	URS		X	X
SP-6	Crest Structure and Upstream Wingwalls - Plan and Section	URS		X	X
SP-7	Crest Structure and Upstream Wingwalls - Sections and Details	URS	X	X	X
SP-8	Upper Chute - Plan and Profile	URS	X	X	X
SP-9	Lower Chute - Plan and Profile	URS	X	X	X
SP-10	Chute - Sections and Details	URS	X	X	X
SP-11	Stilling Basin - Plan and Profile	URS	X	X	X
SP-12	Stilling Basin - Sections and Details 1	URS	X	X	X
SP-13	Stilling Basin - Sections and Details 2	URS		X	X
SP-14	Crest Structure and Upstream Wingwalls - Reinforcement	URS		X	X
SP-15	Crest Bridge - General Plan	URS w/EDB input	X	X	X
SP-16	Crest Bridge - Foundation Details	URS w EDB input	X	X	X
SP-17	Crest Bridge - Abutment	EDB w/URS input	X	X	X
SP-18	Crest Bridge - Abutment Details 1	EDB w/URS input		X	X
SP-19	Crest Bridge - Abutment Details 2	EDB w/URS input		X	X
SP-20	Crest Bridge - Typical Section	EDB	X	X	X
SP-21	Crest Bridge - Girder Layout	EDB		X	X
SP-22	Crest Bridge - Girder Details	EDB		X	X
SP-23	Stilling Basin Bridge - General Plan	URS w/EDB input	X	X	X
SP-24	Stilling Basin Bridge - Foundation Details	URS w EDB input	X	X	X
SP-25	Stilling Basin Bridge - Abutment	EDB w/URS input	X	X	X
SP-26	Stilling Basin Bridge - Abutment Details 1	EDB w/URS input		X	X
SP-27	Stilling Basin Bridge - Abutment Details 2	EDB w/URS input		X	X
SP-28	Stilling Basin Bridge - Typical Section	EDB	X	X	X
SP-29	Stilling Basin Bridge - Girder Layout	EDB		X	X
SP-30	Stilling Basin Bridge - Girder Details	EDB		X	X
SP-31	Chute - Reinforcement	URS		X	X
SP-32	Stilling Basin - Reinforcement 1	URS		X	X
SP-33	Stilling Basin - Reinforcement 2	URS		X	X
SP-34	Underdrain Details - Sheet 1	URS		X	X

**Table 2**  
**List of Drawings**

Drawing No.	Drawing Name	Responsibility	35%	65%	95% & 100%
SP-35	Underdrain Details - Sheet 2	URS		X	X
SP-36	Miscellaneous Details	URS		X	X
<b>OUTLET WORKS</b>					
OW-1	Plan and Profile	URS w/EDB input	X	X	X
OW-2	New Tower & Shaft - Excavation & Support 1	URS	X	X	X
OW-3	New Tower & Shaft - Excavation & Support 2	URS	X	X	X
OW-4	New Tower & Shaft - Adit Excavation & Support	URS	X	X	X
OW-5	New Tower & Shaft - General Arrangement Elevation	EDB w/URS input	X	X	X
OW-6	New Tower & Shaft - General Arrangement Plans 1	EDB w/URS input	X	X	X
OW-7	New Tower & Shaft - General Arrangement Plans 2	EDB w/URS input	X	X	X
OW-8	New Tower & Shaft - General Arrangement Plans 3	EDB w/URS input	X	X	X
OW-9	Existing Tower - Demolition 1	EDB w/URS input		X	X
OW-10	Existing Tower - Demolition 2	EDB w/URS input		X	X
OW-11	New Tower Piping	EDB w/URS input	X	X	X
OW-12	New Tower Piping Details	EDB		X	X
OW-13	Connection to Outlet Conduit & Drain	EDB w/URS input	X	X	X
OW-14	Connections to Adits 1 and 2	EDB w/URS input	X	X	X
OW-15	New Tower and Shaft - Adit 3 & Fishscreen	EDB w/URS input		X	X
OW-16	New Tower and Shaft - Reinforcement 1 (tower)	EDB		X	X
OW-17	New Tower and Shaft - Reinforcement 2 (shaft)	URS		X	X
OW-18	New Tower and Shaft - Access Bridge 1	EDB w/URS input		X	X
OW-19	New Tower and Shaft - Access Bridge 2	EDB w/URS input		X	X
OW-20	New Tower and Shaft - Miscellaneous Metals 1	EDB		X	X
OW-21	New Tower and Shaft - Miscellaneous Metals 2	EDB		X	X
OW-22	New Tower and Shaft - Roof Details	EDB		X	X
OW-23	Electrical (Emergency Generator) Building (Civil/Structural)	EDB	X	X	X
OW-24	Outlet Conduit - Demolition & Salvage	URS	X	X	X
OW-25	Outlet Conduit Extension - Plan and Profile	URS w/EDB input	X	X	X
OW-26	Outlet Conduit Extension - Excavation Plan, Sections and Details	URS		X	X

**Table 2**  
**List of Drawings**

Drawing No.	Drawing Name	Responsibility	35%	65%	95% & 100%
OW-27	Outlet Conduit Extension - Valve Vault and Bifurcation 1	URS w/EDB input	X	X	X
OW-28	Outlet Conduit Extension - Valve Vault and Bifurcation 2	URS w/EDB input	X	X	X
OW-29	Outlet Conduit Extension - Valve Vault and Bifurcation 3	URS w/EDB input		X	X
OW-30	Outlet Conduit Extension - Fixed Cone Valve Vault 1 (General Arrangement)	URS w/EDB input	X	X	X
OW-31	Outlet Conduit Extension - Fixed Cone Valve Vault 2	EDB w/URS input		X	X
OW-32	Outlet Conduit Extension - Fixed Cone Valve Vault 3	EDB w/URS input		X	X
OW-33	Outlet Conduit Extension - 44" Conveyance Pipe & Fish Release Valve 1 (General Arrangement)	URS w/EDB input	X	X	X
OW-34	Outlet Conduit Extension - 44" Conveyance Pipe & Fish Release Valve 2	EDB w/URS input		X	X
OW-35	Steel Conduits - Sections & Details 1	EDB		X	X
OW-36	Outlet Miscellaneous Details	URS w/EDB input		X	X
OW-37	Typical Reinforcement Details - Sheet 1	URS w/EDB input		X	X
OW-38	Typical Reinforcement Details - Sheet 2	URS w/EDB input		X	X
<b>MECHANICAL</b>					
ME-1	New Tower and Shaft - Gates 1	EDB	X	X	X
ME-2	New Tower and Shaft - Gates 2	EDB		X	X
ME-3	New Tower and Shaft - Elevator/Hoist 1	EDB	X	X	X
ME-4	New Tower and Shaft - Elevator/Hoist 2	EDB		X	X
ME-5	New Tower and Shaft - Ventilation System 1	EDB		X	X
ME-6	New Tower and Shaft - Ventilation System 2	EDB		X	X
ME-7	New Tower and Shaft - Drainage	EDB		X	X
ME-8	New Tower and Shaft - Details	EDB			X
ME-9	New Tower and Shaft - Details	EDB			X
ME-10	New Tower and Shaft - Details	EDB			X
<b>ELECTRICAL</b>					
EL-1	Outlet Works - One Line Diagram	EDB	X	X	X
EL-2	Electrical (Emergency Generator) Building - Plans, Sections, and Details	EDB	X	X	X
EL-3	Dam Electrical Layout - Plans, Sections, and Details	EDB		X	X
EL-4	New Tower and Shaft - Electrical Layout & Lighting 1	EDB		X	X

**Table 2**  
**List of Drawings**

Drawing No.	Drawing Name	Responsibility	35%	65%	95% & 100%
EL-5	New Tower and Shaft - Electrical Layout & Lighting 2	EDB		X	X
EL-6	Outlet Valve Vault - Electrical Layout and Lighting	EDB		X	X
EL-7	Fixed Cone Valve Vault - Electrical Layout and Lighting	EDB		X	X
EL-8	Outlet Works - Control Diagram 1	EDB		X	X
EL-9	Outlet Works - Control Diagram 2	EDB		X	X
EL-10	Outlet Works - Control Diagram 3	EDB		X	X
EL-11	New Tower and Shaft - Control Details	EDB		X	X
EL-12	Outlet Conduit - Control Details	EDB		X	X
EL-13	Instrumentation Symbols and Abbreviations	EDB		X	X
EL-14	PG&E Incoming Service	EDB		X	X
EL-15	Electrical Building - Interconnection diagram	EDB	-	-	-
EL-16	New Tower & Shaft - Interconnection Diagram - Sheet 1	EDB	-	-	-
EL-17	New Tower & Shaft - Interconnection Diagram - Sheet 2	EDB	-	-	-
EL-18	Outlet Conduit - Interconnection Diagram	EDB	-	-	-
<b>ACCESS ROADS</b>					
AR-1	General Layout	URS w/EDB input	X	X	X
AR-2 <sup>1</sup>	Calaveras Road Improvement Plan and Profile, Sheet 1 of 7	EDB	X	X	X
AR-3 <sup>1</sup>	Calaveras Road Improvement Plan and Profile, Sheet 2 of 7	EDB	X	X	X
AR-4 <sup>1</sup>	Calaveras Road Improvement Plan and Profile, Sheet 3 of 7	EDB	X	X	X
AR-5 <sup>1</sup>	Calaveras Road Improvement Plan and Profile, Sheet 4 of 7	EDB	X	X	X
AR-6 <sup>1</sup>	Calaveras Road Improvement Plan and Profile, Sheet 5 of 7	EDB	X	X	X
AR-7 <sup>1</sup>	Calaveras Road Improvement Plan and Profile, Sheet 6 of 7	EDB	X	X	X
AR-8 <sup>1</sup>	Calaveras Road Improvement Plan and Profile, Sheet 7 of 7	EDB	X	X	X
AR-9	Calaveras Road Realignment Sections, Sheet 1 of 2	EDB	X	X	X
AR-10	Calaveras Road Realignment Sections, Sheet 2 of 2	EDB	X	X	X
AR-11	Calaveras Road Realignment Retaining Walls, Sheet 1 of 2	EDB w/URS input	X	X	X

**Table 2**  
**List of Drawings**

Drawing No.	Drawing Name	Responsibility	35%	65%	95% & 100%
AR-12	Calaveras Road Realignment Retaining Walls, Sheet 2 of 2	EDB w/URS input	X	X	X
AR-13 <sup>1</sup>	Calaveras Road Improvement Drainage Plans, Sheet 1 of 4	EDB		X	X
AR-14 <sup>1</sup>	Calaveras Road Improvement Drainage Plans, Sheet 2 of 4	EDB		X	X
AR-15 <sup>1</sup>	Calaveras Road Improvement Drainage Plans, Sheet 3 of 4	EDB		X	X
AR-16 <sup>1</sup>	Calaveras Road Improvement Drainage Plans, Sheet 4 of 4	EDB		X	X
AR-17 <sup>1</sup>	Calaveras Road Improvement Striping Plan, Sheet 1 of 4	EDB		X	X
AR-18 <sup>1</sup>	Calaveras Road Improvement Striping Plan, Sheet 2 of 4	EDB		X	X
AR-19 <sup>1</sup>	Calaveras Road Improvement Striping Plan, Sheet 3 of 4	EDB		X	X
AR-20 <sup>1</sup>	Calaveras Road Improvement Striping Plan, Sheet 4 of 4	EDB		X	X
AR-21	Dam Site Access Road, Sheet 1 of 2	URS	X	X	X
AR-22	Dam Site Access Road, Sheet 2 of 2	URS	X	X	X
AR-23	Crest Road Plan	URS	X	X	X
AR-24	Crest Road - Details at Left End of Dam	URS		X	X
AR-25	Crest Road - Details at Right End of Dam	URS		X	X
AR-26	Crest Road - Details at Intake Tower	URS		X	X
AR-27	Crest Road Curb Drain	URS		X	X
AR-28	Crest Road Miscellaneous Details - Sheet 1	URS		X	X
AR-29	Crest Road Miscellaneous Details - Sheet 2	URS		X	X
AR-30	Spillway Access Road Plan and Profile Sheet 1	EDB w/URS 35% level input	X	X	X
AR-31	Spillway Access Road Plan and Profile Sheet 2	EDB w/URS 35% level input	X	X	X
AR-32	Spillway Access Road Plan and Profile Sheet 3	EDB w/URS 35% level input	X	X	X
AR-33	Spillway Access Road Sections - Sheet 1	EDB	X	X	X
AR-34	Spillway Access Road Sections - Sheet 2	EDB	X	X	X
AR-35	Miscellaneous Details - Sheet 1	EDB		X	X
AR-36	Miscellaneous Details - Sheet 2	EDB		X	X
<b>Number of Drawings Included in Submittal</b>			<b>99</b>	<b>191</b>	<b>194</b>

**Table 2**  
**List of Drawings**

<b>Drawing No.</b>	<b>Drawing Name</b>	<b>Responsibility</b>	<b>35%</b>	<b>65%</b>	<b>95% &amp; 100%</b>
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<sup>1</sup> Calaveras Road Improvement Plans are scaled as follows; 4 sheets at 1"=50' in the central segment of the road between Geary and the dam access road that would be realigned, and 1"=100' on the upper and lower segments for turnout locations. Drainage and striping plans for Calaveras Road would be developed only for the central portion of the roadway that is being realigned.

**Table 3**  
**List of Specifications**

Section Number	Name	Scope
<b>DIVISION 0 – BIDDING AND CONTRACT REQUIREMENTS</b>		
00700	General Conditions	The general conditions of the contract by which the work is conducted. Typically provided by the Owner. Includes definitions, preliminary matters, contract documents, availability of lands, subsurface and physical conditions, references, bonds and insurance, responsibilities of contractor, owner, and engineer, changes in the work, claims, payment, tests and inspections, suspension of work, termination, dispute resolution, liquidated damages, and other miscellaneous items.
00800	Supplementary Conditions	Amendments or supplements the General Conditions of the contract.
<b>DIVISION 1 – GENERAL REQUIREMENTS</b>		
01010	Summary of Work	Description of the work, milestone requirements, existing site conditions and restrictions, Owner's use of site.
01040	Project Superintendence and Coordination	Contractor's superintendence, coordination between Owner, Engineer, and Contractor, coordination with utilities, inspections by regulators.
01050	Construction Surveying	Survey requirements for layout of work and quantities.
01060	Safety, Health, Environmental and Regulatory Requirements	Health and Safety plan, environmental and other permit requirements, Storm Water Prevention Pollution Plan, and dust abatement.
01065	Preservation of Scientific, Historical, Archaeological, Prehistorical, and Paleontological Data	Notification and protection requirements.
01090	Reference Standards	Reference standards required for the work.
01200	Project Meetings	Pre-construction, partnering, and regular project and special project meetings.
01300	Submittals	Contractor submittals, submittal log, and Engineer and Contractor actions and responsibilities.
01311	Project Schedules and Reports (CPM)	Contractor's preliminary and project schedule requirements. Includes requirements for updating schedule, providing progress reports and look-ahead schedules.
01330	Measurement and Payment	All measurement and payment conditions including mobilization.
01400	Inspection of the Work	Engineer inspections of the work and Contractor quality control responsibilities.
01500	Construction Facilities and Temporary Controls	Contractor's staging and work areas, site housekeeping, protection of new and existing improvements, and security.

**Table 3**  
**List of Specifications**

Section Number	Name	Scope
01510	Temporary Utilities	Temporary utility provisions including potable and non-potable water, electricity, sanitary facilities, and fire protection.
01521	Temporary Work and Storage Areas	Development, maintenance, and removal of temporary work and staging areas.
01530	Temporary Fences	Temporary construction fencing provisions.
01540	Load Restrictions	Protection of existing or new underground facilities due to overloading from construction traffic.
01550	Access, Haul Roads, Parking, and Traffic Controls	Access and control of traffic, parking within the project site, and haul roads from Borrow Area E.
01590	Field Offices	Contractor supplied Engineer's field office including furniture, communications equipment, computers, copy machines, security systems, on-site laboratory, and field support structures and Contractor's field office.
01600	Materials and Equipment	Contractor supplied materials and equipment including anchorage requirements.
01610	Delivery, Storage, and Handling	Provisions for delivering, storing, and handling of materials and equipment either supplied by the Contractor or provided by the Owner.
01700	Contract Closeout	Contract closeout schedule and procedures.
01730	Operation and Maintenance Data	Submission and format of operation and maintenance manuals and the instruction of Owner's personnel in the use of equipment.
01740	Guarantee and Warranty	Guarantee and warranty requirements for the work.
<b>DIVISION 2 – SITE WORK</b>		
02050	Demolition	Demolition and disposal of existing spillway, existing utilities, portions of the existing outlet tower, and other items within the work area.
02075	Control and Disposal of Water	Control and disposal of surface water.
02080	Foundation Dewatering and Groundwater Level Control	Dewatering for excavations including design and monitoring and disposal of water requirements.
02090	Blasting	Blaster qualifications, controlled blast methods and procedures, limitations, warning systems, and safeguards.
02110	Clearing, Grubbing, and Stripping	Removal and disposal of vegetation and roots, and removal and stockpiling of topsoil from the work areas.
02200	Foundation Excavation and Treatment	Dam and spillway foundation excavation and shaping, foundation cleaning, foundation treatment including dental and backfill concrete, slush grout, and surface grout.

**Table 3**  
**List of Specifications**

Section Number	Name	Scope
02225	Trench and Structure Excavation and Backfill	Excavation, trench and structure backfill material properties, foundation preparation, backfill procedures, and testing.
02226	Borrow Areas	Opening, developing, and restoring borrow areas. Includes moisture conditioning and requirements for processing riprap and riprap bedding.
02227	Embankment Construction	Requirements for each zone within the embankment including material properties, placement methods, moisture conditioning, compaction, and testing. This section also includes requirements for instrumentation trenching and dam toe drain and outfall pipe systems.
02230	Base Coarse for Access Roads (prepared by EDB)	Subgrade preparation, material properties, placement, compaction, protection, and testing of base coarse materials for permanent access roads.
02266	Foundation Drilling and Grouting	Grouter qualifications, drilling equipment, grouting equipment, grout materials and mixes, and execution of grouting. Execution of grouting includes preparation for grouting, sequence of drilling and grouting, water pressure testing, mixing and injection of grout, verification hole drilling and testing, and quality and control testing during grouting.
02275	Concrete Cutoff	Cutoff wall contractor qualifications, drilling equipment, cement and aggregate properties, concrete mix design, test sections, installation methodology, measurement of verticality and overlap, testing, remedial measures, disposal of waste materials.
02280	Well and Test Boring Decommissioning	Governing regulations, grout material requirements, grout placement methods for decommissioning of borings within the project.
02290	Embankment Material Test Fills	Materials, preparation of area for test fill pad, placement and compaction methods, inspection and testing of Temblor Sandstone.
02310	Rock Tunneling	Tunneling contractor qualifications, excavation requirements for adit tunnels.
02315	Initial Tunnel Support Systems	Initial support systems for adit tunnels.
02317	Shaft Excavation	Excavation requirements for intake tower shaft.
02318	Initial Shaft Support Systems	Initial support systems for intake tower shaft.
02321	Concrete Shaft Lining	Materials and requirements for concrete lining of intake tower shaft.
02323	Steel Tunnel Liner (prepared by EDB)	Materials and requirements for steel liner for adit tunnels.

**Table 3**  
**List of Specifications**

Section Number	Name	Scope
02330	Tunnel Contact Grouting	Materials and requirements for contact grouting between steel liner and tunnel.
02388	Excavation Rock Reinforcement	Material, installation, and testing requirements for rock reinforcement for excavated spillway rock slopes.
02445	Erosion Control	Hydroseeding materials, seed mix and application methods for the control of erosion on embankment slopes.
02555	Asphalt Concrete Pavement (prepared by EDB)	Asphalt concrete materials properties and placement requirements for permanent access roads.
02560	Access Road Related Items (prepared by EDB)	Section includes railing, signs, and marking requirements for permanent access roads.
02616	Reinforced Concrete Pipe and Fittings	RCP pipe type, joint requirements, connection requirements. Used for embankment toe drain and outfall pipe systems.
02726	Manholes	Concrete manhole types and installation methods. Used for embankment toe drain and outfall pipe systems.
02830	Chain Link Fence and Gates (prepared by EDB)	Permanent project fencing materials and installation methods.
<b>DIVISION 3 - CONCRETE</b>		
03100	Concrete Formwork	Concrete formwork classification, design, materials, installation methods including tolerances, surface preparation, beveled edges and removal.
03210	Reinforcing Steel	Reinforcement steel materials, fabrication, and placement methods.
03250	Anchorage in Concrete	Product requirements for anchor bolts, adhesives, anchor rods, and expansion bolts and methods of installation and quality control.
03251	Expansion, Construction, and Contraction Joints	Materials and installation procedures for expansion, construction, and contraction joints in concrete structures.
03300	Cast-In-Place Concrete	Concrete materials requirements, design of concrete mixes, batching and mixing of concrete, transportation, placing, consolidation, patching, finishing, curing, and testing of concrete.
03360	Shotcrete	Material and equipment requirements, shotcrete mix design, surface preparation, grounding, mixing, placing, joints, curing, protection, and testing of shotcrete.
03600	Grout	Material, preparation, placement, and curing requirements for non-shrink grout and mortar.

**Table 3**  
**List of Specifications**

Section Number	Name	Scope
<b>DIVISION 5 – METALS</b>		
05050	Welding (prepared by EDB)	Welder qualifications, preparation, general welding requirements, structural and stainless steel requirements, field quality control and testing.
05500	Fabricated Miscellaneous Metalwork (prepared by EDB)	Material, fabrication, installation, and finish requirements for miscellaneous metal work required for the project.
05900	Steel Pipe (prepared by EDB)	Materials, fabrication, welding, installation, hydrostatic testing, field inspection and tests for 72-inch diameter outlet pipe extension, bifurcation, and 44-inch diameter outlet pipe.
05920	Fish Screens (prepared by EDB)	Requirements for salvage and reinstallation of existing adit No. 3 fish screens or procurement and installation of new fish screens.
<b>DIVISION 7 – THERMAL AND MOISTURE PROTECTION</b>		
07530	Roofing (prepared by EDB)	Materials and installation of intake tower structure roofing.
<b>DIVISION 8 – DOORS AND WINDOWS</b>		
08110	Steel Door, Frame and Hardware (prepared by EDB)	Materials and installation of intake tower steel door.
<b>DIVISION 9 – FINISHES</b>		
09900	Paint and Coatings (prepared by EDB)	Materials and installation requirements for painting and coating of exposed metal surfaces.
<b>DIVISION 10 – SPECIALTIES</b>		
10420	Plaque (prepared by EDB)	Project plaque.
10521	Portable Fire Extinguishers (prepared by EDB)	Portable fire extinguishers for intake tower.
<b>DIVISION 11 – EQUIPMENT</b>		
11264	Gate Valves (prepared by EDB)	Materials and installation of gate valves.
11269	Outlet Valve (prepared by EDB)	Materials and installation of outlet valve.
11271	Butterfly Valves (prepared by EDB)	Materials and installation of butterfly valves.
11273	Fixed Cone Valve (prepared by EDB)	Requirements for salvage and reinstallation at the end of the 72-inch outlet pipe extension of existing 72-inch fixed cone valve.
<b>DIVISION 13 – SPECIAL CONSTRUCTION</b>		
13300	Instrumentation	Inclinometer, piezometer, instrumentation cable, survey monument, strong motion accelerograph, seepage weir material requirements. Installation methods including drilling, trenching, calibrating, and monitoring. Includes training of Owner personnel.

**Table 3**  
**List of Specifications**

Section Number	Name	Scope
13302	Automated Data Acquisition System	Network and remote monitoring station units, communications, alarms, software, enclosures, installation, maintenance, and training for Owner personnel.
<b>DIVISION 14 – CONVEYING SYSTEMS</b>		
14210	Elevator/Hoist (prepared by EDB)	Materials and installation of elevator or hoist system in intake tower.
<b>DIVISION 15 – MECHANICAL</b>		
15050	Miscellaneous Mechanical Items (prepared by EDB)	Materials, fabrication, welding, and installation of miscellaneous mechanical items.
15055	Ventilation System (prepared by EDB)	Materials and installation of intake tower ventilation system.
<b>DIVISION 16 – ELECTRICAL</b>		
16010	Electrical – General Provisions (prepared by EDB)	Requirements for electrical utilities work that would be required at the intake tower and other locations at the dam.
16050	Basic Electrical Materials and Methods (prepared by EDB)	
16060	Level/Flow Instrumentation (prepared by EDB)	
16110	Raceways (prepared by EDB)	
16120	Conductors (prepared by EDB)	
16450	Grounding (prepared by EDB)	
16????	TBD (prepared by EDB)	
16????	TBD	
16480	Low Voltage Motor Control (prepared by EDB)	
16470	Distribution and Lighting Panels (prepared by EDB)	
16500	Lighting (prepared by EDB)	
16975	Testing and Start-Up (prepared by EDB)	
<b>DIVISION 17 – SCADA SYSTEM</b>		
17000	SCADA System General requirements (prepared by EDB)	Place holder for requirements for integration of the dam into SFPUC's existing SCADA system.
17100	SCADA System Functional Requirements (prepared by EDB)	
17200	Control Panels (RTU Enclosures) (prepared by EDB)	

**Table 3**  
**List of Specifications**

<b>Section Number</b>	<b>Name</b>	<b>Scope</b>
17201	Control Panel Instrumentation (prepared by EDB)	
17600	Telemetry (prepared by EDB)	
17610	Fiber Optic Cable and Duct (prepared by EDB)	

## **Figures**

**Appendix A**  
**Calaveras Spillway Model Study**

## Appendix A

### Calaveras Spillway Model Study

#### ***Objective***

The objective of the model tests is to provide information needed to complete the design of an effective spillway for the project, taking into account hydraulic, structural, and geotechnical factors, and cost. The hydraulic model is required to determine the wave aspects that will occur in the spillway so that provisions can be made to accommodate them, and to provide for the effective dissipation of energy prior to discharge from the spillway stilling basin to Calaveras Creek.

#### ***Approach***

##### **Calaveras Spillway Model Tasks**

1. Develop final design of model.
2. Construct model.
3. Make preliminary model run.
4. Test model.
5. Make video and photo and other documentation.
6. Conduct demonstration for SFPUC/CTAP.
7. Prepare technical memorandum of model study findings.

##### **Definitive Model Tests**

The requirements for the model spillway in its present design configuration are:

1. Determine the water level in the spillway chute and the required stilling basin tailwater for the design discharge (PMF).
2. Determine chute water levels and required tailwater for two lesser spillway discharges.
3. If resulting wall heights are "too high" or hydraulic performance is "unacceptable" investigate modifications that would reduce wall height and/or improve hydraulic performance.

The results of these tests will provide information needed to complete the design, including chute and stilling basin wall heights necessary to contain the water and its waves at the design discharge and a tailwater rating curve for the stilling basin. URS may revise the design to meet specific objectives.

##### **Calaveras Model Study**

Colorado State University, URS, SFPUC/CTAP, and Michael Stevens (the designer's assistant) will be involved in conducting the model study. The participation of each of these entities is outlined below.

##### **Colorado State University**

1. With Michael Stevens, prepare detailed scope of work and contract documents.

2. Construct Froude scale model in accordance with URS' drawings.
3. Implement a modular design to permit efficient modifications.
4. Provide instrumentation for testing the model. The needs are:
  - Instrument to determine the model discharge accurately.
  - Gage to measure the reservoir level.
  - Gage to measure the tailwater level.
5. Provide a technician to operate model and provide URS with model discharges.
6. Provide URS with a list of equipment and materials used to build and operate the model.

At this stage, it is envisioned that a 1:30 Froude scale model would be constructed for the Calaveras system. The proposed scale would result in a model approximately 15 feet wide and 50 feet long. Maximum discharge through the model will be approximately 7 cfs. CSU's Dr. Christopher I. Thornton will supervise the laboratory team.

#### URS

URS will direct the model study, and will be assisted by CSU staff and Michael Stevens. URS will:

1. Provide preliminary drawings and design needs.
2. Develop and provide CSU with final drawings of the spillway hydraulic model.
3. With assistance of CSU and Michael Stevens, conduct the model study.
4. Conduct or direct the making of any video and the taking of photographs to document the operations of the model.
5. Demonstrate to SFPUC the features of the spillway design and the behavior of the flow in the model spillway.
6. Review the model study technical memorandum.

#### SFPUC/CTAP

Provision has been made for SFPUC and the CTAP to observe the operation of the hydraulic model in the final design configuration. (Estimate of time: one day.)

#### Michael Stevens

Michael Stevens will serve as the assistant to URS. Specifically, his tasks include:

1. Serve as liaison between URS and the CSU staff.
2. With CSU develop a detailed scope of work and schedule for the model study.
3. If needed, help CSU with the construction of the model.
4. Conduct a preliminary test with CSU people to ready the model for the URS designer.
5. Assist URS in conducting and demonstrating the model tests, and provide design consultation.
6. Log data and prepare the model study technical memorandum of findings, to support the final design.

***Assumptions***

An allowance is included in the cost estimate to account for limited modifications to the model.

***Deliverables***

Spillway Model Test Technical Memorandum

**Attachment 3 (Revised for Amendment No. 1)**  
**Projected Task Budget**

**Calaveras Dam Replacement Project**  
**Agreement No. CS-716**  
**Amendment No. 1**  
**Detailed Design and Final Design**

**Part A - Summary**

<b>Summary of Estimated Costs</b>				
<b>Phase</b>	<b>Group</b>	<b>Task Description</b>	<b>Amount</b>	
<b>Basic Tasks</b>				
Detailed Design	2 A	Project Management	\$ 510,000	
	2 B	Field Investigations	\$ 1,703,000	
	2 C	Engineering Studies	\$ 912,000	
	2 D	Design Package (35% and 65%)	\$ 743,000	
	2 E	Permitting Support (SFPUC Lead)	\$ 40,000	
	2 F	Pre-Construction CM Interaction (SFPUC Lead)	\$ 22,000	
	2 G	Project Meetings (SFPUC, CTAP, DSOD)	\$ 271,000	
	<b>Subtotal Phase 2 Basic Tasks</b>			\$ 4,201,000
Final Design	3 A	Project Management	\$ 130,000	
	3 B	(Not Used)	\$	
	3 C	Engineering Studies	\$ 18,000	
	3 D	Design Package (95% and 100%)	\$ 529,000	
	3 E	Permitting Support (SFPUC Lead)	\$ 20,000	
	3 F	Pre-Construction CM Interaction (SFPUC Lead)	\$ 45,000	
	3 G	Project Meetings (SFPUC, CTAP, DSOD)	\$ 66,000	
	3 H	Bid Period Services (SFPUC Lead)	\$ 65,000	
<b>Subtotal Phase 3 Basic Tasks</b>				\$ 873,000
<b>Total for Basic Tasks</b>				\$ 5,074,000
<b>Optional Tasks</b>				
	B5	Field Investigation (Optional)	\$ 608,000	
	B7	Test Fill Field Program (Optional)	\$ 248,000	
	B8	Grouting Test Field Program (Optional)	\$ 499,000	
	D8	Package for 2 Construction Contracts (Optional)	\$ 146,000	
<b>Total for Optional Tasks</b>				\$ 1,501,000
<b>As-Needed Services</b>				
	TBD	Feasibility Studies of Fish Passages	\$ 500,000	
	TBD	Conveyance Improvement Design Allowance	\$ 300,000	
	TBD	As-Needed Support Services for Final Design	\$ 625,000	
<b>Total for As-Needed Services</b>				\$ 1,425,000
<b>Total</b>				\$ 8,000,000

**Table 2 - Part B**  
**San Francisco Public Utilities Commission**  
**Calaveras Dam Final Design**  
**(Agreement No. CS-716)**  
**Estimated Hours and Costs**





## SAN FRANCISCO PUBLIC UTILITIES COMMISSION



Contract Administration Bureau

Ivy V. Fine, Director

1155 Market Street, 9th Floor, San Francisco, CA 94103 • Tel. (415) 551-4603 • Fax (415) 554-3225

WATER  
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VICE PRESIDENT

RICHARD SKLAR  
DAVID HOCHSCHILD  
F. X. CROWLEY

ED HARRINGTON  
GENERAL MANAGER

June 6, 2008 (Revised from June 3, 2008 NCAC letter)

Louis Armstrong  
URS Corporation  
221 Main Street, Ste. 600  
San Francisco, CA 94105-1917

RE:

- 1) Notice of Contract Amendment Certification – Conceptual Engineering Report for Calaveras Dam (CS-716)
- 2) Transmittal – Executed Agreement #02 between the City and County of San Francisco Public Utilities Commission and URS Corporation

Dear Mr. Armstrong,

This letter provides a *notification of amendment certification* for an INCREASE in contract value and duration for the following contracted work:

**BLANKET PURCHASE ORDER NO:** *BPUC04000193 – Work may not be charged against this blanket purchase order number*

**SCOPE:**

To provide additional project management, design package services, environmental and permitting support services, naturally occurring asbestos (NOA) compliance plan, and additional as-needed support services.

**EFFECTIVE DATE:** *September 11, 2003 to September 10, 2012*

**CONTRACT TO DATE:** *Total value of contract has been increased to \$13,900,000.00*

Should you have any questions, please do not hesitate to contact Alex Martinez at (415) 554-0760.

Enclosure: Executed Amendment #02  
cc: Dan Wade  
File/CS-716.amend#02

RECEIVED

JUN 10 2008

LOUIS J. ARMSTRONG



## SAN FRANCISCO PUBLIC UTILITIES COMMISSION



Contract Administration Bureau

Ivy V. Fine, Director

1155 Market Street, 9th Floor, San Francisco, CA 94103 • Tel. (415) 551-4603 • Fax (415) 554-3225

WATER  
WASTEWATER  
POWER

June 3, 2008

GAVIN NEWSOM  
MAYOR

ANN MOLLER CAEN  
PRESIDENT

E. DENNIS NORMANDY  
VICE PRESIDENT

RICHARD SKLAR  
DAVID HOCHSCHILD  
F. X. CROWLEY

ED HARRINGTON  
GENERAL MANAGER

Louis Armstrong  
URS Corporation  
221 Main Street, Ste. 600  
San Francisco, CA 94105-1917

RE: 1) Notice of Contract Amendment Certification – Conceptual Engineering Report for Calaveras Dam (CS-716)  
2) Transmittal – Executed Agreement #02 between the City and County of San Francisco Public Utilities Commission and URS Corporation

Dear Mr. Armstrong,

This letter provides a *notification of amendment certification* for an INCREASE in contract value and duration for the following contracted work:

**BLANKET PURCHASE ORDER NO:** BPUC04000193 – *Work may not be charged against this blanket purchase order number*

**SCOPE:**

*No change in scope of work* – To perform under the terms and condition in this agreement, professional engineering and related technical services to conduct the conceptual engineering of the repair or replacement of Calaveras Dam.

**EFFECTIVE DATE:**

September 11, 2003 to September 10, 2012

**CONTRACT TO DATE:**

Total value of contract has been increased to  
\$13,900,000.00

Should you have any questions, please do not hesitate to contact Alex Martinez at (415) 554-0760.

Enclosure: Executed Amendment #02

cc: Dan Wade

File/CS-716.amend#02



RECEIVED

JUN 06 2008

**City and County of San Francisco  
Office of Contract Administration  
Purchasing Division**

**LOUIS J. ARMSTRONG**

**Second Amendment  
CS-716**

THIS AMENDMENT (this "Amendment") is made as of April 15, 2008, in San Francisco, California, by and between URS Corporation ("the Consultant"), and the City and County of San Francisco, a municipal corporation ("City"), acting by and through its Public Utilities Commission.

**RECITALS**

WHEREAS, City and Consultant have entered into the Agreement (CS-716);

WHEREAS, City and Consultant desire to modify the Agreement on the terms and conditions set forth herein to increase the contract amount by \$1,900,000, define additional tasks and update standard contractual clauses;

WHEREAS, approval for said Agreement was obtained from a Civil Service Commission Notice of Action (#4098-02/03) for Contract Number CS-716 on March 3, 2003; and,

WHEREAS, on March 11, 2008, pursuant to Resolution No. 08-0041, the San Francisco Public Utilities Commission authorized the General Manager to approve Amendment No. 2 to Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project; and

WHEREAS, On April 15, 2008, by Resolution 182-08, the Board of Supervisors authorized the SFPUC to award and execute the Agreement Number CS-716, Engineering Services, Calaveras Dam Replacement Project Amendment No. 2 with URS Corporation for an amount not to exceed \$13,900,000;

NOW, THEREFORE, Consultant and the City agree as follows:

**1. Definitions.** The following definitions shall apply to this Amendment:

**a. Agreement.** The term "Agreement" shall mean the Agreement dated September 11, 2003 between Consultant and City, as amended by the:

**First amendment dated July 26, 2005**

**b. Other Terms.** Terms used and not defined in this Amendment shall have the meanings assigned to such terms in the Agreement.

**2. Modifications to the Agreement.** The Agreement is hereby modified as follows:

**2a. Section 4.** Section 4 Compensation (first paragraph) of the Agreement currently reads as follow:

Compensation shall be made in monthly payments on or before the first day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole

discretion, concludes has been performed as of the last day of the immediately preceding month. **In no event shall the amount of this Agreement exceed Twelve Million Dollars (\$12,000,000), which sum includes Four Million Dollars (\$4,000,000) for the Conceptual Engineering phase.** The breakdown of costs associated with this Agreement appears in Appendix B, "Calculation of Charges," attached hereto and incorporated by reference as though fully set forth herein.

No charges shall be incurred under this Agreement nor shall any payments become due to the Consultant until reports, services, or both, required under this Agreement are received from the Consultant and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Consultant in any instance in which the Consultant has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall the City be liable for interest or late charges for any late payments.

The Controller is not authorized to pay invoices submitted by the Consultant prior to the Consultant's submission of HRC Form 7, "Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report." If HRC Form 7 is not submitted with the Consultant's invoice, the Controller will notify the department, the Director of HRC and the Consultant of the omission. If the Consultant's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Consultant has ten days to file an affidavit using HRC Form 9, "Sub-Contractor Payment Affidavit," verifying that all subcontractors have been paid and specifying the amount.

*Said paragraph of said section is hereby amended in its entirety to read as follows:*

Compensation shall be made in monthly payments on or before the first day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. **In no event shall the amount of this Agreement exceed Thirteen Million Nine Hundred Thousand Dollars (\$13,900,000), which sum includes Four Million Dollars (\$4,000,000) for the Conceptual Engineering phase.** The breakdown of costs associated with this Agreement appears in Appendix B-2, "Calculation of Charges," attached hereto and incorporated by reference as though fully set forth herein.

No charges shall be incurred under this Agreement nor shall any payments become due to the Consultant until reports, services, or both, required under this Agreement are received from the Consultant and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Consultant in any instance in which the Consultant has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall the City be liable for interest or late charges for any late payments.

The Controller is not authorized to pay invoices submitted by the Consultant prior to the Consultant's submission of HRC Form 7, "Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report." If HRC Form 7 is not submitted with the Consultant's invoice, the Controller will notify the department, the Director of HRC and the Consultant of the omission. If the Consultant's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Consultant has ten days to file an affidavit using HRC Form 9, "Sub-Contractor Payment Affidavit," verifying that all subcontractors have been paid and specifying the amount.

**2b. Indemnification** Section 11 of the Agreement is hereby amended in its entirety to read as follows:

**11. Indemnification**

**a. General Indemnity**

To the fullest extent permitted by law, Consultant shall assume the defense of, indemnify and save harmless the City, its boards, commissions, officers, and employees (collectively "Indemnitees"), from any claim, loss, damage, injury (including, without limitation, injury to or death of an employee of the Consultant or its subconsultants) and liabilities of every kind, nature and description (including, without limitation, incidental and consequential damages, court costs, attorney's fees and costs of investigation), that arise directly or indirectly, in whole or in part, from (1) the services under this Agreement, or any part of such services, and (2) any negligent, reckless, or willful act or omission of the Consultant and subconsultant to the Consultant, anyone directly or indirectly employed by them, or anyone that they control (collectively, "Liabilities"), subject to the provisions set forth herein.

**b. Limitations**

(1) No insurance policy covering the Consultant's performance under this Agreement shall operate to limit the Consultant's liability under this provision. Nor shall the amount of insurance coverage operate to limit the extent of such liability.

(2) The Consultant assumes no liability whatsoever for the sole negligence or willful misconduct of any Indemnitee or the Consultants of any Indemnitee.

(3) The Consultant's indemnification obligations of claims involving "Professional Liability" (claims involving acts, errors or omissions in the rendering of professional services) and "Economic Loss Only" (claims involving economic loss which are not connected with bodily injury or physical damage to property) shall be limited to the extent of the Consultant's negligence or other breach of duty.

**c. Copyright Infringement**

Consultant shall also indemnify, defend and hold harmless all Indemnitees from all suits or claims for infringement of the patent rights, copyright, trade secret, trade name, trademark, service mark, or any other proprietary right of any person or persons in consequence of the use by the City, or any of its boards, commissions, officers, or employees of articles or services to be supplied in the performance of Consultant's services under this Agreement.

**2c. Requiring Minimum Compensation for Covered Employees.** Section 49 is hereby replaced in its entirety to read as follows:

**49. Requiring Minimum Compensation for Covered Employees**

a. Consultant agrees to comply fully with and be bound by all of the provisions of the Minimum Compensation Ordinance (MCO), as set forth in San Francisco Administrative Code

Chapter 12P (Chapter 12P), including the remedies provided, and implementing guidelines and rules. The provisions of Chapter 12P are incorporated herein by reference and made a part of this Agreement as though fully set forth. The text of the MCO is available on the web at [www.sfgov.org/olse/mco](http://www.sfgov.org/olse/mco). A partial listing of some of Consultant's obligations under the MCO is set forth in this Section. Consultant is required to comply with all the provisions of the MCO, irrespective of the listing of obligations in this Section.

b. The MCO requires Consultant to pay Consultant's employees a minimum hourly gross compensation wage rate and to provide minimum compensated and uncompensated time off. The minimum wage rate may change from year to year and Consultant is obligated to keep informed of the then-current requirements. Any subcontract entered into by Consultant shall require the subConsultant to comply with the requirements of the MCO and shall contain contractual obligations substantially the same as those set forth in this Section. It is Consultant's obligation to ensure that any subConsultants of any tier under this Agreement comply with the requirements of the MCO. If any subConsultant under this Agreement fails to comply, City may pursue any of the remedies set forth in this Section against Consultant.

c. Consultant shall not take adverse action or otherwise discriminate against an employee or other person for the exercise or attempted exercise of rights under the MCO. Such actions, if taken within 90 days of the exercise or attempted exercise of such rights, will be rebuttably presumed to be retaliation prohibited by the MCO.

d. Consultant shall maintain employee and payroll records as required by the MCO. If Consultant fails to do so, it shall be presumed that the Consultant paid no more than the minimum wage required under State law.

e. The City is authorized to inspect Consultant's job sites and conduct interviews with employees and conduct audits of Consultant

f. Consultant's commitment to provide the Minimum Compensation a material element of the City's consideration for this Agreement. The City in its sole discretion shall determine whether such a breach has occurred. The City and the public will suffer actual damage that will be impractical or extremely difficult to determine if the Consultant fails to comply with these requirements. Consultant agrees that the sums set forth in Section 12P.6.1 of the MCO as liquidated damages are not a penalty, but are reasonable estimates of the loss that the City and the public will incur for Consultant's noncompliance. The procedures governing the assessment of liquidated damages shall be those set forth in Section 12P.6.2 of Chapter 12P.

g. Consultant understands and agrees that if it fails to comply with the requirements of the MCO, the City shall have the right to pursue any rights or remedies available under Chapter 12P (including liquidated damages), under the terms of the contract, and under applicable law. If, within 30 days after receiving written notice of a breach of this Agreement for violating the MCO, Consultant fails to cure such breach or, if such breach cannot reasonably be cured within such period of 30 days, Consultant fails to commence efforts to cure within such period, or thereafter fails diligently to pursue such cure to completion, the City shall have the right to pursue the following rights or remedies and any rights or remedies available under applicable law:

h. Consultant represents and warrants that it is not an entity that was set up, or is being used, for the purpose of evading the intent of the MCO.

i. If Consultant is exempt from the MCO when this Agreement is executed because the cumulative amount of agreements with this department for the fiscal year is less than \$25,000, but Consultant later enters into an agreement or agreements that cause Consultant to exceed that amount in a fiscal year, Consultant shall thereafter be required to comply with the MCO under this Agreement. This obligation arises on the effective date of the agreement that causes the cumulative amount of agreements between the Consultant and this department to exceed \$25,000 in the fiscal year.

2d. **First Source Hiring Program.** Section 51 is hereby replaced in its entirety to read as follows:

**51. First Source Hiring Program**

**a. Incorporation of Administrative Code Provisions by Reference**

The provisions of Chapter 83 of the San Francisco Administrative Code are incorporated in this Section by reference and made a part of this Agreement as though fully set forth herein. Consultant shall comply fully with, and be bound by, all of the provisions that apply to this Agreement under such Chapter, including but not limited to the remedies provided therein. Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Chapter 83.

**b. First Source Hiring Agreement**

As an essential term of, and consideration for, any contract or property contract with the City, not exempted by the FSHA, the Consultant shall enter into a first source hiring agreement ("agreement") with the City, on or before the effective date of the contract or property contract. Consultants shall also enter into an agreement with the City for any other work that it performs in the City. Such agreement shall:

(1) Set appropriate hiring and retention goals for entry level positions. The employer shall agree to achieve these hiring and retention goals, or, if unable to achieve these goals, to establish good faith efforts as to its attempts to do so, as set forth in the agreement. The agreement shall take into consideration the employer's participation in existing job training, referral and/or brokerage programs. Within the discretion of the FSHA, subject to appropriate modifications, participation in such programs may be certified as meeting the requirements of this Chapter. Failure either to achieve the specified goal, or to establish good faith efforts will constitute noncompliance and will subject the employer to the provisions of Section 83.10 of this Chapter.

(2) Set first source interviewing, recruitment and hiring requirements, which will provide the San Francisco Workforce Development System with the first opportunity to provide qualified economically disadvantaged individuals for consideration for employment for entry level positions. Employers shall consider all applications of qualified economically disadvantaged individuals referred by the System for employment; provided however, if the employer utilizes nondiscriminatory screening criteria, the employer shall have the sole discretion to interview and/or hire individuals referred or certified by the San Francisco Workforce Development System as being qualified economically disadvantaged individuals. The duration of the first source interviewing requirement shall be determined by the FSHA and shall be set forth in each agreement, but shall not exceed 10 days. During that period, the employer may publicize the entry level positions in accordance with the agreement. A need for urgent or temporary hires must be evaluated, and appropriate provisions for such a situation must be made in the agreement.

(3) Set appropriate requirements for providing notification of available entry level positions to the San Francisco Workforce Development System so that the System may train and refer an adequate pool of qualified economically disadvantaged individuals to participating employers. Notification should include such information as employment needs by occupational title, skills, and/or experience required, the hours required, wage scale and duration of employment, identification of entry level and training positions, identification of English language proficiency requirements, or absence thereof, and the projected schedule and procedures for hiring for each occupation. Employers should provide both long-term job need projections and notice before initiating the interviewing and hiring process. These notification requirements will take into consideration any need to protect the employer's proprietary information.

(4) Set appropriate record keeping and monitoring requirements. The First Source Hiring Administration shall develop easy-to-use forms and record keeping requirements for documenting compliance with the agreement. To the greatest extent possible, these requirements shall utilize the employer's existing record keeping systems, be nonduplicative, and facilitate a coordinated flow of information and referrals.

(5) Establish guidelines for employer good faith efforts to comply with the first source hiring requirements of this Chapter. The FSHA will work with City departments to develop employer good faith effort requirements appropriate to the types of contracts and property contracts handled by each department. Employers shall appoint a liaison for dealing with the development and implementation of the employer's agreement. In the event that the FSHA finds that the employer under a City contract or property contract has taken actions primarily for the purpose of circumventing the requirements of this Chapter, that employer shall be subject to the sanctions set forth in Section 83.10 of this Chapter.

(6) Set the term of the requirements.

(7) Set appropriate enforcement and sanctioning standards consistent with this Chapter

(8) Set forth the City's obligations to develop training programs, job applicant referrals, technical assistance, and information systems that assist the employer in complying with this Chapter.

(9) Require the developer to include notice of the requirements of this Chapter in leases, subleases, and other occupancy contracts.

**c. Hiring Decisions**

Consultant shall make the final determination of whether an Economically Disadvantaged Individual referred by the System is "qualified" for the position.

**d. Exceptions**

Upon application by Employer, the First Source Hiring Administration may grant an exception to any or all of the requirements of Chapter 83 in any situation where it concludes that compliance with this Chapter would cause economic hardship.

**e. Liquidated Damages**

Consultant agrees:

(1) To be liable to the City for liquidated damages as provided in this section;

(2) To be subject to the procedures governing enforcement of breaches of contracts based on violations of contract provisions required by this Chapter as set forth in this section;

(3) That the Consultant's commitment to comply with this Chapter is a material element of the City's consideration for this contract; that the failure of the Consultant to comply with the contract provisions required by this Chapter will cause harm to the City and the public which is significant and substantial but extremely difficult to quantify; that the harm to the City includes not only the financial cost of funding public assistance programs but also the insidious but impossible to quantify harm that this community and its families suffer as a result of unemployment; and that the assessment of liquidated damages of up to \$5,000 for every notice of a new hire for an entry level position improperly withheld by the Consultant from the first source hiring process, as determined by the FSHA during its first investigation of a Consultant, does not exceed a fair estimate of the financial and other damages that the City suffers as a result of the Consultant's failure to comply with its first source referral contractual obligations.

(4) That the continued failure by a Consultant to comply with its first source referral contractual obligations will cause further significant and substantial harm to the City and the public, and that a second assessment of liquidated damages of up to \$10,000 for each entry level position improperly withheld from the FSHA, from the time of the conclusion of the first investigation forward, does not exceed the financial and other damages that the City suffers as a result of the Consultant's continued failure to comply with its first source referral contractual obligations;

(5) That in addition to the cost of investigating alleged violations under this Section, the computation of liquidated damages for purposes of this section is based on the following data:

A. The average length of stay on public assistance in San Francisco's County Adult Assistance Program is approximately 41 months at an average monthly grant of \$348 per month, totaling approximately \$14,379; and

B. In 2004, the retention rate of adults placed in employment programs funded under the Workforce Investment Act for at least the first six months of employment was 84.4%. Since qualified individuals under the First Source program face far fewer barriers to employment than their counterparts in programs funded by the Workforce Investment Act, it is reasonable to conclude that the average length of employment for an individual whom the First Source Program refers to an employer and who is hired in an entry level position is at least one year;

therefore, liquidated damages that total \$5,000 for first violations and \$10,000 for subsequent violations as determined by FSHA constitute a fair, reasonable, and conservative attempt to quantify the harm caused to the City by the failure of a Consultant to comply with its first source referral contractual obligations.

(6) That the failure of Consultants to comply with this Chapter, except property Consultants, may be subject to the debarment and monetary penalties set forth in Sections 6.80 et seq. of the San Francisco Administrative Code, as well as any other remedies available under the contract or at law; and

(7) That in the event the City is the prevailing party in a civil action to recover liquidated damages for breach of a contract provision required by this Chapter, the Consultant will be liable for the City's costs and reasonable attorneys fees.

Violation of the requirements of Chapter 83 is subject to an assessment of liquidated damages in the amount of \$5,000 for every new hire for an Entry Level Position improperly withheld from the first source hiring process. The assessment of liquidated damages and the evaluation of any defenses or mitigating factors shall be made by the FSHA.

**f. Subcontracts**

Any subcontract entered into by Consultant shall require the subConsultant to comply with the requirements of Chapter 83 and shall contain contractual obligations substantially the same as those set forth in this Section.

**2e. Limitations on Contributions.** Section 56 is hereby replaced in its entirety as follows:

**56. Limitations on Contributions**

Through execution of this Agreement, Consultant acknowledges that it is familiar with section 1.126 of the City's Campaign and Governmental Conduct Code, which prohibits any person who contracts with the City for the rendition of personal services, for the furnishing of any material, supplies or equipment, for the sale or lease of any land or building, or for a grant, loan or loan guarantee, from making any campaign contribution to (1) an individual holding a City elective office if the contract must be approved by the individual, a board on which that individual serves, or a board on which an appointee of that individual serves, (2) a candidate for the office held by such individual, or (3) a committee controlled by such individual, at any time from the commencement of negotiations for the contract until the later of either the termination of negotiations for such contract or six months after the date the contract is approved. Consultant acknowledges that the foregoing restriction applies only if the contract or a combination or series of contracts approved by the same individual or board in a fiscal year have a total anticipated or actual value of \$50,000 or more. Consultant further acknowledges that the prohibition on contributions applies to each prospective party to the contract; each member of Consultant's board of directors; Consultant's chairperson, chief executive officer, chief financial officer and chief operating officer; any person with an ownership interest of more than 20 percent in Consultant; any subConsultant listed in the bid or contract; and any committee that is sponsored or controlled by Consultant. Additionally, Consultant acknowledges that Consultant must inform each of the persons described in the preceding sentence of the prohibitions contained in Section 1.126.

**2f. Protection of Private Information.** Section 58 is hereby replaced in its entirety as follows:

**58. Protection of Private Information**

Consultant has read and agrees to the terms set forth in San Francisco Administrative Code Sections 12M.2, "Nondisclosure of Private Information," and 12M.3, "Enforcement" of Administrative Code Chapter 12M, "Protection of Private Information," which are incorporated herein as if fully set forth. Consultant agrees that any failure of Contactor to comply with the requirements of Section 12M.2 of this Chapter shall be a material breach of the Contract. In such an event, in addition to any other remedies available to it under equity or law, the City may terminate the Contract, bring a false claim action against the Consultant pursuant to Chapter 6 or Chapter 21 of the Administrative Code, or debar the Consultant.

**2g. Food Service Waste Reduction Requirements.** Section 59 is hereby added, to read as follows:

**59. Food Service Waste Reduction Requirements**

Effective June 1, 2007, Consultant agrees to comply fully with and be bound by all of the provisions of the Food Service Waste Reduction Ordinance, as set forth in San Francisco Environment Code Chapter 16, including the remedies provided, and implementing guidelines and rules. The provisions of Chapter 16 are incorporated herein by reference and made a part of this Agreement as though fully set forth. This provision is a material term of this Agreement. By entering into this Agreement, Consultant agrees that if it breaches this provision, City will suffer actual damages that will be impractical or extremely difficult to determine; further, Consultant agrees that the sum of one hundred dollars (\$100) liquidated damages for the first breach, two hundred dollars (\$200) liquidated damages for the second breach in the same year, and five hundred dollars (\$500) liquidated damages for subsequent breaches in the same year is reasonable estimate of the damage that City will incur based on the violation, established in light of the circumstances existing at the time this Agreement was made. Such amount shall not be considered a penalty, but rather agreed monetary damages sustained by City because of Consultant's failure to comply with this provision.

**2h. Health Care Accountability Ordinance.** Section 60 is hereby added to the Agreement, as follows:

**60. Health Care Accountability Ordinance**

Consultant agrees to comply fully with and be bound by all of the provisions of the Health Care Accountability Ordinance (HCAO), as set forth in San Francisco Administrative Code Chapter 12Q, including the remedies provided, and implementing regulations, as the same may be amended from time to time. The provisions of Chapter 12Q are incorporated by reference and made a part of this Agreement as though fully set forth herein. The text of the HCAO is available on the web at [www.sfgov.org/olse](http://www.sfgov.org/olse). Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Chapter 12Q.

a. For each Covered Employee, Consultant shall provide the appropriate health benefit set forth in Section 12Q.3 of the HCAO. If Consultant chooses to offer the health plan option, such health plan shall meet the minimum standards set forth by the San Francisco Health Commission.

b. Notwithstanding the above, if the Consultant is a small business as defined in Section 12Q.3(e) of the HCAO, it shall have no obligation to comply with part (a) above.

c. Consultant's failure to comply with the HCAO shall constitute a material breach of this agreement. City shall notify Consultant if such a breach has occurred. If, within 30 days after receiving City's written notice of a breach of this Agreement for violating the HCAO, Consultant fails to cure such breach or, if such breach cannot reasonably be cured within such period of 30 days, Consultant fails to commence efforts to cure within such period, or thereafter fails diligently to pursue such cure to completion, City shall have the right to pursue the remedies set forth in 12Q.5.1 and 12Q.5(f)(1-6). Each of these remedies shall be exercisable individually or in combination with any other rights or remedies available to City.

d. Any Subcontract entered into by Consultant shall require the SubConsultant to comply with the requirements of the HCAO and shall contain contractual obligations substantially the same

as those set forth in this Section. Consultant shall notify City's Office of Contract Administration when it enters into such a Subcontract and shall certify to the Office of Contract Administration that it has notified the SubConsultant of the obligations under the HCAO and has imposed the requirements of the HCAO on SubConsultant through the Subcontract. Each Consultant shall be responsible for its SubConsultants' compliance with this Chapter. If a SubConsultant fails to comply, the City may pursue the remedies set forth in this Section against Consultant based on the SubConsultant's failure to comply, provided that City has first provided Consultant with notice and an opportunity to obtain a cure of the violation.

e. Consultant shall not discharge, reduce in compensation, or otherwise discriminate against any employee for notifying City with regard to Consultant's noncompliance or anticipated noncompliance with the requirements of the HCAO, for opposing any practice proscribed by the HCAO, for participating in proceedings related to the HCAO, or for seeking to assert or enforce any rights under the HCAO by any lawful means.

f. Consultant represents and warrants that it is not an entity that was set up, or is being used, for the purpose of evading the intent of the HCAO.

g. Consultant shall maintain employee and payroll records in compliance with the California Labor Code and Industrial Welfare Commission orders, including the number of hours each employee has worked on the City Contract.

h. Consultant shall keep itself informed of the current requirements of the HCAO.

i. Consultant shall provide reports to the City in accordance with any reporting standards promulgated by the City under the HCAO, including reports on SubConsultants and Subtenants, as applicable.

j. Consultant shall provide City with access to records pertaining to compliance with HCAO after receiving a written request from City to do so and being provided at least ten business days to respond.

k. Consultant shall allow City to inspect Consultant's job sites and have access to Consultant's employees in order to monitor and determine compliance with HCAO.

l. City may conduct random audits of Consultant to ascertain its compliance with HCAO. Consultant agrees to cooperate with City when it conducts such audits.

m. If Consultant is exempt from the HCAO when this Agreement is executed because its amount is less than \$25,000 (\$50,000 for nonprofits), but Consultant later enters into an agreement or agreements that cause Consultant's aggregate amount of all agreements with City to reach \$75,000, all the agreements shall be thereafter subject to the HCAO. This obligation arises on the effective date of the agreement that causes the cumulative amount of agreements between Consultant and the City to be equal to or greater than \$75,000 in the fiscal year.

2i. **Graffiti Removal.** Section 61 is hereby added to the Agreement, as follows:

#### **61. Graffiti Removal**

Graffiti is detrimental to the health, safety and welfare of the community in that it promotes a perception in the community that the laws protecting public and private property can be disregarded with impunity. This perception fosters a sense of disrespect of the law that results in an increase in crime; degrades the community and leads to urban blight; is detrimental to property values, business opportunities and the enjoyment of life; is inconsistent with the City's property maintenance goals and aesthetic standards; and results in additional graffiti and in other properties becoming the target of graffiti unless it is quickly removed from public and private property. Graffiti results in visual pollution and is a public nuisance. Graffiti must be abated as quickly as possible to avoid detrimental impacts on the City and County and its residents, and to prevent the further spread of graffiti.

Consultant shall remove all graffiti from any real property owned or leased by Consultant in the City and County of San Francisco within forty eight (48) hours of the earlier of Consultant's (a) discovery or notification of the graffiti or (b) receipt of notification of the graffiti from the Department of Public Works. This section is not intended to require a Consultant to breach any lease or other agreement that it may have concerning its use of the real property. The term "graffiti" means any inscription, word, figure, marking or design that is affixed, marked, etched, scratched, drawn or painted on any building, structure, fixture or other improvement, whether permanent or temporary, including by way of example only and without limitation, signs, banners, billboards and fencing surrounding construction sites, whether public or private, without the consent of the owner of the property or the owner's authorized agent, and which is visible from the public right-of-way. "Graffiti" shall not include: (1) any sign or banner that is authorized by, and in compliance with, the applicable requirements of the San Francisco Public Works Code, the San Francisco Planning Code or the San Francisco Building Code; or (2) any mural or other painting or marking on the property that is protected as a work of fine art under the California Art Preservation Act (California Civil Code Sections 987 et seq.) or as a work of visual art under the Federal Visual Artists Rights Act of 1990 (17 U.S.C. §§ 101 et seq.).

Any failure of Consultant to comply with this section of this Agreement shall constitute an Event of Default of this Agreement.

- 2j. Appendix A-2 is hereby incorporated into the contract.
- 2k. Appendix B-2 is hereby incorporated into the contract.
3. **Effective Date.** Each of the modifications set forth in Section 2 shall be effective on and after the date of this Amendment.
4. **Legal Effect.** Except as expressly modified by this Amendment, all of the terms and conditions of the Agreement shall remain unchanged and in full force and effect.

IN WITNESS WHEREOF, Consultant and City have executed this Amendment as of the date first referenced above.

**CITY**

Recommended by:

**General Manager**  
**SFPUC**

Approved as to Form:

Dennis J. Herrera  
City Attorney

By:

City Attorney

Approved:

*Foy* Kelly  
Director of the Office of Contract  
and Purchaser

**CONSULTANT**

URS Corporation

Printed Name:  
Louis Armstrong

Title:  
Vice President  
221 Main Street, Ste. 600  
San Francisco, CA 94105-1917

City vendor number: 1910301

## **SCOPE OF WORK**

### **Appendix A-2**

#### **TASK GROUP A – Project Management**

##### ***Task A13 – Contractor Outreach Support Services***

**Budget = \$30,000**

##### ***Objectives***

Provide support services to SFPUC who will be conducting a contractor outreach event for this project.

##### ***Approach***

- Provide support services to SFPUC for the upcoming contractor outreach event. Services may include planning and arrangements of meeting facilities and other logistics needs.
- Assist with preparation of presentation and handout materials.
- Attend the contractor outreach event and assist SFPUC with responding to questions as required.

##### ***Deliverables*<sup>1</sup>**

- Presentation and handout materials for the contractor outreach event.

#### **TASK GROUP D – DESIGN PACKAGE**

##### ***Task 4.1 – Review and Assist Preparation of Division 0 and 1 Project Specifications***

**Budget = \$20,000**

##### ***Objectives***

Assist SFPUC in the preparation of new sections in Division 0 and Division 1 project specifications.

<sup>1</sup> General notes on Deliverables for all tasks:

- Consultant will submit one draft and one final version of each deliverable unless specifically stated otherwise.
- For deliverables that require review and comment from regulatory agencies, consultant will submit an interim electronic draft version of each deliverable for SFPUC internal review and comment prior to submittal of a revised hard copy draft version (with SFPUC comments incorporated) to the regulatory agencies.
- Consultant will provide 20 hard copies and one electronic copy on a CD for each draft and final deliverable unless specifically stated otherwise.
- SFPUC will consolidate and provide Consultant with all review comments of draft submittals in a summary table format.
- Consultant will provide responses to review comments in the summary table from SFPUC.

### ***Approach***

- Review SFPUC's General Conditions new sections for construction and make recommendations for special provisions to the General Conditions.
- Conduct a workshop to determine SFPUC and URS responsibilities as lead for each Division 1 specification.

### ***Assumptions***

- SFPUC will provide new sections in Division 0 and 1 prior to preparation of 100% design package.

### ***Deliverables***

- Revised and updated Division 0 and 1.

## ***Task D5.1 – 95% Design Package – Coordination of Outlet Works Design***

**Budget = \$50,000**

### ***Objectives***

Coordinate and integrate the drawings and specifications for the outlet works that are prepared by the SFPUC Engineering Management Bureau (EMB) and URS.

### ***Approach***

- As part of the coordination of the final design package, provide interim, partial review of drawings and specifications of the outlet works, including technical memoranda and calculations, as they are being prepared by SFPUC EMB.
- Provide review comments to EMB and attend special subject meetings as required.
- Provide copies of related drawings and specifications to EMB to minimize any duplication effort.

### ***Assumptions***

- SFPUC will carry out its own detailed check and QA of design work being completed by EMB, including third party independent review as needed.

### ***Deliverables***

- Copies of draft drawings and specifications prepared by SFPUC containing review comments from URS.

## ***Task D6.1 – Evaluate/Incorporate Permit Requirements***

**Budget = \$60,000**

### ***Objectives***

Incorporate requirements of all permitting agencies such as U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Fish and Game, Alameda County, Santa Clara County, and other permitting/regulatory agencies into the Detailed Design Documents.

### ***Approach***

- Permitting requirements from all permitting/regulatory agencies will be incorporated into the 100% drawings and technical specifications as they are identified.
- Provisions for any required air and water quality monitoring requirements during construction will be included in the General Requirement Specifications.

### ***Assumptions***

- It is assumed that many of the permitting requirements have already been incorporated at the 95% level of design.

### ***Deliverables***

- No separate deliverable; permitting requirements will be incorporated at the 100% levels of design.

### ***Task D11 – Construction QA/QC Manual***

**Budget = \$20,000**

### ***Objectives***

Prepare a Construction QA/QC Manual for the project for use by the SFPUC, CM Consultant and URS.

### ***Approach***

- Prepare a Construction QA/QC Manual for the project for use by the SFPUC (PMB, EMB, CMB and BEM), CM Consultant and URS.
- The Construction QA/QC Manual will follow the format prescribed for FERC dam safety projects.
- The roles and responsibilities of QA/QC for the different entities will be defined. Communications, reporting and record keeping will also be defined.
- Frequency of QC tests and QA tests will be defined. Protocols of interaction with DSOD will also be established.
- A draft of the Manual will be distributed and reviewed by all related entities before it is finalized.

### ***Deliverables***

- A Construction QA/QC Manual will be prepared.

### ***Task D12 – Watershed Facilities Design Services (Optional)***

**Budget = \$50,000**

### ***Objectives***

Perform as-needed design services for facilities located in the watershed that may be affected by the construction.

### **Approach**

- This is an optional task. At the request of SFPUC Project Manager, perform as-needed design services for facilities located in the watershed that may be affected by the construction.

### **Assumptions**

- This is an optional task. The assigned budget is an allowance. Actual budget(s) will be prepared and submitted to SFPUC Project Manager for review and approval prior to the start of each as-needed design request.

### **Deliverables**

- Deliverables as proposed and approved for each as-needed design request.

## **Task Group E.A – Environmental and Permitting Support Services (SFPUC Lead)**

### **Task E.a.1 – GIS Support for ETJV**

**Budget = \$15,000**

### **Objectives**

Provide GIS support services to ETJV, the project environmental consultant.

### **Approach**

- As authorized by SFPUC, provide GIS support services to ETJV, the project environmental consultant.
- Provide updated shape files (electronic) for project features to ETJV.
- Prepare GIS graphics for meetings and presentations as needed.

### **Deliverables**

- Requested information on an as-needed basis.

### **Task E.a.2 – Provide Visual Simulation of Borrow Area B/Dam from EBRPD Sunol Regional Wilderness**

**Budget = \$10,000**

### **Objectives**

Prepare a visual simulation of Borrow Area B and the Replacement Dam from two locations in the Sunol Regional Wilderness.

### **Approach**

- Identify two vantage points for analysis.
- Gather existing aerial photo data to fill in gaps beyond the project area.
- Overlay aerial photo data on digital elevation model (DEM) for the view shed

- Prepare three-dimensional view of the dam site and Borrow Area B from two vantage points in the Sunol Regional Wilderness.

#### ***Assumptions***

- Evaluate views from two locations.
- Utilize existing aerial photo data from the project or other sources.
- One draft and one final version of visual simulations.

#### ***Deliverables***

- Two visual simulations in JPG format transmitted via electronic mail or FTP.

#### ***Task E.a.3 – Preconstruction Raptor Surveys and Bald Eagle Monitoring***

**Budget = \$80,000**

#### ***Objectives***

Conduct pre-construction surveys for nesting raptors, swallows and burrowing owls in preparation for the Calaveras Dam Replacement Project.

#### ***Approach***

This task includes the following four tasks:

- Surveys for tree-nesting raptors and swallows
- Presence/absence surveys for burrowing owls
- Monitoring bald eagle nests
- Preparation of a technical memorandum

Subtask 1 – Surveys for Tree-Nesting Raptors and Swallows

- Conduct a field survey to determine the locations of nesting raptors within the line-of-sight from the western edge of the Calaveras Reservoir. Surveys for tree-nesting raptors will be conducted in March or April of 2008. Records from the California Department of Fish and Game's (CDFG) California Natural Diversity Data Base (CNDDB) for nesting raptors in the general vicinity of the study area will be reviewed prior to conducting the field surveys.
- Conduct the survey for tree-nesting raptors on foot to identify any trees that appear to support active or inactive raptor nests from the western edge of the reservoir. The study area extends for approximately 2 miles along the edge of the reservoir. Two URS biologists will walk the entire length of the western side of the reservoir in transects covering all trees within the line-of-sight from the western edge of the reservoir.
- Scan using binoculars all habitats that are suitable for nesting raptors within the line-of-sight. The biologists will note any raptor species in the vicinity of each nest. If a raptor species is observed flying out of a specific nest, it will be assumed that the nest was occupied by that species. URS biologists will note the location of all active and inactive raptor nests within the line-of-sight from the western edge of the reservoir.
- URS biologists will also evaluate raptor activity in the general vicinity of the study area by conducting observations from key vantage points. At dusk, URS biologists will use a spotting scope to observe raptor activity in the area from these vantage points.
- Identify swallow colonies nesting within 100 feet of construction areas. URS biologists will evaluate rock outcrops, buildings, and other potential nest sites for swallows.

Subtask 2 – Presence/Absence Surveys for Burrowing Owls

- Conduct presence/absence surveys for burrowing owls (BUOW) at the Borrow Area E (approximately 64 acres). Surveys for BUOWs will be conducted in April or May of 2008. CNDDB records for this species in the general vicinity of the study area will be reviewed prior to conducting the field surveys.
- These BUOW surveys will not be protocol level surveys, but rather presence/absence surveys. The surveys will be conducted according to the methods described in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium 1993). The *Staff Report on Burrowing Owl Mitigation* (CDFG 1995) will also be reviewed prior to conducting the field surveys.
- The BUOW surveys will be conducted on foot within the Borrow Area E by walking transects approximately 100 feet apart. In addition, the study area will be scanned using binoculars to identify any bird species located at a distance. The study area for the BUOW surveys corresponds to Borrow Area E only. URS biologists will note any active BUOW burrows and any burrows or burrow complexes that have the potential to support BUOW (i.e., any burrows with an opening approximately 4 inches in diameter). Areas with potential burrows or burrow complexes will also be mapped.

Subtask 3 – Monitoring Bald Eagle Nests

- Monitor the two known bald eagle (BAEA) nests and the three artificial BAEA nests from vantage points located on the western edge of the reservoir. This monitoring effort will take place for approximately 3-4 hours around dusk once a month from January through August 2008 or until the offspring have fledged. In California, the BAEA nesting season starts in January and the young typically fledge by August.

Subtask 4 – Preparation of a Technical Memorandum

- The results of the surveys for the tree-nesting raptors, swallows, and BUOWs, and the monitoring efforts will be summarized and presented in a biological resources technical memorandum. The technical memorandum will include the survey results, a map of showing all active and inactive raptor nests, active burrowing owl burrows, and burrows or burrow complexes that have the potential to support BUOWs, and a tabular depiction of their location and species.

**Assumptions**

- The surveys for tree-nesting raptors along the western edge of the reservoir will be conducted by two biologists over the course of seven 10-hour days.
- The surveys for nesting swallows will be conducted concurrently with the surveys for tree-nesting raptors.
- The surveys for BUOWs in Borrow Area E will be conducted by two biologists over the course of five 10-hour days.
- A maximum of two active BAEAs nests and three artificial nests will be monitored monthly.
- The monitoring effort for BAEAs nests will take place once a month for approximately 3-4 hours around dusk or dawn, plus driving time. Bald eagle nests will be monitored for eight months starting in January 2008.

**Deliverables**

- A technical memorandum summarizing the results of the surveys for the tree-nesting raptors, swallows, and BUOWs, and the monitoring efforts will be prepared.

**Task E.a.4 – Fisheries Biological Assessment**

**Budget = \$67,000**

**Objectives**

Prepare a Biological Assessment for the National Marine Fisheries Service (NMFS) based on existing information that is available to SFPUC. The BA will specifically address effects of the proposed project on steelhead (*Oncorhynchus mykiss*) in Alameda and Calaveras creeks. Identify data gaps for consideration by SFPUC.

**Approach**

- Identify the required components of the BA. Components of the Preliminary Draft BA include: 1) project purpose, 2) project description, 3) action area, 4) consultation history, 5) status of listed species and listed species accounts, including downstream efforts and projects designed to allow anadromous fish passage, 6) effects of the proposed action and 7) conclusions and determinations.
- Prepare a preliminary draft BA based on existing information that is available to the project team. The effects evaluation will consider flow regime and water temperature effects on anadromous salmonids in Alameda and Calaveras creeks. The preliminary draft BA would be submitted to SFPUC for review.

- Identify data gaps and suggest strategies for filling these gaps.
- Prepare a draft BA based on comments from SFPUC.

#### ***Assumptions***

- Evaluation will be based on existing information.
- Filling gaps in existing data would require a separate scope and cost estimate.
- One preliminary draft and one draft BA.
- One meeting with NMFS to identify required components of the BA.

#### ***Deliverables***

- Preliminary draft BA; draft BA based on comments from SFPUC. Documents would be submitted as electronic files plus four (4) hard copies.

#### ***Task E.a.5 – Support Review and Respond to Public Comments on DEIR***

**Budget = \$40,000**

#### ***Objectives***

Support SFPUC review of the DEIR and responses to public comments.

#### ***Approach***

- Review DEIR sections as requested by SFPUC.
- Prepare comments for consideration by SFPUC.
- Review public comments on the DEIR as requested by SFPUC.

#### ***Assumptions***

- URS will provide environmental and other technical support services as requested and authorized by the SFPUC.
- The proposed budget is an estimated allowance.

#### ***Deliverables***

- Requested information on an as-needed basis.

#### ***Task E.a.6 – Support SFPUC and Respond to Agency and ETJV Information Requests***

**Budget = \$46,000**

#### ***Objectives***

Support SFPUC responses to Agency and ETJV information requests. This task would include preparation of a technical memorandum that evaluates options for post-construction restoration of selected project components.

***Approach***

- Provide environmental information and/or data.
- Prepare technical memoranda.
- Evaluate environmental effects of proposed project design.
- Evaluate options for post-construction restoration of project components.

***Assumptions***

- URS will provide environmental and other technical support services as requested and authorized by the SFPUC.
- Post-construction restoration options would be evaluated for DS 3, DS 5, DS 7, Borrow Area B, access/haul roads, and the area downstream of Calaveras Dam.
- The proposed budget is an estimated allowance.

***Deliverables***

- Requested information on an as-needed basis. Includes technical memorandum that evaluates options for post construction restoration of project disturbance areas.

***Task E.a.8 – Support Review of Permit Conditions and Permit Applications***

**Budget = \$25,000**

***Objectives***

Review draft permit applications and draft permit conditions to evaluate feasibility and consistency with the proposed design and project schedule.

***Approach***

- Review draft permit applications at request of SFPUC.
- Review draft permit conditions at request of SFPUC.
- Evaluate feasibility of permit conditions relative to project design, cost and schedule.

***Assumptions***

- URS will provide environmental and other technical support services as requested and authorized by the SFPUC.

***Deliverables***

- Requested information on an as-needed basis.

### ***Task E.a.9 – Evaluate Mitigation Feasibility and Schedule Constraints***

**Budget = \$30,000**

#### ***Objectives***

The DEIR proposes a large number of mitigation measures that place constraints on project activities. These constraints could affect the schedule and cost of the proposed project. As requested by SFPUC, URS will evaluate the feasibility of mitigation measures proposed in the PDEIR and identify potential schedule constraints. This review will be ongoing during the period leading up to publishing the public draft of the EIR.

#### ***Approach***

- Review mitigation measures in the PDEIR to identify schedule constraints.
- Evaluate the feasibility of mitigation measures in the PDEIR considering the potential cost and project design.

#### ***Assumptions***

- URS will provide environmental and other technical support services as requested and authorized by the SFPUC.

#### ***Deliverables***

- Requested information on an as-needed basis.

### ***Task Group E.B – NOA Compliance plan***

For construction activities associated with the Calaveras Dam Replacement Project, a Compliance Plan will have to be developed to address potential issues related to the presence of naturally occurring asbestos (NOA) and potentially other excavated materials and materials containing elevated concentrations of NOA and metals at the Proposed Project Site.

The previous task order, Task Order 7.3, described three phases of work. Phase I work was designed to develop a plan to characterize specific conditions at the Site that are relevant to NOA, metals, and other potential waste issues (e.g., pH), and develop a regulatory approach. Phase II work was designed to: (1) quantify and address risks associated with the conditions delineated in Phase I; and (2) gain regulatory acceptance for the proposed activities that will be affected by the presence of asbestos containing materials and/or metals. Phase III work is designed to implement the program detailed and selected during Phases I and II.

The results to date from Phase I are described in the following documents:

- Airborne Dust Emission Predictions Technical Memorandum.
- Draft Sampling and Analysis Plan (SAP) for Characterization of NOA.

URS also provided design parameters and features for the onsite management and disposal of potential NOA containing materials.

Phase I Planning has also resulted in a letter from the Department of Toxic Substances Control (DTSC) that the natural formations that will be disturbed as part of the CDRP do not constitute a regulated waste and DTSC will not act further in this capacity on the CDRP. In addition, the Regional Water Quality Control Board (RWQCB) also has been involved in discussions regarding the onsite relocation and regrading of the excess soil and rock that will be generated as part of the CDRP.

The BAAQMD and Cal/OSHA were also contacted and their requirements have been reviewed and discussed at a preliminary level. The following activities will be performed as part of Phase II (Scoping) and Phase III (Implementation) of the NOA Compliance Plan.

## **PHASE I – PLANNING**

### ***Task E.b.1 – NOA Compliance Plan – Phase I (Additional)***

**Budget = \$140,000 (net)**

Due to the complexity of the project, some additional Phase I work was carried out, as described below, while some of the original scope (Phase I SAP) was deleted. They are described herein to document additional work requested and/or deemed necessary for the CDRP.

#### **Subtask 1 – Additional Air Dispersion Modeling**

- Evaluate the sensitivity of the air dispersion model results to different input parameters and receptor scenarios. Perform three additional sets of risk threshold calculations based the outcome of the modeling exercise using the most reliable input parameters.
- Use the model to develop high-resolution PM10 isopleths across an area that encompasses all receptors. Perform separate risk threshold calculations for six groups of receptors (e.g., recreational users of surrounding property) according to specific exposure scenarios. This allows estimation of an area of influence for impacts of PM10 and subsequent calculation of risk to a variety of receptors newly identified by SFPUC and potential additional receptors identified in the future. Based on this risk threshold calculation, develop a critical area of influence of the potential generation of asbestos dust from the Proposed Project Site.
- Two additional modeling runs and calculation of risk thresholds will be performed. (Note: One run was included in the original scope.)
- A Technical Memorandum describing the final model input and output values. Conclusions and comparisons of threshold concentrations and associated potential third-party exposure issues will be included for selection of the most appropriate modeling input data and assumptions. (Note: Risk analysis and modeling protocol are not required for permit applications. As such, preparation and submittal of modeling protocol to agencies and response to agency review comments on modeling protocol are not included in this task.)

#### **Subtask 2 – Additional CEQA Compliance Support**

- Continue to provide support to SFPUC and ETJV Consultants for NOA and metals issues for water supply.
- Per request from SFPUC, provide more extensive description of the issues related to NOA for water quality, hazards, disposal, and air quality in support of the CEQA review.
- In addition, suggest augmentation on impact evaluation and reconciliation of impact mitigations.
- Provide CEQA documents for inclusion through track changes of appropriate comments and suggestions.
- Provide revised sections of the PDEIR to include the description of the elements of the requirements for air and water quality protection, as well as worker protection for potential NOA-related activities.

*Subtask 3 – Prepare Concrete/Asphalt Recycle/Reuse Options Technical Memoranda in Support of CEQA Analysis*

- Review dam demolition operations to identify activities that generate concrete/asphalt requiring disposal.
- Develop options for recycle or reuse of concrete and asphalt derived from demolition of existing Calaveras Dam and appurtenances
- Evaluate concrete/asphalt crushing and processing methods to prepare material for recycling or reuse.
- Prepare a technical Memorandum with estimate of concrete/asphalt volume currently planned for disposal and options for reuse or recycling, including costs for recycling options.

- Examine historical water quality at Calaveras Reservoir and water quality objectives. Assessments will be based on information provided by the SFPUC Operations at SVWTP and the Water Quality Bureau.
- Examine potential water quality degradation from construction activities.
- Identify construction BMPs and treatment.
- Examine needs and extent for a Surface Water Monitoring Program (SWMP) for the operation of the reservoir, both during and after construction, for (1) monitoring; and (2) treatment system operations and maintenance (O&M) improvements.
- Examine the Sunol Valley Water Treatment Plant (SVWTP) facility and operations versus the potential treatment needs.
- Examine and develop program to address water quality related issues during and after construction of the CDRP.
- Prepare a technical Memorandum summarizing the assessment and proposed program to address water quality related issues during and after construction of the CDRP.

**PHASE II – SCOPING**

The overall objectives for Phase II Scoping are, as follows:

- Present NOA issues to negotiate requirements with the remaining regulatory approvals identified in the Phase I activities. (i.e., BAAQMD and Cal/OSHA, and RWQCB)
- Complete development of the design parameters required to meet the NOA related regulatory requirements, including those approved by the BAAQMD, Cal/OSHA, as well as RWQCB.

**Task E.b.2 – Implementation of Sampling & Analysis Plan (SAP)**

**Budget = \$162,000**

**Objective**

Collect and analyze soil and rock samples from the Proposed Project Site, in accordance with the SAP developed during Phase I.

**Approach**

- Sampling and analysis of rocks and soil will be used to characterize NOA and metals concentrations and distribution at the Proposed Project Site. These data will address RWQCB and BAAQMD requirements, and Cal/OSHA health and safety concerns.
- A total of 360 samples will be collected from the existing core boxes stored at the Proposed Project Site, pulverized, split, and finally composited into 130 samples. Samples will be analyzed in the field for metals using x-ray fluorescence (XRF) field analysis, and in the laboratory for asbestos using CARB 435/TEM methodology.
- Preparation of a NOA and Metals Evaluation Report.

***Assumptions***

- One meeting will be held with each RWQCB, BAAQMD and Cal/OSHA to discuss the results obtained from the sampling and analysis program presented in the NOA and Metals Evaluation Report.
- One round of review and comment on agency requests for information or comments.
- If necessary, a second phase of sampling and analysis using the elutriator method developed by Dr. Wayne Berman may need to be completed to provide support for additional air dispersion modeling, if required by BAAQMD or other regulatory agencies or if deemed necessary to meet internal requirements. The cost of this sampling is not included in this scope of work.

***Deliverables***

- One electronic interim draft (for SFPUC internal review), one hard copy draft and one final NOA and Metals Evaluation Report in accordance with the *Guidelines for NOA Evaluations*.

**Task E.b.3 – BAAQMD and Cal/OSHA NOA-Related Requirements**

**Budget = \$169,000**

***Objective***

Initiate applications for applicable permits from BAAQMD and Cal/OSHA for construction activities (tunneling, construction, and air quality) for NOA-related requirements at the Proposed Project Site. It is intended that the Holder Status of these permits will be transferred to the Contractors when appropriate.

***Approach***

The following process will be conducted:

- The BAAQMD requires that a permit be filed related to the control of asbestos containing airborne dust. A preliminary application that contains an Asbestos Dust Mitigation Plan (DMP) will be prepared and submitted to BAAQMD.
- The DMP will be based largely on the NOA and Metals Evaluation report (Task E.b.2 above).
- The DMP will include site maps showing routes, areas to be disturbed, stockpile areas, and other site features; a list of types of equipment to be used for various construction activities; descriptions of dust suppression measures for various construction activities; and a description of the proposed air monitoring program.
- The Comprehensive Air Monitoring Program is described in Task E.b.6 below.
- Cal/OSHA requires permits to be filed for both construction and tunneling and will also require specific certifications, licenses and notices be presented or filed prior to the start of work. These permit applications will incorporate findings from the NOA and Metals Evaluation Report (Task E.b.2 above).
- The construction permit requires preparation of site maps showing construction areas, areas to be disturbed that contain NOA, cross sections, control points for limiting access to work areas, and other information.
- A key component of the construction permit is a project Health and Safety Plan. Acceptable and prohibited work practices will be discussed and eventually included in the bid document specifications.
- The intake shaft of the dam, which is expected to be approximately 165 feet by 30 feet wide, along with the five distribution shafts, qualify as tunneling activity under Cal/OSHA guidelines and require that a permit be obtained from the Cal/OSHA Tunneling District Office located in Sacramento.
- The main items covered by permit include location and nature of proposed underground excavations and haulage-ways, types of diesel motors used in any air ventilated spaces, ventilation and gas testing plan, and tunnel specific hazards.
- The ventilation and gas testing plan will need to provide descriptions of blower requirements necessary to effect adequate flow rates and air exchanges per hour, redundant backup equipment, emissions monitoring equipment, gas concentration alarms, and "trip" conditions for and the types of feedback control sensors proposed.

- The plan for monitoring will need to be prepared by the Certified Tunnel Gas Tester.
- Other tunnel specific hazards such as noise and flooding will also need to be addressed.
- Negotiate specific terms and conditions associated with the work practices and site activities that may be imposed or considered by the two agencies.
- Prepare Memorandum of Understanding (MOU), or equivalent, with agencies to capture agreements on work practices and site activities.
- Define requirements of permits such that they may be incorporated into plans and specifications along with references to MOUs between the two agencies and the project as appropriate.
- After agency acceptance, transfer Permit Holder status to selected contractor.

***Assumptions***

- One meeting will be held with BAAQMD and two with Cal/OSHA. The SFPUC Compliance Management Team will prepare for and attend these meetings.
- Agency fees are not included in this cost estimate.

***Deliverables***

- Applicable electronic Interim Draft (for SFPUC internal review), and Draft Permit Applications for discussion and negotiation with the agencies. Draft Final Permit Applications would then be prepared that incorporate SFPUC and agencies comments.

**Task E.b.4 – Water Quality Measures, SWPPP and 401/WDR Permit Support**

**Budget = \$133,000**

***Objective***

Identify and obtain applicable requirements from RWQCB and Counties of Alameda and Santa Clara, as required, for storm water, groundwater, and other water controls to be implemented during construction activities at the Proposed Project Site. It is intended that the Holder Status of these permits will be transferred to the Contractors when appropriate.

In addition, URS will prepare a Water Quality Monitoring Plan (WQMP) to address potential issues arising from inundation of the Franciscan materials. This plan will inform the implementation of the SWPPP and onsite construction water treatment plan (OCWTP) to comply with the anticipated performance criteria determined to be feasible for implementation during construction, and will be based, at least in part, on the technical memo on the draft water quality memo provided by URS in December 2007. URS will also prepare the preliminary conceptual design recommendations for the contractor's water treatment BMPs.

As part of the above activities, URS will also provide permitting support to SFPUC and ETJV for the Section 401 Water Quality Certification and Waste Discharge Requirements (WDRs) under the RWQCB.

***Approach***

Historical water quality data indicate that disturbance of NOA-containing materials at the Proposed Project Site may result in short-term elevated asbestos concentrations in water that is piped to the SVWTP. In addition, the extraction of groundwater during construction may also contain asbestos and metals, and discharge of extracted groundwater will require permission to discharge. Sources and quantities of groundwater, stormwater and other construction related water and their potential impacts on water quality will be identified and assessed. Mitigation

measures and applicable treatment methods at, or before, SVWTP will be identified. For the SWPPP, the following process will be conducted:

- Evaluate project for activities that will generate water during construction, as well as those activities that will affect surface water quality in Calaveras Reservoir.
- Potentially collect additional samples (e.g., groundwater) required under the General Permit for groundwater extraction (see assumption below).
- Prepare three documents that address water quality during construction activities:
  - Draft and final WQMP based on URS's December 2007 technical memo regarding water quality.
  - Recommended water discharge standards and performance criteria.
  - Draft Storm Water Pollution Prevention Plan (SWPPP) based on new guidelines from the State Water Resources Control Board.

The action levels, trigger levels, and/or performance criteria may be inter-related due to the sources of water and potential discharges of the same at the Proposed Project Site. Recommendations for prevailing criteria will be provided.

- Prepare a draft OCWTP to supplement the implementation of BMPs under the SWPPP, and also prevent excess particulate and asbestos from reaching the Sunol Valley Water Treatment Plant (SVWTP). The OCWTP will include action and/or trigger levels, monitoring requirements, and sampling and analytical protocols, and recommended treatment BMPs in conceptual form. Note: Modifications to the SVWTP shall be considered during analysis, but are currently considered as secondary to onsite water treatment.
- Assess and develop preliminary design of water treatment facilities that may be required in order to meet anticipated water quality standards.
- The intent of the preliminary design is to examine if the anticipated discharge requirements can be practically achieved.
- While the permit requirements will still be included in the specifications and the contractor will be held to meeting such requirements, the preliminary design of the water treatment facilities may be included as non-binding guidelines or suggestions to assist the contractor with its planning and implementation of water treatment facilities.
- Identify modifications to current operations that may be required at SVWTP to address temporary elevated NOA and/or metals concentrations.
- Prepare Draft NOI, Draft SWPPP, and Draft and Final Draft OCWTP for RWQCB review.
- Transfer Holder Status of these permits to the Contractors when appropriate.

#### ***Assumptions***

- Groundwater sampling reserve of \$25,000 is included, but may be revised depending on RWQCB requests. URS recommends meeting with the RWQCB prior to conducting any groundwater sampling to understand the number of samples and types of parameters that may be required.
- ETJV will take the lead in the obtaining of the 401 Water Quality Certification and WDRs from the RWQCB, and URS will provide support to ETJV and SFPUC.
- Information regarding water quality and water treatment methods at SVWTP will be made available to URS.

- One meeting will be held with RWQCB. The SFPUC Compliance Management Team will prepare for and attend these meetings with URS.
- Final NOI and SWPPP will be obtained by the Contractor selected by SFPUC.

***Deliverables***

- Interim draft (for internal SFPUC review), hard copy draft and final WQMP
- Interim draft (for internal SFPUC review), hard copy Draft and "Draft Final" NOI and SWPPP
- Technical Memorandum regarding water quality standards and performance criteria applicable to the CDRP
- Interim draft (for internal SFPUC review), hard copy draft and "draft final" OCWTP
- A technical memorandum summarizing the preliminary design of the water treatment facilities will be prepared. The TM will serve as the basis for input to the contract specifications.

**Task E.b.5 – Excavated Materials Management Plan (EMMP)**

**Budget = \$30,000**

***Objective***

Prepare an Excavated Materials Management Plan (EMMP) that will be approved by the RWQCB and will be used to guide the contractor as to management of potential NOA containing materials generated during construction and requiring onsite disposal.

***Approach***

- Evaluate project for activities that will generate excess soil and rock during construction which require onsite disposal.
- Provide requirements for segregation, soil stockpile management, placement of materials in stockpiles and disposal areas, and decontamination procedures.
- The approved EMMP will be incorporated by reference into the plans and specifications.

***Assumptions***

- One meeting or conference call will be held with RWQCB.
- One round of comment responses will be prepared.

***Deliverables***

- Interim draft (for internal SFPUC review), hard copy Draft and Final Excavated Materials Management Plan (EMMP)

**Task E.b.6 – Preparation of Comprehensive Air Monitoring Program (CAMP)**

**Budget = \$85,000**

***Objective***

Prepare a Comprehensive Air Monitoring Program (CAMP) that meets the BAAQMD requirements for potential NOA in air in the work place or in the vicinity of the Proposed Project Site.

***Approach***

The CAMP – a perimeter monitoring program – will consist of both fenceline and area-specific exposure monitoring. Fenceline perimeter monitoring is intended to provide monitoring data for

locations  
upwind or  
closer to

ence short of the boundary, in directions monitoring stations are established to serve as a type of "sentry" station for that might be migrating towards the fenceline or other area specific concentrations are below target values, it is likely that results should be even lower. The following approach

- Select Relevant Exposure Scenarios for Potential Offsite Receptors – In order to evaluate the potential offsite exposure to third parties during construction, sensitive receptor scenarios will be developed. These will include nearby receptors located within the potential area including recreationists, residents, and offsite workers.
- Select Air Monitoring Stations for Perimeter and Area and consult topographic and geopolitical maps of the monitoring locations that will provide conservatively p sensitive receptors) estimates of airborne exposure concentrations attributable to project emissions in all major directions from the Proposed Project Site.
- Establish Background Air Quality – This requires a baseline air monitoring program of approximately one year prior to commencement of construction. Both perimeter and area-specific background concentrations of asbestos will be measured. This task will include an onsite meteorological station to link specific meteorological conditions to actual asbestos concentrations monitored. The cost of the baseline monitoring is included in Task E.b.9.
- Establish Suitable Target Monitoring Criteria – This will involve the review and interpretation of baseline monitoring data and local meteorological conditions at the onsite and offsite potent Current Department of Toxic Substances Control (DTSC) guidelines for perimeter monitoring. In addition, other risk-based trigger or action steps to evaluate these criteria are:
  - For each receptor to be protected by monitoring, evaluate existing modeling data to assess likelihood that proposed modeling will be fruitful in supporting an upward adjustment for trigger levels to be applied to site monitoring relative to target acceptable levels defined for each such receptor.
  - Calculate the ratio (dilution factor) of airborne concentrations monitored at the perimeter with corresponding concentrations at the locations of sensitive receptors. This step will be conducted by Wayne Berman if deemed necessary; as such the cost is not included in this scope.
  - If deemed necessary for the statistical monitoring and receptor locations to the statistical simulation conducted by URS. One AERMOD model run is incl
  - Review and interpret the baseline monitoring results (to account for background concentrations), as available

Note: Because the plan may need to be completed prior to completion of baseline monitoring, the plan. S modified (u available, b

ng may need to native" with an ein), once the n

- Separately for both chrysotile and amphibole asbestos, to the extent that non-zero background concentrations are observed modified strategy for setting trigger level protect against background while assure of public health. Note, may need to negotiate with agencies.
- Combine the results of criteria evaluation (including modeling/simulation results as necessary) to account for background to define trigger levels that are both health protective and practical.
- Prepare a Comprehensive Air Monitoring Program - The plan will include triggers (action levels) and their associated corrective actions, should monitoring results exceed established criteria and will also include benchmarks that will allow relaxing of monitoring requirements, if observed concentrations are substantially lower than anticipated. The plan will include the monitoring requirements, sampling protocols, laboratory selections, analytical requirements, and control requirements. A procedure for tracking the implementation of corrective actions and potential modifications (based on asbestos monitoring) and potentially revised triggers will be incorporated in the plan. Agency review and approval is required. A draft and final plan will be prepared. One round of internal SFPUC comment responses followed by a second round of agency comment responses is included.

Note: A procedure for selecting among pre-defined corrective actions to be implemented when trigger levels for monitoring are exceeded will be provided in the DMP.

- The approved CAMP will be incorporated by reference into the plans and specifications, in addition to the incorporation of specific actions deemed appropriate for direct incorporation into the plans and specifications.

***Assumptions***

- One meeting will be held with BAAQMD. One round of internal SFPUC comment response followed by a second round of review and comment on agency requests for information or comments is included.

***Deliverables***

- One interim draft (for internal SFPUC review), one hard copy draft and one final CAMP.

**PHASE III – IMPLEMENTATION**

The tasks for Phase III described below are intended to implement the approaches developed as part of Phases I and II.

**Task E.b.7 – Design of Disposal Sites**

**Budget = \$25,000**

***Objective***

Provide environmental support for design of onsite disposal sites to incorporate features/refinements to address NOA and metals issues, as required.

***Approach***

Work concurrently with the development of the 95% and 100% Design Plans and Specifications

***Assumptions***

No client or agency meetings are required.

***Deliverables***

None.

**Task E.b.8 – Integration of NOA-related Requirements into Plans and Specifications**

**Budget = \$50,000**

***Objective***

Support the development 95% and 100% Design Plans and Specifications

***Approach***

The plans and specifications will be reviewed concurrently with the preparation of the documents in Phase II. It is anticipated that some modifications to the plans and specifications will occur based on the following Phase II document preparation:

- NOA and Metals Evaluation Report
- Draft SWPPP
- Final OCWTP
- Final EMMP
- BAAQMD and Cal/OSHA permits and MOUs
- Comprehensive Air Monitoring Program
- Permit List

While it would be ideal to work concurrently with the development of the 95% Design Plans and Specifications, the actual requirements will be generated after agency approvals have been secured. Therefore, placeholder language will be provided along with the 95% Design Plans and Specification package, as feasible. Subsequent modifications will be provided in the 100% Design Plans and Specification package as documents become available.

***Deliverables***

None.

**Task E.b.9 – Implementation of the Baseline Portion of the Comprehensive Air Monitoring Plan (CAMP)**

**Budget = \$263,000**

***Objective***

Collect and analyze air quality and meteorological data prior to construction that will serve as a baseline understanding of existing PM10, asbestos, and metals concentrations in air. This will provide a basis for subsequent perimeter and area air quality monitoring to be conducted under the CAMP during construction. Meteorological results from the baseline program will be used to establish site-specific wind direction, speed, ambient temperature and other meteorological parameters on an hourly basis over the course of one year. In a similar manner, results from the baseline monitoring of PM10, asbestos and metals will be used to estimate site-specific airborne concentrations of these constituents over the course of one year. These data will be used to assess potential pathways for airborne PM10, asbestos, and metals and locate appropriate sites for area-specific and perimeter asbestos monitoring stations.

- A meteorological station and approximately 15 air quality monitoring stations will be set up and operated for the baseline period (approximately one year prior to construction). There

will be 12 meteorological and 12 air quality monitoring events. The meteorological station will be automated to collect hourly observations of local meteorological conditions, including wind speed, direction, and temperature. Power supply for the meteorological station is assumed to be readily available or provided by others. Power supply for the air quality monitoring stations will be provided by battery packs.

- Data retrieval, calibration, and routine maintenance will be performed at regular intervals throughout the baseline meteorological monitoring period.
- The samples will be submitted for laboratory analysis of PM10, asbestos, and metals. Metals analyses include chromium, cobalt, copper, nickel and arsenic.
- Analytical results from these samples will allow estimation of background airborne concentrations for each constituent (PM10, asbestos, metals) on an approximately monthly basis. Seasonal variations in background airborne concentrations of these constituents will provide a basis for evaluating contributions from subsequent construction activities.

#### ***Assumptions***

- Baseline monitoring is assumed to be one year with 12 events conducted over that 12 month period.
- Electrical supply for the meteorological station will be provided by others. The cost for additional power supply is not included in this estimate.
- One meeting will be held with each BAAQMD and Cal/OSHA to discuss the results obtained from the sampling and analysis program.
- One round of review and comment on agency requests for information or comments
- Stations will be turned over to the SFPUC at NTP. This scope does not include restoration of stations.

#### ***Deliverables***

- Quarterly meteorological reports will be prepared to summarize meteorological monitoring data.
- Preparation of a Baseline Air Monitoring Report.

#### ***Task Group E.c – Additional As-Needed Services***

**Budget = \$300,000 (allowance)**

Due to the uncertainties associated with the environmental permitting, air and water quality issues related to NOA and metals, and other related activities, there may be additional services required that cannot be adequately scoped at this time. These services may include:

1. Cultural / archaeology resources surveys and recovery
2. Additional visual simulations for CEQA review
3. Additional data acquisition to fill data gaps for fisheries BA
4. Additional sensitive species / habitat surveys
5. Additional watershed design / permitting services
6. Additional analysis of soils / rock using the elutriator method

7. Additional AERMOD model run(s)
8. Additional baseline air sample collection and analysis
9. Other services as may be required but unforeseen at this time.

bove services are required, a detailed scope of work and budget would be prepared and implemented without written authorization of the SFPUC.

**Agreement No. CS-716**  
**CALAVERAS DAM REPLACEMENT PROJECT (CUW 37401)**  
**Amendment No. 2 – Appendix B-2**  
**Final Design, Environmental and Permitting Support Services**

**Summary**

Task	A –		
	Contractor Outreach	Services	000
D4.1	Review ect	Assist	of Division 0 and 1
D5.1	95% Detailed Design –	of	Works
D6.1			\$20,000
D10			\$50,000
D11	Construction	Manual	000
D12	Facilities	Services	000
E.a.1	and		
E.a.2	GIS	ETJV	1 000
	Visual	of	\$10,000
	Sunol	Borrow Area B/Dam from	
		Wild.	
E.a.3	Preconstruction Raptor Surveys and Bald Eagle		\$80,000
	Monitoring		
E.a.4	Fisheries		000
E.a.5	Review	comments on	\$40,000
		EIR and prepare	
		as needed	
		SFPUC BEM staff	
E.a.6	Support for SFPUC BEM staff/ respond to agency		\$46,000
	and ETJV information requests		
E.a.8	Review draft permit conditions/permit applications		\$25,000
	and	comments to SFPUC	
E.a.9	of		\$30,000
	constraints for		
	(includes evaluation of proposed RWQCB		
	BMPs/avoidance and minimization		

Task Group

<b>Compliance Plan – Phase I (additional)</b>	
E.b.1	Compliance Plan – Phase I (Net – see below)
	<i>Remaining Portion of Original Phase I</i>
<i>Air</i>	
<i>Additional</i>	
	<i>Prepare Concrete/Asphalt Recycle/Reuse Options</i>
	<i>Prepare Water Quality Memo</i>
	of                    / SAP                    II
E.b.2	I                    of SAP                    \$162,000
E.b.3	D and Cal/OSHA                    ents                    69
E.b.4	ity Measures                    /WDR Permit
	Su
E.b.5	<i>Prepare Excavated Materials Management Plan</i> \$133,000
E.b.6	<i>Air Mon</i> \$30,000
	000
E.b.7	NOA                    Plan – III                    \$25,000
	Environmental Support for Design Refinements of
	Disposal Sites
E.b.8	Integration of NOA-related Requirements into Plans                    \$50,000
	and Specifications
E.b.9	Air Monitoring (                    of a portion                    \$263,000
	of the                    Air
	As-Needed Support Services (Optional)
	As-Needed Support Services (Allowance)

<sup>2</sup> This amount (\$180,000) represents 50% funding of the original estimated budget (\$360,000) for Task E5 authorized under Task Order 7.3.

**City and County of San Francisco  
Office of Contract Administration  
Purchasing Division**

**Second Amendment  
CS-716**

THIS AMENDMENT (this "Amendment") is made as of **April 15, 2008**, in San Francisco, California, by and between **URS Corporation** ("the Consultant"), and the **City and County of San Francisco**, a municipal corporation ("City"), acting by and through its Public Utilities Commission.

**RECITALS**

WHEREAS, City and Consultant have entered into the Agreement (CS-716);

WHEREAS, City and Consultant desire to modify the Agreement on the terms and conditions set forth herein to increase the contract amount by \$1,900,000, define additional tasks and update standard contractual clauses;

WHEREAS, approval for said Agreement was obtained from a Civil Service Commission Notice of Action (#4098-02/03) for Contract Number CS-716 on March 3, 2003; and,

WHEREAS, on March 11, 2008, pursuant to Resolution No. 08-0041, the San Francisco Public Utilities Commission authorized the General Manager to approve Amendment No. 2 to Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project; and

WHEREAS, On April 15, 2008, by Resolution 182-08, the Board of Supervisors authorized the SFPUC to award and execute the Agreement Number CS-716, Engineering Services, Calaveras Dam Replacement Project Amendment No. 2 with URS Corporation for an amount not to exceed \$13,900,000;

NOW, THEREFORE, Consultant and the City agree as follows:

**1. Definitions.** The following definitions shall apply to this Amendment:

a. **Agreement.** The term "Agreement" shall mean the Agreement dated **September 11, 2003** between Consultant and City, as amended by the:

**First amendment dated July 26, 2005**

b. **Other Terms.** Terms used and not defined in this Amendment shall have the meanings assigned to such terms in the Agreement.

**2. Modifications to the Agreement.** The Agreement is hereby modified as follows:

**2a. Section 4.** Section 4 Compensation (first paragraph) of the Agreement currently reads as follow:

Compensation shall be made in monthly payments on or before the first day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole

discretion, concludes has been performed as of the last day of the immediately preceding month. **In no event shall the amount of this Agreement exceed Twelve Million Dollars (\$12,000,000), which sum includes Four Million Dollars (\$4,000,000) for the Conceptual Engineering phase.** The breakdown of costs associated with this Agreement appears in Appendix B, "Calculation of Charges," attached hereto and incorporated by reference as though fully set forth herein.

No charges shall be incurred under this Agreement nor shall any payments become due to the Consultant until reports, services, or both, required under this Agreement are received from the Consultant and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Consultant in any instance in which the Consultant has failed or refused to satisfy any material obligation provided for under this Agreement.

*In no event shall the City be liable for interest or late charges for any late payments.*

The Controller is not authorized to pay invoices submitted by the Consultant prior to the Consultant's submission of HRC Form 7, "Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report." If HRC Form 7 is not submitted with the Consultant's invoice, the Controller will notify the department, the Director of HRC and the Consultant of the omission. If the Consultant's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Consultant has ten days to file an affidavit using HRC Form 9, "Sub-Contractor Payment Affidavit," verifying that all subcontractors have been paid and specifying the amount.

*Said paragraph of said section is hereby amended in its entirety to read as follows:*

Compensation shall be made in monthly payments on or before the first day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. **In no event shall the amount of this Agreement exceed Thirteen Million Nine Hundred Thousand Dollars (\$13,900,000), which sum includes Four Million Dollars (\$4,000,000) for the Conceptual Engineering phase.** The breakdown of costs associated with this Agreement appears in Appendix B-2, "Calculation of Charges," attached hereto and incorporated by reference as though fully set forth herein.

No charges shall be incurred under this Agreement nor shall any payments become due to the Consultant until reports, services, or both, required under this Agreement are received from the Consultant and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Consultant in any instance in which the Consultant has failed or refused to satisfy any material obligation provided for under this Agreement.

*In no event shall the City be liable for interest or late charges for any late payments.*

The Controller is not authorized to pay invoices submitted by the Consultant prior to the Consultant's submission of HRC Form 7, "Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report." If HRC Form 7 is not submitted with the Consultant's invoice, the Controller will notify the department, the Director of HRC and the Consultant of the omission. If the Consultant's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Consultant has ten days to file an affidavit using HRC Form 9, "Sub-Contractor Payment Affidavit," verifying that all subcontractors have been paid and specifying the amount.

**2b. Indemnification** Section 11 of the Agreement is hereby amended in its entirety to read as follows:

**11. Indemnification**

**a. General Indemnity**

To the fullest extent permitted by law, Consultant shall assume the defense of, indemnify and save harmless the City, its boards, commissions, officers, and employees (collectively "Indemnitees"), from any claim, loss, damage, injury (including, without limitation, injury to or death of an employee of the Consultant or its subconsultants) and liabilities of every kind, nature and description (including, without limitation, incidental and consequential damages, court costs, attorney's fees and costs of investigation), that arise directly or indirectly, in whole or in part, from (1) the services under this Agreement, or any part of such services, and (2) any negligent, reckless, or willful act or omission of the Consultant and subconsultant to the Consultant, anyone directly or indirectly employed by them, or anyone that they control (collectively, "Liabilities"), subject to the provisions set forth herein.

**b. Limitations**

(1) No insurance policy covering the Consultant's performance under this Agreement shall operate to limit the Consultant's liability under this provision. Nor shall the amount of insurance coverage operate to limit the extent of such liability.

(2) The Consultant assumes no liability whatsoever for the sole negligence or willful misconduct of any Indemnitee or the Consultants of any Indemnitee.

(3) The Consultant's indemnification obligations of claims involving "Professional Liability" (claims involving acts, errors or omissions in the rendering of professional services) and "Economic Loss Only" (claims involving economic loss which are not connected with bodily injury or physical damage to property) shall be limited to the extent of the Consultant's negligence or other breach of duty.

**c. Copyright Infringement**

Consultant shall also indemnify, defend and hold harmless all Indemnitees from all suits or claims for infringement of the patent rights, copyright, trade secret, trade name, trademark, service mark, or any other proprietary right of any person or persons in consequence of the use by the City, or any of its boards, commissions, officers, or employees of articles or services to be supplied in then performance of Consultant's services under this Agreement.

**2c. Requiring Minimum Compensation for Covered Employees.** Section 49 is hereby replaced in its entirety to read as follows:

**49. Requiring Minimum Compensation for Covered Employees**

a. Consultant agrees to comply fully with and be bound by all of the provisions of the Minimum Compensation Ordinance (MCO), as set forth in San Francisco Administrative Code

Chapter 12P (Chapter 12P), including the remedies provided, and implementing guidelines and rules. The provisions of Chapter 12P are incorporated herein by reference and made a part of this Agreement as though fully set forth. The text of the MCO is available on the web at [www.sfgov.org/olse/mco](http://www.sfgov.org/olse/mco). A partial listing of some of Consultant's obligations under the MCO is set forth in this Section. Consultant is required to comply with all the provisions of the MCO, irrespective of the listing of obligations in this Section.

b. The MCO requires Consultant to pay Consultant's employees a minimum hourly gross compensation wage rate and to provide minimum compensated and uncompensated time off. The minimum wage rate may change from year to year and Consultant is obligated to keep informed of the then-current requirements. Any subcontract entered into by Consultant shall require the subConsultant to comply with the requirements of the MCO and shall contain contractual obligations substantially the same as those set forth in this Section. It is Consultant's obligation to ensure that any subConsultants of any tier under this Agreement comply with the requirements of the MCO. If any subConsultant under this Agreement fails to comply, City may pursue any of the remedies set forth in this Section against Consultant.

c. Consultant shall not take adverse action or otherwise discriminate against an employee or other person for the exercise or attempted exercise of rights under the MCO. Such actions, if taken within 90 days of the exercise or attempted exercise of such rights, will be rebuttably presumed to be retaliation prohibited by the MCO.

d. Consultant shall maintain employee and payroll records as required by the MCO. If Consultant fails to do so, it shall be presumed that the Consultant paid no more than the minimum wage required under State law.

e. The City is authorized to inspect Consultant's job sites and conduct interviews with employees and conduct audits of Consultant

f. Consultant's commitment to provide the Minimum Compensation a material element of the City's consideration for this Agreement. The City in its sole discretion shall determine whether such a breach has occurred. The City and the public will suffer actual damage that will be impractical or extremely difficult to determine if the Consultant fails to comply with these requirements. Consultant agrees that the sums set forth in Section 12P.6.1 of the MCO as liquidated damages are not a penalty, but are reasonable estimates of the loss that the City and the public will incur for Consultant's noncompliance. The procedures governing the assessment of liquidated damages shall be those set forth in Section 12P.6.2 of Chapter 12P.

g. Consultant understands and agrees that if it fails to comply with the requirements of the MCO, the City shall have the right to pursue any rights or remedies available under Chapter 12P (including liquidated damages), under the terms of the contract, and under applicable law. If, within 30 days after receiving written notice of a breach of this Agreement for violating the MCO, Consultant fails to cure such breach or, if such breach cannot reasonably be cured within such period of 30 days, Consultant fails to commence efforts to cure within such period, or thereafter fails diligently to pursue such cure to completion, the City shall have the right to pursue the following rights or remedies and any rights or remedies available under applicable law:

h. Consultant represents and warrants that it is not an entity that was set up, or is being used, for the purpose of evading the intent of the MCO.

i. If Consultant is exempt from the MCO when this Agreement is executed because the cumulative amount of agreements with this department for the fiscal year is less than \$25,000, but Consultant later enters into an agreement or agreements that cause Consultant to exceed that amount in a fiscal year, Consultant shall thereafter be required to comply with the MCO under this Agreement. This obligation arises on the effective date of the agreement that causes the cumulative amount of agreements between the Consultant and this department to exceed \$25,000 in the fiscal year.

2d. **First Source Hiring Program.** Section 51 is hereby replaced in its entirety to read as follows.

**51. First Source Hiring Program**

**a. Incorporation of Administrative Code Provisions by Reference**

The provisions of Chapter 83 of the San Francisco Administrative Code are incorporated in this Section by reference and made a part of this Agreement as though fully set forth herein. Consultant shall comply fully with, and be bound by, all of the provisions that apply to this Agreement under such Chapter, including but not limited to the remedies provided therein. Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Chapter 83.

**b. First Source Hiring Agreement**

As an essential term of, and consideration for, any contract or property contract with the City, not exempted by the FSHA, the Consultant shall enter into a first source hiring agreement ("agreement") with the City, on or before the effective date of the contract or property contract. Consultants shall also enter into an agreement with the City for any other work that it performs in the City. Such agreement shall:

(1) Set appropriate hiring and retention goals for entry level positions. The employer shall agree to achieve these hiring and retention goals, or, if unable to achieve these goals, to establish good faith efforts as to its attempts to do so, as set forth in the agreement. The agreement shall take into consideration the employer's participation in existing job training, referral and/or brokerage programs. Within the discretion of the FSHA, subject to appropriate modifications, participation in such programs maybe certified as meeting the requirements of this Chapter. Failure either to achieve the specified goal, or to establish good faith efforts will constitute noncompliance and will subject the employer to the provisions of Section 83.10 of this Chapter.

(2) Set first source interviewing, recruitment and hiring requirements, which will provide the San Francisco Workforce Development System with the first opportunity to provide qualified economically disadvantaged individuals for consideration for employment for entry level positions. Employers shall consider all applications of qualified economically disadvantaged individuals referred by the System for employment; provided however, if the employer utilizes nondiscriminatory screening criteria, the employer shall have the sole discretion to interview and/or hire individuals referred or certified by the San Francisco Workforce Development System as being qualified economically disadvantaged individuals. The duration of the first source interviewing requirement shall be determined by the FSHA and shall be set forth in each agreement, but shall not exceed 10 days. During that period, the employer may publicize the entry level positions in accordance with the agreement. A need for urgent or temporary hires must be evaluated, and appropriate provisions for such a situation must be made in the agreement.

(3) Set appropriate requirements for providing notification of available entry level positions to the San Francisco Workforce Development System so that the System may train and refer an adequate pool of qualified economically disadvantaged individuals to participating employers. Notification should include such information as employment needs by occupational title, skills, and/or experience required, the hours required, wage scale and duration of employment, identification of entry level and training positions, identification of English language proficiency requirements, or absence thereof, and the projected schedule and procedures for hiring for each occupation. Employers should provide both long-term job need projections and notice before initiating the interviewing and hiring process. These notification requirements will take into consideration any need to protect the employer's proprietary information.

(4) Set appropriate record keeping and monitoring requirements. The First Source Hiring Administration shall develop easy-to-use forms and record keeping requirements for documenting compliance with the agreement. To the greatest extent possible, these requirements shall utilize the employer's existing record keeping systems, be nonduplicative, and facilitate a coordinated flow of information and referrals.

(5) Establish guidelines for employer good faith efforts to comply with the first source hiring requirements of this Chapter. The FSHA will work with City departments to develop employer good faith effort requirements appropriate to the types of contracts and property contracts handled by each department. Employers shall appoint a liaison for dealing with the development and implementation of the employer's agreement. In the event that the FSHA finds that the employer under a City contract or property contract has taken actions primarily for the purpose of circumventing the requirements of this Chapter, that employer shall be subject to the sanctions set forth in Section 83.10 of this Chapter.

(6) Set the term of the requirements.

(7) Set appropriate enforcement and sanctioning standards consistent with this Chapter

(8) Set forth the City's obligations to develop training programs, job applicant referrals, technical assistance, and information systems that assist the employer in complying with this Chapter.

(9) Require the developer to include notice of the requirements of this Chapter in leases, subleases, and other occupancy contracts.

**c. Hiring Decisions**

Consultant shall make the final determination of whether an Economically Disadvantaged Individual referred by the System is "qualified" for the position.

**d. Exceptions**

Upon application by Employer, the First Source Hiring Administration may grant an exception to any or all of the requirements of Chapter 83 in any situation where it concludes that compliance with this Chapter would cause economic hardship.

**e. Liquidated Damages**

Consultant agrees:

- (1) To be liable to the City for liquidated damages as provided in this section;
- (2) To be subject to the procedures governing enforcement of breaches of contracts based on violations of contract provisions required by this Chapter as set forth in this section;
- (3) That the Consultant's commitment to comply with this Chapter is a material element of the City's consideration for this contract; that the failure of the Consultant to comply with the contract provisions required by this Chapter will cause harm to the City and the public which is significant and substantial but extremely difficult to quantify; that the harm to the City includes not only the financial cost of funding public assistance programs but also the insidious but impossible to quantify harm that this community and its families suffer as a result of unemployment; and that the assessment of liquidated damages of up to \$5,000 for every notice of a new hire for an entry level position improperly withheld by the Consultant from the first source hiring process, as determined by the FSHA during its first investigation of a Consultant, does not exceed a fair estimate of the financial and other damages that the City suffers as a result of the Consultant's failure to comply with its first source referral contractual obligations.
- (4) That the continued failure by a Consultant to comply with its first source referral contractual obligations will cause further significant and substantial harm to the City and the public, and that a second assessment of liquidated damages of up to \$10,000 for each entry level position improperly withheld from the FSHA, from the time of the conclusion of the first investigation forward, does not exceed the financial and other damages that the City suffers as a result of the Consultant's continued failure to comply with its first source referral contractual obligations;

(5) That in addition to the cost of investigating alleged violations under this Section, the computation of liquidated damages for purposes of this section is based on the following data:

A. The average length of stay on public assistance in San Francisco's County Adult Assistance Program is approximately 41 months at an average monthly grant of \$348 per month, totaling approximately \$14,379; and

B. In 2004, the retention rate of adults placed in employment programs funded under the Workforce Investment Act for at least the first six months of employment was 84.4%. Since qualified individuals under the First Source program face far fewer barriers to employment than their counterparts in programs funded by the Workforce Investment Act, it is reasonable to conclude that the average length of employment for an individual whom the First Source Program refers to an employer and who is hired in an entry level position is at least one year;

therefore, liquidated damages that total \$5,000 for first violations and \$10,000 for subsequent violations as determined by FSHA constitute a fair, reasonable, and conservative attempt to quantify the harm caused to the City by the failure of a Consultant to comply with its first source referral contractual obligations.

(6) That the failure of Consultants to comply with this Chapter, except property Consultants, may be subject to the debarment and monetary penalties set forth in Sections 6.80 et seq. of the San Francisco Administrative Code, as well as any other remedies available under the contract or at law; and

(7) That in the event the City is the prevailing party in a civil action to recover liquidated damages for breach of a contract provision required by this Chapter, the Consultant will be liable for the City's costs and reasonable attorneys fees.

Violation of the requirements of Chapter 83 is subject to an assessment of liquidated damages in the amount of \$5,000 for every new hire for an Entry Level Position improperly withheld from the first source hiring process. The assessment of liquidated damages and the evaluation of any defenses or mitigating factors shall be made by the FSHA.

**f. Subcontracts**

Any subcontract entered into by Consultant shall require the subConsultant to comply with the requirements of Chapter 83 and shall contain contractual obligations substantially the same as those set forth in this Section.

**2e. Limitations on Contributions.** Section 56 is hereby replaced in its entirety as follows:

**56. Limitations on Contributions**

Through execution of this Agreement, Consultant acknowledges that it is familiar with section 1.126 of the City's Campaign and Governmental Conduct Code, which prohibits any person who contracts with the City for the rendition of personal services, for the furnishing of any material, supplies or equipment, for the sale or lease of any land or building, or for a grant, loan or loan guarantee, from making any campaign contribution to (1) an individual holding a City elective office if the contract must be approved by the individual, a board on which that individual serves, or a board on which an appointee of that individual serves, (2) a candidate for the office held by such individual, or (3) a committee controlled by such individual, at any time from the commencement of negotiations for the contract until the later of either the termination of negotiations for such contract or six months after the date the contract is approved. Consultant acknowledges that the foregoing restriction applies only if the contract or a combination or series of contracts approved by the same individual or board in a fiscal year have a total anticipated or actual value of \$50,000 or more. Consultant further acknowledges that the prohibition on contributions applies to each prospective party to the contract; each member of Consultant's board of directors; Consultant's chairperson, chief executive officer, chief financial officer and chief operating officer; any person with an ownership interest of more than 20 percent in Consultant; any subConsultant listed in the bid or contract; and any committee that is sponsored or controlled by Consultant. Additionally, Consultant acknowledges that Consultant must inform each of the persons described in the preceding sentence of the prohibitions contained in Section 1.126.

**2f. Protection of Private Information.** Section 58 is hereby replaced in its entirety as follows

**58. Protection of Private Information**

Consultant has read and agrees to the terms set forth in San Francisco Administrative Code Sections 12M.2, "Nondisclosure of Private Information," and 12M.3, "Enforcement" of Administrative Code Chapter 12M, "Protection of Private Information," which are incorporated herein as if fully set forth. Consultant agrees that any failure of Contactor to comply with the requirements of Section 12M.2 of this Chapter shall be a material breach of the Contract. In such an event, in addition to any other remedies available to it under equity or law, the City may terminate the Contract, bring a false claim action against the Consultant pursuant to Chapter 6 or Chapter 21 of the Administrative Code, or debar the Consultant.

**2g. Food Service Waste Reduction Requirements.** Section 59 is hereby added, to read as follows:

**59. Food Service Waste Reduction Requirements**

Effective June 1, 2007, Consultant agrees to comply fully with and be bound by all of the provisions of the Food Service Waste Reduction Ordinance, as set forth in San Francisco Environment Code Chapter 16, including the remedies provided, and implementing guidelines and rules. The provisions of Chapter 16 are incorporated herein by reference and made a part of this Agreement as though fully set forth. This provision is a material term of this Agreement. By entering into this Agreement, Consultant agrees that if it breaches this provision, City will suffer actual damages that will be impractical or extremely difficult to determine; further, Consultant agrees that the sum of one hundred dollars (\$100) liquidated damages for the first breach, two hundred dollars (\$200) liquidated damages for the second breach in the same year, and five hundred dollars (\$500) liquidated damages for subsequent breaches in the same year is reasonable estimate of the damage that City will incur based on the violation, established in light of the circumstances existing at the time this Agreement was made. Such amount shall not be considered a penalty, but rather agreed monetary damages sustained by City because of Consultant's failure to comply with this provision.

**2h. Health Care Accountability Ordinance.** Section 60 is hereby added to the Agreement, as follows:

**60. Health Care Accountability Ordinance**

Consultant agrees to comply fully with and be bound by all of the provisions of the Health Care Accountability Ordinance (HCAO), as set forth in San Francisco Administrative Code Chapter 12Q, including the remedies provided, and implementing regulations, as the same may be amended from time to time. The provisions of Chapter 12Q are incorporated by reference and made a part of this Agreement as though fully set forth herein. The text of the HCAO is available on the web at [www.sfgov.org/olse](http://www.sfgov.org/olse). Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Chapter 12Q.

a. For each Covered Employee, Consultant shall provide the appropriate health benefit set forth in Section 12Q.3 of the HCAO. If Consultant chooses to offer the health plan option, such health plan shall meet the minimum standards set forth by the San Francisco Health Commission.

b. Notwithstanding the above, if the Consultant is a small business as defined in Section 12Q.3(e) of the HCAO, it shall have no obligation to comply with part (a) above.

c. Consultant's failure to comply with the HCAO shall constitute a material breach of this agreement. City shall notify Consultant if such a breach has occurred. If, within 30 days after receiving City's written notice of a breach of this Agreement for violating the HCAO, Consultant fails to cure such breach or, if such breach cannot reasonably be cured within such period of 30 days, Consultant fails to commence efforts to cure within such period, or thereafter fails diligently to pursue such cure to completion, City shall have the right to pursue the remedies set forth in 12Q.5.1 and 12Q.5(f)(1-6). Each of these remedies shall be exercisable individually or in combination with any other rights or remedies available to City.

d. Any Subcontract entered into by Consultant shall require the SubConsultant to comply with the requirements of the HCAO and shall contain contractual obligations substantially the same

as those set forth in this Section. Consultant shall notify City's Office of Contract Administration when it enters into such a Subcontract and shall certify to the Office of Contract Administration that it has notified the SubConsultant of the obligations under the HCAO and has imposed the requirements of the HCAO on SubConsultant through the Subcontract. Each Consultant shall be responsible for its SubConsultants' compliance with this Chapter. If a SubConsultant fails to comply, the City may pursue the remedies set forth in this Section against Consultant based on the SubConsultant's failure to comply, provided that City has first provided Consultant with notice and an opportunity to obtain a cure of the violation.

e. Consultant shall not discharge, reduce in compensation, or otherwise discriminate against any employee for notifying City with regard to Consultant's noncompliance or anticipated noncompliance with the requirements of the HCAO, for opposing any practice proscribed by the HCAO, for participating in proceedings related to the HCAO, or for seeking to assert or enforce any rights under the HCAO by any lawful means.

f. Consultant represents and warrants that it is not an entity that was set up, or is being used, for the purpose of evading the intent of the HCAO.

g. Consultant shall maintain employee and payroll records in compliance with the California Labor Code and Industrial Welfare Commission orders, including the number of hours each employee has worked on the City Contract.

h. Consultant shall keep itself informed of the current requirements of the HCAO

i. Consultant shall provide reports to the City in accordance with any reporting standards promulgated by the City under the HCAO, including reports on SubConsultants and Subtenants, as applicable.

j. Consultant shall provide City with access to records pertaining to compliance with HCAO after receiving a written request from City to do so and being provided at least ten business days to respond.

k. Consultant shall allow City to inspect Consultant's job sites and have access to Consultant's employees in order to monitor and determine compliance with HCAO.

l. City may conduct random audits of Consultant to ascertain its compliance with HCAO. Consultant agrees to cooperate with City when it conducts such audits.

m. If Consultant is exempt from the HCAO when this Agreement is executed because its amount is less than \$25,000 (\$50,000 for nonprofits), but Consultant later enters into an agreement or agreements that cause Consultant's aggregate amount of all agreements with City to reach \$75,000, all the agreements shall be thereafter subject to the HCAO. This obligation arises on the effective date of the agreement that causes the cumulative amount of agreements between Consultant and the City to be equal to or greater than \$75,000 in the fiscal year.

2i. **Graffiti Removal.** Section 61 is hereby added to the Agreement, as follows:

#### 61. Graffiti Removal

Graffiti is detrimental to the health, safety and welfare of the community in that it promotes a perception in the community that the laws protecting public and private property can be disregarded with impunity. This perception fosters a sense of disrespect of the law that results in an increase in crime; degrades the community and leads to urban blight; is detrimental to property values, business opportunities and the enjoyment of life; is inconsistent with the City's property maintenance goals and aesthetic standards; and results in additional graffiti and in other properties becoming the target of graffiti unless it is quickly removed from public and private property. Graffiti results in visual pollution and is a public nuisance. Graffiti must be abated as quickly as possible to avoid detrimental impacts on the City and County and its residents, and to prevent the further spread of graffiti.

Consultant shall remove all graffiti from any real property owned or leased by Consultant in the City and County of San Francisco within forty eight (48) hours of the earlier of Consultant's (a) discovery or notification of the graffiti or (b) receipt of notification of the graffiti from the Department of Public Works. This section is not intended to require a Consultant to breach any lease or other agreement that it may have concerning its use of the real property. The term "graffiti" means any inscription, word, figure, marking or design that is affixed, marked, etched, scratched, drawn or painted on any building, structure, fixture or other improvement, whether permanent or temporary, including by way of example only and without limitation, signs, banners, billboards and fencing surrounding construction sites, whether public or private, without the consent of the owner of the property or the owner's authorized agent, and which is visible from the public right-of-way. "Graffiti" shall not include: (1) any sign or banner that is authorized by, and in compliance with, the applicable requirements of the San Francisco Public Works Code, the San Francisco Planning Code or the San Francisco Building Code; or (2) any mural or other painting or marking on the property that is protected as a work of fine art under the California Art Preservation Act (California Civil Code Sections 987 et seq.) or as a work of visual art under the Federal Visual Artists Rights Act of 1990 (17 U.S.C. §§ 101 et seq.).

Any failure of Consultant to comply with this section of this Agreement shall constitute an Event of Default of this Agreement.

2j. Appendix A-2 is hereby incorporated into the contract.

2k. Appendix B-2 is hereby incorporated into the contract.

3. **Effective Date.** Each of the modifications set forth in Section 2 shall be effective on and after the date of this Amendment.

4. **Legal Effect.** Except as expressly modified by this Amendment, all of the terms and conditions of the Agreement shall remain unchanged and in full force and effect.

IN WITNESS WHEREOF, Consultant and City have executed this Amendment as of the date first referenced above.

**CITY**

Recommended by

**General Manager**  
**SFPUC**

Approved as to Form:

Dennis J. Herrera  
City Attorney

By:

Deputy City Attorney

Approved:

Naomi Kelly  
Director of the Office of Contract Administration,  
and Purchaser

**CONSULTANT**

URS Corporation

Printed Name:

Title:

221 Main Street, Ste. 600  
San Francisco, CA 94105-1917

City vendor number

## SCOPE OF WORK

### Appendix A-2

#### **TASK GROUP A – Project Management**

##### ***Task A13 – Contractor Outreach Support Services***

**Budget = \$30,000**

##### ***Objectives***

Provide support services to SFPUC who will be conducting a contractor outreach event for this project.

##### ***Approach***

- Provide support services to SFPUC for the upcoming contractor outreach event. Services may include planning and arrangements of meeting facilities and other logistics needs.
- Assist with preparation of presentation and handout materials.
- Attend the contractor outreach event and assist SFPUC with responding to questions as required.

##### ***Deliverables*<sup>1</sup>**

- Presentation and handout materials for the contractor outreach event.

#### **TASK GROUP D – DESIGN PACKAGE**

##### ***Task 4.1 – Review and Assist Preparation of Division 0 and 1 Project Specifications***

**Budget = \$20,000**

##### ***Objectives***

Assist SFPUC in the preparation of new sections in Division 0 and Division 1 project specifications.

<sup>1</sup> General notes on Deliverables for all tasks:

- Consultant will submit one draft and one final version of each deliverable unless specifically stated otherwise.
- For deliverables that require review and comment from regulatory agencies, consultant will submit an interim electronic draft version of each deliverable for SFPUC internal review and comment prior to submittal of a revised hard copy draft version (with SFPUC comments incorporated) to the regulatory agencies.
- Consultant will provide 20 hard copies and one electronic copy on a CD for each draft and final deliverable unless specifically stated otherwise.
- SFPUC will consolidate and provide Consultant with all review comments of draft submittals in a summary table format.
- Consultant will provide responses to review comments in the summary table from SFPUC.

### ***Approach***

- Review SFPUC's General Conditions new sections for construction and make recommendations for special provisions to the General Conditions.
- Conduct a workshop to determine SFPUC and URS responsibilities as lead for each Division 1 specification.

### ***Assumptions***

- SFPUC will provide new sections in Division 0 and 1 prior to preparation of 100% design package.

### ***Deliverables***

- Revised and updated Division 0 and 1.

### ***Task D5.1 – 95% Design Package – Coordination of Outlet Works Design***

**Budget = \$50,000**

### ***Objectives***

Coordinate and integrate the drawings and specifications for the outlet works that are prepared by the SFPUC Engineering Management Bureau (EMB) and URS.

### ***Approach***

- As part of the coordination of the final design package, provide interim, partial review of drawings and specifications of the outlet works, including technical memoranda and calculations, as they are being prepared by SFPUC EMB.
- Provide review comments to EMB and attend special subject meetings as required.
- Provide copies of related drawings and specifications to EMB to minimize any duplication effort.

### ***Assumptions***

- SFPUC will carry out its own detailed check and QA of design work being completed by EMB, including third party independent review as needed.

### ***Deliverables***

- Copies of draft drawings and specifications prepared by SFPUC containing review comments from URS.

### ***Task D6.1 – Evaluate/Incorporate Permit Requirements***

**Budget = \$60,000**

### ***Objectives***

Incorporate requirements of all permitting agencies such as U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Fish and Game, Alameda County, Santa Clara County, and other permitting/regulatory agencies into the Detailed Design Documents.

### **Approach**

- Permitting requirements from all permitting/regulatory agencies will be incorporated into the 100% drawings and technical specifications as they are identified.
- Provisions for any required air and water quality monitoring requirements during construction will be included in the General Requirement Specifications.

### **Assumptions**

- It is assumed that many of the permitting requirements have already been incorporated at the 95% level of design.

### **Deliverables**

- No separate deliverable; permitting requirements will be incorporated at the 100% levels of design.

### **Task D11 – Construction QA/QC Manual**

**Budget = \$20,000**

### **Objectives**

Prepare a Construction QA/QC Manual for the project for use by the SFPUC, CM Consultant and URS

### **Approach**

- Prepare a Construction QA/QC Manual for the project for use by the SFPUC (PMB, EMB, CMB and BEM), CM Consultant and URS.
- The Construction QA/QC Manual will follow the format prescribed for FERC dam safety projects.
- The roles and responsibilities of QA/QC for the different entities will be defined. Communications, reporting and record keeping will also be defined.
- Frequency of QC tests and QA tests will be defined. Protocols of interaction with DSOD will also be established.
- A draft of the Manual will be distributed and reviewed by all related entities before it is finalized.

### **Deliverables**

- A Construction QA/QC Manual will be prepared.

### **Task D12 – Watershed Facilities Design Services (Optional)**

**Budget = \$50,000**

### **Objectives**

Perform as-needed design services for facilities located in the watershed that may be affected by the construction.

### ***Approach***

- This is an optional task. At the request of SFPUC Project Manager, perform as-needed design services for facilities located in the watershed that may be affected by the construction.

### ***Assumptions***

- This is an optional task. The assigned budget is an allowance. Actual budget(s) will be prepared and submitted to SFPUC Project Manager for review and approval prior to the start of each as-needed design request.

### ***Deliverables***

- Deliverables as proposed and approved for each as-needed design request.

## **Task Group E.A – Environmental and Permitting Support Services (SFPUC Lead)**

### ***Task E.a.1 – G/S Support for ETJV***

**Budget = \$15,000**

### ***Objectives***

Provide GIS support services to ETJV, the project environmental consultant.

### ***Approach***

- As authorized by SFPUC, provide GIS support services to ETJV, the project environmental consultant.
- Provide updated shape files (electronic) for project features to ETJV.
- Prepare GIS graphics for meetings and presentations as needed.

### ***Deliverables***

- Requested information on an as-needed basis.

### ***Task E.a.2 – Provide Visual Simulation of Borrow Area B/Dam from EBRPD Sunol Regional Wilderness***

**Budget = \$10,000**

### ***Objectives***

Prepare a visual simulation of Borrow Area B and the Replacement Dam from two locations in the Sunol Regional Wilderness.

### ***Approach***

- Identify two vantage points for analysis.
- Gather existing aerial photo data to fill in gaps beyond the project area.
- Overlay aerial photo data on digital elevation model (DEM) for the view shed

- Prepare three-dimensional view of the dam site and Borrow Area B from two vantage points in the Sunol Regional Wilderness.

#### ***Assumptions***

- Evaluate views from two locations.
- Utilize existing aerial photo data from the project or other sources.
- One draft and one final version of visual simulations.

#### ***Deliverables***

- Two visual simulations in JPG format transmitted via electronic mail or FTP

#### ***Task E.a.3 – Preconstruction Raptor Surveys and Bald Eagle Monitoring***

**Budget = \$80,000**

#### ***Objectives***

Conduct pre-construction surveys for nesting raptors, swallows and burrowing owls in preparation for the Calaveras Dam Replacement Project.

#### ***Approach***

This task includes the following four tasks:

- Surveys for tree-nesting raptors and swallows
- Presence/absence surveys for burrowing owls
- Monitoring bald eagle nests
- Preparation of a technical memorandum

Subtask 1 – Surveys for Tree-Nesting Raptors and Swallows

- Conduct a field survey to determine the locations of nesting raptors within the line-of-sight from the western edge of the Calaveras Reservoir. Surveys for tree-nesting raptors will be conducted in March or April of 2008. Records from the California Department of Fish and Game's (CDFG) California Natural Diversity Data Base (CNDDB) for nesting raptors in the general vicinity of the study area will be reviewed prior to conducting the field surveys.
- Conduct the survey for tree-nesting raptors on foot to identify any trees that appear to support active or inactive raptor nests from the western edge of the reservoir. The study area extends for approximately 2 miles along the edge of the reservoir. Two URS biologists will walk the entire length of the western side of the reservoir in transects covering all trees within the line-of-sight from the western edge of the reservoir.
- Scan using binoculars all habitats that are suitable for nesting raptors within the line-of-sight. The biologists will note any raptor species in the vicinity of each nest. If a raptor species is observed flying out of a specific nest, it will be assumed that the nest was occupied by that species. URS biologists will note the location of all active and inactive raptor nests within the line-of-sight from the western edge of the reservoir.
- URS biologists will also evaluate raptor activity in the general vicinity of the study area by conducting observations from key vantage points. At dusk, URS biologists will use a spotting scope to observe raptor activity in the area from these vantage points.
- Identify swallow colonies nesting within 100 feet of construction areas. URS biologists will evaluate rock outcrops, buildings, and other potential nest sites for swallows.

Subtask 2 – Presence/Absence Surveys for Burrowing Owls

- Conduct presence/absence surveys for burrowing owls (BUOW) at the Borrow Area E (approximately 64 acres). Surveys for BUOWs will be conducted in April or May of 2008. CNDDB records for this species in the general vicinity of the study area will be reviewed prior to conducting the field surveys.
- These BUOW surveys will not be protocol level surveys, but rather presence/absence surveys. The surveys will be conducted according to the methods described in the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium 1993). The *Staff Report on Burrowing Owl Mitigation* (CDFG 1995) will also be reviewed prior to conducting the field surveys.
- The BUOW surveys will be conducted on foot within the Borrow Area E by walking transects approximately 100 feet apart. In addition, the study area will be scanned using binoculars to identify any bird species located at a distance. The study area for the BUOW surveys corresponds to Borrow Area E only. URS biologists will note any active BUOW burrows and any burrows or burrow complexes that have the potential to support BUOW (i.e., any burrows with an opening approximately 4 inches in diameter). Areas with potential burrows or burrow complexes will also be mapped.

Subtask 3 – Monitoring Bald Eagle Nests

- Monitor the three natural BAEAs and the three artificial BAEAs in the reservoir. This monitoring effort will take place a month from January through August. In California, the BAEA nesting season starts in April.

- The results of the surveys for the tree-nesting raptors, swallows, and BUOWs, and the monitoring efforts will be summarized and presented in a biological resources technical memorandum. The technical memorandum will include the survey results, a map of showing all active and inactive raptor nests, active burrowing owl burrows, and burrows or burrow complexes that have the potential to support BUOWs, and a tabular depiction of their location and species.

#### ***Assumptions***

- The surveys for tree-nesting raptors along the western edge of the reservoir will be conducted by two biologists over the course of seven 10-hour days.
- The surveys for nesting swallows will be conducted concurrently with the surveys for tree-nesting raptors.
- The surveys for BUOWs in Borrow Area E will be conducted by two biologists over the course of five 10-hour days.
- A maximum of two active BAEAs nests and three artificial nests will be monitored monthly.
- The monitoring effort for BAEAs nests will take place once a month for approximately 3-4 hours around dusk or dawn, plus driving time. Bald eagle nests will be monitored for eight months starting in January 2008.

#### ***Deliverables***

- A technical memorandum summarizing the results of the surveys for the tree-nesting raptors, swallows, and BUOWs, and the monitoring efforts will be prepared.

#### ***Task E.a.4 – Fisheries Biological Assessment***

**Budget = \$67,000**

#### ***Objectives***

Prepare a Biological Assessment for the National Marine Fisheries Service (NMFS) based on existing information that is available to SFPUC. The BA will specifically address effects of the proposed project on steelhead (*Oncorhynchus mykiss*) in Alameda and Calaveras creeks. Identify data gaps for consideration by SFPUC.

#### ***Approach***

- Identify the required components of the BA. Components of the Preliminary Draft BA include: 1) project purpose, 2) project description, 3) action area, 4) consultation history, 5) status of listed species and listed species accounts, including downstream effects and projects designed to allow anadromous fish passage, 6) effects of the proposed action and 7) conclusions and determinations.
- Prepare a preliminary draft BA based on existing information that is available to the project team. The effects evaluation will consider flow regime and water temperature effects on anadromous salmonids in Alameda and Calaveras creeks. The preliminary draft BA would be submitted to SFPUC for review.

- Identify data gaps and suggest strategies for filling these gaps.
- Prepare a draft BA based on comments from SFPUC.

#### ***Assumptions***

- Evaluation will be based on existing information.
- Filling gaps in existing data would require a separate scope and cost estimate.
- One preliminary draft and one draft BA.
- One meeting with NMFS to identify required components of the BA.

#### ***Deliverables***

- Preliminary draft BA; draft BA based on comments from SFPUC. Documents would be submitted as electronic files plus four (4) hard copies.

### ***Task E.a.5 – Support Review and Respond to Public Comments on DEIR***

**Budget = \$40,000**

#### ***Objectives***

Support SFPUC review of the DEIR and responses to public comments.

#### ***Approach***

- Review DEIR sections as requested by SFPUC.
- Prepare comments for consideration by SFPUC.
- Review public comments on the DEIR as requested by SFPUC.

#### ***Assumptions***

- URS will provide environmental and other technical support services as requested and authorized by the SFPUC.
- The proposed budget is an estimated allowance.

#### ***Deliverables***

- Requested information on an as-needed basis.

### ***Task E.a.6 – Support SFPUC and Respond to Agency and ETJV Information Requests***

**Budget = \$46,000**

#### ***Objectives***

Support SFPUC responses to Agency and ETJV information requests. This task would include preparation of a technical memorandum that evaluates options for post-construction restoration of selected project components.

### ***Approach***

- Provide environmental information and/or data.
- Prepare technical memoranda.
- Evaluate environmental effects of proposed project design.
- Evaluate options for post-construction restoration of project components.

### ***Assumptions***

- URS will provide environmental and other technical support services as requested and authorized by the SFPUC.
- Post-construction restoration options would be evaluated for DS 3, DS 5, DS 7, Borrow Area B, access/haul roads, and the area downstream of Calaveras Dam.
- The proposed budget is an estimated allowance.

### ***Deliverables***

- Requested information on an as-needed basis. Includes technical memorandum that evaluates options for post construction restoration of project disturbance areas.

## ***Task E.a.8 – Support Review of Permit Conditions and Permit Applications***

**Budget = \$25,000**

### ***Objectives***

Review draft permit applications and draft permit conditions to evaluate feasibility and consistency with the proposed design and project schedule.

### ***Approach***

- Review draft permit applications at request of SFPUC.
- Review draft permit conditions at request of SFPUC.
- Evaluate feasibility of permit conditions relative to project design, cost and schedule.

### ***Assumptions***

- URS will provide environmental and other technical support services as requested and authorized by the SFPUC.

### ***Deliverables***

- Requested information on an as-needed basis

**Task E.a.9 – Evaluate Mitigation Feasibility and Schedule Constraints**

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The BAAQMD and Cal/OSHA were also contacted and their requirements have been reviewed and discussed at a preliminary level. The following activities will be performed as part of Phase II (Scoping) and Phase III (Implementation) of the NOA Compliance Plan.

## PHASE I – PLANNING

### ***Task E.b.1 – NOA Compliance Plan – Phase I (Additional)***

**Budget = \$140,000 (net)**

Due to the complexity of the project, some additional Phase I work was carried out, as described below, while some of the original scope (Phase I SAP) was deleted. They are described herein to document additional work requested and/or deemed necessary for the CDRP.

#### ***Subtask 1 – Additional Air Dispersion Modeling***

- Evaluate the sensitivity of the air dispersion model results to different input parameters and receptor scenarios. Perform three additional sets of risk threshold calculations based the outcome of the modeling exercise using the most reliable input parameters.
- Use the model to develop high-resolution PM10 isopleths across an area that encompasses all receptors. Perform separate risk threshold calculations for six groups of receptors (e.g., recreational users of surrounding property) according to specific exposure scenarios. This allows estimation of an area of influence for impacts of PM10 and subsequent calculation of risk to a variety of receptors newly identified by SFPUC and potential additional receptors identified in the future. Based on this risk threshold calculation, develop a critical area of influence of the potential generation of asbestos dust from the Proposed Project Site.
- Two additional modeling runs and calculation of risk thresholds will be performed. (Note: One run was included in the original scope.)
- A Technical Memorandum describing the final model input and output values. Conclusions and comparisons of threshold concentrations and associated potential third-party exposure issues will be included for selection of the most appropriate modeling input data and assumptions. (Note: Risk analysis and modeling protocol are not required for permit applications. As such, preparation and submittal of modeling protocol to agencies and response to agency review comments on modeling protocol are not included in this task.)

#### ***Subtask 2 – Additional CEQA Compliance Support***

- Continue to provide support to SFPUC and ETJV Consultants for NOA and metals issues for water supply.
- Per request from SFPUC, provide more extensive description of the issues related to NOA for water quality, hazards, disposal, and air quality in support of the CEQA review.
- In addition, suggest augmentation on impact evaluation and reconciliation of impact mitigations.
- Provide CEQA documents for inclusion through track changes of appropriate comments and suggestions.
- Provide revised sections of the PDEIR to include the description of the elements of the requirements for air and water quality protection, as well as worker protection for potential NOA-related activities.

*Subtask 3 – Prepare Concrete/Asphalt Recycle/Reuse Options Technical Memoranda in Support of CEQA Analysis*

- Review dam demolition operations to identify activities that generate concrete/asphalt requiring disposal.
- Develop options for recycle or reuse of concrete and asphalt derived from demolition of existing Calaveras Dam and appurtenances.
- Evaluate concrete/asphalt crushing and processing methods to prepare material for recycling or reuse.
- Prepare a technical Memorandum with estimate of concrete/asphalt volume currently planned for disposal and options for reuse or recycling, including costs for recycling options.
- Examine historical water quality at Calaveras Reservoir and water quality objectives. Assessments will be based on information provided by the SFPUC Operations at SVWTP and the Water Quality Bureau.
- Examine potential water quality degradation from construction activities.
- Identify construction BMPs and treatment.
- Examine needs and extent for a Surface Water Monitoring Program (SWMP) for the operation of the reservoir, both during and after construction, for (1) monitoring; and (2) treatment system operations and maintenance (O&M) improvements.
- Examine the Sunol Valley Water Treatment Plant (SVWTP) facility and operations versus the potential treatment needs.
- Examine and develop program to address water quality related issues during and after construction of the CDRP.
- Prepare a technical Memorandum summarizing the assessment and proposed program to address water quality related issues during and after construction of the CDRP.

**PHASE II – SCOPING**

The overall objectives for Phase II Scoping are, as follows:

- Present NOA issues to negotiate requirements with the remaining regulatory approvals identified in the Phase I activities. (i.e., BAAQMD and Cal/OSHA, and RWQCB)
- Complete development of the design parameters required to meet the NOA related regulatory requirements, including those approved by the BAAQMD, Cal/OSHA, as well as RWQCB.

**Task E.b.2 – Implementation of Sampling & Analysis Plan (SAP)**

**Budget = \$162,000**

***Objective***

Collect and analyze soil and rock samples from the Proposed Project Site, in accordance with the SAP developed during Phase I.

***Approach***

- Sampling and analysis of rocks and soil will be used to characterize NOA and metals concentrations and distribution at the Proposed Project Site. These data will address RWQCB and BAAQMD requirements, and Cal/OSHA health and safety concerns.
- A total of 360 samples will be collected from the existing core boxes stored at the Proposed Project Site, pulverized, split, and finally composited into 130 samples. Samples will be analyzed in the field for metals using x-ray fluorescence (XRF) field analysis, and in the laboratory for asbestos using CARB 435/TEM methodology.
- Preparation of a NOA and Metals Evaluation Report.

***Assumptions***

- One meeting will be held with each RWQCB, BAAQMD and Cal/OSHA to discuss the results obtained from the sampling and analysis program presented in the NOA and Metals Evaluation Report.
- One round of review and comment on agency requests for information or comments.
- If necessary, a second phase of sampling and analysis using the elutriator method developed by Dr. Wayne Berman may need to be completed to provide support for additional air dispersion modeling, if required by BAAQMD or other regulatory agencies or if deemed necessary to meet internal requirements. The cost of this sampling is not included in this scope of work.

***Deliverables***

- One electronic interim draft (for SFPUC internal review), one hard copy draft and one final NOA and Metals Evaluation Report in accordance with the *Guidelines for NOA Evaluations*

**Task E.b.3 – BAAQMD and Cal/OSHA NOA-Related Requirements**

**Budget = \$169,000**

***Objective***

Initiate applications for applicable permits from BAAQMD and Cal/OSHA for construction activities (tunneling, construction, and air quality) for NOA-related requirements at the Proposed Project Site. It is intended that the Holder Status of these permits will be transferred to the Contractors when appropriate.

***Approach***

The following process will be conducted:

- The BAAQMD requires that a permit be filed related to the control of asbestos containing airborne dust. A preliminary application that contains an Asbestos Dust Mitigation Plan (DMP) will be prepared and submitted to BAAQMD.
- The DMP will be based largely on the NOA and Metals Evaluation report (Task E.b.2 above).
- The DMP will include site maps showing routes, areas to be disturbed, stockpile areas, and other site features; a list of types of equipment to be used for various construction activities; descriptions of dust suppression measures for various construction activities; and a description of the proposed air monitoring program.
- The Comprehensive Air Monitoring Program is described in Task E.b.6 below.
- Cal/OSHA requires permits to be filed for both construction and tunneling and will also require specific certifications, licenses and notices be presented or filed prior to the start of work. These permit applications will incorporate findings from the NOA and Metals Evaluation Report (Task E.b.2 above).
- The construction permit requires preparation of site maps showing construction areas, areas to be disturbed that contain NOA, cross sections, control points for limiting access to work areas, and other information.
- A key component of the construction permit is a project Health and Safety Plan. Acceptable and prohibited work practices will be discussed and eventually included in the bid document specifications.
- The intake shaft of the dam, which is expected to be approximately 165 feet by 30 feet wide, along with the five distribution shafts, qualify as tunneling activity under Cal/OSHA guidelines and require that a permit be obtained from the Cal/OSHA Tunneling District Office located in Sacramento.
- The main items covered by permit include location and nature of proposed underground excavations and haulage-ways, types of diesel motors used in any air ventilated spaces, ventilation and gas testing plan, and tunnel specific hazards.
- The ventilation and gas testing plan will need to provide descriptions of blower requirements necessary to effect adequate flow rates and air exchanges per hour, redundant backup equipment, emissions monitoring equipment, gas concentration alarms, and "trip" conditions for and the types of feedback control sensors proposed.

- The plan for monitoring will need to be prepared by the Certified Tunnel Gas Tester.
- Other tunnel specific hazards such as noise and flooding will also need to be addressed.
- Negotiate specific terms and conditions associated with the work practices and site activities that may be imposed or considered by the two agencies.
- Prepare Memorandum of Understanding (MOU), or equivalent, with agencies to capture agreements on work practices and site activities.
- Define requirements of permits such that they may be incorporated into plans and specifications along with references to MOUs between the two agencies and the project as appropriate.
- After agency acceptance, transfer Permit Holder status to selected contractor.

**Assumptions**

- One meeting will be held with BAAQMD and two with Cal/OSHA. The SFPUC Compliance Management Team will prepare for and attend these meetings.
- Agency fees are not included in this cost estimate.

**Deliverables**

- Applicable electronic Interim Draft (for SFPUC internal review), and Draft Permit Applications for discussion and negotiation with the agencies. Draft Final Permit Applications would then be prepared that incorporate SFPUC and agencies comments.

**Task E.b.4 – Water Quality Measures, SWPPP and 401/WDR Permit Support**

**Budget = \$133,000**

**Objective**

Identify and obtain applicable requirements from RWQCB and Counties of Alameda and Santa Clara, as required, for storm water, groundwater, and other water controls to be implemented during construction activities at the Proposed Project Site. It is intended that the Holder Status of these permits will be transferred to the Contractors when appropriate. In addition, URS will prepare a Water Quality Monitoring Plan (WQMP) to address potential issues arising from inundation of the Franciscan materials. This plan will inform the implementation of the SWPPP and onsite construction water treatment plan (OCWTP) to comply with the anticipated performance criteria determined to be feasible for implementation during construction, and will be based, at least in part, on the technical memo on the draft water quality memo provided by URS in December 2007. URS will also prepare the preliminary conceptual design recommendations for the contractor's water treatment BMPs. As part of the above activities, URS will also provide permitting support to SFPUC and ETJV for the Section 401 Water Quality Certification and Waste Discharge Requirements (WDRs) under the RWQCB.

**Approach**

Historical water quality data indicate that disturbance of NOA-containing materials at the Proposed Project Site may result in short-term elevated asbestos concentrations in water that is piped to the SVWTP. In addition, the extraction of groundwater during construction may also contain asbestos and metals, and discharge of extracted groundwater will require permission to discharge. Sources and quantities of groundwater, stormwater and other construction related water and their potential impacts on water quality will be identified and assessed. Mitigation

measures and applicable treatment methods at, or before, SVWTP will be identified. For the SWPPP, the following process will be conducted:

- Evaluate project for activities that will generate water during construction, as well as those activities that will affect surface water quality in Calaveras Reservoir.
- Potentially collect additional samples (e.g., groundwater) required under the General Permit for groundwater extraction (see assumption below).
- Prepare three documents that address water quality during construction activities:
  - Draft and final WQMP based on URS's December 2007 technical memo regarding water quality.
  - Recommended water discharge standards and performance criteria.
  - Draft Storm Water Pollution Prevention Plan (SWPPP) based on new guidelines from the State Water Resources Control Board.

The action levels, trigger levels, and/or performance criteria may be inter-related due to the sources of water and potential discharges of the same at the Proposed Project Site. Recommendations for prevailing criteria will be provided.

- Prepare a draft OCWTP to supplement the implementation of BMPs under the SWPPP, and also prevent excess particulate and asbestos from reaching the Sunol Valley Water Treatment Plant (SVWTP). The OCWTP will include action and/or trigger levels, monitoring requirements, and sampling and analytical protocols, and recommended treatment BMPs in conceptual form. Note: Modifications to the SVWTP shall be considered during analysis, but are currently considered as secondary to onsite water treatment.
- Assess and develop preliminary design of water treatment facilities that may be required in order to meet anticipated water quality standards.
- The intent of the preliminary design is to examine if the anticipated discharge requirements can be practically achieved.
- While the permit requirements will still be included in the specifications and the contractor will be held to meeting such requirements, the preliminary design of the water treatment facilities may be included as non-binding guidelines or suggestions to assist the contractor with its planning and implementation of water treatment facilities.
- Identify modifications to current operations that may be required at SVWTP to address temporary elevated NOA and/or metals concentrations.
- Prepare Draft NOI, Draft SWPPP, and Draft and Final Draft OCWTP for RWQCB review.
- Transfer Holder Status of these permits to the Contractors when appropriate.

#### **Assumptions**

- Groundwater sampling reserve of \$25,000 is included, but may be revised depending on RWQCB requests. URS recommends meeting with the RWQCB prior to conducting any groundwater sampling to understand the number of samples and types of parameters that may be required.
- ETJV will take the lead in the obtaining of the 401 Water Quality Certification and WDRs from the RWQCB, and URS will provide support to ETJV and SFPUC.
- Information regarding water quality and water treatment methods at SVWTP will be made available to URS.

- One meeting will be held with RWQCB. The SFPUC Compliance Management Team will prepare for and attend these meetings with URS.
- Final NOI and SWPPP will be obtained by the Contractor selected by SFPUC.

***Deliverables***

- Interim draft (for internal SFPUC review), hard copy draft and final WQMP
- Interim draft (for internal SFPUC review), hard copy Draft and "Draft Final" NOI and SWPPP
- Technical Memorandum regarding water quality standards and performance criteria applicable to the CDRP
- Interim draft (for internal SFPUC review), hard copy draft and "draft final" OCWTP
- A technical memorandum summarizing the preliminary design of the water treatment facilities will be prepared. The TM will serve as the basis for input to the contract specifications.

**Task E.b.5 – Excavated Materials Management Plan (EMMP)**

**Budget = \$30,000**

***Objective***

Prepare an Excavated Materials Management Plan (EMMP) that will be approved by the RWQCB and will be used to guide the contractor as to management of potential NOA containing materials generated during construction and requiring onsite disposal.

***Approach***

- Evaluate project for activities that will generate excess soil and rock during construction which require onsite disposal.
- Provide requirements for segregation, soil stockpile management, placement of materials in stockpiles and disposal areas, and decontamination procedures.
- The approved EMMP will be incorporated by reference into the plans and specifications.

***Assumptions***

- One meeting or conference call will be held with RWQCB.
- One round of comment responses will be prepared.

***Deliverables***

- Interim draft (for internal SFPUC review), hard copy Draft and Final Excavated Materials Management Plan (EMMP)

**Task E.b.6 – Preparation of Comprehensive Air Monitoring Program (CAMP)**

**Budget = \$85,000**

***Objective***

Prepare a Comprehensive Air Monitoring Program (CAMP) that meets the BAAQMD requirements for potential NOA in air in the work place or in the vicinity of the Proposed Project Site.

***Approach***

The CAMP – a perimeter monitoring program – will consist of both fenceline and area-specific exposure monitoring. Fenceline perimeter monitoring is intended to provide monitoring data for

locations either at the property boundary or some distance short of the boundary, in directions upwind of potential receptors. Area-specific perimeter monitoring stations are established closer to the separate work areas and are intended to serve as a type of "sentry" station for airborne asbestos concentrations that might be migrating towards the fenceline or other downwind location. In general, if area specific concentrations are below target values, it is likely that the fenceline perimeter monitoring results should be even lower. The following approach will be used to develop the CAMP:

- Select Relevant Exposure Scenarios for Potential Offsite Receptors – In order to evaluate the potential offsite exposure to third parties during construction, sensitive receptor scenarios will be developed. These will include nearby receptors located within the potential area including recreationists, residents, and offsite workers.
- Select Air Monitoring Stations for Perimeter and Areas - Review existing air modeling results and consult topographic and geopolitical maps of the site to select a set of candidate air monitoring locations that will provide conservatively protective (relative to locations of sensitive receptors) estimates of airborne exposure concentrations attributable to project emissions in all major directions from the Proposed Project Site.
- Establish Background Air Quality – This requires a baseline air monitoring program of approximately one year prior to commencement of construction. Both perimeter and area-specific background concentrations of asbestos will be measured. This task will include an onsite meteorological station to link specific meteorological conditions to actual asbestos concentrations monitored. The cost of the baseline monitoring is included in Task E.b.9.
- Establish Suitable Target Monitoring Criteria – This will involve the review and interpretation of baseline monitoring data and local meteorological conditions at the onsite and offsite potential receptor locations. Current Department of Toxic Substances Control (DTSC) guidelines will be evaluated for perimeter monitoring. In addition, other risk-based trigger or action levels will be considered. The steps to evaluate these criteria are:
  - For each receptor to be protected by monitoring, evaluate existing modeling data to assess likelihood that proposed modeling will be fruitful in supporting an upward adjustment for trigger levels to be applied to site monitoring relative to target acceptable levels defined for each such receptor.
  - Calculate the ratio (dilution factor) of airborne concentrations monitored at the perimeter with corresponding concentrations at the locations of sensitive receptors. This step will be conducted by Wayne Berman if deemed necessary; as such the cost is not included in this scope.
  - If deemed necessary for the statistical simulation, a modeling effort suitable for linking the monitoring and receptor locations will be conducted. This will provide the input data to the statistical simulation conducted by Wayne Berman. This step will be conducted by URS. One AERMOD model run is included in this scope.
  - Review and interpret the baseline monitoring results (to account for background concentrations), as available

Note: Because the plan may need to be completed prior to completion of baseline monitoring, default trigger levels for monitoring may need to be initially incorporated into the plan. Such levels will be identified as "tentative" with an indication that they will be modified (using the procedure described herein), once the necessary data become available, but before the CDRP is initiated.

- o Separately for both chrysotile and amphibole asbestos, to the extent that non-zero background concentrations are observed (during baseline monitoring) incorporate a modified strategy for setting trigger levels for monitoring to avoid futile attempts to protect against background while assuring that monitoring remains adequately protective of public health. Note, may need to negotiate strategy with overseeing regulatory agencies.

Combine the results of criteria evaluation (including modeling/simulation results as necessary) to account for background to define trigger levels that are both health protective and practical.

**Prepare a Comprehensive Air Monitoring Program** - The plan will include triggers (action levels) and their associated corrective actions, should monitoring results exceed established criteria and will also include benchmarks that will allow relaxing of monitoring requirements, if observed concentrations are substantially lower than anticipated. The plan will include the monitoring requirements, sampling protocols, laboratory selections, analytical requirements, and quality assurance/quality control requirements. A procedure for tracking the performance of dust suppression measures (based on asbestos monitoring) and potentially relaxing monitoring requirements will be incorporated in the plan. Agency review and approval is required. A draft and final plan will be prepared. One round of internal SFPUC comment responses followed by a second round of agency comment responses is included.

Note: A procedure for selecting among pre-defined corrective actions to be implemented when trigger levels for monitoring are exceeded will be provided in the DMP.

- The approved CAMP will be incorporated by reference into the plans and specifications, in addition to the incorporation of specific actions deemed appropriate for direct incorporation into the plans and specifications.

***Assumptions***

- One meeting will be held with BAAQMD. One round of internal SFPUC comment response followed by a second round of review and comment on agency requests for information or comments is included.

***Deliverables***

- One interim draft (for internal SFPUC review), one hard copy draft and one final CAMP.

**PHASE III – IMPLEMENTATION**

The tasks for Phase III described below are intended to implement the approaches developed as part of Phases I and II.

**Task E.b.7 – Design of Disposal Sites**

**Budget = \$25,000**

***Objective***

Provide environmental support for design of onsite disposal sites to incorporate features/refinements to address NOA and metals issues, as required.

***Approach***

Work concurrently with the development of the 95% and 100% Design Plans and Specifications.

***Assumptions***

No client or agency meetings are required.

***Deliverables***

None.

**Task E.b.8 – Integration of NOA-related Requirements into Plans and Specifications**

**Budget = \$50,000**

***Objective***

Support the development 95% and 100% Design Plans and Specifications

***Approach***

The plans and specifications will be reviewed concurrently with the preparation of the documents in Phase II. It is anticipated that some modifications to the plans and specifications will occur based on the following Phase II document preparation:

NOA and Metals Evaluation Report

Draft SWPPP

Final OCWTP

Final EMMP

BAAQMD and Cal/OSHA permits and MOUs

Comprehensive Air Monitoring Program

Permit List

While it would be ideal to work concurrently with the development of the 95% Design Plans and Specifications, the actual requirements will be generated after agency approvals have been secured. Therefore, placeholder language will be provided along with the 95% Design Plans and Specification package, as feasible. Subsequent modifications will be provided in the 100% Design Plans and Specification package as documents become available.

***Deliverables***

None.

**Task E.b.9 – Implementation of the Baseline Portion of the Comprehensive Air Monitoring Plan (CAMP)**

**Budget = \$263,000**

***Objective***

Collect and analyze air quality and meteorological data prior to construction that will serve as a baseline understanding of existing PM10, asbestos, and metals concentrations in air. This will provide a basis for subsequent perimeter and area air quality monitoring to be conducted under the CAMP during construction. Meteorological results from the baseline program will be used to establish site-specific wind direction, speed, ambient temperature and other meteorological parameters on an hourly basis over the course of one year. In a similar manner, results from the baseline monitoring of PM10, asbestos and metals will be used to estimate site-specific airborne concentrations of these constituents over the course of one year. These data will be used to assess potential pathways for airborne PM10, asbestos, and metals and locate appropriate sites for area-specific and perimeter asbestos monitoring stations.

- A meteorological station and approximately 15 air quality monitoring stations will be set up and operated for the baseline period (approximately one year prior to construction). There

will be 12 meteorological and 12 air quality monitoring events. The meteorological station will be automated to collect hourly observations of local meteorological conditions, including wind speed, direction, and temperature. Power supply for the meteorological station is assumed to be readily available or provided by others. Power supply for the air quality monitoring stations will be provided by battery packs.

- Data retrieval, calibration, and routine maintenance will be performed at regular intervals throughout the baseline meteorological monitoring period.
- The samples will be submitted for laboratory analysis of PM10, asbestos, and metals. Metals analyses include chromium, cobalt, copper, nickel and arsenic.
- Analytical results from these samples will allow estimation of background airborne concentrations for each constituent (PM10, asbestos, metals) on an approximately monthly basis. Seasonal variations in background airborne concentrations of these constituents will provide a basis for evaluating contributions from subsequent construction activities.

#### ***Assumptions***

- Baseline monitoring is assumed to be one year with 12 events conducted over that 12 month period.
- Electrical supply for the meteorological station will be provided by others. The cost for additional power supply is not included in this estimate.
- One meeting will be held with each BAAQMD and Cal/OSHA to discuss the results obtained from the sampling and analysis program.
- One round of review and comment on agency requests for information or comments
- Stations will be turned over to the SFPUC at NTP. This scope does not include restoration of stations.

#### ***Deliverables***

- Quarterly meteorological reports will be prepared to summarize meteorological monitoring data.
- Preparation of a Baseline Air Monitoring Report.

#### ***Task Group E.c – Additional As-Needed Services***

**Budget = \$300,000 (allowance)**

Due to the uncertainties associated with the environmental permitting, air and water quality issues related to NOA and metals, and other related activities, there may be additional services required that cannot be adequately scoped at this time. These services may include:

1. Cultural / archaeology resources surveys and recovery
2. Additional visual simulations for CEQA review
3. Additional data acquisition to fill data gaps for fisheries BA
4. Additional sensitive species / habitat surveys
5. Additional watershed design / permitting services
6. Additional analysis of soils / rock using the elutriator method

7. Additional AERMOD model run(s)
8. Additional baseline air sample collection and analysis
9. Other services as may be required but unforeseen at this time.

If any of the above services are required, a detailed scope of work and budget would be prepared and would not be implemented without written authorization of the SFPUC.

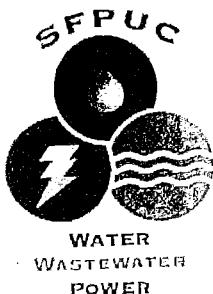
**Agreement No. CS-716**  
**CALAVERAS DAM REPLACEMENT PROJECT (CUW 37401)**  
**Amendment No. 2 – Appendix B-2**  
**Final Design, Environmental and Permitting Support Services**

**Summary**

	Task	ent Outreach	Services	000
A13				
D4.1		Review and Assist Preparation of Division 0 and 1 Project Specifications		\$20,000
D5.1		95% Detailed Design – Coordination of Outlet Works Design		\$50,000
D6.1		Evaluate/Incorporate Permit Requirements (Not Used)		\$60,000
D10		Construction QA/QC Manual		\$20,000
D11		Watershed Facilities Design Services (Optional)		\$50,000
D12		and S Services		
E.a.1	Task	GIS support for ETJV (transfers of updated files)		\$15,000
E.a.2		Visual simulation of Borrow Area B/Dam from EBRPD Sunol Reg. Wild.		\$10,000
E.a.3		Preconstruction Raptor Surveys and Bald Eagle Monitoring		\$80,000
E.a.4		Fisheries BA		\$67,000
E.a.5		Review public comments on DEIR and prepare responses as needed to support SFPUC BEM staff		\$40,000
E.a.6		Support for SFPUC BEM staff/ respond to agency and ETJV information requests		\$46,000
E.a.7		(Not Used)		
E.a.8		Review draft permit conditions/permit applications and provide comments to SFPUC		\$25,000
E.a.9		Evaluation of mitigation feasibility/schedule constraints for mitigation (includes evaluation of proposed RWQCB BMPs/avoidance and minimization measures).		\$30,000

Plan	
E.b.1	<b>NOA Compliance Plan – Phase I (additional)</b>
	NOA Compliance Plan – Phase I (Net – see below) \$140,000
	<i>Remaining Portion of Original Phase I Budget</i> \$180,000 <sup>2</sup>
	Additional Air Dispersion Modeling \$20,000
	Additional CEQA Compliance Support \$35,000
	Prepare Concrete/Asphalt Recycle/Reuse Options \$10,000
	Prepare Water Quality Memo \$10,000
	Delete Implementation of Phase I / SAP (\$115,000)
	<b>NOA Compliance Plan – Phase II</b>
E.b.2	Implementation of SAP \$162,000
E.b.3	BAAQMD and Cal/OSHA Requirements \$169,000
E.b.4	Water Quality Measures and 401/WDR Permit Support
E.b.5	Prepare Excavated Materials Management Plan \$133,000
E.b.6	Comprehensive Air Monitoring Program \$30,000
	<b>NOA Compliance Plan – Phase III</b> \$85,000
E.b.7	Environmental Support for Design Refinements of Disposal Sites \$25,000
E.b.8	Integration of NOA-related Requirements into Plans and Specifications \$50,000
E.b.9	Baseline Air Monitoring ( Implementation of a portion of the Comprehensive Air Monitoring Program) \$263,000
Task Group E.c – Additional As-Needed Support Services (Optional)	
	As-Needed Support Services (Allowance) \$300,000
	<b>TOTAL</b> \$1.

<sup>2</sup> This amount (\$180,000) represents 50% funding of the original estimated budget (\$360,000) for Task E5 authorized under Task Order 7.3.



## SAN FRANCISCO PUBLIC UTILITIES COMMISSION



Contract Administration Bureau

Ivy V. Fine, Manager

1155 Market Street, 9th Floor, San Francisco, CA 94103 • Tel. (415) 551-4603 • Fax (415) 554-3225

August 4, 2009

GAVIN NEWSOM  
MAYOR

ANN MOLLER CAEN  
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COMMISSIONER

ED HARRINGTON  
GENERAL MANAGER

Louis Armstrong  
URS Corporation  
221 Main Street, Ste. 600  
San Francisco, CA 94105-1917

RE:

- 1) Notice of Contract Amendment Certification – Conceptual Engineering Report for Calaveras Dam (CS-716)
- 2) Transmittal – Executed Agreement #3A between the City and County of San Francisco Public Utilities Commission and URS Corporation

Dear Mr. Armstrong,

This letter provides a *notification of amendment certification* for an INCREASE in contract value for the following contracted work:

**BLANKET PURCHASE ORDER NO:** BPUC04000193 – *Work may not be charged against this blanket purchase order number*

**SCOPE:**

*No change in scope of work* - To provide additional project management, design package services, environmental and permitting support services, naturally occurring asbestos (NOA) compliance plan, and additional as-needed support services.

**EFFECTIVE DATE:**

September 11, 2003 to September 10, 2012

**CONTRACT TO DATE:**

Total value of contract has been increased to  
**\$14,310,337.00**

Should you have any questions, please do not hesitate to contact Suyin Lim at  
(415) 554-2418.

**RECEIVED**

AUG 6 7 2009

**LOUIS J. ARMSTRONG**

Enclosure: Executed Amendment #3A

cc: Dan Wade

File/NCAC 716 amend 3A



**City and County of San Francisco  
San Francisco Public Utilities Commission  
Contract Administration Bureau**

**CS-716**

**Amendment Three A (3A)**

**THIS AMENDMENT** (this "Amendment") is made as of June 17, 2009, in San Francisco, California, by and between URS Corporation Americas ("Contractor"), and the City and County of San Francisco, a municipal corporation ("City"), acting by and through its Director of the Office of Contract Administration.

**RECITALS**

WHEREAS, City and Contractor have entered into the Agreement (as defined below); and WHEREAS, City and Contractor desire to modify the Agreement on the terms and conditions set forth herein to define additional tasks, increase the contract amount, and update standard contractual clauses;

WHEREAS, On June 10, 2003, per Resolution No. 03-0117, the Public Utilities Commission awarded Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project, to URS Corporation Americas to provide engineering and environmental support services in the amount of \$4,000,000, and with a term of four years, concluding on September 10, 2007;

WHEREAS, on July 26, 2005, per Resolution No. 08-0041, the Public Utilities Commission approved Amendment No. 1 to Agreement No. CS-716 to continue professional engineering and environmental services for detailed and final design, increasing the original agreement amount by \$8,000,000 to \$12,000,000 and extending the agreement term by two years to September 10, 2009;

WHEREAS, On August 19, 2005, approval for Amendment No. 1 was obtained from the Civil Service Commission per PSC# 4098-02/03;

WHEREAS, on September 13, 2005, approval for Amendment No. 1 was obtained from the Board of Supervisors, per Resolution 05-0120;

WHEREAS, on March 11, 2008, per Resolution No. 08-0041, the San Francisco Public Utilities Commission approved Amendment No. 2 to Agreement No. CS-716, to provide additional professional services for the final design as well as environmental support services to facilitate the completion of CEQA and NEPA documents and obtain required environmental permits, increasing the agreement amount by \$1,900,000 to \$13,900,000;

WHEREAS, On April 15, 2008, approval for Amendment No. 2 was obtained from the Board of Supervisors per Resolution 182-08;

WHEREAS, On April 23, 2008, approval for Amendment No. 2 was obtained from the Civil Service Commission per Notice of Action;

WHEREAS, on May 12, 2009, per Resolution No. 09-0079, the San Francisco Public Utilities Commission approved Amendment No. 3 to Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project to increase the agreement amount by \$10,100,000 to \$24,000,000 and extend

the agreement term by seven years to September 10, 2016, in order to provide additional design, environmental and permitting services needed prior to construction to address the naturally occurring asbestos (NOA) and fisheries issues, provide designs to mitigate impacts associated with the Calaveras Dam Replacement Project to be implemented under the Habitat Reserve Program, provide supplemental dam safety engineering analyses requested by the California Division of Safety of Dams (DSOD), and ongoing permitting support; and to provide engineering support during construction, start-up, and commissioning of the project;

WHEREAS on May 12, 2009, the San Francisco Public Utilities Commission authorized the General Manager to split Amendment Three into two parts, Amendment 3A and Amendment 3B. Amendment 3A, as set forth herein, will increase the existing contract by \$410,337 to allow the Contractor to continue services while Amendment 3B is pending approval from the Board of Supervisors. Amendment 3B, if approved by the Board of Supervisors, would amend the existing contract by \$9,689,663 for a total amended amount of \$10,100,000 and a total not to exceed contract amount of \$24,000,000, and would extend the existing contract term to September 10, 2016.

WHEREAS, On June 15, 2008, approval for Amendment No. 3 was obtained from the Civil Service Commission per PSC# 4098-02/03;

NOW, THEREFORE, Contractor and the City agree as follows:

**1. Definitions.** The following definitions shall apply to this Amendment:

**a. Agreement.** The term "Agreement" shall mean the Agreement dated September 11, 2003 between Contractor and City, as amended by the:

First amendment, dated July 26, 2005, and  
Second amendment, dated April 15, 2008.

**b. Other Terms.** Terms used and not defined in this Amendment shall have the meanings assigned to such terms in the Agreement.

**2. Modifications to the Agreement.** The Agreement is hereby modified as follows:

**2a. Section 4.** Section 4 Compensation (first paragraph) of the Agreement currently reads as follows:

Compensation shall be made in monthly payments on or before the first day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. In no event shall the amount of this Agreement exceed Thirteen Million Nine Hundred Thousand Dollars (\$13,900,000), which sum includes Four Million Dollars (\$4,000,000) for the Conceptual Engineering phase. The breakdown of costs associated with this Agreement appears in Appendix B-2, "Calculation of Charges," attached hereto and incorporated by reference as though fully set forth herein.

No charges shall be incurred under this Agreement nor shall any payments become due to the Contractor until reports, services, or both, required under this Agreement are received from the Contractor and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Contractor in any instance in which the Contractor has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall the City be liable for interest or late charges for any late payments.

The Controller is not authorized to pay invoices submitted by the Contractor prior to the Contractor's submission of HRC Form 7, "Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report." If HRC Form 7 is not submitted with the Contractor's invoice, the Controller will notify the department, the Director of HRC and the Contractor of the omission. If the Contractor's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Contractor has ten days to file an affidavit using HRC Form 9, "Sub-Contractor Payment Affidavit," verifying that all subcontractors have been paid and specifying the amount.

*Such section is hereby amended in its entirety to read as follows:*

Compensation shall be made in monthly payments on or before the first day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. In no event shall the amount of this Agreement exceed Fourteen Million, Three Hundred Ten Thousand, Three Hundred Thirty Seven Dollars (\$14,310,337), which sum includes four hundred ten thousand three hundred thirty seven dollars (\$410,337) under Amendment No. 3A to provide additional design, environmental and permitting services for the Calaveras Dam Replacement Project. The breakdown of costs associated with this Amendment appears in Appendix B-3, "Amendment 3A Budget," attached hereto and incorporated by reference as though fully set forth herein.

No charges shall be incurred under this Agreement nor shall any payments become due to the Contractor until reports, services, or both, required under this Agreement are received from the Contractor and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Contractor in any instance in which the Contractor has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall the City be liable for interest or late charges for any late payments.

The Controller is not authorized to pay invoices submitted by the Contractor prior to the Contractor's submission of HRC Form 7, "Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report." If HRC Form 7 is not submitted with the Contractor's invoice, the Controller will notify the department, the Director of HRC and the Contractor of the omission. If the Contractor's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Contractor has ten days to file an affidavit using HRC Form 9, "Sub-Contractor Payment Affidavit," verifying that all subcontractors have been paid and specifying the amount.

**2b. Insurance.** Section 10. Insurance, is hereby replaced in its entirety to read as follows:

#### **10. Insurance**

a. Without in any way limiting Contractor's liability pursuant to the "Indemnification" section of this Agreement, Contractor must maintain in force, during the full term of the Agreement, insurance in the following amounts and coverages:

(1) Workers' Compensation, in statutory amounts, with Employers' Liability Limits not less than \$1,000,000 each accident, injury, or illness; and

(2) Commercial General Liability Insurance with limits not less than \$5,000,000 each occurrence Combined Single Limit for Bodily Injury and Property Damage, including Contractual Liability, Personal Injury, Products and Completed Operations; and

(3) Commercial Automobile Liability Insurance with limits not less than \$5,000,000 each occurrence Combined Single Limit for Bodily Injury and Property Damage, including Owned, Non-Owned and Hired auto coverage, as applicable.

(4) Professional liability insurance, applicable to Contractor's profession, with limits not less than \$10,000,000 each claim with respect to negligent acts, errors or omissions in connection with professional services to be provided under this Agreement any deductible not to exceed \$50,000 each claim.

b. Commercial General Liability and Commercial Automobile Liability Insurance policies must be endorsed to provide:

(1) Name as Additional Insured the City and County of San Francisco, its Officers, Agents, and Employees.

(2) That such policies are primary insurance to any other insurance available to the Additional Insureds, with respect to any claims arising out of this Agreement, and that insurance applies separately to each insured against whom claim is made or suit is brought.

c. Regarding Workers' Compensation, Contractor hereby agrees to waive subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Contractor, its employees, agents and subcontractors.

d. All policies shall provide thirty days' advance written notice to the City of reduction or nonrenewal of coverages or cancellation of coverages for any reason. Notices shall be sent to the City address in the "Notices to the Parties" section.

e. Should any of the required insurance be provided under a claims-made form, Contractor shall maintain such coverage continuously throughout the term of this Agreement and, without lapse, for a period of three years beyond the expiration of this Agreement, to the effect that, should occurrences during the contract term give rise to claims made after expiration of the Agreement, such claims shall be covered by such claims-made policies.

f. Should any of the required insurance be provided under a form of coverage that includes a general annual aggregate limit or provides that claims investigation or legal defense costs be included in such general annual aggregate limit, such general annual aggregate limit shall be double the occurrence or claims limits specified above.

g. Should any required insurance lapse during the term of this Agreement, requests for payments originating after such lapse shall not be processed until the City receives satisfactory evidence of reinstated coverage as required by this Agreement, effective as of the lapse date. If insurance is not reinstated, the City may, at its sole option, terminate this Agreement effective on the date of such lapse of insurance.

h. Before commencing any operations under this Agreement, Contractor shall furnish to City certificates of insurance and additional insured policy endorsements with insurers with ratings comparable to A-, VIII or higher, that are authorized to do business in the State of California, and that are satisfactory to City, in form evidencing all coverages set forth above. Failure to maintain insurance shall constitute a material breach of this Agreement.

i. Approval of the insurance by City shall not relieve or decrease the liability of Contractor hereunder.

j. If a subcontractor will be used to complete any portion of this agreement, the Contractor shall ensure that the subcontractor shall provide all necessary insurance and shall name the City and County of San Francisco, its officers, agents and employees and the Contractor listed as additional insureds.

2c. **First Source Hiring Program.** Section 51. is hereby replaced in its entirety to read as follows:

#### **51. First Source Hiring Program**

a. **Incorporation of Administrative Code Provisions by Reference.** The provisions of Chapter 83 of the San Francisco Administrative Code are incorporated in this Section by reference and made a part of this Agreement as though fully set forth herein. Contractor shall comply fully with, and be bound by, all of the provisions that apply to this Agreement under such Chapter, including but not limited to the remedies provided therein. Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Chapter 83.

b. **First Source Hiring Agreement.** As an essential term of, and consideration for, any contract or property contract with the City, not exempted by the FSHA, the Contractor shall enter into a first source hiring agreement ("agreement") with the City, on or before the effective date of the contract or property contract. Contractors shall also enter into an agreement with the City for any other work that it performs in the City. Such agreement shall:

(1) Set appropriate hiring and retention goals for entry level positions. The employer shall agree to achieve these hiring and retention goals or, if unable to achieve these goals, to establish good faith efforts as to its attempts to do so, as, set forth in the agreement. The agreement shall take into consideration the employer's participation in existing job training, referral and/or brokerage programs. Within the discretion of the FSHA, subject to appropriate modifications, participation in such programs maybe certified as meeting the requirements of this Chapter. Failure either to achieve the specified goal, or to establish good faith efforts will constitute noncompliance and will subject the employer to the provisions of Section 83.10 of this Chapter.

(2) Set first source interviewing, recruitment and hiring requirements, which will provide the San Francisco Workforce Development System with the first opportunity to provide qualified economically disadvantaged individuals for consideration for employment for entry level positions. Employers shall consider all applications of qualified economically disadvantaged

individuals referred by the System for employment; provided however, if the employer utilizes nondiscriminatory screening criteria, the employer shall have the sole discretion to interview and/or hire individuals referred or certified by the San Francisco Workforce Development System as being qualified economically disadvantaged individuals. The duration of the first source interviewing requirement shall be determined by the FSHA and shall be set forth in each agreement, but shall not exceed 10 days. During that period, the employer may publicize the entry level positions in accordance with the agreement. A need for urgent or temporary hires must be evaluated, and appropriate provisions for such a situation must be made in the agreement.

(3) Set appropriate requirements for providing notification of available entry level positions to the San Francisco Workforce Development System so that the System may train and refer an adequate pool of qualified economically disadvantaged individuals to participating employers. Notification should include such information as employment needs by occupational title, skills, and/or experience required, the hours required, wage scale and duration of employment, identification of entry level and training positions, identification of English language proficiency requirements, or absence thereof, and the projected schedule and procedures for hiring for each occupation. Employers should provide both long-term job need projections and notice before initiating the interviewing and hiring process. These notification requirements will take into consideration any need to protect the employer's proprietary information.

(4) Set appropriate record keeping and monitoring requirements. The First Source Hiring Administration shall develop easy-to-use forms and record keeping requirements for documenting compliance with the agreement. To the greatest extent possible, these requirements shall utilize the employer's existing record keeping systems, be nonduplicative, and facilitate a coordinated flow of information and referrals.

(5) Establish guidelines for employer good faith efforts to comply with the first source hiring requirements of this Chapter. The FSHA will work with City departments to develop employer good faith effort requirements appropriate to the types of contracts and property contracts handled by each department. Employers shall appoint a liaison for dealing with the development and implementation of the employer's agreement. In the event that the FSHA finds that the employer under a City contract or property contract has taken actions primarily for the purpose of circumventing the requirements of this Chapter, that employer shall be subject to the sanctions set forth in Section 83.10 of this Chapter.

(6) Set the term of the requirements.

(7) Set appropriate enforcement and sanctioning standards consistent with this Chapter.

(8) Set forth the City's obligations to develop training programs, job applicant referrals, technical assistance, and information systems that assist the employer in complying with this Chapter.

(9) Require the developer to include notice of the requirements of this Chapter in leases, subleases, and other occupancy contracts.

c. **Hiring Decisions.** Contractor shall make the final determination of whether an Economically Disadvantaged Individual referred by the System is "qualified" for the position.

d. **Exceptions.** Upon application by Employer, the First Source Hiring Administration may grant an exception to any or all of the requirements of Chapter 83 in any situation where it concludes that compliance with this Chapter would cause economic hardship.

e. **Liquidated Damages.** Contractor agrees:

(1) To be liable to the City for liquidated damages as provided in this section;

(2) To be subject to the procedures governing enforcement of breaches of contracts based on violations of contract provisions required by this Chapter as set forth in this section;

(3) That the contractor's commitment to comply with this Chapter is a material element of the City's consideration for this contract; that the failure of the contractor to comply with the contract provisions required by this Chapter will cause harm to the City and the public which is significant and substantial but extremely difficult to quantify; that the harm to the City includes not only the financial cost of funding public assistance programs but also the insidious but impossible to quantify harm that this community and its families suffer as a result of unemployment; and that the assessment of liquidated damages of up to \$5,000 for every notice of a new hire for an entry level position improperly withheld by the contractor from the first source hiring process, as determined by the FSHA during its first investigation of a contractor, does not exceed a fair estimate of the financial and other damages that the City suffers as a result of the contractor's failure to comply with its first source referral contractual obligations.

(4) That the continued failure by a contractor to comply with its first source referral contractual obligations will cause further significant and substantial harm to the City and the public, and that a second assessment of liquidated damages of up to \$10,000 for each entry level position improperly withheld from the FSHA, from the time of the conclusion of the first investigation forward, does not exceed the financial and other damages that the City suffers as a result of the contractor's continued failure to comply with its first source referral contractual obligations;

(5) That in addition to the cost of investigating alleged violations under this Section, the computation of liquidated damages for purposes of this section is based on the following data:

A. The average length of stay on public assistance in San Francisco's County Adult Assistance Program is approximately 41 months at an average monthly grant of \$348 per month, totaling approximately \$14,379; and

B. In 2004, the retention rate of adults placed in employment programs funded under the Workforce Investment Act for at least the first six months of employment was 84.4%. Since qualified individuals under the First Source program face far fewer barriers to employment than their counterparts in programs funded by the Workforce Investment Act, it is reasonable to conclude that the average length of employment for an individual whom the First Source Program refers to an employer and who is hired in an entry level position is at least one year;

therefore, liquidated damages that total \$5,000 for first violations and \$10,000 for subsequent violations as determined by FSHA constitute a fair, reasonable, and conservative attempt to quantify the harm caused to the City by the failure of a contractor to comply with its first source referral contractual obligations.

(6) That the failure of contractors to comply with this Chapter, except property contractors, may be subject to the debarment and monetary penalties set forth in Sections 6.80 et

seq. of the San Francisco Administrative Code, as well as any other remedies available under the contract or at law; and

Violation of the requirements of Chapter 83 is subject to an assessment of liquidated damages in the amount of \$5,000 for every new hire for an Entry Level Position improperly withheld from the first source hiring process. The assessment of liquidated damages and the evaluation of any defenses or mitigating factors shall be made by the FSHA.

**f. Subcontracts.** Any subcontract entered into by Contractor shall require the subcontractor to comply with the requirements of Chapter 83 and shall contain contractual obligations substantially the same as those set forth in this Section.

**2d.** Amendment 3A amends the existing contract by adding Appendix A-3 in its entirety which provides additional scope of work.

**2e.** Amendment 3A amends the existing contract by adding Appendix B-3 in its entirety which provides the budget for this amendment.

**3. Effective Date.** Each of the modifications set forth in Section 2 shall be effective on and after the date of this Amendment.

**4. Legal Effect.** Except as expressly modified by this Amendment, all of the terms and conditions of the Agreement shall remain unchanged and in full force and effect.

\\  
\\

IN WITNESS WHEREOF, Contractor and City have executed this Amendment as of the date first referenced above.

**CITY**

Recommended by:

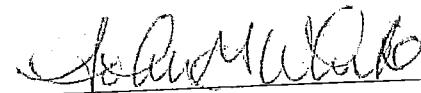


Ed Harrington  
General Manager  
San Francisco Public Utilities Commission

Approved as to Form:

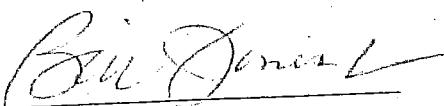
Dennis J. Herrera  
City Attorney

By:



Deputy City Attorney

Approved:



Naomi Kelly  
Director of the Office of Contract Administration,  
and Purchaser

Appendix A-3  
SCOPE OF WORK

**TASK GROUP A – Project Management**

**TASK A12 – PROJECT MANAGEMENT**

**Budget = \$40,000**

***Objectives***

Provide project management through the end of August 2009.  
***Approach***

- Project management will extend through the end of August 2009. Project management will include project coordination and attendance at monthly project status meetings with SFPUC.

***Assumptions***

- This task is budgeted through the end of August 2009.

***Deliverables***

- Monthly progress reports and monthly meeting agendas and progress meeting summaries.

**TASK GROUP D – DESIGN PACKAGE**

**TASK D7 – 100% DESIGN**

**Budget = \$26,646 (for Subtask 7.2)**

***Objectives***

Subtask D7.2 – Revise Division 0 and 1 specifications.

***Approach***

Subtask D7.2 – Revise Divisions 0 and 1 Specifications: Identify potential specification deviation from SFPUC standard Divisions 0 and 1. We have allowed for six meetings with Contract Administration or City Attorney to reconcile deviations from the standard specifications. This task also includes preparing memoranda on resolutions.

***Assumptions***

- Subtask D7.2 – Assumed six meetings with Contract Administration or City Attorney

***Deliverables***

- Subtask D7.2 – Memoranda from meetings, presenting resolutions for inclusion in the specifications, and updated specifications.

## **TASK GROUP EA – Permitting Support**

### **TASK EA.12 – AS-NEEDED TECHNICAL SUPPORT**

**BUDGET = \$20,000**

#### ***Objectives***

Provide as-needed support for SFPUC responses to agency and mea information requests.

#### ***Approach***

This task would include URS environmental and engineering support for technical data and coordination needs that may arise during preparation of the DEIR and subsequent reviews and responses to agency data requests. As requested and directed by SFPUC, URS will:

- Provide environmental information and/or data to respond to requests from MEA. Examples would include in-depth evaluations of specific project details, additional site visits to resolve agency questions, and additional environmental data as requested by BEM.
- Evaluate environmental effects of proposed project design and develop potential design options to avoid or minimize potential effects.
- Prepare technical memoranda that address specific questions or information as requested by BEM.

#### ***Assumptions***

- The scope of the environmental support provided under this task will be determined on a case by case basis in coordination with SFPUC.

#### ***Deliverables***

- As-requested by SFPUC, potential deliverables may include electronic correspondence, technical memoranda, or other documentation to support environmental efforts.

## **TASK EA.13 – AS-NEEDED GIS SUPPORT**

**BUDGET = \$15,000**

#### ***Objectives***

Provide GIS support services to BEM as requested to illustrate and organize design details for the environmental review and permitting teams.

#### ***Approach***

The environmental review team utilizes geographic information system software to evaluate potential impacts and prepare graphics for the environmental review documents. The need for additional GIS data and illustrations of specific design features is anticipated to increase during the permitting phase of the project. URS will continue to provide updated GIS data and graphics to the environmental team (BEM, ETJV and MEA) as requested. This task will include but is not limited to the following GIS support:

- Prepare GIS data, maps, and other graphics as requested by SFPUC to support the environmental permitting efforts and respond to data requests from agency personnel.
- Convert project design drawings to GIS files for transmittal to the environmental review team (ETJV and MEA).
- Prepare GIS graphics for meetings and presentations as requested by SFPUC.

- Maintain and organize the GIS data library for the design team for future use by SFPUC or the environmental review team.

***Assumptions***

- The scope of the GIS support provided under this task will be determined on a case by case basis in coordination with SFPUC.
- Transfer of GIS data will only occur as directed by SFPUC.

***Deliverables***

- Requested information on an as-needed basis. Typically maps will be delivered in color pdf format for ease of viewing and hard copy as requested. Data will be transferred to members of the environmental team as requested by SFPUC.

**TASK GROUP EB – NOA COMPLIANCE PLAN**

**C. Funded Tasks that Expanded and Will Continue in 2009**

- Task C1 - Continued Implementation of Baseline Air Quality Monitoring in 2009
- Task C3 - Additional Meteorological and Air Quality Stations Installation
- Task C4 - Continued CEQA Support for Hazards and Water and Air Quality Sections (Includes PEL work – partially completed)

**Task C1 - Continued Implementation of Baseline Air Monitoring in 2009**

**Budget = \$144,000 for 3 monthly events (June, July, and August, 2009)**

***Objective***

Continue collection of air quality samples for NOA and metals at up to 17 stations at the CDRP site.

***Approach***

A four-day field effort with a four-person team will set up and break down up to 17 air quality monitoring stations over the CDRP site. Monitoring will include 14 baseline air quality monitoring stations and the new EBRPD stations and one residence installed under Eb Task C3. Each air quality monitoring station will use two pumps one for metals and one for asbestos. Each sample will be analyzed for asbestos by the AHERA method and for the five metals, copper, nickel, cobalt, chromium, and arsenic. In addition, it is estimated that 10 percent of the asbestos samples will also be analyzed by the "extended standard operating procedure (SOP) developed in conjunction with Dr. Wayne Berman. For the purposes of costing we estimated that approximately 25 percent of the asbestos samples that are analyzed by the extended SOP would require up to 700 grids read. The cost for the extended SOP can range from \$350 to \$4000 per analysis depending on the number of grids that require reading.

***Assumptions***

Monitoring will occur over the 3 months from June to August 2009. Meteorological and air quality monitoring is conducted concurrently.

***Deliverables***

A quarterly report will be provided and will be comprised of the June to August monthly reports containing the following:

- A description of the field effort
- Tabulated data
- Quality assurance / quality control review of data, and
- A discussion.

### **Task C3 – Additional Air Quality Stations Installation**

**Budget = \$10,000**

#### **Objective**

Provide two additional sentry stations at sensitive receptors [at East Bay Regional Park District (EBRPD) Sunol Valley Wilderness visitor center]. The EBRPD station includes two air monitoring stations (one exterior and one interior). This task does not include the installation of the meteorological station at this time.

#### **Approach**

Two air quality monitoring stations (one exterior and one interior) will be installed and monitored during the baseline air monitoring efforts covered under Eb Task C1.

#### **Assumptions**

The monitoring scope would be the same as that described under Eb Task C1 and is assumed that the cost of Eb Task C1 would cover the additional monitoring of the stations for EBRPD.

The cost for this task includes subcontractor and equipment procurement, installation of stations, and equipment setup and calibration. This cost does not include negotiations with the parties involved for access or other requests. Equipment changes requested may change the cost of the installation. We have assumed the existing air quality baseline stations would be duplicated.

#### **Deliverables**

A memo will be provided to document the installation of the new stations. The memo will include a description of the field activities.

### **Task C4 - Continued CEQA Support for Hazards and Water and Air Quality Sections**

**Budget = \$12,000**

#### **Objective**

Provide support to SFPUC in the development of responses to requests for information from the MEA regarding the Preliminary Draft Environmental Impact Assessment (PDEIR) for NOA-related issues on the mitigation section.

#### **Approach**

In response to requests from SFPUC on the NOA mitigation section, prepare written comments and responses regarding information presented in the PDEIR and review PDEIR text. Responses may include proposed language, technical memoranda, feasibility assessment of mitigation measures, among other things.

#### **Deliverables**

As requested or needed, including various written material regarding NOA mitigation section.

## **F. New Items in 2009**

These tasks are new work that will continue in 2009:

- Task F1 – Baseline Dust Accumulation Work Plan and Implementation
- Task F4 - Implementation of Jar Testing
- Task F7 - Public Communication Support
- Task F8 - Meetings (Attendance and Preparation)

### **Task F1 - Baseline Dust Accumulation Monitoring Work Plan and Implementation**

**Budget = \$50,000**

#### **Objective**

Prepare a memorandum on dust accumulation monitoring, and design dust accumulation devices, install and start.

#### **Approach**

This task includes preparing a memorandum on monitoring dust accumulation, and designing dust accumulation devices, purchase and/or fabrication, installation and start-up of monitoring.

#### **Assumptions**

This baseline dust accumulation monitoring is conducted concurrently with the monthly baseline air quality monitoring, and dust accumulation results will be included in the baseline air monitoring reports provided under Eb Task C1.

#### **Deliverables**

Memorandum on dust accumulation monitoring, design of dust accumulation devices, and the installed devices.

### **Task F4 - Implementation of Jar Testing**

**Budget = \$67,691**

#### **Objective**

Conduct bench scale testing of water treatment techniques for asbestos removal from storm water and groundwater.

#### **Approach**

URS will conduct groundwater sampling and analysis, and analysis of archived soil samples. A subcontractor will be procured and contracted to perform jar testing of simulated storm water and groundwater samples in accordance with the Jar Testing Work Plan (URS 2008).

#### **Assumptions**

- One field event will be conducted to collect samples and field screening of potential treatment media.
- The actual budget may need to be adjusted, depending on subcontractor bids. Selection and procurement for subcontractors is included in this cost.

#### **Deliverables**

Jar Testing Report.

**Task F7 - Public Communication Support**

**Budget = \$10,000**

***Objective***

Provide support to SFPUC's public information team regarding the communication of NOA-related issues during various phases of the project to the public. Typically this work would include preparation of documents for discussions regarding NOA. Additional requests are anticipated as part of the CEQA process and public review of the environmental documents.

***Deliverables***

Various written material and presentation displays regarding NOA.

**Task F8 - Meetings (Attendance and Preparation)**

**Budget = \$15,000**

***Objective***

Attend meetings to discuss NOA related issues for the CDRP (up to budget limit).

***Approach***

Based on requests.

***Assumptions***

This task includes six meetings where one presenter has 24 hours per meeting to prepare in one dry run with SFPUC, participate and conduct debrief and peripheral activities. Meetings could include public participants, team reviewer Dr. Wayne Berman, and other SFPUC staff. A nominal amount of additional time is provided for staff support.

For this task, one meeting with Cal/OSHA is planned, and an initial meeting or discussion with BAAQMD with delivery of the BAAQMD package. Other meetings may be included as needed.

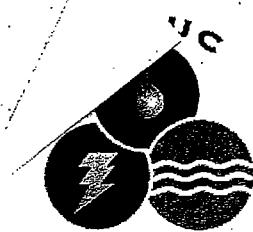
***Deliverables***

As requested or needed, including various written material, presentations, or boards regarding NOA.

**APPENDIX B-3**  
**Agreement No. CS-716, Amendment No. 3A**

**SUMMARY**

Group	Task	Description	Task Totals
A		<b>Project Management</b>	
	A12	URS Project Management (Design Phase)	\$40,000
D		<b>Design Package</b>	<b>Subtotal Group A</b> <b>\$40,000</b>
	D7.2	Revise Divisions 0 and 1 Specs	\$26,646
E.a		<b>Permitting Support</b>	<b>Subtotal Group D</b> <b>\$26,646</b>
	Ea.12	As-needed Technical Support	\$20,000
	Ea.13	As-needed GIS Support	\$15,000
E.b		<b>NOA Compliance Plan</b>	<b>Subtotal Group E.a</b> <b>\$35,000</b>
	C1	Continued Implementation of Baseline Air Monitoring	\$144,000
	C3	Additional Baseline Air Monitoring Station Installation	\$10,000
	C4	Continued CEQA Support for Hazards and Water and Air Quality Sections	\$12,000
	F1	Baseline Dust Accumulation Work Plan and Implementation	\$50,000
	F4	Implementation of Jar Testing	\$67,691
	F7	Public Communication Support	\$10,000
	F8	Meetings (Attendance and Preparation)	\$15,000
			<b>Subtotal Group E.b</b> <b>\$308,691</b>
			<b>TOTALS</b> <b>\$410,337</b>



WATER  
WASTEWATER  
POWER

GAVIN NEWSOM  
MAYOR

ANN MOLLER CAEN  
PRESIDENT

F. X. CROWLEY  
VICE PRESIDENT

FRANCESCA VIETOR  
COMMISSIONER

JULIET ELLIS  
COMMISSIONER

ANSON B. MORAN  
COMMISSIONER

ED HARRINGTON  
GENERAL MANAGER

## SAN FRANCISCO PUBLIC UTILITIES COMMISSION



Contract Administration Bureau

Ivy V. Fine, Manager

1155 Market Street, 9th Floor, San Francisco, CA 94103 • Tel. (415) 551-4603 • Fax (415) 554-3225

October 13, 2009

Michael Forrest  
URS Corporation  
1333 Broadway, Suite 800  
Oakland, CA 94612

RE: 1) Notice of Contract Amendment Certification – Conceptual Engineering Report for Calaveras Dam (CS-716)  
2) Transmittal – Executed Agreement #3B between the City and County of San Francisco Public Utilities Commission and URS Corporation

Dear Michael Forrest,

This letter provides a *notification of amendment certification* for an INCREASE in contract value and duration extension for the following contracted work:

**BLANKET PURCHASE ORDER NO:** *BPUC04000193 – Work may not be charged against this blanket purchase order number*

**SCOPE:**

*No change in scope of work - To provide additional project management, design package services, environmental and permitting support services, naturally occurring asbestos (NOA) compliance plan, and additional as-needed support services.*

**EFFECTIVE DATE:**

September 11, 2003 to September 10, 2016

**CONTRACT TO DATE:**

Total value of contract has been increased to  
**\$24,000,000.00**

Should you have any questions, please do not hesitate to contact Suyin Lim at (415) 554-2418.

Enclosure: Executed Amendment #3B

cc: Dan Wade

File/NCAC 716 amend 3B

**City and County of San Francisco  
San Francisco Public Utilities Commission  
Contract Administration Bureau**

**CS-716**

**Amendment Three B (3B)**

THIS AMENDMENT (this "Amendment") is made as of July 28, 2009, in San Francisco, California, by and between URS Corporation ("Contractor"), and the City and County of San Francisco, a municipal corporation ("City"), acting by and through its San Francisco Public Utilities Commission.

**RECITALS**

WHEREAS, City and Contractor have entered into the Agreement (as defined below); and

WHEREAS, City and Contractor desire to modify the Agreement on the terms and conditions set forth herein;

WHEREAS, On June 10, 2003, per Resolution No. 03-0117, the Public Utilities Commission awarded Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project, to Contractor to provide engineering and environmental support services in the amount of \$4,000,000, and with a term of four years, concluding on September 10, 2007;

WHEREAS, on July 26, 2005, per Resolution No. 08-0041, the Public Utilities Commission approved Amendment No. 1 to Agreement No. CS-716 to continue professional engineering and environmental services for detailed and final design, increasing the original agreement amount by \$8,000,000 to \$12,000,000 and extending the agreement term by two years to September 10, 2009;

WHEREAS, On September 6, 2005, approval for Amendment No. 1 was obtained from the Civil Service Commission per PSC# 4098-02/03;

WHEREAS, on September 20, 2005, approval for Amendment No. 1 was obtained from the Board of Supervisors, per Resolution 674-05

WHEREAS, on March 11, 2008, per Resolution No. 08-0041, the San Francisco Public Utilities Commission approved Amendment No. 2 to Agreement No. CS-716, to provide additional professional services for the final design as well as environmental support services to facilitate the completion of CEQA and NEPA documents and obtain required environmental permits, increasing the agreement amount by \$1,900,000 to \$13,900,000;

WHEREAS, On April 15, 2008, approval for Amendment No. 2 was obtained from the Board of Supervisors, per Resolution 182-08;

WHEREAS, On April 23, 2008, approval for Amendment No. 2 was obtained from the Civil Service Commission per Notice of Action per PSC# 4098-02/03;

WHEREAS, on May 12, 2009, per Resolution No. 09-0079, the San Francisco Public Utilities Commission approved Amendment No. 3 to Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project to increase the agreement amount by \$10,100,000 to \$24,000,000 and extend the agreement term by seven years to September 10, 2016, in order to: provide additional design, environmental and permitting services needed prior to construction to address the naturally occurring asbestos (NOA) and fisheries issues; provide designs to mitigate impacts associated with the Calaveras Dam Replacement Project to be implemented under the Habitat Reserve Program; provide supplemental dam safety engineering analyses requested by the California Division of Safety of Dams (DSOD); provide ongoing permitting support; and provide engineering support during construction, start-up, and commissioning of the project;

WHEREAS on May 12, 2009, the San Francisco Public Utilities Commission authorized the General Manager to split Amendment Three into two parts, Amendment 3A and Amendment 3B. Amendment 3A, dated June 17, 2009, increased the existing Agreement by \$410,337 to allow the Contractor to continue essential critical services while Amendment 3B was pending approval from the Board of Supervisors.

WHEREAS, On June 15, 2009, approval for Amendment No. 3 (including Amendments 3A and 3B) was obtained from the Civil Service Commission per PSC# 4098-02/03;

WHEREAS, On July 28, 2009, approval for Amendment 3 was obtained from the Board of Supervisors, per Resolution 316-09;

NOW, THEREFORE, Contractor and the City agree as follows:

**1. Definitions.** The following definitions shall apply to this Amendment:

**1a. Agreement.** The term "Agreement" shall mean the Agreement dated September 11, 2003, between Contractor and City, as amended by the:

First amendment, dated July 26, 2005;  
Second amendment, dated April 15, 2005; and  
Amendment Three A (3A), dated June 17, 2009.

**1b. Other Terms.** Terms used and not defined in this Amendment shall have the meanings assigned to such terms in the Agreement.

**2. Modifications to the Agreement.** The Agreement is hereby modified as follows:

**2a. Section 1.2 of the Agreement ("Agreement Date and Term of Agreement")**, currently reads as follows:

The effective date of this Agreement is the original date of its certification by the Controller. The term of this agreement shall be seventy-two (72) months from the effective date. The Conceptual Engineering shall be completed within the first eighteen (18) months from the effective date. During the remaining term of the agreement, the Contractor shall complete and provide Detailed Design and Final Design, as well as engineering and technical support for the completion of the environmental review process (CEQA/NEPA).

*Such section is hereby amended in its entirety to read as follows:*

The effective date of this Agreement is the original date of its certification by the Controller. The term of this agreement shall be from September 11, 2003 to September 10, 2016. The Conceptual Engineering shall be completed within the first eighteen (18) months from the effective date. During the remaining term of the agreement, the Contractor shall complete and provide Detailed Design and Final Design, as well as engineering and technical support for the completion of the environmental review process (CEQA/NEPA).

**2b. Section 4. of the Agreement ("Compensation"), currently reads as follows:**

Compensation shall be made in monthly payments on or before the first day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. In no event shall the amount of this Agreement exceed Fourteen Million, Three Hundred Ten Thousand, Three Hundred Thirty Seven Dollars (\$14,310,337), which sum includes four hundred ten thousand three hundred thirty seven dollars (\$410,337) under Amendment No. 3A to provide additional design, environmental and permitting services for the Calaveras Dam Replacement Project. The breakdown of costs associated with this Amendment appears in Appendix B-3, "Amendment 3A Budget," attached hereto and incorporated by reference as though fully set forth herein.

No charges shall be incurred under this Agreement nor shall any payments become due to the Contractor until reports, services, or both, required under this Agreement are received from the Contractor and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Contractor in any instance in which the Contractor has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall the City be liable for interest or late charges for any late payments.

The Controller is not authorized to pay invoices submitted by the Contractor prior to the Contractor's submission of HRC Form 7, "Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report." If HRC Form 7 is not submitted with the Contractor's invoice, the Controller will notify the department, the Director of HRC and the Contractor of the omission. If the Contractor's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Contractor has ten days to file an affidavit using HRC Form 9, "Sub-Contractor Payment Affidavit," verifying that all subcontractors have been paid and specifying the amount.

*Such section is hereby amended in its entirety to read as follows:*

Compensation shall be made in monthly payments on or before the thirtieth day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. In no event shall the amount of this Agreement exceed Twenty Four Million Dollars (\$24,000,000), which sum includes nine million six-hundred eighty-nine thousand six-hundred sixty-three dollars (\$9,689,663) under Amendment No. 3B to provide additional design, environmental and permitting services for the Calaveras Dam Replacement Project. The calculation of charges associated with this Amendment appears in Appendix B-4, "Amendment 3B Calculation of Charges," attached hereto and incorporated by reference as though fully set forth herein. Appendix B-3 and Appendix B-4 combined will be the total budget for Amendment 3.

No charges shall be incurred under this Agreement nor shall any payments become due to the Contractor until reports, services, or both, required under this Agreement are received from the Contractor and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Contractor in any instance in which the Contractor has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall the City be liable for interest or late charges for any late payments.

The Controller is not authorized to pay invoices submitted by the Contractor prior to the Contractor's submission of HRC Form 7, "Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report." If HRC Form 7 is not submitted with the Contractor's invoice, the Controller will notify the department, the Director of HRC and the Contractor of the omission. If the Contractor's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Contractor has ten days to file an affidavit using HRC Form 9, "Sub-Contractor Payment Affidavit," verifying that all subcontractors have been paid and specifying the amount.

**2c.** Amendment 3B amends the existing Agreement by adding Appendix A-4 in its entirety which provides additional scope of work.

**2d.** Amendment 3B amends the existing Agreement by replacing Attachment 1 in its entirety with Appendix B-4.

**3. Effective Date.** Each of the modifications set forth in Section 2 shall be effective on and after the date of this Amendment.

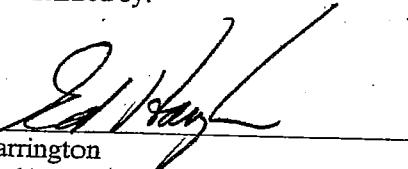
**4. Legal Effect.** Except as expressly modified by this Amendment, all of the terms and conditions of the Agreement shall remain unchanged and in full force and effect.

///  
///  
///

IN WITNESS WHEREOF, Contractor and City have executed this Amendment as of the date first referenced above.

**CITY**

Recommended by:

  
Ed Harrington  
General Manager

San Francisco Public Utilities Commission

Approved as to Form:

Dennis J. Herrera  
City Attorney

By:



Deputy City Attorney

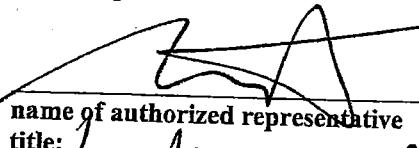
Approved:



Naomi Kelly  
Director of the Office of Contract Administration,  
and Purchaser

**CONTRACTOR**

URS Corporation

  
name of authorized representative  
title: *Lois Armstrong, SVP*

City vendor number: 19103

Appendix A-4  
SCOPE OF WORK

Agreement No. CS-716, Amendment No. 3B

July 7, 2009

**TASK GROUP A – Project Management**

**I. TASK A12 – PROJECT MANAGEMENT**

**A. Budget = \$223,687**

**B. Objectives**

Provide project management through the extended design, bid and award period, to construction notice to proceed in February 2011.

**C. Approach**

- Project management will extend over the forecasted design, bid and award period, ending with the construction notice to proceed in February 2011. Because the original notice to proceed was scheduled for February 2009, the project management will be extended by 24 months. Project management will include project coordination and attendance at monthly project status meetings with SFPUC.

**D. Assumptions**

- This task is budgeted for September 2009 through February 2011.

**E. Deliverables**

- Monthly progress reports and monthly meeting agendas and progress meeting summaries.

**TASK GROUP C – Engineering Studies**

**I. TASK C2 – EMBANKMENT**

**A. Budget = \$136,800**

**B. Objectives**

Provide additional final design services related to the embankment dam details, for submittal to environmental regulatory agencies and DSOD.

**C. Approach**

- Re-design Disposal Sites 3 and 7 to accommodate NOA materials. Because the disposal sites will contain NOA materials, the disposal sites will need to be designed to protect waters of the U.S. and be approved by the RWQCB and other permitting agencies. In addition, the DEIR stated that these sites will need to be evaluated for geotechnical conditions such as seismic stability and fault rupture protection. Accordingly, prepare a technical memorandum that documents the results of static and seismic stability, including liquefaction potential, and surface and subsurface drainage. Provide design details that address potential fault rupture in the two disposal sites, such as maintaining continuity of subsurface drainage zones and the sandstone cap on the disposal sites to prevent exposure of the NOA materials.

- In a September 17, 2007, letter, DSOD requested that the effects of the seismic deformation of the existing dam on the intake adits be evaluated. Accordingly, design an intake adit protection berm to mitigate the impact of liquefaction failure of the existing dam on the intake adits. Prepare a technical memorandum that documents the rationale for the design of the intake adit protection berm.
- In review comments to the draft GIR dated May 29, 2007, DSOD requested that the mélange foundation shear strength parameters that were re-evaluated based on additional field and laboratory test data and used to confirm the stability of the dam be documented in the final GIR. Prepare a technical memorandum for incorporation into the final GIR that documents the results of the shear strength evaluation.
- Due to the soft mélange foundation discovered in the upper right abutment of the dam foundation, perform stability analyses of the replacement dam at that location. Furthermore, documentation of the stability of the dam on the left abutment was requested in a comment in CTAP #7. Likewise, the stability of the dam considering the effects of Disposal Site 2 on seismic deformation of the dam was requested in a comment in CTAP #8. Prepare a technical memorandum documenting the results of the analyses in these three areas of the dam.
- Prepare a technical memorandum on embankment filter and drain design to support gradations of these critical embankment elements, for submittal to DSOD for review.

#### **D. Deliverables<sup>1</sup>**

Submit the following technical memoranda:

- Redesign of Disposal Sites 3 and 7 and Evaluation
- Intake Adit Protection Berm and Evaluation
- Evaluation of Mélange Shear Strength Parameters Based on Additional Field and Laboratory Data
- Analysis of Replacement Dam at Station 11+00, 18+00 and Disposal Site 2
- Embankment Filter and Drain Design

---

<sup>1</sup> General notes on Deliverables for all tasks:

- Contractor will submit one revision round and one final of each deliverable.
- For deliverables that require review and comment from regulatory agencies, contractor will submit an interim electronic draft version of each deliverable for SFPUC internal review and comment prior to submittal of a revised hard copy draft version (with SFPUC comments incorporated) to the regulatory agencies.
- Contractor will provide 20 hard copies and one electronic copy on a CD for each draft and final deliverable unless specifically stated otherwise. (Contractor will confirm with SFPUC the number of hard copies to be provided with each deliverable.)
- SFPUC will consolidate and provide Contractor with all review comments of draft submittals in a summary table format.
- Contractor will provide responses to review comments in the summary table from SFPUC.

## II. TASK C4 – RIGHT ABUTMENT LANDSLIDE STABILIZATION

### A. Budget = \$14,600

### B. Objectives

Design the construction phase right abutment landslide stabilization.

### C. Approach

- Temporary construction, such as tie back walls, is normally designed by the contractor. However, due to the potential impact on construction schedule of this early work, an engineer-designed temporary structure will be required. CTAP Report 7 recommended that the design for stabilization be carried out by URS and not left for subsequent decision by the construction contractor.
- Perform stability analyses of the landslide stabilization and structural analyses of the soldier pile/tie-back system, and document the design results in a technical memorandum. Prepare design basis of the soldier pile, lagging and tie-back system for the construction phase stabilization.

### D. Deliverables

- Right abutment landslide stabilization technical memorandum

## III. TASK C5 – SPILLWAY

### A. Budget = \$149,624

### B. Objectives

Provide additional final design services related to the spillway details.

### C. Approach

- Based on constructability issues with the left abutment core trench excavation, confirm that open channel chute spillway is the most cost-effective alternative. Prepare technical memoranda on spillway alternatives evaluation.
- Based on the results of SFPUC's value engineering study, evaluate the use of sloping left spillway walls, and recommend whether sloping or vertical walls should be used in the design.
- Because the spillway location was shifted to the east toward the dam, the excavation in Observation Hill was reduced. As such, a gravity wall will be required that will serve as the left abutment of the dam and as part of the spillway chute. Perform a dynamic analysis of the left abutment spillway gravity wall to evaluate the amount of potential lift of the wall from the foundation during the design earthquake (MCE). Design anchor system to reduce transient uplift of the wall. Prepare a technical memorandum on the analysis methodology, parameters, results and recommendations for anchor system. Discuss analysis findings and results with DSOD and SFPUC.
- Because the spillway excavation slope in Observation Hill (near the dam crest) and the stilling basin cut are both about 450 feet high, and due to the high seismic shaking potential at the dam site, acceptable seismic deformations need to be demonstrated. Prepare technical memorandum on the spillway excavation seismic deformation analyses for submittal to DSOD for review.

- Prepare a spillway structural technical memorandum for submittal to DSOD for review. Provide analysis criteria including design loading and assumptions used to evaluate structural walls and floor slabs. Present design methodology, results of stability and structural analyses in the technical memorandum.

**D. Deliverables**

Submit the following technical memoranda:

- Spillway alternatives evaluation
- Vertical or sloping left spillway walls – evaluation and memo for VE
- Gravity wall analysis and design, iterations
- Spillway Excavation Slope Seismic Deformation
- Preparation of Spillway Structural Analysis

**IV. TASK C7 – OUTLET WORKS**

**A. Budget = \$26,000**

**B. Objectives**

Provide additional final design services related to the spillway details.

**C. Approach**

- Analyze and evaluate loading induced by seismic motions on standpipe and design means of support for the standpipe. Prepare a technical memorandum to present loading and assumptions to evaluate standpipe and support conditions. Present analysis methodology, results and conclusions.
- Additional review and revision of SFPUC work/Outlet works.

**D. Deliverables**

- Technical sections for installation in the outlet works technical memorandum

**TASK GROUP D – design Package**

**I. TASK D5 – 95% DESIGN**

**A. Budget = \$61,610**

**B. Objectives**

Provide additional final design drawing details and rationale as requested by SFPUC.

**C. Approach**

- Design a permanent unpaved access road, called the Marsh Connector Road, which will provide access to Borrow Area B during construction and to environmental mitigation areas for the project.
- Incorporate into the 95 percent design, requirements for repaving of Calaveras Road between the dam access road and I-680.
- The current location of the Intake Tower Access Road is on existing fill materials that will potentially become unstable after the approach channel is excavated through the existing dam. Reconfigure the alignment of the Intake Tower Access Road to avoid being founded on the existing embankment fill materials.

- Exploration adits dating back to the early 1900's were discovered in the north part of the dam foundation. The locations of these adits will need to be shown and designated for treatment such as backfilling, partial excavation, and drainage where they underlie the footprint of the dam.
- Prepare cost estimate back-up for NOA health and safety, air monitoring, productivity losses, and other associated costs in the 95% construction cost estimate.
- Attend site meetings with SFPUC on instrumentation planning for remote survey system and the State's strong ground motion array.
- Attend one 4-hour review meeting with SFPUC and its construction cost estimation contractor to respond to comments on URS' 95% construction cost estimate.

**D. Assumptions**

- Attend three site meetings with SFPUC for planning for remote survey system and the State's strong ground motion array.

**E. Deliverables**

- Drawings showing plans, sections and details Marsh connector road and Calaveras Road repaving, exploration adit treatment, and instrumentation details to accommodate State's strong ground motion array.
- Back-up estimates for NOA health and safety and air monitoring for inclusion in the 95% construction cost estimate technical memorandum.

**II. TASK D7 – 100% DESIGN**

**Budget = \$51,469 (of this amount, \$33,419 is as-needed)**

**A. Objectives**

Prepare grouting manual for field personnel, revise Division 0 and 1 specifications, and perform optional as-needed 100% design tasks as authorized by SFPUC.

**B. Approach**

Subtask D7.1 – Grouting Manual: A grouting manual is considered necessary by DSOD. URS will prepare a grouting manual to be used by CM and engineering personnel. The manual will define team roles and responsibilities, grouting objectives, construction requirements and procedures, equipment, grouting work, cored verification holes, and survey control points.

Subtask D7.2 – Revise Divisions 0 and 1 Specifications: Identify potential specification deviation from SFPUC standard Divisions 0 and 1. We have allowed for six meetings with Contract Administration or City Attorney to reconcile deviations from the standard specifications. This task also includes preparing memoranda on resolutions.

Subtask D7.3 – As-Needed Tasks (As-Needed):

- Prepare response to future DSOD concerns.
- Further study and design on remote monitoring instrumentation and support as requested from SFPUC.
- Outlet works shutdown impact analysis if construction schedule changes due to other factors.

- Design to address Alameda/Santa Clara County concerns on road closure, traffic impact, and restoration.

**C. Assumptions**

- Subtask D7.2 – Assumed six meetings with Contract Administration or City Attorney

**D. Deliverables**

- Subtask D7.1 - Draft and Final Grouting Manual.
- Subtask D7.2 – Memoranda from meetings, presenting resolutions for inclusion in the specifications, and updated specifications.
- Subtask D7.3 – Tabular response to DSOD comments; revised drawings and specifications on remote monitoring instrumentation; memorandum on outlet works shutdown impact analysis; and memorandum on road closure, traffic impact, and restoration.

**III. TASK D13 – CONSTRUCTION COST ESTIMATE/VE (NOA) (AS-NEEDED)**

**A. Budget = \$40,334**

**B. Objectives**

As requested by SFPUC, evaluate ways to reduce construction costs considering the naturally occurring asbestos (NOA) issue.

**C. Approach**

- NOA occurs in the Franciscan Formation that exists in the dam site. The project components that involve NOA consist of (a) rock Borrow Area B, (b) stilling basin excavation, (c) dam foundation and (d) intake adits and shaft. Upon request from SFPUC, URS will assess the costs of project components that involve NOA. SFPUC and URS will conduct workshops to determine whether certain components can be eliminated from the project or re-designed to reduce construction costs. The workshops may involve CTAP and Program Manager participation.

**D. Assumptions**

- Allow for two 4-hour workshops with SFPUC.

**E. Deliverables**

- Meeting agendas, handouts, and summaries of main points, decisions and actions.

**IV. TASK D14 – BID COST STRATEGY FOR NOA**

**A. Budget = \$40,840**

**B. Objectives**

Establish a fair basis for competitive bidding strategy to accommodate the site NOA issues.

**C. Approach**

The bid documents will need to be practical and implementable and still meet health and safety requirements regarding NOA. The bid documents will need to provide for variations in the duration that certain health and safety restrictions will be in effect. This task will include the following activities:

- Review the bidding approach used for other projects involving NOA.

- Workshops with SFPUC to develop a list of bidding strategies along with the advantages and disadvantages for each strategy during the first workshop. The bidding strategies will be evaluated and a recommended strategy will be chosen during the final workshop

**D. Assumptions**

- Allow for two 4-hour workshops with SFPUC.

**E. Deliverables**

- Memorandum on rationale for bidding strategy to accommodate the site NOA issues and incorporation of these strategies in the 100% bid documents.
- Meeting agendas, handouts, and summaries.

**TASK GROUP EA – Permitting Support**

**I. TASK EA.9 – SPECIALTY RESTORATION DESIGN**

**A. Budget = \$207,300**

**B. Objectives**

Prepare restoration plans, specifications and cost estimates (PS&E) for the specified habitats and locations that will be disturbed during construction, as listed below:

- Riparian scrub at new Calaveras Creek low flow release channel downstream of the new dam
- Seasonal wetlands at lower margin of Disposal Site 3
- Seasonal wetlands at Borrow Area E
- Shrub and grasslands at Borrow Area B
- Grasslands at Disposal Site 7 and upper portion of Disposal Site 3.

**C. Approach**

- Ecologists, hydrologists, and design engineers will:
  - Conduct field visits;
  - Make hydrology and hydraulics study/predictions;
  - Review proposed dam operation and historic water surface elevation fluctuations to assess effects on plant establishment;
  - Evaluate watering requirements and options; and
  - Coordinate to maximize use of existing plans and specs and to define restoration integration limits, define number of plan sheets per site, and explore and make recommendations on how to successfully integrate the specialty work with the prime contract (e.g., schedule, warranty period, maintenance periods, retainage).
- Conduct kick-off meeting to finalize habitat restoration design objectives based on the "Opportunities for Restoration of Construction Areas" memo (dated 2/6/08), as modified during the May 8, 2008 meeting with SFPUC staff, and above activities.
- Prepare design documents, 35% plans, identify the existing specifications that can be used and list new specifications that will be prepared, and prepare a construction cost estimate for the 5 sites, followed by 95% and 100% PS&E.

**D. Assumptions**

- Draft concepts and final design will involve one round of meetings for each submittal.
- URS will receive consolidated comments.

**E. Deliverables**

- Draft and final design plans, specifications outline and cost estimate at 35%
- Plans, specs and cost estimate at 95% and 100%.and incorporation into bid documents.

**II. TASK EA.10 – OBSERVATION HILL AND BORROW AREA B OAK RESTORATION DESIGN (AS-NEEDED)**

**A. Budget = \$66,074**

**B. Objectives**

As requested by SFPUC BEM, prepare draft and final planting plans and specifications for oak plantings in temporary disturbance areas near Observation Hill and Borrow Area B to minimize potential visual impacts and restore affected oak woodland habitats.

**C. Approach**

The following approach will be utilized to complete this task:

- Review potential planting sites based on aerial photography and a site visit.
- Identify appropriate planting densities and species composition for each of the potential planting sites.
- Prepare draft oak tree planting plans and specifications for SFPUC review.
- Present the proposed plans and specifications to the SFPUC project team and identify potential comments and questions.
- Revise the draft planting plans and specifications to address SFPUC comments and questions; submit the revised plans and specifications to SFPUC for review.
- Meet with SFPUC project team to finalize the plans and specifications.

**D. Assumptions**

- Plan will address temporary disturbance areas associated with Borrow Area B and Observation Hill
- One iteration of SFPUC review and comments
- Two meetings at SFPUC offices

**E. Deliverables**

- Draft Planting Plan 14 weeks after NTP
- Final Planting Plan 5 weeks after receipt of SFPUC comments.

### III. TASK EA.11 – SECOND DEIR SCREEN CHECK REVIEW

#### A. Budget = \$69,168

#### B. Objectives

C. *Review the second DEIR screen check and provide comments and technical support to BEM as requested. Support the “war room” review of the final version of the DEIR. This task would focus on integrating the current status of the permitting efforts into the DEIR, including NOA evaluations, endangered species, water quality, hydrology, wetlands, and biological resource compensation.*

#### D. Approach

This task would include the following efforts of URS environmental and engineering staff as requested by BEM to support the review and preparation of the DEIR:

- Conduct up to two rounds of focused technical reviews of the second screen check version of the DEIR.
- Provide data, technical descriptions and other resources for incorporation into the DEIR.
- Develop additional information required by the environmental review team to integrate updates from the permitting efforts related to the USACE, USFWS, RWQCB, NMFS, and CDFG. This effort would include information related to fisheries resources, endangered species, habitat compensation, and wetlands.
- Coordinate and transmit comments to SFPUC.
- Provide additional as-needed technical review during the war room reviews with SFPUC, MEA and ETJV. Multiple technical specialists, including biologists, cultural resource specialists, hydrologists, air quality scientists, water quality scientists, and others would be available to attend the war room review at the request of BEM.
- Meet with SFPUC and MEA to resolve technical questions.

#### E. Assumptions

- *The second screen check review will consist of focused technical reviews of DEIR sections as requested by SFPUC.*
- *The final DEIR “war room” review by URS technical staff includes up to 15 working days with multiple staff as requested by SFPUC.*
- *Up to twelve additional meetings with BEM, PMB and MEA would be included as requested by SFPUC.*

#### F. Deliverables

Consolidated focused comments on the second screen check, electronically submitted approximately 15 days after receipt of the second screencheck version of the DEIR. Other potential deliverables may include memorandums that describe additional design or technical details related to the environmental review as requested by BEM.

#### **IV. TASK EA.12 – AS-NEEDED TECHNICAL SUPPORT**

##### **A. Budget = \$51,299**

##### **B. Objectives**

Provide as-needed support for SFPUC responses to Agency and MEA information requests.

##### **C. Approach**

This task would include URS environmental and engineering support for technical data and coordination needs that may arise during preparation of the DEIR and subsequent reviews and responses to agency data requests. As requested and directed by SFPUC, URS will:

- Provide environmental information and/or data to respond to requests from MEA. Examples would include in-depth evaluations of specific project details, additional site visits to resolve agency questions, and additional environmental data as requested by BEM.
- Evaluate environmental effects of proposed project design and develop potential design options to avoid or minimize potential effects.
- Prepare technical memoranda that address specific questions or information as requested by BEM.

##### **D. Assumptions**

- The scope of the environmental support provided under this task will be determined on a case by case basis in coordination with SFPUC.

##### **E. Deliverables**

- As-requested by SFPUC, potential deliverables may include electronic correspondence, technical memoranda, or other documentation to support environmental efforts.

#### **V. TASK EA.13 – AS-NEEDED GIS SUPPORT**

##### **A. Budget = \$34,711**

##### **B. Objectives**

Provide GIS support services to BEM as requested to illustrate and organize design details for the environmental review and permitting teams.

##### **C. Approach**

The environmental review team utilizes geographic information system software to evaluate potential impacts and prepare graphics for the environmental review documents. The need for additional GIS data and illustrations of specific design features is anticipated to increase during the permitting phase of the project. URS will continue to provide updated GIS data and graphics to the environmental team (BEM, ETJV and MEA) as requested. This task will include but is not limited to the following GIS support:

- Prepare GIS data, maps, and other graphics as requested by SFPUC to support the environmental permitting efforts and respond to data requests from agency personnel.
- Convert project design drawings to GIS files for transmittal to the environmental review team (ETJV and MEA).

- Prepare GIS graphics for meetings and presentations as requested by SFPUC.
- Maintain and organize the GIS data library for the design team for future use by SFPUC or the environmental review team.

**D. Assumptions**

- The scope of the GIS support provided under this task will be determined on a case by case basis in coordination with SFPUC.
- Transfer of GIS data will only occur as directed by SFPUC.

**E. Deliverables**

- Requested information on an as-needed basis. Typically maps will be delivered in color pdf format for ease of viewing and hard copy as requested. Data will be transferred to members of the environmental team as requested by SFPUC.

**VI. TASK EA.14 – HABITAT RESERVE PROGRAM MITIGATION DESIGN & ENGINEERING (PHASE 2)**

**A. Total Budget = \$899,905 (Subtasks Ea.14-1 to Ea.14-6)**

**VII. SUBTASK EA.14.1 TASK COORDINATION**

**A. Budget = \$82,243**

**B. Objectives**

Coordinate and communicate within the URS staff team, and between the URS team and the SFPUC, subconsultants, agency staff and stakeholders.

**C. Approach**

- Project coordination tasks include coordination and communication within the URS staff team, and between the URS team and the SFPUC, subconsultants, agency staff and stakeholders. The task manager is responsible for budget tracking and management, invoicing, quality assurance and quality control, project files, scheduling and meeting facilitation. The task management task will include preparation of a project management plan and quality assurance/quality control. The task manager will schedule monthly client project progress and/or coordination meetings. Various URS staff will attend as required to address agenda topics.

**D. Assumptions**

- The SFPUC will approve the URS staff and subcontractors required for this project.

**E. Deliverables**

- Scope and schedule updates, invoices with summary cover letters, meeting notes.

**VIII. SUBTASK EA.14.2 REVIEW BACKGROUND MATERIAL, DEFINE SITE BOUNDARIES, CONFIRM DESIGN OBJECTIVES**

**A. Budget = \$42,152**

**B. Objectives**

- Review and revise as necessary HRP sites' goals and objectives.
- Become familiar with the conclusions and recommendations of the various background reports.
- Locate and obtain relevant files from the SFPUC Define Site Boundaries, Confirm or Revise Design Components, and Identify Data Gaps

- To define site boundaries, confirm or revise design components, and to identify data gaps.

### C. Approach

The following documents will be reviewed as part of this task:

- EDAW and Turnstone, Joint Venture (2008). *Draft Mitigation and Monitoring Plan for the Waters of the United States, Calaveras Dam Replacement Project, Alameda and Santa Clara Counties, California*. Administrative Draft issued May 2008.
- EDAW and Turnstone Consulting Joint Venture (2008). *Draft Wildlife and Vegetation Mitigation and Monitoring Plan, Calaveras Dam Replacement Project, Alameda and Santa Clara Counties, California*. Working Draft issued July 2008.
- ICF Jones & Stokes 2008. *Conceptual Engineering Checklist Reports for Environmental Review – Attachment 6b, PP1 Project Site, Sunol Valley Region, Santa Clara County, California*. Draft issued May 2008.
- RR4, YE1, and PP1 Maps.
- Existing grazing management plan for the Calaveras Watershed (1997).
- Existing Pond Management Plan for the Watershed.
- Existing fire management plan for the Calaveras Watershed.
- Weed mapping data for the Watershed (done by Nomad Ecology).
- Alameda Watershed Management Plan.

This task includes locating and obtaining digital files from SFPUC, their subcontractors, and other URS Calaveras work for boring logs, hazardous materials reports, digital mapping data including: topography, land use, soils, vegetation, roads, structures, utilities, property boundaries, and water features, digital tabulations of rainfall, evapotranspiration, infiltration, and hydrologic data, digital copies of existing hydrology and hydraulics studies, reports, and model files previously prepared for the mitigation areas, base maps of existing features and proposed reservoir related features in AutoCAD, geo-rectified aerial photographs. Digital topographic base maps with the appropriate contour interval exist for all the areas listed in the introduction.

Phase 2 team site visit for the purpose of ground-truthing project site boundaries using GPS equipment or by annotating an aerial photo, to ground truth our assessment of data and data gaps and determine how to address these information needs, and make observations confirming or revising the mitigation design objectives for each site.

A technical memorandum will be prepared summarizing the results of the review, a map of each site's boundaries, and analyzing site goals and objectives from the design, construction and performance perspective.

### D. Assumptions

- Topographic data available from the USGS National Elevation Dataset (10 meter) will be sufficient in most cases to inform field studies and overview design. Some tasks, such as hydrology studies or grading design, will require more precise

elevation data. SFPUC will provide this data, either in available LiDAR or through a field survey.

- There will be no substantial change to the site's perimeter or an increase in the number of sites.

#### E. Deliverables

- Task 1 draft technical memorandum summarizing the results of the review, a map of each site's boundaries, and analyzing site goals and objectives from the design, construction and performance perspective.

### IX. SUBTASK EA.14.3 HYDRAULIC STUDIES

#### A. Budget = \$48,897

#### B. Objectives

Perform the hydraulic analysis for the mitigation sites to support permitting and design.

#### C. Approach

- For restoration reaches, the hydrology models developed under the Phase 1 scope will be used with existing conditions surveys and proposed designs to develop hydraulic models of the reaches for the design events using the HEC-RAS software. The hydraulics models will estimate channel velocities and stage during storm events to assist in evaluating proposed channel stability and determine the extent and frequency of flooding. Sediment transport during selected design events (i.e. low flow and bank-full) will also be modeled in the HEC-RAS to provide a greater understanding of channel stability.
- Hydraulic modeling is expected to be performed on the following reaches:

San Antonio Creek in the San Antonio Mitigation Area	11,10 l.f.
Calaveras Creek in the South Calaveras Mitigation Area	3,400 l.f.
San Antonio & Calaveras Creeks Reference Site	2,000 l.f.
Ephemeral Stream in the South Calaveras Mitigation Area	1,850 l.f.
Ephemeral Drainage below the Stock Pond in the South Calaveras	1,200 l.f.
<b>Total length:</b>	<b>19,550 l.f.</b>

- For pond outlet designs, the hydrology models developed under the Phase 1 scope will be used with existing conditions surveys and proposed designs to develop pond routing models using industry standard software (e.g., Hydraflow Hydrographs, PondPack, or other). For the design event(s), the pond routing models will estimate peak storm elevation and discharge from the ponds to inform the design of proposed dams or retrofit of existing dams.
- Pond routing is expected to be performed for 3-5 design events, e.g., 2-yr, 5-yr., 10-yr, at the Goldfish Pond and the Stock Pond.
- Bridge scour at the proposed San Antonio Creek Bridge will be analyzed for the bridge design event as necessary.

#### D. Assumptions

- SFPUC will provide, on CD or DVD, all data, mapping, and drawings necessary for the work.
- No pond routing analyses at Ponds 18, 19, nor Goat Rock.

#### **E. Deliverables**

- The information gathered in this task will be presented in the Study Summary Technical Memo.

#### **X. SUBTASK EA.14.4 RESTORATION DESIGN PLANS & SPECIFICATIONS**

##### **A. Budget = \$634,338**

##### **B. Objectives**

Take the conceptual design product from Phase 1 and prepare a full 30% design plan. After SFPUC review and comments on the 30% plan, develop the 60% (concrete structures only), 90%, 100% design plans, technical specifications, and cost estimates for the mitigation activities at each of the sites.

##### **C. Approach**

- Take the conceptual design product from Phase 1 and prepare a full 30% design plan. After SFPUC review and comments on the 30% plan, develop the 60% (concrete structures only), 90%, 100% design plans, specifications, and cost estimate for the following components, at applicable sites:
  - Pond grading and draining
  - Pond outlet structure stabilization or reconstruction with gravity drains
  - Wetland, pond, and riparian habitat enhancement or creation
  - Channel restoration or enhancement design
  - Floodplain reconnection
  - Irrigation performance specifications
  - Water transfer systems (solar pumps, pipelines, tanks, troughs)
  - Temporary and permanent fencing
  - Railcar bridge
  - Special status species habitat enhancement, e.g. rock outcrops, partial pond fencing
  - Special status species pre-construction salvage and relocation of native aquatic species and removal and disposal of non-native predatory species that may impact native aquatic species found within the ponds
  - Vegetation installation: planting depth, plant installation spacing, herbivore protection. Vegetation warranty period performance criteria and post warranty period maintenance until plants are established.
  - Hazardous materials disposal of asbestos containing building materials and lead from South Calaveras.
- Designs will also address traditional construction issues such as: construction timing, equipment specifications, temporary construction access routes (permissions to be obtained by SFPUC), staging areas, soil disposal locations, site preparation and finish grading for plants, temporary erosion and sediment control, maintenance during construction, demolition of existing structures, hazardous material handling practices, and worker safety protocols.
- Designs will integrate engineering and biological components. For example, the design will include the most recent scientific input on breeding pond design for California red-legged frog (RLF), foothill yellow-legged frog (FYL), and California

tiger salamander (CTS). In particular, this input will involve the type and location of fencing within the Goldfish Pond and Stock Pond to provide an appropriate balance of vegetative cover and open water habitat. Additional information regarding pond bathymetry and habitat preferences for these species will be integrated and predator control specifications will be prepared for Goldfish Pond, Stock Pond, Pond 18, and Pond 19. Construction scheduling restrictions related to these species will be defined, i.e. earthwork will need to occur between July 31 and October 31st when egg masses and larval CTS and RLF are not expected to be present in the ponds and plant installation between October 1 and December 31.

- Design plans, specifications, and cost estimates will be developed and submitted to SFPUC for review at 30%, 60% (concrete structures only), 90%, and 100% design stages. A Detailed Design Report will accompany each design submittal. 100% design plans and specifications are intended as construction documents for use during bidding and construction by pre-qualified restoration contractors. An additional review at the 60% design level will be prepared and submitted for concrete structures.

#### **D. Assumptions**

- Detailed field surveys for all creek enhancement sites will be provided by SFPUC to URS in autocad format with two foot contours and survey point data.
- Plans and specifications will be prepared with the same title block and drawing standards as the Calaveras Dam Replacement Design (URS).
- 60% design plans, specifications, and costs for design features other than those listed above (concrete structures only) are not included in this scope of work. Should 60% submittal be required for additional features, an amended scope and budget will be prepared for SFPUC approval.
- Project staff will meet to discuss deliverable requirements, technical methods, and schedule prior to drafting each deliverable.
- URS will prepare technical specifications only and Division 1 specifications will be added by SFPUC.
- National elevation data set data will be sufficient for designing spoil area at Goat Rock. If this is not the case, SFPUC will provide survey data.
- Irrigation plans and specifications will not be prepared as part of this scope of work. Irrigation planning will be the responsibility of the construction contractor. Irrigation performance specifications will be prepared and included with the bid package as guidance for the construction contractor.
- No surveys for RLF or CTS will be conducted as part of this scope.
- SFPUC submittal review duration is three weeks.
- South Calaveras is the only site with hazardous materials assessment and disposal design, for ACM and lead.

#### **E. Deliverables**

- 5 hard copies of half size (11"x17") construction plans and standard technical specifications documents will be submitted for each deliverable. Electronic versions as pdf documents can be supplied upon request.

- 30% design plan and technical specifications submittal with draft cost estimate based on 30% design and detailed design report.
- 60% design plans, technical specifications, draft cost estimate, and detailed design report for features that include concrete: bridge abutments, outlet structures, solar pump foundation pads.
- 90% design plan and technical specifications submittal with draft cost estimate based on 90% design and detailed design report. Including responses to comments on the 30% design submittal in tracking table that includes the comment, source page and resolution with page or sheet number as appropriate.
- 100% design plan and technical specifications submittal and final cost estimate based on 100% design. Including responses to comments on the 90% design submittal in the format described above.

**XI. SUBTASK EA.14.5 VEGETATION, GRAZING AND POND MANAGEMENT PLAN**

**A. Budget = \$66,027**

**B. Objectives**

Prepare a vegetation, grazing and pond management plan ("the Plan") for Goldfish Pond, Stock Pond, Pond 18, Pond 19 and Goat Rock.

**C. Approach**

A vegetation, grazing and pond management plan ("the Plan") will outline goals and objectives for vegetation, grazing and pond (Goldfish Pond, Stock Pond, Pond 18, and Pond 19) management at each mitigation site. Management goals and objectives will be designed to meet mitigation requirements, as well as goals that can fit into a larger grazing and vegetation management plan for the 30,000 acre Alameda watershed.

URS will endeavor to locate and review the following documents to inform the plan:

- 2009-2009 Invasive Weed Study (Nomad Ecology, in progress);
- Alameda Watershed Fuels Management Plan (SFPUC unknown date).
- Alameda Watershed Pond Management Plan (SFPUC unknown date)

The Plan will address predator control, sediment management and other measures for enhancement of sensitive species habitats (including habitat for foothill yellow-legged frog, red-legged frog and California tiger salamander) based on an understanding of site ecology. The Plan will address sensitive plant communities and sensitive plants and wildlife that occur or have potential to occur (suitable habitat) within the mitigation sites.

Grazing and vegetation management strategies for achieving management goals will be outlined in the Plan. Potential monitoring objectives and adaptive management strategies will be suggested in the plan, however, a detailed monitoring design, implementation or analysis of data and thresholds is not included. Management strategies will be based upon and consider:

- Information from knowledgeable individuals on the most up to date, successful management strategies (for control of invasive plants and wildlife with and without grazing, management techniques for enhancing serpentine grasslands, etc.);
- Current grazing regime and existing grazing management plan. Establishment of grazing carrying capacity will draw upon existing data collected by SFPUC on Residual Dry Matter (RDM), as well as existing data on soils, topography slope and aspect. No new measurements of RDM will be collected;
- Existing vegetation, sensitive species, slope, topography, infrastructure, soils and

- hydrology at each mitigation site;
- The surrounding environs (vegetation, land use, topography, sensitive habitats, etc. adjacent to the mitigation sites);
- Type and density of non-native wildlife and fish predators at mitigation ponds (Goldfish Pond, Stock Pond, Pond 18, and Pond 19);
- Wildlife movement; and
- Feasibility.

**D. Assumptions**

- Two site visits will be conducted to evaluate current site conditions (invasive plants, cattle impacts, native vegetation, erosion, etc.).
- Existing mapping of invasive plants, as well as the two (winter) site visits, will be sufficient to establish what invasive plants should be addressed in the Plan.
- The grazing management component of the Plan will be reviewed and approved by SFPUC Certified Rangeland Manager, Tim Koopman.
- No new mapping of vegetation communities, sensitive habitats, exotic plants or sensitive plant species will be performed under this task.

**E. Deliverables**

A draft report will be submitted to SFPUC for review and changes will be incorporated into a final report. The report will include:

- Infrastructure specifications such as fencing, placement of water sources, cattle supplements and other cattle-related infrastructure;
- Discussion of historical grazing regime;
- An evaluation of potential effects of varying grazing regimes on sensitive biological resources (amphibians, wildlife, plants, plant communities, avian species);
- Grazing capacity of the restoration sites (estimated);
- Season and intensity of grazing based on management goals, current plant communities, hydrology and sensitive species;
- A conceptual monitoring program and adaptive management strategies; and
- Strategies for optimizing the control of target invasive plants based upon the flowering time, level of threat and reproduction methods of various target plant species.

**XII. SUBTASK EA.14.6 PERMITTING SUPPORT**

**A. Budget = \$27,552**

**B. Objective**

Support SPUC permit application process.

**C. Approach**

- The first step will be to finalize project engineering design criteria and habitat mitigation design criteria to both support the permitting effort and coordinate with the proposed design.
- The SFPUC may choose to use the 30% design submittal to finalize and obtain permits. The design will be presented to the interagency task force for the Calaveras Dam Replacement Project. This task includes attendance at up to 4 meetings to

assist SFPUC in answering questions and comments from the interagency task force.

**D. Assumptions**

- Four meetings are included in the scope, to be attended by two URS staff, selected as appropriate to meet the specific meeting objectives.

**E. Deliverables**

- Meeting notes.

**TASK GROUP EB – NOA COMPLIANCE PLAN**

For construction activities associated with the Calaveras Dam Replacement Project, a Compliance Plan will have to be developed to address potential issues related to the presence of naturally occurring asbestos (NOA) and potentially other excavated materials and materials containing elevated concentrations of NOA and metals at the Proposed Project Site. The Compliance Plan was developed under Agreement Amendment 2 as a Scope of Work. During the implementation of these activities, additional activities were identified or tasks were found to require additional work that will be provided under this Agreement Amendment 3.

The following documents were prepared: NOA and Metals Evaluation Report, the Water Quality Evaluation Memorandum, the Dust Mitigation Plan (DMP), the BAAQMD and CalOSHA Requirements Memorandum, and various supporting documents. In addition, background air monitoring for asbestos and metals was commenced in August 2008.

**Compliance Plan Objectives**

The overall objectives of the NOA Compliance Plan are, as follows:

- Provide a NOA compliance approach that includes a procedure to gain regulatory concurrence.
- Provide documents required for air, water, and worker safety in accordance with the regulatory agency requirements.
- Integrate the requirements into the project bid documents.

Due to the complexity of the project, additional Phase I work is ongoing and is included herein to document additional work requested and/or deemed necessary for the CDRP.

As a result of these evaluations, additional objectives for the Compliance Plan were identified, as follows:

- Evaluate whether background asbestos concentrations exist regionally in air at concentrations comparable with levels of potential concern related to the CDRP.
- Understand the various risk-based and regulatory trigger levels compared to the CDRP background airborne asbestos and selected metal concentrations.
- Develop trigger level specific laboratory asbestos analytical methods.
- Develop water treatment approaches for asbestos and removal efficiencies.
- Provide technical support to the development of risk communication tools.

**A. (In Task Order 7, Amendment 5)**

## **B. New Tasks that Started Prior to January 2009**

The cost of the following items has increased the previous budget as indicated in the paragraphs below:

- Task B1 - In Task Order 7, Amendment 5
- Task B2 – In Task Order 7, Amendment 5
- Task B3 - Dust Accumulation Evaluation and Scope Development (will continue in 2009)
- Task B4 - Regional Air Quality Data Evaluation and Monitoring Scope Development (will continue in 2009)
- Task B5 – Background Water Quality Data Evaluation and Work Plan for Additional Data Collection

### **Task B3 - Dust Accumulation Monitoring Scope and Budget Development**

#### **A. Budget = \$8,250**

Baseline dust accumulation monitoring is recommended based on the EIR mitigation measure 5.9.2d that requires certain protections be afforded existing buildings. A scope is being developed by the team to address this concern.

Metals and asbestos containing dust generated during project operations can potentially be transported by winds to the inside of nearby structures where it can settle onto floors and other horizontal surfaces. Such settled dust can later be re-entrained by routine household activities, which can then contribute to ongoing exposure. The EIR requires the following:

*"Mitigation Measure 5.9.2d would require site-specific measures to address NOA/metals in dust that has settled in structures would, including protection of structures from NOA and metals-laden dust, coordination with relevant regulatory agencies regarding acceptable levels of residual asbestos and naturally occurring metals in the structures, and clearance sampling to demonstrate compliance with these standards."*

Structures near the construction area are more likely to be impacted by the generation of dust during construction, compared to structures that are farther away from the construction site. The watershed keeper's residence and the EBRPD's Ranger residence are fairly close to the construction site. There are a number of residences and businesses that are farther away from the construction site.

#### **B. Objective**

Develop dust accumulation sampling scope and budget.

#### **C. Approach**

Develop protocols to monitor the quantity of settled dust that may be generated during construction of the CDRP and develop protective measures to minimize dust accumulation in the indoor environments of structures near the CDRP site.

Two types of dust accumulation sampling are recommended:

1. For nearby residences, sampling could include:
  - Baseline monitoring of ambient dust accumulation (indoor and outdoor)
  - Pre-construction sampling

- o Soil to establish existing dust on ground surface (that could be tracked in)
- o Floor and other horizontal surfaces
- During construction - Tenting of structures with ambient sample collection inside tenting to measure tent effectiveness
- Post construction - Cleaning of structures with verification (clearance) sampling of cleaning
- Long term sampling – Post construction monitoring
  - o Track in/out concentrations indoors to measure ongoing concentrations (diminishment)
  - o Soil to establish existing dust on ground surface (that could be tracked in)
  - o Floor and other horizontal surfaces

2. For residences at a distance, sampling could include:

- Baseline monitoring of dust accumulation (outdoor)
- During construction dust accumulation (outdoor)
- Post construction dust accumulation to measure diminished concentrations and soil samples to measure post construction concentrations (outdoor)

**D. Assumptions**

The scope and budget will include a description of the stations, monitoring frequency and period, sampling and analytical procedures, staffing and equipment needs, as well as proposed protective measures for minimizing dust accumulation in nearby structures.

**E. Deliverables**

Draft technical memorandum with the scope and anticipated budget.

**Task B4 - Regional Background Monitoring Scope Development (Completed)**

**A. Budget = \$12,708**

Regional background monitoring will be used to establish whether asbestos occurs in the region near the CDRP prior to construction, and to evaluate whether post-construction regional concentrations are affected by the construction of the CDRP. This task involves the development of a general scope and approach.

**B. Objective**

A general scope was prepared and submitted to the SFPUC in September 2008.

**C. Assumptions**

One active and one passive air sampling station will be established in 6 locations (Cities of Sunol, Milpitas, Fremont, Pleasanton, Livermore, and Tracy) at SFPUC-owned facilities or publicly accessible locations.

**D. Deliverables**

Receive and incorporate comments into the general scope and approach. One meeting with SFPUC.

**Task B5 - Background Water Quality Data Evaluation and Monitoring Scope Development (completed)**

**A. Budget = \$17,988**

**B. Objective**

Evaluate background asbestos and metals concentrations in the three surface water bodies (Alameda and Calaveras Creeks, and Calaveras Reservoir) associated with the CDRP and develop needs for additional background water quality data.

**C. Assumptions**

SFPUC will provide existing water quality data.

**D. Deliverables**

URS will evaluate the existing data set and make recommendations for additional background water quality monitoring. URS will prepare a work plan for SFPUC to implement.

**C. Funded Tasks that Expanded and Will Continue in 2009**

- o Task C1 - Continued Implementation of Baseline Air Quality Monitoring in 2009
- o Task C2 – Additional Baseline Meteorological and Air Quality Monitoring in 2010
- o Task C3 - Additional Meteorological and Air Quality Stations Installation
- o Task C4 - Continued CEQA Support for Hazards and Water and Air Quality Sections (includes PEL work – partially completed)

**Task C1 - Continued Implementation of Baseline Air Monitoring in 2009**

**A. Budget = \$327,042 for 9 monthly events**

**B. Objective**

Continue collection of air quality samples for NOA and metals at up to 17 stations at the CDRP site.

**C. Approach**

A four-day field effort with a four-person team will set up and break down up to 17 air quality monitoring stations over the CDRP site. Monitoring will include 14 baseline air quality monitoring stations and the new EBRPD stations and one residence installed under Eb Task C3. Each air quality monitoring station will use two pumps one for metals and one for asbestos. Each sample will be analyzed for asbestos by the AHERA method and for the five metals, copper, nickel, cobalt, chromium, and arsenic. In addition, it is estimated that 10 percent of the asbestos samples will also be analyzed by the "extended standard operating procedure (SOP) developed in conjunction with Dr. Wayne Berman. For the purposes of costing we estimated that approximately 25 percent of the asbestos samples that are analyzed by the extended SOP would require

up to 700 grids read. The cost for the extended SOP can range from \$350 to \$4000 per analysis depending on the number of grids that require reading.

**D. Assumptions**

Monitoring will occur over 9 months in 2009. Meteorological and air quality monitoring is conducted concurrently.

**E. Deliverables**

Reports (3 total) will be provided each quarter and will be comprised of three monthly reports containing the following:

- A description of the field effort
- Tabulated data
- Quality assurance / quality control review of data, and
- A discussion.

**Task C2 – Additional Baseline Meteorological and Air Quality Monitoring in 2010**

**A. Budget** = \$244,942 for 6 events selected to be conducted in the 12-month period from Jan. - Dec. 2010

**B. Objective**

Continue collection of air quality samples for NOA and metals at up to 17 stations at the CDRP site. (This monitoring would include the additional stations for EBRPD and one resident.)

**C. Approach**

Events will be selected to target either additional seasonal data or specific conditions, such as high wind events. Field effort is the same that described above for Eb Task C1.

**D. Assumptions**

Meteorological and air quality monitoring is conducted concurrently.

**E. Deliverables**

Reports (6 total) will be provided for each event and will contain the following:

- A description of the field effort
- Tabulated data
- Quality assurance / quality control review of data, and
- A discussion.

**Task C3 – Additional Meteorological and Air Quality Stations Installation**

**A. Budget** = \$39,374

**B. Objective**

Provide one sentry station at a sensitive receptor (for the nearby residence on the ridge), and one meteorological station, at the EBRPD Park.

### **C. Approach**

The air quality monitoring station and meteorological station at the EBRPD Sunol Visitors Center will be installed and monitored during the baseline air monitoring efforts covered under Eb Task C1. The installation of one additional sentry station is included.

The installation of the meteorological station would require a new foundation and tie line system located within a 12' x 12' concrete pad. Monthly downloads of data would be included in the meteorological monitoring work conducted under Eb Task C1.

### **D. Assumptions**

The cost estimate assumes that the stations would be the same or similar to that which already exists as part of the Baseline Air Monitoring Program.

The monitoring scope would be the same as that described under Eb Task C1 and is assumed that the cost of Eb Task C1 would cover the additional monitoring of the stations for EBRPD and one additional sentry station at a residence.

The cost for this task includes subcontractor and equipment procurement, installation of stations, and equipment setup and calibration. This cost does not include negotiations with the parties involved for access or other requests. Equipment changes requested may change the cost of the installation. We have assumed the existing meteorological station and air quality baseline stations would be duplicated.

### **E. Deliverables**

A memo will be provided to document the installation of the new stations. The memo will include a description of the field activities, and will also include copies of the equipment manuals.

## **Task C4 - Continued CEQA Support for Hazards and Water and Air Quality Sections**

### **A. Budget = \$24,820**

### **B. Objective**

Provide support to SFPUC in the development of responses to requests for information from the MEA regarding the Preliminary Draft Environmental Impact Assessment (PDEIR) for NOA-related issues during various phases of the project to the public.

### **C. Approach**

In response to requests from SFPUC, prepare written comments and responses regarding information presented in the PDEIR and review PDEIR text. Responses may include proposed language, technical memoranda, feasibility assessment of mitigation measures, among other things.

### **D. Deliverables**

As requested or needed, including various written material regarding NOA.

### **D. (Not Used)**

## **E. Funded Tasks that Expanded and Will Continue in 2009**

### **Task E1 – Expanded Comprehensive Air Monitoring Plan (CAMP) Development**

The original scope of work for the CAMP included development of trigger levels, establishment of baseline conditions, suitable target monitoring criteria, and the CAMP document itself. The plan will include triggers (action levels) and their associated corrective actions, should monitoring results exceed established criteria and will also include benchmarks that will allow relaxing of monitoring requirements, if observed concentrations are substantially lower than anticipated. The plan will include monitoring requirements, laboratory selections, analytical requirements, and quality assurance / quality control requirements. Agency review and approval is required. A draft and final plan will be prepared. One round of agency comment responses is included.

**A. Budget = \$76,482**

**B. Objective**

Due to early input from Dr. Wayne Berman and other City divisions, and the EIR requirements and the background asbestos results, the CAMP will include factors related to the site and surrounding conditions and risk-approaches for asbestos. The scope has expanded due to the need to provide additional review, which requires our interaction with another, possibly outside, expert reviewer.

**C. Approach**

URS will provide the CAMP and the protocols to evaluate the perimeter and activity area air monitoring data generated during construction. Additional trigger level development is included in Task A2 in Amendment 2 (Task Order No. 7 - Amendment 5) provided under separate cover. Senior risk review will include the review of risk-based approaches appropriate for the CDRP site and particular conditions. Decisions related to trigger level and target criteria development and selection, and protocols for implementing corrective actions will be reviewed.

**D. Assumptions**

- The CAMP review will include outside expert or internal personnel.
- The cost is provided as follows: \$50,000 (senior expert review) and remainder for URS document preparation and reviewer comment incorporation.

**E. Deliverables**

As in the original scope, a draft and final report will be provided. Documentation of reviewer comments and responses will be provided.

**F. New Items in 2009**

These tasks are new work that will continue in 2009:

- Task F1 – Baseline Dust Accumulation Work Plan and Implementation
  - Work Plan
  - Quarterly Dust Accumulation Implementation
  - Selected Baseline Soil Sampling and Analysis
- Task F2 – Construction Dust Accumulation Monitoring Work Plan Development
- Task F3 - Regional Air Quality Monitoring Detailed Scoping and Implementation
  - Detailed Work Plan
  - Implementation

- [Task F4 - Implementation of Jar Testing (in Amendment 3A)]
- Task F5 - Treatability Study
- Task F6 - Baseline Water Quality Monitoring Support
- Task F7 - Public Communication Support
- Task F8 - Meetings (Attendance and Preparation)

### **Task F1 - Baseline Dust Accumulation Monitoring Work Plan and Implementation**

#### **A. Budget = \$201,781**

#### **B. Objective**

Develop a detailed dust accumulation monitoring work plan for both baseline and construction monitoring that identifies station locations, equipment needs, sampling and analysis protocols and reporting requirements. The work plan is anticipated to include the only the baseline portion of the scope outlined below and will consist of baseline soil and accumulated dust samples.

#### **C. Approach**

Develop protocols to monitor the quantity of settled dust that may be generated during construction of the CDRP and develop protective measures to minimize dust accumulation in the indoor environments of structures near the CDRP site.

The following describes the general scope for pre-construction (or baseline) dust accumulation monitoring. This scope of work only includes the implementation of the baseline portion, and will include a description of the stations, monitoring frequency and period, sampling and analytical procedures, and staffing and equipment needs.

Two types of dust accumulation sampling are recommended:

1. For nearby residences or occupied buildings, sampling could include:

- Baseline monitoring of ambient dust accumulation (indoor and outdoor)
- Pre-construction sampling
  - Soil to establish existing trackable dust on ground surface
  - Floor and other horizontal surfaces

2. For residences at a distance, sampling could include:

- Baseline monitoring of dust accumulation (outdoor)

#### **D. Assumptions**

For cost purposes, we assumed that dust accumulation samples would be collected at each baseline monitoring station (up to 17) and at 5 other residential or occupied settings (e.g., Sunol Valley Treatment Plant, Watershed Keeper's house, EBRPD buildings and residence). Sampling includes asbestos and metals. Costs provided for implementation and soil sampling are based on the draft approach provided above.

This baseline dust accumulation monitoring is conducted concurrently with the monthly baseline air quality monitoring, and dust accumulation results will be included in the baseline air monitoring reports provided under Eb Tasks C1.

#### **E. Deliverables**

Draft and final baseline dust accumulation work plan. In addition, draft and final reports provided under Eb Tasks C1 and C2 will include the dust accumulation monitoring results for the associated periods.

### **Task F2 - Construction Dust Accumulation Monitoring Work Plan Development**

#### **A. Budget = \$26,645**

#### **B. Objective**

Develop a detailed dust accumulation monitoring work plan for the construction phase of the CDRP. The work plan will identify station locations, equipment needs, sampling and analysis protocols and reporting requirements. An engineer's estimate will also be developed for planning purposes for the implementation of dust accumulation during the construction phase of the CDRP.

#### **C. Assumptions**

The results of the baseline dust accumulation work will be used to compare the dust accumulation monitoring conducted during construction.

#### **D. Deliverables**

Draft and final work plan and engineer's estimate will be provided.

### **Task F3 - Monthly Regional Air Quality Monitoring Detailed Scoping and Implementation (As-Needed)**

Regional background monitoring is required to establish whether asbestos occurs in the region near the CDRP prior to construction, and to evaluate whether post-construction regional concentrations are affected by the construction of the CDRP. This cost is for a 12-month period prior to NTP (12 sampling events).

#### **A. Budget = \$279,919** for a 12-month period. (An additional budget of \$94,933 is provided for 6 additional events in 2010. Individual events in 2010 are estimated to be \$15,822 each.)

#### **B. Objective**

Develop a detailed work plan, establish monitoring station locations and protocols. To implement the regional air quality monitoring work plan.

#### **C. Approach**

The detailed work plan will be prepared by URS, and access procured by SFPUC. One active and one passive air sampling station will be installed in 6 locations (cities of Sunol, Milpitas, Fremont, Pleasanton, Livermore, and Tracy) at SFPUC-owned facilities or publicly accessible locations. Stations will be monitored once per month for 12 months. Samples will be analyzed for asbestos using the AHERA method and filters will be archived in case extended analyzed is desired.

#### **D. Assumptions**

Access agreements are procured by SFPUC.

This represents a 12-month period (January – December 2009) in which monthly events are conducted, and provides for finding locations, procuring equipment, communicating and working with property owners for event work, conducting the sampling and

analyzing the samples. In the event that monthly regional monitoring is pursued the additional monthly cost would apply to events conducted after December 2009.

**E. Deliverables**

Reports (4 total) will be provided each quarter and will be comprised of three monthly reports containing the following:

- A description of the field effort
- Tabulated data
- Quality assurance / quality control review of data, and
- A discussion.

**Task F5 - Treatability Study Report for Asbestos and Metals Removal from Storm Water and Groundwater**

**A. Budget = \$53,950**

**B. Objective**

Evaluate the feasibility of construction water treatment at the CDRP given the hydrologic conditions, storage capacity, site topography and treatment efficiency rates expected.

**C. Approach**

URS will prepare a preliminary engineering analysis of the hydrologic conditions will be conducted and compared to estimated site storage capacity, site topography and treatment efficiency rates derived from the jar testing results. An analysis of the engineer's estimated schedule and staging will provide the storm water volume ranges. This report will include an estimate of the treatment train efficiency and the associated storm volume ranges for the CDRP.

**D. Assumptions**

Readily available data and information from SFPUC and other public sources will be used. No field storm water sampling will be required under this task.

**E. Deliverables**

Draft and final report will be prepared.

**Task F6 - Baseline Water Quality Monitoring Support**

**A. Budget = \$5,420**

**B. Objective**

Support SFPUC storm water quality monitoring.

**C. Approach**

One URS employee experienced in storm water sampling will conduct a debriefing meeting in the office to discuss the scope. In addition, the URS employee will spend one day accompanying the SFPUC water quality monitoring team prior to the first storm water sampling event to locate the background stations and train the team on sampling procedures. The locations of the storm water sampling stations will be identified and located with GPS. In addition, URS will provide storm water sampling training and

instruction based on the previously provided Draft Background Water Quality Sampling and Analysis Plan.

**D. Assumptions**

One field event.

**E. Deliverables**

None.

**Task F7 - Public Communication Support**

**A. Budget = \$33,774**

**B. Objective**

Provide support to SFPUC's public information team regarding the communication of NOA-related issues during various phases of the project to the public. Typically this work would include preparation of documents for discussions regarding NOA. Additional requests are anticipated as part of the CEQA process and public review of the environmental documents.

**C. Deliverables**

Various written material and presentation displays regarding NOA.

**Task F8 - Meetings (Attendance and Preparation)**

**A. Budget = \$46,318**

**B. Objective**

Attend meetings to discuss NOA related issues for the CDRP (up to budget limit).

**C. Approach**

Based on requests.

**D. Assumptions**

This task includes six meetings where one presenter has 24 hours per meeting to prepare in one dry run with SFPUC, participate and conduct debrief and peripheral activities. Meetings could include public participants, team reviewer Dr. Wayne Berman, and other SFPUC staff. A nominal amount of additional time is provided for staff support.

**E. Deliverables**

As requested or needed, including various written material, presentations, or boards regarding NOA.

**Task F9 - Risk Assessment (As-Needed)**

**F. Budget = \$304,320**

**G. Objective**

Provide a risk assessment for the public and/or workers exposed to dust at the CDRP.

## **H. Approach**

The scope of work will be developed in conjunction with risk assessment practitioners. Assumptions will be developed during scoping. Modeling of air emissions may be performed or exposure assessments for emissions may be generated.

## **I. Deliverables**

Draft and final Human Health Risk Assessment

### **TASK GROUP Ec - ADDITIONAL MISCELLANEOUS AS-NEEDED SERVICES (AS-NEEDED)**

#### **A. Budget = \$150,044**

#### **B. Objectives**

Provide additional as-needed services as requested and authorized by SFPUC.

#### **C. Approach**

Due to the uncertainties associated with the environmental permitting, air and water quality issues related to NOA and metals, fisheries issues, and other related activities, there may be additional services required that cannot be adequately scoped at this time. These services may include:

- Design for bypass tunnel / gate and flow monitoring instrumentation at Alameda Creek Diversion Dam.
- Additional GIS and/or visual simulations for CEQA review.
- Additional risk assessment modeling.
- Additional data acquisition to fill data gaps for fisheries BA.
- Other services as may be required but unforeseen at this time.

#### **D. Assumptions**

IF ANY OF THE ABOVE SERVICES ARE REQUIRED, A DETAILED SCOPE OF WORK AND BUDGET WOULD BE PREPARED AND WOULD NOT BE IMPLEMENTED WITHOUT WRITTEN AUTHORIZATION OF THE SFPUC.

#### **E. Deliverables**

Deliverables would be specified at the time that the work is requested by SFPUC.

### **TASK GROUP ED – On-going Permitting Support**

#### **I. TASK ED.1 – ON-GOING PERMITTING SUPPORT – STEVE LEACH AND DAVID REEL (JULY 2009-JUNE 2010) (AS-NEEDED)**

#### **A. Budget = \$511,599**

#### **B. Objectives**

Support BEM permitting and related environmental efforts on the CDRP.

#### **C. Approach**

As authorized by SFPUC, support and coordinate permitting and environmental consulting efforts for the CDRP as follows:

- *Provide weekly support with 1 full-time equivalent person between Steve Leach and David Reel. At times this may include using other technical staff to support efforts, as requested.*
- *Tasks will include attending meetings, provide strategic input, prepare technical papers, review documentation and meet with agencies, as requested.*
- *Support integration of permit conditions on plans and specifications and coordination with selected construction management contractor, as requested.*

#### **D. Assumptions**

*The proposed cost estimate is based on the following assumptions:*

- *Continue weekly BEM permitting support by Steve Leach and David Reel from July 1, 2009 to June 30, 2010.*
- *Weekly support will consist of 1 full-time equivalent person with 36 hours of Steve Leach's time and 16 hours of David Reel's time.*
- *52 weeks period from June 2009 through June 2010*
- *12 monthly progress meetings with BEM.*

#### **E. Deliverables**

Requested information and review input on an as-needed regular basis.

### **II. TASK W – FISHERIES RELATED FEASIBILITY STUDIES SUPPORT**

**A. Budget = \$154,979** (Note: Partial Funding for this task was previously provided under Task Order 7, Amendment 5)

#### **B. Objectives**

Prepare draft and final fisheries related passage feasibility studies.

#### **C. Approach**

As requested by SFPUC, URS will provide the following fisheries technical support:

- Review technical data and reports, conduct site visits, and attend meetings with SFPUC and agencies(as requested), to support prepare efforts of four technical memoranda.
- Prepare draft and final versions of four technical memoranda based on SFPUC comments, including reorganization, technical review and editing as requested.
- Participate in and facilitate meetings with agencies to discuss findings of fisheries feasibility studies and respond to limited comments.

#### **D. Assumptions**

The proposed cost estimate assumes the following:

- One additional round of review and comments by SFPUC between draft and final technical memoranda.
- Up to eight meetings with SFPUC to review comments and complete proposed edits to the four technical memoranda.
- Up to two meetings with agency personnel to present the findings of the technical memoranda.

- Revisions to the technical memoranda in response to agency comments will be provided as addenda.

#### **E. Deliverables**

The following deliverables are included in this task:

- Draft and final versions of the four passage feasibility technical memoranda.
- Draft and final addenda in response to agency comments.
- Summary tables containing SFPUC comments and URS proposed responses.

### **III. TASK GROUP I – ENGINEERING SUPPORT SERVICES DURING CONSTRUCTION**

#### **A. *Budget = \$2,800,535***

#### **B. Objectives**

Provide engineering support services for URS-designed elements during construction of the CDRP.

#### **C. Approach**

As requested by SFPUC, URS will provide the following engineering support during construction:

- Task I1 - Site visits for activities such as attendance at construction meetings, and monitoring of foundation conditions, test borings and test pits, and other issues that may arise during construction.
- Task I2 - Review of technical submittals that pertain to design of the project features
- Task I3 - Prepare responses to Requests for Information (RFIs).
- Task I4 - Engineering/design of features to adjust to field conditions that may be required. This task also includes preparation of an inspection and instrumentation manual for construction.
- Task I5 - Surface geologic mapping and inspections to confirm that foundation and abutment excavation objectives are met, and that the foundation areas are ready for DSOD inspection.
- Task I6 - Review of grouting data to confirm that the grouting objectives are met.
- Task I7 - Review of tie-back wall construction including tie-back load test data.
- Task I8 - Review of rock reinforcement, which includes recommending locations for reinforcement on the high spillway and stilling basin excavation slopes.
- Task I9 - Underground (adits and intake shaft) geologic mapping and inspections to confirm that conditions meet design objectives.
- Task I10 - Review of QA testing data to confirm that constructed conditions are consistent with design assumptions.
- Task I11 - Provide technical support for change orders.

#### **D. Assumptions**

The proposed cost estimate assumes the following:

- Budget is based on a 4-year construction period, with NTP in February 2011.

- Budget does not include the following:
  - NOA compliance monitoring
  - Environmental compliance monitoring
  - Preparation and maintenance of record drawings (by CM); URS to review only (see Task J3).
  - Contact administration (by CM/SFPUC)
  - Engineering services during construction for SFPUC-designed elements
- QC data and grout monitoring will be performed by the CM.
- Surface geologic mapping is for dam foundation, spillway excavation, and Borrow Area B.

#### **E. Deliverables**

The following deliverables are included in this task:

- Records of site visits including geologic maps and review memoranda for the tasks indicated above.
- Responses to submittals and RFI's.
- Inspection and Instrumentation Manual for Construction.
- QA testing data reviews.

### **IV. TASK GROUP J – ENGINEERING SUPPORT SERVICES DURING START-UP, COMMISSIONING AND CLOSE-OUT**

#### **A. Budget = \$200,160**

#### **B. Objectives**

Provide engineering support services for URS-designed elements during start-up, commissioning and close-out of the CDRP. The design engineer of record will provide engineering services during the start-up / commissioning / and close-out phases of the project to include the following:

#### **C. Approach**

As requested by SFPUC, URS will provide the following engineering support during start-up, commissioning and close-out:

- Task J1 - Provide design engineer review of monitoring data obtained from new dam instrumentation during re-filling and in the early post-construction period of the new dam and reservoir operation. In addition, provide design engineer review comments and/or recommendations on any unusual condition or anomaly in the dam performance during re-filling or in the post-construction period.
- Task J2 - Prepare operations and maintenance manuals for the new dam and appurtenant facilities, including an update to the inspection and instrumentation manual for the post-construction period.
- Task J3 - Provide technical support for close-out of the project, including change order/claims technical support, and review of record drawings.

#### **D. Assumptions**

The proposed cost estimate assumes the following:

- Budget is a preliminary allowance. Detailed estimate of these services has not yet been developed.

#### **E. Deliverables**

The following deliverables are included in this task:

- Instrumentation Data Review Memorandum.
- Operations and Maintenance Manual.
- Updated Inspection and Instrumentation Manual.

### **V. TASK GROUP K – ADDITIONAL MISCELLANEOUS AS-NEEDED SUPPORT SERVICES (AS-NEEDED)**

#### **A. Budget = \$1,998,956**

#### **B. Objectives**

Provide additional as-needed services as requested and authorized by SFPUC.

#### **C. Approach**

Due to the uncertainties associated with the remaining design work, construction and start-up/commissioning/close-out, there may be additional services required that cannot be adequately scoped at this time. These services may include:

- Task K1 - Additional design services that may be requested by DSOD.
- Task K2 - Additional NOA compliance support services.
- Task K3 - Additional permitting services.
- Task K4 – Additional design modifications during construction.
- Task K5 - Additional site visits due to conditions found during construction.
- Task K6 - Additional support for change order/claims.
- Task K7 - Other services as may be required but unforeseen at this time.

#### **D. Assumptions**

IF ANY OF THE ABOVE SERVICES ARE REQUIRED, A DETAILED SCOPE OF WORK AND BUDGET WILL BE PREPARED AND WILL NOT BE IMPLEMENTED WITHOUT WRITTEN AUTHORIZATION OF THE SFPUC.

#### **E. Deliverables**

Deliverables will be specified at the time that the work is requested by SFPUC.

**APPENDIX B-4**  
**Agreement No. CS-716, Amendment No. 3B**

**Calculation of Charges**

As part of Contractor's negotiated scope of work and budget incorporated herein as Appendix A-4, Contractor submitted proposed billing rates for CS-716 Amendment 3B, attached hereto as Appendix B-4 Fee Schedule Form.

As provided herein, the budget identified for tasks is an estimate, and the City reserves the right to modify the budget allocated, if applicable, to any task as more specific information concerning the task order scope becomes available.

**1. Billing Rates**

Contractor's billing rates and each and every staff classification as stated in Appendix B-4 Fee Schedule Form will be the billing rates for the listed individuals. The billing rate may not exceed the lowest rate charged to any other governmental entity except the City and County of San Francisco. Billing rates may be adjusted annually on April 1 (prorated in the first year from the effective date of Amendment 3B as stated in the Notice of Contract Award letter). The amount of the adjustment is limited to a maximum of the CPI annual percentage change increase (San Francisco Bay Area for Urban Wage Earners and Clerical Workers) for the previous calendar year. No increase, including the annual CPI adjustment, is allowed to billing rates exceeding \$220 per hour, unless Project Manager and Bureau Manager authorize an increase to the rate in writing.

**2. Personnel Changes:**

Any proposed changes to project personnel or staff classification as listed in Appendix B-4 Fee Schedule Form must be approved prior to implementing the changes in writing by the SFPUC Project Manager. These personnel changes may include but are not limited to:

- Proposed addition of new project personnel to perform requested services that are within the scope of the Agreement;
- Proposed change of staff classification for existing personnel; and/or
- Proposed replacement or substitution of any employee listed in Appendix B-4 due to termination, promotion or reclassification.

All proposed personnel must meet all qualification requirements established by the Agreement.

**3. Effective Overhead and Profit Rate (EOPR)**

The Effective Overhead and Profit Rate multiplier for CS-716 Amendment 3B is 2.82. The EOPR OR Individual Firm Overhead and Profit Rate multiplier will apply to the billing rate of all individuals not listed in Appendix B-4 Fee Schedule Form. If a new subconsultant is added during the duration of the Agreement, the new individual firm multiplier can be no more than the EOPR.

**4. Other Direct Costs (ODC)**

Direct reimbursable expenses (ODCs – Other Direct Costs) shall include actual direct costs (with no mark up) of expenses directly incurred in performing the work. All ODCs are subject to pre-approval in writing by the SFPUC Project Manager.

The following items will be eligible for reimbursement as ODCs:

- Out-of-town travel for project related business ("out-of-town" shall mean outside the nine Bay Area counties: San Francisco, Alameda, Marin, Santa Clara, Sonoma, Contra Costa, Napa, San Mateo, Solano);
- Out-of-town meal, and lodging expenses for project-related business trips. Meal and lodging expenses shall be reasonable and actual but limited to Federal government per diem rates;
- Rental or leased vehicle(s): traveler must select the most economical contractor and type of vehicle available and acquire any commercial rate or government discount available when the vehicle is rented. Rental or leased vehicle will be on an as needed basis and will require prior written approval of the SFPUC Project Manager. ODCs may include rental or lease payments, fuel, maintenance, insurance, parking, and other associated vehicle expenses for Project Vehicles approved by SFPUC;
- Personal vehicle use: Contractor will be paid per mile as established by the United States Internal Revenue Service and only for that portion of travel that is outside the nine Bay Area counties and non-routine. If the Contractor needs to use personal vehicles for Project related business within the nine Bay Area Counties a prior written approval from the SFPUC Project Manager is required.
- Specialty printing ("specialty" as used herein shall mean large volume printing and color printing and requires prior written approval by SFPUC project staff and documentation of the written approval by the SFPUC must be included with the invoice);
- Specialty computer hardware and software (only with prior written approval by SFPUC project staff and documentation of the written approval by the SFPUC must be included with the invoice);
- Courier services that are project related;
- Permit fees;
- Expedited courier services when requested by SFPUC staff;
- Safety equipment;
- Special services, used solely for the benefit of this project and not performed by the Prime Contractor or by the Sub-consultants, such as electrical testing, hazardous material testing, training, deliveries, diving services, office and field office setups and maintenance, and telephone and network installations and maintenance. All such service must receive prior written approval of SFPUC project staff and documentation of the written approval by the SFPUC must be included with the invoice.

Everything not listed above is not eligible for reimbursement. They include, but are not limited to:

- All other travel expenses such as parking, bridge tolls, public transit, vehicle mileage within the nine Bay Area Counties, and travel for personal vehicle usage from Contractor's home office or residence to SFPUC facilities;
- Contractor personnel relocation costs;
- Any home or regional office labor charges or pass-throughs, including but not limited to, administrative and clerical personnel time;
- Personnel relocation and temporary assignment expenses;
- Entertainment expenses;
- Cell phones;
- Home office expenses;
- Telephone calls and faxes originating in the firm's home office, standard computer use charges, computer hardware or software computer hardware or software (other than the specialty hardware or software mentioned above), communication devices, and electronic equipment;
- Meal expenses which are not related to project-related business trips, including refreshments and working lunches with SFPUC staff;
- Equipment to be used by SFPUC staff; and
- Postage and courier services which are not requested by SFPUC staff.

#### **5. Subcontractor Mark-Up and Documentation**

Second-tier and pass-through subcontracting is prohibited. Additional subcontractors may be added to the contractor team after obtaining pre-authorization by the SFPUC Project Manager and Bureau/Division Manager. Subcontractor administration markup is limited to five percent (5%) of *subconsultants' actual labor costs*.

#### **6. Retention**

Five percent (5%) of each invoice payment will be withheld for each task order. When the work for the task order or defined critical milestones has been completed to the satisfaction of the SFPUC Regional Project Manager and all work products have been received and approved by the SFPUC Regional Project Manager, the Contractor may request that the retention be released. In lieu of money retention, an irrevocable letter of credit acceptable to the City will be accepted.

#### **7. Invoice Requirements**

The contractor shall submit one original invoice package with the appropriate HRC reporting forms and supporting documentation to substantiate services provided and allowable ODCs. Original invoices should be sent directly to:

San Francisco Public Utilities Commission

Contract Administration Bureau – Centralized Invoice Processing Unit  
1155 Market Street, 9th Floor  
San Francisco, CA 94103

Contractor will work with City Staff to establish an invoice format that will correlate with appropriate City reporting requirements and will be used thereafter.

All invoices must include the following information:

Contract number;  
Task Order Number;  
Purchase Order Number(s);  
Index Code(s);  
Billing Start Date; and  
Billing Ending Date.

**Invoice Supporting Documentation:**

All labor hours must be substantiated by timesheet summaries extracted from the Contractor's accounting system. Each timesheet summary shall include the staff person's name, company, dates of the days worked, and the number of hours worked each day.

Mileage ODCs must be accompanied by mileage logs providing the beginning and ending mileage to substantiate the variable portal-to-portal distance and local driving required while performing the work. All other ODCs must be substantiated with copies of original receipts including a brief description for each receipt memorializing the purpose.

HRC Form 7 "Progress Payment Form" must be included with each invoice to identify the participation and amount payable to the subcontractors.

HRC Form 9 "Payment Affidavit" must be sent to the Contract Administration Bureau's Centralized Invoice Processing Unit within ten (10) days of receiving payment for each invoice to document the subcontractor's payment by the prime contractor.

Staff Name	Amendment 3	
	Billing Rate	Effective Date
Hammond, Kristin	\$ 65.02	09/01/09
Lindquist, Eric S.	\$ 160.12	09/01/09
Administrative Assistant	\$ 110.53	09/01/09
Boissevain, Polly	\$ 168.38	09/01/09
Brown, Paul	\$ 245.00	09/01/09
Capito, Linda	\$ 103.08	09/01/09
Clerk	\$ 63.01	09/01/09
Contract Administrator	\$ 95.04	09/01/09
Daniel, Phillippe	\$ 211.00	09/01/09
Draftsperson/Designer/Technician	\$ 142.55	09/01/09
Engineer/ Scientist	\$ 142.55	09/01/09
Fry, R.	\$ 189.99	09/01/09
Giorsetto, Paul	\$ 187.00	09/01/09
Hinchcliff, J.	\$ 102.70	09/01/09
Meyerhoff, Paul	\$ 245.00	09/01/09
Moncrief, W.J.	\$ 175.61	09/01/09
Pickus, W.	\$ 210.08	09/01/09
Sr. Engineer/Scientist	\$ 158.05	09/01/09
Staff Engineer/Scientist	\$ 110.53	09/01/09
Sturtz, Ernest	\$ 161.15	09/01/09
Talbot, W.	\$ 101.84	09/01/09
Toyoda, Jon	\$ 223.89	09/01/09
Trott, K.	\$ 91.92	09/01/09
Tuero, J	\$ 101.34	09/01/09
Von Bargen, C.	\$ 220.00	09/01/09
Word Processor	\$ 95.04	09/01/09
Holman, Richard	\$ 142.55	09/01/09
Subsurface Survey Crew	\$ 145.00	09/01/09
Steiner, Daniel B.	\$ 139.46	09/01/09
CADD Operator	\$ 71.28	09/01/09
Liu, Cynthia	\$ 152.88	09/01/09
Project Manager	\$ 131.19	09/01/09
Senior Project Engineer	\$ 114.66	09/01/09
Word Processor	\$ 50.62	09/01/09
Assistant Staff Scientist	\$ 52.68	09/01/09
Computer Specialist	\$ 61.33	09/01/09
Project Assistant	\$ 54.23	09/01/09
Project Coordinator	\$ 68.12	09/01/09
Project Scientist/ Engineer	\$ 99.85	09/01/09
Senior Consultant 1	\$ 165.28	09/01/09
Senior Consultant 2	\$ 165.28	09/01/09

Senior Management Consultant	\$ 165.28	09/01/09
Senior Project Scientist	\$ 126.10	09/01/09
Senior Staff Scientist	\$ 74.04	09/01/09
Staff Scientist	\$ 63.16	09/01/09
Taylor, Thomas	\$ 165.28	09/01/09
Technical Editor	\$ 109.98	09/01/09
Cornell, J.	\$ 107.04	09/01/09
Hadden, S	\$ 75.34	09/01/09
Huchet, J.	\$ 67.20	09/01/09
Olson, J.	\$ 220.00	09/01/09
Perez-Comos, J.	\$ 157.60	09/01/09
Snider, William M.	\$ 183.04	09/01/09
Ware, C.	\$ 61.55	09/01/09
Administrative	\$ 56.82	09/01/09
Goldstein, Beth L.	\$ 130.16	09/01/09
Hannaford, Margaret	\$ 153.92	09/01/09
Senior Engineer	\$ 118.80	09/01/09
Deas, Michael	\$ 149.79	09/01/09
Merritt-Smith, Amy	\$ 165.28	09/01/09
Smith, David W.	\$ 165.28	09/01/09
Stevens, Michael A.	\$ 134.29	09/01/09
Gazit, Mike	\$ 120.00	09/01/09
Revey, Gordon	\$ 180.00	09/01/09
Chew, Robert Y.	\$ 185.93	09/01/09
McKee, Mark	\$ 117.39	09/01/09
Njoloma, Stephen	\$ 74.72	09/01/09
Ntambakwa, Eric	\$ 85.50	09/01/09
Project Engineer/Geologist	\$ 87.81	09/01/09
Senior Engineer/Geologist	\$ 113.63	09/01/09
Staff Engineer/Geologist	\$ 77.48	09/01/09
Tech Illustrator	\$ 61.98	09/01/09
Word Processor	\$ 61.98	09/01/09
Lee, Branden	\$ 35.12	09/01/09
Admin/Accounting	\$ 74.38	09/01/09
Bliss, Enkhtuya	\$ 77.48	09/01/09
Chan, Mennor	\$ 162.25	09/01/09
Chiu, Stella	\$ 87.89	09/01/09
Clerical	\$ 159.00	09/01/09
Cortez, Angeles	\$ 82.28	09/01/09
Drafter/Mapping CAD	\$ 89.67	09/01/09
Engineer/ Scientist	\$ 83.67	09/01/09
Fleming, Liam	\$ 76.78	09/01/09
Hulbert, Jr., Eugene	\$ 126.40	09/01/09
Liu, Irene	\$ 79.20	09/01/09
Mak, Toni	\$ 61.98	09/01/09

Manansala, Denmark	\$ 97.52	09/01/09
McGrath, Benny	\$ 147.16	09/01/09
Oehlert, E. A.	\$ 92.97	09/01/09
Project Engineer/Geologist	\$ 92.97	09/01/09
Project Manager	\$ 123.96	09/01/09
Salgado, Edmundo	\$ 56.35	09/01/09
Surveyor (2-m-crew)	\$ 180.00	09/01/09
Abbott, Robert	\$ 128.17	09/01/09
Akhtar, Mohammad	\$ 88.21	09/01/09
Allan, Natalie	\$ 78.96	09/01/09
Allen, Jennifer	\$ 134.80	09/01/09
Amdur, Jon R.	\$ 220.00	09/01/09
Arnold, Vivien S.	\$ 98.25	09/01/09
Arulnathan, Rajendram	\$ 148.44	09/01/09
Austin, Valarie	\$ 71.97	09/01/09
Autie, Lois	\$ 168.14	09/01/09
Bammes, Karel	\$ 61.17	09/01/09
Bandel, Joseph A.	\$ 88.21	09/01/09
Barboza, Gilda	\$ 74.67	09/01/09
Batista Anchisi, Alessandra	\$ 69.91	09/01/09
Bekele, Woubabeba	\$ 88.79	09/01/09
Bell, Eric	\$ 85.16	09/01/09
Bellows, Robin	\$ 43.70	09/01/09
Bente, Chris	\$ 92.61	09/01/09
Bente, Vance	\$ 206.42	09/01/09
Bero, David	\$ 123.18	09/01/09
Bertolucci, Steven	\$ 130.67	09/01/09
Bettelheim, Matthew	\$ 101.18	09/01/09
Bischoff, John	\$ 301.21	09/01/09
Blair, Harold	\$ 155.10	09/01/09
Bowcott, Sydney	\$ 203.38	09/01/09
Brantley, James	\$ 223.80	09/01/09
Bricker, Jeremy	\$ 103.10	09/01/09
Brokken, Elizabeth	\$ 45.12	09/01/09
Brokken, Steven	\$ 203.38	09/01/09
CAD	\$ 72.25	09/01/09
Canty, Bridget	\$ 90.01	09/01/09
Capps, Clyde	\$ 143.14	09/01/09
Carbiener, Michael	\$ 116.75	09/01/09
Carrington, Christopher	\$ 71.85	09/01/09
Carroll, Gregory	\$ 86.07	09/01/09
Cash-Sanchez, Sheri	\$ 66.54	09/01/09
Chan, Sherry	\$ 86.86	09/01/09
Chang, Sunghye	\$ 99.72	09/01/09
Cherry, Kathleen	\$ 78.17	09/01/09

Chio, Man-San	\$ 108.74	09/01/09
Chiu, George	\$ 129.27	09/01/09
Cobos-Roa, Diego	\$ 101.63	09/01/09
Coleman, Andrea L.	\$ 56.40	09/01/09
Connell, Anne	\$ 184.43	09/01/09
Consultant	\$ 144.49	09/01/09
Cooke, Terry	\$ 207.33	09/01/09
Cory, Pamela	\$ 89.68	09/01/09
Couch, Shannon	\$ 108.01	09/01/09
Coudray, Shel	\$ 160.22	09/01/09
Czarnecki, R. Martin	\$ 245.10	09/01/09
Daniels, Christopher	\$ 86.40	09/01/09
Dant, Rebecca	\$ 56.03	09/01/09
Davidson, Richard	\$ 206.40	09/01/09
Davis, Anna	\$ 105.58	09/01/09
Dawson, Ethan	\$ 169.20	09/01/09
De Vries, Douglas	\$ 167.73	09/01/09
Demgen, Francesca	\$ 181.16	09/01/09
Deshmukh, Vibha	\$ 87.98	09/01/09
Dexter, Sean	\$ 79.36	09/01/09
Dillon, Reinhold	\$ 113.88	09/01/09
Diouf, Mohamed	\$ 105.13	09/01/09
Disuanco III, Felliciano	\$ 51.12	09/01/09
Dober, Mark	\$ 105.58	09/01/09
Doo, Chung-Soo	\$ 125.79	09/01/09
Drew, Dan	\$ 154.20	09/01/09
Drury, Alison B.	\$ 125.66	09/01/09
Dufour, Alexis	\$ 102.33	09/01/09
Dunn, Maureen	\$ 108.85	09/01/09
Eck-Lewis, Bryan	\$ 76.72	09/01/09
Edmunds, Jody L.	\$ 121.60	09/01/09
Eichstaedt, Kenneth	\$ 182.62	09/01/09
Ekanayake, S.	\$ 105.62	09/01/09
Elliot, Elizabeth	\$ 126.08	09/01/09
Engineer/ Scientist	\$ 89.78	09/01/09
Evans-Walker, Daria	\$ 101.25	09/01/09
Farley, Christy L.	\$ 71.06	09/01/09
Farre, Raul	\$ 84.94	09/01/09
Fee, David	\$ 165.59	09/01/09
Feldsher, Theodore B.	\$ 162.09	09/01/09
Fendick, Edward	\$ 138.74	09/01/09
Fenton, Clark	\$ 102.36	09/01/09
Fiorella, Frank	\$ 64.09	09/01/09
Flack, Phyllis	\$ 143.37	09/01/09
Forrest, Michael	\$ 207.55	09/01/09

Fournier, Deborah	\$ 79.00	09/01/09
France, John	\$ 206.40	09/01/09
Fraser, Alexandra	\$ 146.19	09/01/09
Gambino, Sam	\$ 141.11	09/01/09
Gandhi, Harshavardhan	\$ 46.61	09/01/09
Garder, Derek	\$ 198.01	09/01/09
Garner, Des	\$ 191.87	09/01/09
Gentzler, Seth	\$ 151.40	09/01/09
Gerbig, Lee	\$ 160.22	09/01/09
Giangerelli, April	\$ 109.19	09/01/09
Gillan, Chad	\$ 106.26	09/01/09
Godinez Jr., Salvador	\$ 73.76	09/01/09
Golding, Jessie	\$ 78.17	09/01/09
Gong, Chao	\$ 169.20	09/01/09
Gotauco, Adrian	\$ 81.05	09/01/09
Green, Robert	\$ 196.84	09/01/09
Gross, Daniel	\$ 150.36	09/01/09
Hakimi, Haleh	\$ 86.40	09/01/09
Hakos, Matthew	\$ 85.45	09/01/09
Handa, Manoharlal	\$ 167.99	09/01/09
Harder, David	\$ 177.41	09/01/09
Harrell, Eugene	\$ 96.20	09/01/09
Harris, Ronald	\$ 78.17	09/01/09
Hatoff, Brian	\$ 154.87	09/01/09
He, Miao	\$ 82.37	09/01/09
Heick, Denise	\$ 203.87	09/01/09
Heinen, Bob	\$ 163.19	09/01/09
Henricks, Jolie	\$ 73.32	09/01/09
Henry, Jacob T	\$ 98.11	09/01/09
Hirsch, D.	\$ 94.85	09/01/09
Hom, Stephen	\$ 206.40	09/01/09
Hopper, Kenneth	\$ 80.79	09/01/09
Horowitz, C.	\$ 92.93	09/01/09
Horwath, Robert	\$ 151.88	09/01/09
Howard, Dreama K.	\$ 82.97	09/01/09
Hsu, Kevin	\$ 52.44	09/01/09
Hudson, Jeanie	\$ 107.27	09/01/09
Hughes, David	\$ 175.40	09/01/09
Hughes, Jacqueline	\$ 64.41	09/01/09
Hunt, Elizabeth	\$ 149.01	09/01/09
Hutton, Nadine	\$ 112.68	09/01/09
Ideris, Alan	\$ 71.74	09/01/09
Imoro, Yasmeen	\$ 74.23	09/01/09
Jackson, Arthur	\$ 83.20	09/01/09
Jackson, Lisa	\$ 96.56	09/01/09

Jacobsen, Bradley	\$ 72.08	09/01/09
Jaffe, Beth	\$ 133.65	09/01/09
Janowski, Sheri	\$ 100.62	09/01/09
Jansen, Derek	\$ 75.69	09/01/09
Jantzen-Marson, Candace	\$ 92.27	09/01/09
Jaramillo, Carlos	\$ 201.12	09/01/09
Jenkins, Susan	\$ 66.07	09/01/09
Jerman, Michelle	\$ 73.46	09/01/09
Johnson, Tracy	\$ 158.16	09/01/09
Jolley, Dustin	\$ 107.02	09/01/09
Jones, Jason	\$ 90.07	09/01/09
Jones, Patricia	\$ 61.17	09/01/09
Jones, Scott	\$ 111.67	09/01/09
Kanagalingam, Thangalingam	\$ 106.60	09/01/09
Kawamura, Nelson	\$ 131.55	09/01/09
Keeley, Amy	\$ 110.60	09/01/09
Kellogg, Stephen	\$ 212.97	09/01/09
Kick, Maureen	\$ 90.43	09/01/09
Kindell, Belinda	\$ 74.11	09/01/09
Klein, Galen	\$ 168.86	09/01/09
Koike, Hiroko	\$ 97.01	09/01/09
Kolbe, Thomas	\$ 130.16	09/01/09
Kolekar, Alok D.	\$ 107.95	09/01/09
Kozlowicz, Benjamin	\$ 88.89	09/01/09
Ku, Wynham	\$ 113.88	09/01/09
Kulkarni, Ram	\$ 206.40	09/01/09
Kurasaki, Irving	\$ 115.17	09/01/09
Kuwabara, Yu	\$ 86.93	09/01/09
La Belle, Sarah	\$ 128.59	09/01/09
Langston, William	\$ 103.82	09/01/09
Lau, Fan	\$ 96.90	09/01/09
Lawton, Gil	\$ 149.79	09/01/09
Leach, Steven	\$ 220.00	09/01/09
Lee, Kevin	\$ 85.73	09/01/09
Lee, Melinda	\$ 79.41	09/01/09
Lemein, Todd	\$ 82.46	09/01/09
Less, Jodi	\$ 61.17	09/01/09
Leung, Wai Lun	\$ 84.88	09/01/09
Lewis, Jean M.	\$ 112.24	09/01/09
Lewis, Sarah	\$ 82.80	09/01/09
Li, Wei	\$ 115.28	09/01/09
Li, Wei D.	\$ 115.28	09/01/09
Li, Zhihua	\$ 92.60	09/01/09
Linden, Carl	\$ 206.40	09/01/09
Lindsteadt, Crystal	\$ 68.67	09/01/09

Little, Scott	\$ 76.70	09/01/09
Loadholt, Suzanne	\$ 66.65	09/01/09
Locke, Samantha	\$ 61.17	09/01/09
Logeswaran, Segaran	\$ 93.80	09/01/09
Losberg, Renata	\$ 70.03	09/01/09
Lovelady, Suzanne	\$ 87.39	09/01/09
Lowenthal-Savy, Danielle L	\$ 82.14	09/01/09
Lowrie, Scott	\$ 73.32	09/01/09
Lu, Corinna	\$ 92.92	09/01/09
Maat, Paula	\$ 94.03	09/01/09
MacDonald, Thomas C.	\$ 207.55	09/01/09
Marshall, Timothy	\$ 222.44	09/01/09
Martinez, Misty	\$ 73.65	09/01/09
Martorana, Dean	\$ 94.08	09/01/09
Matthew, Andrew D	\$ 84.13	09/01/09
Mattox, Dan	\$ 88.55	09/01/09
McCain, John	\$ 104.68	09/01/09
McCulloch, Roderick M.	\$ 97.12	09/01/09
McDevitt, Brendan	\$ 206.40	09/01/09
McEvoy, Sadie	\$ 98.36	09/01/09
McFarlan, Renee M.	\$ 87.76	09/01/09
McIntyre, Lynn	\$ 36.28	09/01/09
Mejia, Lelio	\$ 206.40	09/01/09
Mendonca, Jennifer A.	\$ 81.44	09/01/09
Messelbeck, James	\$ 159.09	09/01/09
Meyer, Nikolai	\$ 84.53	09/01/09
Meymand, Philip	\$ 166.38	09/01/09
Mineart, Philip	\$ 167.40	09/01/09
Mitchell, Cassandra	\$ 60.49	09/01/09
Mittal, Prapti	\$ 88.32	09/01/09
Moler, William	\$ 172.92	09/01/09
Monaghan, Mike	\$ 140.32	09/01/09
Morgan III, Joe	\$ 168.07	09/01/09
Morgan, Joseph	\$ 46.61	09/01/09
Morris, Kimberly A	\$ 87.76	09/01/09
Mueller, Chris	\$ 180.00	09/01/09
Mullins, Dorninie	\$ 74.91	09/01/09
Murray, Richard	\$ 77.92	09/01/09
Murugaiah, Satish	\$ 112.12	09/01/09
Naccarati, Rachel	\$ 88.32	09/01/09
Nagle, Galen	\$ 136.03	09/01/09
Nelson, Richard	\$ 80.20	09/01/09
Newell, Justine	\$ 70.50	09/01/09
Newman, Erik	\$ 101.07	09/01/09
Newman, Melissa	\$ 84.65	09/01/09

Newton, Matthew	\$ 45.09	09/01/09
Nicholson, Benjamin	\$ 94.08	09/01/09
Nielsen, Elizabeth	\$ 96.90	09/01/09
Niles, Leonard	\$ 103.30	09/01/09
Novak, Jan	\$ 104.79	09/01/09
Ocampo, Roger	\$ 59.88	09/01/09
O'Connell, James	\$ 46.61	09/01/09
Ooraikul, Asi	\$ 118.57	09/01/09
Orozco, Rosalva	\$ 60.46	09/01/09
Owen, Jeffrey	\$ 75.35	09/01/09
Owen, Joseph A.	\$ 93.62	09/01/09
Owens, Nicole	\$ 58.61	09/01/09
Owyoung, Clifford	\$ 206.40	09/01/09
Ozgurel, Huseyin	\$ 101.25	09/01/09
Pablo Paster	\$ 104.15	09/01/09
Paik, Jung Hwan	\$ 95.84	09/01/09
Palacios, Jacqueline	\$ 70.26	09/01/09
Paxton, John	\$ 147.86	09/01/09
Pearson, Clifford J	\$ 64.75	09/01/09
Pearson, Jason	\$ 99.49	09/01/09
Pecora, David	\$ 78.17	09/01/09
Peracca, Galen	\$ 90.13	09/01/09
Perri, Juan	\$ 110.21	09/01/09
Pietrzak, Julie A	\$ 101.29	09/01/09
Plano, Jay	\$ 117.13	09/01/09
Popp, Ned D.	\$ 103.76	09/01/09
Prasetyo Jo, Nathalia M	\$ 79.60	09/01/09
Pretare, Jennifer	\$ 101.49	09/01/09
Prett, Michael	\$ 108.84	09/01/09
Project Professional	\$ 123.84	09/01/09
Quinones-Rozo, Camilo	\$ 104.11	09/01/09
Rambo, Charles Wayne	\$ 104.45	09/01/09
Raumann, Christian	\$ 121.49	09/01/09
Reeves, Steven	\$ 121.69	09/01/09
Rehor, Jay	\$ 89.63	09/01/09
Reichert, Gregory	\$ 213.42	09/01/09
Respass, Phil	\$ 130.74	09/01/09
Rex, Lori	\$ 63.37	09/01/09
Rex, Rusty	\$ 65.99	09/01/09
Rice, Raymond	\$ 205.45	09/01/09
Riggins, Denise	\$ 53.94	09/01/09
Ritchie, Steve	\$ 199.94	09/01/09
Roadifer, John W.	\$ 156.02	09/01/09
Robertson, Dina	\$ 112.09	09/01/09
Rogers, David K.	\$ 220.00	09/01/09

Rosidi, Dario	\$ 128.53	09/01/09
Rowcliffe, Dennis	\$ 99.04	09/01/09
Salah-Mars, Said	\$ 220.00	09/01/09
Sathisbalamurugan, Murugaiah	\$ 82.73	09/01/09
Savannah, Michael	\$ 84.15	09/01/09
Schmoll, Mark	\$ 175.29	09/01/09
Schwach, Catherine	\$ 76.03	09/01/09
Schwettmann, Roxana	\$ 97.91	09/01/09
Shoaf, Robert	\$ 166.04	09/01/09
Short, Catherine S.	\$ 98.71	09/01/09
Siegel, Randall	\$ 157.47	09/01/09
Simpson, Dave	\$ 166.15	09/01/09
Smith, Craig J.	\$ 199.77	09/01/09
Smith, Matthew	\$ 85.38	09/01/09
Smith, Michael	\$ 182.06	09/01/09
Smith, Peter	\$ 86.07	09/01/09
Solorzano-Vincent, Lorena	\$ 119.08	09/01/09
Somera, Christina	\$ 85.68	09/01/09
Sorensen, Juan	\$ 154.87	09/01/09
Soria, Octavio	\$ 86.40	09/01/09
Spicer, Jason	\$ 89.71	09/01/09
Sr. Project Consultant	\$ 130.03	09/01/09
St Onge, Derek	\$ 98.11	09/01/09
St. Clair, Michelle	\$ 71.38	09/01/09
Staff Professional	\$ 107.20	09/01/09
Stamberger, Jean	\$ 114.89	09/01/09
Stead, Jonathan	\$ 119.08	09/01/09
Stevens, Robert	\$ 101.86	09/01/09
Stewart, Eric	\$ 61.44	09/01/09
Stewman, Casey	\$ 126.79	09/01/09
Strehlow, Mark A	\$ 197.40	09/01/09
Sweet, Thomas	\$ 151.48	09/01/09
Tabatabaie, M.	\$ 161.03	09/01/09
Tamburello, Teresa	\$ 104.15	09/01/09
Tamhane, Avanti S.	\$ 81.44	09/01/09
Tan, Laureen	\$ 61.64	09/01/09
Taraya, Rogelio	\$ 95.88	09/01/09
Tech Typist/ Proj Ad	\$ 66.04	09/01/09
Tear, Winston	\$ 92.52	09/01/09
Tekle, Mannie	\$ 73.32	09/01/09
Tentler, Janet	\$ 79.60	09/01/09
Terra, Fabia	\$ 89.34	09/01/09
Thapa, Srijesh	\$ 99.38	09/01/09
Thornton, Geoff	\$ 102.31	09/01/09
Todaro, Sal	\$ 140.99	09/01/09

Tough, Steven	\$ 118.89	09/01/09
Trinh, Nien	\$ 118.57	09/01/09
Tsering, Topden	\$ 79.88	09/01/09
Tsutsumi-Smith, Judy	\$ 71.43	09/01/09
Upadhyaya, Shobhna	\$ 112.24	09/01/09
Upham, Brady	\$ 69.63	09/01/09
Vahey, Brian	\$ 98.70	09/01/09
Vais, Christopher	\$ 194.29	09/01/09
Vedagiri, Usha K	\$ 195.60	09/01/09
Velzy, Cheri	\$ 118.78	09/01/09
Verity, Rebecca	\$ 108.48	09/01/09
Virreira, Pablo	\$ 83.25	09/01/09
Volz, Tim	\$ 179.27	09/01/09
Wanless, Lawrence	\$ 184.65	09/01/09
Watts, Roy	\$ 146.08	09/01/09
Weinberg, Daniel	\$ 77.60	09/01/09
Wells, Joanne	\$ 73.09	09/01/09
Whitfield, Justin	\$ 100.28	09/01/09
Whitney, Gerald	\$ 102.31	09/01/09
Wilson, Mark	\$ 73.32	09/01/09
Wimmell, Laurel	\$ 39.33	09/01/09
Wolfe, Kyle	\$ 86.93	09/01/09
Wong, Chi Wah	\$ 101.63	09/01/09
Wong, Hoi	\$ 43.70	09/01/09
Wong, Ivan	\$ 198.98	09/01/09
Wong, Noel	\$ 220.00	09/01/09
Wood, Michelle	\$ 107.16	09/01/09
Wright, Doug	\$ 125.66	09/01/09
Wu, Jaier	\$ 126.34	09/01/09
Wymer, Bert	\$ 94.85	09/01/09
Yang, Zhaohui	\$ 104.19	09/01/09
Yiadom, Yaw	\$ 79.30	09/01/09
Yong, Ka Man	\$ 96.02	09/01/09
Yun, Sunghye	\$ 103.01	09/01/09
Zdeb, Thomas	\$ 145.98	09/01/09
Zimmerman, Jeff	\$ 178.46	09/01/09
Zusi, Michael	\$ 166.72	09/01/09
Bachhuber, Jeffrey	\$ 220.00	09/01/09
Baldwin, John	\$ 220.00	09/01/09
Bradaric, Julie	\$ 96.72	09/01/09
Givler, Rob	\$ 139.20	09/01/09
Graphics/CAD	\$ 78.59	09/01/09
Holmberg, Jason	\$ 109.25	09/01/09
Kelson, Keith	\$ 220.00	09/01/09
Lettis, William	\$ 220.00	09/01/09

Principal	\$ 165.28	09/01/09
Project Geologist	\$ 100.31	09/01/09
Senior Staff Geologist	\$ 80.26	09/01/09
Senior Geologist	\$ 138.77	09/01/09
Staff Geologist	\$ 73.57	09/01/09
Sunderman, Sean T.	\$ 121.40	09/01/09
Technical Typist	\$ 70.24	09/01/09
Technician	\$ 42.61	09/01/09
Thompson, Steve	\$ 167.51	09/01/09
Unruh, Jeff	\$ 220.00	09/01/09
Admin Assistant	\$ 55.29	09/01/09
Ao, Sandy	\$ 60.82	09/01/09
CADD Operator	\$ 52.50	09/01/09
Cheung, George	\$ 132.82	09/01/09
Dias, Dennis	\$ 145.82	09/01/09
Dong, Richard	\$ 86.46	09/01/09
Elec/Mech Engineer	\$ 82.88	09/01/09
Hidalgo, Hubert	\$ 86.03	09/01/09
Ho, Shew	\$ 67.35	09/01/09
Knight, Carol	\$ 76.14	09/01/09
Lam, Lawrence	\$ 144.18	09/01/09
Mallillin, Patrick	\$ 134.21	09/01/09
Principal	\$ 159.66	09/01/09
Project Administrator	\$ 75.16	09/01/09
Schwartz, Karen	\$ 83.96	09/01/09
Senior CADD Designer	\$ 66.50	09/01/09
Senior Elec/Mech Engineer	\$ 100.10	09/01/09
Siu, Sonia	\$ 60.31	09/01/09
Tam, Marcus	\$ 89.48	09/01/09
Wingred, Paul	\$ 53.18	09/01/09
Yung, Douglas	\$ 161.72	09/01/09

## **Carroll, John (BOS)**

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**From:** Kowalczyk, Forrest (Ben) [FKowalczyk@swwater.org]  
**Sent:** Thursday, June 19, 2014 11:44 AM  
**To:** BOS Legislation (BOS); BOS Legislation (BOS)  
**Cc:** Hagan, Erin (PUC)  
**Subject:** RE: Resolution authorizing the General Manager of the San Francisco Public Utilities Commission to execute amendment No. 4 to an agreement with URS Corporation  
**Attachments:** CS-716 AM4 Calaveras Dam BOS Copy\_06192014.pdf

Please see attached draft contract to be added to file #140608. We had to make a minor edit to the contract that we sent this morning. Please replace the contract in the file with this updated draft.

Thank you.

Ben Kowalczyk  
City Hall Fellow | Policy and Government Affairs  
San Francisco Public Utilities Commission  
415-554-0758 | [fkowalczyk@swwater.org](mailto:fkowalczyk@swwater.org)



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**From:** BOS Legislation (BOS) [mailto:[bos.legislation@sfgov.org](mailto:bos.legislation@sfgov.org)]  
**Sent:** Thursday, June 19, 2014 9:49 AM  
**To:** Kowalczyk, Forrest (Ben); BOS Legislation  
**Cc:** Hagan, Erin  
**Subject:** RE: Resolution authorizing the General Manager of the San Francisco Public Utilities Commission to execute amendment No. 4 to an agreement with URS Corporation

Added. Thank you.

John Carroll  
Legislative Clerk  
Board of Supervisors  
San Francisco City Hall, Room 244  
San Francisco, CA 94102  
(415)554-4445 - Direct  
(415)554-5184 - General  
(415)554-5163 - Fax  
[john.carroll@sfgov.org](mailto:john.carroll@sfgov.org) | [board.of.supervisors@sfgov.org](mailto:board.of.supervisors@sfgov.org)

**Disclosures:** Personal information that is provided in communications to the Board of Supervisors is subject to disclosure under the California Public Records Act and the San Francisco Sunshine Ordinance. Personal information provided will not be redacted. Members of the public are not required to provide personal identifying information when they communicate with the Board of Supervisors and its committees. All written or oral communications that members of the public submit to the Clerk's Office regarding pending legislation or hearings will be made available to all members of the public for inspection and copying. The Clerk's Office does not redact any information from these submissions. This means that personal information—including names, phone numbers, addresses and similar information that a member of the public elects to submit to the Board and its committees—may appear on the Board of Supervisors website or in other public documents that members of the public may inspect or copy.

Please complete a Board of Supervisors Customer Service Satisfaction form by [clicking here](#).

The [Legislative Research Center](#) provides 24-hour access to Board of Supervisors legislation, and archived matters since August 1998.

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**From:** Kowalczyk, Forrest (Ben) [mailto:[FKowalczyk@sfwater.org](mailto:FKowalczyk@sfwater.org)]

**Sent:** Thursday, June 19, 2014 9:32 AM

**To:** BOS Legislation (BOS); BOS Legislation (BOS)

**Cc:** Hagan, Erin (PUC); Carroll, John (BOS)

**Subject:** RE: Resolution authorizing the General Manager of the San Francisco Public Utilities Commission to execute amendment No. 4 to an agreement with URS Corporation

Please find attached draft contract to be added to file #140608.

Thanks,

Ben Kowalczyk  
City Hall Fellow | Policy and Government Affairs  
[San Francisco Public Utilities Commission](#)  
415-554-0758 | [fkowalczyk@sfwater.org](mailto:fkowalczyk@sfwater.org)



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**From:** BOS Legislation (BOS) [mailto:[bos.legislation@sfgov.org](mailto:bos.legislation@sfgov.org)]

**Sent:** Friday, June 13, 2014 10:49 AM

**To:** Kowalczyk, Forrest (Ben); BOS Legislation

**Cc:** Hagan, Erin

**Subject:** RE: Resolution authorizing the General Manager of the San Francisco Public Utilities Commission to execute amendment No. 4 to an agreement with URS Corporation

Please find attached your copy of the below-named legislative matter as introduced on June 10, 2014. I have tracked the clerical changes to the document for your reference. This copy is for your retention. For purposes of version control, please refer to this e-version when working with the legislative text.

Thank you,

John Carroll  
Legislative Clerk  
Board of Supervisors  
San Francisco City Hall, Room 244  
San Francisco, CA 94102  
(415)554-4445 - Direct  
(415)554-5184 - General  
(415)554-5163 - Fax  
[john.carroll@sfgov.org](mailto:john.carroll@sfgov.org) | [board.of.supervisors@sfgov.org](mailto:board.of.supervisors@sfgov.org)

*Disclosures: Personal information that is provided in communications to the Board of Supervisors is subject to disclosure under the California Public Records Act and the San Francisco Sunshine Ordinance. Personal information provided will not be redacted. Members of the public are not required to provide personal identifying information when they communicate with*

the Board of Supervisors and its committees. All written or oral communications members of the public submit to the Clerk's Office regarding pending legislation or hearings will be made available to all members of the public for inspection and copying. The Clerk's Office does not redact any information from these submissions. This means that personal information—including names, phone numbers, addresses and similar information that a member of the public elects to submit to the Board and its committees—may appear on the Board of Supervisors website or in other public documents that members of the public may inspect or copy.

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The [Legislative Research Center](#) provides 24-hour access to Board of Supervisors legislation, and archived matters since August 1998.

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**From:** Kowalczyk, Forrest (Ben) [mailto:[FKowalczyk@sfwater.org](mailto:FKowalczyk@sfwater.org)]

**Sent:** Monday, June 02, 2014 10:54 AM

**To:** BOS Legislation (BOS)

**Cc:** Hagan, Erin (PUC)

**Subject:** Resolution authorizing the General Manager of the San Francisco Public Utilities Commission to execute amendment No. 4 to an agreement with URS Corporation

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Attached please find a resolution approving an SFPUC contract amendment with URS Corporation, increasing the length of the agreement by up to two years, nine months, until May 24, 2019 for a total duration of fifteen years and nine months, and increasing the estimated cumulative contract amount from \$24,000,000 to \$28,500,000 for engineering support services for the Water Enterprise Water System Improvement Program-funded Agreement No. CS-716, Calaveras Dam Replacement, pursuant to Charter Section 9.118(b).

The following is a list of attached documents:

1. Board of Supervisors Resolution
2. SFPUC Resolution 03-0117
3. SFPUC Resolution 05-0120
4. SFPUC Resolution 08-0041
5. SFPUC Resolution 09-0079
6. SFPUC Resolution 14-0087

The following documents will be sent in subsequent email(s) due to file size limits:

7. CS-716 Contract Agreement
8. CS-716 Contract Amendment No 1
9. CS-716 Contract Amendment No 2
10. CS-716 Contract Amendment No 3A
11. CS-716 Contract Amendment No 3B

Please contact Erin Hagan at 554-0706 if you need any additional information on these items.

Ben Kowalczyk  
City Hall Fellow | Policy and Government Affairs  
[San Francisco Public Utilities Commission](#)  
415-554-0758 | [FKowalczyk@sfwater.org](mailto:FKowalczyk@sfwater.org)





**City and County of San Francisco  
San Francisco Public Utilities Commission  
Contract Administration Bureau  
525 Golden Gate Avenue, 8th Floor  
San Francisco, California 94102**

**Fourth Amendment between the City and County of San Francisco  
(through the San Francisco Public Utilities Commission)  
and  
URS Corporation**

THIS AMENDMENT (this "Amendment") is made as of \_\_\_\_\_, 2014, in San Francisco, California, by and between **URS Corporation** ("Contractor" or "Consultant," used interchangeably), and the City and County of San Francisco, a municipal corporation ("City"), acting by and through the San Francisco Public Utilities Commission.

**RECITALS**

WHEREAS, City and Contractor have entered into the Agreement (as defined below); and

WHEREAS, City and Contractor desire to modify the Agreement on the terms and conditions set forth herein to extend the performance period, increase the contract amount, and update standard contractual clauses; and

WHEREAS, On June 10, 2003, per Resolution No. 03-0117, the Public Utilities Commission awarded Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project, to Contractor to provide engineering and environmental support services in the amount of \$4,000,000, and with a term of four years, concluding on September 10, 2007; and

WHEREAS, on July 26, 2005, per Resolution No. 08-0041, the Public Utilities Commission approved Amendment No. 1 to Agreement No. CS-716 to continue professional engineering and environmental services for detailed and final design, increasing the original agreement amount by \$8,000,000 to \$12,000,000 and extending the agreement term by two years to September 10, 2009; and

WHEREAS, On September 6, 2005, approval for Amendment No. 1 was obtained from the Civil Service Commission per PSC# 4098-02/03; and

WHEREAS, on September 20, 2005, approval for Amendment No. 1 was obtained from the Board of Supervisors, per Resolution 674-05; and

WHEREAS, on March 11, 2008, per Resolution No. 08-0041, the San Francisco Public Utilities Commission approved Amendment No. 2 to Agreement No. CS-716, to provide additional professional services for the final design as well as environmental support services to facilitate the completion of CEQA and NEPA documents and obtain required environmental permits, increasing the agreement amount by \$1,900,000 to \$13,900,000; and

WHEREAS, On April 15, 2008, approval for Amendment No. 2 was obtained from the Board of Supervisors, per Resolution 182-08; and

WHEREAS, On April 23, 2008, approval for Amendment No. 2 was obtained from the Civil Service Commission per Notice of Action per PSC# 4098-02/03; and

WHEREAS, on May 12, 2009, per Resolution No. 09-0079, the San Francisco Public Utilities Commission approved Amendment No. 3 to Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project to increase the agreement amount by \$10,100,000 to \$24,000,000 and extend the agreement term by seven years to September 10, 2016, in order to: provide additional design, environmental and permitting services needed prior to construction to address the naturally occurring asbestos (NOA) and fisheries issues; provide designs to mitigate impacts associated with the Calaveras Dam Replacement Project to be implemented under the Habitat Reserve Program; provide supplemental dam safety engineering analyses requested by the California Division of Safety of Dams (DSOD); provide ongoing permitting support; and provide engineering support during construction, start-up, and commissioning of the project; and

WHEREAS on May 12, 2009, the San Francisco Public Utilities Commission authorized the General Manager to split Amendment Three into two parts, Amendment 3A and Amendment 3B. Amendment 3A, dated June 17, 2009, increased the existing Agreement by \$410,337 to allow the Contractor to continue essential critical services while Amendment 3B was pending approval from the Board of Supervisors; and

WHEREAS, On June 15, 2009, approval for Amendment No. 3 (including Amendments 3A and 3B) was obtained from the Civil Service Commission per PSC# 4098-02/03; and

WHEREAS, On July 28, 2009, approval for Amendment 3 was obtained from the Board of Supervisors, per Resolution 316-09; and

WHEREAS, on May 27, 2014, per Resolution No. 14-0087, the San Francisco Public Utilities Commission approved Amendment No. 4 to Agreement No. CS-716, to provide additional engineering support during construction, start-up, and commissioning of the project, increasing the agreement amount by \$4,500,000 to \$28,500,000 and extend the agreement term by two (2) years, nine (9) months for a total agreement term of fifteen (15) years and nine (9) months; and

WHEREAS, On June 16, 2014, approval for Amendment No. 4 was obtained from the Civil Service Commission per PSC# 4098-02/03; and

WHEREAS, On \_\_\_\_\_ 2014, approval for Amendment 4 was obtained from the Board of Supervisors, per Resolution \_\_\_\_\_; and

NOW, THEREFORE, Contractor and the City agree as follows:

**1. Definitions.** The following definitions shall apply to this Amendment:

**1a. Agreement.** The term "Agreement" shall mean the "Agreement between The City and County of San Francisco and URS Corporation To Furnish Engineering Design Services For The Conceptual Engineering For Calaveras Dam, CS-716," dated September 11, 2003, between Contractor and City, as amended by the:

First Amendment, dated July 26, 2005;  
Second Amendment, dated April 15, 2008;  
Amendment Three A (3A), dated June 17, 2009; and  
Amendment Three B (3B), dated July 28, 2009.

**b. Other Terms.** Terms used and not defined in this Amendment shall have the meanings assigned to such terms in the Agreement.

**2. Modifications to the Agreement.** The Agreement is hereby modified as follows:

**2a. Section 2.** Section 2 Term of the Agreement currently reads as follows:

The effective date of this Agreement is the original date of its certification by the Controller. The term of this agreement shall be from September 11, 2003 to September 10, 2016. The Conceptual Engineering shall be completed within the first eighteen (18) months from the effective date. During the remaining term of the agreement, the Contractor shall complete and provide Detailed Design and Final Design, as well as engineering and technical support for the completion of the environmental review process (CEQA/NEPA).

*Such section is hereby amended in its entirety to read as follows:*

**2. Term of the Agreement.** Subject to Section 1, the term of this Agreement shall be from September 11, 2003 to May 24, 2019.

**2b. Section 5.** Section 5 Compensation of the Agreement currently reads as follows:

Compensation shall be made in monthly payments on or before the thirtieth day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. In no event shall the amount of this Agreement exceed Twenty Four Million Dollars (\$24,000,000), which sum includes nine million six-hundred eighty-nine thousand six-hundred sixty-three dollars (\$9,689,663) under Amendment No. 3B to provide additional design, environmental and permitting services for the Calaveras Dam Replacement Project. The calculation of charges associated with this Amendment appears in Appendix B-4, "Amendment 3B Calculation of Charges," attached hereto and incorporated by reference as though fully set

forth herein. Appendix B-3 and Appendix B-4 combined will be the total budget for Amendment 3.

No charges shall be incurred under this Agreement nor shall any payments become due to the Contractor until reports, services, or both, required under this Agreement are received from the Contractor and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Contractor in any instance in which the Contractor has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall the City be liable for interest or late charges for any late payments.

The Controller is not authorized to pay invoices submitted by the Contractor prior to the Contractor's submission of HRC Form 7, "Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report." If HRC Form 7 is not submitted with the Contractor's invoice, the Controller will notify the department, the Director of HRC and the Contractor of the omission. If the Contractor's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Contractor has ten days to file an affidavit using HRC Form 9, "Sub-Contractor Payment Affidavit," verifying that all subcontractors have been paid and specifying the amount.

***Such section is hereby amended in its entirety to read as follows:***

**5. Compensation.** Compensation shall be made in monthly payments on or before the thirtieth day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager of the Public Utilities Commission, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. In no event shall the amount of this Agreement exceed **Twenty Eight Million Five Hundred Thousand Dollars (\$28,500,000)**. The breakdown of costs associated with this Agreement appears in Appendix B, "Calculation of Charges," attached hereto and incorporated by reference as though fully set forth herein. No charges shall be incurred under this Agreement nor shall any payments become due to Contractor until reports, services, or both, required under this Agreement are received from Contractor and approved by the San Francisco Public Utilities Commission as being in accordance with this Agreement. City may withhold payment to Consultant in any instance in which Contractor has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall City be liable for interest or late charges for any late payments except as set forth in Section 6.22(J)(7) of the San Francisco Administrative Code.

The Controller is not authorized to pay invoices submitted by Consultant prior to Contractor's submission of CMD Progress Payment Form. If Progress Payment Form is not submitted with Consultant's invoice, the Controller will notify the department, the Director of

CMD and Contractor of the omission. If Consultant's failure to provide CMD Progress Payment Form is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until CMD Progress Payment Form is provided. Following City's payment of an invoice, Consultant has ten days to file an affidavit using CMD Payment Affidavit verifying that all subcontractors have been paid and specifying the amount.

**2c. Submitting False Claims.** Section 37 of the Agreement is hereby replaced in its entirety to read as follows:

**8. Submitting False Claims; Remedies.** Pursuant to Article V of Chapter 6 of the San Francisco Administrative Code, any contractor, subcontractor, supplier, consultant or subconsultant who submits a false claim may be subject to monetary penalties, investigation and prosecution and may be declared an irresponsible bidder or an unqualified consultant and debarred as set forth in that Article. A contractor, subcontractor, supplier, consultant or sub consultant will be deemed to have submitted a false claim to the City if the contractor, subcontractor, supplier, consultant or subconsultant: (a) knowingly presents or causes to be presented to an officer or employee of the City a false claim or request for payment or approval; (b) knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by the City; (c) conspires to defraud the City by getting a false claim allowed or paid by the City; (d) knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to pay or transmit money or property to the City; or (e) is a beneficiary of an inadvertent submission of a false claim to the City, subsequently discovers the falsity of the claim, and fails to disclose the false claim to the City within a reasonable time after discovery of the false claim.

**2d. Indemnification.** Section 11 of the Agreement is hereby replaced in its entirety to read as follows:

**16. Indemnification.**

**a. General.** To the fullest extent permitted by law, Consultant shall assume the defense of (with legal counsel subject to approval of the City), indemnify and save harmless the City, its boards, commissions, officers, and employees (collectively "Indemnitees"), from and against any and all claims, loss, cost, damage, injury (including, without limitation, injury to or death of an employee of the Consultant or its subconsultants), expense and liability of every kind, nature, and description (including, without limitation, incidental and consequential damages, court costs, attorneys' fees, litigation expenses, fees of expert consultants or witnesses in litigation, and costs of investigation), that arise out of, pertain to, or relate to, directly or indirectly, in whole or in part, the negligence, recklessness, or wilful misconduct of the Consultant, any subconsultant, anyone directly or indirectly employed by them, or anyone that they control (collectively, "Liabilities").

**b. Limitations.** No insurance policy covering the Consultant's performance under this Agreement shall operate to limit the Consultant's Liabilities under this provision. Nor shall the amount of insurance coverage operate to limit the extent of such Liabilities. The Consultant assumes no liability whatsoever for the sole negligence, active negligence, or willful misconduct of any Indemnitee or the contractors of any Indemnitee. The Consultant's indemnification obligations for claims involving "Professional Liability" (claims involving acts, errors or omissions in the rendering of professional services) and "Economic Loss Only" (claims involving economic loss which are not connected with bodily injury or physical damage to property) shall be limited to the extent of Consultant's negligence or breach of duty.

**c. Copyright infringement.** Consultant shall also indemnify, defend and hold harmless all Indemnitees from all suits or claims for infringement of the patent rights, copyright, trade secret, trade name, trademark, service mark, or any other proprietary right of any person or persons in consequence of the use by the City, or any of its boards, commissions, officers, or employees of articles or services to be supplied in the performance of Consultant's services under this Agreement. Infringement of patent rights, copyrights, or other proprietary rights in the performance of this Agreement, if not the basis for indemnification under the law, shall nevertheless be considered a material breach of contract.

**2e. Limitations on Contributions.** Section 56 is hereby replaced in its entirety as follows:

**42. Limitations on Contributions.** Through execution of this Agreement, Contractor acknowledges that it is familiar with section 1.126 of the City's Campaign and Governmental Conduct Code, which prohibits any person who contracts with the City for the rendition of personal services, for the furnishing of any material, supplies or equipment, for the sale or lease of any land or building, or for a grant, loan or loan guarantee, from making any campaign contribution to (1) an individual holding a City elective office if the contract must be approved by the individual, a board on which that individual serves, or a board on which an appointee of that individual serves, (2) a candidate for the office held by such individual, or (3) a committee controlled by such individual, at any time from the commencement of negotiations for the contract until the later of either the termination of negotiations for such contract or six months after the date the contract is approved. Contractor acknowledges that the foregoing restriction applies only if the contract or a combination or series of contracts approved by the same individual or board in a fiscal year have a total anticipated or actual value of \$50,000 or more. Contractor further acknowledges that the prohibition on contributions applies to each prospective party to the contract; each member of Contractor's board of directors; Contractor's chairperson, chief executive officer, chief financial officer and chief operating officer; any person with an ownership interest of more than 20 percent in Contractor; any subcontractor listed in the bid or contract; and any committee that is sponsored or controlled by Contractor. Additionally, Contractor acknowledges that Contractor must inform each of the persons described in the preceding sentence of the prohibitions contained in Section 1.126.

Contractor further agrees to provide to City the names of each person, entity or committee described above.

**3. Effective Date.** Each of the modifications set forth in Section 2 shall be effective on and after the date of this Amendment.

**4. Legal Effect.** Except as expressly modified by this Amendment, all of the terms and conditions of the Agreement shall remain unchanged and in full force and effect.

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///  
///

IN WITNESS WHEREOF, Contractor and City have executed this Amendment as of the date first referenced above.

**CITY**

Recommended by:

---

Harlan L. Kelly, Jr.  
General Manager  
San Francisco Public Utilities Commission

Approved as to Form:

Dennis J. Herrera  
City Attorney

By:

John G. White  
Deputy City Attorney

Approved:

---

Jaci Fong  
Purchaser & Director, Office of Contract  
Administration

**CONTRACTOR**

URS Corporation

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Signature of Authorized Representative

Title

City vendor number: 19103

**City and County of San Francisco  
San Francisco Public Utilities Commission  
Contract Administration Bureau  
525 Golden Gate Avenue, 8th Floor  
San Francisco, California 94102**

.....  
**Fourth Amendment between the City and County of San Francisco  
(through the San Francisco Public Utilities Commission)  
and  
URS Corporation**

THIS AMENDMENT (this "Amendment") is made as of \_\_\_\_\_, 2014, in San Francisco, California, by and between **URS Corporation** ("Contractor" or "Consultant," used interchangeably), and the City and County of San Francisco, a municipal corporation ("City"), acting by and through the San Francisco Public Utilities Commission.

**RECITALS**

WHEREAS, City and Contractor have entered into the Agreement (as defined below); and

WHEREAS, City and Contractor desire to modify the Agreement on the terms and conditions set forth herein to extend the performance period, increase the contract amount, and update standard contractual clauses; and

WHEREAS, On-June 10, 2003, per Resolution No. 03-0117, the Public Utilities Commission awarded Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project, to Contractor to provide engineering and environmental support services in the amount of \$4,000,000, and with a term of four years, concluding on September 10, 2007; and

WHEREAS, on July 26, 2005, per Resolution No. 08-0041, the Public Utilities Commission approved Amendment No. 1 to Agreement No. CS-716 to continue professional engineering and environmental services for detailed and final design, increasing the original agreement amount by \$8,000,000 to \$12,000,000 and extending the agreement term by two years to September 10, 2009; and

WHEREAS, On September 6, 2005, approval for Amendment No. 1 was obtained from the Civil Service Commission per PSC# 4098-02/03; and

WHEREAS, on September 20, 2005, approval for Amendment No. 1 was obtained from the Board of Supervisors, per Resolution 674-05; and

WHEREAS, on March 11, 2008, per Resolution No. 08-0041, the San Francisco Public Utilities Commission approved Amendment No. 2 to Agreement No. CS-716, to provide additional professional services for the final design as well as environmental support services to facilitate the completion of CEQA and NEPA documents and obtain required environmental permits, increasing the agreement amount by \$1,900,000 to \$13,900,000; and

WHEREAS, On April 15, 2008, approval for Amendment No. 2 was obtained from the Board of Supervisors, per Resolution 182-08; and

WHEREAS, On April 23, 2008, approval for Amendment No. 2 was obtained from the Civil Service Commission per Notice of Action per PSC# 4098-02/03; and

WHEREAS, on May 12, 2009, per Resolution No. 09-0079, the San Francisco Public Utilities Commission approved Amendment No. 3 to Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project to increase the agreement amount by \$10,100,000 to \$24,000,000 and extend the agreement term by seven years to September 10, 2016, in order to: provide additional design, environmental and permitting services needed prior to construction to address the naturally occurring asbestos (NOA) and fisheries issues; provide designs to mitigate impacts associated with the Calaveras Dam Replacement Project to be implemented under the Habitat Reserve Program; provide supplemental dam safety engineering analyses requested by the California Division of Safety of Dams (DSOD); provide ongoing permitting support; and provide engineering support during construction, start-up, and commissioning of the project; and

WHEREAS on May 12, 2009, the San Francisco Public Utilities Commission authorized the General Manager to split Amendment Three into two parts, Amendment 3A and Amendment 3B. Amendment 3A, dated June 17, 2009, increased the existing Agreement by \$410,337 to allow the Contractor to continue essential critical services while Amendment 3B was pending approval from the Board of Supervisors; and

WHEREAS, On June 15, 2009, approval for Amendment No. 3 (including Amendments 3A and 3B) was obtained from the Civil Service Commission per PSC# 4098-02/03; and

WHEREAS, On July 28, 2009, approval for Amendment 3 was obtained from the Board of Supervisors, per Resolution 316-09; and

WHEREAS, on May 27, 2014, per Resolution No. 14-0087, the San Francisco Public Utilities Commission approved Amendment No. 4 to Agreement No. CS-716, to provide additional engineering support during construction, start-up, and commissioning of the project, increasing the agreement amount by \$4,500,000 to \$28,500,000 and extend the agreement term by two (2) years, nine (9) months for a total agreement term of fifteen (15) years and nine (9) months; and

WHEREAS, On June 16, 2014, approval for Amendment No. 4 was obtained from the Civil Service Commission per PSC# 4098-02/03; and

WHEREAS, On \_\_\_\_\_ 2014, approval for Amendment 4 was obtained from the Board of Supervisors, per Resolution \_\_\_\_\_; and

NOW, THEREFORE, Contractor and the City agree as follows:

**1. Definitions.** The following definitions shall apply to this Amendment:

**1a. Agreement.** The term "Agreement" shall mean the "Agreement between The City and County of San Francisco and URS Corporation To Furnish Engineering Design Services For The Conceptual Engineering For Calaveras Dam, CS-716," dated September 11, 2003, between Contractor and City, as amended by the:

First Amendment, dated July 26, 2005;  
Second Amendment, dated April 15, 2008;  
Amendment Three A (3A), dated June 17, 2009; and  
Amendment Three B (3B), dated July 28, 2009.

**b. Other Terms.** Terms used and not defined in this Amendment shall have the meanings assigned to such terms in the Agreement.

**2. Modifications to the Agreement.** The Agreement is hereby modified as follows:

**2a. Section 2.** Section 2 Term of the Agreement currently reads as follows:

The effective date of this Agreement is the original date of its certification by the Controller. The term of this agreement shall be from September 11, 2003 to September 10, 2016. The Conceptual Engineering shall be completed within the first eighteen (18) months from the effective date. During the remaining term of the agreement, the Contractor shall complete and provide Detailed Design and Final Design, as well as engineering and technical support for the completion of the environmental review process (CEQA/NEPA).

*Such section is hereby amended in its entirety to read as follows:*

**2. Term of the Agreement.** Subject to Section 1, the term of this Agreement shall be from September 11, 2003 to May 24, 2019.

**2b. Section 5.** Section 5 Compensation of the Agreement currently reads as follows:

Compensation shall be made in monthly payments on or before the thirtieth day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. In no event shall the amount of this Agreement exceed Twenty Four Million Dollars (\$24,000,000), which sum includes nine million six-hundred eighty-nine thousand six-hundred sixty-three dollars (\$9,689,663) under Amendment No. 3B to provide additional design, environmental and permitting services for the Calaveras Dam Replacement Project. The calculation of charges associated with this Amendment appears in Appendix B-4, "Amendment 3B Calculation of Charges," attached hereto and incorporated by reference as though fully set

forth herein. Appendix B-3 and Appendix B-4 combined will be the total budget for Amendment 3.

No charges shall be incurred under this Agreement nor shall any payments become due to the Contractor until reports, services, or both, required under this Agreement are received from the Contractor and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Contractor in any instance in which the Contractor has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall the City be liable for interest or late charges for any late payments.

The Controller is not authorized to pay invoices submitted by the Contractor prior to the Contractor's submission of HRC Form 7, "Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report." If HRC Form 7 is not submitted with the Contractor's invoice, the Controller will notify the department, the Director of HRC and the Contractor of the omission. If the Contractor's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Contractor has ten days to file an affidavit using HRC Form 9, "Sub-Contractor Payment Affidavit," verifying that all subcontractors have been paid and specifying the amount.

*Such section is hereby amended in its entirety to read as follows:*

**5. Compensation.** Compensation shall be made in monthly payments on or before the thirtieth day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager of the Public Utilities Commission, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. In no event shall the amount of this Agreement exceed **Twenty Eight Million Five Hundred Thousand Dollars** (\$28,500,000). The breakdown of costs associated with this Agreement appears in Appendix B, "Calculation of Charges," attached hereto and incorporated by reference as though fully set forth herein. No charges shall be incurred under this Agreement nor shall any payments become due to Contractor until reports, services, or both, required under this Agreement are received from Contractor and approved by the San Francisco Public Utilities Commission as being in accordance with this Agreement. City may withhold payment to Consultant in any instance in which Contractor has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall City be liable for interest or late charges for any late payments except as set forth in Section 6.22(J)(7) of the San Francisco Administrative Code.

The Controller is not authorized to pay invoices submitted by Consultant prior to Contractor's submission of CMD Progress Payment Form. If Progress Payment Form is not submitted with Consultant's invoice, the Controller will notify the department, the Director of

CMD and Contractor of the omission. If Consultant's failure to provide CMD Progress Payment Form is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until CMD Progress Payment Form is provided. Following City's payment of an invoice, Consultant has ten days to file an affidavit using CMD Payment Affidavit verifying that all subcontractors have been paid and specifying the amount.

**2c. Submitting False Claims.** Section 37 of the Agreement is hereby replaced in its entirety to read as follows:

**8. Submitting False Claims; Remedies.** Pursuant to Article V of Chapter 6 of the San Francisco Administrative Code, any contractor, subcontractor, supplier, consultant or subconsultant who submits a false claim may be subject to monetary penalties, investigation and prosecution and may be declared an irresponsible bidder or an unqualified consultant and debarred as set forth in that Article. A contractor, subcontractor, supplier, consultant or sub consultant will be deemed to have submitted a false claim to the City if the contractor, subcontractor, supplier, consultant or subconsultant: (a) knowingly presents or causes to be presented to an officer or employee of the City a false claim or request for payment or approval; (b) knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by the City; (c) conspires to defraud the City by getting a false claim allowed or paid by the City; (d) knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to pay or transmit money or property to the City; or (e) is a beneficiary of an inadvertent submission of a false claim to the City, subsequently discovers the falsity of the claim, and fails to disclose the false claim to the City within a reasonable time after discovery of the false claim.

**2d. Indemnification.** Section 11 of the Agreement is hereby replaced in its entirety to read as follows:

**16. Indemnification.**

**a. General.** To the fullest extent permitted by law, Consultant shall assume the defense of (with legal counsel subject to approval of the City), indemnify and save harmless the City, its boards, commissions, officers, and employees (collectively "Indemnitees"), from and against any and all claims, loss, cost, damage, injury (including, without limitation, injury to or death of an employee of the Consultant or its subconsultants), expense and liability of every kind, nature, and description (including, without limitation, incidental and consequential damages, court costs, attorneys' fees, litigation expenses, fees of expert consultants or witnesses in litigation, and costs of investigation), that arise out of, pertain to, or relate to, directly or indirectly, in whole or in part, the negligence, recklessness, or wilful misconduct of the Consultant, any subconsultant, anyone directly or indirectly employed by them, or anyone that they control (collectively, "Liabilities").

b. **Limitations.** No insurance policy covering the Consultant's performance under this Agreement shall operate to limit the Consultant's Liabilities under this provision. Nor shall the amount of insurance coverage operate to limit the extent of such Liabilities. The Consultant assumes no liability whatsoever for the sole negligence, active negligence, or willful misconduct of any Indemnitee or the contractors of any Indemnitee. The Consultant's indemnification obligations for claims involving "Professional Liability" (claims involving acts, errors or omissions in the rendering of professional services) and "Economic Loss Only" (claims involving economic loss which are not connected with bodily injury or physical damage to property) shall be limited to the extent of Consultant's negligence or breach of duty.

c. **Copyright infringement.** Consultant shall also indemnify, defend and hold harmless all Indemnitees from all suits or claims for infringement of the patent rights, copyright, trade secret, trade name, trademark, service mark, or any other proprietary right of any person or persons in consequence of the use by the City, or any of its boards, commissions, officers, or employees of articles or services to be supplied in the performance of Consultant's services under this Agreement. Infringement of patent rights, copyrights, or other proprietary rights in the performance of this Agreement, if not the basis for indemnification under the law, shall nevertheless be considered a material breach of contract.

2e. **Limitations on Contributions.** Section 56 is hereby replaced in its entirety as follows:

42. **Limitations on Contributions.** Through execution of this Agreement, Contractor acknowledges that it is familiar with section 1.126 of the City's Campaign and Governmental Conduct Code, which prohibits any person who contracts with the City for the rendition of personal services, for the furnishing of any material, supplies or equipment, for the sale or lease of any land or building, or for a grant, loan or loan guarantee, from making any campaign contribution to (1) an individual holding a City elective office if the contract must be approved by the individual, a board on which that individual serves, or a board on which an appointee of that individual serves, (2) a candidate for the office held by such individual, or (3) a committee controlled by such individual, at any time from the commencement of negotiations for the contract until the later of either the termination of negotiations for such contract or six months after the date the contract is approved. Contractor acknowledges that the foregoing restriction applies only if the contract or a combination or series of contracts approved by the same individual or board in a fiscal year have a total anticipated or actual value of \$50,000 or more. Contractor further acknowledges that the prohibition on contributions applies to each prospective party to the contract; each member of Contractor's board of directors; Contractor's chairperson, chief executive officer, chief financial officer and chief operating officer; any person with an ownership interest of more than 20 percent in Contractor; any subcontractor listed in the bid or contract; and any committee that is sponsored or controlled by Contractor. Additionally, Contractor acknowledges that Contractor must inform each of the persons described in the preceding sentence of the prohibitions contained in Section 1.126.

Contractor further agrees to provide to City the names of each person, entity or committee described above.

3. **Effective Date.** Each of the modifications set forth in Section 2 shall be effective on and after the date of this Amendment.

4. **Legal Effect.** Except as expressly modified by this Amendment, all of the terms and conditions of the Agreement shall remain unchanged and in full force and effect.

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IN WITNESS WHEREOF, Contractor and City have executed this Amendment as of the date first referenced above.

**CITY**

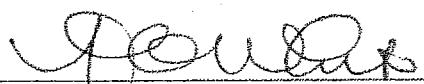
Recommended by:

Harlan L. Kelly, Jr.  
General Manager  
San Francisco Public Utilities Commission

Approved as to Form:

Dennis J. Herrera  
City Attorney

By:

  
John G. White  
Deputy City Attorney

Approved:

  
Jaci Fong  
Purchaser & Director, Office of Contract  
Administration

**CONTRACTOR**

URS Corporation

  
Noel Wong

Signature of Authorized Representative

  
Vice President

Title

City vendor number: 19103

**FORM SFEC-126:**  
**NOTIFICATION OF CONTRACT APPROVAL**  
(S.F. Campaign and Governmental Conduct Code § 1.126)

<b>City Elective Officer Information</b> (Please print clearly.)	
Name of City elective officer(s): Members, Board of Supervisors	City elective office(s) held: Members, Board of Supervisors

<b>Contractor Information</b> (Please print clearly.)	
Name of contractor: <b>URS Corporation</b>	
<p><i>Please list the names of (1) members of the contractor's board of directors; (2) the contractor's chief executive officer, chief financial officer and chief operating officer; (3) any person who has an ownership of 20 percent or more in the contractor; (4) any subcontractor listed in the bid or contract; and (5) any political committee sponsored or controlled by the contractor. Use additional pages as necessary.</i></p> <p>See Attachment</p>	

Contractor address: 1333 Broadway, Ste. 800, Oakland, CA 94612	
Date that contract was approved: Original Contract – 6/10/03 (By the SF Board of Supervisors)	Amount of contracts: \$ 28,500,000 (Contract Total) \$4,500,000 (Amendment 4)
Describe the nature of the contract that was approved: Amendment 4: Engineering support services during construction.	
Comments:	

This contract was approved by (check applicable):

the City elective officer(s) identified on this form  
 a board on which the City elective officer(s) serves: San Francisco Board of Supervisors  
Print Name of Board  
 the board of a state agency (Health Authority, Housing Authority Commission, Industrial Development Authority Board, Parking Authority, Redevelopment Agency Commission, Relocation Appeals Board, Treasure Island Development Authority) on which an appointee of the City elective officer(s) identified on this form sits

Print Name of Board

<b>Filer Information</b> (Please print clearly.)	
Name of filer: Angela Calvillo, Clerk of the Board	Contact telephone number: ( 415 ) 554-5184
Address: City Hall, Room 244, 1 Dr. Carlton B. Goodlett Pl., San Francisco, CA 94102	E-mail: Board.of.Supervisors@sfgov.org

Signature of City Elective Officer (if submitted by City elective officer)

Date Signed

Signature of Board Secretary or Clerk (if submitted by Board Secretary or Clerk)

Date Signed

