THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

BOARD ACTION

- Board of Directors
  Engineering and Operations Committee

9/11/2012 Board Meeting

7-1

Subject

Appropriate $1.2 million; and award $738,684 contract to Kaveh Engineering & Construction, Inc. for Phase 2 rehabilitation of pipe expansion joints at Julian Hinds Pumping Plant (Approp. 15374)

Executive summary

This action awards a construction contract for rehabilitation of leaking expansion joints on the delivery pipe at Hinds pumping plant on the Colorado River Aqueduct (CRA). The 18 expansion joints on the pumping plant's discharge lines are being rehabilitated in two phases. Under Phase 1, nine joints were rehabilitated during a CRA-shutdown in February 2012. The Phase 2 contract will rehabilitate the remaining nine joints during a planned February 2013 shutdown.

Timing and Urgency

The Hinds pumping plant has nine main pumps located in the pump-house that lift water through a series of discharge pipelines to the downstream aqueduct. There are nine expansion joints on the 6-foot-diameter discharge lines and nine expansion joints on the 10-foot-diameter discharge lines. These 18 expansion joints are over 50 years old and have been in service beyond their expected service life. Most of the joints exhibited corrosion from leakage. Under Phase 1 of this project, rehabilitation of nine joints on the 6-foot-diameter discharge lines was completed during the most recent CRA shutdown in February 2012. Phase 2 will rehabilitate the remaining nine expansion joints which are located on the 10-foot-diameter discharge lines. Rehabilitation of the joints is needed to maintain reliable water deliveries from the CRA and to avoid costly emergency repairs.

This project has been reviewed with Metropolitan's updated Capital Investment Plan (CIP) prioritization criteria, and is categorized as an Infrastructure Upgrade project. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2012/13.

Details

Background

The Hinds pumping plant has nine main pump units within the pump-house. Each pump lifts water through nine individual 6-foot-diameter steel pipelines. These nine pipelines then converge into three parallel 10-foot-diameter steel pipelines which convey flows downstream to the aqueduct. Each of the nine 6-foot-diameter pipelines has one expansion joint and each of the three 10-foot-diameter discharge pipelines has three expansion joints. The total of 18 expansion joints allow for thermal expansion and contraction of the pipelines as a result of temperature changes. One discharge pipeline was constructed in the 1930s and the other two in the 1950s. These discharge pipelines have been in continuous service for 55-75 years.

Over the last several years, leaks have been detected at most of the expansion joints due to normal wear and tear over many decades of operation. The amount of water leakage at present is low. However, the leakage is beginning to cause the steel pipe joints to corrode. Due to the time required for curing of the specialized coatings and limited shutdown opportunities for the CRA, rehabilitation of the joints is being accomplished over two shutdown seasons. Under Phase 1, the nine expansion joints located on the 6-foot-diameter pipelines were rehabilitated during a February 2012 shutdown. Under Phase 2, which is the subject of this action, the remaining nine expansion joints on the 10-foot-diameter discharge lines are planned to be rehabilitated during the next

scheduled CRA shutdown in 2013. The contract includes disassembly, blast-cleaning, recoating, repacking, and reassembly of nine expansion joints.

In addition to the work completed at Hinds pumping plant in February 2012, expansion joints at Iron Mountain and Eagle Mountain Pumping Plants were successfully rehabilitated in April 2010 and February 2011, respectively. This approach of scheduling one expansion joint project during each CRA shutdown has allowed the unique configuration and needs of each plant to be addressed individually, while increasing opportunities for participation by Small Business Enterprise (SBE) firms. Staff will return to the Board at a later date to award construction contracts to complete the work at Gene and Intake Pumping Plants.

Hinds Pumping Plant, Phase 2 Pipe Expansion Joint Rehabilitation – Construction ($1,200,000)

Specifications No. 1722 was advertised for bids on June 5, 2012. As shown in **Attachment 2,** four bids were received and opened on August 9, 2012. The low bid from Kaveh Engineering & Construction, Inc., in the amount of $738,684, complies with the requirements of the specifications. The three higher bids ranged from $864,150 to $1,588,000. The engineer's estimate was $952,000. For this contract, Metropolitan established an SBE participation level of at least 20 percent of the bid amount. Kaveh Engineering & Construction, Inc. is an SBE firm, and thus achieves 100 percent participation.

This action appropriates $1.2 million and awards a $738,684 contract to Kaveh Engineering & Construction, Inc. for Phase 2 rehabilitation of leaking expansion joints on the discharge pipes at Hinds pumping plant. In addition to the amount of the contract, the requested funds include $175,000 for Metropolitan force activities, which include shutting down and restarting the pumping plant, establishing clearances, and dewatering and refilling the aqueduct system. Requested funds also include: $147,000 for construction inspection; $30,900 for submittal reviews and preparation of record drawings; $56,900 for environmental monitoring and project management; and $51,516 for remaining budget.

Metropolitan staff will perform inspection of the construction contract. For this project, the anticipated cost of inspection is approximately 16.1 percent of the total construction cost. Engineering Services' goal for inspection of construction contracts less than $3 million is 9 to 15 percent. Inspection costs for this project are expected to exceed the goal because the work is detailed and procedural-based, which requires round-the-clock inspection to ensure timely completion within the 19-day shutdown window. The total estimated cost of construction for the project is $913,684.

This work has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2012/13 capital expenditure plan. See **Attachment 1** for the Financial Statement, **Attachment 2** for the Abstract of Bids, and **Attachment 3** for the Location Map.

This work will be performed under the CRA Pumping Plant Reliability Program (Appropriation No. 15374), which was initiated in fiscal year 2001/02. Other projects authorized under Appropriation No. 15374 include the Circulating Water System Rehabilitation and Expansion Joint Rehabilitation at Iron Mountain and Eagle Mountain Pumping Plants, and the Phase 1 joint rehabilitation at Hinds pumping plant. The total appropriated amount for this program will increase from $21,867,000 to $23,067,000.

Project Milestone

April 2013 – Completion of construction of Phase 2 rehabilitation of the delivery pipe expansion joints at Julian Hinds Pumping Plant

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 proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The overall activities involve funding, design, minor alterations and replacement of existing public facilities; minor modifications in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees. In addition, these activities involve negligible or 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 four 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 and

a. Appropriate $1.2 million; and
b. Award $738,684 contract to Kaveh Engineering & Construction, Inc. for Phase 2 rehabilitation of pipe expansion joints at the Julian Hinds Pumping Plant.

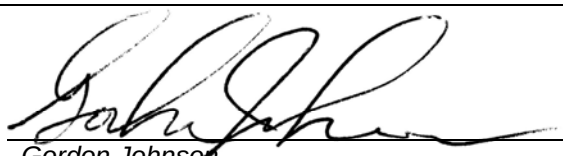
Fiscal Impact: $1.2 million in capital funds under Approp. 15374
Business Analysis: This option will enhance reliability and long-term operation of the CRA**.**

Option #2

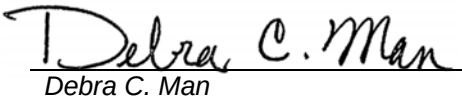
Do not award the construction contract and re-advertise in an attempt to receive more favorable bids.
Fiscal Impact: None
Business Analysis: This option may or may not result in more favorable bids, and would defer the rehabilitation work to the next shutdown season in 2013/14.

Staff Recommendation

Option #1



8/20/2012
Gordon Johnson *Date*
Manager/Chief Engineer,
Engineering Services



8/29/2012
Debra C. Man *Date*
for Jeffrey Kightlinger
General Manager

Attachment 1 – Financial Statement
Attachment 2 – Abstract of Bids
Attachment 3 – Location Map

Ref# es12619458

Financial Statement for CRA Pumping Plant Reliability Program

A breakdown of Board Action No. 14 for Appropriation No. 15374 for the Phase 2 Pipe Expansion Joint Rehabilitation at Hinds pumping plant[1] is as follows:

	Previous Total Appropriated Amount (Oct. 2011)	Current Board Action No. 14 (Sept. 2012)	New Total Appropriated Amount
Labor			
Studies & Investigations	$ 889,000	$ -	$ 889,000
Final Design	2,340,100	-	2,340,100
Owner Costs (Program mgmt., envir monitoring)	2,439,700	56,300	2,496,000
Submittal Reviews, Record Dwgs.	34,900	30,900	65,800
Construction Inspection & Support	1,566,300	147,000	1,713,300
Metropolitan Force Construction	3,474,100	175,000	3,649,100
Materials & Supplies	2,666,000	-	2,666,000
Incidental Expenses	191,000	600	191,600
Professional Services	763,000	-	763,000
Equipment Use	82,700	-	82,700
Contracts	6,015,909	738,684	6,754,593
Remaining Budget	1,404,291	51,516	1,455,807
Total	**$ 21,867,000**	**$ 1,200,000**	**$ 23,067,000**

Funding Request

Program Name:	CRA Pumping Plant Reliability Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15374	**Board Action No.:**	14
Requested Amount:	**$** 1,200,000	**Capital Program No.:**	15374
Total Appropriated Amount:	**$** 23,067,000	**Capital Program Page No.:**	44
Total Program Estimate:	**$** 25,649,000	**Program Goal:**	I-Infrastructure Reliability

[1]The total amount expended to date on the Phase 2 Pipe Expansion Joint Rehabilitation project is approximately $127,300.

The Metropolitan Water District of Southern California

Abstract of Bids Received on August 9, 2012 at 2:00 P.M.

Specifications No. 1722

Julian Hinds Pumping Plant
Delivery Pipe Expansion Joint Rehabilitation, Phase 2

The scope of work includes coating repair of nine mechanical expansion joints on the 10-foot-diameter sections of the delivery pipes, including disassembly, unpacking, blast-cleaning, recoating, repacking, and reassembly of the expansion joints.

Engineer's Estimate: $952,000

Bidder and Location	Total	SBE $	SBE %	Met SBE**
Kaveh Engineering & Construction, Inc. Anaheim, CA	**$ 738,684**	**$738,684**	**100%**	**Yes**
ABHE & Svoboda, Inc. Alpine , CA	$ 864,150	N/A	N/A	N/A
F.D. Thomas, Inc. Central Point, OR	$ 1,269,500	N/A	N/A	N/A
Cor-Ray Painting Co. Santa Fe Springs, CA	$ 1,588,000	N/A	N/A	N/A

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

Location Map