



- Capital Investment Plan quarterly report for period ending December 2016

## Summary

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This report provides a summary of accomplishments to date on the Capital Investment Plan (CIP) during fiscal year 2016/17, updates on the status of major capital projects, and the capital expenditures to date. Also included in this report is information regarding service connections and relocations authorized by the General Manager during the reporting period of October to December 2016.

During the second quarter of fiscal year 2016/17, the Board appropriated a total of \$56.4 million with 14 actions. Five construction contracts totaling \$20.3 million were awarded, while eight construction contracts were completed. Fiscal year expenditures through December 2016 totaled \$101.9 million for all capital programs. An additional \$174.2 million was expended on the Delta island property acquisition. At the end of the second quarter, 29 construction contracts and four procurement contracts were underway with a total value of approximately \$346.5 million. All capital appropriations are within their authorized budgets.

For the quarter ending December 2016, \$27.3 million in construction contract payments were authorized, reflecting construction progress on projects such as the Weymouth Oxidation Retrofit Project (ORP), containment at the Chemical Unloading Facility, rehabilitation of filters at the Weymouth plant, rehabilitation of basins and filters at the Diemer plant, electrical upgrades at the Jensen plant, canal improvements on the Colorado River Aqueduct, rehabilitation of Palos Verdes Reservoir, and lining replacement within the Etiwanda Pipeline.

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

## Purpose

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Administrative Code Requirement Section 2720(a): 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 CIP. 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 Connection 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.

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**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.

**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.

**Potential Regional Recycled Water Program** – Projects under this program are evaluating the feasibility of recycling wastewater for recharge of groundwater basins within Southern California, for development of a potential regional recycled water system.

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.

Construction is approximately 99 percent complete and is scheduled to be completed by early 2017. Completion activities for the ORP were initiated in December 2016, including control system integration, start-up and testing, permitting with the State Division of Drinking Water, and preparation of O&M manuals.

A separate construction contract is underway for chemical feed systems needed to support the ozonation process. Construction is 41 percent complete and is scheduled to be completed by early 2018.



**Weymouth Plant  
Ozone contactors**

Treatment Plant Reliability Program

- **Diemer East Filter Building Upgrades**
- **Diemer East Basin Rehabilitation**
- **Weymouth Filter Rehabilitation**

- **Diemer East Filter Building Upgrades**

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

Fabrication of the new valves has been completed, and the valves have been delivered and stored at a warehouse near the plant.

For construction efficiency, the filter valves are being replaced in conjunction with filter building seismic upgrades. Construction at the plant’s east module is 99 percent complete and is scheduled to be completed by January 2017.

Replacement of the west filter valves will also be performed in conjunction with seismic upgrades to the west filter buildings. Final design is 75 percent complete and is scheduled to be completed by June 2017.



**Diemer Plant  
East Filter Building**

- **Diemer East Basin Rehabilitation**

This project rehabilitates aging mechanical equipment, electrical facilities, and structural components inside the four east flocculation/sedimentation basins.

Construction is 52 percent complete and is scheduled to be completed by July 2017.



**Diemer Plant  
Flocculation basins**

- **Weymouth Filter Rehabilitation**

This project replaces the internal components of the Weymouth plant's 48 filters, including the underdrains, filter media, launder troughs, and surface wash system. The filter rehabilitation needs to be completed prior to start-up of the plant's new ozonation system.

Construction is 70 percent complete and is scheduled to be completed by late 2017.



**Weymouth Plant  
Concrete gullet wall repairs**



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

- **CRA Sand Trap Rehabilitation**
- **CRA Canal Improvements**

- **CRA Sand Trap Rehabilitation**

This project replaces deteriorated sand trap equipment located upstream of the Iron Mountain, Eagle Mountain, and Hinds Pumping Plants. The sand traps are needed to remove water-borne sand to protect internal surfaces of the main CRA pumps from abrasion.

Construction is 58 percent complete and is scheduled to be completed by August 2017.



**CRA Sand Trap  
Structural steel support for electrical conductors  
near Hinds Pumping Plant**

- **CRA Canal Improvements**

This project replaces deteriorated concrete panels and installs parapet walls along portions of the open canal to increase freeboard during periods of high flow.

Construction was completed in October 2016.



**CRA Canal  
Concrete curbing at transition structure**

**Distribution System Reliability Program**

- **Palos Verdes Reservoir Rehabilitation**
- **Etiwanda Pipeline Lining Repairs**

- **Palos Verdes Reservoir Rehabilitation**

This project replaces the floating cover and installs a new geomembrane liner and subdrain system. The project also modifies the inlet/outlet tower and spillway.

Construction is 20 percent complete and is scheduled to be completed by November 2017.



**Palos Verdes Reservoir  
Demolition of reservoir overflow structure**

- **Etiwanda Pipeline Lining Repairs**

This project replaces the Etiwanda Pipeline’s damaged interior mortar lining with a polyurethane lining. The first phase of repairs, which was completed in 2014, lined approximately 2,800 feet of the pipeline. The remaining five miles of the pipeline will be relined in two phases.

Construction of Stage 2 repairs is 75 percent complete and is scheduled to be completed by March 2017. Final design of the Stage 3 repairs is 98 percent complete and is scheduled to be completed by January 2017.



**Etiwanda Pipeline  
Application of polyurethane coating**

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. The remaining 28 miles of PCCP in the feeder will be lined under multiple construction contracts. Final design of the valve and pipe procurement is 53 percent complete and is scheduled to be completed by early 2017. Final design of the first pipeline rehabilitation package is 28 percent complete and is scheduled to be completed by August 2017.

The programmatic EIR was released for public review in September 2016. The 45-day public review period ended on October 17, 2016. Certification by Metropolitan’s Board is scheduled for January 2017.



**Second Lower Feeder  
Steel liner installation in 2015**

System Reliability Program

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

- **Headquarters Building Improvements**

This project performs structural upgrades to Metropolitan’s Headquarters Building at Union Station 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 improvements to enhance security and fire safety, improve space and operational efficiency, enhance sustainability, and modernize building features.


Preliminary design of the building improvements is 60 percent complete and is scheduled to be completed by May 2017.



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



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<ul style="list-style-type: none"><li>• <b>Wadsworth Pumping Plant Control and Protection Upgrades</b></li></ul> <p>This project replaces the control and communications systems, protection 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 will be completed and tested.</p> <p>The initial phase of the project is approximately 80 percent complete and is scheduled to be completed by March 2017.</p>	 <p><b>Wadsworth Pumping Plant Pump/turbine controls</b></p>
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<p>Regulatory Compliance Program</p> <ul style="list-style-type: none"><li>• <b>Chemical Unloading Facility Chlorine Containment</b></li></ul>	
<ul style="list-style-type: none"><li>• <b>Chemical Unloading Facility Chlorine Containment</b></li></ul> <p>The Chemical Unloading Facility is used to transfer liquid chlorine from vendor-supplied rail cars to Metropolitan-owned cargo trailers.</p> <p>Construction of the containment system is 94 percent complete and is scheduled to be completed by April 2017.</p>	

Cost Efficiency/Productivity Program

- **Solar Generating Facility at the Jensen Plant**

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This project constructs a 1-megawatt solar generating facility on the grounds of the Jensen plant in Granada Hills. The solar facility will provide a hedge against power cost increases and price volatility, and will enhance Metropolitan’s long-term power use efficiency.

Construction is 15 percent complete and is scheduled to be completed by August 2017.



**Rendering of Solar Power Plant**

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

The Minor Cap 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.

Four projects were authorized under the Minor Cap Appropriation for fiscal years 2016/17-2017/18 during the second quarter of fiscal year 2016/17 (October through December):

- Skinner - Belt Filter Press Rehabilitation – This project will rehabilitate the existing belt filter presses with new bearings, seals, rollers, and belts to ensure reliable operation and system reliability.
- Skinner Plant 1 – Filter Ultrasonic Level Meter Replacement – This project will replace a total of 55 ultrasonic level meters.
- Headquarters Loading Dock Overhead Gate Replacement – This project will replace Metropolitans Headquarters Building existing 38 foot wide loading dock overhead gate.
- Jensen Wash Water Reclamation Plant - Fall Protection Improvement – This project will install platforms with grating and handrails along the wash water reclamation basins.

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The following table provides the overall status of the Minor Cap appropriations for fiscal years 2011/12 through 2016/17 – 2017/18.

Fiscal Year	2011/12	2012/13-2013/14	2014/15-2015/16	2016/17-2017/18
Amount Appropriated	\$3	\$10M	\$8M	\$10M
Number of Projects Approved	15	45	37	5
Number of Projects Completed Through Dec. 2016	15	39	12	0
Percent of Work Complete	100%	89%	58%	9%
Number of Projects Over 3 years	0	0	0	0
Expenditures Through Dec. 2016	\$2.6M	\$7.86M	\$4.21M	\$115,000

Through December 2016, 66 of the 102 projects have been completed, and no projects have exceeded three years in duration.