



## ● **Capital Investment Plan Quarterly Report for Period Ending March 2018**

### **Summary**

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This report provides a summary of accomplishments to date on the Capital Investment Plan (CIP) during fiscal year 2017/18. It also provides updates on the status of major capital projects and capital expenditures to date, and information regarding service connections and relocations authorized by the General Manager during the reporting period of January to March 2018.

Fiscal year expenditures through March 2018 totaled \$150.3 million for all capital programs. At the end of the third quarter, 31 construction contracts and 15 procurement contracts were underway with a total value of approximately \$191.8 million. All capital appropriations are within their authorized budgets.

During the third quarter of fiscal year 2017/18, the Board appropriated a total of \$47.8 million with 11 actions. Five construction contracts totaling \$13.4 million were awarded, while four construction contracts were completed. During the quarter, \$24.6 million in construction contract payments were authorized, reflecting construction progress on projects such as the rehabilitation of filters at the Weymouth plant, rehabilitation of basins and filters at the Diemer plant, electrical upgrades at the Jensen plant, and rehabilitation of Palos Verdes Reservoir.

More detailed information regarding accomplishments is included in the following pages.

### **Purpose**

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Administrative Code Requirement Section 2720 (a) (1): General Manager's Quarterly Reports

### **Attachments**

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Not applicable

### **Detailed Report**

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Section 2720 of Metropolitan's Administrative Code requires the General Manager to report quarterly to the Engineering and Operations Committee on the Capital Investment Plan. The report also covers service connections approved by the General Manager pursuant to Sections 4700-4708, with the estimated cost and approximate location of each, and the execution of any relocation agreements involving an amount in excess of \$100,000 under the authority of Section 8122(c).

#### **Service Connections and Relocations**

No new agreements for service connections were approved by the General Manager pursuant to Sections 4700-4708 during the reporting period.

No new relocation agreements involving an amount in excess of \$100,000 were approved under the authority of Section 8122(c).

#### **Capital Investment Plan**

Highlights of progress and major milestones on selected projects are presented below, grouped by CIP program. The programs included in this report are described below:

**Water Quality/Oxidation Retrofit** – Projects to add new facilities to ensure compliance with water quality regulations for treated water, located at Metropolitan's treatment plants and throughout the distribution system.

**Treatment Plant Reliability** – Projects to replace or refurbish facilities and components of Metropolitan's five water treatment plants in order to continue to reliably meet treated water demands.

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**Colorado River Aqueduct (CRA) Reliability** – Projects to replace or refurbish facilities and components of the CRA system in order to reliably convey water to Southern California.

**Distribution System Reliability** – Projects to replace or refurbish existing facilities within Metropolitan’s distribution system, including reservoirs, pressure control structures, hydroelectric power plants, and pipelines, in order to reliably meet water demands.

**Prestressed Concrete Cylinder Pipe (PCCP) Reliability** – Projects to refurbish or upgrade Metropolitan’s PCCP feeders to maintain water deliveries without unplanned shutdowns.

**System Reliability** – Projects to improve or modify facilities located throughout Metropolitan’s service area in order to utilize new processes and/or technologies, and improve facility safety and overall reliability. These include projects related to Metropolitan’s Supervisory Control and Data Acquisition (SCADA) system and other Information Technology projects.

**Supply Reliability/System Flexibility** - Projects to increase the capacity and flexibility of Metropolitan’s water supply and delivery infrastructure to meet service demands.

**Regulatory Compliance** – Projects to provide for prudent use and management of Metropolitan’s assets in compliance with regulations and codes other than water quality.

**Cost Efficiency/Productivity** – Projects to upgrade, replace, or provide new facilities, software applications, or technology, that will provide economic savings that outweigh project costs through enhanced business and operating processes.

**Right of Way and Infrastructure Protection** – Projects to refurbish or upgrade above-ground facilities and right-of way along Metropolitan’s pipelines in order to address access limitations, erosion-related issues, and security needs.

**Regional Recycled Water** – This program includes the design and construction of an Advanced Water Treatment Demonstration Plant, which represents the initial step in development of a potential regional recycled water system for recharge of groundwater basins within Southern California.

**Minor Capital Projects** – Projects to refurbish, replace, or upgrade Metropolitan facilities that cost less than \$250,000.

**Water Quality/Oxidation Retrofit Program**

- **Weymouth Oxidation Retrofit Project (ORP)**

- **Main Ozonation Facilities**

Weymouth represents the final Metropolitan treatment plant to receive ozone as the primary disinfectant.

The main ORP construction was completed in May 2017. Remaining activities include control system integration, start-up and testing, permitting with the State Division of Drinking Water, and preparation of O&M manuals. These remaining activities are 94 percent complete and are scheduled to be completed by September 2018.

A separate construction contract is underway for chemical feed systems needed to support the ozonation process. Construction is 98 percent complete and is scheduled to be completed by June 2018.



**Weymouth Plant  
Ozone Generation Building**

**Treatment Plant Reliability Program**

- **Diemer Filter Building Upgrades**
- **Mills Electrical Upgrades**
- **Diemer Administration Building Seismic Upgrades**

- **Diemer Filter Building Upgrades**

This project replaces the existing filter valves that are deteriorated due to corrosion of the valve bodies and degradation of the embedded seats.

For construction efficiency, the filter valves are being replaced in conjunction with the filter building seismic upgrades.

Construction at the plant’s east module was completed in January 2017.

For the west module, new valves have been delivered and stored at a warehouse near the plant, and procurement of the valve actuators is underway. Final design to install the west valves and all actuators is 95 percent complete and is scheduled to be completed by July 2018, to coincide with the actuator delivery.



**Diemer Plant  
New backwash and filter outlet valves in filter gallery**

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- Mills Electrical Upgrades

This project replaces electrical equipment, provides backup in the event of individual component failures, and upgrades the Mills electrical system to be consistent with current codes and industry practices. The work will be completed in three stages.

Construction of Stage 1 is seven percent complete and is scheduled to be completed by June 2019.

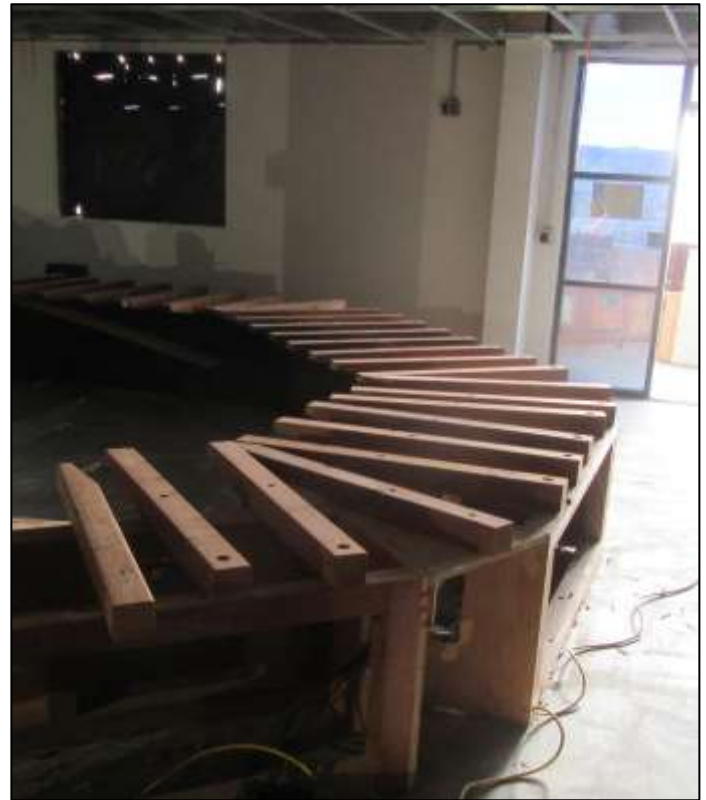


**Mills Electrical Upgrades  
Removal of asphalt for ductbank excavation**

- Diemer Administration Building Seismic Upgrades

This project performs seismic and fire safety upgrades on the Administration Building at the Diemer plant.

Construction is 75 percent complete and is scheduled to be completed by May 2018.



**Diemer Administration Building  
Demolition of control room**

**Colorado River Aqueduct (CRA) Reliability Program**

- **Whitewater Siphons Erosion Protection**
- **6.9 kV Switch House Building Seismic Upgrades**

- **Whitewater Siphons Erosion Protection**  
This project will replace deteriorated concrete slabs and will construct gabion walls and a gabion drop structure to minimize erosion of the riverbed at the Whitewater Siphons on the CRA.  
  
Construction is 80 percent complete and is scheduled to be completed by June 2018.





**Whitewater Siphons Erosion Protection  
Spraying of shotcrete on the drop structure**

- **6.9 kV Switch House Building Seismic Upgrades**  
This project performs structural upgrades to the 6.9 kV switch houses at each CRA pumping plant.  
  
Construction is 70 percent complete and is scheduled to be completed by September 2018.



**Switch House Building Seismic Upgrades  
Buttress wall forms**

<p><b>Distribution System Reliability Program</b></p> <ul style="list-style-type: none"> <li>• Palos Verdes Reservoir Rehabilitation</li> <li>• Allen-McColloch Pipeline OC-76 Turnout Relocation</li> </ul>	
<ul style="list-style-type: none"> <li>• Palos Verdes Reservoir Rehabilitation</li> </ul> <p>This project replaces the floating cover and installs a new geomembrane liner and subdrain system. The project also modifies the reservoir’s inlet/outlet tower and spillway.</p> <p>Construction is 68 percent complete and is scheduled to be completed by late 2018.</p>	 <p style="text-align: center;"><b>Palos Verdes Reservoir Excavation for electrical ductbank</b></p>
<ul style="list-style-type: none"> <li>• Allen-McColloch Pipeline OC-76 Turnout Relocation</li> </ul> <p>This project relocates the turnout for the service connection to a different location on the Allen-McColloch Pipeline, eliminating over one mile of pipeline.</p> <p>Construction is 80 percent complete and is scheduled to be completed by May 2018.</p>	 <p style="text-align: center;"><b>Allen-McColloch Pipeline OC-76 Relocation New valve and fittings at turnout connection</b></p>

**Prestressed Concrete Cylinder Pipe (PCCP) Reliability Program**

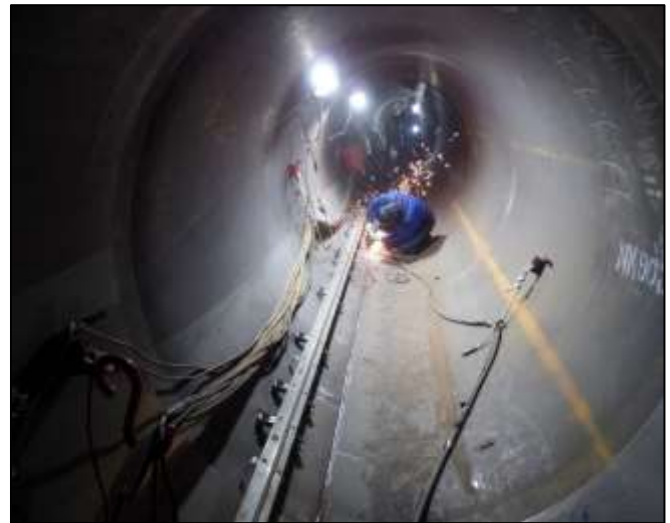
- **Second Lower Feeder PCCP Rehabilitation**

- **Second Lower Feeder PCCP Rehabilitation**

The PCCP Reliability Program is a comprehensive long-term program that enhances the reliability of Metropolitan’s distribution system and reduces the risk of unplanned outages and costly emergency repairs of PCCP lines.

The first line to be addressed is the Second Lower Feeder. Construction of the initial contract to line Reach 1 is 50 percent complete and is scheduled to be completed by August 2018.

Final design of the second, third, and fourth reaches is 60 percent complete and is scheduled to be completed by October 2018.



**Second Lower Feeder  
Welding of longitudinal joint in steel liner pipe**

**System Reliability Program**

- **Headquarters Building Improvements**
- **Wadsworth Pumping Plant Control and Electrical Protection Upgrades**

• **Headquarters Building Improvements**

This project performs structural upgrades at Metropolitan’s Headquarters Building to increase the building’s level of seismic performance, and to reduce the risk of significant damage and resulting business disruption due to a major earthquake. This project also includes needed building improvements to enhance security and fire safety, and to modernize building features.

Final design is 85 percent complete and is scheduled to be completed by June 2018.



**Metropolitan’s Headquarters Building at Union Station**

• **Wadsworth Pumping Plant Control and Electrical Protection Upgrades**

This project replaces the control and communication systems, protective relays, vibration monitoring system, and portions of the power controls at Hiram Wadsworth Pumping Plant. Under the initial phase of the project, upgrades for a single pump/turbine unit were completed and tested.

Modification of the remaining eight pump/turbine units is 13 percent complete and is scheduled to be completed by February 2020.



**Wadsworth Pumping Plant Pump/turbine control panels**



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### Capital Program for Projects Costing Less Than \$250,000 (Minor Cap Program)

The Minor Capital Projects Program is authorized biennially to enable staff to expedite small capital projects. Since many of these projects require rapid response to address unanticipated failures, safety or regulatory compliance concerns, or to take advantage of shutdown opportunities, the Minor Cap Program authorizes the General Manager to execute projects that meet defined criteria without seeking additional Board approval.

Fourteen projects were authorized under the Minor Cap Program during the third quarter of fiscal year 2017/18 (January through March):

- Casa Loma Canal Panel Repairs – This project will repair damaged concrete panels and drainage issues.
- Wheeler Gate Stormwater Improvements – At the Wheeler Avenue entrance to the Weymouth plant, this project will connect a catch basin to a storm drain to improve stormwater drainage.
- Asphalt Rehabilitation at Weymouth Finished Water Reservoir – This project will replace the deteriorated asphalt paving around the finished water reservoir with new pavement.
- San Diego Canal Panel Repairs – This project will repair concrete panels at four locations on the San Diego Canal.
- OC-13A and WR-34 Flowmeter Replacement – This project will replace revenue meters at the OC-13A and WR34 service connections.
- Mills Electrical Buildings 3 & 4 Air Conditioning Improvements – This project will install new air conditioning systems in two electrical buildings at the Mills plant.
- Bacon Island Levee Rehabilitation – This project will rehabilitate the levee along Bacon Island in the central Delta to improve levee stability and flood protection.
- Sedalia Property Grading & Drainage Improvements – This project will improve grading and drainage for a recently acquired property along Sedalia Avenue, adjacent to the Weymouth plant.
- Diemer Infrared Inspection Windows – This project will install inspection windows within electrical panel doors to allow infrared thermography inspection of high voltage equipment.
- Skinner ORP Switchgear Battery Replacement – This project will replace four battery systems in the ORP Switchgear Building and one battery system in the Ozone Generator Building.
- SCADA Network Intrusion Detection System – This project will install an intrusion detection system to monitor activity within Metropolitan’s control system network.
- Eagle Rock Security Fencing and Lighting – This project will install perimeter fencing and solar motion detection lighting, and will improve exterior lighting at the Eagle Rock Operations Control Center.
- Lake Mathews Fencing Upgrades – This project will replace perimeter fencing and three double swing drive-through gates for security protection at Lake Mathews.
- Jensen Ozone Generator Refurbishment – This project will replace the dielectrics for three ozone generators at the Jensen plant.

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The following table provides the overall status of the Minor Cap appropriations for fiscal years 2012/13 -2013/14 through 2016/17 – 2017/18.

Fiscal Year	2012/13-2013/14	2014/15-2015/16	2016/17-2017/18
Amount Appropriated	\$10M	\$8M	\$10M
Number of Projects Approved	45	36	47
Number of Projects Completed Through Mar. 2018	44	15	3
Percent of Work Complete	99%	88%	43%
Number of Projects Over 3 years	1	0	0
Expenditures Through Mar. 2018	\$8.4M	\$5.9M	\$3.2M

Through March 2018, 62 of the 128 projects have been completed, and one project has exceeded three years in duration. The schedule has been extended to enable the final installation of pressure transmitters on the Allen-McColloch Pipeline to be coordinated with a planned shutdown. This project is scheduled to be completed by June 2018.