

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

September 12, 2006 Board Meeting

8-2

Subject

Appropriate \$4.45 million for rehabilitation of the conveyance and distribution system; award a \$1.841 million contract to Mladen Buntich Construction Co., Inc. for the Foothill Feeder Pipeline Replacement project; award a \$2,755,555 contract to Sema Construction, Inc. for the San Diego Canal Lining Repairs project; and authorize two conveyance and distribution system rehabilitation projects (Approps. 15377, 15441)

Description

Metropolitan's conveyance and distribution system consists of over 780 miles of pipelines, 300 miles of aqueducts and canals, 16 hydroelectric plants, 45 pressure control structures, 5 water treatment plants, and thousands of related structures. Major portions of Metropolitan's infrastructure were initially constructed in the 1940s and have been in continuous service ever since. Metropolitan staff conducts regular maintenance of the system's pipelines as well as its structures, mechanical components, and electrical equipment. Although the water delivery system continues to perform reliably today, portions of the system are exhibiting signs of normal wear and tear, as may be expected with over 60 years of operation.

Four rehabilitation projects within the conveyance and distribution system are recommended to proceed at this time. 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.

Foothill Feeder Pipeline Replacement Project – Construction (No funds required)

The Foothill Feeder is a 201-inch-diameter prestressed concrete cylinder pipeline (PCCP) that was constructed in 1968. It delivers treated water from the Jensen plant to the Sepulveda, West Valley and East Valley Feeders, serving both the Central Pool and western portions of Metropolitan's service area. Electromagnetic inspections conducted in March 2005 identified one "broken back" pipe segment, located south of Valencia Boulevard in the city of Santa Clarita. A "broken back" occurs where differential settlement between the pipe and an adjacent structure causes the pipe to crack and eventually leak. The repair requires that the existing distressed pipe be removed and replaced with a 20-foot section of steel pipe. Carbon fiber lining is not an effective repair method to correct a "broken back" segment.

The Foothill Feeder Pipeline Replacement Project was originally awarded for construction in December 2005. However, as a result of contaminated groundwater detected at the worksite, which required extensive permitting for a temporary treatment plant to be installed, the original construction contract was terminated. The project has now been re-advertised for bids, including provisions for treatment of the contaminated groundwater and discharge in accordance with permit requirements.

Specifications No. 1571 for the Foothill Feeder Pipeline Replacement Project was advertised on July 7, 2006. As shown in [Attachment 2](#), three bids were received and opened on August 7, 2006. The low bid from Mladen Buntich Construction Co., Inc., in the amount of \$1.841 million, complies with the requirements of the specifications. The engineer's estimate was \$2.5 million. Staff has investigated the difference between the low bid and the engineer's estimate and attributes the difference primarily to lower-than-expected costs for operation of the temporary treatment plant, and that the contractor will self-perform most work. Mladen Buntich Construction has successfully completed several previous pipeline projects for Metropolitan, including the recent

Yorba Linda Feeder Bypass at the Diemer plant, and is qualified to construct this project. For this contract, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 20 percent of the bid amount. Mladen Buntich Construction Co., Inc. is an SBE firm and thus achieves 100 percent participation.

This action awards a \$1.841 million construction contract to Mladen Buntich Construction Co., Inc. for the Foothill Feeder Pipeline Replacement project. As funds were appropriated in December 2005 for the original construction contract, no additional funds are required at this time.

Metropolitan staff will perform construction management and inspection of this contract. The anticipated cost of inspection is approximately 8 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction cost less than \$3 million is 9 to 15 percent.

Actions and Milestones

January 2007 – Foothill Feeder shutdown

April 2007 – Completion of construction

San Diego Canal Lining Repairs – Construction (\$3,300,000)

The San Diego Canal was constructed in 1958 and conveys untreated water from the Colorado River Aqueduct to Lake Skinner. A scheduled inspection in October 2002 identified abnormalities in the concrete lining such as exposed reinforcing steel, spalled concrete, separation cracks, differential settlement, moist areas of adjacent soil, and stress-relief cracks. High-priority replacement of a portion of concrete lining was performed during an April 2003 shutdown. In November 2004, Metropolitan's Board authorized repair by Metropolitan forces of areas identified as medium priority. A follow-up inspection in January 2005 revealed more extensive damage that would best be repaired by a contractor. Under this project, approximately 6,000 square feet of concrete lining and subgrade are planned to be replaced. Access ladders will also be replaced. This work will be performed at ten locations between Diamond Valley Lake and Lake Skinner.

Specifications No. 1539A for the San Diego Canal Lining Repairs was advertised on July 17, 2006. As shown in [Attachment 2](#), three bids were received and opened on August 16, 2006. The low bid from Sema Construction, Inc., in the amount of \$2,755,555, complies with the requirements of the specifications. The engineer's estimate was \$2.7 million. For this contract, Metropolitan established an SBE participation level of at least 20 percent of the bid amount. Sema Construction, Inc. has committed to meet this participation.

This action awards a \$2,755,555 construction contract to Sema Construction, Inc. for the San Diego Canal Lining Repair project. In addition to the amount of the contract, the appropriated funds include \$15,000 for Metropolitan force construction, \$310,000 for construction inspection, \$72,000 for all other staff support, and \$147,445 for remaining budget. Metropolitan staff will perform construction management and inspection of this contract. The anticipated cost of inspection is approximately 11 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction cost less than \$3 million is 9 to 15 percent.

Actions and Milestones

February 2007 – San Diego Canal shutdown

June 2007 – Completion of construction

St. Johns Canyon Channel Erosion Damage Repair – Final Design (\$200,000)

The St. Johns Canyon Channel was constructed in 1999 as an element of site work for the Diamond Valley Lake East Dam. The concrete-lined channel varies in width from 51 to 63 feet, in depth from 9 to 16 feet, and is approximately 300 feet long. It was designed to capture storm water runoff and to protect Goodhart Canyon Detention Basin from flooding, which is under the jurisdiction of the California Division of Safety of Dams. Recent development within tributary areas upstream of Metropolitan's property has increased storm runoff.

The concrete channel has eroded as a result of storm runoff, which has created voids on the underside of the concrete lining. In some locations, the concrete lining has cracked and has displaced sufficiently to require replacement. Prompt repairs are warranted to arrest the degradation of the lining.

Metropolitan's Board authorized preliminary design and acquisition of environmental permits in May 2006. Preliminary design has now been completed, and staff recommends proceeding with final design.

This action authorizes final design for repair of erosion damage at St. Johns Canyon Channel. Final design is recommended to be performed by RBF Consulting under an existing professional services agreement authorized by the Board in September 2003. For this agreement, Metropolitan established an SBE participation level of 20 percent. No amendment to the existing RBF Consulting agreement is required. The final design cost, as a percentage of the estimated total construction cost for this project, is approximately 12 percent. Engineering Services' goal for design of projects with construction cost less than \$3 million is 9 to 15 percent.

Actions and Milestones

November 2006 – Completion of final design

February 2007 – Completion of construction

Rialto Pipeline Repair – Final Design and Construction (\$950,000)

Metropolitan's Rialto Pipeline conveys State project water from the California Department of Water Resources' Devil Canyon Power Plant to Metropolitan's San Dimas Flow Control Facility near Live Oak Reservoir. The length of the Rialto Pipeline is 30 miles, of which approximately 16 miles are PCCP, while the remaining 14 miles are welded steel pipe. The Rialto Pipeline is 96 inches in diameter and was installed in 1973.

Recent electromagnetic inspections have revealed eleven 20-foot-long pipe sections with anomalous readings as to the integrity of the prestressing wires. The extent of damage, if any, at these locations could not be interpreted by the electromagnetic inspections due to the presence of internal steel bands within the pipeline. The internal bands were installed in 1989 to minimize leakage from "broken back" cracks discovered within the pipeline during a routine inspection. Cracking in "broken backs" exposes these pipe sections to accelerated rates of corrosion and eventual leakage. The bands provide no structural support to prevent pipe rupture. All 11 pipe sections should be removed and replaced with welded steel pipe sections. Carbon fiber lining is not an effective repair method to correct a "broken back" pipe section.

The recommended repairs will occur in three phases in order to minimize the duration of pipeline shutdowns by taking advantage of other planned improvements to the Rialto Pipeline that will install three isolation structures. Phase 1 consists of repair of the easternmost distressed pipe section, upstream of the first planned isolation structure. Repair of this pipe section requires a complete shutdown of the pipeline for seven days. For the second and third phase repairs, the planned isolation structures will be used to continue water deliveries to portions of the Rialto Pipeline while repairs are performed.

This action authorizes final design and construction by Metropolitan forces of the Phase 1 repair of one PCCP segment located in the city of Fontana. Final design is recommended to be performed by Richard Brady & Associates (RBA) under an existing professional services agreement authorized by the Board in August 2005. For this agreement, Metropolitan established an SBE participation level of 20 percent. No amendment to the existing RBA Consulting agreement is required.

The total cost of construction, which will be performed by Metropolitan forces, is estimated to be \$649,000. In addition to the construction, the appropriated funds include \$80,000 for final design; \$94,000 for all other staff and consultant support; and \$127,000 for remaining budget. Support activities include project management, environmental coordination and permitting, and technical support during construction. The estimated cost of final design is \$80,000. The final design cost, as a percentage of the estimated total construction cost for this project, is approximately 12 percent. Engineering Services' goal for design of projects with construction cost less than \$3 million is 9 to 15 percent.

Staff will return to the Board at a later date to request the Board to authorize design of repairs to the remaining ten pipe sections.

Actions and Milestones

October 2006 – Completion of final design
February 2007 – Rialto Feeder shutdown
April 2007 – Completion of construction by Metropolitan forces
February 2008 – Phase 2 repairs
February 2009 – Phase 3 repairs

See **Attachment 1** for the Financial Statements, **Attachment 2** for the Abstracts of Bids, and **Attachment 3** for the Project Location Map.

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations
Metropolitan Water District Administrative Code Section 8113: Construction Contract Award

California Environmental Quality Act (CEQA)

Foothill Feeder Pipeline Replacement Project – Construction

CEQA determination for Options #1 and #2:

The environmental effects from the construction of the proposed project were evaluated in the Foothill Feeder Repair and Future Inspections Project Final Environmental Impact Report (Final EIR), which were certified by the Board on December 13, 2005. The Board also approved the Findings of Fact (findings), the Statement of Overriding Considerations, the Mitigation Monitoring and Reporting Program (MMRP), and the project itself. The current board action is solely based on entering into an agreement for construction and not on any changes to the approved project itself. Hence, 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 2005 Final EIR, findings, SOC, and MMRP and that no further environmental analysis or documentation is required.

San Diego Canal Lining Repairs – Construction

CEQA determination for Options #1 and #2:

The project was previously determined by the Board to be categorically exempt under Classes 1 and 2 (Sections 15301 and 15302 of the State CEQA Guidelines) on November 9, 2004. Since that time, the statute of limitations on the project has ended. With the current board actions, there is no substantial change proposed since the original project was first approved in 2004. Hence, the previous environmental documentation in conjunction with the project fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act with regards to the proposed actions.

The CEQA determination is: Determine that the proposed actions have been previously addressed in the 2004 categorical exemptions (Classes 1 and 2; Sections 15301 and 15302 of the State CEQA Guidelines) and that no further environmental analysis or documentation is required.

St. Johns Canyon Channel Erosion Damage Repair – Final Design

CEQA determination for Options #1 and #2:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. In particular, the proposed action consists of the maintenance, and operating of existing equipment and facilities with negligible or no expansion of use beyond that existing at the time of the lead agency's determination. In addition,

it will not have a significant effect on the environment. Accordingly, this proposed action qualifies as a Class 1 Categorical Exemption (Section 15301 of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under a Categorical Exemption (Class 1, Section 15301 of the State CEQA Guidelines).

Rialto Pipeline Repair – Final Design and Construction

CEQA determination for Options #1 and #2:

The proposed actions are statutorily exempt under the provisions of CEQA and the State CEQA Guidelines (Section 15282(k)). The proposed project involves the maintenance, repair, and restoration of an existing pipeline. Accordingly, the proposed actions qualify for a statutory exemption under Section 21080.21 of the Public Resources Code.

The CEQA determination is: Determine that pursuant to CEQA, the proposed actions qualify for a statutory exemption under Section 21080.21 of the Public Resources Code.

Board Options

Option #1

Adopt the CEQA determinations and

- a. Appropriate \$4.45 million in budgeted funds;
- b. Award a \$1.841 million construction contract to Mladen Buntich Construction Co., Inc. for the Foothill Pipeline Replacement project;
- c. Award a \$2,755,555 construction contract to Sema Construction, Inc. for the San Diego Canal Lining Repairs project;
- d. Authorize repair of one PCCP segment on the Rialto Feeder; and
- e. Authorize final design of the St. Johns Canyon Erosion Mitigation project.

Fiscal Impact: \$3.5 million of budgeted funds under Approp. 15377 and \$950,000 of budgeted funds under Approp. 15441

Business Analysis: The four rehabilitation projects will protect Metropolitan's assets, increase service reliability to customers, and reduce the risk of costly emergency repairs.

Option #2

Adopt the CEQA determinations and

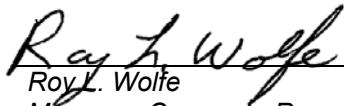
- a. Appropriate \$1.15 million in budgeted funds;
- b. Authorize repair of one PCCP segment on the Rialto Feeder;
- c. Authorize final design of the St. Johns Canyon Erosion Mitigation project;
- d. Do not award a construction contract for the Foothill Pipeline Replacement project and re-advertise in an attempt to receive more favorable bids; and
- e. Do not award a construction contract for the San Diego Canal Lining Repairs project and re-advertise in an attempt to receive more favorable bids.

Fiscal Impact: \$200,000 of budgeted funds under Approp. 15377 and \$950,000 of budgeted funds under Approp. 15441

Business Analysis: This option may or may not result in more favorable bids.

Staff Recommendation

Option #1


Roy L. Wolfe

Manager, Corporate Resources

8/24/2006

Date


Jeffrey Kightlinger

General Manager

8/24/2006

Date

Attachment 1 – Financial Statements

Attachment 2 – Abstracts of Bids

Attachment 3 – Location Map

BLA #4520

Financial Statement for Conveyance and Distribution System Rehabilitation Program

A breakdown of Board Action No. 18 for Appropriation No. 15377 for the San Diego Canal Lining Repairs and the St. Johns Canyon Channel final design is as follows:

	Previous Total Appropriated Amount (Feb. 2006)	Current Board Action No. 18 (Sept. 2006)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 2,860,700	\$ -	\$ 2,860,700
Final Design	2,584,920	97,000	2,681,920
Owners Costs (Program management, permitting & environmental documentation)	3,307,550	163,000	3,470,550
Construction Inspection & Support	1,358,050	310,000	1,668,050
Metropolitan Force Construction	9,188,330	15,000	9,203,330
Materials and Supplies	4,505,075	-	4,505,075
Incidental Expenses	1,077,620	-	1,077,620
Professional/Technical Services	671,500	-	671,500
Equipment Use	765,350	-	765,350
Contracts	11,842,400	2,755,555	14,597,955
Remaining Budget	3,600,205	159,445	3,759,650
Total	\$ 41,761,700	\$ 3,500,000	\$ 45,261,700

Funding Request

Program Name:	Conveyance and Distribution System Rehabilitation Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15377	Board Action No.:	18
Requested Amount:	\$ 3,500,000	Capital Program No.:	15377-I
Total Appropriated Amount:	\$ 45,261,700	Capital Program Page No.:	E-16
Total Program Estimate:	\$ 55,100,000	Program Goal:	R-Reliability

Financial Statement for Conveyance and Distribution System Rehabilitation – Phase II Program

A breakdown of Board Action No. 1 for Appropriation No. 15441 for the Rialto Pipeline Repair is as follows:

	Board Action No. 1 (Sept. 2006)
Labor	
Studies & Investigations	\$ 20,000
Final Design	10,000
permitting, right-of-way coordination)	74,000
Construction Inspection & Support	-
Metropolitan Force Construction	510,000
Materials and Supplies	58,000
Incidental Expenses	25,000
Professional/Technical Services	
Richard Brady & Associates	70,000
Site Restoration Consultant	40,000
Equipment Use	16,000
Contracts	-
Remaining Budget	127,000
Total	\$ 950,000

Funding Request

Program Name:	Conveyance and Distribution System Rehabilitation – Phase II Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15441	Board Action No.:	1
Requested Amount:	\$ 950,000	Capital Program No.:	16704-I
Total Appropriated Amount:	\$ 950,000	Capital Program Page No.:	E-32
Total Program Estimate:	\$ 19,200,000	Program Goal:	R-Reliability

The Metropolitan Water District of Southern California

Abstract of Bids Received on August 7, 2006

Specifications No. 1571

Foothill Feeder Pipeline Replacement Project

The project consists of replacement of a prestressed concrete cylinder pipe section with welded steel pipe.

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

Bidder and Location	Total	SBE \$	SBE %	Met SBE*
Mladen Buntich Construction Co., Inc Upland, CA	\$1,841,000	\$1,841,000	100	Yes
Gantry Constructors Inc. Clarkdale, AZ	\$1,875,000	-	-	-
Abhe & Svoboda, Inc. Alpine, CA	\$2,072,270	-	-	-

* The Small Business Enterprise (SBE) participation level is 20 percent

The Metropolitan Water District of Southern California

Abstract of Bids Received on August 16, 2006

Specifications No. 1539A

San Diego Canal Lining Repair Project

The project consists of replacement of approximately 6,000 square feet of concrete lining on the San Diego Canal. This work will be performed at six locations between Diamond Valley Lake and Lake Skinner.

Engineer's Estimate: \$2,700,000

Bidder and Location	Total	SBE \$	SBE %	Met SBE*
Sema Construction, Inc. Lake Forest, CA	\$2,755,555	\$578,670	21%	Yes
Abhe & Svoboda, Inc. Alpine, CA	\$2,756,250	-	-	-
Kiewit Pacific Co. Santa Fe, Springs	\$3,623,000	-	-	-

* The required Small Business Enterprise (SBE) participation level is 20 percent

