MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

PENDING

10-1
June 16, 1998

To: Board of Directors (Budget and Finance Committee--Information)
(Engineering and Operations Committee--Action)

From: General Manager

Submitted by: Gary M. Snyder
Chief Engineer

Subject: Determination of On-Line Date for Lake Mathews Outlet Facility Program

Reference: Appropriation No. 15277

RECOMMENDATION

It is recommended that your Board authorize a change to the on-line date for the Lake Mathews Outlet Facilities Program to accommodate a program completion date of 2004.

EXECUTIVE SUMMARY

The current on-line date for the Lake Mathews Outlet Facility Program is 2010. This date was adopted during the rate refinement process. At that time, staff was directed to complete design of the facilities, but defer construction for approximately six years to minimize rate impacts. Later, staff was asked to re-evaluate the on-line date and report back to the Board. An earlier on-line date minimizes seismic risk, reduces the overall program cost as a result of fewer years of escalation, and allows for a more efficient transition from design to construction. Therefore, staff recommends proceeding with construction immediately following completion of design. This would allow the new outlet facilities to be on-line in 2004 rather than 2010, and reduce the total program cost from $123,300,000 to $94,900,000.

JUSTIFICATION

Specifying a 2004 on-line date would reduce the exposure of the existing tower to seismic risk by approximately six years. In addition, Metropolitan could take advantage of the experience gained by in-house construction staff currently managing the construction of the Eastside Reservoir's Inlet/Outlet Tower, Pressure Tunnel, and Secondary Inlet. Finally, delaying construction to meet an on-line date of 2010, would likely require new design staff unfamiliar with the project to support construction efforts at a loss of efficiency.

ALTERNATIVE(S) TO PROPOSED ACTION

Delay On-line Date to 2010

This alternative would prolong the exposure of the existing outlet tower to seismic risk, would result in escalated costs projected at $28,400,000, and would disrupt continuity of staff participating in the project with the suspension of activity in the years between end of design and start of construction.

ACTIONS AND MILESTONES

- ☐ Complete design in mid-1999, with construction of the new tower to begin in late 1999
- ☐ Complete construction of the new tower in 2003
- ☐ Start modifications to the existing tower in 2003 and complete the modifications in 2004

CEQA COMPLIANCE / ENVIRONMENTAL DOCUMENTATION

The Final Environmental Impact Report (EIR) was certified by your Board in August 1995 anticipating the development of a new outlet tower at Lake Mathews. Changes in the configuration of the outlet tower currently in design will be evaluated in accordance with the California Environmental Quality Act (CEQA) and State CEQA Guidelines prior to your Board's final approval and authorization to construct.

DETAILED REPORT

Lake Mathews was completed in 1940, and is the terminal reservoir for the Colorado River Aqueduct (CRA). The Lake Mathews outlet tower, which provides the only means of withdrawing water from the reservoir, was constructed in 1938. In 1960, additional height was added to the tower to increase its capacity. Since then, the tower has been determined to be incapable of withstanding a major seismic event on nearby faults and needs to be altered or replaced. Additionally, a new outlet tower is required to serve the future Central Pool Augmentation (CPA) pipeline. Both towers will be required to work in concert to withdraw water from various levels of the reservoir.

The existing outlet tower delivers Colorado River water to the Upper and Lower feeders that serve Metropolitan's Diemer and Weymouth filtration plants, as well as numerous member agency service connections. It provides the only means of delivering CRA water to Los Angeles, Orange, and western Riverside counties. In the event of a tower failure, the ability to deliver water could be severely restricted. The loss of the tower would result in complete dependency on the State Water Project for that portion of Metropolitan's distribution system downstream of Lake Mathews until the existing tower could be repaired or replaced.

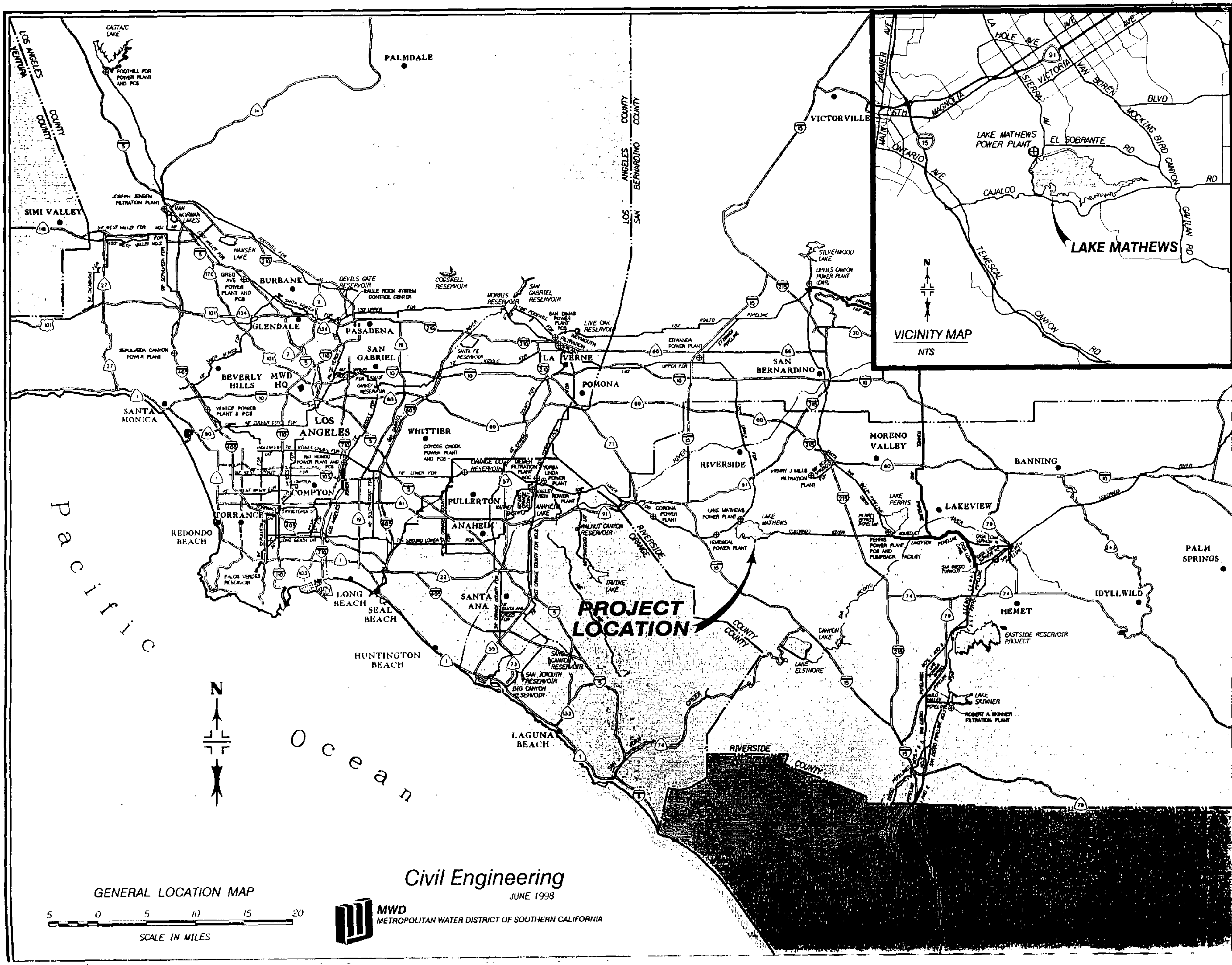
The project consists of reducing the height of the existing tower by 125 feet. The modified tower will be used to withdraw only lower elevation water. A new outlet tower will be constructed to access high elevation water. Water from both towers will be conveyed to a new junction structure before it enters the distribution system.

In September 1996, the on-line dates for several major projects, including the Lake Mathews Outlet Facility Program, were deferred to meet Phase I of the Rate Refinement Process. Subsequently, at its November 1996 meeting, the Board approved staff recommendation to proceed with design, to be completed by early 1999, with an on-line date subject to future Board approval of funding for construction and authority to proceed. It is now recommended that construction proceed immediately after design.

This acceleration of the schedule will require the issuance of approximately $56 million in additional debt by 2004. This additional debt would increase the annual debt service cost by about $4 million by 2004, assuming a 30-year bond at 6 percent interest. As a result, the water rate may need to increase by about $2 per-acre foot by 2004 (well within Metropolitan's rate management objectives), to recover the additional debt service costs.

An on-line date of 2004 would provide substantial additional benefits. Placing the new tower into service earlier would significantly reduce the seismic vulnerability of the existing tower, and the total program estimate would be reduced from $123,300,000 to $94,900,000. Finally, the earlier on-line date would require the commencement of construction immediately after design in 1999, providing an efficient transition from design to construction and allowing Metropolitan to take advantage of the experience gained on Eastside Reservoir's Inlet/Outlet Tower, Pressure Tunnel, and Secondary Inlet construction.

GB/bm:rev16
(LakeMathewsOutletSchedule)
Attachment


VICINITY MAP
NTS
LAKE MATHEWS POWER PLANT
LAKE MATHEWS
EL SOBRANTE
CAJALCO
TEMESCAL
CANYON
RD
MOCKING BIRD CANYON
VAN BUREN
BLVD
VICTORIA
LA SIERRA
MAGNOLIA
ONTARIO
AVE
HAMNER
MAIN
6TH
GAVILAN
PALMDALE
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BANNING
COMPTON
TORRANCE
REDONDO BEACH
FULLERTON
ANAHEIM
LAKEVIEW
PALM SPRINGS
LONG BEACH
SEAL BEACH
SANTA ANA
HEMET
IDYLLWILD
HUNTINGTON BEACH
LAGUNA BEACH
PROJECT LOCATION
LAKE ELSINORE
LOS ANGELES COUNTY
VENTURA COUNTY
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
ORANGE COUNTY
Pacific Ocean
N
Civil Engineering
JUNE 1998
GENERAL LOCATION MAP
5 0 5 10 15 20
SCALE IN MILES
MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA