THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

PROPOSED CAPITAL INVESTMENT PLAN APPENDIX

For Fiscal Years 2016/17 and 2017/18

February 2016

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CAPITAL INVESTMENT PLAN

INTRODUCTION

The primary focus of the Capital Investment Plan (CIP) Appendix is to provide information on all capital programs and projects that are scheduled to begin or will be underway during FY 2016/17 and FY 2017/18. Scope, accomplishments, objectives and financial projections are provided for each capital program and appropriation. Every project with work planned for the two budget years is listed under the individual appropriation descriptions starting on page 21.

Capital expenditures for FY 2016/17 and FY 2017/18 are estimated to be $246 million and $240 million, respectively, and are planned to be funded by a combination of current operating revenues (R&R and PAYGO) and debt.

The total FY 2016/17 and FY 2017/18 capital budget of $486 million includes all anticipated costs for labor including administrative overhead, construction and professional services contract costs, right of way, materials, operating equipment, and incidental expenses. It does not include a contingency amount.

CIP Structure

The CIP is structured into three levels. In descending order, they are:

1. PROGRAM
2. APPROPRIATION
3. PROJECT

The highest level of the CIP structure is Program. Programs are comprised of one or more appropriations. There are 12 capital programs described in Table 1. Under each capital program, there is one to several appropriations, each with multiple projects.

Table 1 – Capital Programs

Program	Definition
System Flexibility/Supply Reliability	Projects under this program will enhance the flexibility and/or increase the capacity of Metropolitan's water supply and delivery infrastructure to meet current and projected service demands.
Water Quality/Oxidation Retrofit	Projects under this program will add or upgrade facilities to ensure compliance with water quality regulations for treated water at Metropolitan's treatment plants and throughout the distribution system.
Colorado River Aqueduct (CRA) Reliability	Projects under this program will replace or refurbish facilities and components on the CRA system in order to reliably convey water from the Colorado River to Southern California.

Program	Definition
Treatment Plant Reliability: • Diemer Plant • Jensen Plant • Mills Plant • Skinner Plant • Weymouth Plant	Projects under this program will replace or refurbish facilities and components at Metropolitan's five water treatment plants in order to continue to reliably meet treated water demands.
Distribution System Reliability	Projects under this program will 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.
Right of Way & Infrastructure Protection	Projects under this program will refurbish or upgrade above-ground facilities and rights-of-way along Metropolitan's pipelines in order to address access limitations, erosion-related issues, and security needs.
Prestressed Concrete Cylinder Pipe (PCCP) Reliability	Projects under this program will refurbish or upgrade Metropolitan's PCCP feeders to maintain reliable water deliveries without unplanned shutdowns.
Regulatory Compliance	Projects under this program will provide for prudent use and management of Metropolitan's assets in compliance with regulations and codes, other than water quality.
Minor Capital Projects	Projects under this program will execute refurbishments, replacements, or upgrades at Metropolitan facilities that cost less than $250,000.
Cost Efficiency & Productivity	Projects under this program will 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.
System Reliability	Projects under this program will improve or modify facilities throughout Metropolitan's service area in order to utilize new processes and/or technologies, and to 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.
Regional Recycled Water Supply Program	Projects under this program are planned to demonstrate the feasibility of recycling wastewater for recharge of groundwater basins within Southern California, for development of a potential regional recycled water supply system.

CAPITAL INVESTMENT PLAN DEVELOPMENT

Background

The projects that comprise the proposed CIP have been identified from many Metropolitan studies of projected water needs as well as ongoing monitoring and inspections, condition assessments, and focused vulnerability studies. Staff continues to study operational demands on aging facilities and has made recommendations for capital projects that will maintain infrastructure reliability and ensure compliance with all applicable water quality regulations, and building, fire, and safety codes. Staff has also studied business and operations processes and proposed projects that will improve efficiency and provide future cost savings. Additionally, several projects have been identified and prioritized to address uncertain and/or reduced allocations from the State Water Project.

CIP Development Process

The CIP is structured to reflect Metropolitan's strategic goals of providing a reliable supply of high-quality water at the lowest cost possible. As part of the CIP development process, all new and existing projects are evaluated against an objective set of criteria to ensure existing and future capital investments are aligned with Metropolitan's priorities for water supply reliability, water quality, and public safety.

A team comprised of staff from Water System Operations, Water Resource Management, Real Property Development and Management, Engineering Services, Finance, and Business Technology evaluate and rate all projects. Those projects that directly support reliability, quality, and safety are budgeted for inclusion in Metropolitan's proposed CIP.

This rigorous evaluation process has resulted in a thorough review and assessment of all proposed capital projects by staff and managers prior to submittal to the evaluation team. Staff continues to conduct comprehensive field investigations that identify critical replacement and refurbishment projects and a variety of necessary facility upgrades related to infrastructure reliability as well as regulatory compliance. Project schedules are evaluated regularly in order to plan for necessary capital investments in infrastructure reliability and to accommodate the urgency of each project. Additionally, current demand projections that account for ongoing conservation, planned increased local supply production, and the economy, have been evaluated to ensure that demand and growth-related projects are appropriately scheduled.

An iterative process is employed to first score and rank every new and existing project, and then solicit feedback from project sponsors, customers, and resource providers in order to establish schedules and cash flow requirements. Those schedules, along with analyses of facility shutdown requirements, environmental permitting timeframes, and contracting process requirements, also enable resource managers to identify staffing needs. The final schedule and implementation plan for FY 2016/17 and FY 2017/18 are reflected in the budget and objectives for each of the individual programs described later in this document.

Project Evaluation

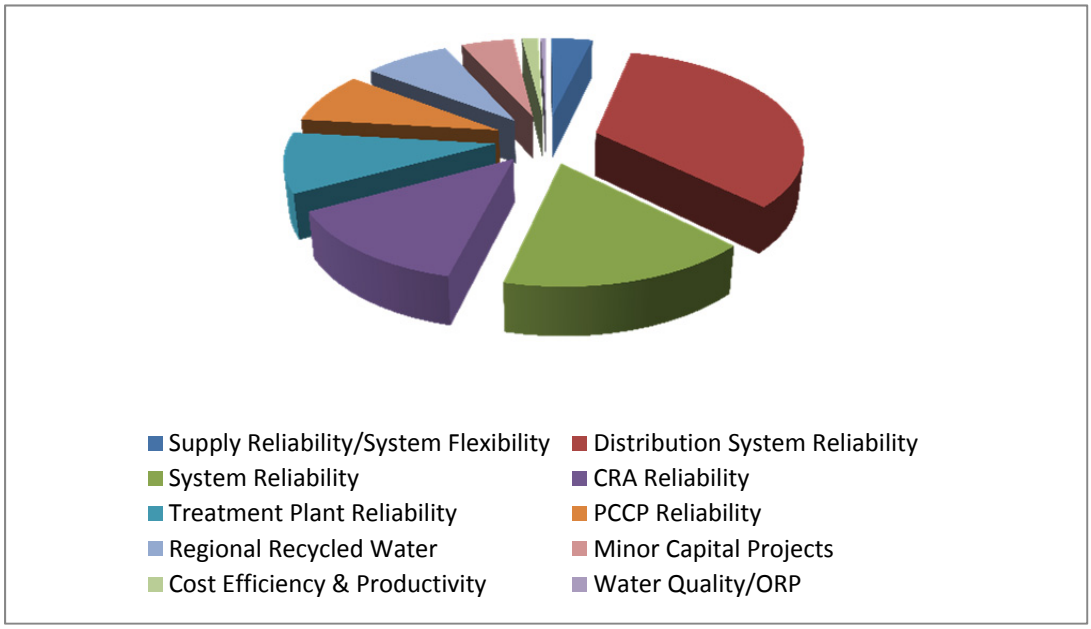
Before a project is included in the CIP, it is evaluated and rated against an established set of criteria. Staff is required to submit proposals for all projects that include scope, justification, alternatives, impacts of re-scheduling work for a later time, impact on operations and maintenance costs, and an estimate of total project cost. For existing projects, staff must also provide justification for continuing the project, explain any changes since inception of the project, and describe critical phases for the upcoming years. Guidelines for project proposals start on page 10. The evaluation criteria cover four characteristics or objectives for capital projects: Project Justification, Directive, Service Disruption, and Cost/Productivity/Sustainability. In addition, a multiplier is applied to a project rating to factor in a risk assessment. See page 13 for a description of each criterion and the risk multiplier.

New Projects for FY 2016/17 and FY 2017/18

This year, a total of 34 new projects, excluding Minor Capital projects, have been recommended by the CIP Evaluation Team to either proceed as proposed, or be staged to perform only a portion of the work in the biennial budget period, and have been incorporated into the capital programs.

Figure 1 shows a breakdown of the new projects identified by capital program. The total estimate of expenditures for all new projects is $341 million.

Figure 1 – New Capital Projects by Program



Total New Project Estimates – $341 million (non-escalated)

MAJOR OBJECTIVES FOR FISCAL YEAR FY 2016/17 and FY 2017/18

Below, grouped by CIP Program, are descriptions of capital project major activities anticipated to be underway or completed over the next two fiscal years.

Water Quality/Oxidation Retrofit

Weymouth Plant Oxidation Retrofit

Complete construction, testing, and start-up of new ozonation and chemical feed facilities and commence ozone system operation.

Treatment Plant Reliability

Weymouth Plant

Complete rehabilitation of all internal components of the filters, replace the filter media, and start replacement of filter valves.

Diemer Plant

Complete rehabilitation of four flocculation/sedimentation basins and upgrade of the plant's 24 filter buildings, including valve replacement and seismic strengthening on the east side of the plant. Commence construction of seismic upgrades and control room improvements at the Administration Building.

Jensen Plant

Complete replacement of the filter valves in Module No. 1; complete the refurbishment of four LADWP lagoons; and continue upgrade of the plant electrical systems.

Distribution System Reliability

Complete the replacement of the liner and floating cover at the Palos Verdes Reservoir. Commence construction of Stage 2 relining of the Etiwanda Pipeline, the relining of 9 miles of the Orange County Feeder, and relocation of a portion of the Middle Feeder. Complete final design of the Sepulveda Canyon Control Facility improvements (Bypass Line). Commence construction of the Orange County Region Operations and Maintenance Facility.

Right of Way and Infrastructure Protection

Commence construction of pipeline protection and access improvements in the Orange County Region. Certify the Programmatic EIR for the Western San Bernardino County Region. Complete design of pipeline protection and access improvements in the Los Angeles, Riverside and San Diego County Regions.

Prestressed Concrete Cylinder Pipe Reliability

Commence pipe procurement, valve procurement, and construction to rehabilitate the remaining PCCP portions of the Second Lower Feeder. Continue annual electromagnetic inspections of all PCCP pipelines.

Colorado River Aqueduct Reliability

Complete construction of the sand trap equipment upgrades and the canal improvements to replace deteriorated concrete panels and install parapet walls to increase canal freeboard. Commence construction of the pumping plant overhead crane improvements and discharge line isolation couplings. Commence construction of 6.9 kV Switch House seismic retrofit. Complete design of the pumping plant sump system rehabilitation and main pump power cable replacement.

System Reliability

LaVerne Shop Facilities

Commence construction of remaining utility extensions and final building improvements. Commence procurement of replacement fabrication and machine shop equipment.

Information Technology

Complete the installation of communication infrastructure and equipment to replace outdated PBX-based equipment with unified Internet Protocol based technology. Complete the initial phase of upgrades to replace the control and electrical system protection facilities at the Hiram Wadsworth Pumping Plant. Complete design and begin replacement of input/output components and operating systems for approximately 300 Remote Terminal Units that monitor and control Metropolitan's treatment plants and distribution system.

Headquarters Building

Complete final design and commence construction of seismic upgrades to Metropolitan's Headquarters Building in Los Angeles.

Supply Reliability/System Flexibility

Complete final design of upgrades to the Greg Avenue Pump Station.

Regulatory Compliance

Chlorine Containment

Complete construction of the Chemical Unloading Facility chlorine containment system.

Cost Efficiency and Productivity

Continue design and installation of a new, enhanced corporate project controls and reporting system that will replace the outdated Project Management Information System. Complete design and begin construction of a 1-megawatt solar power facility at the Jensen plant.

Regional Recycled Water Supply

Complete design and begin construction of a demonstration-scale recycled water treatment plant for a Regional Recycled Water Supply Program.

Financial Projections

The CIP budget for FY 2016/17 and FY 2017/18 is estimated to be $246 million and $240 million, respectively, and is planned to be funded by a combination of current operating revenues (R&R and PAYGO) and debt. All of the projects in the CIP are reviewed as part of the biennial budgeting process. Considerations for timing of nearby projects and facility shutdowns, urgency, aging infrastructure, updated service demand projections, and regulatory requirements are taken into account. Estimated capital expenditures are updated on a regular basis as new projects are added, other projects are completed, construction cost estimates are refined or contracts awarded. From time to time projects that have been undertaken are delayed, redesigned or deferred for various reasons and no assurance can be given that a project in the CIP will be completed in accordance with its original schedule.

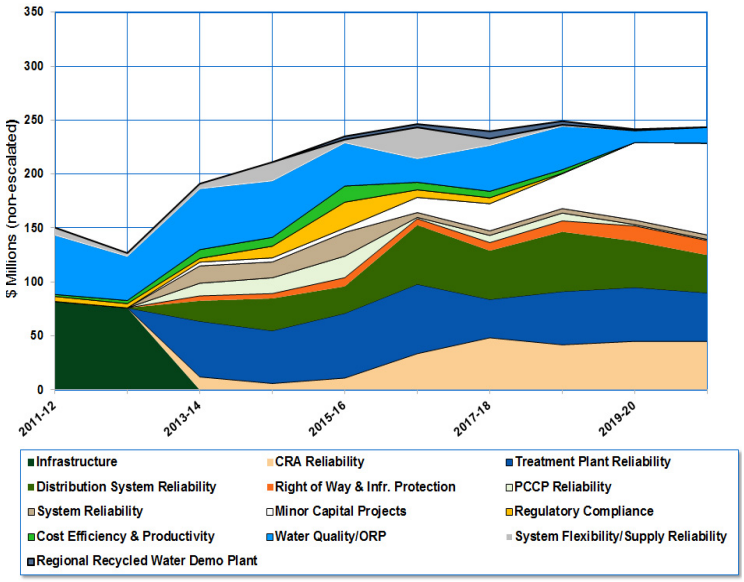
Funds required for the CIP for FY 2016/17 and FY 2017/18 have been estimated based on anticipated project progress and estimated costs for the new biennium budget period. Planned capital expenditures for FY 2016/17 are approximately $22 million less than what was budgeted for FY 2015/16. This decrease in planned expenditures reflects a normal readjustment of project budgets throughout the previous and current fiscal years as a result of favorable bids on construction contracts and schedule changes to optimize use of resources as well as facility shutdown planning. Actual expenditures in FY 2015/16 are projected to be about $33 million less than budgeted. Therefore, planned expenditures in FY 2016/17 of $246 million reflect an increase from actual expenditures in FY 2015/16 of approximately $11 million.

This increase reflects initiation and ongoing construction on several projects where design and permitting activities have been completed. Examples include liner repairs and cover replacement at the Palos Verdes Reservoir, refurbishment of the settling basins and replacement of the filter valves at the Diemer plant, rehabilitation of the filters at the Weymouth plants, rehabilitation of the sand traps at three of the CRA pumping plants, and canal improvements on the CRA. One additional project to design and construct a 1 mgd recycled water demonstration treatment plant is also planned to move into construction during FY 2016/17.

Figure 2 depicts the capital expenditure profile, including actual and projected cash flow, for the 10-year period from FY 2011/12 through FY 2020/21.

Figure 2 – FY 2016/17 – 2017/18 Biennium CIP by Program

10-year Window 2011/12 through 2020/21



HOW TO USE THIS DOCUMENT

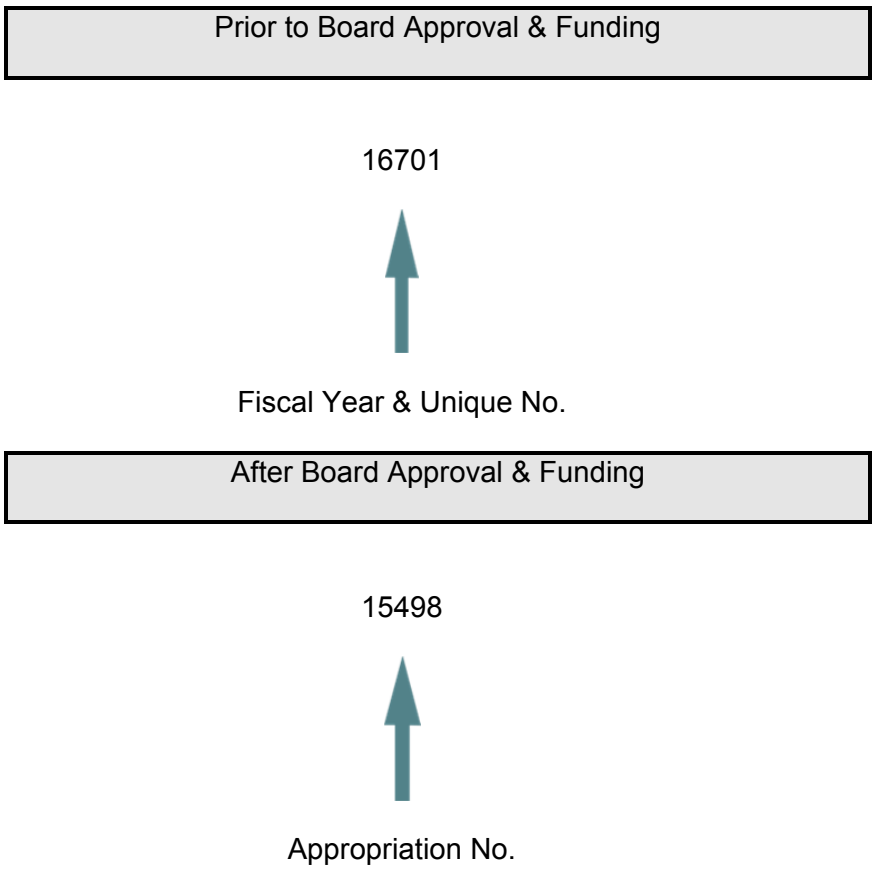
The core of this section is the Individual Appropriation Summary, which provides information for each capital project that is scheduled to begin or will be underway during FY 2016/17. The Individual Appropriation Summary is ordered by Appropriation title, starting on page 21. For assistance in locating a specific appropriation, refer to page 18.

Explanation of Capital Appropriation Numbers

Appropriation numbers are comprised of a five-digit number. The five-digit number uniquely identifies an appropriation.

If an appropriation has not yet received board approval, the first three numeric digits represent the fiscal year the appropriation was identified (e.g., "167" is FY 2016/17), the last two numeric digits uniquely identify the new appropriation placeholder number. If by board action, the authority to perform work and funding has been established, the five-digit numbers in the placeholder number change to the appropriation number. Figure 3 shows examples of the placeholder and appropriation numbers.

Figure 3 – Appropriation Number Naming Convention



Explanation of Individual Appropriation Summary

Each project planned to be underway during the FY 2016/17-2017/18 biennium is included in the Individual Appropriation Summary. The information provided reflects appropriation and project details current as of the time of publication and is subject to change.

Key Information

For each appropriation, key information is highlighted at the top of the Individual Appropriation Summary page and includes total appropriation estimate, appropriated amount, FY 2016/17 and FY 2017/18 biennial estimate, total projected cost through June 30, 2016, estimated percent complete and estimated completion date. Table 2 provides an explanation of each item.

Table 2 – Key Appropriation Information

Item	Description
Total Appropriation Estimate	The total estimate of cost from inception to completion of budgeted projects in an appropriation. It includes a contingency amount and actual expenditures if projects in the appropriation are complete or underway. The total appropriation estimate may have: (a) no funding authorization from the Board; (b) partial funding from the Board; or (c) complete funding from the Board.
Appropriated Amount	Amount of expenditures the General Manager is authorized by the Board to spend on projects in an appropriation. The amounts shown reflect actual appropriated amounts as of December 31, 2015.
Biennial Estimate	Estimate of expenditures from July 2016 through June 2018. It does not include a contingency amount.
Total Projected through June 30, 2016	Actual expenditures to date and estimate of expenditures through June 2016.
Estimated Percent Complete	Estimated percent of work to be completed through June 2016.
Estimated Completion Date	Fiscal year in which all of the budgeted projects in an appropriation will be completed according to the current schedule.

Guidelines for Project Proposals

Project Proposal

Sponsors are required to submit proposals for all projects to be considered for inclusion into the CIP for FY 2016/17 and FY 2017/18. The projects are evaluated, rated and prioritized based on the contents of the proposals. The following guidelines are provided to the sponsors.

Table 3 – Project Proposal Guidelines

Section	Guideline
Appropriation and Project No. (if existing) and Project Title	If a proposed project has been previously authorized by the Board, provide the Appropriation and Project numbers along with the Project Title. If not previously authorized, provide a project title.
Sponsoring Group	Indicate the Group sponsoring the project, as follows: 1) Office of General Manager 2) Water System Operations 3) Water Resource Management 4) Engineering Services 5) Business Technology 6) Real Property Development and Management 7) Office of Chief Financial Officer 8) External Affairs 9) General Counsel Department 10) General Auditor Department 11) Ethics Office
Total Project Estimate	Show the total estimate of cost from inception to completion of a project, including administrative overhead and contingency, as applicable.
GM Business Plan	Indicate which GM Business Plan Strategic Initiative or Core Goal the proposed project best supports.
Current Project Phase	Indicate the phase (Study, Preliminary Design, etc.) as of the date proposal submitted.
% Complete Now	Phase percent complete as of the date proposal submitted.
Project Description	Describe the project scope of work.
Changes to Existing Project	For an existing project, describe any changes to the project scope, budget, or schedule over the past two years.
Justification	Describe the nature of the issue to be addressed by the project. What is the problem? Consider issues such as: Operational flexibility Water supply/facility expansion Aging/deteriorated infrastructure Process failure/improvement Maintenance capability Seismic vulnerability Obsolescence (vendor support, parts, technology, etc.,) Security

Section	Guideline
	Regulatory Compliance (water quality, environmental, health and safety, etc.) Cost savings Revenue generation Environmental benefits Energy savings Health & Safety What is the function of the facility/component being addressed by the proposed project? Why is it important? Include an explanation of how the project addresses any of the above issues and provide documentation, when applicable, to substantiate the need for the project.
Directive	**Regulatory/Legal Settlement:** Indicate if this is related to a written citation or directive, verbal/written directive, or in-house identification (includes environmental mitigation mandated by a MND or EIR). **Special Initiative/Directive:** Indicate if the project is specifically identified in one of the core or strategic initiatives; identified via Area Study, System Overview Study, etc.; and/or what phase(s) of the project have been authorized by the Board such as study, preliminary design, final design, or construction by contract.
Service Disruption	Describe how Metropolitan's day-to-day operations could be impacted if the project is not approved. Consider business as well as water system operations, including maintenance activities.
Cost Efficiency and Productivity	Describe potential cost, water, and/or energy savings, revenue generation, productivity gains, etc., that justify the project. Include a pay-back period.
Alternatives	Provide a brief description of any potential project scope alternatives, including any opportunities to "stage" the work. Include if it is possible to only perform a portion of a project to meet foreseeable customer needs. Consider the possibility of new technology, changing demands, as well as environmental impacts and economies of scale. Describe any reasonable projects, processes, or other initiatives available as alternatives to the project. Discuss both positive and negative aspects of each alternative. If possible, explain what other similar companies are doing about this or similar issue.
Background Information	Provide any other supplemental information (e.g. detailed history of a problem, supporting technical information, shutdown constraints, etc.) that will help in evaluating the project. This can also be attached to the proposal.
Schedule	Indicate the proposed beginning and end dates for all appropriate phases.

Section	Guideline
Detailed Project Estimate	Include an itemized list of all costs for the project, as follows: 1) Direct Labor with additives at the indicated rate 2) Equipment and Materials 3) Incidental Expenses 4) Professional/Technical Services (e.g., consultants) 5) Right-of-Way and Land Purchases (e.g., easements, fee title, escrow fees) 6) Operating Equipment Use and Rental 7) Contract Payments (e.g., construction contracts) 8) Administrative Overhead at the indicated rate 9) Contingency All new project proposals and existing projects must include this estimate.
Post-Implementation O&M Impacts, Costs and Benefits	To the extent available/known, provide a description of the impacts, costs, and/or benefits this capital project is anticipated to have on Metropolitan's current and future O&M expenses and services upon completion (e.g. labor, maintenance, and equipment costs; enhanced reliability; improved water quality, etc. For example, "Ozone generators will substantially increase electrical consumption by approximately $1 million annually and the number of new pieces of equipment will require periodic maintenance per the manufacturer's recommendations beginning in FY 2015/16. PDR and future studies will provide additional detail on the overall lifecycle costs"). This is required for projects greater than $2 million and whose planned implementation date is within the next five fiscal years.
Approvals	1) Person submitting and/or sponsoring the proposed project 2) Team manager of the person submitting and/or sponsoring the project 3) Unit manager of the person submitting and/or sponsoring the project 4) Section manager of the person sponsoring the project (e.g., all new and existing WSO-sponsored projects) 5) Group manager sponsoring the project (e.g., all new WSO-sponsored projects) 6) Project manager signs in concurrence. (e.g., Engineering and IT organizations)

Evaluation Criteria

The evaluation criteria cover four characteristics or objectives for capital projects: Project Justification, Directive, Service Disruption, and Cost/Productivity/Sustainability. In addition, a multiplier is applied to a project rating to factor in a risk assessment. Table 4 provides a description of the criteria and multiplier.

Table 4 – Evaluation Criteria and Multiplier

Criteria	**Description**
Justification	Assessment of the overall importance of a project. Criterion looks at whether or not a project supports the following: ❑ Supply reliability ❑ Infrastructure reliability ❑ Regulatory compliance ❑ GM Business Plan ❑ Other goals (e.g., cost savings, revenue generation, and energy savings)
Directive	Assessment of whether or not a project is specifically identified in one of the core or strategic initiatives, if any permitting agency such as the California State Department of Safety of Dams has issued a directive or citation to take corrective actions, and/or the current Board authorized scope of work: ❑ Regulatory/Legal Settlement ❑ Special Initiative/Directive ❑ Board authorization
Service Disruption	Assessment of not doing a project. Criterion evaluates the following: ❑ Impact to Metropolitan's business operations ❑ Impact to water system operations (e.g., system delivery and/or reliability, cascading impact on system due to failure, etc.)
Cost/Productivity/Sustainability	Assessment of whether or not a project improves cost efficiency/ productivity, specifically: ❑ Cost/benefit analysis ❑ Increased productivity ❑ Sustainability ❑ Customer service
Multiplier	**Description**
Risk Assessment	Assessment of the probability of: ❑ Facility/component/process failure ❑ Workplace health and safety ❑ Water quality or environmental impact ❑ Missed opportunity (e.g., available resources, shutdown, revenue generation, cost savings, supply) ❑ Not meeting service demands

Capital Investment Plan Summary

Narratives

For each appropriation, narratives include the scope and purpose of the program, accomplishments through FY 2015/16, and objectives for FY 2016/17 and FY 2017/18. In these narratives, major activities, milestones and actions are highlighted. Following each narrative is a description for each project planned to be underway during the two-year budget period.

Capital Investment Plan Summary – Three-Year Outlook

Capital Program and Appropriations	Appn. No.	FY 2016/17	FY 2017/18	FY 2018/19
Cost Efficiency & Productivity Program		$7,002.5	$5,499.0	$474.7
DVL Recreation Facilities	15334	372.3	-	-
Power Reliability and Energy Conservation	15391	4,773.4	10.1	-
Termination of Center for Water Education Ground Lease	15449	21.3	-	-
Business Operations Improvement	15484	1,395.3	2,892.5	344.3
Project Controls and Reporting System	15490	440.3	2,596.3	130.4
Colorado River Aqueduct Reliability Program		$33,603.6	$48,298.3	$41,810.6
Cabazon Radial Gate Facility Improvements	15320	91.9	-	424.9
White Water Siphon Protection	15341	58.1	4,940.8	4,440.7
CRA - Conveyance Reliability	15373	7,905.6	4,192.5	2,430.3
CRA - Pumping Plant Reliability	15374	75.0	1,538.3	154.0
CRA - Electrical/Power Systems Reliability	15384	3,249.5	5,639.5	3,399.6
CRA - Reliability for FY2006/07 through FY2011/12	15438	14,585.6	13,738.8	9,041.5
CRA Main Pump Reliability	15481	1,919.4	11,030.0	9,735.0
CRA - Reliability for FY2012/13 through FY2017/18	15483	5,718.4	7,218.3	12,184.6
Distribution System Reliability Program		$54,784.7	$45,195.4	$55,372.60
Conveyance and Distribution System - Rehabilitation	15377	672.0	2,950.2	17,383.4
Reservoir Cover and Replacement	15417	21,302.0	8,250.8	195.8
Dam Rehabilitation & Safety Improvements	15419	101.5	999.0	-

Capital Program and Appropriations	Appn. No.	FY 2016/17	FY 2017/18	FY 2018/19
Conveyance and Distribution System - Rehabilitation for FY2006/07 through FY2011/12	15441	18,266.3	10,264.7	6,121.9
Hydroelectric Power Plant Improvements	15458	589.8	2,531.5	2,377.1
Conveyance and Distribution System - Rehabilitation for FY2012/13 through FY2017/18	15480	13,853.1	19,699.1	28,849.8
Pipeline Rehabilitation and Replacement	15482	-	500.0	444.6
Minor Capital Projects Program		$4,512.7	$4,210.2	$4,159.5
Capital Program for Projects Costing Less Than $250,000 for FY2012/13 through FY2013/14	15476	1,451.1	-	-
Capital Program for Projects Costing Less Than $250,000 for FY2014/15 through FY2015/16	15489	1,915.2	1,915.2	1,892.1
Capital Program for Projects Costing Less Than $250,000 for FY2016/17 through FY2017/18	16810	1,146.4	2,295.0	2,267.4
System Reliability Program		$21,886.6	$42,559.4	$40,287.8
Infrastructure Reliability Information System	14502	1,740.9	1,032.1	383.9
All Facilities - Security Systems Improvement	15295	378.5	380.5	-
Information Technology System - Infrastructure	15376	2,733.8	-	-
Information Technology System - Security	15378	679.9	720.1	-
LaVerne Shop Facilities Upgrade	15395	2,159.7	4,329.3	1,635.9
Water Operations Control	15467	8,626.4	15,271.7	15,232.0
Union Station Headquarters Improvements	15473	934.2	14,148.4	20,807.4
IT Infrastructure Reliability	15487	1,185.3	3,402.2	322.1
Operations Support Facilities Improvement	15495	3,447.9	3,275.2	1,906.5
Prestressed Concrete Cylinder Pipe Rehabilitation		$14,055.10	$25,210.43	$32,251.20
Assess the Condition of Metropolitan's Prestressed Concrete Cylinder Pipe	15297	239.4	59.6	-
PCCP Rehabilitation and Replacement	15471	1,617.3	2,353.7	1,397.6
Sepulveda Feeder PCCP Rehab	15496	5,000.0	1,000.0	3,488.9
Second Lower Feeder PCCP Rehab	16701	7,198.4	21,797.1	27,364.7

Capital Program and Appropriations	Appn. No.	FY 2016/17	FY 2017/18	FY 2018/19
Regional Recycled Water Supply Program		$3,077.2	$6,817.7	$3,337.2
Demonstration-Scale Recycled Water Treatment Plant	15493	3,077.2	6,817.7	3,337.2
Regulatory Compliance Program		$6,989.3	$5,959.6	$3,262.0
Chlorine Containment and Handling Facilities	15346	6,615.3	267.0	-
CRA - Discharge Containment	15385	374.0	5,692.6	3,262.0
Right of Way & Infrastructure Protection Program		$5,832.0	$7,398.0	$10,021.9
Right of Way & Infrastructure Protection	15474	5,832.0	7,398.0	10,021.9
System Flexibility/Supply Reliability Program		$1,264.28	$6,719.91	$7,327.50
Water Delivery System Improvements	15488	-	5,350.8	6,542.5
Verbena Property Acquisition	15492	1,264.3	1,369.1	785.0
Treatment Plant Reliability Program		$64,384.9	$35,593.2	$49,391.9
Weymouth Water Treatment Plant Improvements	15369	1,751.9	3,148.8	3,705.8
Jensen Water Treatment Plant Improvements	15371	1,977.9	-	426.0
Diemer Water Treatment Plant Improvements	15380	18,207.9	6,403.2	14,052.1
Mills Water Treatment Plant Improvements	15381	-	452.7	104.8
Diemer Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15436	9,887.7	7,178.4	8,085.8
Weymouth Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15440	-	660.9	1,678.6
Jensen Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15442	12,066.4	9,204.3	11,659.3
Mills Water Treatment Plant Improvements for FY2006/07 through FY2011/12	15452	869.6	5.6	-
Weymouth Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15477	17,404.5	2,620.9	4,476.1
Diemer Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15478	-	598.9	1,230.2
Mills Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15479	377.8	695.8	1,539.9

Capital Program and Appropriations	Appn. No.	FY 2016/17	FY 2017/18	FY 2018/19
Jensen Water Treatment Plant Improvements for FY2012/13 through FY2017/18	15486	1,841.0	4,623.7	2,433.3
Water Quality/Oxidation Retrofit Program		$28,974.43	$6,235.97	$1,319.20
Skinner Water Treatment Plant Oxidation Retrofit	15388	786.8	69.8	-
Diemer Water Treatment Plant Oxidation Retrofit	15389	61.8	51.0	50.3
Weymouth Water Treatment Plant Oxidation Retrofit	15392	23,119.8	5,303.4	1,182.1
Enhanced Bromate Control	15472	5,006.1	811.8	86.8

Index – Alphabetically by Appropriation Title

All Facilities - Security Systems Improvement 15295

Total Appropriation Estimate:	$19,600,000	Total Projected Through June 30, 2016:	$18,200,000
Appropriated Amount:	$19,600,000	Estimated Percent Complete:	93%
Biennial Estimate:	$759,000	Estimated Completion Date:	2018

Scope

This appropriation was established to mitigate security threats district-wide and provide security improvements based upon a comprehensive threat assessment matrix developed by staff that identifies potential risks of physical, chemical and biological threats, as well as necessary modifications and improvements at all facilities. Major components of this appropriation consist of physical security improvements, facility screening, and water quality monitoring enhancements.

Purpose

To mitigate security threats district-wide and improve the security of Metropolitan personnel and property.

Accomplishments Through FY 2015/16

Through FY 2015/16, twelve projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Physical Security Improvements At All Facilities	13,743,159	2018	Continue deployment

Assess the Condition of Metropolitan's Prestressed Concrete Pipe 15297

Total Appropriation Estimate:	$7,870,000	Total Projected Through June 30, 2016:	$ 7,500,000
Appropriated Amount:	$7,870,000	Estimated Percent Complete:	95%
Biennial Estimate:	$300,000	Estimated Completion Date:	2018

Scope

This appropriation was established to perform pre-stressed concrete cylinder-pipe (PCCP) inspection on Metropolitan's 163 miles of PCCP line, perform soil studies and geotechnical investigations and to preform structural risk analysis.

Purpose

To identify areas of potential PCCP failures which could result in major property damage, personal injury, and disruption to essential services.

Accomplishments Through FY 2015/16

PCCP inspections, soil studies and geotechnical investigations authorized by this appropriation have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Structural Risk Analysis of PCCP	418,301	2018	Continue Structural Analysis

Business Operations Improvement 15484

Total Appropriation Estimate:	$9,600,000	Total Projected Through June 30, 2016:	$ 4,900,000
Appropriated Amount:	$5,929,000	Estimated Percent Complete:	51%
Biennial Estimate:	$4,287,800	Estimated Completion Date:	2019

Scope

This appropriation was established to assess and implement projects ensuring customer service, efficiency/productivity, risk management and reliability of Metropolitan's business applications.

Purpose

To ensure reliability, efficiency and effectiveness of Metropolitan's business applications.

Accomplishments Through FY 2015/16

Oracle Upgrade – Completed deployment

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Budget System Replacement	1,607,997	2019	Begin design
Enterprise Content Management - Phase I	1,944,881	2019	Begin preliminary design
PeopleSoft ELM Upgrade	1,232,995	2019	Begin design

Cabazon Radial Gate Facility Improvements 15320

Total Appropriation Estimate:	$5,000,000	Total Projected Through June 30, 2016:	$550,000
Appropriated Amount:	$456,000	Estimated Percent Complete:	11%
Biennial Estimate:	$91,900	Estimated Completion Date:	2022

Scope

This appropriation was established to convert the Cabazon Radial Gates Facility from an "active" spillway, which requires an operator to activate the gates, to a "passive" spillway which does not require an operator, by replacing both radial gates with a weir structure. Work includes: design, environmental documentation, purchase of materials and construction by contract.

Purpose

To divert flow in the event of an emergency shutdown of the Colorado River Aqueduct into the San Gorgonio Wash, and ultimately into the Whitewater River.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Cabazon Radial Gate Facilities Improvement	4,954,538	2021	Begin design

Capital Program for Projects Costing Less Than $250,000 for FY2012/13 through FY2013/14 — 15476

Total Appropriation Estimate:	$10,000,000	Total Projected Through June 30, 2016:	$7,900,000
Appropriated Amount:	$10,000,000	Estimated Percent Complete:	79%
Biennial Estimate:	$1,451,100	Estimated Completion Date:	2017

Scope

This appropriation was established to implement capital projects costing less than $250,000 on the distribution system, conveyance system, and treatment plants during FY 2012/2013 - 2013/14. In addition to the scheduled projects, the need invariably arises for additional unscheduled capital projects where there is no viable alternative but to perform the work. The common driver for most of the projects in this appropriation is infrastructure reliability.

Purpose

To increase operational reliability and efficiency, and decrease maintenance costs

Accomplishments Through FY 2015/16

Through FY 2015/16, twenty-nine projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Minor Cap FY 2012/13	2,173,764	2017	Continue design and construction of remaining projects.

Capital Program for Projects Costing Less Than $250,000 for FY2014/15 through FY2015/16 — 15489

Total Appropriation Estimate:	$8,000,000	Total Projected Through June 30, 2016:	$ 2,000,000
Appropriated Amount:	$5,000,000	Estimated Percent Complete:	25%
Biennial Estimate:	$3,830,400	Estimated Completion Date:	2019

Scope

This appropriation was established to implement capital projects costing less than $250,000 on the distribution system, conveyance system, and treatment plants during FY 2014/15 – 2015/16. In addition to the scheduled projects, the need invariably arises for additional unscheduled capital projects where there is no viable alternative but to perform the work. The common driver for most of the projects in this appropriation is infrastructure reliability.

Purpose

To increase operational reliability and efficiency, and decrease maintenance costs.

Accomplishments Through FY 2015/16

Through FY 2015/16, two projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Minor Cap FY 2014/16	6,572,648	2019	Continue design and construction of remaining projects.

Capital Program for Projects Costing Less Than $250,000 for FY2016/17 through FY2017/18 — 16810

Total Appropriation Estimate:	$9,100,000	Total Projected Through June 30, 2016:	$ 0
Appropriated Amount:	$ 0	Estimated Percent Complete:	0%
Biennial Estimate:	$ 3,441,400	Estimated Completion Date:	2021

Scope

This appropriation was established to implement capital projects costing less than $250,000 on the distribution system, conveyance system, and treatment plants during FY 2016/17 – 2017/18. In addition to the scheduled projects, the need invariably arises for additional unscheduled capital projects where there is no viable alternative but to perform the work. The common driver for most of the projects in this appropriation is infrastructure reliability.

Purpose

To increase operational reliability and efficiency, and decrease maintenance costs.

Accomplishments Through FY 2015/16

This is a new appropriation; no projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Minor Cap Appn. FY 2016/18	9,133,991	2021	Identify and evaluate projects and begin preliminary design

Chlorine Containment and Handling Facilities 15346

Total Appropriation Estimate:	$162,000,000	Total Projected Through June 30, 2016:	$153,000,000
Appropriated Amount:	$162,370,000	Estimated Percent Complete:	94%
Biennial Estimate:	$6,882,000	Estimated Completion Date:	2018

Scope

This appropriation was established to construct facilities that handle and contain chlorine to prevent a chlorine release and to comply with security and safety regulations; and other related facilities that handle chlorine to meet water treatment process requirements. Since its inception, new chlorine containment and handling facilities have been completed at all five water treatment plants.

Purpose

To enhance hazardous chemical safety by reducing the potential for exposure to plant personnel or the public of a release of chlorine, and ensure compliance with current California Fire Code requirements.

Accomplishments Through FY 2015/16

Through FY 2015/16, seventeen projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

CUF Chlorination Containment Facility - Began construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CUF Chlorination Containment Facility	40,045,388	2018	Complete construction

Conveyance and Distribution System - Rehabilitation 15377

Total Appropriation Estimate:	$119,500,000	Total Projected Through June 30, 2016:	$70,000,000
Appropriated Amount:	$72,572,000	Estimated Percent Complete:	59%
Biennial Estimate:	$3,622,200	Estimated Completion Date:	2024

Scope

This appropriation was established to plan and implement multiple projects throughout the Distribution System. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain the reliability of the distribution system through specific repair and rehabilitation projects on Metropolitan's distribution pipelines, reservoirs, and control structures.

Accomplishments Through FY 2015/16

Through FY 2015/16, forty-three projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Garvey Reservoir Sodium Hypochlorite Pump & Piping - Completed final design

Orange County Feeder Lining Repair - Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Orange County Feeder Lining Repair	34,267,595	2020	Begin construction
Upper Newport Bay Blow-off Structure Rehab	1,422,312	2018	Continue final design

Conveyance and Distribution System - Rehabilitation for FY2006/07 through FY2011/12 — 15441

Total Appropriation Estimate:	$182,700,000	Total Projected Through June 30, 2016:	$66,100,000
Appropriated Amount:	$68,696,300	Estimated Percent Complete:	36%
Biennial Estimate:	$28,531,000	Estimated Completion Date:	2022

Scope

This appropriation was established to plan and implement multiple projects throughout the Conveyance and Distribution System. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain the reliability of the distribution system through specific repair and rehabilitation projects on Metropolitan's distribution pipelines, reservoirs and control structures.

Accomplishments Through FY 2015/16

Through FY 2015/16, five projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

OC-88 Pump Station Upgrades - Defined scope

Santa Ana River Bridge Seismic Upgrade - Began construction

Etiwanda Pipeline Lining Replacement – Complete Stage 1 construction; began Stage 2 construction

Collis St. Valve Replacement - Continued final design

Palos Verdes Reservoir Sodium Hypochlorite Pump - Began construction

Lake Mathews Discharge Facility Upgrades - Continued design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Allen Mccolloch Pipeline Cathodic Protection	2,155,262	2018	Begin construction
Collis St. Valve Replacement and Repair By-Pass at station 0256+23 on the Palos Verdes Feeder	3,198,651	2017	Begin construction
DVL Inlet / Outlet Tower Debris Screen Rehabilitation	2,850,641	2018	Begin construction
Etiwanda Pipeline Lining Replacement	45,702,091	2021	Continue construction
Lake Mathews Discharge Facility Upgrades	7,289,051	2021	Begin construction
OC-88 Pump Station Upgrades	9,730,895	2019	Begin design
Orange County Feeder Cathodic Protection System Rehabilitation	758,206	2018	Begin construction
Palos Verdes Reservoir Sodium Hypochlorite Pump and Piping Replacement	3,227,400	2018	Complete construction
Santiago Lateral Sta 216+40 Butterfly Valve Replacement	1,835,170	2018	Begin construction

Conveyance and Distribution System - Rehabilitation for FY2012/13 through FY2017/18 — 15480

Total Appropriation Estimate:	$332,500,000	Total Projected Through June 30, 2016:	$23,000,000
Appropriated Amount:	$36,980,000	Estimated Percent Complete:	7%
Biennial Estimate:	$33,552,200	Estimated Completion Date:	2025

Scope

This appropriation was established to plan and implement multiple projects throughout the Conveyance and Distribution System. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain the reliability of the distribution system through specific repair and rehabilitation projects on Metropolitan's distribution pipelines, reservoirs and control structures.

Accomplishments Through FY 2015/16

Through FY 2015/16, one project has been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Orange County C&D Team Support Facility - Completed final design

DVL East Dam Power Line Realignment - Completed final design

Sepulveda Canyon Control Facility Bypass Project - Began preliminary design

Garvey Reservoir Control Structure Valve Upgrades - Began construction

Middle Feeder Relocation for SCE Mesa Substation - Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
A-6 Venturi Meter Replacement	906,000	2018	Begin preliminary design
Conveyance and Distribution System Electrical Structures Rehabilitation	83,286,691	2025	Begin preliminary design
DVL East Dam Power Line Realignment	4,474,257	2018	Begin construction
Hollywood Tunnel North Portal Equipment Upgrades	1,574,267	2019	Begin preliminary design
Lake Skinner Area Distribution System Valve Replacement	444,475	2019	Begin preliminary design
Middle Feeder Relocation for SCE Mesa Substation	3,383,606	2018	Complete final design
OC-76 Turnout Relocation at the Allen-McColloch Pipeline	545,252	2020	Begin preliminary design
Orange County Area Distribution System Valve Replacement	835,000	2018	Begin preliminary design
Orange County C&D Team Support Facility	10,347,420	2019	Begin construction
Orange County Distribution System - Conduit Replacement at 9 Structures	753,975	2019	Begin preliminary design
Red Mountain Hydro Electric Plant Emergency Generator Replacement	619,500	2019	Begin preliminary design
San Dimas Power Plant Emergency Standby Generator	661,273	2019	Begin final design
Santa Monica Feeder Cathodic Protection	810,999	2020	Begin preliminary design
Sepulveda Canyon Control Facility Bypass Project	48,208,393	2019	Begin final design
Service Connections CB-12 & CB-16 Turnout Valve Replacement and Electrical Upgrade	1,244,030	2018	Begin preliminary design
Skinner Bypass #1, Bypass #3, and Effluent Conduit #1 Cathodic Protection	996,274	2020	Begin preliminary design
West OC Feeder Valve Replacement	544,060	2018	Begin preliminary design
West Orange County Feeder Cathodic Protection	1,684,178	2020	Begin preliminary design

CRA - Conveyance Reliability 15373

Total Appropriation Estimate:	$186,000,000	Total Projected Through June 30, 2016:	$89,500,000
Appropriated Amount:	$99,558,000	Estimated Percent Complete:	48%
Biennial Estimate:	$12,098,100	Estimated Completion Date:	2025

Scope

This appropriation was established to plan and implement multiple projects throughout the Colorado River Aqueduct Conveyance System. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To ensure the reliability and operational efficiency of the Colorado River Aqueduct.

Accomplishments Through FY 2015/16

Through FY 2015/16, twelve projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

CRA - Sand Trap Equipment & Traveling Crane Rehabilitation -- Began construction

Copper Basin and Gene Dam Discharge Valve Rehab – Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA - Sand Trap Equipment & Traveling Crane Rehab	12,640,515	2018	Complete construction
Copper Basin and Gene Dam Discharge Valve Rehab	6,267,239	2020	Begin construction

CRA - Discharge Containment 15385

Total Appropriation Estimate:	$19,800,000	Total Projected Through June 30, 2016:	$6,400,000
Appropriated Amount:	$7,864,000	Estimated Percent Complete:	32%
Biennial Estimate:	$6,066,600	Estimated Completion Date:	2021

Scope

This appropriation was established to plan and implement multiple projects throughout the Colorado River Aqueduct. The common driver for many of the projects in this appropriation is regulatory compliance.

Purpose

To decrease risk of discharging chemicals and waste to the environment and violating regulations.

Accomplishments Through FY 2015/16

Through FY 2015/16, four projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

CRA Pumping Plant Wastewater System - Hinds & Eagle - Completed construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Pumping Plant Wastewater System - Gene & Iron	8,310,955	2019	Begin construction
CRA Pumping Plant Wastewater System - Intake	1,646,740	2019	Begin final design

CRA - Electrical/Power Systems Reliability 15384

Total Appropriation Estimate:	$48,600,000	Total Projected Through June 30, 2016:	$20,000,000
Appropriated Amount:	$22,725,000	Estimated Percent Complete:	41%
Biennial Estimate:	$8,889,000	Estimated Completion Date:	2023

Scope

This appropriation was established to plan and implement multiple projects throughout the Colorado River Aqueduct's electrical and power systems. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To ensure reliability of the power systems along the Colorado River Aqueduct by repairing or replacing aging and/or deteriorated electrical equipment/parts.

Accomplishments Through FY 2015/16

Through FY 2015/16, nine projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

CRA- 6.9 kV Lead Jacketed Cables - Completed preliminary design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Bank Transformer Reliability	12,669,477	2023	Begin preliminary design
CRA Over-Current Relay Replacement	814,707	2017	Begin construction
CRA Pumping Plant - Auxiliary Power System Rehabilitate/Upgrades	3,520,300	2020	Begin preliminary design
CRA- 6.9 kV Lead Jacketed Cables	11,759,448	2019	Begin construction

CRA - Pumping Plant Reliability 15374

Total Appropriation Estimate:	$25,500,000	Total Projected Through June 30, 2016:	$23,600,000
Appropriated Amount:	$24,467,000	Estimated Percent Complete:	93%
Biennial Estimate:	$1,613,300	Estimated Completion Date:	2019

Scope

This appropriation was established to plan and implement multiple projects at the five Colorado River Aqueduct pumping plants. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To rehabilitate and/or replace aging equipment at the pumping plants to ensure reliability.

Accomplishments Through FY 2015/16

Through FY 2015/16, fifteen projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Delivery Line Expansion Joint Refurbishment	2,779,470	2019	Complete final design

CRA - Reliability for FY2006/07 through FY2011/12 15438

Total Appropriation Estimate:	$110,200,000	Total Projected Through June 30, 2016:	$56,400,000
Appropriated Amount:	$62,944,000	Estimated Percent Complete:	51%
Biennial Estimate:	$28,324,400	Estimated Completion Date:	2022

Scope

This appropriation was established to continue to implement multiple projects throughout the Colorado River Aqueduct system. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To ensure the reliability and operational efficiency of the Colorado River Aqueduct and related facilities and equipment.

Accomplishments Through FY 2015/16

Through FY 2015/16, seven projects have been completed

Major project milestones in FY 2016/17 and FY 2017/18:

CRA Intake Plant - Power & Communication Line Replacement - Continued final design

CRA Seismic Upgrade of 6.9kV Switch House Seismic Retrofit - Began final design

CRA Pump Plant Flow Meter Replacement - Continued construction

CRA Pump Plant Sump System Rehabilitation - Began final design

CRA Canal Improvements - Began construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Canal Improvements	20,677,793	2017	Complete construction
CRA Intake Plant - Power & Communication Line Replacement	2,104,536	2018	Complete final design
CRA Mile 12 Flow and Chlorine Monitoring Station Upgrades	1,312,741	2018	Complete final design
CRA Pump Plant Flow Meter Replacement	1,652,000	2017	Complete construction
CRA Pump Plant Sump System Rehabilitation	21,641,242	2020	Complete final design
CRA Seismic Upgrade of 6.9kV Switch House Seismic Retrofit	12,407,032	2019	Continue final design
Eagle Pump Plant Reservoir Spillway Gate Rehab	1,438,983	2017	Complete final design
Gene Pumping Plant - 2.4 kV Standby Diesel Engine Generator Replacement	2,630,894	2020	Complete final design
Intake Pumping Plant - 2.4 kV Standby Diesel Engine Generator Replacement	1,753,927	2020	Complete final design
Iron Mountain - 2.4 kV Standby Diesel Engine Generator Replacement	3,540,091	2019	Complete final design

CRA - Reliability for FY2012/13 through FY2017/18 15483

Total Appropriation Estimate:	$67,600,000	Total Projected Through June 30, 2016:	$5,200,000
Appropriated Amount:	$5,420,000	Estimated Percent Complete:	8%
Biennial Estimate:	$12,936,700	Estimated Completion Date:	2025

Scope

This appropriation was established to implement multiple projects throughout the Colorado River Aqueduct system. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To ensure the reliability and operational efficiency of the Colorado River Aqueduct and related facilities and equipment.

Accomplishments Through FY 2015/16

Through FY 2015/16, two projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

CRA Pumping Plants Water Treatment Systems Replacement - Began design

CRA Protective Slabs - Began design

CRA Delivery Line At-Risk Expansion Joint Repairs - Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Cut and Cover Erosion Control Upgrade	3,161,944	2019	Begin final design
CRA Delivery Line At-Risk Expansion Joint Repairs	2,146,355	2017	Begin construction
CRA Domestic Water Main Distribution Replacement	10,374,784	2023	Begin final design
CRA Protective Slabs	6,104,998	2019	Begin construction
CRA Pumping Plant Delivery Line Re-Lining	6,694,562	2020	Begin construction
CRA Pumping Plant Storage Buildings at Hinds, Eagle Mountain and Iron Mountain	6,071,937	2021	Complete final design
CRA Pumping Plants Water Treatment Systems Replacement	6,456,471	2019	Begin construction
Whitewater Tunnel No. 2 Seismic Upgrade	4,154,501	2020	Begin design

CRA Main Pump Reliability 15481

Total Appropriation Estimate:	$177,200,000	Total Projected Through June 30, 2016:	$765,000
Appropriated Amount:	$950,000	Estimated Percent Complete:	0.5%
Biennial Estimate:	$12,949,400	Estimated Completion Date:	2033

Scope

This appropriation was established to continue to implement multiple projects throughout the Colorado River Aqueduct Pumping plants. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To complete rehabilitation work necessary to ensure reliability and operation performance, provide operational flexibility and prolong the useful life for the pumping plants.

Accomplishments Through FY 2015/16

Major project milestones in FY 2014/15 and FY 2015/16:

CRA Main Pumping Plant Discharge Line Isolation - Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Main Pump & Motor Refurbishment	75,509,991	2033	Define scope
CRA Main Pump Discharge Valve Refurbishment	40,360,006	2028	Define scope
CRA Main Pumping Plant Discharge Line Isolation Bulkhead Coupling	12,602,499	2021	Begin construction
CRA Pump Plants Circulation Water Systems	14,469,998	2027	Define scope
CRA Pumping Plants Crane Improvements	7,054,999	2019	Begin preliminary design

Dam Rehabilitation & Safety Improvements 15419

Total Appropriation Estimate:	$8,900,000	Total Projected Through June 30, 2016:	$5,000,000
Appropriated Amount:	$4,600,000	Estimated Percent Complete:	56%
Biennial Estimate:	$1,100,500	Estimated Completion Date:	2021

Scope

This appropriation was established to review the adequacy of Metropolitan's dams, evaluate risks, and identify alternative solutions to minimize risks. Under this appropriation, the seismic adequacy of dams and their appurtenant structures are being assessed, and the hydraulic adequacy of dams' spillway and hydraulic structures under up-to-date hydrologic conditions are being evaluated.

Purpose

To implement multiple projects that will facilitate monitoring, and assess stability, risks, and capacities of Metropolitan's dams and reservoirs.

Accomplishments Through FY 2015/16

Through FY 2015/16, three projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
DVL Dam Monitoring System Upgrade	1,263,027	2018	Begin construction

Demonstration-Scale Recycled Water Treatment Plant 15493

Total Appropriation Estimate:	$15,000,500	Total Projected Through June 30, 2016:	$ 690,000
Appropriated Amount:	$15,000,000	Estimated Percent Complete:	5%
Biennial Estimate:	$9,854,900	Estimated Completion Date:	2020

Scope

This appropriation was established to plan and implement a demonstration-scale recycled water treatment plant and to establish the framework of terms and conditions for development of a regional recycled water supply program.

Purpose

To enhance water supply reliability by providing a new resource that would help maintain groundwater recharge and storage for Metropolitan's service area.

Accomplishments Through FY 2015/16

This is a new appropriation; no projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

Water Purification Demonstration Project - Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Water Purification Demonstration Project	15,000,000	2020	Begin construction

Diemer Water Treatment Plant - Improvements 15380

Total Appropriation Estimate:	$238,000,000	Total Projected Through June 30, 2016:	$136,000,000
Appropriated Amount:	$159,996,600	Estimated Percent Complete:	57%
Biennial Estimate:	$24,611,100	Estimated Completion Date:	2025

Scope

This appropriation was established to plan and implement multiple projects within the Diemer Water Treatment Plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Diemer plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, sixteen projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Diemer Basin Rehabilitation - Began construction

Diemer Filter Outlet Conduit Seismic Upgrade - Continued final design

Diemer Electrical Improvements Stage 2 - Continued construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Diemer Electrical Improvements Stage 2	21,215,810	2017	Continue construction
Diemer Filter Outlet Conduit Seismic Upgrade	14,670,441	2020	Complete final design
Diemer Basin Rehabilitation	57,931,061	2021	Continue construction

Diemer Water Treatment Plant - Improvements for FY2006/07 through FY2011/12 — 15436

Total Appropriation Estimate:	$79,500,000	Total Projected Through June 30, 2016:	$40,100,000
Appropriated Amount:	$46,718,500	Estimated Percent Complete:	50%
Biennial Estimate:	$17,066,100	Estimated Completion Date:	2021

Scope

This appropriation was established to plan and implement multiple projects at the Diemer Water Treatment Plant. The common driver for many projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Diemer plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, ten projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

Diemer Filter Buildings Upgrades - Continued East Building construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Diemer Administration Building Seismic Upgrade	5,952,449	2018	Begin construction
Diemer Filter Buildings Seismic Upgrade	28,595,794	2020	Complete East Building construction
Diemer Filter Valve Replacement	13,617,837	2019	Complete East Building construction

Diemer Water Treatment Plant - Improvements for FY2012/13 through FY2017/18 — 15478

Total Appropriation Estimate:	$10,400,000	Total Projected Through June 30, 2016:	$350,000
Appropriated Amount:	$375,000	Estimated Percent Complete:	3%
Biennial Estimate:	$598,900	Estimated Completion Date:	2021

Scope

This appropriation was established to plan and implement multiple projects at the Diemer Water Treatment Plant. The common driver for many projects is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Diemer plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, no projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Diemer Slope Erosion Rehabilitation	1,787,510	2020	Begin preliminary design

Diemer Water Treatment Plant - Oxidation Retrofit 15389

Total Appropriation Estimate:	$370,000,000	Total Projected Through June 30, 2016:	$345,000,000
Appropriated Amount:	$370,192,000	Estimated Percent Complete:	93%
Biennial Estimate:	$112,8300	Estimated Completion Date:	2020

Scope

This appropriation was established to design and construct all systems and facilities that are required to provide ozone disinfection capability and to integrate those systems into the existing plant operations at the Diemer Water Treatment Plant.

Purpose

To reduce the level of disinfection by-products in the treated water supplied by the Diemer plant in order to meet state and federal standards and provide consistent and equitable high quality treated water to all of Metropolitan's member agencies.

Accomplishments Through FY 2015/16

Through FY 2015/16, all projects have been completed with exception of preparation of record drawings for the new ozonation facilities and completion activities.

Major project milestone in FY 2014/15 and FY 2015/16:

Diemer Southern Slope Fire Management and Landscaping - Completed construction

Objectives for 2016/17 and 2017/18

Continue completion activities.

DVL Recreation Facilities 15334

Total Appropriation Estimate:	$92,800,000	Total Projected Through June 30, 2016:	$68,200,000
Appropriated Amount:	$71,727,100	Estimated Percent Complete:	73%
Biennial Estimate:	$372,300	Estimated Completion Date:	2017

Scope

This appropriation was established to begin transformation of the Diamond Valley Lake property to incorporate revenue enhancement to extract value from the property while ensuring that Metropolitan's core business is protected. Current spending is aimed at completing current commitments required by the ground leases and at encouraging future development opportunities within the DVL properties, in a cost-effective manner, consistent with board-approved objectives.

Purpose

To fully implement the Metropolitan's Board directives on recreation and associated development at DVL.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Diamond Valley Lake (DVL) East Marina Restroom Facility	426,912	2017	Complete construction

Enhanced Bromate Control 15472

Total Appropriation Estimate:	$13,300,000	Total Projected Through June 30, 2016:	$3,000,000
Appropriated Amount:	$10,240,000	Estimated Percent Complete:	23%
Biennial Estimate:	$5,817,900	Estimated Completion Date:	2021

Scope

This appropriation was established to determine the feasibility, study, preliminary design, and construct necessary facilities for the ammonia-chlorine bromate control process at the Diemer, Jensen, Mills, Skinner, and Weymouth plants.

Purpose

To control the formation of bromate, which is a regulated disinfection by-product, during the ozonation process, and reduce chemical costs.

Accomplishments Through FY 2015/16

Through FY 2015/15, no projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

Weymouth Bromate Control Facilities - Began construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Weymouth Bromate Control Facilities	7,945,460	2019	Complete construction

Hydroelectric Power Plant Improvements 15458

Total Appropriation Estimate:	$39,300,000	Total Projected Through June 30, 2016:	$7,500,000
Appropriated Amount:	$8,677,000	Estimated Percent Complete:	19%
Biennial Estimate:	$3,121,300	Estimated Completion Date:	2023

Scope

This appropriation was established to implement a comprehensive rehabilitation plan that will enhance infrastructure reliability, ensure compliance with regulatory requirements, improve plant efficiency, and reduce maintenance on all hydroelectric power (HEP) plants.

Purpose

To ensure reliability of Metropolitan's hydroelectric power plants.

Accomplishments Through FY 2015/16

Through FY 2015/16, two projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Foothill HEP Rehab	4,630,149	2019	Begin construction

Information Technology System - Infrastructure 15376

Total Appropriation Estimate:	$48,541,000	Total Projected Through June 30, 2016:	$41,000,000
Appropriated Amount:	$48,541,000	Estimated Percent Complete:	84%
Biennial Estimate:	$2,733,800	Estimated Completion Date:	2017

Scope

This appropriation was established to implement multiple projects to ensure the reliability and efficiency of the Information Technology Infrastructure in support of Metropolitan's operational and business applications.

Purpose

To ensure reliability of IT infrastructure for critical business applications.

Accomplishments Through FY 2015/16

Through FY 2015/16, fifteen projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Communication Infrastructure Reliability Upgrade – Began deployment

Emergency Radio Communications System Upgrade - Continued construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Communication Infrastructure Reliability Upgrade	5,714,074	2017	Complete deployment
Emergency Radio Communications System Upgrade Phase III	10,239,903	2017	Complete construction
IT Disaster Recovery Facility Environmental Upgrade	2,007,342	2017	Begin construction

Information Technology System - Security 15378

Total Appropriation Estimate:	$7,000,000	Total Projected Through June 30, 2016:	$5,600,000
Appropriated Amount:	$5,906,000	Estimated Percent Complete:	80%
Biennial Estimate:	$1,400,000	Estimated Completion Date:	2018

Scope

This appropriation was established to enhance and upgrade the functionality, reliability, security and to protect against cyber threats of Metropolitan's business and SCADA systems.

Purpose

To implement technologies that provide most cost-effective and threat reducing benefits to Metropolitan with public safety and security represented at all levels.

Accomplishments Through FY 2015/16

Through FY 2015/16, seven projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Cyber Security Assessment and Remediation	1,400,000	2018	Begin deployment

Infrastructure Reliability Information System 14502

Total Appropriation Estimate:	$7,700,000	Total Projected Through June 30, 2016:	$ 0
Appropriated Amount:	$ 0	Estimated Percent Complete:	0%
Biennial Estimate:	$ 2,773,000	Estimated Completion Date:	2021

Scope

This appropriation is established to update and integrate equipment maintenance reporting tools to enhance management and tracking of assets, improve maintenance and engineering work planning, and track equipment performance data by integrating data from several information systems to support condition-based equipment maintenance and improved selection of replacement equipment.

Purpose

To improve data and information flow and processing, and provide decision making tools related to Metropolitan's major Infrastructure Reliability and Asset Maintenance initiatives.

Accomplishments Through FY 2015/16

This is a new appropriation; no projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Energy Management System Upgrade	482,000	2019	Begin deployment
Fuel Management System Upgrade	1,355,000	2018	Begin deployment
Maximo Mobile Computing Upgrade	502,532	2019	Begin deployment
Maximo Upgrade and Improvements	530,900	2018	Begin deployment

IT Infrastructure Reliability 15487

Total Appropriation Estimate:	$18,100,000	Total Projected Through June 30, 2016:	$7,000,000
Appropriated Amount:	$9,080,000	Estimated Percent Complete:	39%
Biennial Estimate:	$4,587,500	Estimated Completion Date:	2020

Scope

This appropriation was established to implement multiple projects to ensure the reliability and efficiency of the Information Technology Infrastructure in support of Metropolitan's operational and business applications.

Purpose

To ensure reliability of IT infrastructure for critical business applications.

Accomplishments Through FY 2015/16

Through FY 2015/16, seven projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

IT Network Reliability Upgrades - Continued deployment

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Enterprise IT Emergency Power Upgrade Project	1,455,000	2019	Begin preliminary design
Enterprise Wireless Network Upgrade (Phase One of Three)	3,555,000	2020	Begin preliminary design

Jensen Water Treatment Plant - Improvements 15371

Total Appropriation Estimate:	$75,100,000	Total Projected Through June 30, 2016:	$44,200,000
Appropriated Amount:	$47,352,000	Estimated Percent Complete:	59%
Biennial Estimate:	$1,978,000	Estimated Completion Date:	2022

Scope

This appropriation was established to plan and implement multiple projects within the Jensen Water Treatment Plant. The common driver for many of the projects in this program is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Jensen plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, eleven projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Jensen Washwater Return Pump Modifications (Phase 2) - Continued final design

Jensen Treatment Plant Module 1 Filter Valve Replacement - Began construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Jensen T. P. - Module 1 Filter Valve Replacement	10,276,611	2017	Complete construction

Jensen Water Treatment Plant - Improvements for FY2012/13 through FY2017/18 — 15486

Total Appropriation Estimate:	$16,300,000	Total Projected Through June 30, 2016:	$1,200,000
Appropriated Amount:	$1,375,000	Estimated Percent Complete:	7%
Biennial Estimate:	$6,464,736	Estimated Completion Date:	2021

Scope

This appropriation was established to plan and implement multiple projects at the Jensen plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Jensen plant.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Jensen Finished Water Reservoir No. 1 Cover Rehab	4,096,885	2019	Begin final design
Jensen Finished Water Reservoir No. 2 Floating Cover	4,092,489	2020	Begin preliminary design
Jensen Inlet Water Quality Enclosure	1,088,176	2019	Begin final design
Jensen Ozone Generator PLC Control & Communication Equipment Upgrade	4,784,004	2021	Begin preliminary design

Jensen Water Treatment Plant - Improvements Program for FY2006/07 through FY2011/12 — 15442

Total Appropriation Estimate:	$146,000,000	Total Projected Through June 30, 2016:	$28,000,000
Appropriated Amount:	$53,476,000	Estimated Percent Complete:	19%
Biennial Estimate:	$21,270,730	Estimated Completion Date:	2025

Scope

This appropriation was established to plan and implement multiple projects at the Jensen Water Treatment Plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Jensen water treatment plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, three projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Jensen Electrical Upgrade - Began Stage 1 construction

Jensen Modules 2 and 3 Flocculator Refurbishment - Completed final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Jensen Electrical Upgrade	69,398,000	2025	Continue Stage 1 construction

LaVerne Shop Facilities Upgrade 15395

Total Appropriation Estimate:	$60,900,000	Total Projected Through June 30, 2016:	$39,000,000
Appropriated Amount:	$42,180,000	Estimated Percent Complete:	64%
Biennial Estimate:	$6,489,008	Estimated Completion Date:	2022

Scope

This appropriation was established to modernize the Maintenance Support Unit facilities at La Verne and will evaluate, recommend, design and build new or remodel shop building facilities, and upgrade through refurbishment or replacement aging shop equipment.

Purpose

To modernize the machine, coatings, and fabrication shops so that they can continue to provide emergency response service, support routine maintenance throughout the District, and perform fee-for-service work for member agencies and the California Department of Water Resources (DWR).

Accomplishments Through FY 2015/16

Through FY 2015/16, three projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

La Verne Shop - Stage 4 Shop Buildings Completion and Stage 5 Shop Equipment Upgrade - Began preliminary design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
La Verne Shop - Stage 4 Shop Buildings Completion and Stage 5 Shop Equipment Upgrade	9,572,250	2020	Begin procurement & construction

Mills Water Treatment Plant - Improvements 15381

Total Appropriation Estimate:	$8,200,000	Total Projected Through June 30, 2016:	$5,300,000
Appropriated Amount:	$5,657,000	Estimated Percent Complete:	65%
Biennial Estimate:	$ 452,661	Estimated Completion Date:	2021

Scope

This appropriation was established to plan and implement multiple projects within the Mills Water Treatment Plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Mills Water Treatment plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, eight projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Mills Basin Solids Removal Improvements	2,906,476	2021	Begin final design

Mills Water Treatment Plant - Improvements for FY2012/13 through FY2017/18 — 15479

Total Appropriation Estimate:	$36,500,000	Total Projected Through June 30, 2016:	$2,300,000
Appropriated Amount:	$2,580,000	Estimated Percent Complete:	6%
Biennial Estimate:	$1,073,600	Estimated Completion Date:	2023

Scope

This appropriation was established to plan and implement multiple projects at the Mills plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Mills plant.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Mills Finished Water Reservoir Improvement	10,283,000	2021	Begin preliminary design

Mills Water Treatment Plant - Improvements FY2006/07 through FY2011/12 — 15452

Total Appropriation Estimate:	$27,500,000	Total Projected Through June 30, 2016:	$13,200,000
Appropriated Amount:	$14,019,000	Estimated Percent Complete:	48%
Biennial Estimate:	$875,251	Estimated Completion Date:	2022

Scope

This appropriation was established to plan and implement multiple projects at the Mills Water Treatment Plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Mills water treatment plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, three projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Mills Industrial Wastewater Handling Facilities Improvements - Continued construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Mills - Module Influent Flash Mix Chemical Containment	951,700	2018	Begin final design

Operations Support Facilities Improvement 15495

Total Appropriation Estimate:	$35,100,000	Total Projected Through June 30, 2016:	$800,000
Appropriated Amount:	$500,000	Estimated Percent Complete:	2%
Biennial Estimate:	$6,723,126	Estimated Completion Date:	2027

Scope

This appropriation was established to plan and construct site improvements at Lake Mathews, housing facilities at CRA, and seismic upgrades to operations support buildings at Metropolitan's LaVerne facility.

Purpose

To replace and/or expand support facilities to meet current and future operations and maintenance needs.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
CRA Housing Rehabilitation	14,596,500	2027	Begin construction
Lake Mathews Sewer Improvements	2,932,000	2018	Complete final design

PCCP Rehabilitation and Replacement 15471

Total Appropriation Estimate:	$59,600,000	Total Projected Through June 30, 2016:	$36,000,000
Appropriated Amount:	$72,360,000*	Estimated Percent Complete:	60%
Biennial Estimate:	$3,971,000	Estimated Completion Date:	2030

**All previously appropriated funds and expenditures for the Second Lower Feeder PCCP Rehabilitation under this Appropriation are to be transferred to Appropriation 16701.*

Scope

This appropriation was established to plan and implement reliability projects throughout the Conveyance and Distribution System which will include structural engineering evaluation of all 163 miles of Preestressed Concrete Cylinder Pipe (PCCP), conduct pilot testing installation of fiber optic acoustic monitoring system, prepare programmatic CEQA documents to cover PCCP Rehabilitation and to initiate refurbishment and replacement projects for at-risk pipelines.

Purpose

To identify pipelines whose age, location and condition warrant refurbishment/ replacement to insure long-term reliability of Metropolitan's PCCP lines water delivery.

Accomplishments Through FY 2015/16

Through FY 2015/16, six projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Electromagnetic Inspections of PCCP Lines - Continued deployment

PCCP Rehabilitation – Program Management - Continued development

PCCP – Program CEQA - Continued development

Second Lower Feeder PCCP Rehabilitation - Began final design

Second Lower Feeder PCCP Pipe Procurement - Began final design

Second Lower Feeder PCCP Valve Procurement - Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Electromagnetic Inspections of PCCP Lines	11,059,246	2024	Continue deployment
PCCP Rehabilitation - Program CEQA	2,227,515	2024	Continue development
PCCP Rehabilitation - Program Management	15,622,980	2030	Continue development

Pipeline Rehabilitation and Replacement 15482

Total Appropriation Estimate:	$94,000,000	Total Projected Through June 30, 2016:	$37,000
Appropriated Amount:	$ 0	Estimated Percent Complete:	0%
Biennial Estimate:	$500,000	Estimated Completion Date:	2040

Scope

This appropriation is established to plan and implement multiple projects throughout the Conveyance and Distribution System for the all non-prestressed concrete cylinder pipe (PCCP) lines. The projects will rehabilitate and replace at-risk pipelines, and update the appropriation estimate annually based on rehabilitation and replacement options. The common driver for all projects in this appropriation is infrastructure reliability.

Purpose

To identify pipelines whose age, location, and condition warrant rehabilitation/replacement to enhance long-term water delivery reliability.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Reinforced Concrete and Metal Pipe Assessment	94,000,000	2040	Define scope

Power Reliability and Energy Conservation 15391

Total Appropriation Estimate:	$54,900,000	Total Projected Through June 30, 2016:	$ 37,400,000
Appropriated Amount:	$48,897,000	Estimated Percent Complete:	68%
Biennial Estimate:	$4,780,000	Estimated Completion Date:	2018

Scope

This appropriation was established to implement multiple power and energy related projects throughout Metropolitan's system. Since its inception, several projects have been incorporated into this program and completed, including the OC-88 Energy Savings Modifications Project which modified the pump station to reduce the energy required for pumping and provides significant energy savings, and the one Megawatt (1 MW) Skinner Solar Power Facility project.

Purpose

To reduce purchased electrical energy and costs, provide sufficient and reliable power, and reduce carbon-based emissions.

Accomplishments Through FY 2015/16

Through FY 2015/16, six projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Weymouth Solar Power Facility - Completed construction

Jensen Solar Power Facility - Completed final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Jensen Solar Power Facility	5,449,243	2018	Begin construction

Project Controls and Reporting System 15490

Total Appropriation Estimate:	$4,300,000	Total Projected Through June 30, 2016:	$1,100,000
Appropriated Amount:	$1,330,000	Estimated Percent Complete:	26%
Biennial Estimate:	$3,040,000	Estimated Completion Date:	2019

Scope

This appropriation was established to replace outdated project reporting systems. Some of the tools in use today lack key fundamental capabilities, such as earned value and resource utilization reporting, and, due to the upgrades of other applications, have lost the former integration impacting timely reporting. Currently, the primary deliverable of this appropriation is the implementation of an enterprise-wide Project Controls System to provide schedule and resource management and replace the Project Management Information System (PMIS).

Purpose

To ensure the accuracy, efficiency and effectiveness for enterprise-wide project controls, scheduling, budgeting, resource management, and management reporting.

Accomplishments Through FY 2015/16

This is a new appropriation; no projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Project Controls System Replacement	4,252,074	2019	Begin deployment

Reservoir Cover and Replacement 15417

Total Appropriation Estimate:	$41,500,000	Total Projected Through June 30, 2016:	$11,400,000
Appropriated Amount:	$41,830,000	Estimated Percent Complete:	27%
Biennial Estimate:	$29,552,820	Estimated Completion Date:	2019

Scope

This appropriation was established to perform studies, prepare design and construction documents, and coordinate with California Department of Public Health and Division of Safety of Dams for the replacement of floating reservoir covers at multiple locations. The scope includes remove existing covers, repair reservoir gunite lining, modify structures and protective grillages on reservoir bottoms, install underdrain leakage collection systems, install new geocomposite drainage course, install new Hypalon flexible membrane liners and floating covers, and upgrade reservoir electrical systems and surface drainage to accommodate new cover dewatering pumps.

Purpose

To replace reservoir floating covers that have exceeded their useful life and are increasingly difficult to repair.

Accomplishments Through FY 2015/16

Through FY 2015/16, one project has been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Palos Verdes Floating Cover Replacement – Began Construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Palos Verdes Floating Cover Replacement	35,480,609	2019	Complete construction

Right of Way and Infrastructure Protection 15474

Total Appropriation Estimate:	$71,200,000	Total Projected Through June 30, 2016:	$15,300,000
Appropriated Amount:	$20,700,000	Estimated Percent Complete:	21%
Biennial Estimate:	$13,230,000	Estimated Completion Date:	2022

Scope

This appropriation is established to protect Metropolitan's investment in its rights-of-way by securing and rehabilitating rights of way in a manner that will complement aesthetic qualities of communities and neighborhoods, provide adequate access and buffer area, install security measures (e.g., fencing and signage) to boundaries and restricted areas, and correct or evict encroachments and trespassers.

Purpose

To assess and resolve the known encroachments and rights-of-way gaps, develop best management practices, and install security measures.

Accomplishments Through FY 2015/16

Through FY 2015/16, no projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Detailed Reliability Improvements of the Orange County Operating Region - Continued design

Detailed Reliability Improvements of the Western San Bernardino County Operating Region - Continued design

ROWIPP Programmatic Environmental Documentation for the Orange County Operating Region - Completed development

ROWIPP Programmatic Environmental Documentation for the Western San Bernardino Operating Region - Completed development

Detailed Reliability Improvements of the Los Angeles County Operating Region - Continued design

Detailed Reliability Improvements of the Riverside & San Diego County Operating Region - Continued design

ROWIPP Programmatic Environmental Documentation for the Riverside & San Diego County Operating Region - Continued development

Right of Way Survey and Mapping - Continued development

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Detailed Reliability Improvements of the Los Angeles County Operating Region	9,131,387	2022	Complete design
Detailed Reliability Improvements of the Orange County Operating Region	19,183,523	2020	Begin construction
Detailed Reliability Improvements of the Riverside & San Diego County Operating Region	18,738,558	2022	Complete design
Detailed Reliability Improvements of the Western San Bernardino County Operating Region	9,825,600	2021	Begin construction
Environmental Regulatory Agreements	690,394	2020	Begin development
ROWIPP Programmatic Environmental Documentation for the Los Angeles Co. Operating Region	950,000	2018	Complete development
ROWIPP Programmatic Environmental Documentation for the Riverside/San Diego Co. Operating Region	958,326	2018	Complete development
ROWIPP Programmatic Environmental Documentation for the Western San Bernardino County Operating Region	1,112,413	2017	Complete development
Right of Way Survey and Mapping	3,003,319	2020	Continue development

Second Lower Feeder PCCP Rehab 16701

Total Appropriation Estimate:	$606,400,000	Total Projected Through June 30, 2016:	$4,200,000
Appropriated Amount:	$0	Estimated Percent Complete:	0%
Biennial Estimate:	$28,995,425	Estimated Completion Date:	2025

Scope

This appropriation was established to plan and implement projects to rehabilitate PCCP portions of the Second Lower Feeder. The common driver for the projects in this appropriation is infrastructure reliability.

Purpose

To maintain the reliability of the Second Lower Feeder through specific PCCP repair and rehabilitation projects.

Accomplishments Through FY 2015/16

This is a new appropriation for all Second Lower Feeder PCCP Rehabilitation. Funds and expendituires previously appropriated and spent under Appn. 15471 are to be transferred to this Appropriation

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Second Lower Feeder PCCP Rehabilitation	10,791,527	2017	Continue final design
Second Lower Feeder PCCP Rehabilitation - Package 1	52,635,819	2020	Continue final design
Second Lower Feeder PCCP Rehabilitation - Package 2	34,175,630	2021	Continue final design
Second Lower Feeder PCCP Rehabilitation - Package 3	63,045,253	2022	Continue final design
Second Lower Feeder PCCP Rehabilitation - Pipe Procurement	3,966,135	2018	Begin deployment
Second Lower Feeder PCCP Rehabilitation - Right of Way Acquisition	5,383,996	2022	Continue development
Second Lower Feeder PCCP Rehabilitation - Valve Procurement	11,804,559	2023	Begin deployment

Sepulveda Feeder PCCP Rehab 15496

Total Appropriation Estimate:	$754,200,000	Total Projected Through June 30, 2016:	$ 15,900,000
Appropriated Amount:	$1,100,000	Estimated Percent Complete:	0%
Biennial Estimate:	$6,000,000	Estimated Completion Date:	2031

Scope

This appropriation was established to plan and implement projects to rehabilitate PCCP portions of the Sepulveda Feeder. The common driver for the projects in this appropriation is infrastructure reliability.

Purpose

To maintain the reliability of the Sepulveda Feeder through specific PCCP repair and rehabilitation projects.

Accomplishments Through FY 2015/16

Through FY 2015/16, one project has been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Sepulveda Feeder PCCP 2016 Urgent Repairs - Completed construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Sepulveda Pipeline PCCP Rehabilitation	738,348,989	2031	Begin final design

Skinner Water Treatment Plant - Oxidation Retrofit 15388

Total Appropriation Estimate:	$245,500,000	Total Projected Through June 30, 2016:	$244,300,000
Appropriated Amount:	$245,492,000	Estimated Percent Complete:	99%
Biennial Estimate:	$856,500	Estimated Completion Date:	2018

Scope

This appropriation was established to design and construct all systems and facilities that are required to provide ozone disinfection capability and to integrate those systems into the existing plant operations.

Purpose

To reduce the level of disinfection by-products in the treated water supplied by the Skinner plant in order to meet state and federal standards and provide consistent and equitable high quality treated water to all of Metropolitan's member agencies.

Accomplishments Through FY 2015/16

Through FY 2015/16, seven projects have been completed.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Skinner Contactor Roof Elastomeric Coating	856,500	2018	Begin construction

Termination of Center for Water Education Ground Lease 15449

Total Appropriation Estimate:	$4,673,000	Total Projected Through June 30, 2016:	$4,100,000
Appropriated Amount:	$4,673,000	Estimated Percent Complete:	88%
Biennial Estimate:	$21,280	Estimated Completion Date:	2017

Scope

This appropriation was established to plan and implement multiple projects at the Diamond Valley Lake (DVL) Visitor's Center, formerly known as "The Center for Water Education."

Purpose

To maintain the DVL campus by developing and constructing projects that enhance revenue for Metropolitan's Real Property Development and Management Group, as well as provide assistance and support for WSO staff stationed at DVL.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
DVL Visitor's Center Improvements	391,000	2017	Complete construction

Union Station Headquarters Improvements 15473

Total Appropriation Estimate:	$42,200,000	Total Projected Through June 30, 2016:	$4,600,000
Appropriated Amount:	$5,320,000	Estimated Percent Complete:	11%
Biennial Estimate:	$15,100,000	Estimated Completion Date:	2020

Scope

This appropriation was established to implement seismic modifications to Metropolitan's Headquarters Building at Union Station in Los Angeles. Planned preliminary design activities include the following: review of code and permit requirements; preparation of a preliminary design scaled testing of structural components; detailed structural analyses and evaluation; preparation of a preliminary design report and environmental documentation; and development of a preliminary construction cost estimtate. Repair plans will be developed for areas which would likely be damaged in a major earthquake.

Purpose

To implement seismic modifications to Metropolitan's Headquarters Building which would likely be damaged in a major earthquake.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Headquarters Building Seismic Assessment/Upgrade	41,887,088	2020	Begin construction

Verbena Property Acquisition 15492

Total Appropriation Estimate:	$264,000,000	Total Projected Through June 30, 2016:	$256,600,000
Appropriated Amount:	$264,000,000	Estimated Percent Complete:	97%
Biennial Estimate:	$2,600,000	Estimated Completion Date:	2021

Scope

This appropriation was established to acquire various properties in Riverside and Imperial Counties.

Purpose

To enhance supply reliability.

Accomplishments Through FY 2015/16

Verbena Land Acquisition 1- Completed property acquisition

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Verbena Land Acquisition 1	158,915,538	2021	Survey and Property Recordation

Water Delivery System Improvements 15488

Total Appropriation Estimate:	$40,500,000	Total Projected Through June 30, 2016:	$25,000,000
Appropriated Amount:	$26,846,000	Estimated Percent Complete:	62%
Biennial Estimate:	$5,351,000	Estimated Completion Date:	2019

Scope

This appropriation was established to provide flexibility to distribute Colorado River water portions of the service area that currently rely exclusively on deliveries from the State Water Project.

Purpose

To improve the reliability and flexibility of delivering Colorado River water during drought or other State Water Project delivery constraints.

Accomplishments Through FY 2015/16

Through FY 2015/16, one project has been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

Greg Avenue Pump Station Improvements – Completed final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Greg Avenue Pump Station Improvements	17,818,528	2019	Begin construction

Water Operations Control 15467

Total Appropriation Estimate:	$119,300,000	Total Projected Through June 30, 2016:	$10,000,000
Appropriated Amount:	$15,010,000	Estimated Percent Complete:	8%
Biennial Estimate:	$23,900,000	Estimated Completion Date:	2026

Scope

This appropriation is established to further coordinate the capabilities of Metropolitan's control system , Supervisory Control and Data Acquisition (SCADA) with operational and business needs. The appropriation will focus on maintaining system reliability, system integration, and improving operational and business capabilities and efficiencies.

Purpose

Maintain the reliability and integrity of Metropolitan's Control system.

Accomplishments Through FY 2015/16

Through FY 2015/15, one project has been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Wadsworth Pumping Plant Control & Protection Upgrades – Began final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
AMR System RTUs and Radio Modem Upgrade Project	5,181,495	2019	Begin deployment
RTU CPU and OS Replacement	4,361,999	2019	Begin deployment
SCADA System & Communication Network Upgrade Planning (Phase 1)	3,189,500	2019	Define scope
Wadsworth Control Upgrade Phase IV	14,909,997	2019	Begin deployment
Wadsworth Pumping Plant Control & Protection Upgrades	10,789,800	2017	Begin construction

Weymouth Water Treatment Plant - Improvements 15369

Total Appropriation Estimate:	$240,700,000	Total Projected Through June 30, 2016:	$175,200,000
Appropriated Amount:	$178,039,800	Estimated Percent Complete:	73%
Biennial Estimate:	$4,900,000	Estimated Completion Date:	2025

Scope

This appropriation was established to plan and implement multiple projects at the Weymouth Water Treatment Plant. The common driver for many of the projects in this appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Weymouth plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, fourteen projects have been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Weymouth Basin Drop Gate Replacement – Completed construction

Weymouth Filter Valve Replacement – Continued final design

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Weymouth Administration and Control Building Seismic Upgrades	12,539,980	2021	Begin final design
Weymouth Filter Valve Replacement	22,574,773	2023	Begin construction

Weymouth Water Treatment Plant - Improvements for FY2006/07 through FY2011/12 — 15440

Total Appropriation Estimate:	$57,000,000	Total Projected Through June 30, 2016:	$15,300,000
Appropriated Amount:	$17,438,000	Estimated Percent Complete:	27%
Biennial Estimate:	$660,900	Estimated Completion Date:	2022

Scope

This appropriation was established to implement multiple rehabilitation projects at the Weymouth plant. The common driver for many of these projects is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Weymouth plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, three projects have been completed.

Major project milestone in FY 2014/15 and FY 2015/16:

Weymouth Finished Water Reservoir Gate Replacement – Completed construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Weymouth Basin 5-8 Refurbishment	39,870,689	2022	Begin final design

Weymouth Water Treatment Plant - Improvements for FY2012/13 through FY2017/18 — 15477

Total Appropriation Estimate:	$81,000,000	Total Projected Through June 30, 2016:	$30,800,000
Appropriated Amount:	$50,687,000	Estimated Percent Complete:	38%
Biennial Estimate:	$20,100,00	Estimated Completion Date:	2023

Scope

This appropriation was established to plan and implement multiple projects at the Weymouth Water Treatment Plant. The common driver for many of the projects in the appropriation is infrastructure reliability.

Purpose

To maintain reliability and ensure regulatory compliance of the Weymouth plant.

Accomplishments Through FY 2015/16

Through FY 2015/16, one project has been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Weymouth Domestic and Fire Water System Improvements – Completed final design

Weymouth Filter Rehabilitation – Began construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Weymouth Basin Gate Improvements	8,657,099	2022	Begin final design
Weymouth Chlorine System Upgrade	3,592,009	2021	Complete final design
Weymouth East Washwater Tank Pumps Replacement	1,509,048	2017	Complete construction
Weymouth Filter Rehabilitation	41,062,048	2018	Complete construction
Weymouth Oxidation Demonstration Rehabilitation Project	3,461,203	2020	Begin final design
Weymouth Solids Handling Facility Rehabilitation	929,000	2020	Begin preliminary design

Weymouth Water Treatment Plant - Oxidation Retrofit 15392

Total Appropriation Estimate:	$270,000,000	Total Projected Through June 30, 2016:	$226,700,000
Appropriated Amount:	$246,892,000	Estimated Percent Complete:	84%
Biennial Estimate:	$28,423,000	Estimated Completion Date:	2019

Scope

This appropriation was established to design and construct all systems and facilities that are required to provide ozone disinfection capability and to integrate those systems and facilities into the existing plant operations.

Purpose

To reduce the level of disinfection by-products in the treated water supplied by the Weymouth plant in order to meet state and federal standards and provide consistent and equitable high quality treated water to all of Metropolitan's member agencies.

Accomplishments Through FY 2015/16

Through FY 2015/16, one project has been completed.

Major project milestones in FY 2014/15 and FY 2015/16:

Weymouth Hypochlorite Feed Facilities – Began construction

Weymouth Ozonation Facilities (Start-up & commissioning) – Continued construction

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Weymouth Hypochlorite Feed Facilities	14,413,707	2019	Continue construction
Weymouth ORP - Ozone Equipment Procurement	2,573,580	2019	Complete construction
Weymouth Ozonation Facilities (Start-up & commissioning)	169,249,471	2019	Complete construction

Whitewater Siphon Protection 15341

Total Appropriation Estimate:	$15,300,000	Total Projected Through June 30, 2016:	$2,900,000
Appropriated Amount:	$2,835,000	Estimated Percent Complete:	2%
Biennial Estimate:	$5,000,000	Estimated Completion Date:	2019

Scope

This appropriation was established to design and construct a protective barrier for the Whitewater siphons to prevent further erosion of streambed from undermining the siphons, and remediate the Whitewater Mining Pit in accordance with State regulations and prevent head-cutting of the mining pit from undermining the siphons in the event of a major flood.

Purpose

To prevent damage to the Whitewater Siphon due to storm flows on the Whitewater River and to ensure deliveries of CRA water.

Accomplishments Through FY 2015/16

No major milestones were achieved.

Objectives for 2016/17 and 2017/18

Project	Total Project Estimate	Estimated Completion	Planned Activity
Whitewater Siphon Protection Improvements	12,895,750	2019	Begin construction