

- **Board of Directors**
Engineering and Capital Programs Committee

January 13, 2009 Board Meeting

9-1

Subject

Status report for the Inland Feeder Program for activities through November 2008

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 (SWP) supplies from Devil Canyon Afterbay to Diamond Valley Lake (DVL). To date, eight of nine construction contracts totaling \$542 million have been completed. These completed contracts represent 36.3 miles or 82 percent 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.

The completed portion of the Inland Feeder has been in service since 2003 via an interconnection that was constructed between the Inland Feeder and San Bernardino Valley Municipal Water District's Foothill Pipeline. This connection allows Metropolitan to convey SWP supplies from the East Branch of the California Aqueduct to the Inland Feeder for delivery to DVL. To date, over 620,000 acre-feet of SWP water have been delivered to DVL through this connection.

Arrowhead Tunnels

Arrowhead East Tunnel (AET) – In late October, the contractor secured a temporary (trial-basis) transportation permit from the city of San Bernardino and began hauling the tunnel's reinforced concrete cylinder pipe (RCCP) from the storage area at Metropolitan's Etiwanda Reservoir to the Strawberry Canyon portal site. Under the temporary permit, the contractor made four deliveries per day during November, demonstrating his ability to meet the city's permit requirements while minimizing impacts to the streets and to traffic. In early December, San Bernardino raised the delivery limit to nine pieces of pipe per day. In order for the work to proceed on budget and within schedule, daily pipe deliveries will need to be increased to at least 15 per day by late January. Staff will continue to work with San Bernardino to increase the daily delivery limit. The prolonged delay in issuing a transportation permit by San Bernardino has delayed the initiation of pipe lining in the AET by nearly ten weeks.

The contractor installed 945 feet of pipe in November and another 700 feet in the first few weeks of December. The total length of pipe installed through December 17 is 1,645 feet (7 percent of the tunnel's length). Pipe lining progress is shown in [Attachment 2](#).

Arrowhead West Tunnel (AWT) – In November, tunnel cleanup work continued from the Waterman Canyon portal in preparation for RCCP installation. In late November, RCCP shipments began arriving at the Waterman Canyon portal under the same transportation permit described above. As reported previously, the 280 feet of steel pipe required at the Devil Canyon portal was installed in October. Approximately 350 feet of RCCP was installed through December 17 via the Waterman Canyon portal. The total length of pipe installed through December 17 is 630 feet (3 percent of the tunnel's length).

The contractor continued to place steel pipe outside the tunnel, and constructed portions of the portal access structure at the Devil Canyon portal. Grouting operations continued as necessary to further eliminate water intrusion into the tunnel.

Program Management

Staff and the U.S. Forest Service continued to coordinate activities related to monitoring and minimizing tunnel water inflows into the Arrowhead East Tunnel. Staff continued negotiations with representatives from the San Manuel Band of Mission Indians regarding potential compensation for their activities related to the AET.

Budget and Schedule

Due to the delays in obtaining the AET pipe hauling permit, the AET and AWT are on virtually identical schedules, with completion expected in early 2010. This date is approximately six months ahead of the September 2010 target set forth in the revised contract. The overall on-line date for the project has not yet been affected by the permit issues with San Bernardino.

Following board authorization of a settlement agreement and contract amendment with the Arrowhead Tunnels contractor in August 2006, staff conducted a complete review of the program budget to estimate the total projected cost to complete the Inland Feeder Program. Based on the revised September 2010 completion date for the Arrowhead Tunnels as presented to the Board in August 2006, the updated total projected cost for the Inland Feeder is estimated to be \$1.139 billion. Total expenditures through November 2008 are \$1.04 billion (see [Attachment 1](#) for the Projected Cost/Expenditures). Staff will continue to report on the status of ongoing discussions with the San Manuel Band of Mission Indians and of litigation with Campus Crusade for Christ. The board-approved budget for the entire program remains at \$1.186 billion. [Attachment 2](#) shows the actual lining progress and cash flow on both tunnels compared to the planned progress and expenditures set forth in the August 2006 contract amendment.

The payments on the contractor's incentive/risk program are discussed with the Board on a regular basis at the Engineering and Capital Programs Committee meetings. This incentive plan is part of the contract amendment approved by the Board in August 2006. The incentive payment to the contractor for the month of October 2008 is shown in [Attachment 1](#).


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

Policy

Submitted per request of the Board

Fiscal Impact

Refer to [Attachment 1](#).

	12/18/2008
Roy L. Wolfe Manager, Corporate Resources	Date
	12/26/2008
Jeffrey Lightlinger General Manager	Date

Attachment 1 – Inland Feeder Program Projected Cost/Expenditures and Incentive Plan Payments

Attachment 2 – Arrowhead Tunnels Actual vs. Planned Pipe Lining Progress and Actual vs. Planned Cash Flow

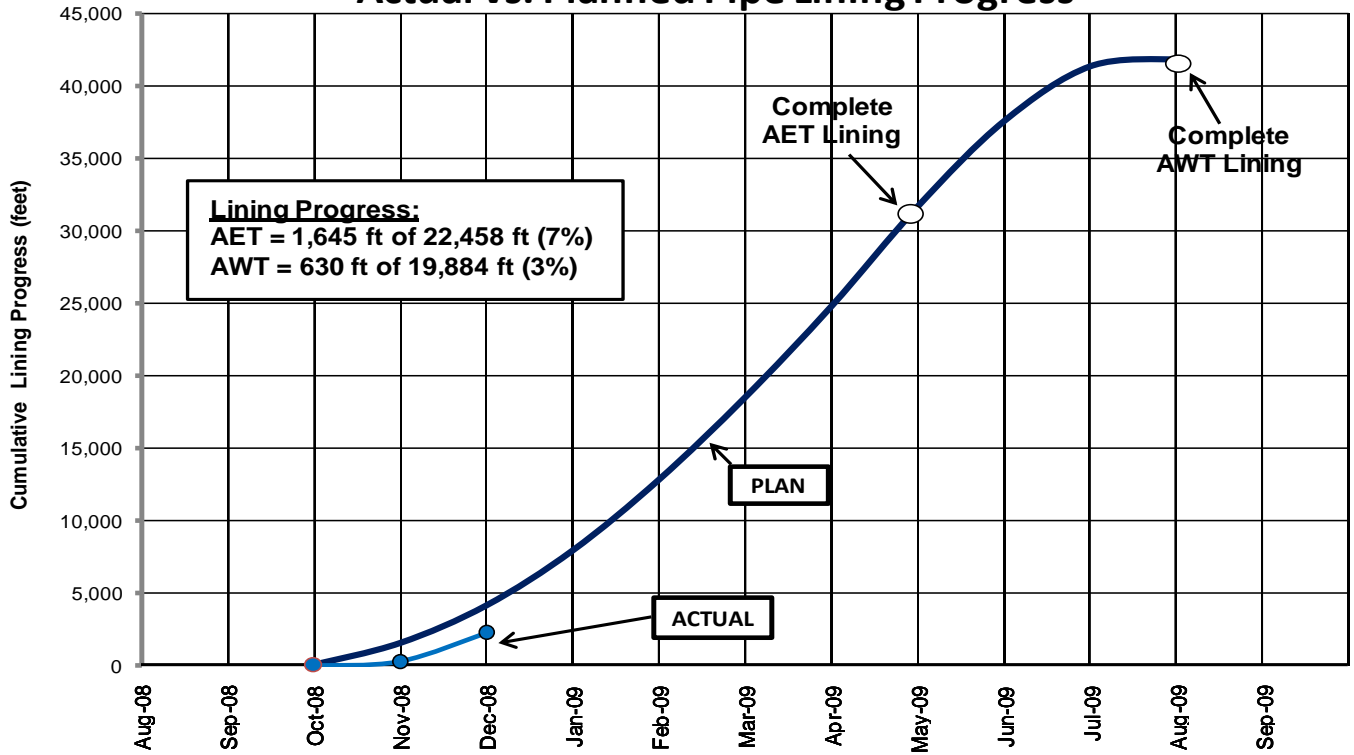
Inland Feeder Program Projected Cost/Expenditures (\$ in Millions)				
	Projected Cost To Complete (Updated Nov. 2008)	Expenditures This Month (Nov. 2008)	Expenditures To Date (Nov. 2008)	% Complete Based on Expenditures (Nov. 2008)
<u>Active Construction</u>				
Arrowhead Tunnels Const. Contract	\$ 397.0	\$ 7.2	\$ 315.8	80%
Construction Inspection and Support	\$ 58.0	\$ 0.5	\$ 49.7	86%
Subtotal, Active Construction	\$ 455.0	\$ 7.7	\$ 365.5	80%
<u>Other Components</u>				
Completed Projects	\$ 578.2	\$ 0.0	\$ 573.8	99%
Others (R/W, Env., Prog. Mgmt.)	\$ 105.4	\$ 0.0	\$ 102.1	96%
Subtotal, Other Components	\$ 683.5	\$ 0.0	\$ 675.9	99%
Expended To Date		\$ 7.7	\$ 1,041.4	88%
Subtotal, All Projects	\$ 1,138.5	← Projected Cost to Complete		
Remaining Budget	\$ 48.0			
Board-Authorized Budget	\$ 1,186.5	← Total Project Budget		
Length of Pipe Installed in Tunnels Through 12/17/08				
Arrowhead East	1,645 ft	of 22,458 ft	(7%)	
Arrowhead West	630 ft	of 19,884 ft	(3%)	
Total	2,275 ft	of 42,342 ft	(5%)	

NOTE: Contractor invoices paid through November 2008 = \$312.8M
Overall completion = 36.3 of 44.2 miles (82%)

Inland Feeder Program – Arrowhead Tunnels Incentive Plan Payments				
	East/West Tunnels Cumulative Feet Lined with Pipe	East Tunnel	West Tunnel	Total
June 2006 – Sep. 2008 (Previously Reported)	0	\$ 2,899,750	\$ 3,543,493	\$ 6,443,243
October 2008 (3)	280	\$ 49,200	\$ 111,300	\$ 160,500
TOTALS	280	\$ 2,948,950	\$ 3,654,793	\$ 6,603,743 (2)

(1): For Arrowhead West Tunnel, incentive program evaluation commenced in June 2006.
 (2): Percent of maximum possible combined incentive: 76% (68% Arrowhead East Tunnel, 84% Arrowhead West Tunnel)
 (3): Incentive Plan based on work performed during contractor monthly pay period from 9/26/08 to 10/25/08 (differs from progress in calendar month).

Arrowhead Tunnels Actual vs. Planned Pipe Lining Progress



Arrowhead Tunnels Actual vs. Planned Cash Flow

