



- Board of Directors  
*Engineering and Operations Committee*

8/19/2014 Board Meeting

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**8-3**

## **Subject**

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Appropriate \$9.4 million; award \$4,082,555 contract to J. F. Shea Construction, Inc. to line the Lakeview Pipeline's Bernasconi Tunnel; and award \$552,982.84 valve procurement contract to Bray International (Approps 15480 and 15488)

## **Executive Summary**

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This action awards a contract for installation of welded steel liner pipe within the Lakeview Pipeline's Bernasconi Tunnel, and awards a procurement contract for large-diameter valves for the Lakeview Pipeline/Inland Feeder Intertie. Once the tunnel lining work is completed, the intertie system will allow up to 200 cubic feet per second (cfs) of water stored in Diamond Valley Lake to be delivered to the Henry J. Mills Water Treatment Plant.

## **Timing and Urgency**

The current statewide drought and resulting low allocation of State Water Project (SWP) supplies by the California Department of Water Resources have had a direct impact on recent raw water deliveries to the Mills plant. Under normal conditions, the Mills plant relies on deliveries from the East Branch of the SWP via Devil Canyon Afterbay. Due to the current low SWP allocation, Metropolitan has drafted limited SWP storage in Lake Perris to serve the Mills plant. In order to provide an additional source of supply, system improvements have been initiated that will supply the plant with water stored in Diamond Valley Lake.

This enhancement of supply deliveries to the Mills plant will be accomplished in two phases. In June 2014, Metropolitan's Board awarded a contract for construction of an intertie between the Inland Feeder and the Lakeview Pipeline, along with fabrication of 4,900 feet of steel liner pipe. This action awards a construction contract for installation of the liner. These improvements are consistent with Metropolitan's long-term plan for supply reliability for the Mills plant.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria, and is categorized as an Infrastructure Rehabilitation project. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2014/15.

## **Details**

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### **Background**

The Mills plant delivers treated water to Eastern Municipal Water District and Western Municipal Water District of Riverside County. It currently has a treatment capacity of 220 million gallons per day (mgd). Under normal conditions, the Mills plant relies exclusively on raw water deliveries from the East Branch of the SWP via Devil Canyon Afterbay. In April 2014, Metropolitan's Board authorized final design of a project that will provide an additional source of supply for the plant.

The project is being executed in two phases. A construction contract for the initial improvements is currently underway. The Phase 1 improvements include: (1) construction of an intertie from the Inland Feeder to the Lakeview Pipeline at a facility known as the PC-1 pressure control structure; (2) installation of a surge protection system at the existing Perris Pumpback Facility; and (3) fabrication of about one mile of steel pipe which will be

used to line a portion of the Lakeview Pipeline known as the Bernasconi Tunnel. In order to withstand the hydraulic pressure of the water level in DVL, the tunnel needs to be lined with steel pipe. The first phase of work is planned to be completed by October 2014.

This action addresses the Phase 2 improvements, which include the installation of approximately 4,900 feet of 114-inch-diameter steel liner within the Bernasconi Tunnel, and procurement of three 60-inch-diameter valves for the Lakeview Pipeline/Inland Feeder Intertie. Two valves are needed at the PC-1 facility to isolate the structure for maintenance, while the third valve is needed for the surge protection system at the Perris Pumpback Facility.

Lining of the Bernasconi Tunnel is planned to be completed by May 2015. Due to the approximately 15-month lead time required to fabricate the valves, they will be installed by Metropolitan forces during a planned shutdown which is scheduled for mid-2016.

#### **Bernasconi Tunnel Liner – Construction (\$7,100,000)**

Specifications No. 1802 for the Bernasconi Tunnel Liner Installation was advertised for bids on July 10, 2014. As shown in [Attachment 2](#), five bids were received and opened on August 7, 2014. The low bid from J. F. Shea Construction, Inc. in the amount of \$4,082,555 complies with the requirements of the specifications. The four higher bids ranged from approximately \$4.39 million to \$4.99 million. The engineer's estimate was \$4.8 million. Due to the specialized nature of the work and limited subcontracting opportunities, Metropolitan established a Small Business Enterprise (SBE) participation level of at least 10 percent of the bid amount for this contract.

This action appropriates \$7.1 million and awards a \$4,082,555 contract to J. F. Shea Construction, Inc. to line the Bernasconi Tunnel. In addition to the amount of the contract, the requested funds include \$349,000 for Metropolitan force activities which include shutdown and dewatering, water quality testing, and return of the pipeline back to service. The requested funds also include: \$1.34 million for construction inspection; \$258,000 for Metropolitan staff to review submittals, respond to requests for information, advise inspectors on technical issues as they arise, and prepare record drawings; \$195,000 for environmental monitoring, contract administration, and project management; and \$875,445 for remaining budget.

The total cost of construction for the lining work is \$10,431,555. This includes the construction contract (\$4,082,555), the Metropolitan force activities (\$349,000), and the Metropolitan-furnished liner pipe (\$6 million).

#### **Lakeview Pipeline/Inland Feeder Intertie – Valve Procurement and Installation (\$2,300,000)**

Specifications No. 1799 to furnish three 60-inch-diameter butterfly valves for the Lakeview Pipeline/Inland Feeder Intertie was advertised for bids on July 10, 2014. As shown in [Attachment 2](#), five bids were received and opened on August 7, 2014. The low bid from Bray International in the amount of \$552,982.84 complies with the requirements of the specifications. The four higher bids ranged from approximately \$660,000 to \$1,287,000. The budgetary cost estimate for this equipment, based on a survey of vendors, ranged from \$700,000 to \$900,000. Due to the specialized nature of the valves, no SBE or Regional Business Enterprise (RBE) participation incentives were established for this procurement contract.

This action appropriates \$2.3 million, awards a \$552,982.84 procurement contract to Bray International to furnish valves for the Lakeview Pipeline/Inland Feeder Intertie, and authorizes installation of the valves by Metropolitan forces. The procurement contract amount includes all sales and use taxes imposed by the state of California. In addition to the amount of the contract, the requested funds include \$96,000 for fabrication inspection; \$1,219,000 for Metropolitan force activities, which include installation and functional testing of the three valves, multiple shutdowns, and Supervisory Control and Data Acquisition (SCADA) integration; \$117,000 for staff to review submittals, respond to requests for information, and prepare record drawings; \$74,000 for contract administration and project management; and \$241,017.16 for remaining budget.

#### **Summary**

This action appropriates \$9.4 million; awards a \$4,082,555 contract to line the Lakeview Pipeline's Bernasconi Tunnel; and awards a \$552,982.84 valve procurement contract for the Lakeview Pipeline/Inland Feeder Intertie. The total estimated cost to complete the Lakeview Pipeline/Inland Feeder Intertie and line the Bernasconi Tunnel, including the amount authorized to date and current funds requested, is \$40.3 million.

Construction inspection of the liner installation and valve fabrication will be performed by Metropolitan staff. For this work, the cost of inspection is approximately 9.8 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction cost greater than \$3 million is 9 to 12 percent. The total cost of construction for Phases 1 and 2 of the Lakeview Pipeline/Inland Feeder Intertie is \$34,060,000.

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2014/15 capital expenditure plan. See [Attachment 1](#) for the Financial Statements and [Attachment 3](#) for the Location Maps.

The work is budgeted under two capital appropriations. The Lakeview Pipeline/Inland Feeder Intertie is included within Appropriation No. 15488, the Water Delivery System Improvements Appropriation, which was initiated in fiscal year 2013/14. With the present action, the total funding for this appropriation will increase from \$25.9 million to \$28.2 million. The Bernasconi Tunnel Repairs is included within Appropriation No. 15480, the Conveyance and Distribution System Rehabilitation Appropriation – FY 2012/13 Through FY 2017/18, which was initiated in fiscal year 2012/13. With the present action, the total funding for this appropriation will increase from \$10.89 million to \$17.99 million.

### ***Project Milestones***

May 2015 – Completion of installation of steel liner pipe within the Bernasconi Tunnel

November 2015 – Delivery of valves

June 2016 – Completion of valve installation

### **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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CEQA determination for Option #1:

The proposed action is exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed action includes maintenance, repair, restoration, reconditioning, relocation, replacement, removal, or demolition of an existing pipeline of less than one mile of existing pipelines. Accordingly, the proposed action qualifies under a statutory exemption (Sections 21080.21 of the California Public Resources Code and Section 15282(k) of the State CEQA Guidelines).

The CEQA determination is: Determine that pursuant to CEQA, the proposed action qualifies under a statutory exemption (Sections 21080.21 of the California Public Resources Code and Section 15282(k) of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

### **Board Options**

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#### **Option #1**

Adopt the CEQA determination that the action is statutorily exempt from CEQA, and

- a. Appropriate \$9.4 million;
- b. Award \$4,082,555 contract to J. F. Shea Construction, Inc. to install liner pipe within the Bernasconi Tunnel; and
- c. Award \$552,982.84 valve procurement contract to Bray International for the Lakeview Pipeline/Inland Feeder Intertie.

**Fiscal Impact:** \$7.1 million of capital funds under Approp. 15480 and \$2.3 million of capital funds under Approp. 15488

**Business Analysis:** This option will enhance system reliability by providing a backup water source for the Mills plant during periods of low deliveries from the State Water Project, during planned shutdowns, or following an emergency such as a major seismic event.

**Option #2**

Do not proceed with the Bernasconi Tunnel liner installation or award the valve procurement contract at this time.

**Fiscal Impact:** None

**Business Analysis:** This option would forgo an opportunity to enhance water supply reliability for the Mills plant. The 4,900 feet of steel liner pipe which would have been furnished to the contractor will be stored for future use.

**Staff Recommendation**

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Option #1

  
\_\_\_\_\_  
Gordon Johnson  
Manager/Chief Engineer  
Engineering Services

8/12/2014  
Date

  
\_\_\_\_\_  
Jeffrey Kightlinger  
General Manager

8/13/2014  
Date

**Attachment 1 – Financial Statements**

**Attachment 2 – Abstracts of Bids**

**Attachment 3 – Location Maps**

**Financial Statement for Water Delivery System Improvements Appropriation**

A breakdown of Board Action No. 4 for Appropriation No. 15488 for the Lakeview Pipeline/Inland Feeder Intertie<sup>1</sup> is as follows:

	<b>Previous Total Appropriated Amount (June 2014)</b>	<b>Current Board Action No. 4 (Aug. 2014)</b>	<b>New Total Appropriated Amount</b>
Labor			
Studies & Investigations	\$ 90,000	\$ -	\$ 90,000
Final Design	942,000	-	942,000
Owner Costs (Program mgmt.)	662,000	74,000	736,000
Submittals Review & Record Drwgs	771,000	117,000	888,000
Construction Inspection & Support	1,847,000	96,000	1,943,000
Metropolitan Force Construction	1,648,000	1,154,000	2,802,000
Materials & Supplies	1,992,000	40,000	2,032,000
Incidental Expenses	32,000	25,000	57,000
Professional/Technical Services	835,000	-	835,000
Right-of-Way	-	-	-
Equipment Use	-	-	-
Contracts	14,365,430	552,983	14,918,413
Remaining Budget	2,715,570	241,017	2,956,587
<b>Total</b>	<b>\$ 25,900,000</b> <sup>2</sup>	<b>\$ 2,300,000</b>	<b>\$ 28,200,000</b>

**Funding Request**

<b>Appropriation Name:</b>	Water Delivery System Improvements		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15488	<b>Board Action No.:</b>	4
<b>Requested Amount:</b>	\$2,300,000	<b>Budget Page No.:</b>	177
<b>Total Appropriated Amount:</b>	\$28,200,000	<b>Total Appropriation Estimate:</b>	\$31,000,000

<sup>1</sup> The total amount expended to date on the Lakeview Pipeline/Inland Feeder Intertie project is approximately \$3.3 million. The total estimated cost to complete the intertie, including the amount authorized to date, current funds requested, and future expenditures, is approximately \$28.3 million.

<sup>2</sup> Includes adjustments to reflect Board Action No. 2 in May 2014, which was omitted from the June 2014 financial statement.

**Financial Statement for Conveyance and Distribution System Rehabilitation Appropriation – FY 2012/13 Through FY 2017/18**

A breakdown of Board Action No. 7 for Appropriation No. 15480 to line the Bernasconi Tunnel<sup>1</sup> is as follows:

	<b>Previous Total Appropriated Amount (Aug. 2014)</b>	<b>Current Board Action No. 7 (Aug. 2014)</b>	<b>New Total Appropriated Amount</b>
Labor			
Studies & Investigations	\$ 687,000	\$ -	\$ 687,000
Final Design	866,000	-	866,000
Owner Costs (Program mgmt., envir. monitoring, permitting)	764,779	181,000	945,779
Submittals Review & Record Drwgs	130,000	258,000	388,000
Construction Inspection & Support	137,000	1,340,000	1,477,000
Metropolitan Force Construction	-	349,000	349,000
Materials & Supplies	-	-	-
Incidental Expenses	23,000	14,000	37,000
Professional/Technical Services	1,249,000	-	1,249,000
Right-of-Way	11,000	-	11,000
Equipment Use	-	-	-
Contracts	6,000,000	4,082,555	10,082,555
Remaining Budget	1,022,221	875,445	1,897,666
<b>Total</b>	<b>\$ 10,890,000</b>	<b>\$ 7,100,000</b>	<b>\$ 17,990,000</b>

**Funding Request**

<b>Appropriation Name:</b>	Conveyance and Distribution System Rehabilitation – FY 2012/13 Through FY 2017/18		
<b>Source of Funds:</b>	Revenue Bonds, Replacement and Refurbishment or General Funds		
<b>Appropriation No.:</b>	15480	<b>Board Action No.:</b>	7
<b>Requested Amount:</b>	\$7,100,000	<b>Budget Page No.:</b>	286
<b>Total Appropriated Amount:</b>	\$17,990,000	<b>Total Appropriation Estimate:</b>	\$17,210,700

<sup>1</sup> The total amount expended to date on the Bernasconi Tunnel liner installation is approximately \$287,387. The total estimated cost to complete the work, including the amount authorized to date and current funds requested, is approximately \$12 million.

**The Metropolitan Water District of Southern California**  
**Abstract of Bids Received on August 7, 2014 at 2:00 P.M.**  
**Specifications No. 1802**  
**Bernasconi Tunnel Liner Installation**

The work consists of installing 4,900 feet of Metropolitan-furnished 114-inch-diameter steel pipe within the Bernasconi Tunnel.

**Engineer's Estimate: \$4,800,000**

<b>Bidder and Location</b>	<b>Total</b>	<b>SBE Amount</b>	<b>SBE %</b>	<b>Met SBE<sup>1</sup></b>
<b>J. F. Shea Construction, Inc. Walnut, CA</b>	<b>\$4,082,555</b>	<b>\$409,000</b>	<b>10</b>	<b>Yes</b>
Steve P. Rados, Inc. Santa Ana, CA	\$4,390,000	N/A	N/A	N/A
L. H. Woods & Sons, Inc. Vista, CA	\$4,858,000	N/A	N/A	N/A
Mladen Buntich Construction Co., Inc. Upland, CA	\$4,993,000	N/A	N/A	N/A
Kiewit Infrastructure West Co. Santa Fe Springs, CA	\$4,994,000	N/A	N/A	N/A

<sup>1</sup> SBE (Small Business Enterprise) participation level was established at 10 percent for this contract.

**The Metropolitan Water District of Southern California**  
**Abstract of Bids Received on August 7, 2014 at 2:00 P.M.**  
**Specifications No. 1799**

**Furnishing Valves for the Lakeview Pipeline/Inland Feeder Intertie**

The work consists of furnishing three 60-inch-diameter valves for the Lakeview Pipeline/Inland Feeder Intertie.

**Estimated Range of Cost: \$700,000 - \$900,000**

<b>Bidder and Location</b>	<b>Total<sup>1,2</sup></b>
<b>Bray International Houston, TX</b>	<b>\$552,982.84</b>
DeZURIK Sartell, MN	\$660,627.16
Water Technology Resources, Inc. Bloomington, MN	\$659,642.00
Integrated 8(a) Solutions, Inc. Newport Beach, CA	\$1,097,420.00
Marshall Toomey Design, Inc. Canyon Country, CA	\$1,287,205.58

<sup>1</sup> Includes sales and use taxes of 8.0 percent imposed by the state of California.

<sup>2</sup> Due to the specialized nature of the valves, no SBE/RBE (Small Business Enterprise/Regional Business Enterprise) participation incentives were identified for this procurement contract.

# Distribution System



