Wente Vineyard and Golf Course in Livermore

SECTION ONE

INTRODUCTION

SECTION 1 - INTRODUCTION

ABOUT ZONE 7

Zone 7 provides flood protection to all of eastern Alameda County and supplies treated drinking water to retailers serving nearly 200,000 people in Pleasanton, Livermore, Dublin and, through special agreement with the Dublin San Ramon Services District, to the Dougherty Valley area. Zone 7 also supplies untreated water to 3,500 acres, primarily South Livermore Valley farms and vineyards. *Figure 1 below shows the Zone 7 Service Area.*

Figure 1 - Zone 7 Service Area shown in orange

WATER SYSTEM

Zone 7's water supply originates as snowmelt in the Sierra Nevada, and makes its way here using the Sacramento-San Joaquin Delta as a conveyance system. The water is imported to the Livermore-Amador Valley through State Water Project's South Bay Aqueduct. The Delta supplies Zone 7 with roughly 80% of its water supply, the remaining comes from local rain runoff stored at Lake Del Valle and from groundwater pumped from the Valley's groundwater basin. Water is treated either at the Patterson Pass Conventional Water Treatment Plant, the Patterson Pass Ultrafiltration Water Treatment Plant or the Del Valle Water Treatment Plant. In the future, an additional 24 million gallons per day (MGD) will be treated at the Altamont Water Treatment Plant. Groundwater production wells located in the Hopyard, Mocho, and Stoneridge wellfields provide 25 MGD of capacity, while the forthcoming Chain of Lakes Wells 1 and 2 will supply an additional 8 MGD. To help reduce the hardness of groundwater supplies, the Mocho Groundwater Demineralization Facility is being constructed and will be online in spring 2009. *Figure 2 on page 1-8 shows the Zone 7 Service Area with existing facilities.*

SECTION 1 - INTRODUCTION

PURPOSE

On an annual basis, Zone 7 prepares the Capital Improvement Program document, which plans the capital projects and programs needed to carry out the goals and policy objectives of the agency. The CIP document typically includes a Five-Year Flood Protection System CIP. A Ten-Year Flood Protection CIP based on the Stream Management Master Plan (SMMP) is currently being developed; therefore, staff recommended removing the Five-Year Flood Protection System CIP from this year's document. The Zone 7 Finance Committee concurred with this recommendation at their August 28, 2008 meeting. Staff expects to present an expanded Flood Protection System CIP in a separate document at a later time. This will allow additional time necessary to define and develop a funding plan to support an SMMP-based Ten-Year CIP.

Specifically, this document:

- Communicates to all involved stakeholders, the projects, costs, schedules and priorities of its capital improvement program for both the Flood Protection and Water Systems.

- Facilitates decision making relative to project scheduling and resource allocations.

- Indentifies how capital projects and programs will be paid for.

This document includes:

- A description of the CIP and the process used to develop the plan.

- Highlights of key projects, and comparison to the previous fiscal year and identification of the major changes and status of major capital projects.

- A description of each capital improvement project, including planned goals, justification, priority, operational impact, responsible section, in-service date, project costs, source of funds, cash flow.

- Cash flow projections for the various capital funds based on anticipated revenue and planned expenditures.

CIP STRUCTURE

The CIP consists of four primary levels. In descending order, these levels are: System, Strategy, Program, and Project.

SYSTEM

The highest level of capital improvement activities is a "System". A System is identified as a primary service that Zone 7 is responsible for providing to its community. This CIP indentifies capital projects needed to support the Zone 7 Water System:

Water System – pertains to the acquisition, conveyance, land acquisition and construction of water supply facilities, treatment (for Municipal and Industrial customers), maintenance of water supply facilities, and distribution of water. This system also includes management of the groundwater basin.

STRATEGY

The second level in the CIP structure is a "Strategy". A Strategy is a grouping of several programs that address the need to renew, replace, improve or expand Zone 7's Water System and have a common source of funding. There are three capital program strategies.

- **Renewal/Replacement** focuses on existing facilities that have deteriorated or are in need of rehabilitation to maintain the established level of service to existing Zone 7 customers. *Funded by water rates.*

- **System-Wide Improvements** addresses new regulatory requirements and enhancements to existing facilities that will improve operation and maintenance safety, flexibility, cost-effectiveness or optimize performance as necessary for existing Zone 7 customers. *Funded by water rates.*

- **Expansion** identifies the capital projects needed to meet the needs of new customers as approved by the appropriate local governmental agencies within Zone 7's service area. *Funded by water connection fees.*

PROGRAM

The third level in the CIP structure is a "Program". Programs represent a group of related projects combined to support various components of the Water System. There are currently nine capital programs:

- **Buildings & Grounds** addresses structures and support facilities not directly involved in the supply, treatment, transmission or storage of water or flood protection.

- **Emergency Preparedness** addresses Zone 7's goals and desired capability for emergency response.

- **Groundwater Basin Management** focuses on Zone 7's responsibility to manage the local groundwater basin, which includes stabilizing and reducing the buildup of total dissolved solids and hardness, and delivering high quality water to its customers.

- **Program Management** accounts for staff time and related costs associated with managing capital programs.

- **Regulatory Compliance** ensures compliance with a range of existing and future regulatory and/or permitting requirements.

- **Transmission & Distribution** consists of projects that are required for the transmission of treated water to Zone 7 Retailers.

- **Water Supply & Conveyance** focuses on the planning and purchase of new water supplies, and implementation of improvements required to convey raw water to Zone 7's surface water treatment plants, to local streams for recharge and to Zone 7's agricultural customers for their irrigation needs.

- **Water Treatment Facilities** addresses existing and proposed surface water treatment facilities and groundwater demineralization facilities.

- **Wells** identifies facilities required to reliably maintain the production of treated water deliveries during drought periods and peak demand periods, during planned and unplanned outages of surface water treatment plants, and to optimize conjunctive use and facilitate groundwater basin management.

PROJECT

The fourth level in the CIP structure is a "Project". A Project is a discrete set of capital improvement tasks with a dedicated Project Manager assigned to it. Prioritization, appropriation requests and projected spending (cash flow) are authorized at this level. The FY 2009/10 Ten-year CIP has seventy-one Water System projects. Descriptions of the capital projects associated with the Water System are located at the end of Chapters 2.

CIP PREPARATION

The Ten-year CIP document is prepared as a part of Zone 7's overall capital planning and budgeting process. The responsibilities for preparing and managing the CIP during the fiscal year are shared among three primary groups:

Program Management consists of Section Heads and Project Managers working together to meet the needs of the annual CIP process and executing specific programs and projects during the fiscal year.

Project Managers are responsible for identifying new and updating current capital projects, their appropriations and cash flows. The Section Heads review and confirm proposed appropriations and cash flows within their programs as well as identifying resource constraints or conflicts.

CIP Manager is responsible for the overall management of the CIP during the capital budget process and throughout the fiscal year. Specific responsibilities include:

- Managing the CIP budget and planning systems and producing the CIP document.
- Ensuring Section Heads and Project Managers meet, review documents, coordinate efforts and resolve conflicts, accordingly.
- Providing staff support to and coordinating the transfer of information between the Capital Review Group, CIP Prioritization Group, Section Heads and Project Managers.
- Ensuring Capital Review Group decisions are reflected in the CIP.
- Reviewing the adequacy of Zone 7 financial and staffing resources to complete proposed projects.

CIP Review Group is an internal agency group that is responsible for ensuring that the CIP meets the goals and objectives of Zone 7's Mission Statement and policies. The group is comprised of the General Manager, Assistant General Managers of Operations, Engineering and Finance, Production Manager, Facilities Supervisors, CIP Manager, key Section Heads, Project Managers and Staff Analysts. The responsibilities of the groups include:

- Reviewing the CIP document during its development for redundancies, cost-effectiveness, schedule and opportunities to add/delete/combine programs and projects.

- Confirming the adequacy of Zone 7 resources to complete proposed projects.

- Recommending necessary changes to project scope, schedule and budget that are within staff's administrative authority.

CIP Prioritization Group is an internal agency group consisting of the Assistant General Managers of Operations and Engineering, Production Manager, CIP Manager, Senior Engineer and Staff Analyst of the Water Supply Engineering (WSE) Section. This group's role is to:

- Approve and prioritize the final list of projects to be presented within the CIP document to the General Manager and Board of Directors based on resources, available funding, and priority.

- Confirming proposed spending amounts for projects and programs and ensuring appropriate justification is provided.

- Meet on a quarterly basis to review the status of the CIP, including the financial condition of the various capital funds.

PRIORITIZATION CRITERIA

Prioritizing projects is an important part of the CIP planning process. The project prioritization criteria provide a method to rank or rate the relative importance of a project based upon factors such as protection of health and safety, legal requirements and ability to provide and maintain levels of service to existing and future customers. These criteria provide a basis for decision-making regarding which projects will be implemented in any given year. In addition, they provide a basis for scheduling projects over the ten-year span of the CIP.

The following three categories reflect a range of priorities from high to low:

Priority 1, Mandatory Projects – These are critical projects representing the highest priority of all capital projects. These projects meet one or more of the following criteria:

- **Essential** for providing reliable water supply to meet projected demands
- **Essential** to meet Zone 7's Mission Statement and Board Policies or Level of Service Goals
- **Required** by legislation, regulation, and/or for protecting public health and safety
- Projects already under construction
- Funded by non-Zone 7 Agency sources such as grants, developers, contractors, or Retailers

Priority 2, Necessary Projects – These are projects that must be completed, but Zone 7 has a *moderate* level of control as to when they should be performed.

- Increase water supply reliability and delivered water quality
- Maintain or increase level of service goals and/or operating efficiencies with short-term paybacks (within 5 years)

Priority 3, Discretionary Projects – These are projects that should be implemented to increase level of service goals, but Zone 7 has a *significant* level of control as to when they should be performed. Many projects in this category are conceptual level and cost estimates are preliminary.

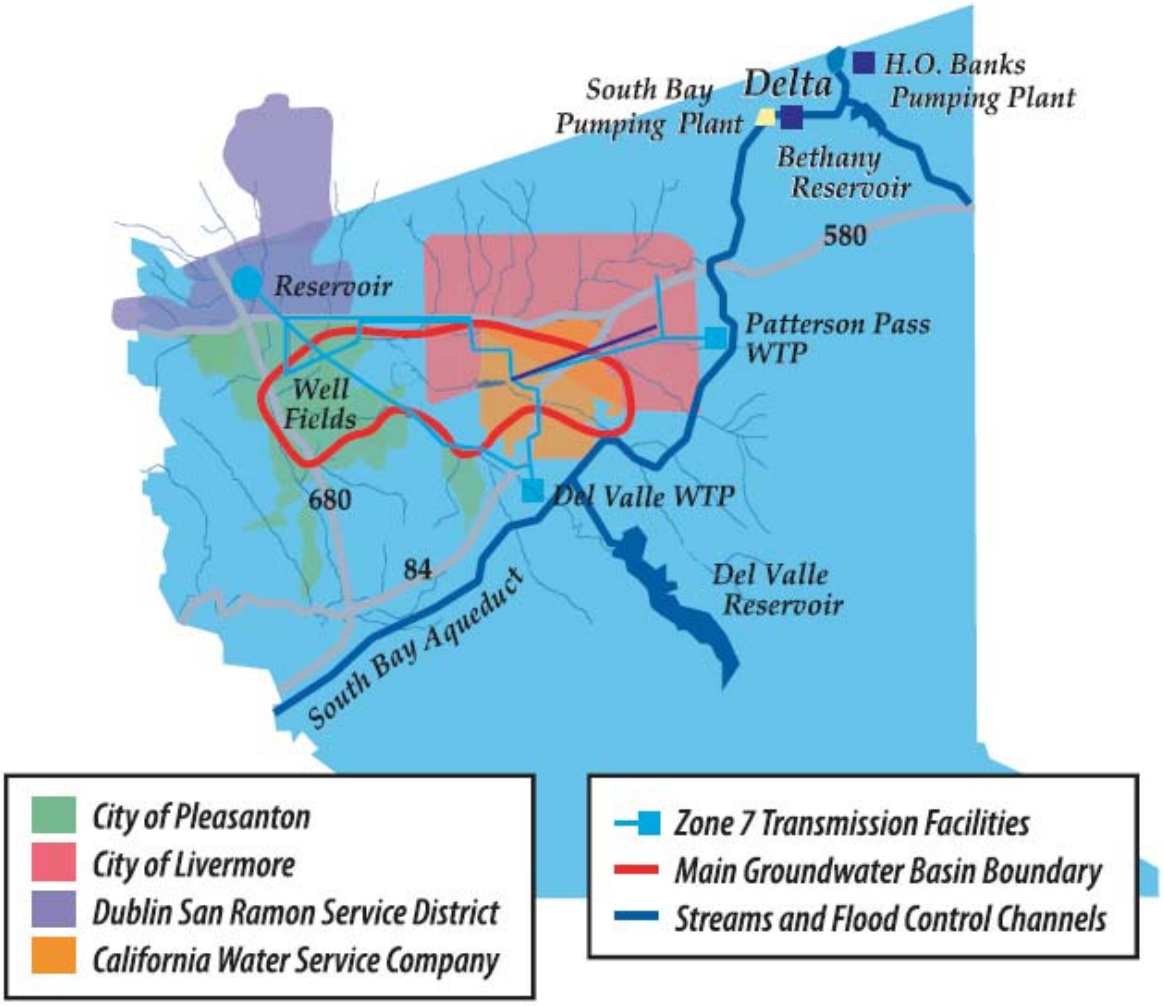
SOURCES OF FUNDING

Funding for Zone 7's Water System CIP is primarily from Municipal & Industrial (M&I) Connection Fees and Water Rates. Revenue derived from these rates and fees are deposited into the funds listed below. The rates and fees are reviewed and, if necessary, adjusted annually. When determining the funding source for each project, the relative benefit to existing and future customers is evaluated carefully. For general reference, a description of each Zone 7 fund is provided below. Funding analyses specific to the appropriate System are located in Chapter 2.

Fund 72 – Renewal/Replacement & System-Wide Improvements	Funds a project, or portion thereof, that relates to the replacement or improvement of existing water facilities, and which benefits existing customers. Funds are generated through water rates charged for the sale of water to current Zone 7 customers. Water rates are established based on the revenue required to operate and maintain the existing Water System including an allowance for Renewal/Replacement & System-Wide Improvements projects. Another source of revenue for Fund 72 is the Dougherty Valley facility use fees, which are charged to Dougherty Valley development. Per Amendment No. 1 of the Zone 7 and Dublin San Ramon Services District (DSRSD) Water Supply Contract, facility use fees are charged to the Dougherty Valley service area to compensate Zone 7 for the use of Zone 7's existing facilities to provide water to this area. Currently, the facility use fee is $2,460 per new equivalent connection, based on a 5/8" meter.
Fund 73 – Expansion	Funds a project, or portion thereof, that relates to additional demands on the existing Water System, which includes all water purchases; conveyance, treatment and transmission facilities; and associated costs (e.g., planning, design, construction, legal, administration, property acquisition, permitting). Revenue is generated from the collection of water connection fees for new water services. Connection fees are developed and adjusted with respect to the capital improvements required to meet future demands on the water system. Connection fees are paid when securing permits for development. As of January 2009, the Zone 7 connection is $21,550 per equivalent connection, based on a 5/8" meter. A separate connection fee of $19,950 per equivalent connection is assessed to the Dougherty Valley area in San Ramon, which DSRSD serves per Amendment No. 1 of the Zone 7 and DSRSD Water Supply Contract. The revenue generated from connection fees provides funding for the implementation of all expansion projects.

Figure 2

Zone 7 Service Area w/Existing Facilities



CHAPTER TWO

WATER SYSTEM

SECTION II – WATER SYSTEM

INTRODUCTION

This chapter identifies the specific goals and proposed appropriations for the individual Strategies and Programs associated with the Water System over the next ten years starting with FY 2009/10.

WATER SYSTEM GOALS

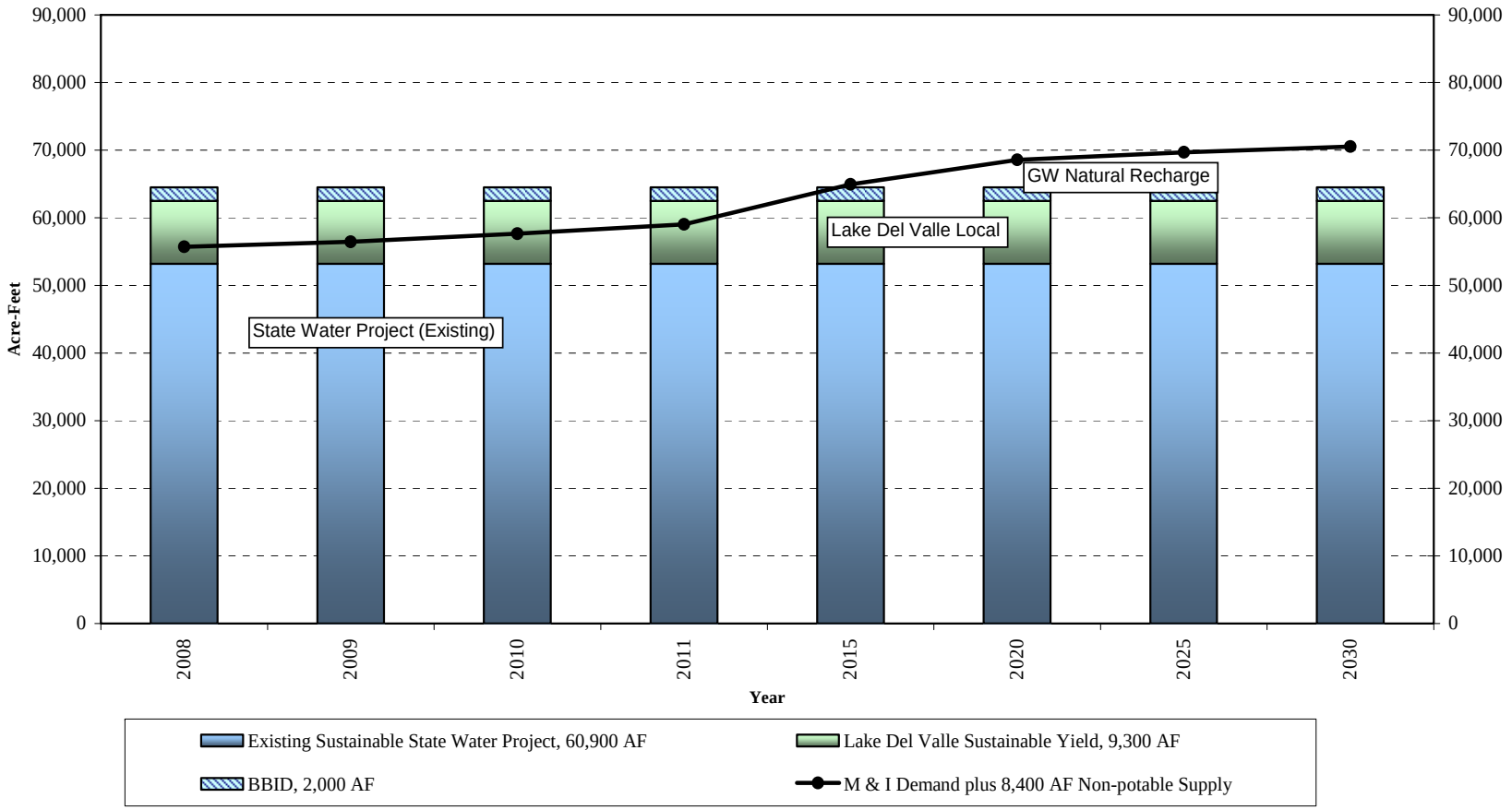
To ensure that the needs of Zone 7 customers are met, Zone 7 has set goals relative to water reliability, quality and groundwater management. These Water System goals, as defined by adopted Board policies, are outlined in the following pages. While every policy is subject to review and adjustment, the current policies can be found in Appendix A. The charts that follow each goal graphically illustrate Zone 7's ability to meet that particular goal.

Water Reliability

Two water policy goals help guide Zone 7's capital and resource planning efforts. Adherence to these goals results in Zone 7 maintaining a highly reliable M&I water supply system for existing and future water demands under varying hydrologic conditions.

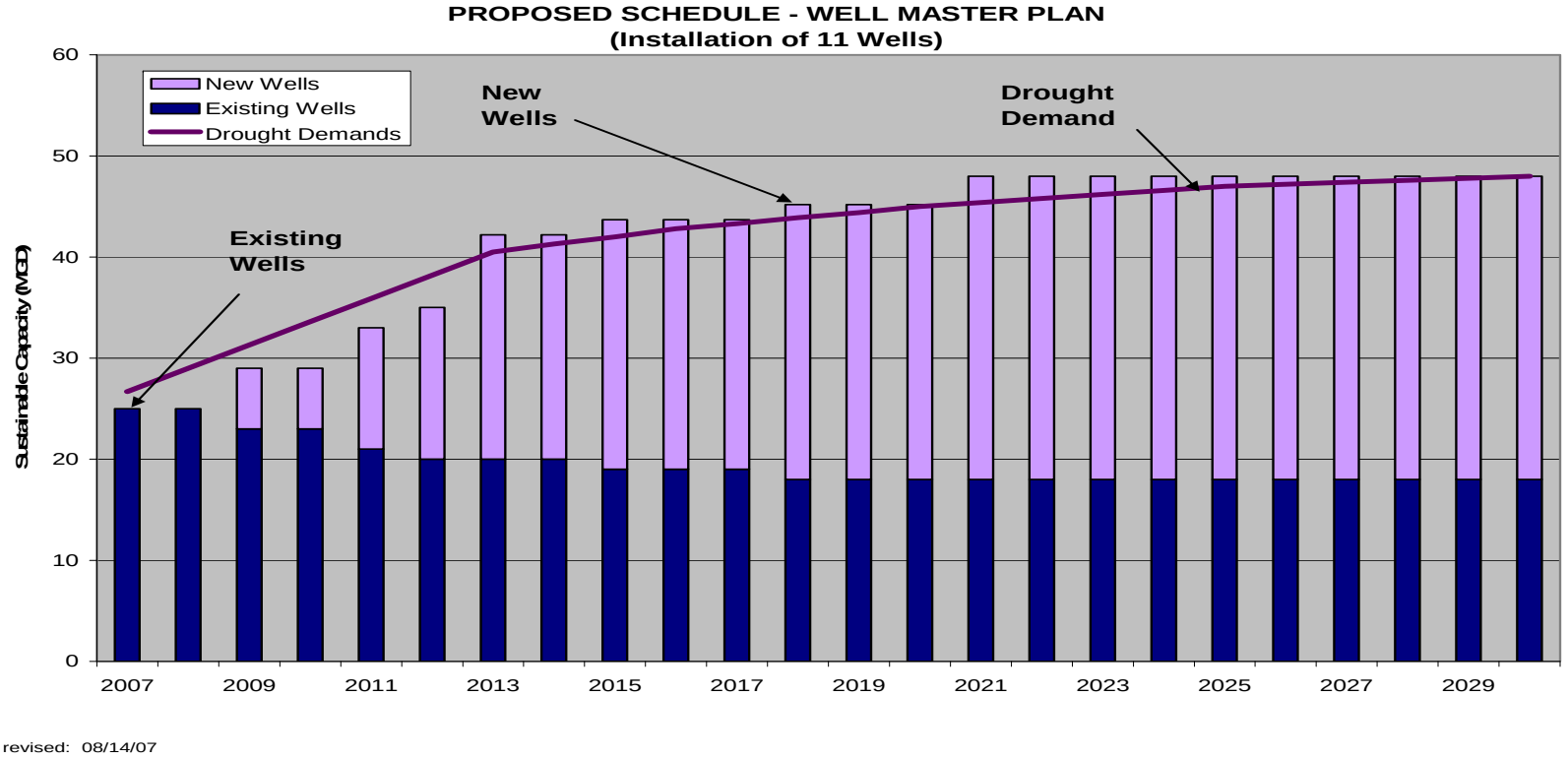
WATER SUPPLY AND RELIABILITY	*RELIABILITY POLICY FOR MUNICIPAL AND INDUSTRIAL (M&I) WATER SUPPLIES (RESOLUTION NO. 04-2662)*	
	Goal 1	Meet 100% of its treated water customers' water supply needs in accordance with Zone 7's most current contracts for M&I Water Supply, including existing and projected demands for the next twenty (20) years as specified in Zone 7's Urban Water Management Plan (UWMP), which will be coordinated with Zone 7's M&I water contractors. Zone 7 will endeavor to meet this goal during an average water year, a single dry water year, and multiple dry water years.
	Goal 2:	Provide sufficient treated water production capacity and infrastructure to meet at least 75% of the maximum daily M&I contractual demands should any one of Zone 7's major supply, production or transmission facilities experience an extended unplanned outage.
	Planning and Operational Criteria	In addition to the goals stated above, Zone 7 has a number of planning and operational criteria, which are associated with this Board resolution and are as follows: 1. Provide surface water treatment design capacity to meet 85% of the Zone 7 maximum day demand for reliability and operational flexibility. 2. Operate water supplies so that the groundwater basin levels do not drop below historic lows.

Figure 3
Projected Zone 7 Demand and Sustainable Water Supply



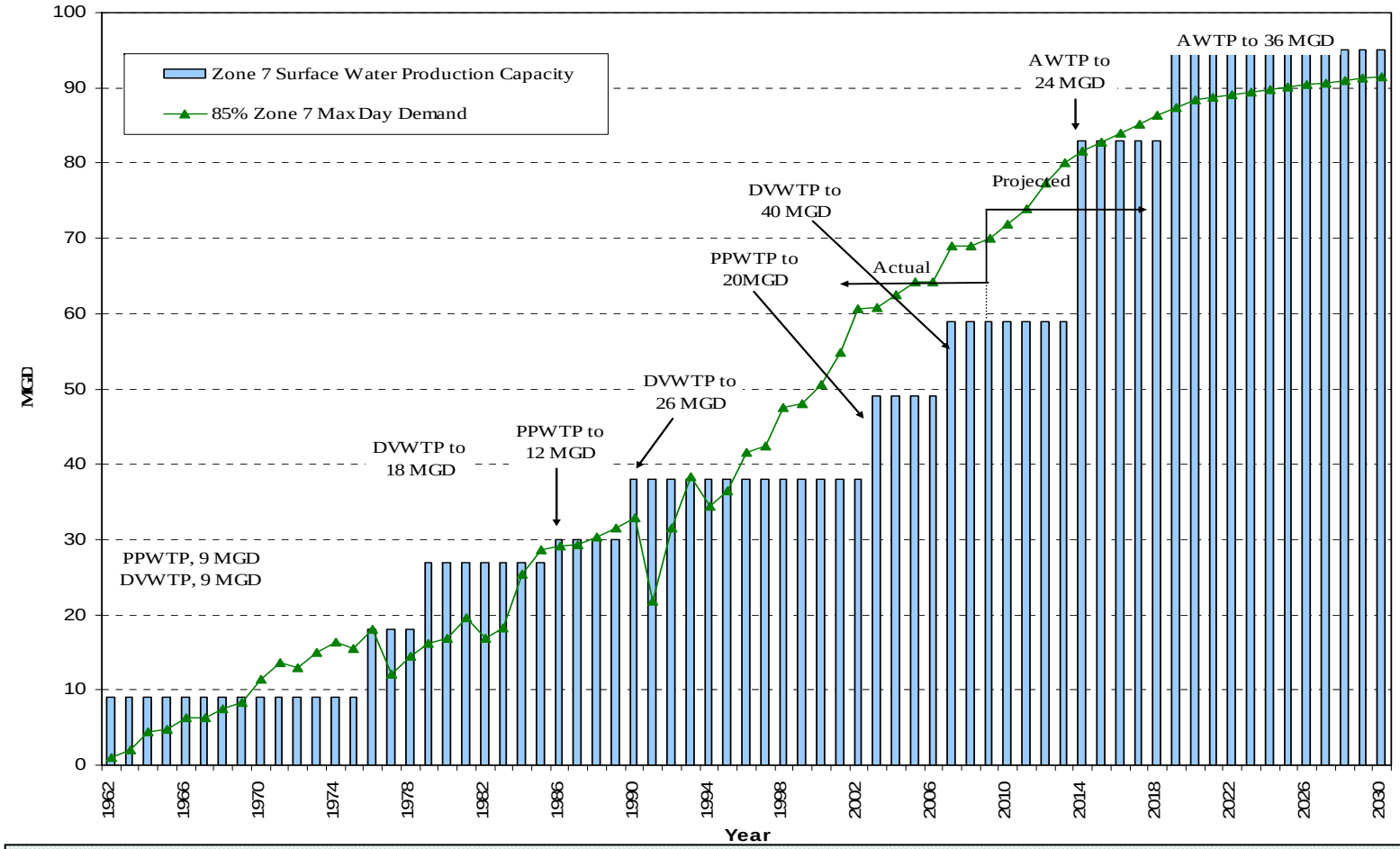
This figure reflects Zone 7's ability to meet Goal 1 of the Reliability Policy, which is to meet 100% of treated water demands under normal operating conditions, during an average water year, single dry water year, and multiple dry water years. Based on DWR's Draft SWP Delivery Reliability report (December 2007) which incorporates the impacts of Judge Wanger's Delta Smelt interim remedies, the average-year SWP yield is reduced from 76% to 66% (long-term SWP yield). In response, Zone 7 has asked customers to cut water use by 10%, and is actively involved in developing a long term solution for Delta conveyance and habitat conservation.

Figure 4 - Zone 7 Well Capacity for Drought Protection (2007-2030)



This chart shows that new wells are needed to meet the drought reliability goal.

Figure 5
Treatment Plant Production Capacity vs. 85% Zone 7 Max Day M&I Demand
1962 – 2030



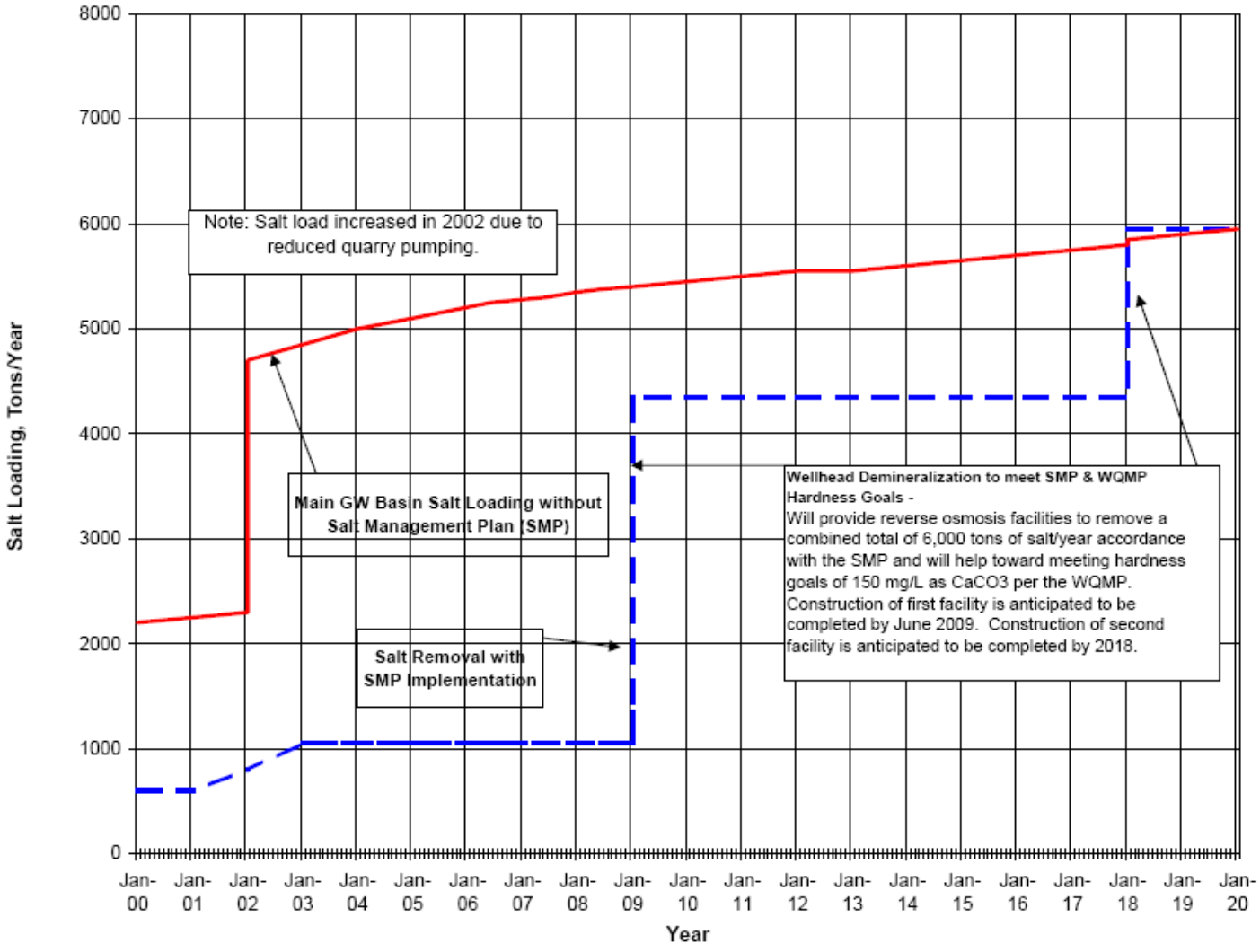
This chart illustrates Zone 7's treatment plant production capacity relative to 85% of maximum day demand. Until the AWTP is in-service, Zone 7 falls short of meeting this goal.

Groundwater Basin Management

The Livermore-Amador Valley's main groundwater basin has an estimated storage capacity of 250,000 acre-feet. The Groundwater Basin supplies about 20% of Valley-wide water demands and provides local storage to meet demands during dry years.

WATER QUALITY	*GROUNDWATER MANAGEMENT PLAN (RESOLUTION NO. 06--2796)*	
	Purpose	The Groundwater Management Plan (GMP) integrates various Zone 7 groundwater management policies and programs. One of these is the May 2004 Salt Management Plan (SMP), which was incorporated into the GMP and was approved by the State of California Regional Water Quality Control Board on September 24, 2004 as satisfying the requirements of Provision D.1.c.ii of the regional "Master Water Recycling Permit" order No. 93-159. This permit was issued to the Dublin San Ramon Services District (DSRSD), the City of Livermore and Zone 7, and authorizes the production and distribution of recycled water. The SMP sets forth a plan to facilitate recycling without degrading local water quality. In addition, the SMP goals are to maintain or improve groundwater mineral quality and delivered water quality through the following:
	Goal 1:	Protect and enhance the quality of groundwater.
	Goal 2:	Offset current and future salt loading, while facilitating reasonable regional recycled water use.
	Goal 3:	Maintain or improve groundwater mineral quality.
	Goal 4:	Provide more comparable delivered water quality to Retailers.
	Goal 5	Utilize Water Operations Plans to achieve these goals.

Figure 6 - Increased Groundwater Usage for TDS & Hardness Removal



Water Quality

All of water Zone 7's delivers to its Retailers meets or beats State and Federal health standards, however, surface water and groundwater taste, odor and/or appearance can often vary depending on the source, season or customer's location. To address these aesthetic concerns, Zone 7 has; 1) established self-imposed water quality targets which are more stringent than State and Federal regulations; and 2) developed a Water Quality Management Plan to assist in setting policies to address drinking and agricultural water-quality issues, shape operational decisions, establish capital facilities and set design standards.

WATER QUALITY	*WATER QUALITY POLICY FOR POTABLE AND NON-POTABLE WATER (RESOLUTION NO. 03-2494)*	
	Goal 1	Zone 7 shall continue to meet all state and federal primary Maximum Contaminant Levels[1] (MCLs) for potable water delivered to the M&I Contractors' turnouts, in accordance with existing water supply agreements.
	Goal 2:	Zone 7 shall meet all state and federal secondary MCLs[1] in the potable water delivered to its M&I Contractors' turnouts. In addition, Zone 7 shall, within technical and fiscal constraints, proactively mitigate earthy-musty taste and odor events from surface water supplies and reduce hardness levels to "moderately hard", defined as 75 to 150 mg/L as $CaCO_3$. Also, Zone 7 shall optimize its treatment processes to minimize chlorinous odors by maintaining consistent disinfectant dosage and residual.
	Goal 3:	Goal 3: Zone 7 shall endeavor to deliver to its non-potable Contractor turnouts, from a variety of sources, water of a quality that meets the irrigation needs of its Contractors and does not negatively impact vegetation, crops, or soils.
	Goal 4:	In order to achieve Goals 1 through 3, Zone 7 shall continue to work to improve the quality of its source waters. This may be achieved through Zone 7's Salt Management Plan, which will maintain or improve the water quality in the groundwater basin, and through advocacy of improvements in the State Water Project, its facilities and their operations, which may improve the source water of Zone 7's surface water supplies. In addition, Zone 7 will encourage the retailers to take similar steps as those outlined in this policy to improve the quality of the retail customers' water.

[1] Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the Public Health Goals (PHGs), or Maximum Contaminant Level Goals (MCLGs), as is economically and technically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Water Quality

Policy Principles and Joint Resolution of the City Council of the City of Pleasanton, the Board of Directors of the Dublin San Ramon Services District and the Board of Directors of the Zone 7 Water Agency Regarding Water Quality (Resolution No. 06-2783). This resolution establishes policy principles which will guide all three agencies in developing programs and operational guidelines relating to improving water quality. *A copy of this resolution can be found in Appendix A.*

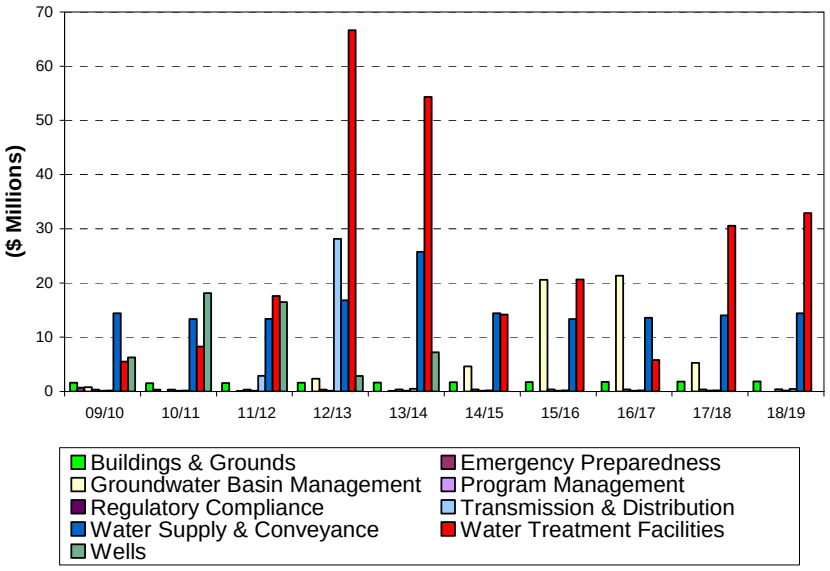
OVERVIEW OF THE WATER SYSTEM CIP

A primary function of the CIP is to provide Zone 7's Executive Staff and Board of Directors with a clear and orderly process for planning and budgeting for capital needs and to make informed decisions with regard to project priorities and scheduling.

In order to meet the mission, goals and policy objectives established by the Zone 7 Board, various capital projects and programs are needed to ensure a reliable and high quality water supply. The Zone 7 Water System CIP proposes the projects and programs needed to carry out the goals and mission of Zone 7. These projects anticipate the need to renew, replace and improve existing infrastructure (Fund 72, Water Rates) and to construct new facilities needed to accommodate future growth (Fund 73, Connection Fees).

Seventy-one Water System projects have been identified totaling $587M and falling within the following nine program areas:

- **Buildings & Grounds**
- **Emergency Preparedness**
- **Groundwater Basin Management**
- **Program Management**
- **Regulatory Compliance**
- **Transmission and Distribution**
- **Water Supply and Conveyance**
- **Water Treatment Facilities**
- **Wells**



($ Millions)

Program (FY)	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	Total
Buildings & Grounds	1.59	1.54	1.58	1.61	1.65	1.69	1.72	1.76	1.80	1.84	16.79
Emergency Preparedness	0.72	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04
Groundwater Basin Management	0.78	0.00	0.05	2.34	0.08	4.61	20.61	21.35	5.26	0.00	55.08
Program Management	0.34	0.34	0.34	0.34	0.39	0.39	0.39	0.39	0.39	0.43	3.74
Regulatory Compliance	0.11	0.11	0.12	0.12	0.13	0.13	0.14	0.14	0.15	0.15	1.30
Transmission & Distribution	0.15	0.16	2.89	28.16	0.49	0.20	0.20	0.20	0.20	0.46	33.09
Water Supply & Conveyance	14.42	13.34	13.40	16.82	25.76	14.42	13.36	13.60	14.04	14.41	153.54
Water Treatment Facilities	5.52	8.27	17.58	66.62	54.31	14.18	20.63	5.80	30.56	32.87	256.34
Wells	6.28	18.11	16.48	2.83	7.21	1.81	2.43	8.41	2.04	0.04	65.64
Total	**29.91**	**42.19**	**52.44**	**118.84**	**90.01**	**37.41**	**59.48**	**51.64**	**54.44**	**50.20**	**586.55**

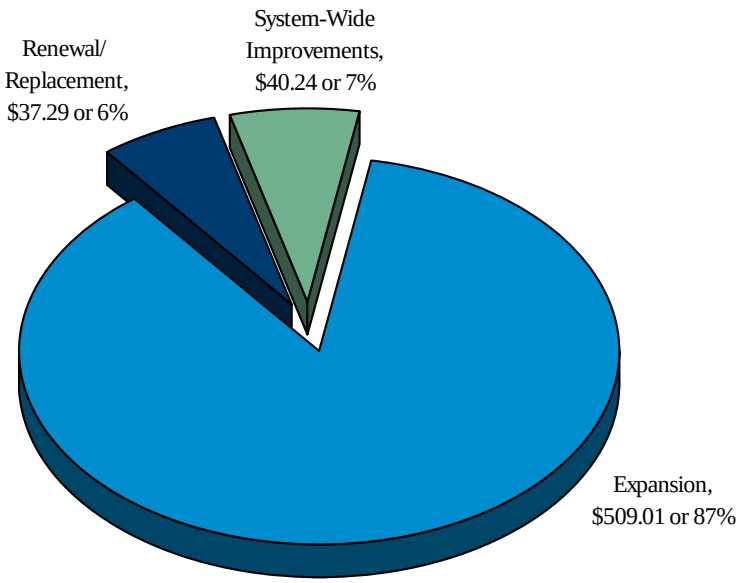
Note: Throughout this document, FY 09/10 appropriations are highlighted in grey to emphasize the first year of the CIP, which is the basis for the FY 09/10 Capital Budget (to be adopted in winter 2009).

OVERVIEW OF THE WATER SYSTEM CIP

The Water System CIP is categorized into these three strategies: Renewal/Replacement, System-Wide Improvements, and Expansion. R/R and SWI (Fund 72) is funded by water rates paid by existing customers via an annual transfer from Fund 52 – Water Enterprise (water rate revenue initially accrues to this fund). Expansion (Fund 73) is funded by connection fees paid by new development.

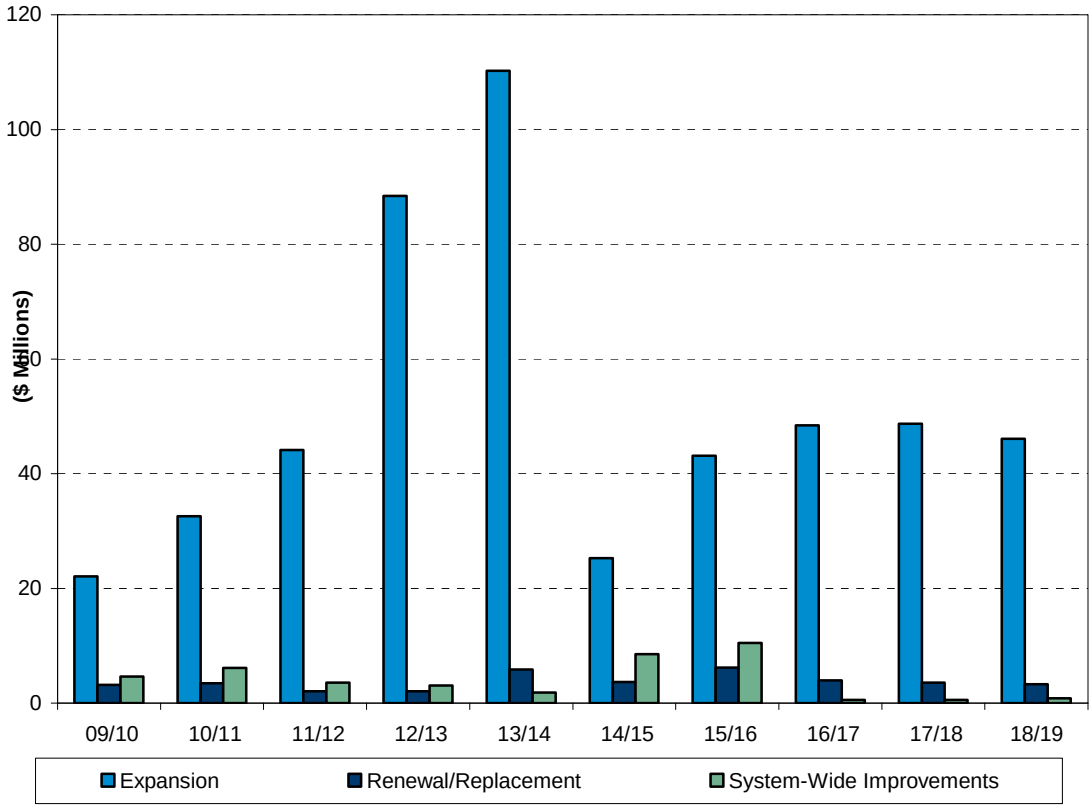
The following charts and tables present the planned annual appropriations for the Ten-Year CIP by Strategy. As illustrated below, a large percentage of the CIP is dedicated to projects needed to meet the demands of future growth.

Water System
FY 2009/10 Ten-Year Total
Strategy Breakdown



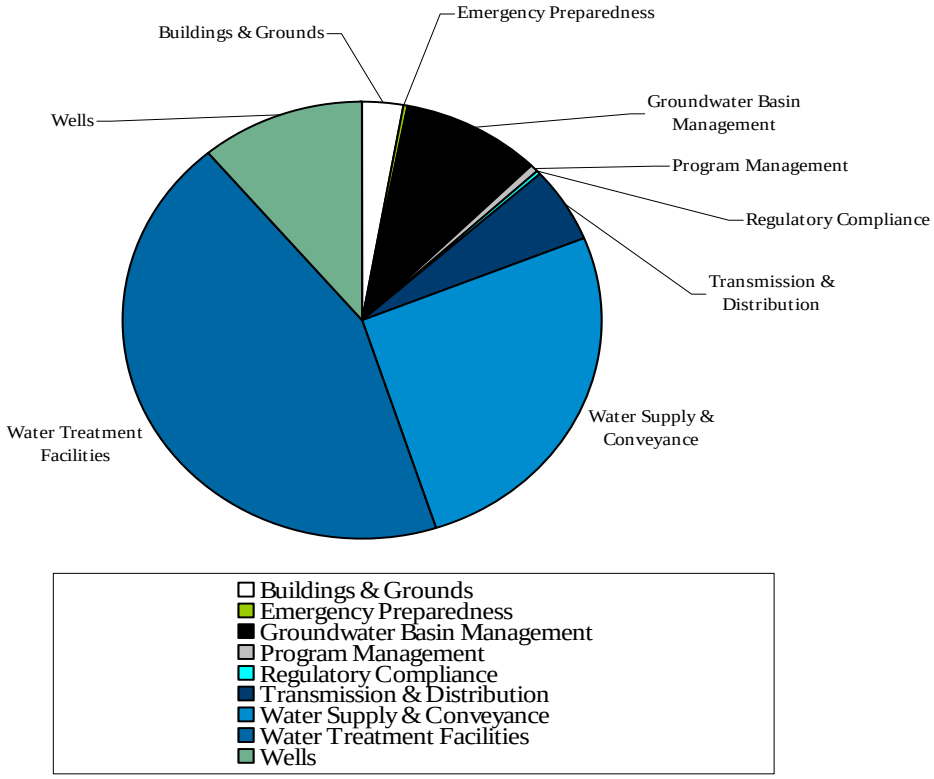
Strategy	Ten-Year Total ($ Millions)	Percentage
Expansion	509.01	87%
Renewal/Replacement	37.29	6%
System-Wide Improvements	40.24	7%
Total	**586.55**	**100.0%**

Water System
FY 2009/10 Ten-Year Capital Improvement Program
Planned Appropriations by Strategy and Fiscal Year
($ Millions)



Strategy (FY)	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	Total
Expansion	22.08	32.58	46.84	113.69	82.31	25.22	43.12	48.40	48.70	46.07	509.01
Renewal/Replacement	3.17	3.46	2.05	2.06	5.87	3.69	5.88	2.67	5.16	3.28	37.29
System-Wide Improvements	4.65	6.15	3.54	3.09	1.83	8.51	10.47	0.57	0.58	0.85	40.24
Total	**29.91**	**42.19**	**52.44**	**118.84**	**90.01**	**37.41**	**59.48**	**51.64**	**54.44**	**50.20**	**586.55**

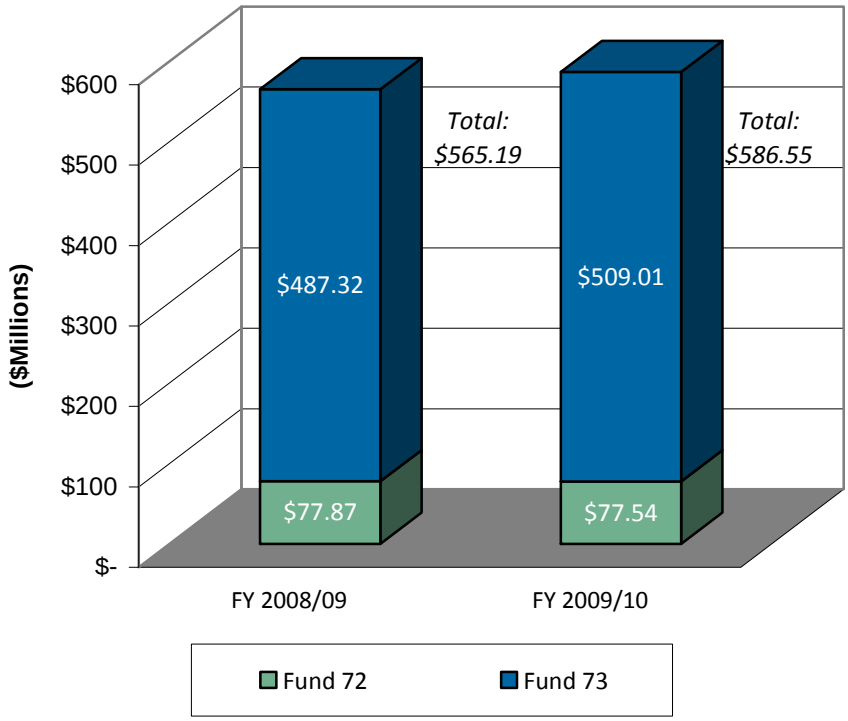
Water System
FY 2009/10 CIP Ten-Year Total
Program Breakdown



Program	Ten-Year Total ($Millions)	Percentage
Buildings & Grounds	16.79	3%
Emergency Preparedness	1.04	0.2%
Groundwater Basin Management	55.08	9.4%
Program Management	3.74	1%
Regulatory Compliance	1.30	0.2%
Transmission & Distribution	33.09	6%
Water Supply & Conveyance	153.54	26%
Water Treatment Facilities	256.34	44%
Wells	65.64	11%
Total	**586.55**	**100%**

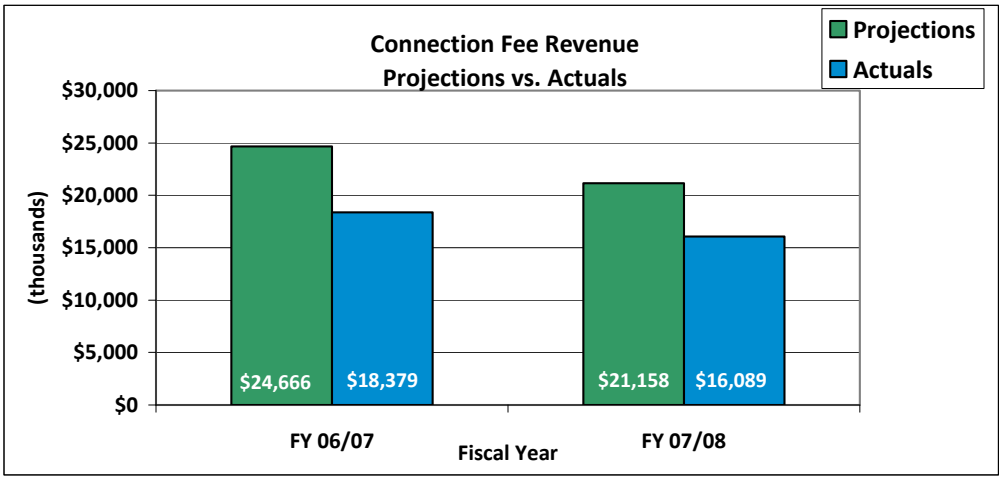
The planned FY 2009/10 Ten-Year CIP appropriations total $587 million, which is approximately $22 million or about 4% more than the FY 08/09 10-Year CIP total of $565 million.

Water System Comparison of
FY 08/09 Ten-Year CIP vs. FY 09/10 Ten-Year CIP



MAJOR CHANGES

The most significant change that has impacted the Water System CIP is the significant slow-down in residential and commercial development that has occurred over the last couple of years. This trend is consistent with the overall slow-down in the national economy. Pursuant to the Zone 7 policy that "new development pays for itself", the Expansion program relies solely on water connection fees paid by developers when connecting new homes or businesses to our Retailers' water systems. Over the past two fiscal years (FY 06/07 and FY 07/08), connection fee revenue has fallen substantially short of what was initially anticipated (see chart below).



Zone 7 expects the slow-down in revenue to continue (see Funding Analysis in Section II for more details) through FY 10/11. This significant drop in planned revenue has a direct impact on Zone 7's ability to fund major capital projects, such as the Altamont Water Treatment Plant (AWTP) and Altamont Pipeline - County Reach. Staff is recommending deferral of these two major projects by three years until sufficient funding is available. Note that a recent in-house evaluation has shown that maximum day demands (MDD) on our system have not increased as fast as in previous estimates and therefore this deferral will not impact our ability to meet our Retailers' demands.

Some other key changes from the FY 08/09 Ten-Year CIP are summarized below:

New Projects – Fund 72

AMP Condition Assessment – $210,000 in FY 09/10

- Update of the 2006 AMP Condition Assessment.

DVWTP Electrical Power System Upgrade- $1,300,000 - $430K in FY08/09 and $870K in FY 09/10

- Replacement of the main plant switchboard as well as the motor control center and switchgear for backwash pump 2 and service water pumps as recommended in the 2006 AMP Condition Assessment.

Local Hazard Mitigation Plan - $260,000 - $50K in FY 09/10 and $210K in FY 10/11

- Update Zone 7's existing Local Hazard Mitigation Plan, required every five years.

PPWTP Filter Improvements Study – $80,000 in FY 11/12

- An evaluation of the performance of existing conventional plant filters and recommended improvements.

Replacement of Parkside Building Roof - $80,000 in FY 09/10

- Project includes full replacement of the roof to prevent internal damage.

Safety Improvements at Water Treatment Facilities – $450,000 in FY 12/13

- This project will provide facility-wide audible and visual emergency alarm devices and safety equipment to improve response to chemical emergencies.

Well Pump, Motor and Casing Inspections - $350,000 over ten years starting in FY 09/10

- Annual inspection of at least two well pumps, casing and motors.

Vulnerability Assessment Review and Update - $110,000 in FY 09/10

- Update of the 2003 Zone 7 Vulnerability Assessment Report.

Deleted Projects - Fund 72

The four projects listed below have been deleted after a re-assessment of their needs and system priorities:

- *Upgrade of PPWTP ESS Building - $225K deleted from FY's 09/10 & 10/11*
- *PPWTP UF HVAC Systems Improvements - $460K deleted from FY's 08/09 & 09/10*
- *PPWTP UF Work Facility Addition - $540K deleted from FY's 08/09 & 09/10*
- *Install VFD at Mocho 3 or 4 - $330K deleted from FY 14/15*

Fund 72 Projects Recommended For Deferral

Due to funding constraints and system priorities, we have re-prioritized, developed contingency plans where appropriate and recommend deferral of:

- *DVWTP Aqueous Ammonia System – estimated at $3.2M.* Completion date deferred from December 2010 to June 2016. Safety improvements to the existing anhydrous system are underway to facilitate this deferral.

Fund 72 Projects Recommended For Deferral, cont.

- *DVWTP Chemical Systems Improvements – estimated at $2.5M* – completion deferred from June 2009 to June 2011.

- *DVWTP Interior Coating Improvements to the 4.5MG Steel Clearwell – estimated at $1.25M.* Due to funding issues, the original project has been split into two phases. The first phase, deemed to be of higher priority, will be completed in FY 08/09 and includes interior re-coating of the 3MG concrete clearwell's metal roof and exterior re-coating of the 4.5MG steel clearwell. This second phase, to be completed in FY 10/11, involves re-coating of the 4.5MG clearwell's interior.

- *PPWTP Ammonia Facility Replacement – estimated at $2.3M.* Completion date deferred from June 2011 to June 2014. Safety improvements to the existing anhydrous system are underway to facilitate this deferral.

- *PPWTP Improvements – 2012. Estimated at $2.3M – this is a collection of several PPWTP Conventional and UF Plant projects grouped together.* In the FY 08/09 CIP, these projects were deferred until FY 11/12 due to funding constraints. In this CIP document, this larger project has been split into three separate projects: PPWTP Improvement Project – 2011, PPWTP Improvement Project – 2012 and PPWTP Improvement Studies – 2011. The scheduling and grouping is based on priority and project type.

- *PPWTP Rehabilitation of Clarifier – estimated at $1.76M.* Completion date deferred from June 2011 to June 2014 due to funding constraints.

New Projects – Fund 73

Delta Conveyance Study - $375,000 in FY's 09/10 and 10/11

- This represents Fund 73's share ($187.5K in FY 08/09 and $187.5K in FY 09/10; 25% of the total Zone 7 share) for the Department of Water Resources (DWR) and United States Bureau of Reclamation (USBR) engineering and environmental studies for improved Delta conveyance facilities. Zone 7's total share is $1.5M, the remaining $1.125 or 75% will be funded by Fund 52 – Water Enterprise. Improved Delta conveyance facilities are needed to restore the State Water Project's (SWP) yield to previously anticipated levels (about 75%) of SWP Contract Table A Amounts.

Fund 73 Projects Recommended For Deferral

AWTP Phase 1 – estimated at $130M. Completion date deferred from June 2011 to June 2014.

- Due to the slowdown in growth/demands and connection fee revenue, it is recommended that the construction of the AWTP be deferred by three years, with a new on-line date of summer 2014.

AWTP Phase 1A – estimated at $7M. Completion date deferred from June 2014 to June 2016.
AWTP Phase 2 – estimated at $62M. Completion date deferred from June 2016 to June 2019.

- Consistent with the deferral of AWTP Phase 1, these two subsequent phases are also recommended for similar and proportionate deferral.

Altamont Pipeline - County Reach – estimated at $30M. Completion date deferred from June 2009 to June 2013.

- The Altamont Pipeline is divided into two phases/reaches. The first phase, Altamont Pipeline - Livermore Reach, is approximately five miles in length and 42-inches in diameter. Construction began in July 2008, with substantial completion estimated by July 2009. This second phase, Altamont Pipeline - County Reach, is recommended for deferral due to funding constraints.

Second Groundwater Demineralization Facility (100% from Fund 73) – estimated at $51M.

Completion date deferred from June 2013 to June 2018 due to funding constraints. The subsequent Third Groundwater Demineralization Facility is recommended for similar and proportionate deferral.

MAJOR CAPITAL PROJECTS

The following major capital projects which will provide additional supply, improve water quality and increase reliability, are currently underway:

Mocho Groundwater Demineralization

This project will remove salts and minerals from groundwater supplies delivered primarily to the western side of Zone 7's service area. This project also facilitates regional use of recycled water by balancing and managing salt loading on the groundwater basin. Identified as a water quality improvement project in the Zone 7 Water Quality Management Program Implementation Plan, through RO technology, this facility will treat up to 7.7 million gallons of groundwater a day pumped from a series of nearby existing Zone 7 wells. After the salt concentrate is removed, about 6.1 MGD of treated water will be available for blending with other supplies prior to delivery to our Retailers. At a total capital cost of about $37M (50% paid from water connections fees and 50% from water rates), this project is anticipated to be on-line in spring 2009. This plant is located at the northwest corner of the intersection of Santa Rita Road and Stoneridge Drive in Pleasanton.

Installation of a RO feed pump.

Chain of Lakes Wells 1 and 2

The WMP identified the need to construct a number of municipal water supply wells over the next 15 years to meet Zone 7's potable water drought reliability goal. The first phase of this project involves two new wells in the Chain of Lakes area. These two wells will provide an additional 8 MGD of capacity and are currently scheduled to be in-service by summer 2009. As of August 2008, the wells have already been drilled and developed, and are awaiting completion of a construction contract for a 36-inch connecting pipeline ("El Charro Pipeline"), and also for the pumps, motors, buildings, sitework, etc., to make both of these new wells fully operational.

Drilling of the new wells.

Altamont Pipeline - Livermore Reach

In July 2008, Zone 7 began construction on the first 5-mile segment of the Altamont Pipeline, within the City of Livermore, from Kitty Hawk Road, easterly to the vicinity of Vasco Road. This pipeline segment will have its own immediate benefits; by creating a loop within Zone 7's existing transmission system, it will provide improved water supply reliability for a portion of eastern Livermore in the event of emergency outages of water deliveries from the SBA.

Pipeline installation.

South Bay Aqueduct Improvement and Enlargement

The SBA Improvement and Enlargement Project will provide an additional 130 cfs of raw water conveyance capacity to Zone 7, meeting Zone 7's long-term raw requirements, as delineated in the Water Conveyance Study (2001). In addition, as part of the overall project, a 425 acre-foot (active storage volume) raw water reservoir (Dyer Reservoir) will be constructed, which will allow for more energy efficient operations through time-of-use pumping. In addition, it will provide water treatment benefits at Zone 7's future Altamont Water Treatment Plant by minimizing fluctuations in influent water quality. Project completion is anticipated in fall 2010.

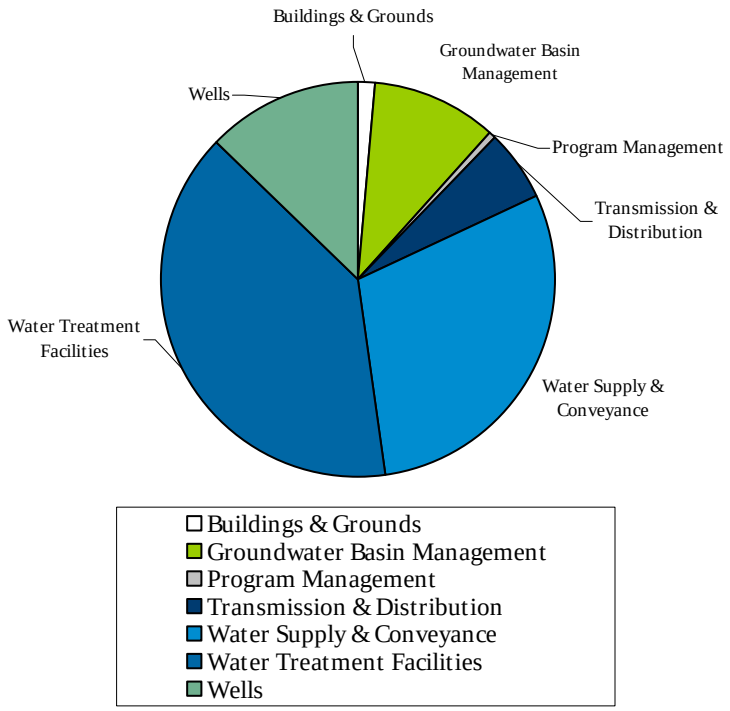
Taste and Odor Treatment at Del Valle and Patterson Pass Water Treatment Plants

Zone 7 staff is in the process of planning for long-term T&O treatment improvements at the existing Del Valle and Patterson Pass Water Treatment Plants, to reduce earthy-musty tastes and odors from surface water supplies. Currently, Zone 7 is pilot testing ozone and ozone-peroxide treatment alternatives. Assuming that an inexpensive design and acceptable funding plan can be developed, the design phase is anticipated to occur during years 2009 and 2010, with construction commencing in FY 2011/12.

Expansion Strategy – Fund 73

The specific projects that comprise the Expansion Strategy are described in the following pages with respect to their associated programs. The first year appropriation requirement is $22 million while the ten-year total for this strategy is $509 million, which is 87% of the $587 million total estimated expenditures planned in this ten-year CIP.

Water System
Expansion Strategy
Ten-Year Total by Program



Program	Ten-Year Total ($ Millions)	Percentage
Buildings & Grounds	7.35	1%
Groundwater Basin Managem	52.15	10%
Program Management	2.79	1%
Transmission & Distribution	31.07	6%
Water Supply & Conveyance	150.26	30%
Water Treatment Facilities	200.09	39%
Wells	65.29	13%
Total	**509.01**	**100%**

Expansion Strategy Breakdown

Appropriations ($Millions)

Programs	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	Total
Buildings & Grounds											
Administrative & Engineering Building Lease (Water System)	$0.383	$0.391	$0.399	$0.407	$0.415	$0.423	$0.432	$0.440	$0.449	$0.458	$4.197
Administrative & Engineering Building - Sinking Fund (Water System)	$0.282	$0.289	$0.296	$0.304	$0.311	$0.319	$0.327	$0.335	$0.343	$0.352	$3.157
Subtotal	**$0.665**	**$0.679**	**$0.695**	**$0.710**	**$0.726**	**$0.742**	**$0.759**	**$0.776**	**$0.792**	**$0.810**	**$7.354**
Groundwater Basin Management											
Mocho Groundwater Demineralization Plant	$0.250										$0.250
Second Groundwater Demineralization Facility						$4.610	$20.530	$21.350	$5.180		$51.670
Third Groundwater Demineralization Facility				$0.234							$0.234
Subtotal	**$0.250**			**$0.234**		**$4.610**	**$20.530**	**$21.350**	**$5.180**		**$52.154**
Program Management											
Capital Improvement Program Management	$0.107	$0.107	$0.107	$0.107	$0.114	$0.114	$0.114	$0.114	$0.114	$0.121	$1.119
Expansion Program Management	$0.150	$0.150	$0.150	$0.150	$0.175	$0.175	$0.175	$0.175	$0.175	$0.200	$1.675
Subtotal	**$0.257**	**$0.257**	**$0.257**	**$0.257**	**$0.289**	**$0.289**	**$0.289**	**$0.289**	**$0.289**	**$0.321**	**$2.794**
Transmission & Distribution											
Altamont Pipeline - County Reach			$2.730	$28.000	$0.050						$30.780
Transmission System Master Planning	$0.025	$0.025	$0.025	$0.025	$0.031	$0.031	$0.031	$0.031	$0.031	$0.038	$0.294
Subtotal	**$0.025**	**$0.025**	**$2.755**	**$28.025**	**$0.081**	**$0.031**	**$0.031**	**$0.031**	**$0.031**	**$0.038**	**$31.074**
Water Supply & Conveyance											
Arroyo Mocho Low Flow Crossings	$0.180										$0.180
Arroyo Mocho/Lake H Diversion Structure	$0.260										$0.260
Cawelo Groundwater Banking Program	$1.295	$1.293	$1.296	$1.293	$1.294	$1.295	$1.295	$1.294	$1.297	$1.299	$12.951
Chain of Lakes Facilities and Improvements	$0.530	$0.150	$0.360	$0.890	$1.230	$1.330	$0.350	$0.590	$1.030	$1.380	$7.840
Chain of Lakes Master Plan		$2.903	$0.490	$3.393							
CUWA Membership	$0.060	$0.060	$0.060	$0.060	$0.060	$0.060	$0.060	$0.060	$0.060	$0.060	$0.600
Delta Conservation Plan	$0.135										$0.135
Delta Conveyance Study	$0.188										$0.188
Fixed Cost of Water Entitlement	$0.068	$0.033	$0.022	$0.011							$0.134
Fourth Contractor's Share of the SBA	$0.726	$0.726	$0.726	$0.726	$0.726	$0.726	$0.726	$0.726	$0.726	$0.726	$7.260
Fourth Contractor's Share of the SBA - Sinking Fund	$0.196	$0.196	$0.196	$0.196	$0.196	$0.196	$0.196	$0.196	$0.196	$0.196	$1.960
High Efficiency Toilet Rebate Program	$0.015	$0.018	$0.018	$0.018	$0.023	$0.023	$0.025	$0.025	$0.025	$0.028	$0.215
High-Efficiency Washing Machine Rebate Program	$0.021	$0.021	$0.021	$0.021	$0.021	$0.021					$0.128
Semitropic Stored Water Recovery Unit	$0.048	$0.048	$0.048	$0.048	$0.048	$0.048	$0.048	$0.048	$0.048	$0.048	$0.480
South Bay Aqueduct Improvement & Enlargement Project	$8.548	$8.629	$8.491	$8.491	$8.494	$8.492	$8.491	$8.494	$8.492	$8.493	$85.115
South Bay Aqueduct Improvement & Enlargement Project - Sinking Fund	$1.500	$1.500	$1.500	$1.500	$1.500	$1.500	$1.500	$1.500	$1.500	$1.500	$15.000
SWP Peaking Payment (Lost Hills & Belridge Water Districts)	$0.264	$0.270	$0.267	$0.268	$0.267	$0.268	$0.267	$0.265	$0.268	$0.268	$2.672

Expansion Strategy Breakdown (Continued)

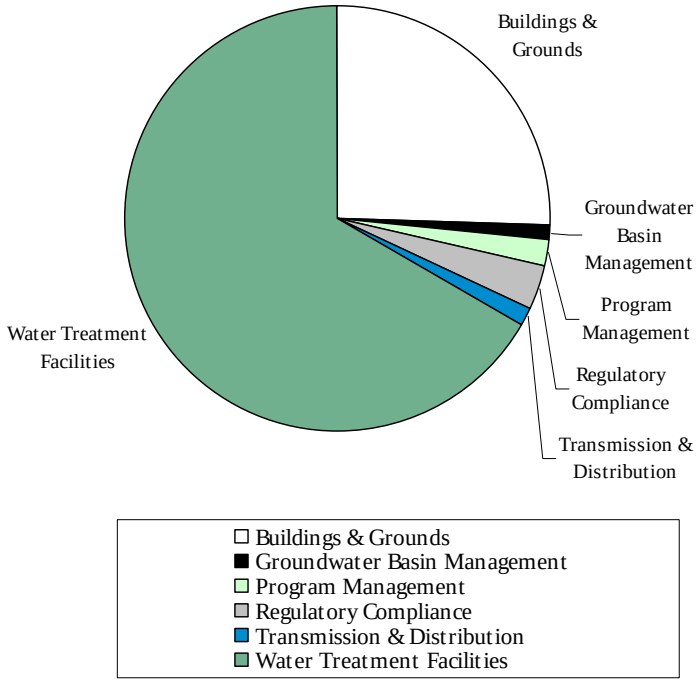
Programs	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	Total
	Appropriations ($Millions)										
Water Conservation Best Management Practices	$0.069	$0.069	$0.069	$0.069	$0.069	$0.081	$0.081	$0.081	$0.081	$0.081	$0.750
Water Supply Purchase for Reliability					$11.000						$11.000
Subtotal	**$14.103**	**$13.013**	**$13.074**	**$16.494**	**$25.418**	**$14.040**	**$13.039**	**$13.279**	**$13.723**	**$14.079**	**$150.260**
Water Treatment Facilities											
Altamont Water Treatment Plant Operational Training			$0.230	$0.240							$0.470
Altamont Water Treatment Plant Phase 1 (24 MGD)	$0.500	$0.500	$13.350	$64.900	$48.580	$2.692					$130.522
Altamont Water Treatment Plant Phase 1A						$1.012	$6.051				$7.063
Altamont Water Treatment Plant Phase 2 (12-18 MGD)								$4.270	$26.648	$30.787	$61.705
Water Quality Management Program	$0.028	$0.028	$0.030	$0.030	$0.033	$0.033	$0.035	$0.035	$0.038	$0.040	$0.328
Subtotal	**$0.528**	**$0.528**	**$13.610**	**$65.170**	**$48.613**	**$3.737**	**$6.086**	**$4.305**	**$26.686**	**$30.827**	**$200.088**
Wells											
Well Master Plan Wells	$6.250	$18.080	$16.450	$2.800	$7.180	$1.770	$2.390	$8.370	$2.000		$65.290
Subtotal	**$6.250**	**$18.080**	**$16.450**	**$2.800**	**$7.180**	**$1.770**	**$2.390**	**$8.370**	**$2.000**		**$65.290**
Total	**$22.077**	**$32.581**	**$46.841**	**$113.690**	**$82.306**	**$25.219**	**$43.124**	**$48.400**	**$48.701**	**$46.074**	**$509.013**
In 2008 Dollars	**$21.228**	**$30.123**	**$41.641**	**$97.183**	**$67.650**	**$19.931**	**$32.771**	**$35.365**	**$34.217**	**$31.126**	**$411.234**

Renewal/ Replacement Strategy

This Strategy identifies the projects needed for the Renewal and Replacement of the existing capital assets of Zone 7's Water System.

The specific projects that comprise the Renewal/Replacement Strategy are listed below with respect to their associated programs. The first year appropriation requirement for this strategy is $3.2 million and the ten-year total is $37 million. A breakdown by program for the ten-year total is shown on the following pages.

Water System
Renewal/Replacement Strategy
Ten-Year Total



Program	Ten-Year Total ($ Millions)	Percentage
Buildings & Grounds	9.44	25%
Groundwater Basin Management	0.45	1%
Program Management	0.66	2%
Regulatory Compliance	1.30	3%
Transmission & Distribution	0.45	1%
Water Treatment Facilities	24.65	66%
Wells	0.35	1%
Total	**37.29**	**100%**

Renewal/Replacement Strategy Breakdown

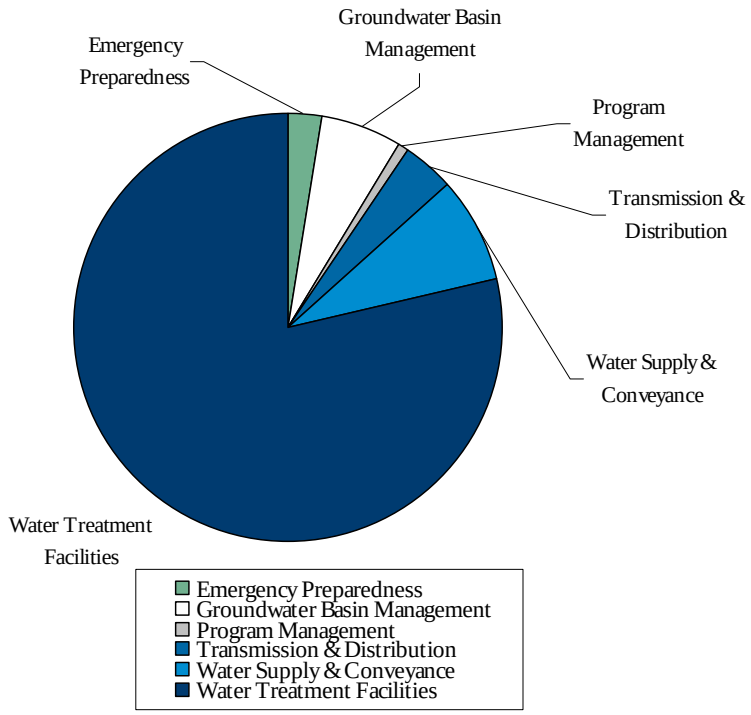
	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	Total
Buildings & Grounds											
Administrative & Engineering Building Lease (Water System)	$0.488	$0.497	$0.508	$0.517	$0.528	$0.539	$0.549	$0.561	$0.571	$0.583	$5.341
Administrative & Engineering Building - Sinking Fund (Water System)	$0.358	$0.367	$0.377	$0.386	$0.395	$0.406	$0.416	$0.427	$0.437	$0.448	$4.018
Replacement of Parkside Building Roof	$0.080										$0.080
Subtotal	**$0.926**	**$0.865**	**$0.885**	**$0.904**	**$0.923**	**$0.945**	**$0.965**	**$0.987**	**$1.008**	**$1.031**	**$9.439**
Groundwater Basin Management											
Monitoring Well Replacements & Abandonments	$0.050		$0.050		$0.080		$0.080		$0.080		$0.340
Stream Gage Replacement	$0.110									$0.000	$0.110
Subtotal	**$0.160**		**$0.050**		**$0.080**		**$0.080**		**$0.080**	**$0.000**	**$0.450**
Program Management											
Capital Improvement Program Management	$0.036	$0.036	$0.036	$0.036	$0.038	$0.038	$0.038	$0.038	$0.038	$0.040	$0.373
System-Wide Improvement, Renewal/Replacement Program Management	$0.025	$0.025	$0.025	$0.025	$0.030	$0.030	$0.030	$0.030	$0.030	$0.035	$0.285
Subtotal	**$0.061**	**$0.061**	**$0.061**	**$0.061**	**$0.068**	**$0.068**	**$0.068**	**$0.068**	**$0.068**	**$0.075**	**$0.658**
Regulatory Compliance											
Laboratory Equipment Replacement	$0.110	$0.110	$0.120	$0.120	$0.130	$0.130	$0.140	$0.140	$0.150	$0.150	$1.300
Subtotal	**$0.110**	**$0.110**	**$0.120**	**$0.120**	**$0.130**	**$0.130**	**$0.140**	**$0.140**	**$0.150**	**$0.150**	**$1.300**
Transmission & Distribution											
Transmission System Master Planning	$0.038	$0.038	$0.038	$0.038	$0.048	$0.048	$0.048	$0.048	$0.048	$0.057	$0.447
Subtotal	**$0.038**	**$0.038**	**$0.038**	**$0.038**	**$0.048**	**$0.048**	**$0.048**	**$0.048**	**$0.048**	**$0.057**	**$0.447**
Water Treatment Facilities											
Asset Management Program Condition Assessment	$0.210										$0.210
AWTP Membrane Replacement										$0.770	$0.770
Dougherty Reservoir Access Road Rehabilitation		$0.260									$0.260
DVWTP Aqueous Ammonia System							$3.230				$3.230
DVWTP Electrical Power System Upgrade	$0.870										$0.870
DVWTP Filter Underdrain Replacement								$0.310	$1.590		$1.900
DVWTP Filter Valves Replacement	$0.270										$0.270
DVWTP Instrumentation Upgrades						$0.040	$0.390				$0.430
DVWTP Interior Coating Improvements to the 4.5 MG Steel Clearwell		$1.250									$1.250
Minor Renewal/Replacement Projects	$0.250	$0.250	$0.250	$0.250	$0.250	$0.275	$0.275	$0.275	$0.275	$0.275	$2.625
PPWTP Ammonia Facility Replacement					$2.280						$2.280
PPWTP Instrumentation Upgrades						$0.130	$0.375				$0.505
PPWTP Rehabilitation of Clarifier and Replacement of Motor					$0.510	$1.250					$1.760
PPWTP Ultrafiltration Membrane Replacement		$0.350	$0.370	$0.410	$0.400	$0.490	$0.000	$0.530	$0.550	$0.580	$3.680
SCADA Enhancements	$0.250	$0.250	$0.250	$0.250	$1.150	$0.270	$0.270	$0.270	$1.350	$0.300	$4.610
Subtotal	**$1.850**	**$2.360**	**$0.870**	**$0.910**	**$4.590**	**$2.455**	**$4.540**	**$1.385**	**$3.765**	**$1.925**	**$24.650**
Wells											
Well Pump, Motor and Casing Inspections	$0.030	$0.030	$0.030	$0.030	$0.030	$0.040	$0.040	$0.040	$0.040	$0.040	$0.350
Subtotal	**$0.030**	**$0.030**	**$0.030**	**$0.030**	**$0.030**	**$0.040**	**$0.040**	**$0.040**	**$0.040**	**$0.040**	**$0.350**
Total	**$3.175**	**$3.463**	**$2.053**	**$2.062**	**$5.869**	**$3.685**	**$5.881**	**$2.668**	**$5.159**	**$3.278**	**$37.294**
In 2008 Dollars	**$3.053**	**$3.202**	**$1.825**	**$1.763**	**$4.824**	**$2.912**	**$4.469**	**$1.949**	**$3.625**	**$2.214**	**$29.836**

System-Wide Improvements Strategy

This Strategy addresses enhancements to existing facilities that will improve water quality, safety, reliability, efficiency, operational flexibility, and/or decrease costs.

The specific projects that comprise the System-Wide Improvements Strategy are listed below with respect to their associated programs. The first year appropriation requirement is $4.6 million and the ten-year total for this strategy is $40 million. A breakdown of the related programs for the ten-year total is shown on the following pages.

Water System
System-Wide Improvements Strategy
Ten-Year Total



Program	Ten-Year Total ($ Millions)	Percentage
Emergency Preparedness	1.04	3%
Groundwater Basin Manage	2.48	6%
Program Management	0.29	1%
Transmission & Distribution	1.56	4%
Water Supply & Conveyance	3.28	8%
Water Treatment Facilities	31.60	79%
Total	**40.24**	**100%**

System-Wide Improvements Strategy Breakdown

Programs	Appropriations ($Millions) FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	Total
Emergency Preparedness											
Local Hazard Mitigation Plan Update	$0.050	$0.210									$0.260
Security Improvements at Existing Facilities	$0.670										$0.670
Vulnerability Assessment Review & Update		$0.110									$0.110
Subtotal	**$0.720**	**$0.320**									**$1.040**
Groundwater Basin Management											
Mocho Groundwater Demineralization Plant	$0.250										$0.250
New Groundwater Management Program	$0.120										$0.120
Monitoring Wells											
Third Groundwater Demineralization Facility				$2.106							$2.106
Subtotal	**$0.370**			**$2.106**							**$2.476**
Program Management											
System-Wide Improvement, Renewal/Replacement Program Management	$0.025	$0.025	$0.025	$0.025	$0.030	$0.030	$0.030	$0.030	$0.030	$0.035	$0.285
Subtotal	**$0.025**	**$0.025**	**$0.025**	**$0.025**	**$0.030**	**$0.030**	**$0.030**	**$0.030**	**$0.030**	**$0.035**	**$0.285**
Transmission & Distribution											
Corrosion Master Plan Update					$0.250					$0.310	$0.560
System-Wide Installation of Line Valves	$0.050	$0.060	$0.060	$0.060	$0.060	$0.070	$0.070	$0.070	$0.070		$0.570
Transmission System Master Planning	$0.037	$0.037	$0.037	$0.037	$0.046	$0.046	$0.046	$0.046	$0.046	$0.056	$0.435
Subtotal	**$0.087**	**$0.097**	**$0.097**	**$0.097**	**$0.356**	**$0.116**	**$0.116**	**$0.116**	**$0.116**	**$0.366**	**$1.565**
Water Supply & Conveyance											
High Efficiency Toilet Rebate Program	$0.045	$0.053	$0.053	$0.053	$0.068	$0.068	$0.075	$0.075	$0.075	$0.083	$0.645
High-Efficiency Washing Machine Rebate Program	$0.064	$0.064	$0.064	$0.064	$0.064	$0.064					$0.383
Water Conservation Best Management Practices	$0.206	$0.206	$0.206	$0.206	$0.206	$0.244	$0.244	$0.244	$0.244	$0.244	$2.250
Subtotal	**$0.315**	**$0.323**	**$0.323**	**$0.323**	**$0.338**	**$0.375**	**$0.319**	**$0.319**	**$0.319**	**$0.326**	**$3.278**
Water Treatment Facilities											
DVWTP Chemical Systems Improvements	$0.485	$2.060									$2.545
DVWTP Sludge Handling Improvements					$1.010	$6.840					$7.850
PPWTP Filter Improvements Study			$0.080								$0.080
PPWTP Filter to Waste Improvements	$0.200										$0.200
PPWTP Improvement Project 2011	$0.260	$0.770									$1.030
PPWTP Improvement Project 2012		$0.270	$1.060								$1.330
PPWTP Improvement Studies 2011	$0.270	$0.070									$0.340
PPWTP Sludge Handling Improvements						$1.050	$9.900				$10.950
Safety Improvements at Water Treatment Plants				$0.450							$0.450
Water Quality - PPWTP & DVWTP Taste and Odor Treatment	$1.840	$2.130	$1.870								$5.840
Water Quality Management Program	$0.083	$0.083	$0.090	$0.090	$0.098	$0.098	$0.105	$0.105	$0.113	$0.120	$0.983
Subtotal	**$3.138**	**$5.383**	**$3.100**	**$0.540**	**$1.108**	**$7.988**	**$10.005**	**$0.105**	**$0.113**	**$0.120**	**$31.598**
Total	**$4.655**	**$6.147**	**$3.545**	**$3.091**	**$1.831**	**$8.509**	**$10.470**	**$0.570**	**$0.578**	**$0.847**	**$40.241**
In 2008 Dollars	**$4.476**	**$5.683**	**$3.151**	**$2.642**	**$1.505**	**$6.725**	**$7.956**	**$0.416**	**$0.406**	**$0.572**	**$33.534**

FUNDING ANALYSIS

The Water System is funded by Fund 72 – Renewal/Replacement and System-Wide Improvements and Fund 73 – Expansion. The following sections discuss near-term funding over the next ten years.

Fund 72 – Renewal/Replacement & System-Wide Improvements Analysis

Fund 72 funds projects, or portions thereof, that relate to the replacement and/or improvement of existing water facilities, and which benefit existing customers. Revenues are generated from water rates paid by current Zone 7 Water System customers.

These Strategies identify the projects, funding and schedules needed for the future Renewal/Replacement and System-Wide Improvements of the capital assets of Zone 7's Water System. In order to minimize the burden to water rate payers of widely-varying annual costs, an annual funding allowance of approximately $4 million ($3M for Renewal/Replacement plus a $1M allowance for System-Wide Improvements) was established in 1994. In the 2004 Asset Management Program (AMP) Study, it was determined that this $4 million annual water rate contribution would no longer be adequate to fund the program. The AMP includes an evaluation of Zone 7's inventory of capital assets, asset service life as determined through condition assessments, economic life of the asset, asset risk, criticality, and vulnerability, true replacement costs under current conditions, and the annual allowance necessary to adequately fund Renewal/Replacement projects. In the 2004 study, Zone 7 obtained a current asset valuation of its existing facilities and recommended an annual funding allowance of $10 million to adequately fund the program. In order to meet this $10 million target, water rates would need to be raised. To lessen the impact of water rate increases, a gradual ramp-up to $10M by FY 2014/15 was proposed. In 2005, our Retailers expressed support for a gradual increase in the annual transfer of funds for the RR/SWI program; in particular, the Retailers supported the transfer of approximately $4.6 million in each of the fiscal years ending 2006, 2007 and 2008 to fund both R/R and SWI projects.

The transfers for these years are shown in the table below:

FY 05/06	FY 06/07	FY 07/08
$2.5 million	$5.5 million	$2.5 million

The average for these three fiscal years is $3.5 million, approximately one million less than the Retailer-supported target of $4.6M.

Challenges, Opportunities and Priorities

Historically, Zone 7 has cash-funded capital expenditures ("pay-as-you-go" financing) because cash-funding is often less expensive than interest-bearing debt financing and eliminates the long-term liability incurred with the use of debt. Until the $10 million transfer target is met in FY 2014/15 (current goal) Zone 7 will have limits on the scale and timing of its Renewal/Replacement and System-Wide Improvements. As a result, the exercise of prioritizing projects has become increasingly important.

As part of the capital planning process, a "CIP Prioritization Group" (includes the Assistant General Managers of both Operations and Engineering, Production Manager, CIP Manager, Senior Engineer and Staff Analyst of the Water Supply Engineering section) prioritizes the list of projects to be presented within this CIP document based selected criteria (this criteria is detailed in Section I), and also based on the level of discretion there is in meeting agency goals without implementing a given project. Due to anticipated near-term funding challenges, staff is utilizing this as an opportunity to thoroughly evaluate all proposed projects and scrutinize the need, cost and justification for each. As a result of a rigorous priority-setting process, the CIP Prioritization Group developed and finalized a list of CIP projects. From the initial list, several projects were recommended for deferral or deletion based upon available funding, assessment of need and priority relative to other projects. The projects meeting these criteria are presented in this Ten-Year CIP.

Projects Recommended For Deletion

Upgrade of PPWTP ESS Building
PPWTP UF HVAC Systems Improvements
PPWTP UF Work Facility Addition
Install VFD at Mocho 3 or 4

Projects Recommended For Deferral

DVWTP Aqueous Ammonia System
PPWTP Ammonia Facility Replacement
DVWTP Chemical Systems Improvements
DVWTP 4 MG Clearwell Interior Coating Improvements

The prioritization process was also an opportunity to identify new projects, and to accelerate the schedules of others. Two additional projects were indentified and added based on recommendations from the 2006 AMP Condition Assessment. These are:

Projects Recommended for Addition

Well Pump, Casing and Motor Inspections
DVWTP Electrical Systems Improvements

Projects Recommended for Acceleration

Replacement of Parkside Roof

Other Considerations

Another important near-term issue for Fund 72 is the available funding for future T&O treatment at both of our current surface water treatment plants. Approximately $6 million was allocated five years ago after the completion of the Water Quality Management Program Implementation Plan. However, a consultant is expected to issue a report by June 2009 that may recommend ozone and ozone-peroxide treatment at both plants. The cost has not been estimated, but it is thought to be substantially greater than $6M. Assuming that an inexpensive design and acceptable funding plan can be developed, the design phase is anticipated to occur during years 2009 and 2010, with construction commencing in FY 2011/12.

Conclusions

The near-term funding outlook projection (Table 2-1) shows that there will be adequate funding to complete projects scheduled in this Ten-Year CIP assuming that projects are deferred as recommended above. At the end of FY 2018/19, the program end balance is approximately $38 million. The R/R and SWI programs extends indefinitely beyond this ten-year planning period, therefore, the program ending balance shown will be used to fund future infrastructure replacement and improvement needs (e.g., pipeline repair and replacement, Third Groundwater Demin Facility, etc.). Since Zone 7 employs a pay-as-you-go financing strategy, continued foresight in financial planning is needed.

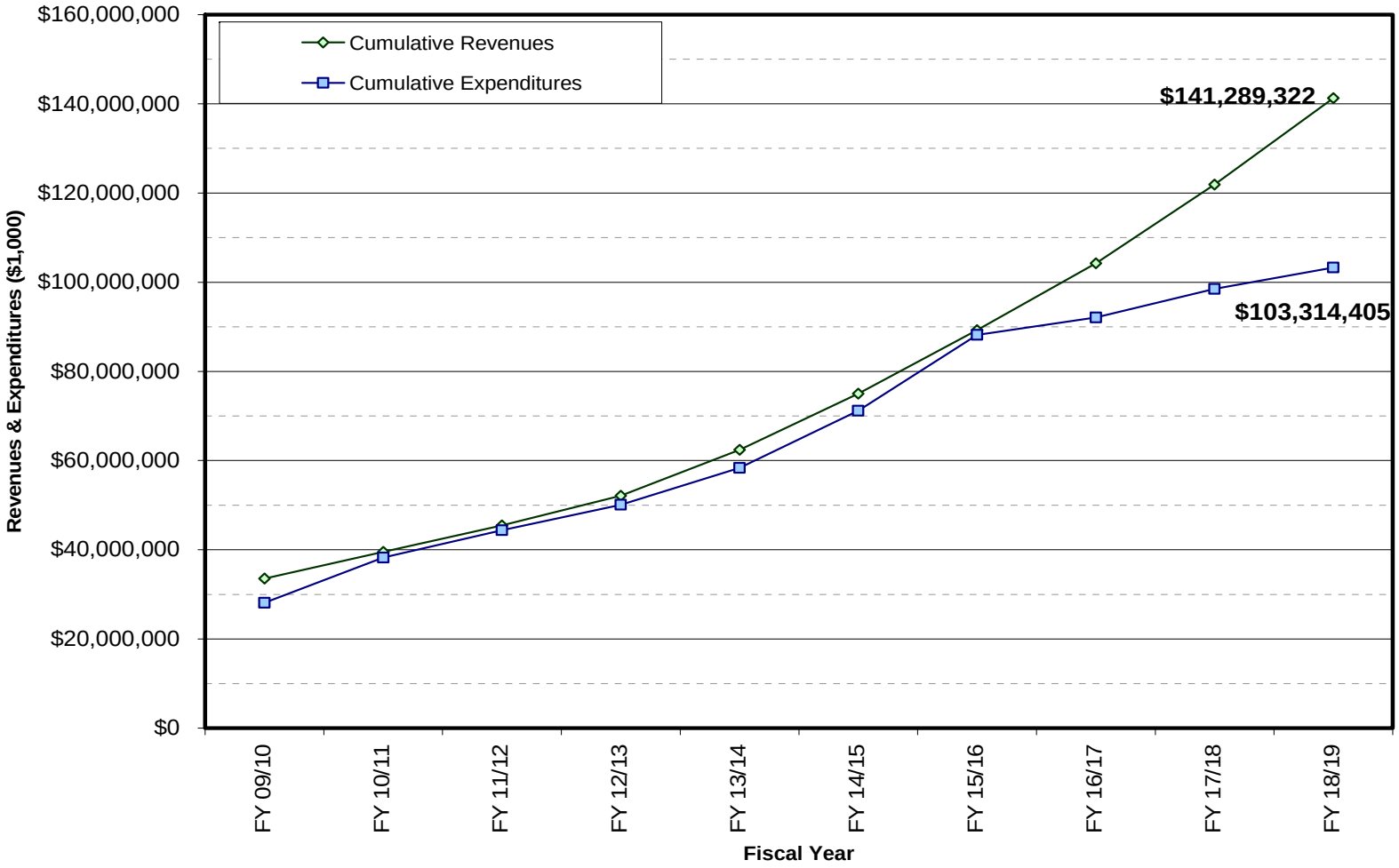
TABLE 2-1
Fund 72 (Water Rates)
PROJECTED FUNDING OUTLOOK
($ Millions)

1	***Fiscal Year***	***08/09***	***09/10***	***10/11***	***11/12***	***12/13***	***13/14***	***14/15***	***15/16***	***16/17***	***17/18***	***18/19***
2	Beginning Fund Balance	23.53	7.80	5.41	1.29	1.04	2.03	4.02	3.85	1.08	12.20	23.43
3	Revenue											
4	*Water Rates*	2.50	4.38	4.54	4.59	4.63	7.59	10.01	11.41	13.13	15.51	17.36
5	*Facility Use Fees*	1.00	1.25	1.25	1.25	2.03	2.57	2.24	2.24	1.12	1.12	1.00
6	*Interest Income*	0.56	0.31	0.22	0.05	0.04	0.12	0.37	0.56	0.78	1.02	1.01
7	Total Revenue	4.06	5.94	6.00	5.89	6.70	10.28	12.63	14.22	15.02	17.64	19.38
8	Expenditures:											
9	*R/R*	4.80	2.82	3.10	1.68	1.68	5.47	3.28	5.46	2.24	4.72	2.83
10	*SWI*	14.14	4.65	6.15	3.54	3.09	1.83	8.51	10.47	0.57	0.58	0.85
11	*Program Contingency*	0.50	0.50	0.52	0.54	0.56	0.58	0.61	0.63	0.66	0.68	0.71
12	Total Expenditures	19.44	7.97	9.76	5.76	5.33	7.89	12.40	16.56	3.47	5.98	4.39
13	Ending Fund Balance	***8.15***	***5.77***	***1.65***	***1.42***	***2.41***	***4.42***	***4.25***	***1.50***	***12.63***	***23.87***	***38.42***
14	Reserves:											
15	*Building Sinking Fund*	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.42	0.43	0.44	0.45
16	**Net Ending Fund Balance**	**7.80**	**5.41**	**1.29**	**1.04**	**2.03**	**4.02**	**3.85**	**1.08**	**12.20**	**23.43**	**37.97**

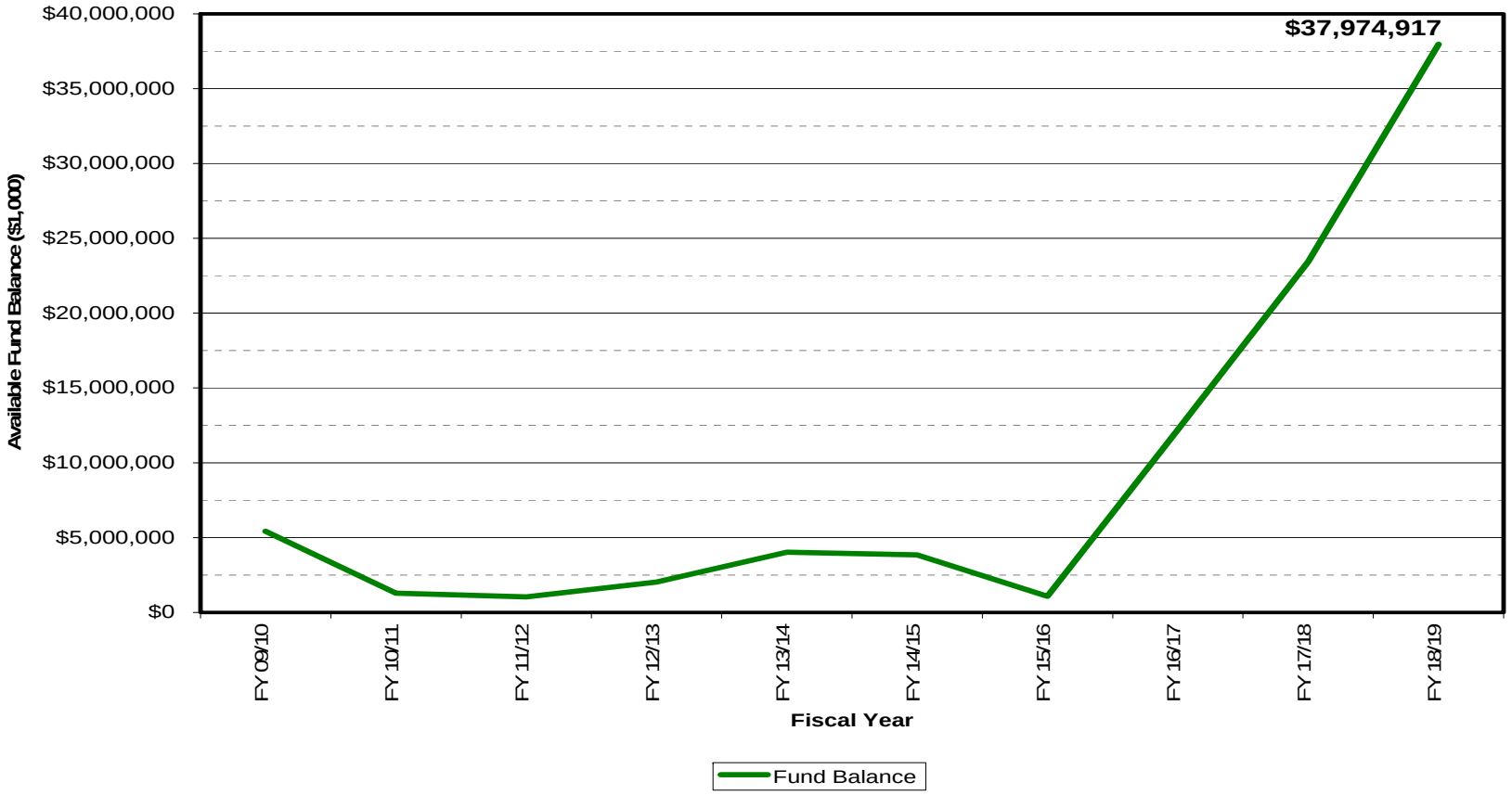
Key Assumptions

Line 4 Projected annual RR/SWI allowance transfer from Fund 52, Water Enterprise to Fund 72.
Line 5 Facility use fees are charged to the Dougherty Valley Service Area to compensate Zone 7 for the use of Zone 7's existing facilities to provide water to this area.
Line 6 Assumes 4% interest income earned on beginning cash and sinking fund balances.
Line 7 Expenditures are shown in actual dollars (current dollars adjusted by a 4% annual inflation factor).

GRAPH 2-1
Fund 72 – Funded by Water Rates
Funding Outlook through FY 2018/19
Projected Cumulative Revenue vs. Cumulative Expenditures



GRAPH 2-2
Fund 72 – Funded by Water Rates
Funding Outlook through FY 2018/19
Projected Available Fund Balance



Fund 73 – Expansion Funding Analysis

Fund 73 funds projects, or portions thereof, that are needed because of additional demands on the Water System from new development. This includes all water purchases, conveyance facilities (e.g., SBA Improvement & Enlargement Project), treatment and transmission facilities.

Background on Current Funding Plan

As has been communicated the last few CIP documents, there would be a funding shortfall in Fund 73 if there were to be no additional sources of revenues and/or no changes in projected expenditures & scheduling. The primary reason for this projected near-term deficit is the cost of the Altamont Water Treatment Plant Phase I and Pipeline Project. Zone 7 hired the firm of Bartle Wells Associates (BWA), independent public finance advisors, to develop funding strategies to meet this projected near-term deficit in Fund 73. BWA, with Zone 7's assistance, developed various potential financing plans capable of eliminating the otherwise-projected funding shortfall. In October 2006, staff recommended to the Zone 7 Board, a financing plan which included a 45% increase in connection fees and $30 million in short-term financing. The Board subsequently approved the fee increase from $13,500 to $19,570 for the Zone 7 service area and from $13,050 to $18,120 for Dougherty Valley. At that time it was noted that staff would return to the Board with a full evaluation of the available funding alternatives and a request for authorization to pursue an appropriate course of action.

On April 4, 2007, staff and BWA presented the Zone 7 Finance Committee with a range of potential funding alternatives and communicated the need to secure more funding than previously anticipated. Based on the then-current project cost estimates and cash flow needs, staff has identified the need to secure additional funding in the amount of $60 million rather than the previously-estimated amount of $30 million. This increase was attributed to increased project costs and lower-than-anticipated connection fee revenue. The Zone 7 Finance Committee directed staff to analyze various scenarios, including the "Most Probable", "Worst Case" and "Best Case" and present the findings to the full Board. The Finance Committee found it prudent to analyze each scenario considering continuation of the current development slowdown, which would affect revenue projections, as well as considering the impact of potential increased costs for major projects such as the Altamont Water Treatment Plant Phase 1 and Pipeline Project.

Accordingly, staff developed parameters for these scenarios which take in consideration the potential for increased project costs and decreased connection fee revenue in the near-term. These scenarios were presented to the full Zone 7 Board on April 18, 2007. At that time, staff recommended proceeding under Funding Scenario 1, which assumed timely completion of Expansion projects as planned (no delay of AWTP) while using conservative revenue projections. In addition, the scenario included financing of up to $60 million over a six year period in the form of an Installment Sale Agreement (ISA). An ISA is a form of lease financing which functions similarly to a line of credit. Zone 7 will make interest only payments on the amount financed during the six-year term with the principal amount due in year six. It is important to note that while the ISA will be secured by net water revenues, actual payments will be made using connection fee revenue.

At the May 2, 2007 Zone 7 Board meeting; the Board authorized BWA, on behalf of the

General Manager to solicit bids from financial institutions to secure an ISA. Upon revenue and project costs and schedules. BWA issued a Request for Proposal (RFP) on May 25, 2007 to solicit bids from financial institutions to secure an ISS in the amount of $60 million. The RFP was issued to eight financial institutions and five responses were received. BWA and Zone 7 staff reviewed all of the proposals received and recommended proceeding with Wells Fargo Bank, N.A. (Well Fargo). At the June 20, 2007 Zone 7 Board of Directors meeting, the Board authorized the Zone 7 General Manager to negotiate and execute an agreement with Wells Fargo secure the ISA.

Update

On January 15, 2008, Zone 7 completed the necessary documents required to close on the $60 million ISA, which is a form of lease financing which functions similarly to a line of credit. This funding is needed to bridge the short-term funding gap between anticipated expenditures and revenue. As of August 2008, Zone 7 had not drawn any funds from the ISA to fund the CIP.

In May 2008, staff performed an analysis to determine, based on the latest water demand information, when the AWTP is needed, and based on available funding, when Zone 7 can move forward with constructing the facility. Incorporating new water demand projections provided by our Retailers, the analysis determined that Zone 7 can meet projected MDD for an additional three years without the AWTP; however, under a scenario that assumes an extended outage at the DVWTP, Zone 7 will not be able to provide 75% of MDD. In addition, the Zone 7 Water System will fall short of meeting the planning criteria of supplying 85% of MDD through our surface water production capacity until AWTP is in-service. However, with the slow-down in demands and increased conservation efforts, coupled with the new facilities soon to be in-service (Mocho Groundwater Demin, Chain of Lakes Wells 1 and 2, Altamont Pipeline-Livermore Reach), Zone 7 can meet near-term projected demands and water quality targets. The analysis also concluded that Zone 7 should be in a better position to pay for AWTP (assuming the currently-authorized funding plan and projected revenues) if the construction schedule is delayed by at least three years. This CIP therefore recommends that construction of AWTP be delayed from a start date of January 2009 to January 2012. Assuming a two year construction schedule, the plant should be substantially complete by January 2014, with final completion by summer 2014.

Prioritization

Similar to the prioritization process conducted for Fund 72, Zone 7's CIP Prioritization Group rigorously reviewed planned Fund 73 projects and recommended the following:

Projects Recommended For Deletion

CAL-Fed Proportional Local Share

Projects Recommended For Deferral

AWTP Phases 1, 1A and 2
AWTP Operational Training
Altamont Pipeline - County Reach
Second Groundwater Demineralization Facility

Projects Recommended For Addition

Delta Conveyance Study

The San Joaquin-Sacramento Delta

Even though it's recommended that the AWTP be deferred by three years, Zone 7 is still moving forward with the following projects which will improve water reliability and quality:

Mocho Groundwater Demineralization Facility
Altamont Pipeline- Livermore Reach
Chain of Lakes Wells 1 and 2
South Bay Aqueduct Improvement and Enlargement

Conclusions

The near-term funding outlook (Table 2-3) shows that there will be adequate funding to complete projects scheduled in this Ten-Year CIP, assuming that the AWTP and related projects are deferred as recommended and connection fee revenue materializes as projected. At the end of FY 2018/19, the program end balance is approximately $157 million. The Expansion Program extends indefinitely beyond this ten-year planning period; therefore, the program end balance shown will be used to fund infrastructure expansion needs. Since Zone 7 employs a pay-as-you-go financing strategy, continued foresight in financial planning is needed. Note the following:

The projected near-term funding outlook for Fund 73 is shown in Table 2-2 below.

Graph 2-3 - Shows the projected cumulative revenue versus cumulative expenditures for this program, from FY 08/09 through FY 2018/19.

Graph 2-4 - Shows the projected available fund balance through FY 2018/19.

TABLE 2-2
Fund 73 (Connection Fees)
PROJECTED FUNDING OUTLOOK - WITH $60 M INSTALLMENT SALE STRUCTURE
($ Millions)

1	***Fiscal Year***	***08/09***	***09/10***	***10/11***	***11/12***	***12/13***	***13/14***	***14/15***	***15/16***	***16/17***	***17/18***	***18/19***
2	Beginning Fund Balance	64.42	7.53	3.96	1.00	9.31	7.54	5.40	24.72	72.74	124.94	180.42
3	Revenue											
4	*Connection Fees*	14.25	20.56	32.68	58.36	75.13	87.25	92.61	96.31	106.24	108.26	40.32
5	*Prepaid Connections*	0.49	0.73	0.98	1.23	1.23	1.23	1.47	1.04	0.00	0.00	0.00
6	*ISA Advances/Payments*	0.00	0.00	0.00	0.00	45.00	0.00	-45.00	0.00	0.00	0.00	0.00
7	*Interest Income*	1.30	0.47	0.44	0.59	0.69	0.64	1.06	2.12	3.77	5.46	8.53
8	Total Revenue	16.04	21.77	34.11	60.19	122.06	89.13	50.14	99.56	110.02	113.72	48.85
9	Expenditures											
10	*Project Expenditures*	70.51	23.05	34.70	49.42	121.26	88.61	28.05	48.69	54.85	55.17	52.60
11	*Sinking Funds*	2.42	2.28	2.37	2.46	2.56	2.65	2.75	2.86	2.96	3.08	3.20
12	Total Expenditures	72.93	25.33	37.07	51.89	123.82	91.27	30.82	51.55	57.82	58.25	55.80
13	End of Year Fund Balance	7.53	3.96	1.00	9.31	7.54	5.40	24.72	72.74	124.94	180.42	173.46
14	Unused ISA Balance	60.00	60.00	60.00	60.00	15.00	15.00	60.00	0.00	0.00	0.00	0.00

Key Assumptions/Notes

Line 4 Connection fee revenue assumes 4% annual inflationary adjustments to connection fees.

Line 5 Prepaid connections reflect anticipated revenue received from 2,035 connections purchased in 2000 at $4,915 per connection.

Line 6 The ISA is scheduled to mature in January 2014; however, this scenario assumes that the term can be extended for 1-2 additional years.

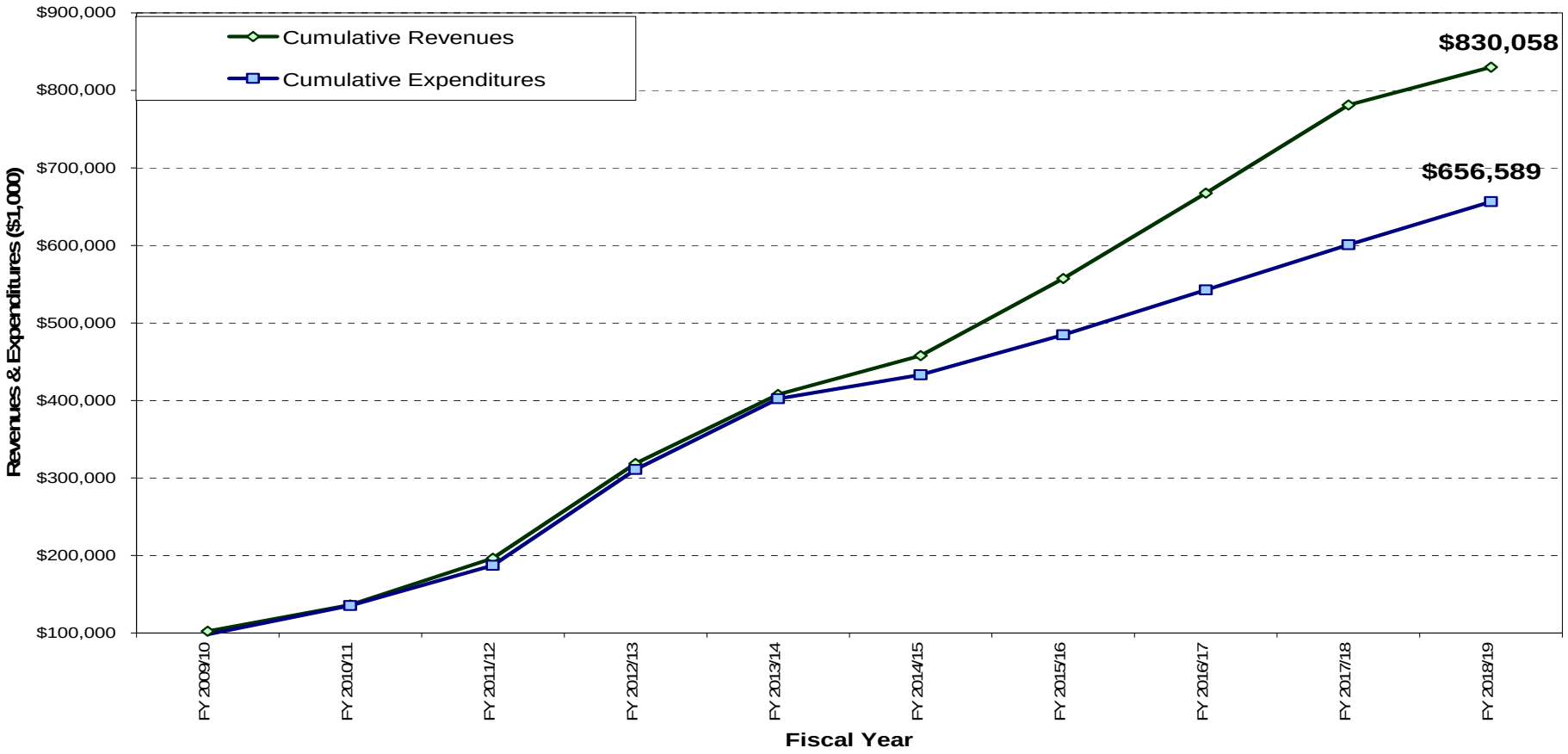
Line 7 Assumes 4% interest earned on beginning cash and sinking fund balances.

Line 9 Total expenditures include: project expenditures (adjusted by 4% annual inflation); administrative fee (1% of connection fee revenue) to Retailers; lease payment for Admin Building; program contingency; and interest paid on ISA (est. 4%).

Line 13 Fund Balance Target is $10M - minimum balances of $3M cash and $7M minimum ISA.

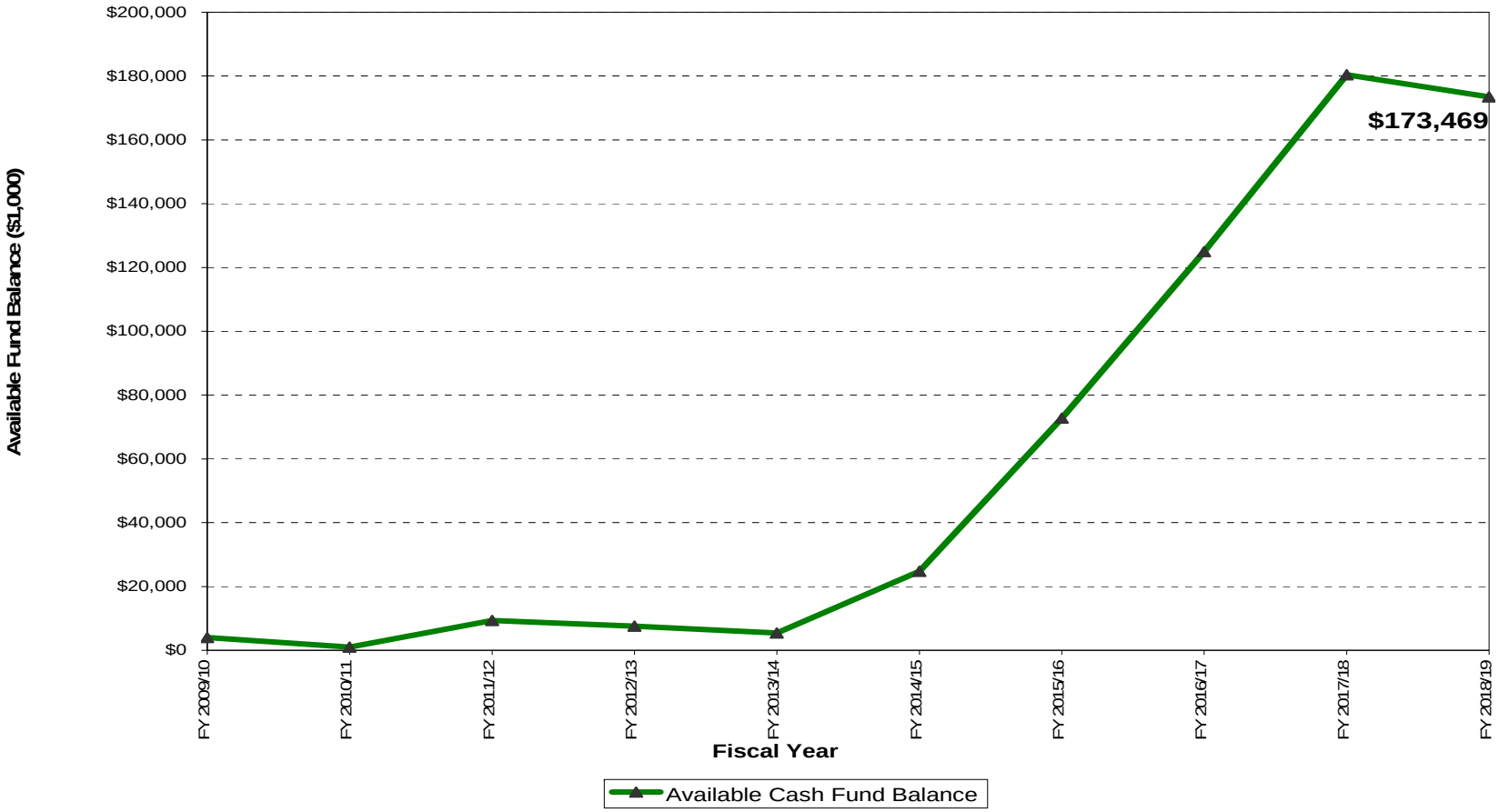
Notes For normal planning purposes a "growth cycling" concept is used. It assumes 70% of projected growth for the first five years and 130% for the succeeding five years. This scenario has been modified to assume a major slow down in growth FY 07/08-09/10, some recovery in FY 10/11-11/12, catching up thereafter. The actual growth over the long-term may continue to be slow and accumulated revenues may accrue at a slower rate than shown above. In addition, due to potentially major Delta conveyance improvements by the State, there may be a number of additional costs in the future that are not shown above.

GRAPH 2-3
Fund 73 – Connection Fees
Funding Outlook through FY 2018/19
Cumulative Revenue vs. Cumulative Expenditures



Note: Cumulative Expenditures include retirement of ISA and debt service. Cumulative Revenues includes use of the ISA.

GRAPH 2-4
Fund 73 – Connection Fees
Ten-Year Funding Outlook until FY 2018/19
Available Fund Balance



CAPITAL PROJECTS APPROPRIATION SUMMARY BY PROGRAM

This section contains a ten-year estimated appropriation summary for the capital projects for the Water System included in the FY 2009/10 through FY 2018/19 CIP, a project summary sheet for each project and an alphabetical project listing

Capital Improvement Program
Project Summary by Program
(Appropriations shown in $Millions)

Programs	Appropriations ($Millions) FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	Total
Buildings & Grounds											
Administrative & Engineering Building Lease (Water System)	$0.871	$0.888	$0.907	$0.924	$0.943	$0.962	$0.981	$1.001	$1.020	$1.041	$9.538
Administrative & Engineering Building - Sinking Fund (Water System)	$0.640	$0.656	$0.673	$0.690	$0.706	$0.725	$0.743	$0.762	$0.780	$0.800	$7.175
Replacement of Parkside Building Roof	$0.080										$0.080
Subtotal	**$1.591**	**$1.544**	**$1.580**	**$1.614**	**$1.649**	**$1.687**	**$1.724**	**$1.763**	**$1.800**	**$1.841**	**$16.793**
Emergency Preparedness											
Local Hazard Mitigation Plan Update	$0.050	$0.210									$0.260
Security Improvements at Existing Facilities	$0.670										$0.670
Vulnerability Assessment Review & Update		$0.110									$0.110
Subtotal	**$0.720**	**$0.320**									**$1.040**
Groundwater Basin Management											
Mocho Groundwater Demineralization Plant	$0.500										$0.500
Monitoring Well Replacements & Abandonments	$0.050		$0.050		$0.080		$0.080		$0.080		$0.340
New Groundwater Management Program Monitoring Wells	$0.120										$0.120
Second Groundwater Demineralization Facility						$4.610	$20.530	$21.350	$5.180		$51.670
Stream Gage Replacement	$0.110										$0.110
Third Groundwater Demineralization Facility				$2.340							$2.340
Subtotal	**$0.780**		**$0.050**	**$2.340**	**$0.080**	**$4.610**	**$20.610**	**$21.350**	**$5.260**	**$0.000**	**$55.080**
Program Management											
Capital Improvement Program Management	$0.143	$0.143	$0.143	$0.143	$0.152	$0.152	$0.152	$0.152	$0.152	$0.162	$1.492
Expansion Program Management	$0.150	$0.150	$0.150	$0.150	$0.175	$0.175	$0.175	$0.175	$0.175	$0.200	$1.675
System-Wide Improvement, Renewal/Replacement Program Management	$0.050	$0.050	$0.050	$0.050	$0.060	$0.060	$0.060	$0.060	$0.060	$0.070	$0.570
Subtotal	**$0.343**	**$0.343**	**$0.343**	**$0.343**	**$0.387**	**$0.387**	**$0.387**	**$0.387**	**$0.387**	**$0.432**	**$3.737**
Regulatory Compliance											
Laboratory Equipment Replacement	$0.110	$0.110	$0.120	$0.120	$0.130	$0.130	$0.140	$0.140	$0.150	$0.150	$1.300
Subtotal	**$0.110**	**$0.110**	**$0.120**	**$0.120**	**$0.130**	**$0.130**	**$0.140**	**$0.140**	**$0.150**	**$0.150**	**$1.300**
Transmission & Distribution											
Altamont Pipeline - County Reach			$2.730	$28.000	$0.050						$30.780
Corrosion Master Plan Update					$0.250					$0.310	$0.560
System-Wide Installation of Line Valves	$0.050	$0.060	$0.060	$0.060	$0.060	$0.070	$0.070	$0.070	$0.070		$0.570
Transmission System Master Planning	$0.100	$0.100	$0.100	$0.100	$0.125	$0.125	$0.125	$0.125	$0.125	$0.150	$1.175
Total	**$0.150**	**$0.160**	**$2.890**	**$28.160**	**$0.485**	**$0.195**	**$0.195**	**$0.195**	**$0.195**	**$0.460**	**$33.085**

Capital Improvement Program
Project Summary by Program
(Appropriations shown in $Millions)
(Continued)

Programs	Appropriations ($Millions) FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	Total
Water Supply & Conveyance											
Arroyo Mocho Low Flow Crossings	$0.180										$0.180
Arroyo Mocho/Lake H Diversion Structure	$0.260										$0.260
Cawelo Groundwater Banking Program	$1.295	$1.293	$1.296	$1.293	$1.294	$1.295	$1.295	$1.294	$1.297	$1.299	$12.951
Chain of Lakes Facilities and Improvements	$0.530	$0.150	$0.360	$0.890	$1.230	$1.330	$0.350	$0.590	$1.030	$1.380	$7.840
Chain of Lakes Master Plan				$2.903	$0.490						$3.393
CUWA Membership	$0.060	$0.060	$0.060	$0.060	$0.060	$0.060	$0.060	$0.060	$0.060	$0.060	$0.600
Delta Conservation Plan	$0.135										$0.135
Delta Conveyance Study	$0.188										$0.188
Fixed Cost of Water Entitlement	$0.068	$0.033	$0.022	$0.011							$0.134
Fourth Contractor's Share of the SBA	$0.726	$0.726	$0.726	$0.726	$0.726	$0.726	$0.726	$0.726	$0.726	$0.726	$7.260
Fourth Contractor's Share of the SBA - Sinking Fund	$0.196	$0.196	$0.196	$0.196	$0.196	$0.196	$0.196	$0.196	$0.196	$0.196	$1.960
High Efficiency Toilet Rebate Program	$0.060	$0.070	$0.070	$0.070	$0.090	$0.090	$0.100	$0.100	$0.100	$0.110	$0.860
High-Efficiency Washing Machine Rebate Program	$0.085	$0.085	$0.085	$0.085	$0.085	$0.085					$0.510
Semitropic Stored Water Recovery Unit	$0.048	$0.048	$0.048	$0.048	$0.048	$0.048	$0.048	$0.048	$0.048	$0.048	$0.480
South Bay Aqueduct Improvement & Enlargement Project	$8.548	$8.629	$8.491	$8.491	$8.494	$8.492	$8.491	$8.494	$8.492	$8.493	$85.115
South Bay Aqueduct Improvement & Enlargement Project - Sinking Fund	$1.500	$1.500	$1.500	$1.500	$1.500	$1.500	$1.500	$1.500	$1.500	$1.500	$15.000
SWP Peaking Payment (Lost Hills & Belridge Water Districts)	$0.264	$0.270	$0.267	$0.268	$0.267	$0.268	$0.267	$0.265	$0.268	$0.268	$2.672
Water Conservation Best Management Practices	$0.275	$0.275	$0.275	$0.275	$0.275	$0.325	$0.325	$0.325	$0.325	$0.325	$3.000
Water Supply Purchase for Reliability					$11.000						$11.000
Total	**$14.418**	**$13.335**	**$13.396**	**$16.816**	**$25.755**	**$14.415**	**$13.358**	**$13.598**	**$14.042**	**$14.405**	**$153.538**
Water Treatment Facilities											
Altamont Water Treatment Plant Operational Training			$0.230	$0.240							$0.470
Altamont Water Treatment Plant Phase 1 (24 MGD)	$0.500	$0.500	$13.350	$64.900	$48.580	$2.692					$130.522
Altamont Water Treatment Plant Phase 1A						$1.012	$6.051				$7.063
Altamont Water Treatment Plant Phase 2 (12-18 MGD)								$4.270	$26.648	$30.787	$61.705
Asset Management Program Condition Assessment	$0.210										$0.210
AWTP Membrane Replacement										$0.770	$0.770
Dougherty Reservoir Access Road Rehabilitation		$0.260									$0.260
DVWTP Aqueous Ammonia System							$3.230				$3.230
DVWTP Chemical Systems Improvements	$0.485	$2.060									$2.545
DVWTP Electrical Power System Upgrade	$0.870										$0.870
DVWTP Filter Underdrain Replacement								$0.310	$1.590		$1.900
DVWTP Filter Valves Replacement	$0.270										$0.270
DVWTP Instrumentation Upgrades						$0.040	$0.390				$0.430
DVWTP Interior Coating Improvements to the 4.5 MG Steel Clearwell		$1.250									$1.250
DVWTP Sludge Handling Improvements					$1.010	$6.840					$7.850

Capital Improvement Program
Project Summary by Program
(Appropriations shown in $Millions)
(Continued)

Programs	Appropriations ($Millions) FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	Total
Minor Renewal/Replacement Projects	$0.250	$0.250	$0.250	$0.250	$0.250	$0.275	$0.275	$0.275	$0.275	$0.275	$2.625
PPWTP Ammonia Facility Replacement					$2.280						$2.280
PPWTP Filter Improvements Study			$0.080								$0.080
PPWTP Filter to Waste Improvements	$0.200										$0.200
PPWTP Improvement Project 2011	$0.260	$0.770									$1.030
PPWTP Improvement Project 2012		$0.270	$1.060								$1.330
PPWTP Improvement Studies 2011	$0.270	$0.070									$0.340
PPWTP Instrumentation Upgrades						$0.130	$0.375				$0.505
PPWTP Rehabilitation of Clarifier and Replacement of Motor					$0.510	$1.250					$1.760
PPWTP Sludge Handling Improvements						$1.050	$9.900				$10.950
PPWTP Ultrafiltration Membrane Replacement		$0.350	$0.370	$0.410	$0.400	$0.490	$0.000	$0.530	$0.550	$0.580	$3.680
Safety Improvements at Water Treatment Plants				$0.450							$0.450
SCADA Enhancements	$0.250	$0.250	$0.250	$0.250	$1.150	$0.270	$0.270	$0.270	$1.350	$0.300	$4.610
Water Quality - PPWTP & DVWTP Taste and Odor Treatment	$1.840	$2.130	$1.870								$5.840
Water Quality Management Program	$0.110	$0.110	$0.120	$0.120	$0.130	$0.130	$0.140	$0.140	$0.150	$0.160	$1.310
Total	**$5.515**	**$8.270**	**$17.580**	**$66.620**	**$54.310**	**$14.179**	**$20.631**	**$5.795**	**$30.563**	**$32.872**	**$256.335**
Wells											
Well Master Plan Wells	$6.250	$18.080	$16.450	$2.800	$7.180	$1.770	$2.390	$8.370	$2.000		$65.290
Well Pump, Motor and Casing Inspections	$0.030	$0.030	$0.030	$0.030	$0.030	$0.040	$0.040	$0.040	$0.040	$0.040	$0.350
Total	**$6.280**	**$18.110**	**$16.480**	**$2.830**	**$7.210**	**$1.810**	**$2.430**	**$8.410**	**$2.040**	**$0.040**	**$65.640**
Ten Year CIP Total	**$29.906**	**$42.192**	**$52.439**	**$118.843**	**$90.006**	**$37.413**	**$59.475**	**$51.638**	**$54.437**	**$50.200**	**$586.547**
In 2008 Dollars	**$28.756**	**$39.009**	**$46.618**	**$101.587**	**$73.978**	**$29.568**	**$45.196**	**$37.731**	**$38.247**	**$33.913**	**$474.604**

Water Project Summary Listing

The following list shows the project title and page number for each Water System capital project in this Ten-Year CIP.

Project Summaries

The following project summaries are presented in the order they appear in the Project Listing.

Capital Improvement Project Summary Report

Strategy Expansion
Renewal/Replacement

Program Buildings & Grounds

Project **Administrative & Engineering Building Lease (Water System)**

Project ID: SP1

Priority 2

Project Description A new office building has been constructed for administrative and engineering staff. The new building has a larger Board Room for public meetings. It is located closer to operations (treatment plants), and is more centrally located for employees and Valley residents. The cost is based on "Build to Suit" option and includes lease payments. In addition to the scheduled lease payment for the new building, $696,000 plus interest per year will be contributed to a sinking fund in order to cover the purchase cost of the building after the lease payments have been completed in FY 2018/19.

Justification Engineering, administrative and operations staff were at different locations. This project has brought administrative and engineering staff together and will bring both closer to operations. This project also accommodates future expansion. It will reduce overall agency travel times, improve communications and staff productivity.

Responsible Section ASD Administrative Services Division

Operating Impact Provides for more efficient and effective operations of administrative and engineering functions. Provides for secure Emergency Operations Center (EOC), as the new building meets strictest building and safety codes.

In Service Date **Month**: June **Year**: 2019

Total Project Cost $15,261,000
In 2008 Dollars N/A

Source of Funds		
Fund 72	Water Rates	56%
Fund 73	Connection Fees	44%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$277	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$277
Design	$277	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$277
Construction	$1,485	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,485
Other	$3,684	$871	$888	$907	$924	$943	$962	$981	$1,001	$1,020	$1,041	$0	$13,222
Total	**$5,723**	**$871**	**$888**	**$907**	**$924**	**$943**	**$962**	**$981**	**$1,001**	**$1,020**	**$1,041**	**$0**	**$15,261**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion
Renewal/Replacement

Program Buildings & Grounds

Project **Administrative & Engineering Building - Sinking Fund (Water System)**

Project ID: SP11

Priority 1

Project Description In addition to the scheduled lease payment for the new building, $696,000 plus interest per year will be contributedto this sinking fund in order to cover the purchase cost of the building after the lease payments have been completed in FY 2018/19.

Justification This sinking fund will cover the cost to purchase the new Administrative & Engineering Building after Zone 7's 15 year lease is completed.

Responsible Section ASD Administrative Services Division

Operating Impact None.

In Service Date **Month**: June **Year**: 2019

Total Project Cost $10,849,000
In 2008 Dollars N/A

Source of Funds			
	Fund 72	Water Rates	56%
	Fund 73	Connection Fees	44%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$3,674	$640	$656	$673	$690	$706	$725	$743	$762	$780	$800	$0	$10,849
Total	**$3,674**	**$640**	**$656**	**$673**	**$690**	**$706**	**$725**	**$743**	**$762**	**$780**	**$800**	**$0**	**$10,849**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Transmission & Distribution

Project **Altamont Pipeline - County Reach**

Project ID: ALT11

Priority 1

Project Description This is an approximately six mile segment of an eleven mile pipeline, that connects a future treatment plant to the Altamont Pipeline - Livermore Reach near Vasco Road.

Justification The Treated Water Facilities Master Plan identified additional potable water transmission pipelines required with the construction of the future Altamont Water Treatment Plant. This new transmission pipeline will increase transmission capacity and provide additional operational flexibility through the provision of new pipeline loops in the Zone 7 transmission system.

Responsible Section WSE Water Supply Engineering

Operating Impact Provides needed water system transmission capacity and operational flexibility.

In Service Date **Month**: June **Year**: 2013

Total Project Cost $30,780,000
In 2008 Dollars $25,387,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$2,730	$0	$0	$0	$0	$0	$0	$0	$0	$2,730
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$28,000	$50	$0	$0	$0	$0	$0	$0	$28,050
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$2,730**	**$28,000**	**$50**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$30,780**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Treatment Facilities

Project **Altamont Water Treatment Plant Operational Training**

Project ID: ALT5

Priority 2

Project Description This project is for an Operational Training Program for one Water Facilities Supervisor (75% of the time) for the new Altamont Water Treatment Plant.

Justification In preparation for the completion of the new Altamont Water Treatment Plant, there is a need to begin training a Water Facilities Supervisor that will be staffed at this new facility.

Responsible Section OPS Operations & Maintenance

Operating Impact Increase of operational efficiencies.

In Service Date **Month**: June **Year**: 2013

Total Project Cost $470,000
In 2008 Dollars $409,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$230	$240	$0	$0	$0	$0	$0	$0	$0	$470
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$230**	**$240**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$470**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Treatment Facilities

Project **Altamont Water Treatment Plant Phase 1 (24 MGD)**

Project ID: ALT2

Priority 1

Project Description AWTP Phase 1 is a 24 million gallon per day (MGD) treatment plant with provisions for expansion to 42 MGD. It will consist of an operations and control building, treatment process facilities, washwater and solids handling facilities, chemical storage and feed system, standby power, miscellaneous support facilities, parking and access road. The project is scheduled for completion in 2014.

Justification The Treated Water Facilities Master Plan (2000) identified a need to construct a new water treatment plant with a maximum capacity of 42 MGD. The water treatment plant project EIR was certified in June 2001. The Master Plan also identified additional required potable water transmission. An eleven mile Altamont Pipeline will connect to Zone 7's existing Cross Valley and Vasco Pipelines. They will both increase transmission capacity and also provide additional operational flexibility through the provision of pipeline loops in the Zone 7 transmission system. The pipeline project EIR was certified in February 2005.

Responsible Section WSE Water Supply Engineering

Operating Impact Increases production and delivery capacity and improves operational flexibility.

In Service Date **Month**: June **Year**: 2014

Total Project Cost $131,703,000
In 2008 Dollars $111,525,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$1,181	$500	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,181
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$13,350	$64,900	$48,580	$2,692	$0	$0	$0	$0	$0	$129,522
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$1,181**	**$500**	**$500**	**$13,350**	**$64,900**	**$48,580**	**$2,692**	**$0**	**$0**	**$0**	**$0**	**$0**	**$131,703**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Treatment Facilities

Project **Altamont Water Treatment Plant Phase 1A**

Project ID: ALT6

Priority 1

Project Description This project involves increasing AWTP clearwell, storage and emergency generator capacity to increase operational reliability.

Justification AWTP Phase 1 is a 24 million gallon per day (MGD) treatment plant and AWTP Phase 2 expands to 42 MGD. AWTP Phase 1 was designed to have an initial clearwell storage of 2.5 MGD and generator capacity for 15 MGD production. After AWTP Phase 2 expansion, clearwell storage is expected to be 10 MGD. After AWTP Phase 1 and before AWTP Phase 2, Phase 1A will provide additional 2.5 MGD Clearwell storage (for a total of 5 MGD) and generator capacity for 24 MGD production. This will help to meet increasing demands and provide additional operational flexibility.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased reliability and system flexibility

In Service Date **Month**: June **Year**: 2016

Total Project Cost $7,063,000
In 2008 Dollars $5,398,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$1,012	$0	$0	$0	$0	$0	$1,012
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$6,051	$0	$0	$0	$0	$6,051
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,012**	**$6,051**	**$0**	**$0**	**$0**	**$0**	**$7,063**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Treatment Facilities

Project **Altamont Water Treatment Plant Phase 2 (12-18 MGD)**

Project ID: ALT4

Priority 1

Project Description This project inviolves the design and construction of a second phase of the Altamont Water Treatment Plant, expanding the plant from 24 MGD to 36-42 MGD.

Justification The Treated Water Facilities Master Plan identified a need to construct a new water treatment plant with a potential maximum capacity of 42 MGD. The second phase of AWTP will assist in meeting increasing water demands due to growth and will maintain Zone 7's potable water supply reliability goal, improve water quality and increase operational flexibility.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased supply capability, reliability and system flexibility.

In Service Date **Month**: June **Year**: 2019

Total Project Cost $61,705,000
In 2008 Dollars $42,641,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$1,270	$0	$0	$0	$1,270
Design	$0	$0	$0	$0	$0	$0	$0	$0	$3,000	$0	$0	$0	$3,000
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$26,648	$30,787	$0	$57,435
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$4,270**	**$26,648**	**$30,787**	**$0**	**$61,705**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Arroyo Mocho Low Flow Crossings**

Project ID: COL8

Priority 2

Project Description This project provides stream channel improvements at two existing driveway crossings on the Arroyo Mocho off Mines Road to facilitate future artificial flow increases associated with the filling of the Chain of Lakes.

Justification Zone 7 plans to use Lakes H and I for artificial groundwater recharge. This initial Chain of Lakes operation requires Zone 7 to increase its typical releases from 20 cubic feet per second (cfs) to up to 50 cfs; however the higher flows will preclude access of two residences located across the stream from their Mines Road driveway entrances. These improvements are necessary to route a substantial portion of the artificial flows below the crossing surface to facilitate vehicular access to the residences. The project is an identified mitigation in the Mitigation Monitoring and Reporting Program (MMRP) for the Arroyo Mocho Diversion Project.

Responsible Section GP Groundwater Protection

Operating Impact Increases water supply reliability. Increases channel maintenance costs.

In Service Date **Month**: June **Year**: 2010

Total Project Cost $948,000
In 2008 Dollars $941,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$273	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$273
Design	$345	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$345
Construction	$150	$180	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$330
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$768**	**$180**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$948**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Arroyo Mocho/Lake H Diversion Structure**

Project ID: COL9

Priority 2

Project Description This project provides the additional materials and capital equipment that Zone 7 needs to effectively operate the Arroyo Mocho Diversion structure that Hanson Aggregates is constructing for Zone 7 at Lake H per their mining sgreement. It also provides for the acquisition of permits, the development of specifications for the Zone 7-supplied equipment and the review and coordination of Hanson's design, plans and specifications for the structure that they are constructing. The Zone 7-supplied equipment includes fish screens, automatic screen cleaning apparatuses, water flow and water level monitoring equipment, and security facilities.

Justification The diversion structure is necessary to operate Lakes H and I for their intended purpose, which is as artificial groundwater recharge percolation ponds. The additional recharge capacity that this project allows is necessary for the conjunctive use increases planned for by Zone 7 to maintain its future water system reliability goals. Environmental and regulatory pressures have forced Zone 7 to commit to certain operational constraints to prevent against the take of future potential migrating steelhead. Therefore, Zone 7 has agreed to take on the permitting and the expense for appurtenances necessary to comply operationally with the regulatory requirements, such as fish screens, screen cleaning devices, monitoring equipment and automatic controls.

Responsible Section GP Groundwater Protection

Operating Impact Indirectly increases water supply reliability. Adds new O&M and repair & replacement expenses for Zone 7.

In Service Date **Month**: November **Year**: 2009

Total Project Cost $941,000
In 2008 Dollars $931,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$316	$20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$336
Design	$105	$20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$125
Construction	$260	$220	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$480
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$681**	**$260**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$941**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **Asset Management Program Condition Assessment**

Project ID: SP18

Priority 2

Project Description The 2004 Asset Management Study recommended ongoing condition assessments of Zone 7's Water System facilities. This study is a follow-up to the 2006 Asset Management Program Condition Assessment.

Justification Assures that assets in need of repair or replacement are indentifed and corrected.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased operational effectiveness.

In Service Date **Month**: May **Year**: 2010

Total Project Cost $210,000
In 2008 Dollars $201,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$210	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$210
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$210**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$210**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **AWTP Membrane Replacement**

Project ID: ALT8

Priority 2

Project Description This project involves the periodic replacement of immersed ultrafiltration membranes. After several years of operation, membranes reach their useful life and will need to be replaced.

Justification As the fouling process continues, the permeability through the membrane decreases. To minimize the effects of fouling, the membranes require frequent cleaning and eventually, replacement.

Responsible Section WSE Water Supply Engineering

Operating Impact Increase operating reliability and effectiveness.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $10,330,000
In 2008 Dollars $5,020,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$770	$9,560	$10,330
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$770**	**$9,560**	**$10,330**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion
Renewal/Replacement

Program Program Management

Project **Capital Improvement Program Management**

Project ID: SP13

Priority 1

Project Description Ongoing program management of the Capital Improvement Program (CIP) including annual report preperation, Zone 7 labor and other CIP related efforts.

Justification Provides for better tracking of program management costs.

Responsible Section WSE Water Supply Engineering

Operating Impact None

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $4,893,000
In 2008 Dollars N/A

Source of Funds		
Fund 50	Flood Control/ General Fund	5%
Fund 72	Water Rates	20%
Fund 73	Connection Fees	75%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$428	$143	$143	$143	$143	$152	$152	$152	$152	$152	$162	$2,974	$4,893
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$428**	**$143**	**$143**	**$143**	**$143**	**$152**	**$152**	**$152**	**$152**	**$152**	**$162**	**$2,974**	**$4,893**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Cawelo Groundwater Banking Program**

Project ID: WP11

Priority 1

Project Description On June 21, 2006, the Zone 7 Board of Directors approved an agreement with the Cawelo Water District (a member unit of Kern County Water Agency) for a water banking and exchange program. The banking program will increase Zone 7's dry-year water supply by up to 10,000 acre-feet per year thus providing 100% water reliability through build-out (anticipated in 2030). Zone 7 will be able to store up to 120,000 acre-feet of water within the Cawelo Water District area. The banking program requires a capital expenditure of $23-25 million to: (1) expand the Cawelo surface water delivery system to enlarge Cawelo's in-lieu recharge capacity, (2) construct additional wells, and (3) make certain improvements to Cawelo's connection to the California Aqueduct to increase its pump-back capacity to the State Water Project. Zone 7's share of the project construction cost is $19 million.

Cawelo financed this program by a $21.055 million sale of Certificates of Participation (COP) on August 15, 2006. The COPs run through 2035 with an interest rate of 4%, and increasing to 4.67% by 2035. By agreement, Zone 7 will reimburse Cawelo for the COP annual debt service of about $1.3 million per year.

Justification Increase reliability by providing additional water supplies during drought years.

Responsible Section EPA Environmental and Public Affairs

Operating Impact Increased operational reliability.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $38,614,000
In 2008 Dollars N/A

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$3,477	$1,295	$1,293	$1,296	$1,293	$1,294	$1,295	$1,295	$1,294	$1,297	$1,299	$22,186	$38,614
Total	**$3,477**	**$1,295**	**$1,293**	**$1,296**	**$1,293**	**$1,294**	**$1,295**	**$1,295**	**$1,294**	**$1,297**	**$1,299**	**$22,186**	**$38,614**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Chain of Lakes Facilities and Improvements**

Project ID: COL10

Priority 1

Project Description This project consists of the development, design, and implementation of improvements and facilities at the various lakes for the purposes of water storage and groundwater recharge. It includes improvements such as fences, access roads, slope grading and landscaping. It also includes inspections and the construction of recharge monitoring pizometers and installation of equipment such as flow meters, water level meters, and controls. Planning, design, and implementation of specific projects will be broken out of this "parent" budget; however, studies and improvements necessary for specific uses (i.e., flood detention or recycled water storage) at Cope Lake shall be funded from a separate project.

Justification Zone 7 took possession of Lake I and Cope Lake in 2003 and awaits the transfer of Lake H. Additional lakes will become available to us in the future and the need/scope of improvements and facilities will have to be accessed. These lakes are integral components of Zone 7's future water storage and groundwater recharge operations as identified in the Water Supply Planning Study (February 1999). The plans and improvements provided by this project are necessary for the operation and maintenance of these important facilities.

Responsible Section GP Groundwater Protection

Operating Impact Increase of water supply reliability. Increased O&M costs.

In Service Date **Month**: December **Year**: 2030

Total Project Cost $43,513,000
In 2008 Dollars $28,917,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$3,273	$50	$30	$80	$90	$210	$80	$350	$50	$730	$70	$6,600	$11,613
Design	$0	$110	$20	$200	$100	$110	$110	$0	$40	$300	$230	$25,720	$26,940
Construction	$0	$370	$100	$80	$700	$910	$1,140	$0	$500	$0	$1,080	$0	$4,880
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$80	$80
Total	**$3,273**	**$530**	**$150**	**$360**	**$890**	**$1,230**	**$1,330**	**$350**	**$590**	**$1,030**	**$1,380**	**$32,400**	**$43,513**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Chain of Lakes Master Plan**

Project ID: COL6

Priority 2

Project Description Development of a comprehensive master plan for the operation and maintenance of the entire Chain of Lakes and incorporating it into Zone 7's water supply, flood protection and/or untreated water programs. The plan will integrate the important elements of the management plan for Lakes H and I, and Cope Lake and include such aspects as geotechnical investigations and recommendations, hydraulic structures, improvements and ancillary facilities, as well as suggested operations and maintenance.

Justification The Chain of Lakes will be a significant water supply resource, and possibly flood protection and/or untreated water resource, to Zone 7 in the future. These lakes are integral components of Zone 7's future water storage and groundwater recharge operations as identified in the Water Supply Planning Study, and our future flood protection and stream improvements as identified in the Stream Management Master Plan. Chain of Lakes planning will intergrate with the StreamWISE (Waterway Improvements Supporting the Environment) Program. The master planning is necessary to integrate multiple uses and the phasing of property transfers. Also, planning will help to shape or reshape mining reclamation plans to accommodate these integrated uses.

Responsible Section GP Groundwater Protection

Operating Impact Increase of water supply reliability. Increase in operation and maintenance costs.

In Service Date **Month**: July **Year**: 2013

Total Project Cost $3,834,000
In 2008 Dollars $3,325,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$441	$0	$0	$0	$2,903	$490	$0	$0	$0	$0	$0	$0	$3,834
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$441**	**$0**	**$0**	**$0**	**$2,903**	**$490**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$3,834**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Transmission & Distribution

Project **Corrosion Master Plan Update**

Project ID: DS31

Priority 3

Project Description This project includes periodic updates to the Corrosion Master Plan and evaluation of current condition of Zone 7's facilities with respect to corrosion and cathodic protection. Recommend future studies, plan, design and implement projects to repair and upgrade cathodic protection to ensure the service life of the facilities in compliance with industry standards. This program is planned to have a major update every 5 years.

Justification This program is required to protect existing facilities from corrosion. In addition, the use of cathodic protection will lengthen facilities' service lives, this optimization of their service lives will help to minimize water rate increases.

Responsible Section WSE Water Supply Engineering

Operating Impact Lengthen service life and improve reliability.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $2,516,000
In 2008 Dollars **$**1,600,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$120	$0	$0	$0	$0	$60	$0	$0	$0	$0	$80	$330	$590
Design	$66	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$66
Construction	$400	$0	$0	$0	$0	$190	$0	$0	$0	$0	$230	$1,040	$1,860
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$586**	**$0**	**$0**	**$0**	**$0**	**$250**	**$0**	**$0**	**$0**	**$0**	**$310**	**$1,370**	**$2,516**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **CUWA Membership**

Project ID: WP15

Priority 1

Project Description This expenditure is for the California Urban Water Agencies (CUWA) annual membership dues ($60,000/year) and various Zone 7 staff members participation in four standing CUWA committees: 1. Technical Advisory & Oversight, 2. Water Quality, 3. Water Conservation, and 4. Planning.

Justification CUWA membership dues will complement on-going Delta studies, which are intended to maintain and improve Delta water quality and reliability, even as Delta exports increase.

Responsible Section EPA Environmental and Public Affairs

Operating Impact Increased reliability and water quality.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $2,160,000
In 2008 Dollars N/A

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$120	$60	$60	$60	$60	$60	$60	$60	$60	$60	$60	$1,140	$1,860
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$300
Total	**$420**	**$60**	**$60**	**$60**	**$60**	**$60**	**$60**	**$60**	**$60**	**$60**	**$60**	**$1,140**	**$2,160**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Delta Conservation Plan**

Project ID: WP17

Priority 2

Project Description Fund 73's proportional share of expenditures in support of the development of the Bay-Delta Conservation Plan.

Justification Develops a long-term plan for the Delta that ensures water supply reliablility in the future through continued use of the Delta as a conveyance system for water imported from the Sierra Nevada. The Delta as a conveyance is threatened by fragile levees, siesmic risk, climate change and uncertain environmental regulations.

Responsible Section EPA Environmental and Public Affairs

Operating Impact Improved reliability.

In Service Date **Month**: June **Year**: 2009

Total Project Cost $715,000
In 2008 Dollars $710,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$580	$135	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$715
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$580**	**$135**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$715**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Delta Conveyance Study**

Project ID: WP19

Priority 1

Project Description Zone 7's share of DWR/United States Bureau of Reclamation (USBR) engineering and environmental studies for improved Delta conveyance facilities. Total study costs are estimated to be $128 million for CY 2009 and 2010. With 10-15% contingencies, the study costs could be about $140-$150 million. State Water Project (SWP) and Central Valley Project participants will share costs 50/50. Zone 7's share of the SWP portion ($75 million for CY 2009 and 2010) is about two percent, or about $1.5 million. Pending approval of a Funding Agreement with DWR, Zone 7 will likely be billed $750,000 beginning CY 2009 and $750,000 for CY 2010. This project is funded 75% - Fund 52, Water Enterprise ($1,125M) and 25% - Fund 73, Expansion ($375K).

Justification The Delta Conveyance Facility is needed to restore SWP Reliability to previously anticipated levels (about 75%) of SWP Contract Table A Amounts. Currently, Endangered Species Act (State and Federal) concerns have limited SWP diversion exports. The Delta Conveyance Facilities will reduce the conflict between Delta exports and Delta habitat values. Additionally, the Delta Conveyance Facility will improve SWP water quality to Zone 7. There will be water quality improvements in salinity (TDS), toxics, disinfection by-products, etc.

Responsible Section EPA Environmental and Public Affairs

Operating Impact Increased SWP reliability and improved water quality.

In Service Date **Month**: June **Year**: 2011

Total Project Cost $375,000
In 2008 Dollars $368,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$188	$188	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$375
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$188**	**$188**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$375**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **Dougherty Reservoir Access Road Rehabilitation**

Project ID: DV122

Priority 3

Project Description Surface maintenance and road repairs to the Dougherty Reservoir access road is needed. This project consists of a completed pavement condition assessment and involves recommended pavement surface coating (slurry coat or chip seal), filling cracks, and repairing damaged pavement and base areas.

Justification This project will maintain the Dougherty Reservoir access road in a safe and serviceable condition, extending the time period for which repaving and replacement repairs would be needed.

Responsible Section WSE Water Supply Engineering

Operating Impact Decrease maintenance, increase safety.

In Service Date **Month**: June **Year**: 2011

Total Project Cost $260,000
In 2008 Dollars $240,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10
Design	$0	$0	$30	$0	$0	$0	$0	$0	$0	$0	$0	$0	$30
Construction	$0	$0	$220	$0	$0	$0	$0	$0	$0	$0	$0	$0	$220
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$260**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$260**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Aqueous Ammonia System**

Project ID: DV125

Priority 2

Project Description Replacement of the existing anhydrous ammonia system with an aqueous ammonia system or upgrade existing system.

Justification This project will replace or upgrade the last pure gaseous chemical system at DVWTP. Aqueous ammonia bulk storage will be approximately 19% ammonia and will be safer to handle and less of a hazardous threat; alternatively, the existing system could be upgraded with improved safety measures.

Responsible Section WSE Water Supply Engineering

Operating Impact Increase safety.

In Service Date **Month**: June **Year**: 2016

Total Project Cost $3,230,000
In 2008 Dollars $2,500,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$150	$0	$0	$0	$0	$150
Design	$0	$0	$0	$0	$0	$0	$0	$780	$0	$0	$0	$0	$780
Construction	$0	$0	$0	$0	$0	$0	$0	$2,300	$0	$0	$0	$0	$2,300
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$3,230**	**$0**	**$0**	**$0**	**$0**	**$3,230**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Program Water Treatment Facilities
Project **DVWTP Chemical Systems Improvements**
Project ID: DV129
Priority 2

Project Description

This project consolidates the following DVWTP improvement and renewal/replacement projects:

DVWTP Caustic Soda Chemical Storage Upgrade
DVWTP Chemical Feed System Replacement
DVWTP Filter Gallery Pipe Supports Upgrade
DVWTP Parking Lot Rehabilitation

Upgrade existing caustic soda chemical storage facility at DVWTP due to inadequate capacity. Project may involve new storage tanks, a new temperature-controlled storage building, chemical fill line improvements, chemical delivery truck roadway access improvements, and removal of existing under-sized tank.

Replace existing chemical feed systems, including pumps, which require regular maintenance. Provide adequate secondary containment, sufficient backup pumps, and SCADA control for all chemical feed systems.

The existing support system for conduit and chemical feed lines in the lower filter gallery needs to be evaluated and, as necessary, re-enforced or replaced with a properly designed system that can support the current and any future, anticipated load and has sufficient seismic capacity.

Justification

Chemical storage tank is not sized to properly and efficiently schedule chemical deliveries. Existing chemical feed systems are subject to constant mechanical failure. Pipe support system must be properly designed in order to prevent sudden failure. Replacement of the DVWTP parking lot is needed to return it to an acceptable standard; thereby ensuring safety conditions including chemical deliveries.

Responsible Section WSE Water Supply Engineering

Operating Impact Improves ability to comply with regulatory requirements, increases operational effectiveness, increases reliability and safety, and decreases maintenance.

In Service Date **Month**: June **Year**: 2011

Total Project Cost $2,545,000
In 2008 Dollars $2,370,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$485	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$485
Construction	$0	$0	$2,060	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,060
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$485**	**$2,060**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,545**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Electrical Power System Upgrade**

Project ID: DV130

Priority 1

Project Description Replacement of the main plant switchboard as well as the motor control center and switchgear for the backwash pumps and service water pumps, which were originally installed in 1975. The new equipment will have better electrical fault protection and the capability to communicate to SCADA, and will be designed with expansion capacity to support the plant for the next 35 years.

Justification This project will ensure that the DVWTP has the ability to provide power to maintain continual operation and meet permit requirements. Per the 2006 Asset Management Plan Condition Assessment, these assets are currently in poor condition, and have already outlived their expected useful lives. There are no available spare parts if any components were to fail. Furthermore, the existing main switchboard has several code violations that pose a potential hazard to staff. It was recommended in the AMP that these assets be replaced within the next several years to minimize the chances of asset failure and the associated impacts on level of service policies.

Responsible Section WSE Water Supply Engineering

Operating Impact Minimizes the chances of asset failure and the associated impacts on service delivery.

In Service Date **Month**: June **Year**: 2010

Total Project Cost $1,300,000
In 2008 Dollars $1,266,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$80	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$80
Design	$150	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$150
Construction	$200	$870	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,070
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$430**	**$870**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,300**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Filter Underdrain Replacement**

Project ID: DV104

Priority 2

Project Description Replace filter underdrain system as recommended by the Asset Management Program. Filter walls should be expoxy-coated at the same time. Concurrent with the filter underdrain replacement is the filter media replacement from anthracite coal to GAC to address aesthetics issues (taste and odor) as recommended by the Water Quality Management Plan. Filter media replacement is currently identified in the CIP as a separate project.

Justification Based on the condition assessment performed by Carollo Engineers for the Asset Management Program, the filter media and underdrains were assessed to be in poor condition. The expected remaining useful life of the filter underdrain is approximately five years.

Responsible Section WSE Water Supply Engineering

Operating Impact Improve backwashing operation and increases filter efficiencies and operations.

In Service Date **Month**: June **Year**: 2018

Total Project Cost $1,900,000
In 2008 Dollars $1,343,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$160	$0	$0	$0	$160
Design	$0	$0	$0	$0	$0	$0	$0	$0	$150	$0	$0	$0	$150
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,590	$0	$0	$1,590
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$310**	**$1,590**	**$0**	**$0**	**$1,900**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Filter Valves Replacement**

Project ID: DV120

Priority 2

Project Description Replace filter valves at DVWTP. This valve replacement project includes valves such as those used for filter inlet, effluent, drain, surface wash, and backwash. This project does not include filter rate control valves, which were replaced in 2003.

Justification Valves are nearing the end of their useful life and are wearing out. Properly functioning filter valves are essential to reliable plant production.

Responsible Section WSE Water Supply Engineering

Operating Impact Increase reliability, improve operational effectiveness, decrease maintenance.

In Service Date **Month**: June **Year**: 2010

Total Project Cost $270,000
In 2008 Dollars $260,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$20
Design	$0	$30	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$30
Construction	$0	$220	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$220
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$270**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$270**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Instrumentation Upgrades**

Project ID: DV106

Priority 2

Project Description Repair or replace/upgrade instrumentation (i.e. turbidimeters, counters, analyzers) at the Del Valle Water Treatment Plant. An AMP condition assessment in December 2003 confirmed the instruments to be in good condition and in FY 07/08, about 80% of turbidimeters were replaced. However, regular/continued use of the instruments promotes steady wear and tear, and over time compromises instrumentation accuracy. This results in more frequent and rigorous calibration and associated maintenance. Due to the standard wear and tear of the instruments, as well as recognizing continuing technological advances, the expected remaining useful life is approximately eight to ten years.

Justification Properly functioning, reliable instrumentation is integral in water treatment process control. To ensure delivery of high quality water in compliance with drinking water standards, it is recommended that instrumentation be replaced on a regular basis.

Responsible Section OPS Operations & Maintenance

Operating Impact Increased operational effectiveness and assurance that instrumentation is appropriate to meet reporting requirements.

In Service Date **Month**: June **Year**: 2013

Total Project Cost $430,000
In 2008 Dollars $342,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$40	$0	$0	$0	$0	$0	$40
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$390	$0	$0	$0	$0	$390
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$40**	**$390**	**$0**	**$0**	**$0**	**$0**	**$430**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **DVWTP Interior Coating Improvements to the 4.5 MG Steel Clearwell**

Project ID: DV102

Priority 2

Project Description This project involves the removal and recoating of the interior of the 4.5 MG steel clearwell at DVWTP.

Justification An inspection report of the 4.5 MG steel clearwell in November 2002 indicates that there are areas that show some evidence of blistering and holidays. However, the tank remains in relatively good condition and the underlying steel is being protected by the cathodic protection system. A new exterior coating system is planned for completion in FY 08/09. Due to budgetary constraints and the fair condition of the interior coating system, the interior recoating work is being deferred to FY10/11. A new cathodic protection system will be installed at that time.

Responsible Section WSE Water Supply Engineering

Operating Impact A new coating system will give better protection and prolong the useful life of the clearwell.

In Service Date **Month**: June **Year**: 2011

Total Project Cost $1,800,000
In 2008 Dollars $1,705,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$50	$0	$50	$0	$0	$0	$0	$0	$0	$0	$0	$0	$100
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$500	$0	$1,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,700
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$550**	**$0**	**$1,250**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,800**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **DVWTP Sludge Handling Improvements**

Project ID: DV114

Priority 2

Project Description A sludge thickening system that was designed to reduce drying time is currently in operation, however, the current measured sludge concentrations from the thickener is approximately 0.5 to 1.0 % rather than the anticipated concentration of 2.0%. Sludge studies will be conducted to determine the best alternative to increasing sludge handling capacity. The estimated construction cost is a placeholder for alternatives, including installing new sludge beds and installing a belt press/centrifuge system to handle solids during high loading periods. This project will also include the PLC improvements needed for the associated facilities. Currently, a rental mobile, centrifuge is successfully in use.

Justification This project is required to ensure the long-term reliable production of treated water at DVWTP. It will enable Zone 7 to take full advantage of the maximum treated water production capacity at DVWTP.

Responsible Section WSE Water Supply Engineering

Operating Impact Increase operational reliability, flexibility, and effectiveness.

In Service Date **Month**: June **Year**: 2015

Total Project Cost $7,850,000
In 2008 Dollars $6,235,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$1,010	$660	$0	$0	$0	$0	$0	$1,670
Construction	$0	$0	$0	$0	$0	$0	$5,920	$0	$0	$0	$0	$0	$5,920
Other	$0	$0	$0	$0	$0	$0	$260	$0	$0	$0	$0	$0	$260
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,010**	**$6,840**	**$0**	**$0**	**$0**	**$0**	**$0**	**$7,850**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Program Management

Project **Expansion Program Management**

Project ID: SP14

Priority 2

Project Description Ongoing program management of the Water System Expansion Program, including connection fee program administration.

Justification Provides for better tracking of program management costs.

Responsible Section WSE Water Supply Engineering

Operating Impact None

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $6,050,000
In 2008 Dollars N/A

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$450	$150	$150	$150	$150	$175	$175	$175	$175	$175	$200	$3,925	$6,050
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$450**	**$150**	**$150**	**$150**	**$150**	**$175**	**$175**	**$175**	**$175**	**$175**	**$200**	**$3,925**	**$6,050**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Fixed Cost of Water Entitlement**

Project ID: WP2

Priority 1

Project Description Payment of a portion of the fixed cost for purchase of 24,619 acre-feet of additional State Water Project (SWP) entitlements, purchased via Amendments 19, 20, 21, 23, and 25 to Zone 7's SWP contract.

Justification These purchases were required to meet Zone 7's long-term water supply needs, and thus allow Zone 7 to continue to meet its treated and untreated water customer demands. Expansion will pay declining amount over a ten-year period of the fixed SWP costs associated with water acquisitions that have not been used.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased operation and maintenance.

In Service Date **Month**: June **Year**: 2013

Total Project Cost $5,322,000
In 2008 Dollars N/A

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$5,188	$68	$33	$22	$11	$0	$0	$0	$0	$0	$0	$0	$5,322
Total	**$5,188**	**$68**	**$33**	**$22**	**$11**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$5,322**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Fourth Contractor's Share of the SBA**

Project ID: WP7

Priority 1

Project Description Zone 7 contracted to purchase 22,000 AFA of previously-unallocated capacity in the South Bay Aqueduct under Amendments 19 and 20 to its water supply contract with DWR. The annual cost is $2,690,000, of which 73% will be funded by Property Taxes and the remaining 27% will be funded by Dougherty Valley through connection fees. Previosly entitled "Future Contractor's Share of the SBA"

Justification Purchase of this unallocated share of the SBA was to allow Zone 7 to meet the water supply and peaking needs of new customers.

Responsible Section WSE Water Supply Engineering

Operating Impact The purchases were required to meet Zone 7's long-term water supply needs, and thus allow Zone 7 to continue to meet its treated and untreated water customer demands.

In Service Date **Month**: June **Year**: 2035

Total Project Cost $30,763,000
In 2008 Dollars N/A

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$11,887	$726	$726	$726	$726	$726	$726	$726	$726	$726	$726	$11,616	$30,763
Total	**$11,887**	**$726**	**$726**	**$726**	**$726**	**$726**	**$726**	**$726**	**$726**	**$726**	**$726**	**$11,616**	**$30,763**

Note: ‘Future’ means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Fourth Contractor's Share of the SBA - Sinking Fund**

Project ID: WP14

Priority 1

Project Description Zone 7 contracted to purchase 22,000 afa of previously-unallocated capacity in the South Bay Aqueduct under Amendments 19 and 20 to its contract with the Department of Water Resources. In addition to the schedule payment for the 22,000 afa, Zone 7 contributes $196,000 per year into this sinking fund (beginning FY 2004/05 until FY 2024/25), in order to cover contractual costs from the year 2026 to 2035. The annual contributions to the sinking fund is funded by connection fees. Previously titled "Future Contractor's Share of the SBA - Sinking Fund."

Justification This sinking fund is to cover contractual costs from the year 2026 to 2035.

Responsible Section WSE Water Supply Engineering

Operating Impact None.

In Service Date **Month**: **Year**: 2024

Total Project Cost $196,000 Per Year
In 2008 Dollars N/A

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$974	$196	$196	$196	$196	$196	$196	$196	$196	$196	$196	$1,176	$4,110
Total	**$974**	**$196**	**$196**	**$196**	**$196**	**$196**	**$196**	**$196**	**$196**	**$196**	**$196**	**$1,176**	**$4,110**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion
System-Wide Improvements

Program Water Supply & Conveyance

Project **High Efficiency Toilet Rebate Program**

Project ID: PR1

Priority 1

Project Description This program encourages the replacement of existing high-water-using toilets with dual-flush or high-efficiency toilets (HET) that use 1.28 gallons or less per flush in residential, commercial, and industrial buildings by offering homeowners and businesses a $150 for installations of a dual-flush toilet or HET.

Justification This program replaces existing high-water-using toilets with dual-flush toilets or HETs in residential, commercial, and industrial buildings. The estimated water savings from an HET is on the order of 48 gallons/day.

The toilet rebate program is a water conservation BMP that Zone 7 implements in conjunction with its retailing water agencies.

Responsible Section EPA Environmental and Public Affairs

Operating Impact Decreased operations.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $1,929,000
In 2008 Dollars $1,752,000

Source of Funds		
Fund 72	Water Rates	75%
Fund 73	Connection Fees	25%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$1,069	$60	$70	$70	$70	$90	$90	$100	$100	$100	$110	$0	$1,929
Total	**$1,069**	**$60**	**$70**	**$70**	**$70**	**$90**	**$90**	**$100**	**$100**	**$100**	**$110**	**$0**	**$1,929**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Water Supply & Conveyance

Project **High-Efficiency Washing Machine Rebate Program**

Project ID: PR3

Priority 1

Project Description This program encourages the purchase and installation of high-efficiency washing machines by offering buyers from $75 to $200 rebates. New regulations will require all washers to be energy-efficient.

Justification Studies show that approximately 20% of a household's water is used by washing machines. High-efficiency washing machines use about 40% less water per load. This could lead to an annual water savings of approximately 5,100 gallons per machine.

Responsible Section EPA Environmental and Public Affairs

Operating Impact Decrease O & M costs.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $1,251,000
In 2008 Dollars $1,186,000

Source of Funds			
	Fund 72	Water Rates	75%
	Fund 73	Connection Fees	25%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$741	$85	$85	$85	$85	$85	$85	$0	$0	$0	$0	$0	$1,251
Total	**$741**	**$85**	**$85**	**$85**	**$85**	**$85**	**$85**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,251**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Regulatory Compliance

Project **Laboratory Equipment Replacement**

Project ID: LAB2

Priority 2

Project Description The replacement of various monitoring and analytical laboratory equipment. Examples of major equipment to be replaced include but are not limited to: HP 5890 GC with Hall ECD/PID detectors, autosampler and data acquisition system; PE 5100 PC AA with flame and graphite furnace with autosampler and data acquisition system; Varian Saturn GC/MS with dual autosampler and data acquisition system.

Justification This program replaces existing laboratory equipment that has an average service life of ten years. This equipment is required for regulatory compliance monitoring and groundwater water quality management.

Responsible Section LAB Laboratory

Operating Impact Equipment required to meet regulatory compliance.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $6,037,000
In 2008 Dollars $5,780,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$617	$110	$110	$120	$120	$130	$130	$140	$140	$150	$150	$4,120	$6,037
Total	**$617**	**$110**	**$110**	**$120**	**$120**	**$130**	**$130**	**$140**	**$140**	**$150**	**$150**	**$4,120**	**$6,037**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Emergency Preparedness

Project **Local Hazard Mitigation Plan Update**

Project ID: ESS3

Priority 2

Project Description This project will update the existing Local Hazard Mitigation Plan Annex for Zone 7 Water Agency. The existing Annex will be reviewed and revised as necessary. New facilities and mitigations need to be added to the plan.

Justification Zone 7 is part of a Multi-Jurisdictional Local Hazard Mitigation Plan which was completed in 2005 by the Association of Bay Area Government. Each agency participating created their own Annex to the Plan. Zone 7 adopted Resolution 06-2827 adopting the Multi-Jurisdictional Plan and committed to taking appropriate actions outlined in our Annex. Zone 7's Annex stated we would update our plan every 5 years and provide an opportunity for the public to comment.

Responsible Section ASD Administrative Services Division

Operating Impact None.

In Service Date **Month**: November **Year**: 2010

Total Project Cost $260,000
In 2008 Dollars $240,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$50	$210	$0	$0	$0	$0	$0	$0	$0	$0	$0	$260
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$50**	**$210**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$260**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **Minor Renewal/Replacement Projects**

Project ID: DS36

Priority 2

Project Description Replacement of assets, which individually, typically cost less than $50K and require some engineering support.

Justification Ongoing maintenance associated with the reliable supply of high-quality water.

Responsible Section OPS Operations & Maintenance

Operating Impact System operational reliability.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $9,400,000
In 2008 Dollars N/A

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$1,200	$250	$250	$250	$250	$250	$275	$275	$275	$275	$275	$5,575	$9,400
Total	**$1,200**	**$250**	**$250**	**$250**	**$250**	**$250**	**$275**	**$275**	**$275**	**$275**	**$275**	**$5,575**	**$9,400**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Groundwater Basin Management

Project **Mocho Groundwater Demineralization Plant**

Project ID: W19

Priority 1

Project Description This project involves the design and installation of a groundwater demineralization facility with treatment capacity of up to 7.7 mgd utilizing reverse osmosis technology. The demineralization facility will be located at the Mocho Well No. 4 site and will treat groundwater pumped from the existing Mocho wells. Ancillary improvements include piping from the existing wells, piping to existing Zone 7 transmission mains, waste discharge piping to Livermore-Amador Valley Water Management Agency (LAVWMA) facilities and control systems to facilitate operation.

Justification The project supports the Salt Management Program adopted by the Zone 7 Board of Directors on August 18, 1999. This project will mitigate salt build-up in groundwater basin by exporting the salts out of the basin via the LAVWMA pipeline. The facility will have a net salt removal capacity of 3000-4000 tons/year. Additionally, it will lower the TDS and hardness of the groundwater deliveries to Zone 7's treated water customers, thus also supporting Zone 7's Water Quality Policy goals.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased operations and maintenance costs estimated at $1.5 - $2 million per year.

In Service Date **Month**: June **Year**: 2009

Total Project Cost $39,500,000
In 2008 Dollars $39,480,000

Source of Funds			
	Fund 72	Water Rates	50%
	Fund 73	Connection Fees	50%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$1,700	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,700
Design	$1,600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,600
Construction	$35,700	$500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$36,200
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$39,000**	**$500**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$39,500**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Groundwater Basin Management

Project **Monitoring Well Replacements & Abandonments**

Project ID: GW4

Priority 3

Project Description This project provides for, on an as-needed basis, the replacement of old and damaged monitoring wells which are currently in Zone 7's monitoring network. In addition, it provides for the relocation of other Zone 7-monitored wells which need to be destroyed to allow for future development of land. The replacement wells will have various completion depths depending on their location. In some cases, nested monitoring wells having multiple completion intervals may be desirable. It is estimated that up to 2 wells will need to be replaced and/or destroyed each year.

Justification Zone 7 operates an extensive monitoring well network for the monitoring of basin-wide groundwater levels and groundwater quality. In order for Zone 7 to continue to protect and manage the groundwater basin as a viable water supply, some of these monitoring wells will need to be replaced.

Responsible Section GP Groundwater Protection

Operating Impact Facilitate better monitoring of Zone 7's conjunctive use of the groundwater basin.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $1,130,000
In 2008 Dollars $1,065,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$20	$0	$20	$0	$30	$0	$30	$0	$30	$0	$270	$400
Design	$0	$10	$0	$10	$0	$10	$0	$10	$0	$10	$0	$130	$180
Construction	$0	$20	$0	$20	$0	$40	$0	$40	$0	$40	$0	$390	$550
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$50**	**$0**	**$50**	**$0**	**$80**	**$0**	**$80**	**$0**	**$80**	**$0**	**$790**	**$1,130**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Groundwater Basin Management

Project **New Groundwater Management Program Monitoring Wells**

Project ID: GW7

Priority 2

Project Description This project provides for the installation of "nested" monitoring wells at up to nine locations around Livermore-Amador Valley. The monitoring wells will be specifically designed to monitor the groundwater quality and water levels across the groundwater basin. These wells will help fill data gaps in the current monitoring network.

Justification Water quality and water level monitoring data obtained from these wells will facilitate wellfield operations planning, salt loading management, wellhead protection, and general basin management. They will be used to monitor changes in water quality, which in turn can be used to modify operational plans to optimize delivered water quality. They will also provide snapshots of the vertical distribution of water quality and recharge around the basin, which will also facilitate groundwater basin management activities.

Responsible Section GP Groundwater Protection

Operating Impact Increase of water supply reliability. Increase O&M costs.

In Service Date **Month**: June **Year**: 2010

Total Project Cost $570,000
In 2008 Dollars $565,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$10
Design	$0	$20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$20
Construction	$450	$90	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$540
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$450**	**$120**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$570**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **PPWTP Ammonia Facility Replacement**

Project ID: PP48

Priority 1

Project Description Replacement of existing anhydrous ammonia system with an aqueous ammonia storage and feed system for both the conventional and membrane plants. Storage tank, feed pumps and controls, motor control center will be housed in a metal building.

Justification This project is necessary to improve ease of chemical handling and safety by replacing the existing ammonia gas (anhydrous) system with a liquid ammonia (aqueous) storage and feed system. The current anhydrous storage tank, ammoniator, and feed lines have been in use since 1990 and have exceeded their use life. This system has had an ammonia gas leak, as a result of a component failure, i.e. pressure reducing valve. The leak caused injury to a plant operator. The proposed replacement project improves safety for O&M personnel and other on-site plant personnel because the concentrations levels from any off-gasing from leaks, spills, or a storage tank rupture are significantly less than from the current system. Also, the conversion to aqueous ammonia from anhydrous ammonia is consistent with Zone 7's conversion at all of its wellfields.

Responsible Section WSE Water Supply Engineering

Operating Impact Increase safety and decrease maintenance.

In Service Date **Month**: June **Year**: 2014

Total Project Cost $2,280,000
In 2008 Dollars $1,875,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$130	$0	$0	$0	$0	$0	$0	$130
Construction	$0	$0	$0	$0	$0	$2,150	$0	$0	$0	$0	$0	$0	$2,150
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,280**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,280**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **PPWTP Filter Improvements Study**

Project ID: PP31

Priority 2

Project Description This study includes an evaluation of the performance of existing conventional plant filters and recommend improvements. Study area includes evaluation of the plant performance of filter media, underdrain system, filter-to-waste system, adequacy of filter bed capacity, and filter walls structural condition. Recommended actions will be formulated into a scope of work with cost schedule for inclusion in a future CIP filter improvements project.

Justification This project will determine long-term improvements at the conventional plant filters to improve their efficiency and reliability. The structural walls are over 45-years old and the filter media was installed in 1985.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased operational flexibility and reliability.

In Service Date **Month**: June **Year**: 2012

Total Project Cost $80,000
In 2008 Dollars $71,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$80	$0	$0	$0	$0	$0	$0	$0	$0	$80
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$80**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$80**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **PPWTP Filter to Waste Improvements**

Project ID: PP49

Priority 2

Project Description Evaluate the performance of the conventional plant filter to waste system then design and modify piping to reduce down time of filter after a backwash. The current filter to waste system only allows us to waste at 800 GPM and the marginal improvement in production needs to be weighed against the cost to upgrade the filter to waste system to a rate of about 2,800 GPM.

Justification The current filter to waste system takes roughly an hour or more to achieve the chlorine residual required for CT compliance. Improvements to the filter to waste system to lessen filter down time will provide a marginal increase in the conventional plant production rate.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased operational flexibility and reliability. Marginal increase in production.

In Service Date **Month**: June **Year**: 2010

Total Project Cost $325,000
In 2008 Dollars $317,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$125	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$125
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$200
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$125**	**$200**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$325**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **PPWTP Improvement Project 2011**

Project ID: PP56

Priority 2

Project Description This project includes several PPWTP improvement projects, consolidated into one project, which are scheduled for completion in FY 2010/11. These projects were identified as high priority projects in the 2004 PPWTP CIP Prioritization Study and include:

PPWTP Electrical Service Upgrade
PPWTP Finished Water Sample Line Improvements (UF Plant)
PPWTP Clarifier Maintenance Facility Improvements (UF Plant)
PPWTP Chemical Feed Piping Renewal/Replacement (Conv. Plant)
PPWTP Tank Farm Improvements (Conv. Plant)
PPWTP In-Line TOC Analyzers (Conv. Plant)

Justification These improvements would enable Zone 7 to take full advantage of the maximum treated water production capacity at PPWTP.

Responsible Section WSE Water Supply Engineering

Operating Impact Increases operational effectiveness.

In Service Date **Month**: June **Year**: 2011

Total Project Cost $1,030,000
In 2008 Dollars $960,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$90	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$90
Design	$0	$170	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$170
Construction	$0	$0	$730	$0	$0	$0	$0	$0	$0	$0	$0	$0	$730
Other	$0	$0	$40	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40
Total	**$0**	**$260**	**$770**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,030**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **PPWTP Improvement Project 2012**

Project ID: PP57

Priority 2

Project Description This project includes several PPWTP improvement projects, consolidated into one project, which are scheduled for completion in FY 2011/12. These projects are the second highest priority projects identified in the 2004 PPWTP CIP Prioritization Study and include:

PPWTP Clearwell Overflow Improvements
PPWTP Seismic Upgrade of Clearwell
PPWTP Maintenance Storage Building
PPWTP Valve Actuator Renewal/Replacement (Conv. Plant)
PPWTP Relocate Retailer Line

Justification These improvements would enable Zone 7 to take full advantage of the maximum treated water production capacity at PPWTP.

Responsible Section WSE Water Supply Engineering

Operating Impact Increases operational effectiveness.

In Service Date **Month**: June **Year**: 2012

Total Project Cost $1,330,000
In 2008 Dollars $1,190,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$90	$0	$0	$0	$0	$0	$0	$0	$0	$0	$90
Design	$0	$0	$180	$0	$0	$0	$0	$0	$0	$0	$0	$0	$180
Construction	$0	$0	$0	$1,010	$0	$0	$0	$0	$0	$0	$0	$0	$1,010
Other	$0	$0	$0	$50	$0	$0	$0	$0	$0	$0	$0	$0	$50
Total	**$0**	**$0**	**$270**	**$1,060**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,330**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **PPWTP Improvement Studies 2011**

Project ID: PP55

Priority 2

Project Description This project includes several PPWTP improvement studies, consolidated into one project, which are scheduled for completion in FY 2010/11. These studies are included within the 2004 PPWTP CIP Prioritization Study and include:

PPWTP Raw Water Quality Monitoring
PPWTP Chlorine Contact Time Analysis
PPWTP Raw Water Pretreatment Analysis (UF Plant)
PPWTP Sludge Handling Study

Justification These improvement studies and resultant projects, would enable Zone 7 to take full advantage of the maximum treated water production capacity at PPWTP.

Responsible Section WSE Water Supply Engineering

Operating Impact Increases operational effectiveness.

In Service Date **Month**: June **Year**: 2011

Total Project Cost $340,000
In 2008 Dollars $324,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$80	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$80
Design	$0	$170	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$170
Construction	$0	$0	$70	$0	$0	$0	$0	$0	$0	$0	$0	$0	$70
Other	$0	$20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$20
Total	**$0**	**$270**	**$70**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$340**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **PPWTP Instrumentation Upgrades**

Project ID: PP30

Priority 2

Project Description Repair or replace/ upgrade instrumentation (i.e. turbidimeters, counters, analyzers) at the Patterson Pass Conventional Water Treatment Plant and the Patterson Pass Ultrafiltration Water Treatment Plant. A condition assessment in December 2003 confirmed the instruments to be in good condition. However, regular/continued use of the instruments promotes steady wear and tear, and over time compromises instrumentation accuracy. This results in more frequent and rigorous calibration and associated maintenance. Due to the standard wear and tear of the instruments, as well as recognizing continuing technological advances, the expected remaining useful life is approximately eight to ten years.

Justification Properly functioning, reliable instrumentation is integral in water treatment process control. To ensure delivery of high quality water in compliance with drinking water standards, it is recommended that instrumentation be replaced on a regular basis.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased operational efficiencies and ensure instrumentation is appropriate to meet reporting requirements.

In Service Date **Month**: June **Year**: 2020

Total Project Cost $2,265,000
In 2008 Dollars $2,174,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$130	$0	$0	$0	$0	$320	$450
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$375	$0	$0	$0	$1,440	$1,815
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$130**	**$375**	**$0**	**$0**	**$0**	**$1,760**	**$2,265**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **PPWTP Rehabilitation of Clarifier and Replacement of Motor**

Project ID: PP1

Priority 1

Project Description Improvement/replacement of cathodic protection system, re-coating of steel components as well as the concrete walls and floor and replacement of motor/drive mechanism.

Justification Ultrasonic x-ray and materials inspection performed in December 1999 identified that the existing cathodic system required replacement and the steel structural components along with concrete walls and floor required sand/water blasting and re-coating to prolong the service life of the facility, along with replacement of the mechanical drive since it has been in service long past its expected useful life. As a result of recent study in the Asset Management Plan and PPWTP project prioritization review, this project has been upgraded to include the full replacement of the clarifier mechanism rather than just repair of the existing clarifier. It is expected that a new, modern, clarifier mechanism will improve operational performance and reduce coagulant dosing demands.

Responsible Section WSE Water Supply Engineering

Operating Impact Prolongs the facility's service life.

In Service Date **Month**: June **Year**: 2011

Total Project Cost $1,760,000
In 2008 Dollars $1,400,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$50	$0	$0	$0	$0	$0	$0	$50
Design	$0	$0	$0	$0	$0	$460	$0	$0	$0	$0	$0	$0	$460
Construction	$0	$0	$0	$0	$0	$0	$1,250	$0	$0	$0	$0	$0	$1,250
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$510**	**$1,250**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,760**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **PPWTP Sludge Handling Improvements**

Project ID: PP43

Priority 2

Project Description Sludge bed capacity limitations have become a bottleneck in the treatment process since the addition of the UF plant and coagulant upgrade from alum to ferric chloride. Either a full-scale mechanical dewatering facility or building additional sludge beds will be required. Since a rental mobile centrifuge has been sucessfully utilized since 2006, completion of this project can be deferred until FY 15/16.

Justification This project would enable Zone 7 to take full advantage of the maximum treated water production capacity at PPWTP.

Responsible Section CP Capital Projects

Operating Impact Increased operational reliability, flexibility and effectiveness.

In Service Date **Month**: December **Year**: 2016

Total Project Cost $10,950,000
In 2008 Dollars $8,350,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$1,050	$0	$0	$0	$0	$0	$1,050
Design	$0	$0	$0	$0	$0	$0	$0	$410	$0	$0	$0	$0	$410
Construction	$0	$0	$0	$0	$0	$0	$0	$8,240	$0	$0	$0	$0	$8,240
Other	$0	$0	$0	$0	$0	$0	$0	$1,250	$0	$0	$0	$0	$1,250
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,050**	**$9,900**	**$0**	**$0**	**$0**	**$0**	**$10,950**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **PPWTP Ultrafiltration Membrane Replacement**

Project ID: PP29

Priority 1

Project Description Replacement of ultrafiltration membranes. Although the membranes are currently functioning adequately, after several years of operation, membranes reach their useful lives and will need to be replaced at regular intervals.

Justification Several mechanisms for membrane fouling exist: absorption, pore blocking, particle deposition, and concentration polarization. As the fouling process continues, the flux through the membranes decreases. To minimize the effects of fouling, the membranes require frequent cleaning and eventually, replacement. As technology improves and/or existing membrane system become obsolete, system upgrades beyond the membranes can be expected, and these upgrades will replace this project in the CIP at that time.

Responsible Section WSE Water Supply Engineering

Operating Impact Increase operating reliability and effectiveness.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $14,430,000
In 2008 Dollars $9,165,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$10	$0	$0	$0	$0	$0	$0	$10
Design	$0	$0	$0	$0	$0	$380	$0	$0	$0	$0	$0	$0	$380
Construction	$880	$0	$350	$370	$410	$10	$490	$0	$530	$550	$580	$9,870	$14,040
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$880**	**$0**	**$350**	**$370**	**$410**	**$400**	**$490**	**$0**	**$530**	**$550**	**$580**	**$9,870**	**$14,430**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Buildings & Grounds

Project **Replacement of Parkside Building Roof**

Project ID: SP20

Priority 1

Project Description The Zone 7 Parkside building's existing roof is in need of repair. There has been minor repairs to the roof to extend its existing useful life, but full replacement will be required to prevent internal damage to the acility.

Justification This project is required to protect the integrity of the building by protecting it against rain leaking through the roof into ceiling tiles and onto the flooring or equipment in the building.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased safety & operations.

In Service Date **Month**: June **Year**: 2010

Total Project Cost $80,000
In 2008 Dollars $76,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$80	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$80
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$80**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$80**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **Safety Improvements at Water Treatment Plants**

Project ID: ESS5

Priority 2

Project Description This project will provide facility-wide audible and visual emergency alarm devises and safety equipment to improve response to chemical emergencies, including, but not limited to, upgrades to emergency eyewash stations (tepid water), fall protection hardware, and chemical tank isolation valve improvements.

Justification This project is in response to issues brought out by Alameda County Department of Environmental Health during review process for hazardous material handling and changing code requirements for workplace safety.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased safety.

In Service Date **Month**: April **Year**: 2013

Total Project Cost $450,000
In 2008 Dollars $384,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$160	$0	$0	$0	$0	$0	$0	$0	$160
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$290	$0	$0	$0	$0	$0	$0	$0	$290
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$450**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$450**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Water Treatment Facilities

Project **SCADA Enhancements**

Project ID: WTP103

Priority 2

Project Description After the completion of Phase I of the SCADA Improvements project (May 2004 completion), there is an ongoing need for reprogramming, installation of additional devices and upgrading of the existing devices to improve the use of SCADA system to accommodate the changes in the plant and transmission system operation. The SCADA system will also require major software and hardware upgrades about every five years.

Justification This project will enable operators to have increased control and monitoring capability of the treatment and transmission facilities using SCADA. The improvements will enhance personnel and equipment safety, and help meet regulations. The improvements will result in increased efficiency and enable operations to fine tune the treatment and transmission process.

Responsible Section WSE Water Supply Engineering

Operating Impact Improved control, monitoring and reporting through SCADA of process equipment.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $24,174,000
In 2008 Dollars $13,775,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$361	$100	$100	$100	$100	$970	$100	$100	$100	$1,140	$100	$13,030	$16,301
Construction	$1,463	$150	$150	$150	$150	$180	$170	$170	$170	$210	$200	$4,710	$7,873
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$1,824**	**$250**	**$250**	**$250**	**$250**	**$1,150**	**$270**	**$270**	**$270**	**$1,350**	**$300**	**$17,740**	**$24,174**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Groundwater Basin Management

Project **Second Groundwater Demineralization Facility**

Project ID: W25

Priority 2

Project Description Design and construction of a second groundwater demineralization facility utilizing reverse osmosis technology. The anticipated capacity for this facility is 6.2 mgd of delivered water with lower total dissolved solids (TDS) and hardness, and will remove up to an additional 3,000 tons of salt per year. The combined salt removal capacity of the first two demineralization facilities will be about 6000 tons per year. The location of this proposed facility is anticipated to be at the Zone 7 Parkside building location. Timing of this facility may be revised in the future depending upon the performance Mocho Groundwater Demineralization Plant. The cost estimate for this facility has been revised based on the cost of the Mocho Groundwater Demineralization Plant.

Justification This project supports both the Water Quality Management and the Salt Management Programs adopted by the Zone 7 Board of Directors. This project would improve delivered water quality to Zone 7's retailers and mitigate salt build-up in the groundwater basin by exporting the salts out of the basin via the LAVWMA pipeline.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased operations and maintenance costs estimated at up to $1.5 to $2 million per year (2007$).

In Service Date **Month**: June **Year**: 2018

Total Project Cost $51,670,000
In 2008 Dollars $38,485,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$4,610	$0	$0	$0	$0	$0	$4,610
Design	$0	$0	$0	$0	$0	$0	$0	$20,530	$0	$0	$0	$0	$20,530
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$21,350	$5,180	$0	$0	$26,530
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$4,610**	**$20,530**	**$21,350**	**$5,180**	**$0**	**$0**	**$51,670**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Emergency Preparedness

Project **Security Improvements at Existing Facilities**

Project ID: SP9

Priority 1

Project Description Security improvements to Zone 7's water facilities (Water treatment Plants, Wells and Pump Stations) including the addition of security cameras, intrusion alarms, and motion detectors. The project will be implemented in two construction phases.

Justification This is required for the protection of Zone 7 staff, Zone 7 infrastructure, and the community's water supply.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased security. Potential cost saving to guard services after installations are complete.

In Service Date **Month**: December **Year**: 2009

Total Project Cost $2,305,000
In 2008 Dollars $2,280,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$200
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$1,435	$670	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,105
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$1,635**	**$670**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,305**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Semitropic Stored Water Recovery Unit**

Project ID: WP12

Priority 1

Project Description Semitropic Water Storage District and Zone 7 have finalized the amendment to the Semitropic Banking Program agreement that will provide for additional recovery capacity. On February 18, 2004, the Zone 7 Board approved Zone 7's participation in its proportional share (6.5%) of the Stored Water Recovery Unit (SWRU) project. Under the proposed amendment, Zone 7's minimum recovery capacity will increase by 3,250 acre-feet/year (from 5,850 afy to 9,100 afy).

Zone 7's cost share of the SWRU project will be about $1.04 million. The total cost of the SWRU project consists of about $10.5 million for a 120-inch pipeline from Semitropic to the California Aqueduct and about $5.5 million for new wells and conveyance enhancements to the Semitropic water system. The $10.5 million pipeline portion of the SWRU project will be financed by 30-year bonds (5.266% bond sale interest rate), which debt service will be passed on to Zone 7 as annual payments.

Justification Increase reliability by providing additional water supplies during drought years.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased operational reliability.

In Service Date **Month**: April **Year**: 2009

Total Project Cost $48,000 Per Year
In 2008 Dollars N/A

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$240	$48	$48	$48	$48	$48	$48	$48	$48	$48	$48	$816	$1,536
Total	**$240**	**$48**	**$48**	**$48**	**$48**	**$48**	**$48**	**$48**	**$48**	**$48**	**$48**	**$816**	**$1,536**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **South Bay Aqueduct Improvement & Enlargement Project**

Project ID: SP5

Priority 1

Project Description SBA improvements by the California Department of Water Resources (DWR) that will convey for Zone 7 an additional 130 cubic feet per second (cfs) through Reach 1 and 80 cfs through Reaches 2 through 4. Improvements include an expanded South Bay Pumping Plant, third (parallel) Brushy Creek Pipeline, raised linings on open channel sections, replacement of 54-inch pipe under I-580 with 78-inch pipe (completed 3/02), application of hydraulically smoother elastomeric polyurethane lining on the Altamont Pipeline (completed 3/02), enlarged Patterson Reservoir, and new 425 acre-foot (operational storage) raw water reservoir (Dyer Reservoir) located near Dyer Road and future Altamont Water Treatment Plant.

Note that Amendment No. 24 of Zone 7's water supply contract with DWR allows for debt financing of the SBA Improvement & Enlargement Project by DWR. Annual repayment by Zone 7 began in 2006 and end in 2036. To ensure there is adequate funding available to repay debt after buildout occurs (2025), a sinking fund has been established. This sinking fund will fund the remainder of the debt from 2026 to 2036. The costs shown reflect the actual repayment of the debt plus interest.

Justification As identified in the 1999 Water Supply Master Plan and 2001 Water Conveyance Study, provides for long-term Zone 7 raw water conveyance capacity through planned service-area build-out.

Responsible Section WSE Water Supply Engineering

Operating Impact Provides for enhanced long-term water supply, reliability and flexibility.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $230,385,000
In 2008 Dollars N/A

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$14,707	$8,548	$8,629	$8,491	$8,491	$8,494	$8,492	$8,491	$8,494	$8,492	$8,493	$130,563	$230,385
Total	**$14,707**	**$8,548**	**$8,629**	**$8,491**	**$8,491**	**$8,494**	**$8,492**	**$8,491**	**$8,494**	**$8,492**	**$8,493**	**$130,563**	**$230,385**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **South Bay Aqueduct Improvement & Enlargement Project - Sinking Fund**

Project ID: SP12

Priority 1

Project Description SBA improvements by the California Department of Water Resources (DWR) that will convey for Zone 7 an additional 130 cubic feet per second (cfs) through Reach 1 and 80 cfs through Reaches 2 through 4. Improvements include an expanded South Bay Pumping Plant, third (parallel) Brushy Creek Pipeline, raised linings on open channel sections, replacement of 54-inch pipe under I-580 with 78-inch pipe (completed 3/02), application of hydraulically smoother elastomeric polyurethane lining on the Altamont Pipeline (completed 3/02), enlarged Patterson Reservoir, and new 425 acre-foot (operational storage) raw water reservoir (Dyer Reservoir) located near Dyer Road and future Altamont Water Treatment Plant.

Note that Amendment No. 24 of Zone 7's water supply contract with DWR allows for debt financing of the SBA Improvement & Enlargement Project by DWR. Annual repayment by Zone 7 began in 2006 and end in 2036. To ensure there is adequate funding available to repay debt after buildout occurs (2025), a sinking fund has been established. This sinking fund will fund the remainder of the debt from 2026 to 2036. The costs shown reflect the actual repayment of the debt plus interest.

Justification This sinking fund is necessary to cover contractual costs from 2026 to 2035, during which time there will essentially be no on-going water connection fee revenues available because development buildout within the Valley is expected to be reached by this time.

Responsible Section WSE Water Supply Engineering

Operating Impact None.

In Service Date **Month**: **Year**: 2024

Total Project Cost $1,500,000 Per Year
In 2008 Dollars N/A

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$6,000	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$9,000	$30,000
Total	**$6,000**	**$1,500**	**$1,500**	**$1,500**	**$1,500**	**$1,500**	**$1,500**	**$1,500**	**$1,500**	**$1,500**	**$1,500**	**$9,000**	**$30,000**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Groundwater Basin Management

Project **Stream Gage Replacement**

Project ID: GW3

Priority 1

Project Description This project provides for the replacement of damaged or destroyed steam gages which are currently in Zone 7's monitoring network, on an as-needed basis. Zone 7 currently operates 7 recorder stream gaging stations in its surface water monitoring program. Future appropriations reflect the anticipated need to replace existing stations.

Justification Zone 7 operates an extensive stream gaging network for the monitoring of basin-wide surface water flow. The stream flow information is used to compute groundwater basin inflow, outflow and recharge. From time to time, these gaging stations are damaged or destroyed by storm events. In other cases, the stream courses may be altered, making it necessary to replace existing stations. Replacement of these stations is necessary for the on-going monitoring of basin recharge operations.

Responsible Section GP Groundwater Protection

Operating Impact Facilitates better monitoring of ongoing basin recharge operations including associated salt loading.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $1,450,000
In 2008 Dollars $1,140,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$390	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$350	$740
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$150	$150
Construction	$0	$110	$0	$0	$0	$0	$0	$0	$0	$0	$0	$450	$560
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$390**	**$110**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$950**	**$1,450**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **SWP Peaking Payment (Lost Hills & Belridge Water Districts)**

Project ID: WP10

Priority 1

Project Description Zone 7 agreed to pay Lost Hills & Belridge Water Districts the extra SWP peaking payment when we acquired their SWP Table A amounts based on DWR billings to Kern County Water Agency (and to thus these 2 member agencies) Annual peaking commitment is approximately $265,000.

Justification Reliability of water supply.

Responsible Section WSE Water Supply Engineering

Operating Impact Extra peaking allows Zone 7 to deliver or store additional water when available in the SWP system.

In Service Date **Month**: **Year**: 2035

Total Project Cost $7,157,000
In 2008 Dollars N/A

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$1,269	$264	$270	$267	$268	$267	$268	$267	$265	$268	$268	$3,216	$7,157
Total	**$1,269**	**$264**	**$270**	**$267**	**$268**	**$267**	**$268**	**$267**	**$265**	**$268**	**$268**	**$3,216**	**$7,157**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Renewal/Replacement

Program Program Management

Project **System-Wide Improvement, Renewal/Replacement Program Management**

Project ID: SP15

Priority 1

Project Description Ongoing program management of the SWI and R&R programs.

Justification Provides for better tracking of program management costs.

Responsible Section WSE Water Supply Engineering

Operating Impact None

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $2,150,000
In 2008 Dollars N/A

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$150	$50	$50	$50	$50	$60	$60	$60	$60	$60	$70	$1,430	$2,150
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$150**	**$50**	**$50**	**$50**	**$50**	**$60**	**$60**	**$60**	**$60**	**$60**	**$70**	**$1,430**	**$2,150**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Transmission & Distribution

Project **System-Wide Installation of Line Valves**

Project ID: DS41

Priority 3

Project Description Installation of approximately 30 new line valves in the transmission system, as needed, to provide a maximum of 2,000-2,500 feet separation throughout the transmission system.

Justification The installation of additional line valves will reduce service interruptions due to scheduled maintenance and other activities such as leak repairs.

Responsible Section WSE Water Supply Engineering

Operating Impact Improve operation and reduce service interruptions.

In Service Date **Month**: July **Year**: 2020

Total Project Cost $1,620,000
In 2008 Dollars N/A

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$50	$0	$60	$0	$60	$0	$70	$0	$70	$0	$0	$0	$310
Construction	$0	$50	$0	$60	$0	$60	$0	$70	$0	$70	$0	$1,000	$1,310
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$50**	**$50**	**$60**	**$60**	**$60**	**$60**	**$70**	**$70**	**$70**	**$70**	**$0**	**$1,000**	**$1,620**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Groundwater Basin Management

Project **Third Groundwater Demineralization Facility**

Project ID: W30

Priority 3

Project Description Depending upon the ultimate performance of the first two Zone 7 groundwater demineralization facilities, this project, if needed, will provide the remaining groundwater demineralization capacity for Zone 7 to completely meet its hardness and/or salt management goals through service area buildout. Appropriation in FY 12-13 is for a potential property site purchase.

Justification This project supports both the Water Quality Management Program and the Salt Management Program adopted by the Zone 7 Board of Directors. This project will improve the delivered water quality to Zone 7's retailers and mitigate salt build-up in the groundwater basin by exporting the salts out of the basin via the LAVWMA pipeline.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased operations and maintenance costs estimated at up to $1.5 million per year.

In Service Date **Month**: June **Year**: 2022

Total Project Cost $49,680,000
In 2008 Dollars $29,000,000

Source of Funds

Fund 72	Water Rates	90%
Fund 73	Connection Fees	10%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,480	$1,480
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,060	$3,060
Construction	$0	$0	$0	$0	$2,340	$0	$0	$0	$0	$0	$0	$42,800	$45,140
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$0**	**$0**	**$2,340**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$47,340**	**$49,680**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion
System-Wide Improvements
Renewal/Replacement

Program Transmission & Distribution

Project **Transmission System Master Planning**

Project ID: DS37

Priority 2

Project Description This program involves a comprehensive effort to define renewal/replacement and improvement projects needed for the transmission system in order to meet existing and future water demands. This program involves an integration of all aspects of transmission system planning, including the AMP, corrosion master planning, hydraulic modeling, etc.

Justification Establish transmission system sustainability and increase operational/maintenance efficiencies and ensure that Zone 7 meets its goals and objectives to its retailers for existing and future demands, all in a cost-effective manner.

Responsible Section WSE Water Supply Engineering

Operating Impact Increase operational/maintenance effectiveness.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $4,425,000
In 2008 Dollars N/A

Source of Funds			
	Fund 72	Water Rates	75%
	Fund 73	Connection Fees	25%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$100	$100	$100	$100	$100	$125	$125	$125	$125	$125	$150	$3,150	$4,425
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$100**	**$100**	**$100**	**$100**	**$100**	**$125**	**$125**	**$125**	**$125**	**$125**	**$150**	**$3,150**	**$4,425**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Emergency Preparedness

Project **Vulnerability Assessment Review & Update**

Project ID: ESS1

Priority 2

Project Description The project is a re-assessment of the vulnerabilities of Zone 7 facilties, including an evaluation the security levels of the treatment facilties, distribution system, and administration office.

Justification This will update the 2003 Vulnerability Assessment report.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased safety and emergency operations coordination for agency.

In Service Date **Month**: June **Year**: 2011

Total Project Cost $110,000
In 2008 Dollars $100,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$110	$0	$0	$0	$0	$0	$0	$0	$0	$0	$110
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$0**	**$110**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$110**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Water Supply & Conveyance

Project **Water Conservation Best Management Practices**

Project ID: PR2

Priority 1

Project Description As listed in the MOU regarding Urban Water Conservation in California which includes financial & technical support for our retailers' conservation efforts; support & incentives to improve large landscape water efficiency; and public information & school education programs promoting water conservation.

Justification Reduce long-term water demands by promoting Best Management Practices that encourage wise and efficient use of water. Zone 7 studies show that per capita water use in our service area is declining, thus illustrating the effectiveness of our program.

Responsible Section EPA Environmental and Public Affairs

Operating Impact Decreased potable water demands and increase system reliability.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $4,300,000
In 2008 Dollars $3,710,000

Source of Funds		
Fund 72	Water Rates	75%
Fund 73	Connection Fees	25%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$1,300	$275	$275	$275	$275	$275	$325	$325	$325	$325	$325	$0	$4,300
Total	**$1,300**	**$275**	**$275**	**$275**	**$275**	**$275**	**$325**	**$325**	**$325**	**$325**	**$325**	**$0**	**$4,300**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements

Program Water Treatment Facilities

Project **Water Quality - PPWTP & DVWTP Taste and Odor Treatment**

Project ID: DV110

Priority 2

Project Description Install treatment process(es) at the Patterson and Del Valle water treatment plants for earthy-musty taste and odor removal. Possible treatment alternatives include chlorine dioxide, GAC and/or ozonation.

Justification This project will mitigate seasonal earthy-musty taste and odor from treated surface water from PPWTP and DVWTP per the Water Quality Implementation Plan.

Responsible Section WSE Water Supply Engineering

Operating Impact Increased operations and maintenance costs.

In Service Date **Month**: June **Year**: 2012

Total Project Cost $6,595,000
In 2008 Dollars $6,155,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$705	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$705
Design	$0	$1,620	$1,120	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,740
Construction	$0	$0	$560	$1,750	$0	$0	$0	$0	$0	$0	$0	$0	$2,310
Other	$50	$220	$450	$120	$0	$0	$0	$0	$0	$0	$0	$0	$840
Total	**$755**	**$1,840**	**$2,130**	**$1,870**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$6,595**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy System-Wide Improvements
Expansion

Program Water Treatment Facilities

Project **Water Quality Management Program**

Project ID: PR9

Priority 1

Project Description A comprehensive water quality management program and implementation plan (Water Quality Management Plan) was completed in April 2003. This plan addresses water quality concerns of customers and community. It has lead to the Board adoption of policies that address specific water quality goals and objectives that meet internal (Zone 7) and customer and end user needs. This ongoing program will be one component of Zone 7's overall master planning process. It will help guide both our water system operations and our CIP over the next 20 years.

Justification Will assist the Zone 7 Board of Directors in determining policies to effectively manage treated and untreated water quality issues. Will provide guidance to Zone 7's water operations, help establish capital facilities needs and design guidelines, and incorporate a funding strategy.

Responsible Section WQ Water Quality

Operating Impact Will provide clear operational guidelines. Potential additional treatment and blending facilities to operate.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $6,298,000
In 2008 Dollars N/A

Source of Funds		
Fund 72	Water Rates	75%
Fund 73	Connection Fees	25%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$1,068	$110	$110	$120	$120	$130	$130	$140	$140	$150	$160	$3,920	$6,298
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$1,068**	**$110**	**$110**	**$120**	**$120**	**$130**	**$130**	**$140**	**$140**	**$150**	**$160**	**$3,920**	**$6,298**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Water Supply & Conveyance

Project **Water Supply Purchase for Reliability**

Project ID: WP16

Priority 2

Project Description Additional Delta water supplies to be purchased for storage locally to meet future Zone 7 water demands. This project was previously entitled "Delta Water Supply/Storage".

Justification Additional water supplies are needed for local storage to firm up reliability in case of inability to bring in adequate supplies from the Delta (e.g., due to a major levee break).

Responsible Section WSE Water Supply Engineering

Operating Impact Increased water supply reliability.

In Service Date **Month**: June **Year**: 2011

Total Project Cost $11,000,000
In 2008 Dollars $10,000,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$11,000	$0	$0	$0	$0	$0	$0	$11,000
Total	**$0**	**$0**	**$0**	**$0**	**$0**	**$11,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$11,000**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Expansion

Program Wells

Project **Well Master Plan Wells**

Project ID: W11

Priority 1

Project Description This project involves the construction of several new municipal water supply wells (Chain of Lakes Wells 1and 2 are the first two) to meet Zone 7's M&I drought reliability goal through buildout . The new wells will be constructed with schedule that mirrors the increases needed to maintain Zone 7's reliability as demand grows. The estimated project costs include all planning, site testing, land acquisition, well drilling, facility design and construction, pipeline additions and miscellaneous site work costs necessary to implement these Well Master Plan wells.

Justification This project is required to maintain sufficient Zone 7 well capacity for Zone 7 to meet 100% of its M&I customers' projected future needs, even during worse-case drought conditions, as established in Zone 7 Resolution 02-2382. As additional benefits, these wells will provide Zone 7 with better abilities to manage groundwater levels, groundwater flow, dissolved salt build-up/removal, delivered water quality blending and peak-day demands.

Responsible Section WSE Water Supply Engineering

Operating Impact System reliability.

In Service Date **Month**: June **Year**: 2020

Total Project Cost $98,558,000
In 2008 Dollars $85,000,000

Source of Funds Fund 73 Connection Fees 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$2,057	$1,550	$200	$90	$0	$0	$100	$100	$110	$110	$0	$40	$4,357
Design	$3,720	$2,300	$15,970	$200	$1,340	$250	$1,410	$270	$250	$1,590	$0	$550	$27,850
Construction	$14,911	$2,400	$1,910	$16,160	$1,460	$6,930	$260	$2,020	$8,010	$300	$0	$11,990	$66,351
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$20,688**	**$6,250**	**$18,080**	**$16,450**	**$2,800**	**$7,180**	**$1,770**	**$2,390**	**$8,370**	**$2,000**	**$0**	**$12,580**	**$98,558**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.

Capital Improvement Project Summary Report

Strategy Renewal/Replacement

Program Wells

Project **Well Pump, Motor and Casing Inspections**

Project ID: W35

Priority 2

Project Description Zone 7 currently has seven production wells. This project involves annual inspection of well pumps, motors and casing and related repairs for one well.

Justification This project will impove reliability of production wells.

Responsible Section OPS Operations & Maintenance

Operating Impact Increased operational service life of facilities thereby reducing future capital investments.

In Service Date **Month**: **Year**: Ongoing

Total Project Cost $350,000
In 2008 Dollars $280,000

Source of Funds Fund 72 Water Rates 100%

($1,000)

Appropriation	Prior	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	Future	Total
Planning	$0	$30	$30	$30	$30	$30	$40	$40	$40	$40	$40	$0	$350
Design	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total	**$0**	**$30**	**$30**	**$30**	**$30**	**$30**	**$40**	**$40**	**$40**	**$40**	**$40**	**$0**	**$350**

Note: 'Future' means all the project costs from FY 19/20 through FY 35/36, which is the planning horizon.