

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

December 9, 2008 Board Meeting

9-1

Subject

Status report for the Inland Feeder Program for activities through October 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 will make four deliveries per day for a three-week period to demonstrate the ability to meet the city's permit requirements while minimizing impacts to the streets and to traffic. Following the trial period, staff anticipates that San Bernardino and Metropolitan will enter into a Memorandum of Understanding to increase the allowable daily trips and to memorialize any terms for remediation of streets or infrastructure that may be damaged due to the pipe hauling. To meet the current schedule for lining completion in August 2009, pipe deliveries will need to be increased to at least sixteen trips (eight per tunnel) per day. Street damage is anticipated to be minimal, as Metropolitan had successfully transported identically sized pipe through San Bernardino in 1997 under the original AET contract. The prolonged issuance of a transportation permit by San Bernardino has delayed the initiation of pipe lining in the AET by nearly 10 weeks. Other required permits have already been issued by the cities of Rancho Cucamonga, Fontana, and Rialto to transport pipe through those cities.

Arrowhead West Tunnel (AWT) – In October, tunnel cleanup work continued from the Waterman Canyon portal in preparation for RCCP installation, which is scheduled to commence in November. 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 is approximately 6 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 of the Arrowhead Tunnels as presented to the Board in August 2006, the updated total projected cost for the Inland Feeder is estimated to be \$1.138 billion. Total expenditures through October 2008 are \$1.034 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 September 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

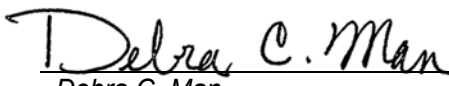
Fiscal Impact

Refer to [Attachment 1](#).



Roy L. Wolfe
Manager, Corporate Resources

11/17/2008
Date



Debra C. Man
for Jeffrey Kightlinger
General Manager

11/20/2008
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

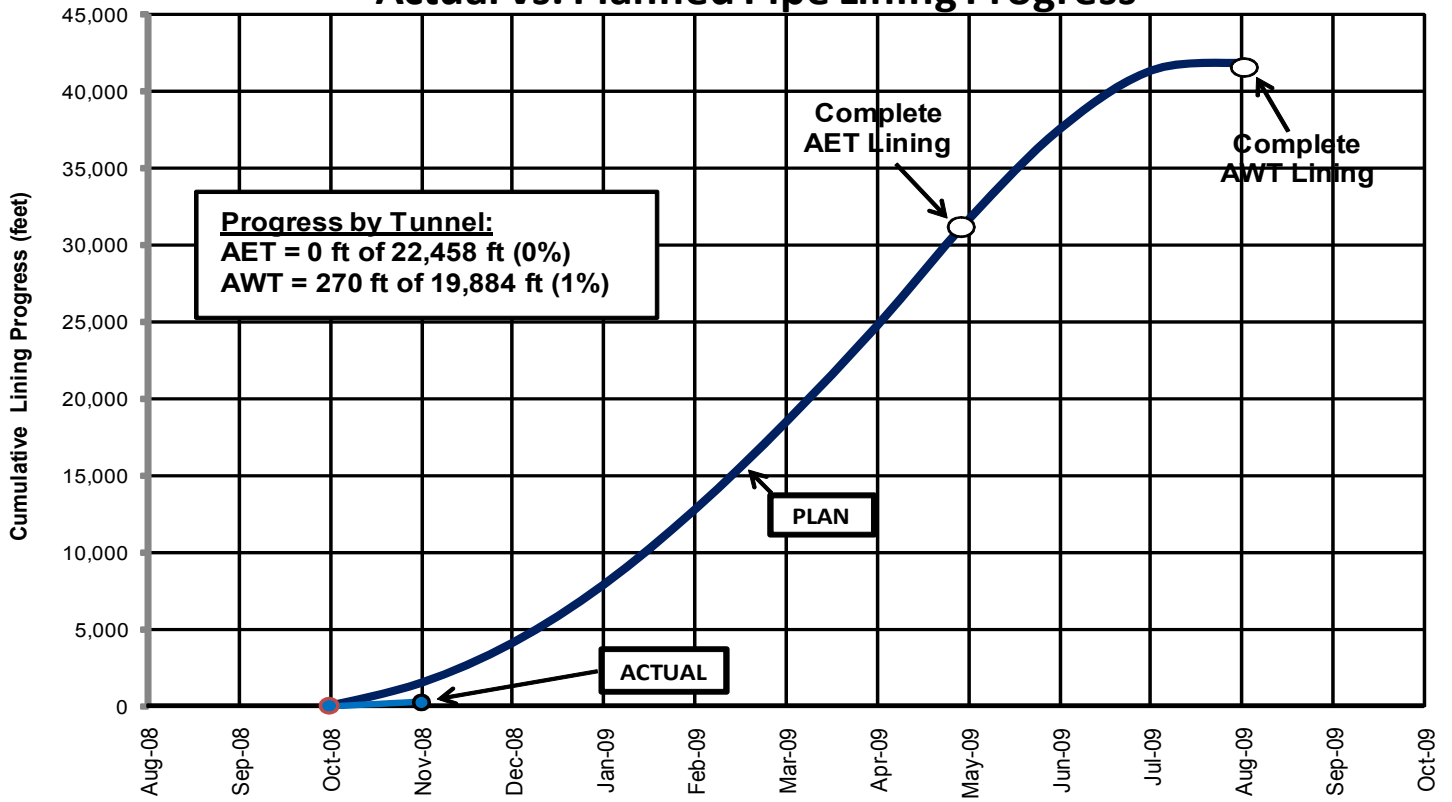
Inland Feeder Program Projected Cost/Expenditures (\$ in Millions)				
	Projected Cost To Complete (Updated Oct. 2008)	Expenditures This Month (Oct. 2008)	Expenditures To Date (Oct. 2008)	% Complete Based on Expenditures (Oct. 2008)
<u>Active Construction</u>				
Arrowhead Tunnels Const. Contract	\$ 397.0	\$ 4.9	\$ 308.5	78%
Construction Inspection and Support	\$ 58.0	\$ 1.0	\$ 49.3	85%
Subtotal, Active Construction	\$ 455.0	\$ 5.9	\$ 357.8	79%
<u>Other Components</u>				
Completed Projects	\$ 578.2	\$ 0.0	\$ 573.8	99%
Others (R/W, Env., Prog. Mgmt.)	\$ 105.4	\$ 0.4	\$ 102.1	96%
Subtotal, Other Components	\$ 683.5	\$ 0.4	\$ 675.9	99%
Expended To Date		\$ 6.3	\$ 1,033.6	87%
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 11/13/08				
Arrowhead East	0 ft	of 22,458 ft	(0%)	
Arrowhead West	270 ft	of 19,884 ft	(1%)	
Total	270 ft	of 42,342 ft	(0.5%)	

NOTE: Contractor invoices paid through October 2008 = \$305.5M
 Overall completion = 36.3 of 44.2 miles (82%)

Inland Feeder Program – Arrowhead Tunnels Incentive Plan Payments				
	East/West Tunnels Cumulative Feet <u>Lined with Pipe</u>	East <u>Tunnel</u>	West <u>Tunnel</u>	<u>Total</u>
June 2006 - August 2008 (Previously Reported)	0	\$ 2,837,800	\$ 3,411,793	\$ 6,249,593
September 2008 (3)	270	\$ 61,950	\$ 131,700	\$ 193,650
TOTALS	270	\$ 2,899,750	\$ 3,543,493	\$ 6,443,243 (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 8/26/08 to 9/25/08 (differs from progress in calendar month).

Arrowhead Tunnels Actual vs. Planned Pipe Lining Progress



Arrowhead Tunnels Actual vs. Planned Cash Flow

