

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

November 14, 2006 Board Meeting

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8-3

### **Subject**

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Appropriate \$15.1 million; award a \$10.25 million contract to W. A. Rasic Construction Company, Inc. for rehabilitation of the Colorado River Aqueduct; and authorize: (1) an agreement with Butier Construction Managers for construction inspection services; and (2) preliminary design of the Dam Sluiceways and Outlets Rehabilitation project (Approp. 15373)

### **Description**

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The Colorado River Aqueduct (CRA) is a 242-mile-long conveyance system that transports water from Lake Havasu to Lake Mathews. The CRA consists of five pumping plants, 124 miles of tunnel, 63 miles of concrete-lined canal, 55 miles of cut-and-cover conduit, inverted siphons, and reservoirs. The CRA provides the only means for Metropolitan to convey water from the Colorado River to Southern California.

Rehabilitation of the CRA was initiated in 2001. Two planned rehabilitation projects are recommended to proceed at this time.

#### **Dam Sluiceways and Outlets Rehabilitation – Preliminary Design (\$466,000)**

In September 2005, Metropolitan's Board authorized a study to assess the reliability of the dam sluiceways at Gene Wash and Copper Basin reservoirs, and the outlet facilities at Copper Basin reservoir. Gene Wash and Copper Basin reservoirs were originally constructed in 1937 and 1938, respectively. Both the Gene Wash and Copper Basin reservoirs are regularly inspected and monitored by Metropolitan dam safety personnel, and are under the jurisdiction of the California Division of Safety of Dams (DSOD). For each reservoir, there is an existing sluiceway at the base of the dam that can be opened to draw the reservoir down in the event of an emergency. Each sluiceway consists of a trash rack, a slide gate, a slide gate valve, and a Howell-Bunger fixed cone valve. The outlet facilities at Copper Basin are used to regulate the flow of water out of Copper Basin into the CRA. These outlet facilities consist of the outlet structure, motor-driven slide gates, and electrical control systems.

The project's initial study has been completed, and preliminary design of repairs and improvements are recommended to proceed at this time. At the Gene Wash and Copper Basin reservoir sluiceways, the slide gates show signs of corrosion and need to be repaired and recoated. The valves, actuators, and electrical systems show signs of excessive wear due to age and use, and also require repair. While these conditions do not jeopardize the overall safety of the dam, it is vital that these valves be fully operational during emergency drawdown conditions. Other recommended improvements include installation of a stationary two-ton crane, work platforms and stairwells at each dam to facilitate maintenance and to improve workplace safety. The cranes will provide added redundancy since they could be used as a backup means to raise the sluice gates.

At the Copper Basin reservoir outlet, recommended work includes refurbishment of mechanical operators and guides; replacement of electrical transformers; upgrades of the communication links from the dam and outlet gates to Gene Camp; upgrades to personnel fall-prevention equipment; and upgrade of the control structure. In addition, rock cuts adjacent to the control structure have shown signs of erosion and instability, and slope stabilization is recommended to ensure uninterrupted access to the structure.

This action authorizes \$466,000 for preliminary design and preparation of environmental documentation for the Dam Sluiceways and Outlets Rehabilitation project. Preliminary design will be performed by Metropolitan staff

and is planned to be completed by April 2007. Projected construction costs are estimated to range from \$8 million to \$12 million.

### **CRA Rehabilitation and Improvements – Construction (\$14,634,000)**

In February 2006, Metropolitan's Board authorized final design of three rehabilitation projects for the CRA: the Cast Iron Blow-Offs Replacement Phase 4; Aqueduct, Reservoir and Discharge Line Isolation Gates; and San Jacinto Diversion Structure and Warren Road Gates Rehabilitation projects. Staff has combined portions of these three projects into a single construction contract (Specifications No. 1561A, CRA Rehabilitation and Improvements) for efficiency, to best make use of available shutdown windows, and to allow sufficient time for fabrication and delivery of long lead-time equipment. Remaining elements of the three projects will be constructed under separate contracts, which will be the subject of future board actions.

Improvements under Specifications No. 1561A include replacement of 48 cast iron blow-offs and outlets with stainless steel pump wells and abandonment of 34 cast iron blow-offs that are no longer required. Replacement of these brittle cast iron components will complete the fourth and final phase of this replacement project which began in March 2003. To date, approximately 120 outlets have been replaced with new stainless steel components.

Specifications No. 1561A also includes fabrication of 13 aqueduct isolation gates, repair and recoating of two 15-foot-wide radial gates, and repair of two leaky siphons. In addition to the construction, internal investigations will be performed on 68 remaining siphons. These investigations will complete the full assessment of the CRA's 242 miles of canals, tunnels, conduits and siphons. Major construction work is scheduled to be performed during a shutdown planned for March 2007, and during a reduced flow period planned for April 2007.

Specifications No. 1561A was advertised on August 15, 2006. As shown in [Attachment 2](#), three bids were received and opened on October 4, 2006. The low bid from W. A. Rasic Construction Company, Inc., in the amount of \$10.25 million, complies with the requirements of the specifications. The bids ranged from \$10.25 million to \$14.45 million. The engineer's estimate was \$10.95 million. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 18 percent of the bid amount. W. A. Rasic is an SBE firm and thus achieves 100 percent participation.

This action appropriates \$14.634 million and awards a \$10.25 million construction contract to W. A. Rasic Construction Company, Inc. In addition to the amount of the contract, the appropriated funds include \$1,747,000 for Metropolitan force construction; \$1,600,000 for construction inspection; \$562,000 for all other staff and consultant support; and \$475,000 for remaining budget. Support activities include environmental monitoring, project management, and technical support by the design consultant, MWH Americas. This technical support will be provided under an existing agreement which was authorized by the Board in February 2006. As the engineer of record, MWH Americas will review submittals received from the contractor, respond to requests for information, and advise inspection staff on technical issues as they may arise. For this agreement, Metropolitan established an SBE participation level of 20 percent. No amendment to the existing MWH Americas agreement is required.

For this project, the anticipated cost of construction inspection is approximately 12.9 percent of the total construction cost. Engineering Services' goal for inspection of construction contracts greater than \$3 million is 9 to 12 percent. The increased inspection cost estimate is attributed to costs related to multiple work locations, remoteness of rehabilitation work, and extended work shifts required during the CRA shutdown and reduced flow period.

### **Professional Services Agreement – Construction Inspection**

Staff recommends entering into a professional services agreement with Butier Construction Managers to provide construction inspection support for the CRA Rehabilitation and Improvements project. Butier was competitively selected in response to Request for Qualifications No. 550.

The planned scope of work for this agreement includes field inspection of siphon outlet installation, manhole repairs, radial gate welding and coating repairs, contract administration, and other specialty work such as surveying and materials testing.

This action authorizes a professional services agreement with Butier in an amount not to exceed \$1.6 million. For this agreement, Metropolitan established an SBE participation level of 20 percent. Butier has committed to meet this requirement.

### **Summary**

This action appropriates \$15.1 million in budgeted funds; authorizes preliminary design of the Dam Sluiceways and Outlets Rehabilitation project; awards a \$10.25 million contract to W. A. Rasic Construction Company, Inc. for CRA Rehabilitation and Improvements; and authorizes an agreement with Butier Construction Managers in an amount not to exceed \$1.6 million.

These projects have been evaluated and recommended by Metropolitan's Capital Investment Plan Evaluation Team and funds have been included within the fiscal year 2006/07 capital budget. See [Attachment 1](#) for the Financial Statement, [Attachment 2](#) for the Abstract of Bids, and [Attachment 3](#) for the Location Map.

### **Policy**

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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)**

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#### **Dam Sluiceways and Outlets Rehabilitation – Preliminary Design**

CEQA determination for Options #1 and #2:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action consists of basic data collection and resource evaluation activities, which do not result in a serious or major disturbance to an environmental resource. This may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded. Accordingly, the proposed action qualifies as a Class 6 Categorical Exemption (Section 15306 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under a Categorical Exemption (Class 6, Section 15306 of the State CEQA Guidelines).

CEQA determination for Option #3:

None required

#### **CRA Rehabilitation and Improvements – Construction**

CEQA determination for Options #1 and #3:

**Cast Iron Blow-Off Replacement Phase 4:** To comply with CEQA and the State CEQA Guidelines, Metropolitan as Lead Agency prepared in October 2001, a Mitigated Negative Declaration (MND) for the Colorado River Aqueduct Conveyance Reliability Program. The Board later adopted the MND and the Mitigation Monitoring and Reporting Program (MMRP) on January 8, 2002. Subsequent to the adoption of the MND two Addendums were prepared to evaluate minor modification to components of the Colorado River Aqueduct Conveyance Reliability Program. The current board action involves the awarding of a construction contract and funding with no major modifications to the original approved project. Hence, the previous environmental documentation in conjunction with the project complies with CEQA and the State CEQA Guidelines. Accordingly, no further environmental documentation is necessary for the Board to act on with respect to the proposed actions.

**San Jacinto Diversion Structure and Warren Road Gates Rehabilitation, Aqueduct, Reservoir, and Discharge Line Isolation Gates:** To comply with CEQA and the State CEQA Guidelines, Metropolitan as the Lead Agency determined that the proposed project was categorically exempt (i.e., Class 1, Section 15301 and Class 2, Section 15302 of the State CEQA Guidelines), approved the project on February 14, 2006. A Notice of

Exemption (NOE) was filed on the projects at that time and the statute of limitations has ended. The current board action involves the awarding of a construction contract and funding for staff to perform construction support and inspection activities with no major modifications to the original approved project. Hence, the previous environmental documentation in conjunction with the project complies with CEQA and the State CEQA Guidelines. Accordingly, no further environmental documentation is necessary for the Board to act on with respect to the proposed actions.

The CEQA determination is: Determine that the proposed actions have been previously addressed in the 2006 NOE (Classes 1 and 2, Sections 15301 and 15302 of the State CEQA Guidelines) and that no further environmental analysis or documentation is required.

CEQA determination for Option #2:

None required

### **Professional Services Agreement – Construction Inspection**

CEQA determination for Options #1 and #3:

The proposed actions are not defined as a project under CEQA because they involve continuing administrative activities (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed actions are not subject to CEQA because they involve other government fiscal activities, which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

The CEQA determination is: Determine that the proposed actions are not subject to the provisions of CEQA pursuant to Sections 15378(b)(2) and 15378(b)(4) of the State CEQA Guidelines.

CEQA determination for Option #2:

None required

## **Board Options**

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### **Option #1**

Adopt the CEQA determinations and

- a. Appropriate \$15.1 million in budgeted funds;
- b. Authorize preliminary design of the Dam Sluiceways and Outlets Rehabilitation project;
- c. Award a \$10.25 million contract to W. A. Rasic Construction Company, Inc. for the CRA Rehabilitation and Improvements; and
- d. Authorize an agreement with Butier Construction Managers in an amount not to exceed \$1.6 million for construction inspection services.

**Fiscal Impact:** \$15.1 million of budgeted funds under Approp. 15373

**Business Analysis:** This option will improve reliability of the sluiceways at the Gene Wash and Copper Basin reservoirs during emergency drawdown conditions and improve the reliability of the outlet gates. This option also increases the reliability of the CRA blow-offs and allows sufficient time for the fabrication and delivery of long lead equipment for future shutdown work.

### **Option #2**

Adopt the CEQA determinations and

- a. Appropriate \$466,000 in budgeted funds;
- b. Authorize preliminary design of the Dam Sluiceways and Outlets Rehabilitation project;
- c. Do not award the contract for the CRA Rehabilitation and Improvements and re-advertise in an attempt to obtain more favorable bids; and
- d. Do not authorize an agreement for construction inspection services.

**Fiscal Impact:** \$466,000 of budgeted funds under Approp. 15373

**Business Analysis:** This option may or may not result in more favorable bids and would defer the CRA Rehabilitation and Improvements project until the 2008 shutdown season (approximately one additional year).

**Option #3**

Adopt the CEQA determinations and

- a. Appropriate \$14,634,000 in budgeted funds;
- b. Do not authorize preliminary design of the Dam Sluiceways and Outlets Rehabilitation project;
- c. Award a \$10,250,000 contract to W. A. Rasic Construction Company, Inc. for the CRA Rehabilitation and Improvements; and
- d. Authorize an agreement with Butier Construction Managers in an amount not to exceed \$1.6 million.

**Fiscal Impact:** \$14,634,000 of budgeted funds under Approp. 15373

**Business Analysis:** This option would forego an opportunity to improve dam safety and operational flexibility features.

**Staff Recommendation**

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Option #1

  
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Roy L. Wolfe  
Manager, Corporate Resources

10/23/2006  
Date

  
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Jeffrey Knightlinger  
General Manager

10/24/2006  
Date

**Attachment 1 – Financial Statement**

**Attachment 2 – Abstract of Bids**

**Attachment 3 – Location Map**

BLA #4812

## Financial Statement for CRA Conveyance Reliability Program

A breakdown of Board Action No. 10 for Appropriation No. 15373 is as follows:

	<b>Previous Total Appropriated Amount (Feb. 2006)</b>	<b>Current Board Action No. 10 (Nov. 2006)</b>	<b>New Total Appropriated Amount</b>
Labor			
Studies and Investigations	\$ 2,612,000	\$ 334,700	\$ 2,946,700
Final Design	1,097,000	-	1,097,000
Owner Costs (Program management, environmental monitoring)	2,893,000	569,300	3,462,300
Construction Inspection and Support	4,485,220	-	4,485,220
Metropolitan Force Construction and Shutdown Support	5,436,870	1,698,000	7,134,870
Materials and Supplies	1,640,300	3,000	1,643,300
Incidental Expenses	260,400	46,000	306,400
Professional Services	2,094,000	-	3,757,000
MWH	-	63,000	-
Butier Construction Managers	-	1,600,000	-
Right of Way	10,000	-	10,000
Equipment Use	101,450	-	101,450
Contracts	26,571,751	10,250,000	36,821,751
Remaining Budget	3,536,009	536,000	4,072,009
<b>Total</b>	<b>\$ 50,738,000</b>	<b>\$ 15,100,000</b>	<b>\$ 65,838,000</b>

## Funding Request

<b>Program Name:</b>	CRA Conveyance Reliability Program		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15373	<b>Board Action No.:</b>	10
<b>Requested Amount:</b>	\$ 15,100,000	<b>Capital Program No.:</b>	15373-I
<b>Total Appropriated Amount:</b>	\$ 65,838,000	<b>Capital Program Page No.:</b>	E-16
<b>Total Program Estimate:</b>	\$ 70,750,000	<b>Program Goal:</b>	I-Infrastructure Reliability

**The Metropolitan Water District of Southern California**

**Abstract of Bids Received on October 4, 2006 at 2:00 P.M.**

**Specifications No. 1561A**

**CRA Rehabilitation and Improvements**

The project consists of replacement of 48 cast iron blow-offs with new stainless steel pump wells, removal of 34 cast iron drains and blow-offs, fabrication of 13 approximately 9-foot-wide aqueduct isolation gates, repair and recoating of two 15-foot-wide radial gates, installation of two internal seals in the siphons, and other specified work.

**Engineer's Estimate: \$10,950,000**

<b>Bidder and Location</b>	<b>Total</b>	<b>SBE \$</b>	<b>SBE %</b>	<b>Met SBE*</b>
W. A. Rasic Construction Company, Inc. Bell Gardens, CA	\$10,250,000	\$10,250,000	100%	Yes
Abhe & Svoboda, Inc. Alpine, CA	\$11,663,310	-	-	-
Steve P. Rados, Inc. Santa Ana, CA	\$14,450,000	-	-	-

\* SBE (Small Business Enterprise) participation set at 18 percent

### CRA Conveyance Reliability Projects

