



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

12/12/2017 Board Meeting

8-4

Subject

Adopt CEQA determination and appropriate \$4.3 million; and award \$2,560,232 contract to Abhe & Svoboda, Inc. for installation of surge chamber slide gates at the Colorado River Aqueduct pumping plants (Appropriation No. 15373)

Executive Summary

This action awards a construction contract for the installation of slide gates for the surge chamber bypass lines at Metropolitan's five Colorado River Aqueduct (CRA) pumping plants. This project will enhance worker safety during maintenance and repair of the pumping plant delivery lines.

Timing and Urgency

At each of the CRA pumping plants, whenever maintenance or repairs are required for the main pump delivery lines, the pumping plant must be shut down and long reaches of the aqueduct must be drained. The addition of slide gates within the surge chamber on the hill above each pumping plant would allow for safe entry into individual pump delivery lines while the adjacent lines remain in service. Staff recommends award of a contract to install the slide gates in order to enhance safety and reduce the number of occasions when the aqueduct or reservoirs must be drained to perform maintenance or 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 2017/18.

Details

Background

The CRA is a 242-mile-long conveyance system that transports water from the Colorado River to Lake Mathews in Riverside County. It consists of five pumping plants, 124 miles of tunnels, 63 miles of canals, and 55 miles of conduits, siphons and reservoirs. The aqueduct was constructed in the late 1930s and was placed into service in 1941.

Each of the five CRA pumping plants has nine pump units within its pump house. Each pumping plant has three above-ground 10-foot-diameter delivery lines that convey water from the pump house to the headgate structure and then to the surge chamber at the top of the adjacent hill. Each delivery line has a bypass line approximately three feet in diameter that allows sufficient water to pass through the piping system to keep the pumps from overheating in case they are inadvertently operated with the head gates closed. Under the existing configuration, when the water level in the surge chamber is higher than the inlet to the bypass line, water could flow into the bypass line and then into the delivery line. To ensure safety, staff may only enter the delivery lines for maintenance or repairs during periods when the aqueduct is completely shut down.

The addition of manually-actuated slide gates to isolate the delivery lines from the surge chamber would allow safe entry to the delivery lines for inspection and repairs. A total of 20 slide gates are recommended to be

installed at the five pumping plants: four at Intake, two at Gene, four at Iron Mountain, six at Eagle Mountain, and four at Hinds. The slide gate sizes will range from 26 inches square to 88 inches square. In addition to the gates, this project will make improvements to handrails, platforms, and ladders at the surge chambers, and will provide lighting for night-time work. The gates and surge chamber improvements will enhance flexibility and efficiency during the numerous upcoming rehabilitation projects at the pumping plants.

In February 2006, Metropolitan's Board authorized design of the slide gates to isolate the surge chambers from the delivery bypass lines. Design has now been completed, and competitive bids have been received. Staff recommends proceeding with construction at this time.

CRA Surge Chamber Slide Gates – Construction (\$4,300,000)

The scope of the construction contract includes the installation of 20 slide gates and the replacement of existing handrails, ladders, and platforms. Metropolitan forces will install the area lighting, and will dewater and refill the delivery lines.

Specifications No. 1622 for the installation of surge chamber slide gates was advertised for bids on October 5, 2017. As shown in **Attachment 2**, three bids were received and opened on November 8, 2017. The low bid from Abhe & Svoboda, Inc. in the amount of \$2,560,232 complies with the requirements of the specifications. The two higher bids were \$3,022,000 and \$3.65 million, while the engineer's estimate was \$2.5 million. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 10 percent of the bid amount. Abhe & Svoboda, Inc. has committed to achieve this level of participation. The subcontractor for this contract is listed in **Attachment 3**.

This action appropriates \$4.3 million and awards a \$2,560,232 contract to Abhe & Svoboda, Inc. for the installation of surge chamber slide gates at the CRA pumping plants. In addition to the amount of the contract, the requested funds include: \$472,000 for the Metropolitan force activities described above; \$502,000 for construction inspection; \$160,000 for submittals review, responding to contractor requests for information, and preparation of record drawings; \$145,000 for contract administration and project management; and \$460,768 for remaining budget.

Metropolitan staff will perform inspection of the construction. For this project, the anticipated cost of inspection is approximately 16.6 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction less than \$3 million is 9 to 15 percent. The recommended level of inspection for this project is greater than typical due to the round-the-clock inspection required during two CRA shutdowns. For this project, the total cost of construction is \$3,032,232, which includes the amount of the contract (\$2,560,232) and Metropolitan force activities (\$472,000).

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2017/18 capital expenditure plan. See **Attachment 1** for the Financial Statement, **Attachment 2** for the Abstract of Bids, **Attachment 3** for the listing of Subcontractor for Low Bidder, and **Attachment 4** for the Location Map.

This project is included within capital Appropriation No. 15373, the CRA Conveyance Reliability Appropriation, which was initiated in fiscal year 2001/02. With the present action, the total funding for this appropriation will increase from \$101,128,000 to \$105,428,000.

The total estimated cost to complete the installation of the CRA surge chamber slide gates, including the amount appropriated to date and current funds requested, is approximately \$5.43 million.

Project Milestone

July 2019 – 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

By Minute Item 46562, dated February 14, 2006, the Board authorized design of the surge chamber slide gates at the CRA pumping plants.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The overall activities involve funding, minor alterations and reconstruction of existing public facilities and minor modifications in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees. These activities involve no expansion of use and no possibility of significantly impacting the physical environment. Accordingly, the proposed action qualifies under Class 1, Class 2, and Class 4 Categorical Exemptions (Sections 15301, 15302, and 15304 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under three Categorical Exemptions (Class 1, Section 15301; Class 2, Section 15302; and Class 4, Section 15304 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed action is categorically exempt, and

- a. Appropriate \$4.3 million; and
- b. Award \$2,560,232 contract to Abhe & Svoboda, Inc. for the installation of surge chamber slide gates at the Colorado River Aqueduct pumping plants.

Fiscal Impact: \$4.3 million in capital funds under Appropriation No. 15373

Business Analysis: This option will enhance worker safety and reduce the number of occasions when the CRA canals or reservoirs must be drained to perform repairs or maintenance on the pumping plant delivery lines.

Option #2


Do not award the contract or proceed with the project at this time.

Fiscal Impact: None

Business Analysis: Under this option, staff would continue to shut down the CRA for repairs or maintenance of individual pump delivery lines. This option would forego an opportunity to minimize water delivery disruptions through the CRA system.


Staff Recommendation

Option #1



Gordon Johnson
Manager/Chief Engineer,
Engineering Services

11/22/2017
Date



Jeffrey Kightlinger
General Manager

11/27/2017
Date

- Attachment 1 – Financial Statement**
- Attachment 2 – Abstract of Bids**
- Attachment 3 – Subcontractor for Low Bidder**
- Attachment 4 – Location Map**

Ref# es12661387

Financial Statement for CRA Conveyance Reliability Appropriation

A breakdown of Board Action No. 22 for Appropriation No. 15373¹ is as follows:

	Previous Total Appropriated Amount (Dec. 2016)	Current Board Action No. 22 (Dec. 2017)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 3,937,900	\$ -	\$ 3,937,900
Final Design	5,354,687	-	5,354,687
Owner Costs (Program mgmt. & envir. monitoring)	6,186,620	145,000	6,331,620
Submittals Review & Record Drwgs.	1,109,000	160,000	1,269,000
Construction Inspection & Support	8,653,220	502,000	9,155,220
Metropolitan Force Construction	8,697,620	388,000	9,085,620
Materials & Supplies	1,715,300	84,000	1,799,300
Incidental Expenses	394,800	-	394,800
Professional/Technical Services	4,464,000	-	4,464,000
Right of Way	10,000	-	10,000
Equipment Use	211,450	-	211,450
Contracts	58,886,920	-	58,886,920
Abhe & Svoboda, Inc.	-	2,560,232	2,560,232
Remaining Budget	1,506,483	460,768	1,967,251
Total	\$ 101,128,000	\$ 4,300,000	\$ 105,428,000

Funding Request

Appropriation Name:	CRA Conveyance Reliability		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15373	Board Action No.:	22
Requested Amount:	\$ 4,300,000	Budget Page No.:	216
Total Appropriated Amount:	\$ 105,428,000	Total Appropriation Estimate:	\$ 186,000,000

¹ The total amount expended to date on the CRA surge chamber slide gates is approximately \$1.13 million. The total estimated cost to install the slide gates, including the amount appropriated to date and current funds requested, is approximately \$5.43 million.

The Metropolitan Water District of Southern California
Abstract of Bids Received on November 8, 2017 at 2:00 P.M.
Specifications No. 1622
Colorado River Aqueduct Surge Chamber Slide Gates

The project consists of installation of surge chamber slide gates at each pumping plant on the Colorado River Aqueduct.

Engineer's estimate: \$2,500,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE¹
Abhe & Svoboda, Inc. Alpine, CA	\$2,560,232	\$312,000	12.1	Yes
PCL Construction, Inc. Corona, CA	\$3,022,000	-	-	-
Pyramind Building & Engineering, Inc. Hesperia, CA	\$3,650,000	-	-	-

¹ SBE (Small Business Enterprise) participation level was established at 10% for this contract.

The Metropolitan Water District of Southern California

Subcontractor for Low Bidder

**Specifications No. 1622
Colorado River Aqueduct Surge Chamber Slide Gates**

Low Bidder: Abhe & Svoboda, Inc.

Subcontractor and Location
U.S. Controls, Inc., San Bernardino, CA

Location Map

