



- Capital Investment Plan (CIP) Quarterly Report for period ending June 2015

Summary

This report provides a summary of fiscal year accomplishments, capital expenditures to date, and status updates on major capital projects. Also included in this report is information regarding service connections and relocations authorized by the General Manager during the reporting period.

During the fourth quarter of fiscal year 2014/15, for the period of April to June 2015, 11 Board actions appropriated a total of \$55 million and six construction contracts were awarded. Three construction contracts were completed. Fiscal year expenditures through June 2015 totaled \$211 million for all capital programs, compared to a planned expenditure of \$245 million. The fiscal year variance is primarily attributed to the long permitting timeline for refurbishing Palos Verdes Reservoir, and lower than planned progress payments on several construction contracts. At the end of the fourth quarter, 23 construction contracts and six procurement contracts were underway with a total value of approximately \$254 million. All capital appropriations are within their authorized budgets.

For the quarter ending June 2015, \$18 million in construction contract payments were disbursed, reflecting construction progress on projects such as the Weymouth Oxidation Retrofit Project (ORP), chlorine containment at the Chemical Unloading Facility, Diemer electrical upgrades, and communication network infrastructure replacements. Additionally, a final payment of \$3.5 million to Southern California Edison for the new incoming electrical service to the Weymouth plant was authorized and paid in June.

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

Purpose

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

Attachments

Not applicable

Detailed Report

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).

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

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 for Metropolitan's treatment plants and throughout the distribution system.

Treatment Plant Reliability – Projects to replace or refurbish facilities and components at 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 on the CRA system in order to reliably convey water to Southern California.

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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 Expansion - 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.

Water Quality/Oxidation Retrofit

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

- Main Ozonation Facilities

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

Construction of the Stage 1 ozone facilities at Weymouth commenced in July 2012. In December 2013, Metropolitan’s Board authorized an increase in change order authority to construct Stage 2 of the Weymouth ORP, which will increase the ozone treatment capacity up to the full plant capacity of 520 million gallons per day (mgd). Construction of both stages is approximately 79 percent complete.

Construction is scheduled to be completed by late 2016.

Award of a contract to construct chemical feed systems needed for the ozone system to commence operation is planned for August 2015.



**Weymouth Plant
Ozone contactors**

Treatment Plant Reliability

- **Diemer Electrical Upgrades – Stage 2**
- **Diemer Filter Valve Refurbishment**
- **Jensen Filter Surface Wash Upgrades**
- **Weymouth Filter Rehabilitation**

- **Diemer Electrical Upgrades – Stage 2**

The electrical upgrades at the Diemer plant are being completed in two stages. The first stage included the new 66 kV Southern California Edison incoming electrical service and substation, new switchgear, standby generators, and duct banks. This work is complete.

The second stage is replacing aged electrical components and reconfiguring power distribution to critical plant processes.

Construction of the second stage is 64 percent complete and is scheduled to be completed by April 2016.



**Diemer Plant
Cable tray installation**

- **Diemer Filter Valve Refurbishment**

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

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 will be replaced in conjunction with the filter building seismic upgrades project. A construction contract for the east filter valves and building was awarded in February 2015. Construction is nine percent complete and is scheduled to be completed by November 2016.

Replacement of the west filter valves will also be performed in conjunction with seismic upgrades to the west filter buildings. Final design is underway and construction is scheduled to commence in fiscal year 2016/17.



**Diemer Plant
Filter gallery**

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- **Jensen Filter Surface Wash Upgrades**

This project is replacing the existing surface wash system with a new fixed-nozzle system. During filter backwashing, the top surface of a filter bed is sprayed with water to break up solids that build up during the filtration process, which helps to clean the filter media.

As part of this project, the plant service water pumps that provide pressurized water to various applications throughout the plant, including the filter surface wash system, were also replaced.

Construction was completed in June 2015.



**Jensen Plant
Service water pumps**

- **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 filters need to be rehabilitated to maintain reliable operation and enable the new ozone system to commence operation on schedule.

The Board awarded the construction contract in April 2015 and contractor has mobilized on-site.



**Weymouth Plant
Existing filter**

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Colorado River Aqueduct (CRA) Reliability

- **CRA Sand Trap Equipment Upgrades**
- **CRA Pumping Plant Wastewater System**

- **CRA Sand Trap Equipment Upgrades**

This project will replace 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. Final design is complete and award of a construction contract is planned for October 2015.



**CRA Sand Trap
Traveling bridge over settling basins**

- **CRA Pumping Plant Wastewater Systems**

This project will replace the wastewater collection systems and community septic tanks at all five CRA pumping plants.

Construction of the Hinds and Eagle Mountain Pumping Plant systems is 10 percent complete and is scheduled to be completed by February 2016.

Final design of the Iron Mountain and Gene Pumping Plant systems is 60 percent complete and is scheduled to be completed by December 2015.

Preliminary design of the Intake Pumping Plant system is 50 percent complete and is scheduled to be completed by October 2015.



**Eagle Mountain Pumping Plant
Septic tank**

Distribution System Reliability

- **Palos Verdes Reservoir Rehabilitation**
- **Etiwanda Pipeline Lining Repairs**
- **Orange County Feeder Relining**

- **Palos Verdes Reservoir Rehabilitation**

This project will replace the floating cover and install a new geomembrane liner and subdrain system. The project will also remove a portion of the inlet/outlet tower and modify the spillway.

Final design is complete and the California Division of Safety of Dams is currently performing final review of the plans and specifications. The Mitigated Negative Declaration was adopted by the Board in July 2015. Award of a construction contract is planned for October 2015.



Palos Verdes Reservoir

- **Etiwanda Pipeline Lining Repairs**

This project will replace the Etiwanda Pipeline's damaged interior mortar lining with a polyurethane lining. The first phase of repairs lined approximately 2,800 feet of the pipeline; subsequent phases will repair five miles of the line.

The first phase was completed in November 2014. The Board certified the Final Environmental Impact Report (EIR) and authorized final design of the remaining repairs in June 2015.



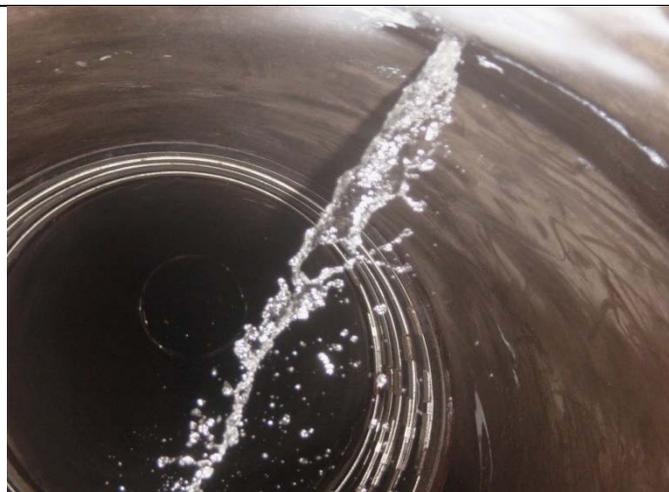
**Etiwanda Pipeline
Application of polyurethane coating**

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- Orange County Feeder Relining

This project replaces the deteriorated internal lining along an 11-mile portion of the Orange County Feeder.

The work is planned to be completed in three phases. Final design of the first two phases is 99 percent complete and is scheduled to be completed by August 2015. Final design of the Phase 3 work is three percent complete and is scheduled to be completed by May 2016.



**Orange County Feeder
Pinhole leak**

Prestressed Concrete Cylinder Pipe (PCCP) Reliability

- **Second Lower Feeder Urgent PCCP Repairs**
- **Second Lower Feeder PCCP Rehabilitation**

This comprehensive long-term program was established to enhance the reliability of Metropolitan’s distribution system and reduce the risk of unplanned outages and costly emergency repairs of PCCP lines.

- **Second Lower Feeder Urgent PCCP Repairs**

The first stage of this project lined 1,400 feet of existing PCCP with a steel liner at two sites within the city of Long Beach. All work was completed in 2014.

The second stage lined 4,900 feet of existing PCCP in the cities of Carson and Long Beach. Construction was completed in April 2015.

- **Second Lower Feeder PCCP Rehabilitation**

The remaining 28 miles of PCCP in the Second Lower Feeder will be lined under multiple construction contracts. Preliminary design has been completed. The first phase of final design, which will address approximately one half of the remaining PCCP segments, is underway and is scheduled to be completed in 2016. A programmatic EIR for the rehabilitation work is scheduled to be released for public review and comment in late 2015.



**Second Lower Feeder
Installation of steel liner section**

System Reliability

- **Emergency Radio Communications Upgrade**
- **Wadsworth Pumping Plant Control and Protection Upgrades**

- **Emergency Radio Communications Upgrade**

This project will improve emergency and day-to-day communication, enhance workplace safety, and improve site security throughout Metropolitan’s treatment plants and distribution system.

A construction contract was awarded in May 2015 to install and test the radio equipment, which is being furnished by Metropolitan.



**Emergency Radio Communications Upgrade
Chuckwalla site**

- **Wadsworth Pumping Plant Control and Protection Upgrades**

This project will replace 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.

The initial phase of the project is approximately 19 percent complete and is scheduled to be completed by October 2016.



**Wadsworth Pumping Plant
Pump/turbine controls**

Supply Reliability/System Expansion

- **Lakeview Pipeline/Inland Feeder Intertie**

- Lakeview Pipeline/Inland Feeder Intertie

This project will provide the capability to convey water stored in Diamond Valley Lake to the Mills plant, which currently relies exclusively on deliveries from the East Branch of the State Water Project, by constructing an intertie from the Inland Feeder to the Lakeview Pipeline. The work includes construction of the intertie at the PC-1 pressure control structure, installation of a surge protection system at the Perris Pumpback Facility, and installation of approximately one mile of steel liner within a portion of the Lakeview Pipeline known as the Bernasconi Tunnel. Construction of the intertie and surge protection system was completed in October 2014.

Installation of the steel liner within the Bernasconi Tunnel was completed in April 2015, two months ahead of schedule.



**Lakeview Pipeline/Inland Feeder Intertie
Backfill at Bernasconi Tunnel portal**

Regulatory Compliance

- **Chemical Unloading Facility Chlorine Containment**

- Chemical Unloading Facility Chlorine Containment

The Chemical Unloading Facility is used to transfer liquid chlorine from vendor-supplied rail cars to Metropolitan-owned cargo trailers.

Construction of the containment system is 29 percent complete and is scheduled to be completed by February 2017.



**Chemical Unloading Facility
Building construction**

Cost/Efficiency/Productivity

- **Yorba Linda Power Plant Upgrades**

- Yorba Linda Power Plant Upgrades

This project is replacing the existing Pelton wheel hydraulic turbine at the Diemer plant with a Francis turbine capable of operating under post-ORP hydraulic conditions.

The turbine/generator has been manufactured and delivered to the site. Construction is 88 percent complete and is scheduled to be completed by October 2015.



**Yorba Linda Power Plant
Installation of cooling water piping**

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

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The Minor Cap Program is authorized each fiscal year to enable staff to expedite small capital projects that arise during the year. 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 during the fiscal year without seeking additional Board approval.

Eleven projects were authorized under the 2014/15-2015/16 Minor Cap appropriation through the fourth quarter of fiscal year 2014/15. The two projects authorized during the fourth quarter (April through June) are listed below:

- Automatic Meter Reading (AMR) Cellular Modem Upgrades – This project will replace the existing outdated cellular modems with new cellular modems using up-to-date technology (4G LTE) as required by the service provider.
- AMR Server and Systems Upgrade – This project will replace the existing AMR servers that have exceeded their service life with up-to-date servers, and upgrade the Microsoft operating system to versions compatible with the latest SCADA software for continued vendor support.

The following table provides the overall status of the 2009/10 through 2014/15 –2015/16 Minor Cap appropriations.

FY Budget	2009/10	2010/11	2011/12	2012/13-2013/14 (2 Fiscal Yrs.)	2014/15- 2015/16
Amount Appropriated	\$4.15M	\$3.5M	\$3M	\$10M	\$5M
Number of Projects Approved	23	17	15	47	11
Number of Projects Completed Through Mar. 2015	23	17	11	27	2
Percent of Work Complete	100%	100%	88%	72%	27%
Number of Projects Over 3 years	0	0	0	0	0
Expenditures Through Mar. 2015	\$3.65M	\$2.90M	\$2.58M	\$6.58M	\$531.8K

Through June 2015, 80 of the 113 projects have been completed, and there are no projects that have exceeded three years in duration.