

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

November 18, 2008 Board Meeting

9-1

Subject

Status report for the Inland Feeder Program for activities through September 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 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 September, staff continued discussions with the city of San Bernardino to secure a transportation permit to haul the reinforced concrete cylinder pipe (RCCP) from Metropolitan's Etiwanda Reservoir to the Strawberry Canyon portal site. Unanticipated problems with San Bernardino over issuance of a long-term permit have delayed the initiation of pipe lining in the AET by more than four weeks. The city's primary concerns are related to potential damage to city streets from the heavy loads, and possible traffic disruptions. In mid-September, the contractor laid off approximately 40 staff on the AET due to lack of productive work due to the inability to get pipe to the site. Other required pipe hauling permits have already been issued by the cities of Rancho Cucamonga, Fontana and Rialto to transport pipe through those cities. Metropolitan and San Bernardino are developing a trial permit procedure to allow pipe hauling to commence in late October.

With the reduced workforce at AET, the contractor continued cleaning the tunnel invert and performing tunnel railway maintenance in preparation for pipe installation. The contractor also continued cleaning and preparing pipe at Etiwanda Reservoir for eventual shipment to the Strawberry Canyon portal.

Arrowhead West Tunnel (AWT) – On August 20, the contractor completed mining on the 19,884-foot AWT as the tunnel boring machine (TBM) holed through at the Devil Canyon portal. In September, the contractor completed disassembly of the TBM and trailing gear, and removal of utilities from the tunnel. Five sections of steel liner pipe were installed in the first 270 feet of tunnel at the Devil Canyon portal. No additional pipe was placed in October. As this pipe is not considered to be an oversized or overweight load, steel pipe transport has not been hampered by the permit issues for RCCP. The contractor continued grouting operations, as necessary, to further minimize 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

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 \$1.139 billion. Total expenditures through September 2008 are \$1.027 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 pipe 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 August 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

10/27/2008
Date



Jeffrey Kightlinger
General Manager

10/31/2008
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/Projected vs. Planned Cash Flow

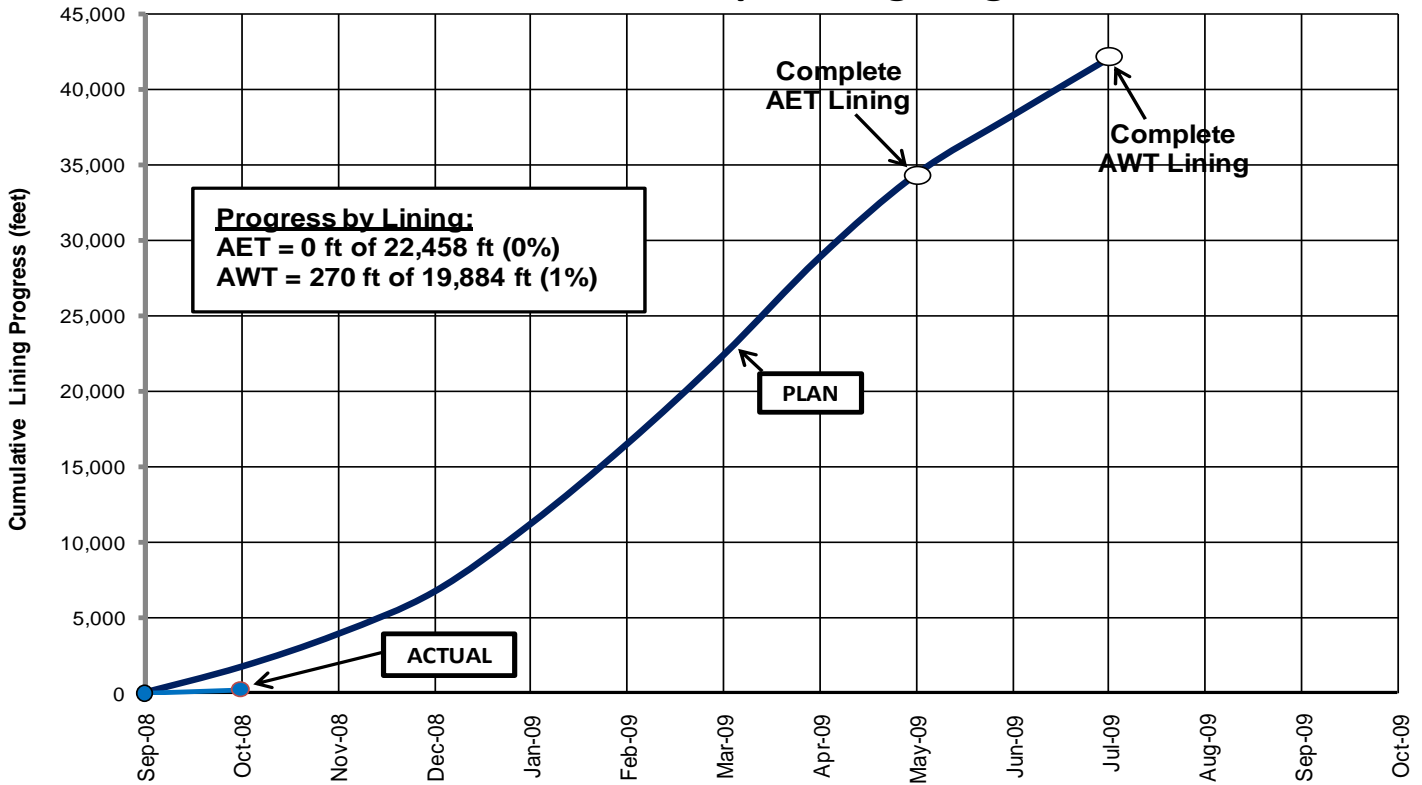
Inland Feeder Program Projected Cost/Expenditures (\$ in Millions)				
	Projected Cost To Complete (Updated Sep. 2008)	Expenditures This Month (Sep. 2008)	Expenditures To Date (Sep. 2008)	% Complete Based on Expenditures (Sep 2008)
<u>Active Construction</u>				
Arrowhead Tunnels Const. Contract	\$ 397.0	\$ 4.5	\$ 303.6	76%
Construction Inspection and Support	\$ 58.0	\$ 0.4	\$ 48.2	83%
Subtotal, Active Construction	\$ 455.0	\$ 4.9	\$ 351.8	77%
<u>Other Components</u>				
Completed Projects	\$ 578.2	\$ 0.0	\$ 573.8	99%
Others (R/W, Env., Prog. Mgmt.)	\$ 105.4	\$ 0.2	\$ 101.7	96%
Subtotal, Other Components	\$ 683.5	\$ 0.2	\$ 675.5	99%
Expended To Date		\$ 5.1	\$ 1,027.4	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 10/15/08				
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	(0.1%)	

NOTE: Contractor invoices paid through September 2008 = \$300.6M
 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 – July 2008 (Previously Reported)	0	\$ 2,714,500	\$ 3,269,293	\$ 5,983,793
August 2008 (3)	0	\$ 123,300	\$ 142,500	\$ 265,800
TOTALS	0	\$ 2,837,800	\$ 3,411,793	\$ 6,249,593 (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 7/26/08 to 8/25/08 (differs from progress in calendar month).

Arrowhead Tunnels Actual vs. Planned Pipe Lining Progress



Arrowhead Tunnels Actual vs. Planned Cash Flow

