



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

5/8/2018 Board Meeting

7-2

Subject

Adopt CEQA determination and appropriate \$890,000; and authorize design to replace the wastewater system and upgrade the Disaster Recovery Facility at Lake Mathews (Appropriations Nos. 15495 and 15376)

Executive Summary

This action authorizes final design to replace the on-site wastewater collection system at Lake Mathews, and to connect to a nearby municipal sewer system. This action also authorizes final design to upgrade the structure, fire protection system, and local drainage for the Lake Mathews Disaster Recovery Facility.

Timing and Urgency

The wastewater system at Lake Mathews has been in operation for nearly 80 years and is no longer reliable. Despite receiving regular maintenance, the system is exhibiting signs of failure including plumbing and septic tank backups, clogged leach fields, and slow-draining collection pipes. Staff recommends replacing the on-site wastewater system to reduce the risk of costly unplanned repairs and to maintain system reliability.

The Lake Mathews Disaster Recovery Facility houses electrical switchgear, telecommunication hardware, and Information Technology (IT) servers and associated equipment. In the event of a disaster that disables the IT systems at Metropolitan's Headquarters Building in Los Angeles, the facility at Lake Mathews would be critical for the resumption of business operations. Recent investigations have identified that upgrades are needed to enhance the reliability of the Disaster Recovery Facility. The recommended work includes upgrade of the fire suppression system, seismic strengthening of the building, and local drainage improvements and slope stabilization. Due to the critical nature of this facility, staff recommends proceeding with the upgrades at this time.

These projects have been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and are included in the System Reliability Program. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2017/18.

Details

Background

The on-site wastewater system at Lake Mathews serves restrooms and kitchen facilities at the lake's maintenance buildings, administrative offices, and repair shops. The original system was installed during the reservoir's construction in the 1930s and was expanded significantly in the 1960s. At that time, no municipal sewer system was available in the area.

The on-site wastewater system has three components: community septic tanks and leach fields; collector lines that convey wastewater from multiple facilities to the septic tanks; and sewer laterals that convey wastewater from individual buildings to the collector lines. At each septic tank, solid waste settles to the bottom of several chambers, where it undergoes biological treatment. The solids are periodically removed by pump trucks, while the liquid effluent is dispersed through perforated pipes into subsurface soils at the leach fields. The on-site

wastewater system includes five community septic tanks and approximately 6,000 feet of collector lines and sewer laterals.

The existing system has received regular maintenance but is showing signs of failure due to age. There have been repeated instances of slow-draining sinks and toilets, clogged collector lines, septic tank backups, and clogged leach fields. In order to maintain reliability and reduce the risk of costly unplanned repairs, the existing wastewater system should be replaced. Staff recommends that on-site treatment of the wastewater via septic tanks be discontinued, and that new collector lines be connected to the local sewer system that was installed in the early 2000s. Western Municipal Water District (WMWD) has a nearby sewer main that includes a connection point specifically installed for Metropolitan's future use. This connection can accept wastewater by gravity from the entire on-site system.

The Lake Mathews Disaster Recovery Facility is a 1,600-square-foot masonry building with a flat steel roof that originally served as a storage building. It currently houses IT equipment that provides off-site backup to maintain the reliability of Metropolitan's critical business functions. In 2013, a seismic assessment of the facility identified that the building could be damaged during a major earthquake. In addition, the building is located approximately eight feet from the edge of a 50-foot-high slope. The crest of the slope has eroded over the years, and if not stabilized, may eventually undermine the foundation of the Disaster Recovery Facility. Finally, the existing fire suppression system is undersized for the building's current use, and may not adequately protect the critical equipment in the event of a fire.

In May 2017 and December 2016, Metropolitan's Board authorized preliminary design to replace the wastewater system at Lake Mathews and upgrade the Disaster Recovery Facility. Preliminary design has been completed for both projects, and staff recommends proceeding with final design at this time.

Project No. 1 – Lake Mathews Wastewater System Replacement – Final Design Phase (\$610,000)

The planned work includes: (1) replacement of the existing wastewater collector lines, laterals, and manholes at Lake Mathews; (2) connection of the new lines to existing facilities and to the WMWD sewer main; and (3) abandonment of the existing septic systems.

Final design phase activities will include: (1) potholing and conducting surveys of existing utilities; (2) preparation of drawings and specifications; (3) local agency permitting; (4) value engineering; (5) development of a construction cost estimate; and (6) receipt of bids. All activities except for the utility investigations will be performed by Metropolitan staff. The potholing and utility surveys will be conducted by GeoPentech, Inc., as discussed below.

This action appropriates \$610,000 and authorizes final design to replace the wastewater system at Lake Mathews. Requested funds include \$85,000 for utility investigations by GeoPentech, Inc.; \$314,000 for preparation of the drawings and specifications; \$92,000 for permitting, bidding, and project management; \$36,000 for a third-party value engineering assessment; and \$83,000 for remaining budget.

The anticipated cost of final design is approximately 9.8 percent of the estimated construction cost. Engineering Services' goal for design of projects with construction greater than \$3 million is 9 to 12 percent. The total estimated cost of construction for this project is anticipated to range from \$3.2 million to \$3.6 million. Staff will return to the Board for award of the construction contract.

This project is included within capital Appropriation No. 15495, the Operations Support Facility Improvements Appropriation, which was initiated in fiscal year 2015/16. With the present action, the total funding for Appropriation No. 15495 will increase from \$14,888,000 to \$15,498,000. The total estimated cost to complete the replacement of the Lake Mathews wastewater system, including the amount appropriated to date, current funds requested, and future construction cost, is anticipated to range from \$4 million to \$4.5 million.

Project No. 2 – Disaster Recovery Facility Upgrades – Final Design Phase (\$280,000)

This project will upgrade the structure, fire protection system, and local drainage for the Lake Mathews Disaster Recovery Facility. Planned upgrades include: (1) installation of a new drainage line; (2) slope stabilization;

(3) structural strengthening of roof connections and bracing of interior walls; (4) upgrade of the fire suppression system; and (5) installation of an electronic access system for the local fire agency to gain entry to the facility.

Final design phase activities will include: (1) acquisition of local agency permits; (2) preparation of drawings and specifications; (3) development of a construction cost estimate; and (4) advertisement and receipt of competitive bids. All activities will be performed by Metropolitan staff.

This action appropriates \$280,000 and authorizes final design to upgrade the Disaster Recovery Facility at Lake Mathews. The requested funds include \$168,000 for design and preparation of drawings and specifications; \$88,000 for permitting, bidding, and project management; and \$24,000 for remaining budget.

The anticipated cost of final design is approximately 14 percent of the estimated construction cost. Engineering Services' goal for design of projects with construction less than \$3 million is 9 to 15 percent. The total estimated cost of construction for this project is anticipated to range from \$1.2 million to \$1.4 million. Staff will return to the Board for award of the construction contract.

This project is included within capital Appropriation No. 15376, the Information Technology System Infrastructure Appropriation, which was initiated in fiscal year 2001/02. With the present action, the total funding for Appropriation No. 15376 will increase from \$50,041,000 to \$50,321,000. The total estimated cost to complete the Disaster Recovery Facility upgrades, including the amount appropriated to date, current funds requested, and future construction cost, is anticipated to range from \$1.6 million to \$1.8 million.

Utility Investigations (GeoPentech, Inc.) – No Action Required

GeoPentech, Inc. will conduct utility investigations under an existing board-authorized agreement. GeoPentech was prequalified to provide geotechnical and subsurface investigation services through a competitive process via Request for Qualifications No. 1134. Subsequently, GeoPentech was selected for this project based on its experience with site and utility investigations using ground-penetrating radar and evaluation of geohazards. The planned scope of work includes: (1) review of historical reports; (2) conducting field investigations including the drilling of borings; and (3) development of technical recommendations. The estimated cost for these services is \$85,000.

No amendment is needed to the existing agreement with GeoPentech, Inc. to provide these services. For this agreement, Metropolitan established a Small Business Enterprise (SBE) participation level of 100 percent. GeoPentech, Inc. has agreed to meet this level of participation. The subconsultants for this agreement are Hushman Associates, Inc. and McMillen Jacobs Associates.

Value Engineering Support – No Action Required

The third-party value engineering for replacement of the wastewater system at Lake Mathews will be performed by a specialty firm under an agreement planned to be executed under the General Manager's Administrative Code authority to award contracts of \$250,000 or less. The estimated cost for this support is \$36,000.

Summary

This action appropriates \$890,000 and authorizes final design to replace the wastewater system and upgrade the Disaster Recovery Facility at Lake Mathews.

These projects have been evaluated and recommended by Metropolitan's Capital Investment Plan Evaluation Team, and funds have been included in the fiscal year 2017/18 capital expenditure plan. See **Attachment 1** for the Financial Statements and **Attachment 2** for the Location Map.

Project Milestones

December 2018 – Completion of final design of upgrades to the Disaster Recovery Facility

February 2019 – Completion of final design to replace the on-site wastewater system at Lake Mathews

Policy

Metropolitan Water District Administration Code Section 5108: Appropriations

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

By Minute Item 50664, dated December 13, 2016, the Board authorized preliminary design of upgrades to the Lake Mathews Disaster Recovery Facility.

By Minute Item 50816, dated May 9, 2017, the Board authorized preliminary design to replace the on-site wastewater system at Lake Mathews.

California Environmental Quality Act (CEQA)

Project No. 1 – Lake Mathews Wastewater System Replacement – Final Design Phase

CEQA determination for Option #1:

The proposed action is categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The overall activities involve the funding, design, minor alterations, and reconstruction or replacement of existing facilities with negligible or no expansion of use and no possibility of significantly impacting the physical environment. The proposed action also involves minor alterations in the condition of land and vegetation that do not result in a serious or major disturbance to an environmental resource. Accordingly, the proposed action qualifies under Class 1, Class 2, and Class 4 Categorical Exemptions (Sections 15301, 15302, and 15304 of the State CEQA Guidelines).

The CEQA determination is: Determine that the proposed action is categorically exempt pursuant to Section 15301; Section 15302; and Section 15304 of the State CEQA Guidelines.

CEQA determination for Option #2:

None required

Project No. 2 – Disaster Recovery Facility Upgrades – Final Design Phase

CEQA determination for Option #1:

The project was determined by the Board to be categorically exempt under Classes 1, 2, 4, and 6 (Sections 15301, 15302, 15304, and 15306 of the State CEQA Guidelines) on December 13, 2016. With the current action, there is no substantial change proposed since the original project was first approved in 2016. Hence, the previous environmental documentation in conjunction with the project fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act with regard to the proposed action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the 2016 categorical exemptions (Classes 1, 2, 3, and 4; Sections 15301, 15302, 15303, and 15304 of the State CEQA Guidelines), and that no further environmental analysis or documentation is required.

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that: (1) the proposed action associated with Project No. 1 is categorically exempt; and (2) the proposed action associated with Project No. 2 was previously addressed and no further analysis or documentation is required, and

- a. Appropriate \$890,000;
- b. Authorize final design to replace the on-site wastewater system at Lake Mathews; and
- c. Authorize final design to upgrade the Disaster Recovery Facility at Lake Mathews.

Fiscal Impact: \$890,000 of capital funds under Appropriations Nos. 15495 and 15376

Business Analysis: This option will provide reliable and efficient disposal of wastewater at Lake Mathews in compliance with local codes and environmental regulations; and will enhance the reliability of critical business and IT functions in accordance with Metropolitan's Business Continuity Plan.

Option #2

Do not proceed with the projects at this time.

Fiscal Impact: None

Business Analysis: This option would forego an opportunity to reduce the risk of costly unplanned repairs, provide efficient disposal of wastewater in compliance with local codes, and enhance the reliability of critical business and IT functions.

Staff Recommendation

Option #1



4/17/2018
Gordon Johnson
Manager/Chef Engineer
Engineering Services



4/24/2018
Jeffrey Kightlinger
General Manager

Attachment 1 – Financial Statements

Attachment 2 – Location Map

Ref# es12659344

Financial Statement for Operations Support Facility Improvements Appropriation

A breakdown of Board Action No. 6 for Appropriation No. 15495¹ for the wastewater system at Lake Mathews is as follows:

	Previous Total Appropriated Amount² (Apr. 2018)	Current Board Action No. 6 (May 2018)	New Total Appropriated Amount
Labor			
Studies & Investigations	\$ 538,000	\$ -	\$ 538,000
Final Design	1,054,500	314,000	1,368,500
Owner Costs (Bidding, permitting, & program mgmt.)	1,036,000	72,000	1,108,000
Submittals Review & Record Drawings	111,000	-	111,000
Construction Inspection & Support	240,000	-	240,000
Metropolitan Force Construction	1,733,000	-	1,733,000
Incidental Expenses (Permit Fees)	10,000	20,000	30,000
Professional/Technical Services	1,787,000	-	1,787,000
GeoPentech, Inc.	-	85,000	85,000
Value engineering firm	-	36,000	36,000
Right-of-Way	-	-	-
Equipment Use	-	-	-
Contracts	7,519,618	-	7,519,618
Remaining Budget	858,882 ³	83,000	941,882
Total	\$ 14,888,000	\$ 610,000	\$ 15,498,000

Funding Request

Appropriation Name:	Operations Support Facilities Improvement		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15495	Board Action No.:	6
Requested Amount:	\$ 610,000	Budget Page No.:	245
Total Appropriated Amount:²	\$ 15,498,000	Total Appropriation Estimate:	\$ 35,100,000

¹. The total amount expended to date on this project is approximately \$400,000. The total estimated cost to complete the improvements to the wastewater system at Lake Mathews, including the amount appropriated to date, current funds requested, and future construction cost, is anticipated to range from \$4 million to \$4.5 million.

² The total amount includes the transfer of \$868,000 from Appropriation No. 15477, the Weymouth Improvements Appropriation – FY 2012/13 Through FY 2017/18, into this appropriation, as authorized by the Board in January 2018.

³ Includes reallocation from Remaining Budget of \$300,000 for the addition of two new homes at Iron Mountain Pumping Plant as part of the housing improvements at the Colorado River Aqueduct pumping plants.

Financial Statement for Information Technology System Infrastructure Appropriation

A breakdown of Board Action No. 20 for Appropriation No. 15376¹ for the Disaster Recovery Facility is as follows:

	Previous Total Appropriated Amount (Dec. 2016)	Current Board Action No. 20 (May 2018)	New Total Appropriated Amount
Labor	\$ 17,616,162	² \$ -	\$ 17,616,162
Studies & Investigations	229,500	-	229,500
Final Design	511,600	168,000	679,600
Owner Costs (Bidding, permitting, & program mgmt.)	1,064,900	88,000	1,152,900
Submittals Review & Record Drawings	86,000	-	86,000
Construction Inspection & Support	305,000	-	305,000
Metropolitan Force Construction	1,486,000	-	1,486,000
Material & Supplies	10,667,625	² -	10,667,625
Incidental Expenses	371,493	-	371,493
Professional/Technical Services	6,139,608	-	6,139,608
Equipment Use	43,231	-	43,231
Contracts	8,837,368	-	8,837,368
Remaining Budget	2,682,513	² 24,000	2,706,513
Total	\$ 50,041,000	\$ 280,000	\$ 50,321,000

Funding Request

Appropriation Name:	Information Technology System Infrastructure		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15376	Board Action No.:	20
Requested Amount:	\$ 280,000	Budget Page No.:	234
Total Appropriated Amount:	\$ 50,321,000	Total Appropriation Estimate:	\$ 48,541,000

¹ The total amount expended to date on upgrades to the Disaster Recovery Facility is approximately \$115,000. The total estimated cost to complete the project, including the amount appropriated to date, current funds requested, and future construction cost, is anticipated to range from \$1.6 million to \$1.8 million.

² Includes reallocation of \$905,364 to Remaining Budget from the Emergency Radio Communication System Upgrade Phase 3, which was completed under budget, and reallocation of \$770,000 from Remaining Budget for upgrades to the telephone system throughout Metropolitan offices and field facilities.

Distribution System

