



● **Board of Directors**
Engineering and Operations Committee

3/14/2017 Board Meeting

8-2

Subject

Adopt CEQA determination and appropriate \$7.4 million; award \$5,285,000 contract to RockForce Construction LLC for erosion protection of the Whitewater Siphons on the Colorado River Aqueduct; and authorize increase of \$150,000 to an agreement with Helix Environmental Planning Inc., for a new not-to-exceed total of \$303,000 (Appropriation No. 15341)

Executive Summary

This action awards a contract for erosion control improvements at the Whitewater Siphons on the Colorado River Aqueduct (CRA). The improvements will reduce the risk of damage to the siphons from erosion caused by storm flows.

Timing and Urgency

The CRA passes beneath the Whitewater River through two concrete inverted siphons that are buried beneath the riverbed. These siphons are protected from erosion by a concrete slab located at the ground surface. The existing concrete slab has deteriorated from erosion over the years and needs to be improved. Further erosion at the slab could result in an unplanned shutdown of the CRA for urgent repairs.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and is included in the CRA Reliability Program. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2016/17.

Details

Background

The CRA's Whitewater Siphons were originally constructed in 1941 and are located north of the city of Palm Springs. The double-barreled siphons are 2,200-foot-long reinforced concrete conduits with diameters of 133 inches and 156 inches. The conduits are spaced 125 feet apart as they cross the Whitewater River. At this crossing, the channelized portion of the river is typically about 150 feet wide during normal flow conditions. However, the river's width may grow to over 700 feet during a major storm event. At the deepest point of the river, the Whitewater Siphons are buried 15 feet below the riverbed. Along the shallower edges near the banks, the conduits are buried only four feet below the riverbed.

In March 1993, a moderate storm event eroded soils over the downstream siphon barrel, exposing the upper three feet of the siphon. After the flood waters receded, Metropolitan forces placed fill material in the area and constructed a 25-foot-wide by 250-foot-long concrete slab approximately 12 feet above the siphon as protection from future floods. A 6-foot-wide by 760-foot-long earthen diversion berm was also graded to redirect flows over the protective slab.

Since that time, the soils supporting the slab have eroded, creating a 15-foot-deep depression beneath the concrete slab that is approximately 40 feet wide and 30 feet long. Flows over successive winter seasons will eventually undermine the foundation of the siphons, which could lead to an unplanned shutdown of the CRA for repairs. The existing earthen diversion berm directs normal levels of flow over the protective slab, but is too small to

handle larger flood flows. If the earthen diversion berm were to fail during a storm event, the siphons could be damaged.

In March 2013, Metropolitan's Board authorized design of erosion protection measures for the Whitewater Siphons. Design is now complete and permits have been acquired. Staff recommends proceeding with construction at this time.

Whitewater Siphons Erosion Protection – Construction (\$7,400,000)

The erosion protection work includes construction of east and west gabion berms, an access road, and a gabion drop structure and mattress; placement of cellular concrete to prevent overloading of the CRA siphon; installation of a temporary flow diversion structure to protect the work site over two winter seasons; and modification of existing earthen berms, concrete slabs, and grouted riprap. Regulatory permit coordination for this work will be performed with the U.S. Army Corps of Engineers, the Regional Water Quality Control Board, and the California Department of Fish and Wildlife.

Specifications No. 1792 for the Whitewater Siphons Erosion Protection was advertised for bids on January 6, 2017. As shown in [Attachment 2](#), eight bids were received and opened on February 9, 2017. The low bid from RockForce Construction LLC in the amount of \$5,285,000 complies with the requirements of the specifications. The seven higher bids ranged from approximately \$6.2 million to \$9.7 million, while the engineer's estimate was \$5.8 million. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 20 percent of the bid amount. RockForce Construction LLC is an SBE firm and thus achieves 100 percent participation. The subcontractors for this contract are listed in [Attachment 3](#).

This action appropriates \$7.4 million and awards a \$5,285,000 contract to RockForce Construction LLC for erosion protection of the Whitewater Siphons. In addition to the amount of the contract, the requested funds include \$630,000 for construction inspection; \$377,000 for field surveys, preparation of record drawings, review of submittals, and review of specialized designs for temporary flow diversions and equipment loading over the CRA siphons; \$150,000 for environmental monitoring, permit compliance, and reporting by Helix Environmental Planning Inc., as described below; \$400,000 for project management, contract administration, and consultations with permitting agencies by Metropolitan staff; and \$558,000 for remaining budget.

Metropolitan staff will perform inspection of the construction. For this project, the anticipated cost of inspection is approximately 11.9 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction greater than \$3 million is 9 to 12 percent. The total cost of construction for this project is estimated to be \$5.3 million.

Specialized Environmental Support (Helix Environmental Planning Inc.) – Amendment to Agreement

Helix Environmental Planning Inc. will perform environmental monitoring of construction activities under an existing professional services agreement. Helix Environmental Planning Inc. prepared the permit applications for the erosion protection measures and has specialized expertise and qualifications required by permitting agencies. The planned scope of work includes conducting surveys of sensitive animal and plant species; monitoring for compliance as required by the regulatory permits; providing construction education related to permit compliance; and preparing reports of the surveys and monitoring. The estimated cost for these activities is \$150,000.

This action authorizes an increase of \$150,000 to the existing agreement with Helix Environmental Planning Inc., for a new not-to-exceed total of \$303,000. Helix Environmental Planning Inc. is an SBE firm, and thus achieves 100 percent SBE participation. The sole subconsultant planned for this agreement is Applied Earthworks.

Summary

This action appropriates \$7.4 million, awards a construction contract for erosion protection of the Whitewater Siphons, and authorizes an amendment to an existing agreement with Helix Environmental Planning Inc. This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2016/17 capital expenditure plan. See [Attachment 1](#) for the Financial Statement, [Attachment 2](#) for the Abstract of Bids, [Attachment 3](#) for the listing of Subcontractors for Low Bidder, and [Attachment 4](#) for the Location Map.

The total estimated cost to complete the erosion protection for the Whitewater Siphons, including the amount appropriated to date and current funds requested, is approximately \$10.6 million. This project is included within capital Appropriation No. 15341, Whitewater Siphons Erosion Protection, which was initiated in fiscal year 2001/02. With the present action, the total funding for Appropriation No. 15341 will increase from \$3,185,000 to \$10,585,000.

Project Milestone

March 2018 – Completion of construction

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The environmental effects from the construction of the proposed project were evaluated in the Whitewater River/Colorado River Aqueduct Siphon Scour Protection, Whitewater Mine Pit Reclamation and Cabazon Radial Gate Project Final Environmental Impact Report (Final EIR), SCH#2005071069, which was certified by Metropolitan's Board on March 12, 2013. The Board also approved the Findings of Fact (findings), the Mitigation Monitoring and Reporting Program (MMRP), and the project itself. This action authorizes construction of erosion control improvements at the Whitewater Siphons on the CRA.

Subsequent to the certification of the Final EIR and approval of the proposed project in March 2013, modifications to the proposed project occurred. The revisions to the proposed project included changes to the work that would occur at the Whitewater Siphons scour protection site. California Environmental Quality Act (CEQA) Guidelines Section 15164 requires either the Lead Agency or a responsible agency to prepare an Addendum to an adopted EIR if some changes or additions are necessary, but none of the conditions described in Section 15162 calling for preparation of a subsequent environmental document have occurred. Section 15164(b) provides that an Addendum "may be prepared if only minor technical changes or additions are necessary." An Addendum was prepared and approved on April 14, 2015 to document the minor technical changes and additions determined to be necessary as the design was completed.

The previous environmental documentation acted on by the Board, in conjunction with the proposed action, fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act on the proposed action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the certified 2013 Final EIR, findings, MMRP, and the 2015 Addendum to the Final EIR, and that no further environmental analysis or documentation is required.

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed action has been previously addressed in the certified 2013 Final EIR, findings, MMRP, and the 2015 Addendum to the Final EIR, and that no further environmental analysis or documentation is required, and

- a. Appropriate \$7.4 million;
- b. Award \$5,285,000 contract to RockForce Construction LLC for erosion protection of the Whitewater Siphons; and
- c. Authorize increase of \$150,000 to an existing agreement with Helix Environmental Planning Inc., for a new not-to-exceed total of \$303,000.

Fiscal Impact: \$7.4 million of capital funds under Appropriation No. 15341

Business Analysis: This option will protect Metropolitan’s assets and reduce the risk of costly emergency repairs to the Whitewater Siphons.

Option #2

Do not proceed with construction at this time.

Fiscal Impact: None

Business Analysis: This option would forego an opportunity to enhance reliability of the CRA and to reduce the risk of costly emergency repairs following a major storm event.

Staff Recommendation

Option #1


 _____ 2/21/2017
 Gordon Johnson Date
 Manager/Chief Engineer
 Engineering Services


 _____ 2/27/2017
 Jeffrey Hightlinger Date
 General Manager

- [Attachment 1 – Financial Statement](#)
- [Attachment 2 – Abstract of Bids](#)
- [Attachment 3 – Subcontractors for Low Bidder](#)
- [Attachment 4 – Location Map](#)

Financial Statement for Whitewater Siphons Erosion Protection Appropriation

A breakdown of Board Action No. 6 for Appropriation No. 15341 for the Whitewater Siphons¹ is as follows:

	Previous Total Appropriated Amount (Aug. 2016)	Current Board Action No. 6 (Mar. 2017)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 367,600	\$ -	\$ 367,600
Final Design	258,000	-	258,000
Owner Costs (Program mgmt., permitting)	522,900	400,000	922,900
Submittals Review & Record Drwgs	-	377,000	377,000
Construction Inspection & Support	-	630,000	630,000
Incidental Expenses	106,000	-	106,000
Professional/Technical Services	718,500	-	718,500
Helix Environmental Planning, Inc.	153,000	150,000	303,000
Right-of-Way	935,000	-	935,000
Contracts	-	-	-
RockForce Construction, LLC	-	5,285,000	5,285,000
Remaining Budget	124,000	558,000	682,000
Total	\$ 3,185,000	\$ 7,400,000	\$ 10,585,000

Funding Request

Appropriation Name:	Whitewater Siphons Erosion Protection		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15341	Board Action No.:	6
Requested Amount:	\$ 7,400,000	Budget Page No.:	266
Total Appropriated Amount:	\$ 10,585,000	Total Appropriation Estimate:	\$ 15,300,000

¹ The total amount expended to date for protection of the Whitewater Siphons is approximately \$3.2 million. The total estimated cost to complete this project, including the amount appropriated to date and current funds requested, is approximately \$10.6 million.

The Metropolitan Water District of Southern California

Abstract of Bids Received on February 9, 2017 at 2:00 P.M.

**Specifications No. 1792
Whitewater Siphons Erosion Protection**

The work consists of construction of east and west gabion berms, an access road, and a gabion drop structure and mattress; placement of cellular concrete to prevent overloading of the CRA siphon; installation of a temporary flow diversion structure to protect the work site over two winter seasons; and modification of existing earthen berms, concrete slabs, and grouted riprap.

Engineer's estimate: \$5,800,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
RockForce Construction, LLC Irvine, CA	\$5,285,000	\$5,285,000	100	Yes
Bosco Constructors, Inc. Chatsworth, CA	\$6,244,444	-	-	-
Nordic Industries, Inc. Olivehurst, CA	\$6,313,000	-	-	-
Zusser Company, Inc. Los Angeles, CA	\$6,380,058	-	-	-
L. H. Woods & Sons, Inc. Vista, CA	\$6,888,000	-	-	-
Griffith Company Santa Fe Springs, CA	\$7,259,350	-	-	-
Environmental Construction, Inc. Woodland Hills, CA	\$7,333,118	-	-	-
Wood Bros., Inc. Lemoore, CA	\$9,697,000	-	-	-

¹SBE (Small Business Enterprise) participation level was established at 20% for this contract.

The Metropolitan Water District of Southern California

Subcontractors for Low Bidder

**Specifications No. 1792
Whitewater Siphons Erosion Protection**

Low Bidder: RockForce Construction, LLC

Subcontractor and Location
LNA Concrete Structures, Chino Hills, CA
Nove Engineering, Inc., San Jacinto, CA
Cell-Crete Corp., Monrovia, CA
Superior Gunitite, Lakeview Terrace, CA
Marina Landscape, Orange, CA

Location Map

