

Meeting Date: 2/25/2014

Report Type: Consent

Report ID: 2014-00142

Title: Emergency Sedimentation Removal at the Sacramento River Water Treatment Plant Intake Facility to Mitigate Drought Conditions

Location: Citywide

Recommendation: Pass a Motion authorizing the City Manager or the City Manager's designee to execute Supplemental Agreement No. 3 to City Agreement No. 2012-0095 with Above and Below the H2O, for the emergency removal of sediment at the Sacramento River Water Intake, and to provide funding for inspection and cleaning services in the third and final year of the agreement term, for an additional cost of \$300,300, bringing the agreement's not-to-exceed amount to \$399,950.

Contact: Bill Busath, Engineering & Water Resources Manager, (916) 808-1434; Dan Sherry, Supervising Engineer, (916) 808-1419, Department of Utilities

Presenter: None

Department: Department Of Utilities

Division: Cip Engineering

Dept ID: 14001321

Attachments:

1-Description/Analysis

2-Background

3-Location

4-Supplemental Agreement 3

City Attorney Review

Approved as to Form

Joe Robinson

2/19/2014 3:15:14 PM

Approvals/Acknowledgements

Department Director or Designee: Dave Brent - 2/19/2014 9:05:47 AM

Description/Analysis

Issue Detail: Due to the current drought conditions, river levels are projected to be at their lowest levels since dams were built on the Sacramento and American Rivers. River sediment deposited over time inside the City's water intake structures on the Rivers reduces the capacity and efficiency of the intake pumps. If the sediment is not removed, flows to the pumps can be reduced which could cause permanent damage to the pumps. This situation could result in insufficient pumping capacity to meet water demands, and lead to costly repairs/replacement of the intake facilities. The sediment deposited in the Sacramento River intake facility needs to be removed to maintain the intake pumping capacity off the Sacramento River; this work is being obtained on an emergency basis, because the capacity of this facility will be critical in meeting City water demands this year, due to low flow conditions resulting from the drought.

The performance of the City's surface water intakes also can be greatly reduced due to algae and sediment buildup on the fish screens at the intakes. This reduction in performance is compounded by the current drought conditions because low water levels can cause intakes to operate less efficiently.

To remove sediment deposited in the intake, and clear the algae and sediment affecting intake fish screen performance, underwater divers must be used. The City has a contract with Above and Below the H2O for underwater dive and remote operated vehicle (ROV) services to perform this type of work. The approval and execution of Supplemental Agreement No. 3 will authorize Above and Below the H2O to perform emergency removal of sediment at the Sacramento River Water Intake, and provide funding for inspection and cleaning services at both intakes for the remainder of the agreement term.

Policy Considerations: The project, which provides needed services for a reliable drinking water supply, is consistent with City's General Plan policy of funding the infrastructure necessary to provide and maintain adequate utility services.

Economic Impacts: Not Applicable

Environmental Considerations: These sediment removal, inspection, and cleaning services are exempt from review under the California Environmental Quality Act (CEQA) under Section 15301 of the CEQA Guidelines (maintenance and minor alteration of existing public utility facilities involving no expansion of use). All of the removed sediment will be processed at one of the water treatment plants in compliance with the City's existing permits for these facilities (Waste Discharge Requirements and Sanitary Sewer Permit).

Sustainability: The river sediment to be removed from the intake is classified as a designated waste and is not considered an industrial, municipal, or residential waste. Because of the designated waste classification, the residual solids, once dried, can be beneficially used at landfill sites. The City currently uses Yolo County Landfill for disposal of sediments.

Commission/Committee Action: Not Applicable

Rationale for Recommendation: To ensure performance of the water treatment plants, intake screen cleaning needs to be performed. City staff advertised for bids on October 14, 2011, and opened bids on November 8, 2011. Above and Below the H20 was the only responsive bidder and was awarded the contract on January 30, 2012. Supplement Agreement No.3 will provide funding for emergency sediment removal, and inspection and cleaning services for the remainder of the agreement term.

Financial Considerations: Supplemental Agreement No. 3 with Above and Below the H20 is for the amount not-to-exceed \$300,300. Approval of this supplemental agreement will bring the total agreement not-to-exceed amount to \$ \$399,950. There is sufficient funding available within the Water Fund (Fund 6005) operating budget to accommodate this supplemental agreement.

Local Business Enterprise (LBE): Above and Below the H20 is a Local Business Enterprise.

Background

The City of Sacramento has two drinking water treatment plants and associated river intake facilities; the Sacramento River Water Treatment Plant (SRWTP) on the Sacramento River and the EA Fairbairn Water Treatment Plant (FWTP) on the American River. Sediment from the Sacramento River has accumulated in the Sacramento River Intake facility as high as 10 feet off the bottom of the structure. Staff is requesting approval for the removal of this sediment on an emergency basis, due to the drought and resultant low flow conditions expected on the Sacramento River this coming summer.

Each intake was fitted in the mid-2000's with updated fish screens and other improvements to prevent harm to migrating and spawning fish passing by the intakes. The updated fish screens, which have very fine openings, are profiled to prevent fish from getting caught on or entrained in the screens. The other screen improvements, include low screen velocities (<2.0 to 3.0 ft/sec) to prevent sucking the fish into the screens and a fish screen washing system that gently removes any fish that may have gotten entrapped on the screen surface.

The low screen velocities and gentle screen wash systems however do not address or remove the constant growth of screen-clogging algae's (also known as bio-fouling) and sediment deposition in and around the intake structures. The screen bio-fouling and sediment deposit have negative impacts on the operation of the intakes and must be periodically removed by underwater divers. The divers must use brushes and special hydro/air blast underwater washing equipment to properly and completely clean the screens.

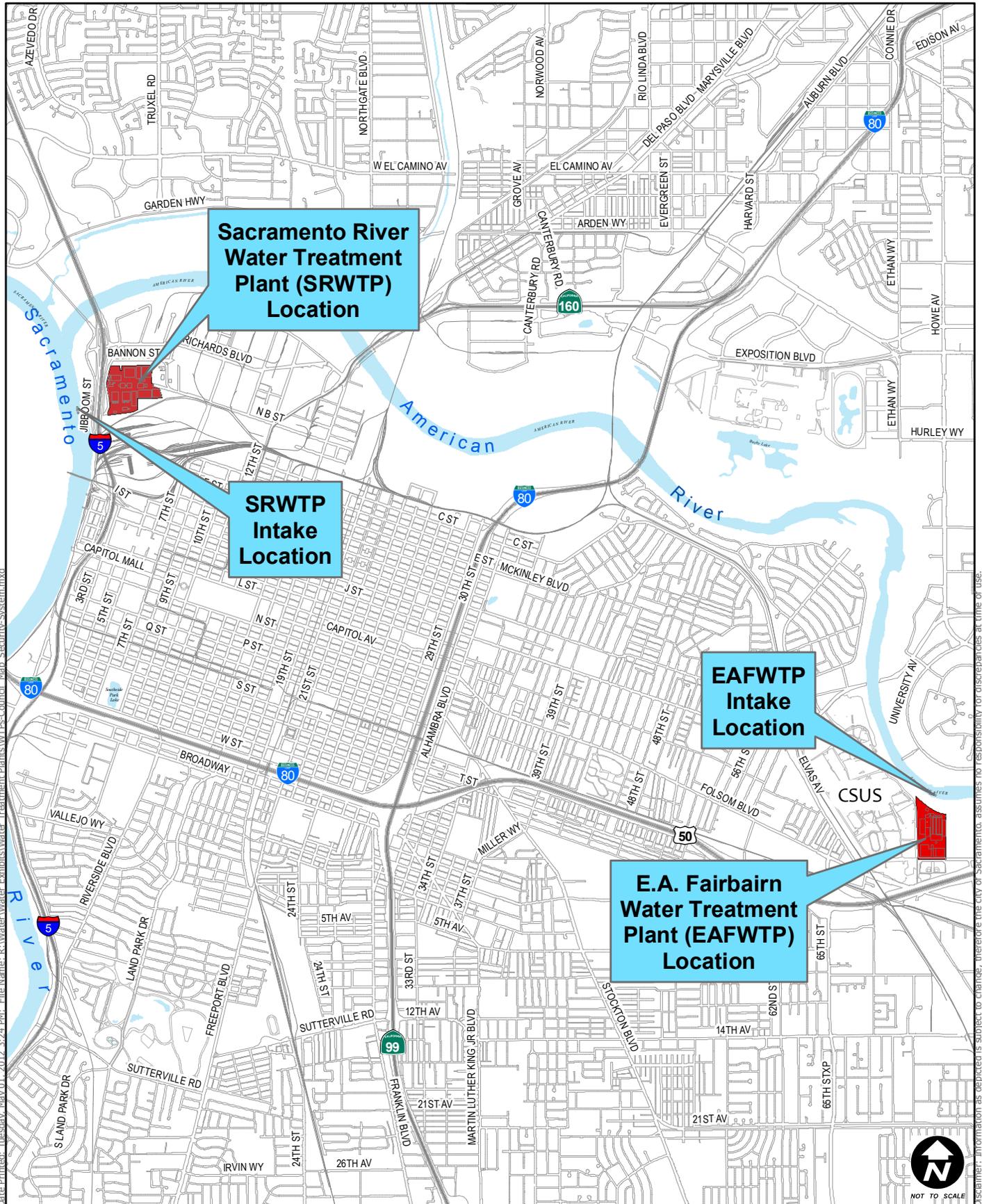
Divers must use underwater hand held dredges to remove river sediment. The use of underwater divers is critical to the operation of the intakes. Underwater divers are needed periodically, and during emergencies, to inspect, clean, and make repairs at the intakes. These efforts include the use to remote operated vehicles (ROV's).

The Department advertised for these services in 2011, and Above and Below the H20 (as the only bidder) was awarded the contract on January 30, 2012, in the amount of \$80,000. There have been two supplemental agreements previously executed, totaling \$19,650, which brings the current agreement amount to \$99,650.

Supplemental agreement #3 includes funding for emergency sediment removal at the Sacramento River intake structure, and for inspection and cleaning services at both intakes for the remainder of the agreement term.

LOCATION MAP

SRWTP, 301 Water Street
EAFWTP, 7501 College Town Drive



Date: Printed: Tuesday, May 01, 2012 3:24 PM. File Name: R:\Water\Water Exhibits\Water Treatment Plants\WTPs\Council Map Security\System.mxd

Disclaimer: Information as depicted is subject to change. Inherent in the City of Sacramento, assumes no responsibility for discrepancies at time of use.

SUPPLEMENTAL AGREEMENT

Project Title and Job Number: Underwater Dive and ROV Services for Water Facilities
Purchase Order #: 20800

Date: 2/13/14

Supplemental Agreement No.: 3

The City of Sacramento ("City") and Above and Below the H20 ("Contractor"), as parties to that certain Professional Services Agreement designated as Agreement Number 2012-0095, including any and all prior supplemental agreements modifying the agreement (the 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:

Additional funding is required to cover the cost of emergency sediment removal at the Sacramento River Water Intake Structure in the amount of \$187,500. Also, additional funding is required to cover the cost of Underwater Dive and ROV Services for Water Facilities for February 2014 to January 20, 2015 in the amount of \$112,800.

2. 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 \$300,300, and the Agreement's maximum not-to-exceed amount is amended as follows:

Agreement's original not-to-exceed amount:	<u>\$80,000</u>
Net change by previous supplemental agreements:	<u>\$ 19,650</u>
Not-to-exceed amount prior to this supplemental agreement:	<u>\$ 99,650</u>
Increase by this supplemental agreement:	<u>\$300,300</u>
New not-to exceed amount including all supplemental agreements:	<u>\$399,950</u>

3. Contractor agrees that the amount of increase or decrease in the not-to-exceed amount specified in section 2, 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.

4. 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.

5. 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:

Project Manager

City Attorney

Approved By:

Contractor

Attested To By:

Approved By:

City of Sacramento

City Clerk



Above & Below the H₂O Underwater Dive and ROV Services

Project# 14001111(RFP#123351009)

Project name: Underwater Dive & ROV Services for Drinking Water Facilities

Professional Services Agreement No. 2012-0095-2 / P.O. # 208000

February 2014 to January 2015

Item 1: Sacramento River Intake 3-Cavi blaster screen cleans = **\$33,600.00**
(\$2,800.00 per day X 4-days = \$11,200.00 per clean)

Item 2: American River Intake 2-Cavi blaster screen cleans = **\$22,400.00**
(\$2,800.00 per day X 4-days = \$11,200.00 per clean)

Item 3: Sac or American River Intake 6-standard brush screen cleans = **\$13,200.00**
(\$2,200.00 per day w/ boat and 3-man crew X 1-day = \$2,200.00 per clean)

Item 4: American River Intake inboard / outboard screens Bay # 4
18-brush screen clean = **\$19,800.00**
(\$1,100.00 ½ rate per day w/ boat and 3-man crew X ½ -day = \$1,100.00 per clean)

Item 5: Remotely Operated Vehicle (ROV) inspections / 4 inspections = **\$7,400.00**
(\$1,450.00 ½ day rate to \$1,850.00 full day rate)

Item 6: Commercial diving rates for 3, 4 & 5 man crews 3 dives = **\$8,400.00**
(\$1,650.00 half day rate 3-man crew to \$2,800.00 5-man crew full day rate)

Item 7: Emergency Contingency = **\$8,000.00**

Total for 1 year contract = \$112,800.00

(Items 1-7 are non prevailing wage rates)

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Above & Below the H₂O Underwater Dive and ROV Services

Project# 14001111(RFP#123351009)

Project name: Underwater Dive Services for the Sediment Removal from the Sacramento River Raw Water Intake Structure

Professional Services Agreement No. 2012-0095-2 / P.O. # 208000

Item 1: Commercial Dive Services (underwater sediment removal)

Description: Estimated 800-cubic yards underwater diving and dredging for the sediment removal from the Sacramento River Raw Water Intake

Duration: 20-days

Costs: 5-man crew at \$3,000.00 per day X 20 days = **\$60,000.00**

Item 2: Pac Machine Equipment Rental (5-pumps and 1 generator)

Description: 1-Flygt submersible dredge pump, 1-Flygt submersible high pressure pump, 1-Flygt submersible suction pump, 2-Godwin booster pumps (diesel), hoses and fittings and 1-Genset diesel 125 KVA generator (powers the 3 electric pumps)

Duration: 1 month rental

Costs: 5 pumps, 1 generator & equipment 1 month rental= **\$30,000.00**

Item 3: Adler Tanks / 12 Tank Rentals (settling containment boxes)

Description: 6-18,000gal open top Weir tanks and 6-18,000gal open top tanks for the sediment separation and water containment (on site sed basins) and disposal of the sediment and the reclaim of the water.

Duration: 22 days

Costs: = Mobilization and Demobilization with rental= **\$25,000.00**

Item 4: Vacuum (Vactor) Truck Services (sediment disposal)

Description: 12-cubic yard Vactor truck to remove the sediment from the weir tanks and transport the sediment to a disposal location (Gardenland Sand & Gravel)

Duration: 20 Days

Costs: 20 days removing sediment and hauling with dumping= **\$40,000.00**

Item 5: HDPE Piping / 6-inch x 1,600-foot w/ fusion machine rental & labor

Description: 1,600-foot of 6-inch HDPE discharge piping to move the sediment and reclaimed water from the pumps to the weir tanks for the sediment separation. Fuse and install the pipe prior to pumping and then removing the pipe upon completion of the project.

Duration: 2-days install, 1-day removal and 20 -days for pumping

Costs: Purchase and transport pipe, fusion machine rental & labor= **\$15,000.00**

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Item 6: Security & Safety (temporary fencing and trailer mounted video monitoring)

Description: 6-foot chain link security fencing to cordon off the intake bridge, the area around the fountain and to secure any equipment or materials used for the project and post *No Trespassing Signs*. In addition a video surveillance mini trailer will be used to monitor the equipment on site.

Duration: monthly rental

Costs: monthly rental w/ install and uninstall= \$2,000.00

Item 7: PG&E Property Site Preparation and Restoration

Description: prepare the area where the weir boxes will be staged and recondition or repair the area when the project is completed

Duration: 2 days preparation, 2 days restoration

Costs: = \$5,000.00

Item 8: All Mobilization & Demobilization of the equipment and materials to and from the site

Description: Coordinate the deliver and set up of the generator and pump installations. Oversee the delivery, placement and connections of the weir boxes. Direct the placement of the security fencing and video surveillance coverage. Coordinate the removal of all equipment and materials from the work site. Clean up and return the site for public access.

Duration: 4 days prior to beginning the underwater work and 2 day upon the completion

Costs: = \$8,000.00

Item 9: Dredging & engineering consulting fees

Description: Site and location visits to assess the conditions, equipment and materials required to remove the sediment from the bottom of the intake structure. Attend the City staff and equipment manufactures meetings. Conduct the product and equipment research and do the design engineering for the pump requirements.

Costs: 20 hours billed at \$125.00 per hour = \$2,500.00

Total for items 1-9=\$187,500.00

(Items 1-9 are non prevailing wage rates)

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