

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

August 15, 2006 Board Meeting

---

9-1

---

## **Subject**

Status report for the Inland Feeder Program for activities through June 2006 [**Any discussion of litigation to be heard in closed session. Conference with legal counsel--existing litigation (Shank/Balfour Beatty, a Joint Venture vs. Metropolitan Water District of Southern California, LASC Case No. BC 283438); to be heard in closed session pursuant to Gov. Code Section 54956.9(a). Conference with legal counsel--potential litigation relating to contractor claims on Contract No. 1542 for the Arrowhead Tunnels; to be heard in closed session pursuant to Gov. Code Section 54956.9(b) (one potential case)**]

---

## **Description**

### **Work Completed to Date**

The Inland Feeder Program consists of 44 miles of pipelines and tunnels that will enable Metropolitan to convey up to 1,000 cubic feet per second of State Water Project supplies from Devil Canyon Afterbay to Diamond Valley Lake. To date, eight of nine construction contracts totaling \$542 million have been completed. These completed contracts represent 36.3 miles or 82% of the Inland Feeder's length. Remaining program work includes completion of the Arrowhead East and West Tunnels, which are presently under construction by a joint venture of Shea/Kenny.

### **Arrowhead Tunnels**

Arrowhead East Tunnel – Favorable rock and relatively low groundwater conditions continued on the Arrowhead East Tunnel, which allowed the contractor to make steady mining progress. In June, the tunnel boring machine (TBM) advanced a total of 660 feet, while another 395 feet were mined in the first several weeks in July. The total length of tunnel mined to date is 13,490 feet (60% of the tunnel's length).

Arrowhead West Tunnel – The TBM is slowly moving through an extended length of fault/shear zone material. In June, the TBM advanced a total of 75 feet, while another 110 feet were mined in the first several weeks in July. The contractor replaced the worn-out screw auger on the TBM and continued mining operations in the second week of July. The total length of tunnel mined to date is 6,340 feet (32% of the tunnel's length).

### **Program Management Team**

Teamwork and cooperation remain high among Metropolitan and contractor personnel, at both the management and working levels. Integrated Metropolitan and contractor work groups have been established to troubleshoot and problem-solve difficult aspects of the project. This heightened level of cooperation has been beneficial in dealing with the difficult mining conditions encountered in June on Arrowhead West Tunnel. The partnering process is now well established, with monthly evaluation data contributed by Metropolitan and contractor team members.

### **Budget and Schedule**

As of June 30, 2006, the projected cost to complete the Inland Feeder Program is \$982.3 million. This amount is under review, however, and will be updated over the next several months. Total expenditures through June 2006 are \$860 million (see **Attachment 1** for a budget comparison and schedule summary for the entire Inland Feeder Program, and budget status for the Arrowhead Tunnels construction contract). The board-approved budget for the entire program remains at \$1.186 billion.

The on-line date for the Inland Feeder is dependent upon completion of the Arrowhead Tunnels. The estimated completion date of late 2008 for the Arrowhead Tunnels was reported to the Board in October 2005. However, that date is currently under review. A revised project completion date, and costs associated with the schedule impacts, will be brought to the Board when the review has been completed.

Upon completion of construction, environmental mitigation measures will continue along the Arrowhead Tunnels alignment for up to two years in accordance with the Environmental Impact Report.

**Policy**

---

Submitted per request of the Board

**Fiscal Impact**

---

Refer to [Attachment 1](#).

  
Gordon L. Johnson 7/21/2006  
for Roy L. Wolfe Date  
Manager, Corporate Resources

  
Jeffrey Kightlinger 7/25/2006  
General Manager Date

**Attachment 1 – Inland Feeder Program Budget Comparison and Schedule Summary, and Arrowhead Tunnels Construction Contract Budget Status**

<b>Inland Feeder Program Budget Comparison and Schedule Summary (\$ in Millions)</b>				
	Total Program Estimate (FY 2005/6 CIP)	Projected Cost to Complete (Updated June 2006)	Expenditures to Date (June 2006)	% Complete Based on Expenditures (June 2006)
<u>Active Construction</u>				
Arrowhead Tunnels	\$ 289.3	\$ * 265.7	\$ 160.0	55%
Construction Inspection and Support	\$ 39.1	\$ * 39.1	\$ 29.3	75%
<b>Subtotal, Active Construction</b>	<b>\$ 328.4</b>	<b>\$ 304.8</b>	<b>\$ 189.3</b>	<b>58%</b>
<u>Other Components</u>				
Completed Projects	\$ 576.9	\$ 576.4	\$ 574.9	100%
Others (R/W, Env., Prog. Mgt.)	\$ 101.1	\$ 101.1	\$ 95.8	99%
<b>Subtotal, Other Components</b>	<b>\$ 678.0</b>	<b>\$ 677.5</b>	<b>\$ 670.7</b>	<b>99%</b>
Expended To Date			\$ 860.0	72%
Subtotal, All Projects	\$ 1,006.4	\$ <b>982.3</b>		
Remaining Budget	\$ 180.0	\$ 204.1		
Board-Authorized Budget	\$ 1,186.4	\$ 1,186.4		

\* Under review

NOTE: Overall completion = 36.3 of 44.2 miles (82%)

<b>Arrowhead Tunnels Construction Contract Budget Status (\$ in Millions)</b>			
Construction Contract No. 1542	Current Contract Amount (June 2006)	Amount of Contract Committed (June 2006)	% of Contract Committed
Mobilization	\$ 7.6	\$ 7.3	96%
Plant equipment / materials	\$ 76.2	\$ 60.2	79%
<u>Arrowhead East</u>			
Portal / pipeline work	\$ 10.9	\$ 6.4	59%
Excavation / final lining	\$ 64.2	\$ 32.2	50%
Grouting	\$ 11.6	\$ 4.1	35%
<u>Arrowhead West</u>			
Portal / pipeline work	\$ 6.6	\$ 1.4	21%
Excavation / final lining	\$ 53.8	\$ 18.8	35%
Grouting	\$ 11.6	\$ 7.9	68%
Subtotal	\$ 242.5	\$ 138.3	57%
Authorized Change Orders	\$ 31.6	\$ 31.6	100%
<b>Construction Contract Total</b>	<b>\$ 274.1</b>	<b>\$ 169.9</b>	<b>62%</b>
Length of Tunnels Mined Through 7/17/06			
Arrowhead East	13,490 ft of 22,458 ft (60%)		
Arrowhead West	6,340 ft of 19,884 ft (32%)		
Total	19,830 ft of 42,342 ft (47%)		

NOTE: Contractor invoices paid through June 2006 = \$160M