



# City of Sacramento City Council

915 I Street, Sacramento, CA, 95814  
[www.CityofSacramento.org](http://www.CityofSacramento.org)

**Meeting Date:** 3/1/2011

**Report Type:** Consent

**Title:** Supplemental Agreement: Lower American River Flow Management Standard EIR

**Report ID:** 2011-00143

**Location:** Citywide

**Recommendation:** Adopt a Resolution authorizing the City Manager to execute a Supplemental Professional Services Agreement with cbec, inc. for an amount not to exceed \$95,000 to assist with the development of the Environmental Impact Report necessary for the Water Forum Successor Effort's ongoing effort to update the lower American River Flow Management Standard.

**Contact:** Kathy Howard, Administrative Analyst, (916) 808-1995 and Sarah Foley, Program Manager, (916) 808-1997

**Presenter:** Not Applicable

**Department:** Department of Utilities / none

**Division:** C/Co Ofc Water Planning

**Dept ID:** 14001911

## **Attachments:**

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- 1-Description/Analysis
- 2-Background
- 3-Resolution
- 4-Contract Cover
- 5-Exhibit A Contract

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## **City Attorney Review**

Approved as to Form  
Joe Robinson  
2/24/2011 9:15:54 AM

## **City Treasurer Review**

Prior Council Financial Policy Approval or  
Outside City Treasurer Scope  
Russell Fehr  
2/22/2011 2:41:37 PM

## **Approvals/Acknowledgements**

Department Director or Designee: Marty Hanneman - 2/23/2011 1:21:31 PM

Assistant City Manager: John Dangberg - 2/23/2011 8:20:49 PM

## **Description/Analysis**

**Issue:** This report identifies the need for additional professional and technical services for the City-County Office of Metropolitan Water Planning (CCOMWP), which staffs and manages the Water Forum Successor Effort (WFSE). The lower American River (LAR) Flow Management Standard (FMS) update project is an essential element of the Water Forum Agreement (WFA). If the proposed supplemental agreement is approved, cbec, Inc. will provide additional professional and technical services necessary to develop the Environmental Impact Report (EIR) for the WFSE's proposal to update the lower American River FMS.

**Policy Considerations:** This report is submitted in compliance with the policy direction provided by the Sacramento City Council and Sacramento County Board of Supervisors in forming the CCOMWP, approving its work plan, and supporting the efforts of the Water Forum.

### **Environmental Considerations: California Environmental Quality Act (CEQA):**

Approval of this supplemental agreement will allow completion of the technical work which is required for completion of an Environmental Impact Report for the proposed Lower American River Flow Management Standard.

**Sustainability Considerations:** Approval of this supplemental agreement is consistent with the City of Sacramento's Sustainability Master Plan Goals. Pursuit of a Flow Management Standard for the lower American River that is more protective of fisheries and aquatic resources is a fundamental element of the Water Forum Agreement, which is supported by the City's Sustainability Goal No. 7 - Parks, Open Space and Habitat Conservation.

**Commission/Committee Action:** None

**Rationale for Recommendation:** Funding for the LAR FMS EIR was approved with adoption of the FY2010 and FY2011 CCOMWP budgets. Approval of this supplemental professional services agreement is consistent with the approved budgets. In July 2009 CCOMWP staff developed a scope of work for the professional services needed for this effort and solicited Qualifications Statements from consulting firms. A selection committee reviewed the qualifications received and selected HDR|Surface Water Resources, Inc. as the top ranked firm to lead the project and prepare the EIR. cbec, Inc. was selected as a part of that project team. Sacramento City Council authorized the original cbec, Inc. contract on November 17, 2009 at \$215,576. Since that time the team has identified additional services needed from cbec, Inc. to complete the project.

**Financial Considerations:** : This contract has no impact on the City's General Fund. There are sufficient resources for the proposed supplemental agreement in the amount of \$95,000 in Fund 7103 for the Water Forum Successor Effort (WFSE). This change will increase the agreement's total not to exceed amount to \$310,576. (The original contract amount is \$215,576) The WFSE is funded by a cost share agreement among the City of Sacramento, County of Sacramento, and other cost share partners including the City of Roseville, City of Folsom, Placer County Water Agency, Sacramento Municipal Water District, San Juan Water District (Placer County Service Area), and the El Dorado County Water Agency.

**Emerging Small Business Development (ESBD):** cbec, Inc. is not a certified ESBE.

## Background Information:

- The City and County of Sacramento created the City-County Office of Metropolitan Water Planning (CCOMWP) in 1991 to pursue a joint water planning effort in the greater Sacramento Metropolitan area.
- In 1993, a diverse group of business and agricultural leaders, citizens groups, environmentalists, water managers, and local governments formed the Sacramento Area Water Forum.
- In 1999, Water Forum members approved a comprehensive Water Forum Agreement (WFA) (C1999-222). The WFA consists of integrated actions necessary for providing a regional solution to water shortages, environmental damage, groundwater contamination, and limited economic prosperity.
- The CCOMWP has been charged with staffing the effort to implement the WFA, known as the Water Forum Successor Effort (WFSE) (C2001-005).
- Implementation of a revised flow standard that is more protective of the aquatic resources of the lower American River (LAR) is one the WFA's seven elements and is an important task of the WFSE. These activities include preparation of an Environmental Impact Report (EIR), and submittal of a petition to the State Water Resources Control Board by the U.S. Bureau of Reclamation to add conditions to Reclamation's Folsom Reservoir water right permits that provide for flow releases to the LAR in accordance with the proposed LAR Flow Management Standard (FMS). In FY2009-2010 the CCOMWP, on behalf of the WFSE, began work on the environmental documentation, including defining the scope of work and developing a project description and project alternatives.
- In July 2009 CCOMWP staff developed a scope of work for the professional services needed for this effort and solicited Qualifications Statements from consulting firms. A selection committee reviewed the qualifications received and selected HDR|Surface Water Resources, Inc. as the top ranked firm to lead the project and prepare the EIR. cbec, Inc. was selected as a part of that project team to provide specific unique modeling and analysis required for the EIR. On November 17, 2009 Sacramento City Council authorized the original cbec, Inc. contract (C2009-1029) for an amount not to exceed \$215,576.
- In January 2011 Thomas Gohring, Executive Director of the CCOMWP, identified additional work necessary for cbec, Inc. to perform in order to successfully complete the project. The tasks described in the amended Scope of Work are expected to cost \$95,000 increasing the total not to exceed amount of the contract to \$310,576.

## **RESOLUTION NO.**

Adopted by the Sacramento City Council

### **APPROVE SUPPLEMENTAL AGREEMENT WITH CBEC, INC.**

#### **BACKGROUND**

- A. The City and County of Sacramento created the City-County Office of Metropolitan Water Planning (CCOMWP) in 1991 to pursue a joint water planning effort in the greater Sacramento Metropolitan area.
- B. In 1993, a diverse group of business and agricultural leaders, citizens groups, environmentalists, water managers, and local governments formed the Sacramento Area Water Forum.
- C. In 1999, Water Forum members approved a comprehensive Water Forum Agreement (WFA). The WFA consists of integrated actions necessary for providing a regional solution to water shortages, environmental damage, groundwater contamination, and limited economic prosperity.
- D. The CCOMWP has been charged with staffing the effort to implement the WFA, known as the Water Forum Successor Effort (WFSE).
- E. Implementation of a revised flow standard that is more protective of the aquatic resources of the lower American River (LAR) is one the WFA's seven elements and is an important task of the WFSE. These activities include preparation of an Environmental Impact Report (EIR), and submittal of a petition to the State Water Resources Control Board by the U.S. Bureau of Reclamation to add conditions to Reclamation's Folsom Reservoir water right permits that provide for flow releases to the LAR in accordance with the proposed LAR Flow Management Standard (FMS). In FY2009-2010 the CCOMWP, on behalf of the WFSE, began work on the environmental documentation, including defining the scope of work and developing a project description and project alternatives.
- F. In July 2009 CCOMWP staff developed a scope of work for the professional services needed for this effort and solicited Qualifications Statements from consulting firms. A selection committee reviewed the qualifications received and selected HDR|Surface Water Resources, Inc. as the top ranked firm to lead the project and prepare the EIR. cbec, Inc. was selected as a part of that project team. On November 17, 2009 Sacramento City Council authorized the original cbec, Inc. contract (2009-1029) for an amount not to exceed \$215,576.

G. In January 2011, CCOMWP staff identified additional work necessary for cbec, Inc. to perform in order to successfully complete the project. The tasks described in the amended Scope of Work are expected to cost \$95,000 and increase the total not to exceed amount of the cbec contract to \$310,576.

**BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:**

Section 1. The City Manager is authorized to sign a Supplemental Agreement with cbec, Inc., to provide additional services necessary to prepare an Environmental Impact Report to update the lower American River Flow Management Standard, for an amount not to exceed \$95,000, increasing the total contract amount to \$310,576.

## Unexecuted Contract/Agreements

- The Unexecuted Contract/Agreement is signed by the other party, is attached as an exhibit to the resolution, and is approved as to form by the City Attorney.
- The Unexecuted Contract/Agreement (Public Project) is NOT signed by the other party, is attached as an exhibit to the resolution, and is approved as to form by the City Attorney.
- The Unexecuted Contract is NOT included as an exhibit to the Resolution because the Agreement(s) is with other another governmental agency and it is not feasible to obtain the other agency's signature prior to Council action (be they denominated Agreements, MOUs, MOAs, etc.); however, the City Attorney approves the forwarding of the report to Council even though the signed agreement is not in hand yet.
- The Unexecuted Contract is NOT included as an exhibit to the resolution because, due to special circumstances, and the City Attorney confirms in writing that it is okay to proceed with Council action even though the signed agreement is not in hand yet.

*All unexecuted contracts/agreements which are signed by the other parties are in the Office of the City Clerk before agenda publication.*

# SUPPLEMENTAL AGREEMENT

**Project Title: Lower American River Flow Management Standard EIR**  
**Purchase Order #: 11334**

**Date: January 26, 2011**  
**Supplemental Agreement No.: 1**

The City of Sacramento ("City") and cbec, Inc. ("Contractor"), as parties to that certain Professional Services Agreement designated as Agreement Number 2009-1029, including any and all prior supplemental agreements modifying said agreement (said agreement and supplemental agreements are hereafter collectively referred to as the "Agreement"), hereby supplement and modify the Agreement as follows:

1. The scope of Services specified in Exhibit A of the Agreement is amended as follows:  
  
**Contractor shall perform the additional services described in the Scope of Work identified as "Attachment 2 to Exhibit A," attached hereto and incorporated herein by this reference.**
2. The budget, hourly rates, and estimated reimbursable expenses for the additional services specified in section 1, above, are set forth on "Attachment 3 to Exhibit B," attached hereto and incorporated herein by this reference.
3. In consideration of the additional and/or revised services described in section 1, above, the maximum not-to-exceed amount that is specified in Exhibit B of the Agreement for payment of Contractor's fees and expenses, is **increased** by \$95,000, and said maximum not-to-exceed amount is amended as follows:  
  

Agreement's original not-to-exceed amount:	<u>\$215,576</u>
Net change by previous supplemental agreements:	<u>0</u>
Not-to-exceed amount prior to this supplemental agreement:	<u>215,576</u>
<b>Increase/decrease</b> by this supplemental agreement:	<u>95,000</u>
New not-to exceed amount including all supplemental agreements:	<u>\$310,576</u>
4. Contractor agrees that the amount of increase or decrease in the not-to-exceed amount specified in section 3, above, shall constitute full compensation for the additional and/or revised services specified in section 1, above, and shall fully compensate Contractor for any and all direct and indirect costs that may be incurred by Contractor in connection with such additional and/or revised services, including costs associated with any changes and/or delays in work schedules or in the performance of other services or work by Contractor.
5. Contractor warrants and represents that the person or persons executing this supplemental agreement on behalf of Contractor has or have been duly authorized by Contractor to sign this supplemental agreement and bind Contractor to the terms hereof.
6. Except as specifically revised herein, all terms and conditions of the Agreement shall remain in full force and effect, and Contractor shall perform all of the services, duties, obligations, and conditions required under the Agreement, as supplemented and modified by this supplemental agreement.

**Approval Recommended By:**

**Approved As To Form By:**

\_\_\_\_\_  
Tom Gohring, Project Manager

\_\_\_\_\_  
City Attorney

**Approved By:**

\_\_\_\_\_  
Contractor

**Attested To By:**

**Approved By:**

\_\_\_\_\_  
City of Sacramento

\_\_\_\_\_  
City Clerk

## ATTACHMENT 2 TO EXHIBIT A

### Lower American River – Flow Management Standard

#### Scope of Work

January 24, 2011

#### 1. Introduction

cbec, inc., eco engineering (cbec) has been requested by Tom Gohring of the Water Forum to detail additional tasks in support of the development of the Flow Management Standard (FMS) for the lower American River (LAR). These additional tasks are related to various monitoring and modeling efforts of Folsom Reservoir, Lake Natoma and the lower American River, as well as stakeholder outreach.

#### 2. Scope of Work

The following scope of work describes the tasks required to continue our efforts on the development of the FMS and the related Environmental Impact Report. The tasks have been numbered sequentially from the tasks included in the existing scope of work. The first three tasks relate to Phase 1 of the existing contract, and address the iterative temperature model (iCPMM). The subsequent tasks are associated to Phase 2 of the existing contract and address additional tasks related to assessing impacts to aquatic resources, water supply and power generation. A new phase, 6, is added to the previous scope to include efforts relating to stakeholder outreach and education.

##### *Additional Tasks related to Phase 1:*

##### *Task 1.5 – iCPMM Calibration and Sensitivity Analysis*

Initial efforts to validate iCPMM have suggested a need for a more in depth calibration effort and sensitivity analysis of the iCPMM inputs. This effort will adjust various input parameters and assess the sensitivity of the simulated water temperatures. It is hoped that this sensitivity analysis will lead to a refined version of iCPMM which more accurately simulates water temperatures exiting Folsom Reservoir and warming/cooling as the water flows down the LAR. At a minimum this effort will allow for an understanding of what time periods the model results are useful, and what periods the model results should be discounted.

##### *Task 1.6 – iCPMM Additional Tool Development*

This task includes budget to allow for the development of a number of programming tools to be used in conjunction with the existing iterative temperature (iCPMM) developed in Task 1.1. cbec will develop a simple Pattern Maker and Optimizer which will develop ~20 monthly stepped release patterns based upon a given May-September reservoir release volume, in order to determine which pattern provides the coldest temperatures in

the LAR. cbec will develop a batch processor in order to improve iCPMM modeling efficiency. cbec will also create a CALSIM result post-processor to translate and format various CALSIM result data and input them iCPMM.

#### *Task 1.7 – iCPMM Reporting*

This task includes budget for reporting related to iCPMM. This includes updating the existing Users Manual to include the modifications and improvements contained in iCPMM, a brief technical memorandum on the development of the ATSP temperature buffer, a brief technical memorandum on the outcome of the sensitivity analysis performed in Task 1.5, as well as other necessary technical memorandums to document the iterative temperature modeling and analyses.

#### *Additional tasks related to Phase 2:*

#### *Task 2.8 – Lake Natoma Bathymetric Survey*

cbec will collect bathymetric data of Lake Natoma using a depth sounder and RTK GPS mounted on our utility boat. This bathymetric survey will be cross section based because the ultimate use of this data will be for expansion of the HEC-RAS flow and temperature model of the LAR. We have budgeted for 29 cross sections placed approximately 0.25 miles apart. Estimated labor includes the time required to plan, mobilize and demobilize the necessary field equipment, as well as post-process the data collected.

#### *Task 2.9 – Lake Natoma HEC-RAS Model Development*

cbec will develop a flow and temperature model of the LAR encompassing Lake Natoma, extending from below Folsom Dam to below Nimbus Dam. The major input to this effort is the cross sections collected in Task 1. The model extension will facilitate the ability to use CALSIM flow and temperature outputs as inputs to the LAR RAS model, allowing the simulation of flow and temperature at a sub-hourly time step throughout the river corridor.

#### *Task 2.10 – Water Temperature and Water Surface Elevation Monitoring*

cbec will provide ongoing monitoring of water temperature at 14 locations between Nimbus Dam and the confluence with the Sacramento River. In addition, water surface elevations are monitored at five of these locations. Monitoring of these parameters was initiated in 2008, and continues to present. Budget is included for instrument download as well as data post-processing and input into the LAR monitoring data database. These data are used as boundary condition time series to drive the LAR HEC-RAS hydraulic/temperature model, in addition to time series which allow for calibration and validation at locations within the model's domain.

#### *Task 2.11 – Statistical Analysis of Water Temperature and Discharge*

cbec will conduct a statistical analysis to determine warming/cooling trends in water temperature at various locations along the LAR. This effort will include collection and processing of data from a variety of sources (cbec, USGS, CA-DWR, etc.) and the preparation of a database using HEC-DSS. In addition, exploratory regression analyses will be conducted to evaluate the efficacy of using statistical methods of predicting water temperature changes due to predictor variables including upstream water temperature, meteorological parameters, flow rate and Folsom Reservoir conditions.

#### *Task 2.12 – Temperature and Flow Disaggregation*

cbec will develop disaggregation techniques in order to translate monthly time step data for flow and water temperature (as provided by CALSIM and the BOR temperature model), into representative daily and sub daily time series. Data collected and analyzed in Task 2.11 will be used in this disaggregation process. These daily and sub daily time series will then be used as inputs to the LAR HEC-RAS hydraulic/water temperature model, in order to evaluate differences between various existing and proposed flow management scenarios.

#### *Task 2.13 – Selection of Representative Sample of CALSIM Output*

cbec will conduct statistical analyses to support the selection of a subset of the 82-year CALSIM result record, which will then be simulated with the LAR HEC-RAS model, in order to evaluate differences between various existing and proposed flow management scenarios.

#### *Tasks related to the newly created Phase 6:*

##### *Task 6.1 – FMS Stakeholder Outreach*

A stakeholder outreach program has been initiated by the Water Forum. This task includes budget for the preparation of educational materials regarding the FMS, including the technical tools/models which are being utilized in the FMS development. In addition, budget is included for participation in a subset of the education sessions.



Hydrology | Hydraulics | Geomorphology | Design | Field Services

**ATTACHMENT 3 TO EXHIBIT B**

**ESTIMATED PROJECT BUDGET SUMMARY**

**Lower American River - Flow Management Standard - Additional Tasks  
cbec Project # 09-1021**

<b>Task #</b>	<b>Task Description</b>	<b>Subtotal</b>
1.5	iCPMM Calibration and Sensitivity Anal.	6,290.00
1.6	iCPMM Additional Tool Development	9,700.00
1.7	iCPMM Reporting	8,080.00
2.8	Lake Natoma Bathymetric Survey	6,110.00
2.9	Lake Natoma HEC-RAS Model	10,590.00
2.10	Temperature and WSE Monitoring	9,900.00
2.11	Stats Analysis of Temp. & Flow	8,290.00
2.12	Temperature and Flow Disaggregation	10,380.00
2.13	Representative Subset of CALSIM Output	5,210.00
6.1	FMS Stakeholder Outreach	15,110.00
	<b>Labor Fee</b>	<b>89,660.00</b>
	<b>Reimbursables</b>	<b>4,461.00</b>
	<b>Subconsultant(s)</b>	
	<b>Total Project Budget</b>	<b>94,121.00</b>



Hydrology | Hydraulics | Geomorphology | Design | Field Services

**ESTIMATED LABOR FEES**

**Lower American River - Flow Management Standard - Additional Tasks**  
**cbec Project # 09-1021**

*Unless expressly provided within the contract, rates are subject to increase annually on January 1 of each year.*

Task #	Task Description	President	Senior Ecohydrologist	Associate Ecoengineer	Associate Ecohydrologist	Technician	Subtotal Labor Hours Per Task	Subtotal Labor Fee Per Task
		\$145	\$125	\$110	\$110	\$80		
1.5	iCPMM Calibration and Sensitivity Anal.	2	16			50	68	6,290.00
1.6	iCPMM Additional Tool Development	4	32			64	100	9,700.00
1.7	iCPMM Reporting	4	60				64	8,080.00
2.8	Lake Natoma Bathymetric Survey	2	4	12		50	68	6,110.00
2.9	Lake Natoma HEC-RAS Model	2	12	80			94	10,590.00
2.1	0 Temperature and WSE Monitoring	4	32	12		50	98	9,900.00
2.1	1 Stats Analysis of Temp. & Flow	2	32			50	84	8,290.00
2.1	2 Temperature and Flow Disaggregation	4	40			60	104	10,380.00
2.1	3 Representative Subset of CALSIM	2	24			24	50	5,210.00
6.1	FMS Stakeholder Outreach	6	64			78	148	15,110.00
		<b>32</b>	<b>316</b>	<b>104</b>	<b>0</b>	<b>426</b>	<b>878</b>	<b>89,660.00</b>



Hydrology | Hydraulics | Geomorphology | Design | Field Services

**ESTIMATED REIMBURSABLE EXPENSES**

**Lower American River - Flow Management Standard - Additional Tasks  
cbec Project # 09-1021**

Item Description	Quantity	Unit Cost	Item Cost
Mileage	600 miles	0.51 /mile	306.00
Parking	15 trip	15.00 /trip	225.00
Lodging	day(s)	/day	
Per Diem	day(s)	/day	
Airfare	day(s)	/day	
Car Rental	day(s)	100.00 /day	
ATV	day(s)	150.00 /day	
Canoe	day(s)	30.00 /day	
Utility Boat	6 day(s)	200.00 /day	1,200.00
Jet Boat	day(s)	350.00 /day	
Echosounder	3 day(s)	100.00 /day	300.00
Soil Samples	unit(s)	150.00 /unit	
Total Station	day(s)	75.00 /day	
RTK GPS	6 day(s)	350.00 /day	2,100.00
Levelloggers	month(s)	/month	
Temp Probes	month(s)	/month	
Software Lease	month(s)	/month	
Copying / Production			
Courier / Delivery			
Archiving / Documentation			
		<b>Subtotal</b>	
		<b>Reimbursables</b>	<b>4,131.00</b>
		<b>Administrative</b>	
		<b>Charge (8%)</b>	<b>330.00</b>
		<b>Total</b>	
		<b>Reimbursables</b>	<b>4,461.00</b>