

September 1, 2012

The Honorable Assembly Member Ricardo Lara, Chair
The Honorable Senator Robert Dutton, Vice-Chair
California State Assembly
Joint Legislative Audit Committee
1020 N. Street, Room 107
Sacramento, CA 95814

The Honorable Michael Gardner, Chairman
California Seismic Safety Commission
1755 Creekside Oaks Drive, Suite 100
Sacramento, CA 95833

Ron Chapman, MD, MPH, Director
California Department of Public Health
P.O. Box 997377, MS 0500
Sacramento, CA 95899-7377

**Subject: San Francisco Public Utilities Commission (SFPUC)
Fiscal Year 2011-2012 Annual Report
Water System Improvement Program (WSIP)**

Dear Assembly Member Lara, Senator Dutton, Commissioner Gardner, and Dr. Chapman:

In accordance with Section 73502(c) of the California Water Code, the San Francisco Public Utilities Commission (SFPUC) is pleased to submit the Annual Report describing progress made on the implementation of the Water System Improvement Program (WSIP) during Fiscal Year (FY) 2011-2012.

The WSIP is a multi-billion dollar, multi-year program to upgrade the SFPUC's Regional and Local Water Systems. The program will deliver capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water to its 26 wholesale customers and regional retail customers in Alameda, Santa Clara and San Mateo Counties, and to 800,000 retail customers in the City and County of San Francisco, in an environmentally sustainable manner. The WSIP is structured to cost-effectively meet water quality requirements, improve seismic and delivery reliability through the year 2030, and meet water supply objectives until the year 2018.

Section 1 of the attached report describes the overall progress made on the program during FY 2011-2012 (July 1, 2011 through June 30, 2012) and Section 2 focuses on the major programmatic initiatives undertaken during that time period. Included in Section 3 is a summary of changes made to the WISP individual project schedules. The achievements and challenges encountered while implementing the program during FY 2011-2012 are summarized in Section 4. Finally, Section 5 of the report highlights the current status of the specific projects mentioned in California Assembly Bill (AB) 1823.

Edwin M. Li
May
Francesca Viet
Preside
Anson Mori
Vice Preside
Ann Moller Cai
Commission
Art Torr
Commission
Vince Courtne
Commission
Ed Harrington
General Manager

Significant progress was made on the implementation of the WSIP during FY 2011-2012. Between July 1, 2011 and June 30, 2012 the overall completion of the program increased from 42.4% to 61.7%. We are on track to complete the construction of a new seismically-designed lifeline that will carry water from the Sunol Valley in the East Bay to the mid-Peninsula by the end of 2015. That lifeline involves 6 segments contracted out separately and construction activities have now been completed on 4 of these segments.

Minimal pre-construction work (planning, environmental review/permitting, real estate acquisition, engineering design, and bid & award) remains on the WSIP and the focus of the program is now on construction activities. As of the end of the reporting period, planning activities are essentially complete at 99.5%, whereas environmental, design and construction efforts are 91.4%, 95.2% and 56.4% complete, respectively.

During the reporting period, 9 construction contracts were awarded and construction substantial and final completion were reached on 6 and 8 different contracts, respectively. As of June 30, 2012, construction was underway on 15 regional projects valued at \$2.4 billion, while construction had been completed on 25 other regional projects valued at \$487 million.

On June 12, 2011, following a 30-day public review period, the SFPUC Commission adopted a revised project schedule and budget for 3 regional projects: CUW35901: New Irvington Tunnel, CUW36802 : BDPL Reliability Upgrade – Pipeline, and CUW36105: Pulgas Balancing – Modification of the Existing Dechloramination Facility. These revisions are documented in a report titled Wholesale Regional Water System Security and Reliability Act: Notice of Changes to Water System Improvement Program, dated July 12, 2011. This report was submitted separately to the California Seismic Safety Commission and the California Department of Public Health.

At the end of the reporting period, a new challenge emerged when the contractor on the Calaveras Dam Replacement project observed unexpected geologic conditions that could affect the stability of the slope above the new dam's left abutment. The impacts of these recent findings on the project cost and schedule are still being investigated but they are expected to be significant. The project team is currently working with the contractor to develop options for schedule mitigation with the overall goal of making sound decisions in balancing schedule, cost and risk. An analysis of these options and quantification of impacts is expected to be completed in the next few months. The attached report only briefly mentions this new WSIP challenge since the differing site conditions in question were not confirmed until after the end of the reporting period. The SFPUC will provide the State more details on the project impacts after they are quantified and the Commission approves a revised schedule for the project, which is expected to be before the end of 2012.

Please do not hesitate to contact me at (415) 554-1600 if you have questions or need additional information.

Sincerely,



Ed Harrington
General Manager
San Francisco Public Utilities Commission

Attachment

CC: The Honorable Anson B. Moran - President, SFPUC Commission

The Honorable Art Torres – Vice-President, SFPUC Commission

The Honorable Ann Moller Caen - Commissioner, SFPUC Commission

The Honorable Francesca Vietor - Commissioner, SFPUC Commission

The Honorable Vince Courtney - Commissioner, SFPUC Commission

Arthur Jensen - Chief Executive Officer and General Manager, BAWSCA

Miren Klein - Deputy Director, Center for Environmental Health, California Department of Public Health

Leah Walker, PE – Division Chief, Drinking Water & Environmental Management, California Department of Public Health

Bruce Burton, - Chief, Northern California Drinking Water Field Operations Branch, California Department of Public Health

Stefan Cajina, Region Chief, Northern California Drinking Water Field Operations Branch, California Department of Public Health

Betty Graham - San Francisco District Engineer, Drinking Water Field Operations Branch, California Department of Public Health

Richard McCarthy - Executive Director, California Seismic Safety Commission



HETCH HETCHY

WATER SYSTEM IMPROVEMENT PROGRAM



2011-12

Annual Report

Water System Improvement Program

*Rebuilding Today
for a Better Tomorrow*



Hetch Hetchy
**Regional
Water
System**

Services of the San Francisco Public Utilities Commission

September 1, 2012

ANNUAL REPORT WATER SYSTEM IMPROVEMENT PROGRAM

EXECUTIVE SUMMARY

Pursuant to the reporting requirements of the Wholesale Regional Water System Security and Reliability Act, the San Francisco Public Utilities Commission (SFPUC) submits this report documenting the progress achieved on the Water System Improvement Program (WSIP) during Fiscal Year (FY) 2011-2012 (July 1, 2011 through June 30, 2012). This report only addresses the WSIP regional projects (referred to as the Regional Program). These are the projects that benefit both San Francisco retail customers and the SFPUC's suburban wholesale customers. The Wholesale Regional Water System Security and Reliability Act does not require the SFPUC to report on the WSIP local projects (referred to as the Local Program), which primarily benefit San Francisco retail customers.

The WSIP is a multi-billion dollar, multi-year program to upgrade the SFPUC's Regional and Local Water Systems. The program will deliver capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water to its 26 wholesale customers and regional retail customers in Alameda, Santa Clara and San Mateo Counties, and to 800,000 retail customers in the City and County of San Francisco, in an environmentally sustainable manner. The WSIP is structured to cost-effectively meet water quality requirements, improve seismic and delivery reliability goals through the year 2030, and fulfill water supply objectives until the year 2018.

Significant progress was made on the implementation of the WSIP during FY 2011-2012. Between July 1, 2011 and June 30, 2012 the overall completion of the program increased from 42.4% to 61.7%. We are on track to complete the construction of a new seismically-designed lifeline that will carry water from the Sunol Valley in the East Bay to the mid-Peninsula by the end of 2015. That lifeline involves six segments contracted out separately and construction activities have now been completed on four of these segments. Construction of the two remaining segments - New Irvington Tunnel and BDPL Reliability Upgrade - Tunnel (also known as the Bay Tunnel) – is forecasted to be substantially complete by October 2014 and March 2015, respectively.

Minimal pre-construction work (planning, environmental review/permitting, real estate acquisition, engineering design, and bid & award) remains on the WSIP and the focus of the program is now on construction activities. As of the end of the reporting period, planning activities are essentially complete at 99.5%, whereas environmental, design and construction efforts are 91.4%, 95.2% and 56.4% complete, respectively.

Notable achievements during FY 2011-2012 include:

- The environmental phase (includes California Environmental Quality Act [CEQA] review and all required environmental permits issued by resource agencies) of three regional projects were completed;
- The design phase of two regional projects was completed;
- Nine construction contracts for six regional projects were awarded;

- Construction substantial completion was reached on six construction contracts;
- Construction final completion was reached on eight construction contracts.
- Construction of 25 regional projects valued \$487 million was completed as of the end of FY 2011-2012;
- Construction of 15 regional projects valued at \$2.4 billion was underway as of the end of FY 2011-2012; and
- One regional project was completed and formally closed out.

The change in the construction substantial completion and project final completion forecasted in June 2011 through June 2012 for the WSIP regional projects is summarized in Table ES-1.

Table ES-1: Changes in Project Schedule Forecasts

Forecasted Schedule Change	Construction Substantial Completion	Project Final Completion
Projects Accelerated	3	1
Projects Unchanged	35	28
Projects Delayed < 6 Months	4	6
Projects Delayed 6-12 Months	2	8
Projects Delayed > 12 Months	2	3

Of the eight projects with forecasted delay in their Construction Substantial Completion (when new improvements/facilities are available for use), construction activities have been completed on two projects and construction activities are a month away from being completed on another. Furthermore, one of the delayed project is a groundwater supply project and another in a support project that does not contribute to the program's levels of service (LOS) goals. Therefore the construction delays that have significance on the seismic reliability of the system is limited to three projects – New Irvington Tunnel (forecasted delay of 10 months), San Antonio Backup Pipeline (forecasted delay of two months) and Seismic Upgrade of BDPL Nos. 3 & 4 (forecasted delay of 3 months).

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APPENDIX A: WSIP Quarterly Report - Regional Projects (Q4/FY 2011-2012)

APPENDIX B: Current Approved WSIP Schedule - Regional Projects

LIST OF ACRONYMS

AB	Assembly Bill
ARM	Active Risk Management
BAWSCA	Bay Area Water Supply and Conservation Agency
BDPL	Bay Division Pipeline
BHR	Bioregional Habitat Restoration
Cal/OSHA	California Division of Occupational Safety and Health Administration
CDFG	California Department of Fish and Game
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CM	Construction Management
CSPL	Crystal Springs Pipeline
CS/SA	Crystal Springs/San Andreas
DSOD	Division of Safety of Dams
EAC	Estimate at Completion
EBMUD	East Bay Municipal Utility District
EIR	Environmental Impact Report
FY	Fiscal Year
HTWTP	Harry Tracy Water Treatment Plant
IS/MND	Initial Study/Mitigated Negative Declaration
JOC	Job Order Contracting
LOS	Level of Service
NTP	Notice to Proceed
PCCP	Pre-stressed Concrete Cylinder Pipe
PM	Project Management
RBOC	Revenue Bond Oversight Committee
ROW	Right-of-Way
SAC	Schedule at Completion
SAPL	San Andreas Pipeline
SFPUC	San Francisco Public Utilities Commission
SJPL	San Joaquin Pipeline
SVWTP	Sunol Valley Water Treatment Plant
TBM	Tunnel Boring Machine
TWR	Treated Water Reservoir
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service
WSIP	Water System Improvement Program

ANNUAL REPORT – WATER SYSTEM IMPROVEMENT PROGRAM

Pursuant to the reporting requirements of the Wholesale Regional Water System Security and Reliability Act, the San Francisco Public Utilities Commission (SFPUC) submits this report documenting the progress achieved on the Water System Improvement (WSIP) during Fiscal Year (FY) 2011-2012 (July 1, 2011 through June 30, 2012). This report only addresses the WSIP regional projects (referred to as the Regional Program). These are the projects that benefit both San Francisco retail customers and the SFPUC's suburban wholesale customers. The Wholesale Regional Water System Security and Reliability Act does not require the SFPUC to report on the WSIP local projects (referred to as the Local Program), which primarily benefit San Francisco retail customers.

The WSIP is a multi-billion dollar, multi-year program to upgrade the SFPUC's Regional and Local Water Systems. The program will deliver capital improvements that enhance the SFPUC's ability to provide reliable, affordable, high quality drinking water to its twenty-six wholesale customers and regional retail customers in Alameda, Santa Clara and San Mateo Counties, and to 800,000 retail customers in the City and County of San Francisco, in an environmentally sustainable manner. The WSIP is structured to cost-effectively meet water quality requirements, improve seismic and delivery reliability goals through the year 2030, and fulfill water supply objectives until the year 2018.

Section 1 of the report describes the overall progress made on the program during FY 2011-2012 (July 1, 2011 through June 30, 2012) and Section 2 focuses on the major programmatic initiatives undertaken during that time period. Included in Section 3 is a summary of forecasted changes to the WSIP individual project schedules. The achievements and challenges encountered in each region of the WSIP during FY 2011-2012 are summarized in Section 4. Finally, Section 5 of the report highlights the current status of the specific projects mentioned in California Assembly Bill (AB) 1823. The WSIP Regional Projects 4th Quarterly Report for FY 2011-2012 (*Q4-FY11/12 WSIP Quarterly Report*) is included as Appendix A. This report provides more detailed information on the progress made and status of each individual WSIP regional project as of June 30, 2012. Also, the latest approved project schedules are provided as part of Appendix B.

1.0 OVERALL PROGRAM PROGRESS (FY 2011-2012)

Significant progress has been made on the implementation of the WSIP during the reporting period with overall progress increasing from 42.4% to 61.7%. Overall, actual performance (61.7%) on the Regional Program is 1.5% behind planned performance (63.2%). Some of the activities impacting schedule are discussed under "Challenges" in Section 4 of this report.

As indicated in Table 1-1 planning activities are essential complete at 99.5%, whereas environmental, design and construction efforts are 91.4%, 95.2% and 56.4% complete, respectively.

Table 1-1: WSIP Regional Program Performance¹

Phase	June 30, 2011		June 30, 2012	
	% Planned ²	% Actual	% Planned ³	% Actual
Planning	98.5%	98.5%	100.0%	99.5%
Environmental	86.9%	85.4%	93.6%	91.4%
Design	92.7%	92.7%	97.9%	95.2%
Bid & Award	84.2%	84.2%	92.1%	91.1%
Construction	35.6%	34.1%	57.5%	56.4%
Close-Out	10.2%	9.9%	33.6%	20.0%
Program Cumulative	43.5%	42.4%	63.2%	61.7%

¹ Percent completion do not include Support Projects in WSIP Regional Program.

² Based on June 2011 Revised WSIP schedule.

³ Incorporates the few schedule revisions approved by the Commission in July 2012.

Minimal pre-construction work (planning, environmental review/permitting, real estate acquisition, engineering design, and bid & award) remains on the WSIP and the focus of the program is now on construction activities. Table 1-2 compares the number of projects in each phase and their corresponding total approved value at the beginning of the reporting period (June 30, 2011) to those at the end of the reporting period (June 30, 2012). As of the end of the reporting period (June 30, 2012), 15 regional projects are in construction with a total value of \$2,437 million and 25 additional projects with a total value of \$487 million are in closeout or have been completed. The remaining six regional projects are in pre-construction, with two projects in bid and award. During FY 2011-2012, two projects progressed from pre-construction to construction, the value of the projects in construction increased by \$218 million from \$2,219 million to \$2,437 million, construction was completed on seven projects, and one project was completed.

Table 1-2: Status of WSIP Regional Projects

Project Phase	June 30, 2011 Status		June 30, 2012 Status	
	No. of Projects	Total Project Value (\$M) ¹	No. of Projects	Total Project Value (\$M) ²
Planning	2	\$52	1	\$32
Design	5	\$381	3	\$193
Bid & Award	1	\$431	2	\$189
Construction	20	\$2,219	15	\$2,437
Close-Out	4	\$56	10	\$302
Completed	14	\$171	15	\$185
Total	46	\$3,310	46	\$3,337

¹ Based on June 2011 Revised WSIP budget.

² Based on 2012 WSIP Approved Revision.

To better illustrate the progress made during the FY 2011-2012, some of the key program-level data included in Table 1-2 are graphically presented in Figures 1-1 and 1-2.

Figure 1-1: Progress Made in Terms of No. of Regional Projects

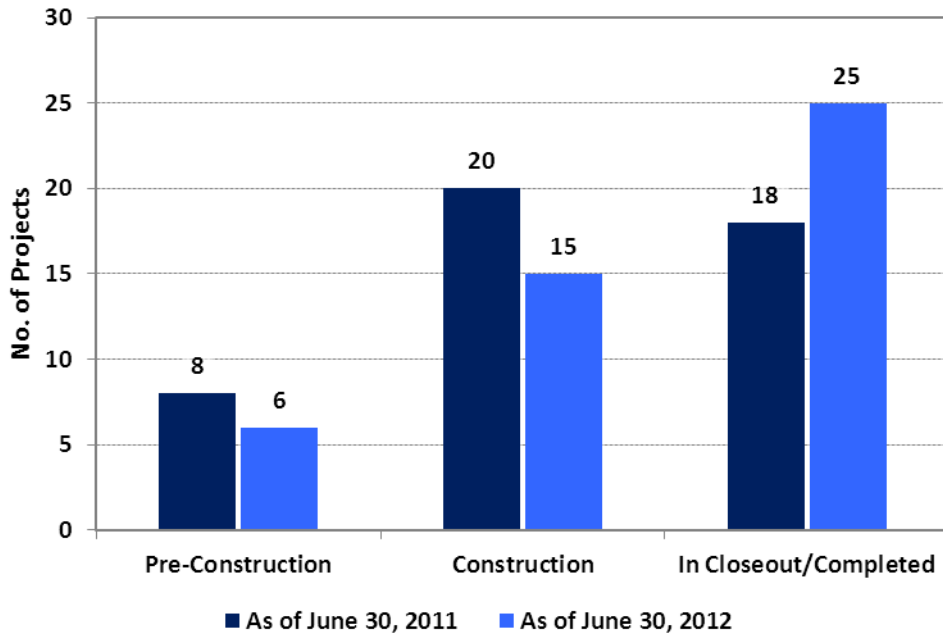
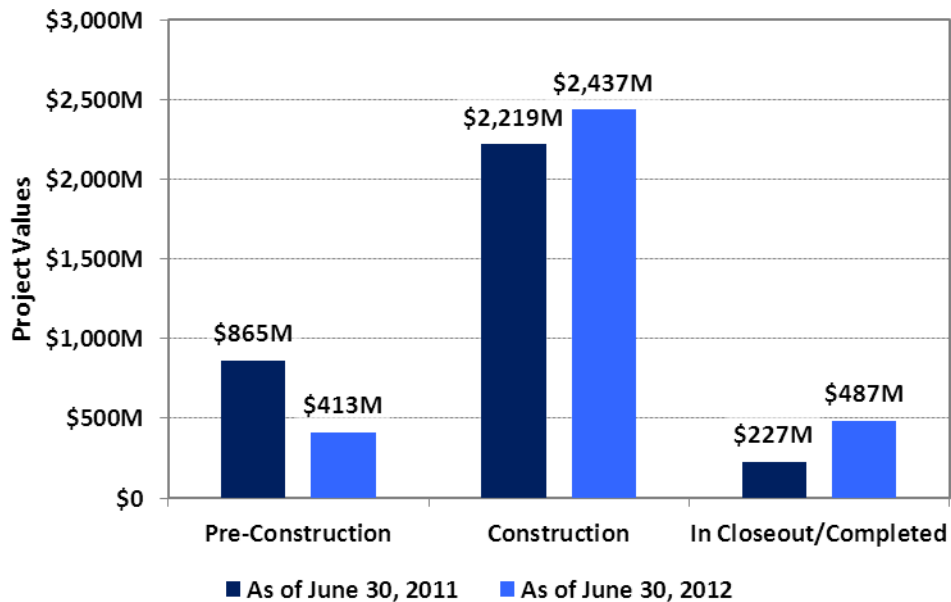


Figure 1-2: Progress Made in Terms of Regional Project Values



During the reporting period, the SFPUC Commission (“Commission”) awarded nine construction contracts. Furthermore, six construction contracts reached substantial completion. These various milestones, as well as other important ones reached during the reporting period, are summarized below.

Three (3) Projects with Completed Environmental Phase (CEQA Review and Environmental Permitting):

- Calaveras Dam Replacement (February 6, 2012)
- Seismic Upgrade of BDPL Nos. 3 & 4 (March 17, 2012)
- San Joaquin Pipeline System (March 27, 2012)

Two (2) Projects with Completed Design Phase:

- Seismic Upgrade of BDPL Nos. 3 & 4 (February 20, 2012)
- Bioregional Habitat Restoration (May 31, 2012)

Nine (9) Construction Contract Awards:

- Bioregional Habitat Restoration - Homestead Pond, San Andreas Reservoir Wetlands, and Adobe Gulch Grassland (Commission Resolution No. 11-0156 dated September 13, 2011)
- System Security Upgrades – As-Needed Integration Services (Lenel VAR Required) (Commission Resolution No. 11-0166 dated October 11, 2011)
- Bioregional Habitat Restoration - San Antonio Creek (Commission Resolution No. 11-0188 dated November 8, 2011)
- Regional Groundwater Storage and Recovery – Test Well Drilling (Commission Resolution No. 11-0191 dated December 13, 2011)
- Tesla Treatment Facility – Tesla Portal Protection (Commission Resolution No.11-0190 dated December 13, 2011)
- BDPL Reliability Upgrade Pipeline – Cordilleras Micro-Tunnel (Commission Resolution No. 11-0193 dated December 13, 2011)
- Bioregional Habitat Restoration - Peninsula 2011 Watershed Compensation: Sherwood Point, Adobe Gulch Creek, Skyline Quarry, Skyline Blvd. and Upper San Mateo Creek (Commission Resolution No. 12-0058 dated April 24, 2012)
- Seismic Upgrade of BDPL Nos. 3 and 4 (Commission Resolution No.12-0101 dated June 12, 2012)
- Bioregional Habitat Restoration - Sheep Camp Creek (Commission Resolution No. 12-0115 dated June 26, 2012)

Six (6) Construction Contract Substantial Completions:

- New Crystal Springs Bypass Tunnel (July 14, 2011)
- Pulgas Balancing - Structural Rehabilitation and Roof Replacement (July 18, 2011)
- Lower Crystal Springs Dam Improvements (November 28, 2011)
- Alameda Siphon #4 (December 16, 2011)
- San Joaquin Pipeline System – Crossovers (January 6, 2012)
- BDPL Reliability Upgrade – Pipeline Peninsula Reach (June 13, 2012)

Eight (8) Construction Contract Final Completions:

- New Crystal Springs Bypass Tunnel (August 12, 2011)
- University Mound Reservoir (August 23, 2011)
- Pulgas Balancing – Structural Rehabilitation and Roof Replacement (September 1, 2011)
- Rehabilitation of Existing SJPLs, Roselle Crossover Improvements (September 19, 2011)
- San Antonio Pump Station Upgrade (September 30, 2011)
- Baden & San Pedro Valve Lots Improvements (December 30, 2011)
- Lower Crystal Springs Dam Improvements (May 1, 2012)
- BDPL Reliability Upgrade – Pipeline: East Bay Reach (June 15, 2012)

One (1) Project Completed:

- Project CUW38601: San Antonio Pump Station Upgrade (June 29, 2012)

2.0 PROGRAMMATIC INITIATIVES (FY 2011-2012)

This section describes some of the more important programmatic initiatives undertaken during FY 2011-2012.

2.1 Construction Management Audit by RBOC

The San Francisco Revenue Bond Oversight Committee (RBOC) is charged with confirming that proceeds from revenue bonds that support Power, Waste and Water Enterprise infrastructure improvements are being implemented in a professional and cost effective manner. To date, the focus of the committee has been on the SFPUC's delivery of the WSIP.

During FY 2011-2012 RBOC arranged for a review of the WSIP Construction Management (CM) Program. That review was conducted during the week of October 3, 2011 and was conducted by an Independent Review Panel (IRP) of nationally recognized experts that was initially retained by the SFPUC to perform periodic reviews of the WSIP team's CM efforts and had previously done so in FY 2010-2011. The review focused on three specific areas

of interest to the RBOC. The areas studied were Change Management, Risk Management and Project Cost, Schedule and Contingencies. A list of questions was developed with RBOC in advance to help define the scope of the review and the specific issues to be addressed. In addition, RBOC retained the services of an independent expert to help define and prioritize issues to be reviewed by the Independent Panel, review the work of the Panel and submit a separate report with findings and recommendations.

The findings and recommendations of both the IRP and the independent expert were presented to RBOC and the SFPUC Commission in separate public meetings. The reports produced as a result of this review are also posted on the WSIP website (sfwater.org/wsip).

In general, the findings of both parties were favorable and commented positively on how the targeted areas studied are managed by SFPUC. Both reports recommended some further clarifications, enhancements and studies for SFPUC consideration. Specifically, both reports recommended an independent Cost-and-Schedule-to-Complete analysis be performed in order to check the latest WSIP forecasts.

In light of these recommendations, RBOC has requested that the SFPUC conduct a Cost Estimate at Completion (EAC) and Schedule at Completion (SAC) analysis for a representative sample of projects and that this analysis be reviewed by an RBOC consultant for purposes of evaluating the accuracy, soundness, and quality of the SFPUC's cost and schedule forecasts and the WSIP's overall status with regard to cost and schedule. RBOC plans to award this evaluation with the help of a consultant in late 2012.

2.2 2012 WSIP Approved Revision

In compliance with the requirements of the Wholesale Regional Water System Security and Reliability Act (California Water Code § 73500 et seq.) the SFPUC notified the Bay Area Water Supply & Conservation Agency (BAWSCA) on May 11, 2012 that the Commission would be considering revisions to the WSIP. On June 12, 2012, following a 30-day review period, the Commission adopted a revised project schedule and budget for three regional projects: New Irvington Tunnel, BDPL Reliability Upgrade – Pipeline (BDPL No. 5), and Pulgas Balancing – Modification of the Existing Dechloramination Facility. The revisions approved by the Commission consist of the following:

Table 2-1: Approved Revisions to WSIP Project Schedules

Project	June 2011 Approved	June 2012 Approved	Variance (Day)
New Irvington Tunnel	10/31/14	01/21/16	447
BDPL Reliability Upgrade - Pipeline	03/05/13	10/01/13	210
Pulgas Dechloramination	05/30/12	03/20/13	294

Table 2-2: Approved Revisions to WSIP Project Budgets

Project	June 2011 Approved	June 2012 Approved	Variance (\$)
New Irvington Tunnel	\$313,424,513	\$319,924,513	\$6,500,000
BDPL Reliability Upgrade - Pipeline	\$221,290,899	\$221,922,899	\$632,000
Pulgas Dechloramination	\$5,790,114	\$6,145,114	\$355,000

Subsequently, on July 12, 2012 a Notice of Change Report was sent to the California Department of Public Health and the California Seismic Safety Commission in compliance with the California Water Code. The reasons for the required schedule changes are summarized below.

New Irvington Tunnel (NIT)

The forecasted delay in the completion of the NIT project is the result of contract extensions associated with (1) differing site conditions such as harder rock encountered in the excavation than documented in the contract, and a soil nail wall failure and repairs due to unanticipated poor material for soil nail anchorages; (2) delays associated with the reclassification of the tunnel from Potentially Gassy to Fully Gassy by the California Occupations Safety and Health Administration (Cal-OSHA); and (3) delays associated with required probe hole drilling and grouting for groundwater seepage control in the tunnel excavation headings.

The revised schedule also provides the standard 6 months for the closeout phase, whereas the previously approved schedule only allowed 4.5 months.

BDPL Reliability Upgrade - Pipeline (BDPL No.5)

Following the discovery of an extensive archeological burial site in the vicinity of Cordilleras Creek in the Peninsula during construction, a 1,400-foot segment of BDPL No. 5 was deleted from the BDPL No. 5 Peninsula Reaches construction contract. It was determined to be more efficient, expeditious and cost effective to build a micro-tunnel under this environmentally sensitive segment of the BDPL No. 5 and to perform the work under a separate contract. Although construction on the two original contracts will complete within the previously approved schedule, the addition of a third contract to address the area impacted by the archeological discovery extended construction activities and delayed completion of the overall project.

Pulgas Balancing – Modification of the Existing Dechloramination Facility

The forecasted delay in the completion of the Pulgas Balancing – Modification of the Existing Dechloramination Facility project is the result of contract extensions associated with (1) differing as-built conditions requiring realignment of some piping; (2) required design modifications to meet established facility performance criteria; (3) equipment delivery delays due to flooding events in Thailand, which is the location of some of the equipment suppliers; and (4) outstanding issues with contractor's compliance with Office Labor Standard Enforcement requirements.

2.3 Risk Management

During FY2011-2012, the WSIP team continued to implement and expand the scope of its Risk Management Program. New risk registers, with a total of 255 risks, were developed and entered in the Active Risk Management (ARM) software application for 6 construction contracts:

- San Joaquin Pipeline System – East Segment
- Calaveras Dam Replacement
- HTWTP Long - Term Improvements
- Crystal Springs/San Andreas (CS/SA) Transmission Upgrade
- Lower Crystal Springs Dam Improvements
- Crystal Spring Pipeline No. 2 Replacement

A total of 206 risks were closed during the reporting period. The Risk Registers for the following 9 construction contracts have been closed:

- Tesla Treatment Facility
- San Joaquin Pipeline System – Crossovers
- Alameda Siphon #4
- San Antonio Pump Station Upgrade
- BDPL Reliability Upgrade - Pipeline – East Bay Reach
- New Crystal Springs Bypass Tunnel
- Lower Crystal Springs Dam Improvement
- Pulgas Balancing - Structural Rehabilitation & Roof Replacement
- Baden & San Pedro Valve Lot Improvements

This brought the total of active construction risk registers and individual risks managed through ARM as of the end of the reporting period to 11 and 329, respectively.

Whenever new risk registers are developed, cost impact estimates are prepared to quantify each risk and risk assessment workshops are held with the project teams responsible to update and track the registers. Table 2-3 summarizes the WSIP's active construction risks registers loaded into the ARM software application as of the end of the reporting period.

Table 2-3: Summary of Active Construction Risk Registers as of June 30, 2012

Construction Contract	Date ¹	No. of Risks ²	Risk Value (\$M) ³
BDPL Reliability Upgrade - Pipeline - Peninsula Reach	May-10	6	<\$0.1
BDPL Nos. 3 & 4 Crossovers	Jun-10	15	\$0.3
BDPL Reliability Upgrade - Tunnel	Nov-10	23	\$10.5
SVWTP Expansion & Treated Water Reservoir	Nov-10	32	\$6.8
San Joaquin Pipeline System – West Segment	May-11	20	<\$0.1
New Irvington Tunnel	Jun-11	27	\$6.8
San Joaquin Pipeline System – East Segment	Aug-11	36	\$1.0
HTWTP Long - Term Improvements	Aug-11	62	\$6.4
CS/SA Transmission System Upgrade	Aug-11	30	\$7.4
Crystal Spring Pipeline No. 2 Replacement	Aug-11	26	\$0.5
Calaveras Dam Replacement	Feb-12	52	\$34.5
TOTAL		329	\$74.5

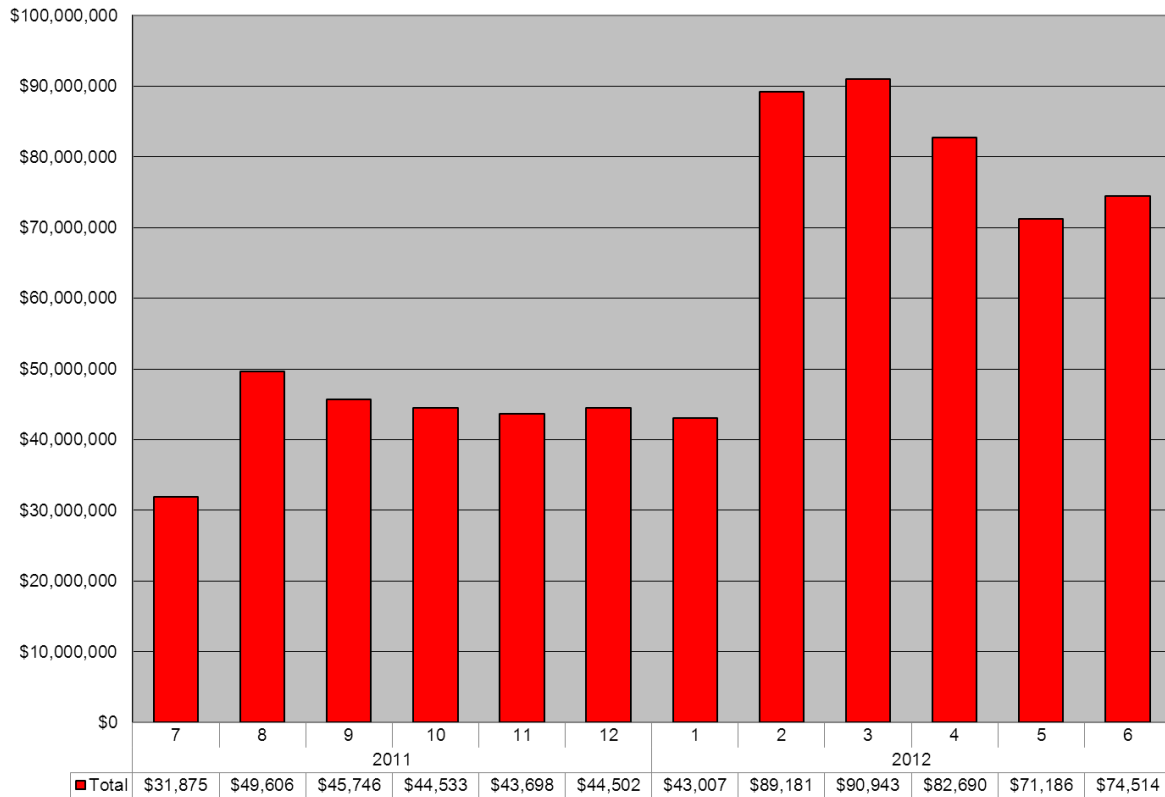
¹ Date when construction risk register was first created and loaded in ARM.

² Number of individual risks recorded in register as of June 30, 2012.

³ Total value of all risks at eighty percent (80%) confidence level as of June 30, 2012.

As shown in Figure 2-1, the value of all risks at the 80% confidence level increased from \$31.9M in July 2011 to \$49.6M in August 2011 due to the addition of new risk registers for the HTWTP Long-Term Improvements, Crystal Springs/San Andreas Transmission Upgrade, Crystal Spring Pipeline No. 2 Replacement, and San Joaquin Pipeline System – East Segment projects. As risks were closed, the value went down to \$43M in January 2012. With the addition of the risks for the Calaveras Dam Replacement project in February 2012 the value of all program risks went up to \$89.2M and then trended down to the \$74.5M value estimated on June 30, 2012.

Figure 2-1: WSIP 80% Confidence Level Construction Risks for FY 2011-2012



The WSIP Risk Management System ranks risks based on a combination of the likelihood of occurrence and the potential cost impact to the SFPUC. On that basis, the programs top 10 risks as of June 30, 2012 belong to five projects. If risks are ranked exclusively based on their most likely cost impact regardless of probability of occurrence, the top ten risks belong to only three projects. Table 2-4 lists the projects with the largest risks and Table 2-5 provides a description of the program’s 10 largest risks.

Table 2-4: Summary of Top 10 Risks of WSIP Regional Projects (as of June 30, 2012)

Project	No. of Top 10 Risks	Percent Completion ¹	Forecasted Completion ²
Risk Ranking Based on Likelihood of Occurrence and Potential Cost Impact			
Calaveras Dam Replacement	5	21.0%	10/02/2015
BDPL Reliability Upgrade – Tunnel	2	57.7%	05/01/2015
CS-SA Transmission System Upgrade	1	49.5%	08/06/2013
New Irvington Tunnel	1	55.9%	02/15/2015
HTWTP Long–Term Improvements	1	15.8%	02/27/2015
Risk Ranking Based on Potential Cost Impact Only			
Calaveras Dam Replacement	7	21.0%	10/21/2015
BDPL Reliability Upgrade – Tunnel	2	57.7%	05/01/2015
CS-SA Transmission System Upgrade	1	49.5%	08/06/2013

¹ Refers to percent completion of the construction contract as of June 30, 2012

² Refers to the forecasted final completion date for the construction contract (contract forecast includes change orders but not trends)

Based on the risk summaries above, the five projects that carry the greatest potential to impact the program’s overall cost and schedule are Calaveras Dam Replacement, BDPL Reliability Upgrade – Tunnel (Bay Tunnel), CS-SA Transmission Upgrade, New Irvington Tunnel, and HTWTP Long-Term Replacement.

Calaveras Dam Replacement

This is the WSIP project with the greatest risks. These include the high risk of differing subsurface site conditions; impacts associated with high levels of naturally occurring asbestos; the presence of special-status birds in the project area; potential access constraints due to reservoir elevations controlled by operations requirements and weather; and potential changes mandated by the California Division of Safety of Dams (DSOD).

BDPL Reliability Upgrade – Tunnel (Bay Tunnel)

The greatest project risk (based on probability of occurrence and potential cost impact) is the potential for special-status shorebirds nesting in the active construction area. The greatest potential WSIP risk, based only on potential cost impact, belongs to this project. Although extremely unlikely, this risk considers the occurrence of a catastrophic tunnel failure, which would result in an unrecoverable loss of the tunnel and shaft.

Crystal Springs/San Andreas (CS-SA) Transmission Upgrade

An unforeseen underwater condition is the highest risk to this project and the fifth most threatening risk on the Program based on probability of occurrence and potential cost impact.

Table 2-5: Top 10 WSIP Risks as of June 30, 2012

Project	Risk Description	Occurrence Probability	Risk Value (\$M) ¹	Mitigation Plan
Calaveras Dam Replacement	Excessive Grout Takes & Closure Requirements for the dam foundation.	70%	\$6.5	Maintain full-time CM Quality Assurance inspection during foundation grouting.
Calaveras Dam Replacement	Naturally Occurring Asbestos Conditions beyond Contractors control lead to difficulty with complying with Health & Safety or other permit requirements.	50%	\$5.9	Minimize dust generated during any and all construction activities.
Bay Tunnel	Restrictions due to nesting special-status shorebirds California clapper rail, black rail, least tern, etc.) moving into an active construction area.	50%	\$3.0	Continually monitor status of birds in the area and develop an initial strategy for managing this risk.
Calaveras Dam Replacement Upgrade	Instability of permanent cut slopes	25%	\$10.7	Continuous mapping and monitoring of final cut slope.
CS-SA Transmission	Unforeseen Underwater Conditions not including Geotech	75%	\$2.3	Perform survey dives and recheck alignment/configuration.
Calaveras Dam Replacement	Foundation is not approved due to inadequate cleaning or inadequate notification of DSOD; work does not meet DSOD requirements; DSOD mandated re-work	50%	\$2.4	Effective communication with DSOD to establish reasonable expectations with regard to foundation excavation and foundation preparation
Calaveras Dam Replacement	Additional foundation excavation due to unforeseen irregular foundation and/or poor quality of foundation rock	50%	\$2.4	Continuous mapping and monitoring of on-going foundation excavation
New Irvington Tunnel	Conditions Differ from Geotechnical Baseline Report: Encounter higher groundwater inflow; uncontrolled water inflow.	90%	\$1.8	Develop a plan for water control.
HTWTP Long-Term Improvements	Unforeseen changes in Contractual Operational requirements affect water production.	70%	\$1.9	Enact Change Management Procedure
Bay Tunnel	Chimney to bottom of the Bay, blow-in to Tunnel Boring Machine (TBM), lose tunnel, submerge shaft and start over.	10%	\$112.5	Maintain full-time CM Quality Assurance inspection on the TBM when tunneling (per Spec 02311 requirements). Assure Contractor maintains adequate off-shift monitoring of pressure chamber and heading, especially at high risk areas.

¹ Most likely value of each risk. The lowest and highest value of each risk are also recorded in ARM.

New Irvington Tunnel (NIT)

The project risk register includes hazardous conditions such as excessive groundwater inflow, tunnel face instability, flammable gas and running or squeezing ground conditions.

HTWTP Long-Term Improvements

The greatest project risks on this project are associated with the need to keep the plant operational during construction. Specifically, an unexpected change in the plant's water production requirements or a system emergency could delay or prevent the execution of one of the plant's shutdowns needed to perform the construction work. Mitigating those risks involve careful sequencing of construction activities, very close coordination with the plant's operations staff, and the preparation of contingency plans.

Mitigation plans are developed for each risk identified in the risk register of each construction contract. Action items derived from the risk mitigation plans are individually assigned to CM team members and tracked in the ARM software through completion.

2.4 Environmental Program

The total numbers of environmental review documents approved to date for WSIP regional projects are 13 Environmental Impact Reports (EIRs), seven Initial Study/Mitigated Negative Declaration (IS/MND)s, and 13 Categorical Exemptions. This year, the Draft EIR for the San Antonio Backup Pipeline project was published, and it is due to be certified in the fall of 2012.

During the reporting period, 11 resource agency permits were obtained. Five of them were obtained for the San Joaquin Pipeline System project, and the remaining six were obtained for Bioregional Habitat Restoration (BHR) project. Currently, only three WSIP projects are yet to be permitted (San Antonio Backup Pipeline, Upper Alameda Filtration Gallery, and Peninsula Pipelines Seismic Upgrade), and there is only one outstanding permit for implementation of one BHR mitigation site. Overall, WSIP permitting is now 85% complete, with 89 resource agency permits obtained for WSIP projects since the start of the program and 16 additional permits anticipated.

The WSIP environmental construction compliance staff pro-actively supported the construction activities for four San Joaquin Region projects, four Sunol Valley Region projects, five Bay Division Region projects, six Peninsula Region projects and five BHR projects. Support for these projects included agency coordination, compliance reporting and minor project modification approvals. The two primary challenges in construction continue to be related to cultural resource discoveries and active migratory bird nests.

Habitat compensation for WSIP projects began with implementation of several BHR projects. Two projects on the Arroyo de la Laguna were completed and are now being monitored for permit compliance. Two contracts for two Alameda watershed sites and two contracts for eight Peninsula watershed sites commenced. Three Peninsula projects are in design and expect to be bid in the coming year.

Cultural resource discoveries occurred on the BDPL Reliability Upgrade – Pipeline, San Joaquin Pipeline System, Calaveras Dam Replacement, Crystal Springs/San Andreas

Transmission Upgrade, BDPL Nos. 3 & 4 Crossovers, and Crystal Springs Pipeline No. 2 Replacement projects. One of the prehistoric discoveries contained a Native American burial. Many of the discoveries included historic era artifacts including a rock wall/fence that was exposed when the water level in Calaveras Reservoir was lowered. The location of the wall/fence indicates that it was aligned closely with the local road depicted in historic maps dating as early as 1866. All discoveries were reported to the CEQA Environmental Review Office designee and/or US Army Corps of Engineers (USACE). For the Native American burial, the Environmental Construction Compliance Manager also coordinated with the Native American Heritage Commission and Most Likely Descendent. For potentially significant discoveries, on-site visits by agency and Native American representatives and emergency teleconferences were held to minimize construction delay.

Migratory birds are protected under the Migratory Bird Treaty Act and California Department of Fish and Game (CDFG) Codes. Of the 19 WSIP projects under construction during the migratory nesting bird season, nine projects were affected by active migratory bird nests. Impacts to construction generally resulted in the establishment of buffer zones around the nests until the birds fledged. In two unique instances, the SFPUC obtained a permit from the U.S. Fish and Wildlife Service (USFWS) for removal of hatchlings to a rehabilitation facility for successful rearing and release, thus avoiding significant project delays.

Despite the challenges described above, the WSIP environmental construction compliance staff has been extremely efficient at supporting construction efforts and minimizing the delays associated with environmental issues in the field. As a matter of fact, based on the 8,900 environmental field inspections conducted during FY 2011-2012 for the 19 WSIP projects under construction, the WSIP is 99% compliant and has not received any violations from any resource agencies. This is remarkable given the amount of construction work ongoing during the reporting period.

2.5 Public Outreach Program

The fiscal year began with the dedication of the new, state-of-the-art Tesla Ultra Violet Treatment Facility, nine months before the federally-mandated Environmental Protection Agency (EPA) water quality regulation went into effect. In September 2011, the SFPUC broke ground on its largest project, the Calaveras Dam Replacement Project. This milestone was marked by a groundbreaking ceremony and generated a significant amount of press for the WSIP.

With the program reaching a zenith in construction activities, public outreach required consistent and constant communication and coordination with residents, businesses, agricultural interests, elected officials, SFPUC wholesale and retail customers, and park and irrigation districts among others.

Construction activities also continue to peak the interest of the local and trade media, and our teams coordinated a number of tours to the various project sites to educate and inform the general public about the significance of this capital improvement program and the Hetch Hetchy Regional Water System. This year WSIP projects were also recognized by the CM and public works industry as 'Projects of the Year'. In addition, the WSIP Safety Program was recognized with a special award by the American Public Works Association for its Outstanding Performance. The WSIP achieved more than 2.5 million craft hours without a

recordable incident between April 2009 and November 2011. “This noteworthy milestone required a total commitment to safety by all participants including contractors, subcontractors, construction managers, consultants and SFPUC staff,” said General Manager Ed Harrington. This achievement was also heralded throughout our internal WSIP communications to reinforce our commitment to safety throughout all WSIP construction projects.

In the fall 2011, the WSIP Communications team kicked off an intensive planning phase to ensure the team leveraged media attention and to reinforce the WSIP key messages on construction projects that were entering the construction phase. The communications team worked closely with the construction teams from the Central Valley to the City of San Francisco to ascertain the possibility of hosting ribbon-cutting ceremonies, tours and other public events of the completed work to showcase the investment made in upgrading the Hetch Hetchy Regional Water System. From large media events to small community presentations, the WSIP Communications staff worked to inform community members and stakeholders about the status of construction activities and the timely completion of projects in neighborhoods throughout the Bay Area.

Building on the efforts of previous years to further engage SFPUC wholesale and retail customers, government officials, and the media, through a myriad of social media tools, the WSIP Communications team launched this spring a social media campaign focusing on best practices for storing water in case of an emergency. In the weeks leading up to the anniversary of the 1906 earthquake, the WSIP team created and conducted a multilingual Emergency Preparedness campaign that included a video demonstrating how to store water in case of an emergency. In addition, a specific web page was created to host the videos along with a tip card and PowerPoint presentation. Each of these communication tools was made available to the SFPUC wholesale customers and could be customized for their own specific audiences. Furthermore, the SFPUC also participated in the 8th Annual Disaster Preparedness Day held in June 2012 in San Mateo County. The SFPUC received of Certificate of Appreciation from the San Mateo County Board of Supervisors for its participation in this broadly attend event.

The campaign culminated with a press conference, hosted by Mayor Ed Lee and members of the San Mateo County Board of Supervisors marking the completion of the Lower Crystal Springs Dam project; and illustrating that while the Hetch Hetchy Regional Regional Water System has made significant headways improving the regional water delivery system, it was also incumbent upon customers to do their part and take the necessary steps to plan and prepare for emergencies by storing water.

The WSIP Communications team continues to coordinate well and has been instrumental in responding to and coordinating in a timely fashion with stakeholders. The team continues to assist project teams with shutdown coordination, and managing “real time” developments affecting our stakeholders. We continue to focus on working with the media in educating the public about this dynamic program while working with the various construction teams to ensure a safe and timely delivery of the program.

3.0 CHANGES IN PROJECT SCHEDULES (FY 2011-2012)

Project schedule changes projected during FY 2011-2012 are summarized in Table 3-1. Specifically, the table compares the construction substantial completion and project completion dates forecasted in June 2011 to those forecasted in June 2012 for all WSIP regional projects. The construction substantial completion date is the most important schedule-related date because this is when new facilities or improvements to existing facilities become fully useable. The project completion date includes the remaining period between construction substantial and final completion, as well as the closeout period needed to complete all required documentation and take care of remaining administrative matters related to the project.

Of the 46 regional projects in the WSIP, the changes in forecasted construction substantial completion dates are as follows:

- Projects with Construction Substantial Completion Date Accelerated: 3
- Projects with Construction Substantial Completion Date Unchanged: 35
- Projects with Construction Substantial Completion Date Delayed by <6 Months: 4
- Projects with Construction Substantial Completion Date Delayed by 6-12 Months: 2
- Projects with Construction Substantial Completion Date Delayed by >12 Months: 2

The changes in forecasted project completion dates are as follows:

- Projects with Final Completion Date Accelerated: 1
- Projects with Final Completion Date Unchanged: 28
- Projects with Final Completion Date Delayed by <6 Months: 6
- Projects with Final Completion Date Delayed by 6-12 Months: 8
- Projects with Final Completion Date Delayed by >12 Months: 3

As of June 30, 2012, the overall WSIP was still forecasted to complete on July 29, 2016, which is consistent with the June 2011 Approved schedule. Thirty-nine of the WSIP's 46 regional projects will be completed by the end of 2015. Two of the seven projects to be completed in 2016 are support projects that do not contribute directly to the system's Level of Service (LOS) goals (System Security Upgrades and Bioregional Habitat Restoration), and two projects are water supply projects (Regional Groundwater Storage and Recovery and Upper Alameda Creek Filter Gallery). The three remaining projects to be completed in 2016 are the Calaveras Dam Replacement, New Irvington Tunnel and Peninsula Pipelines Seismic Upgrade projects.

TABLE 3-1: FY 2011-12 CHANGES IN PROJECT SCHEDULES FORECASTS

Project No.	Project Name	June 2011 FORECAST		June 2012 FORECAST		Variance (in months)	
		Construction Substantial Completion	Project Completion Date	Construction Substantial Completion	Project Completion Date	Construction Substantial Completion	Project Completion Date
San Joaquin Region							
36401	Lawrence Livermore Water Quality Improvement	31-Aug-10	14-Sep-11	31-Aug-10	24-Dec-12	0	+16
37301	San Joaquin Pipeline System	9-Jun-13	25-Mar-14	2-Feb-13	25-Mar-14	-4	0
37302	Rehabilitation of Existing San Joaquin Pipelines	9-Jun-13	12-Mar-14	13-May-11	28-Jun-13	-25	-9
38401	Tesla Treatment Facility ⁽¹⁾	24-Jun-11	28-Sep-12	24-Jun-11	15-Feb-13	0	+5
Sunol Valley Region							
35201	Upper Alameda Creek Filter Gallery	17-May-16	15-Jul-16	17-May-16	15-Jul-16	0	0
35501	Standby Power Facilities - Various Locations <i>(Completed)</i>	15-Apr-10	22-Dec-10	15-Apr-10	22-Dec-10	0	0
35901	New Irvington Tunnel	16-Apr-14	31-Oct-14	29-Oct-14	21-Jan-16	+7	+15
35902	Alameda Siphon #4	1-Sep-11	12-Jun-12	16-Dec-11	23-Jan-13	+4	+8
37001	Pipeline Repair & Readiness Improvements <i>(Completed)</i>	14-Jul-08	16-Apr-09	14-Jul-08	16-Apr-09	0	0
37401	Calaveras Dam Replacement	1-May-15	29-Jul-16	15-May-15	29-Jul-16	0	0
37402	Calaveras Reservoir Upgrades <i>(Completed)</i>	6-Oct-05	28-Jul-06	6-Oct-05	28-Jul-06	0	0
37403	San Antonio Backup Pipeline	22-Jul-14	9-Mar-15	3-Oct-14	9-Mar-15	+2	0
38101	SVWTP Expansion & Treated Water Reservoir	4-Mar-13	5-Dec-13	4-Mar-13	5-Dec-13	0	0
38601	San Antonio Pump Station Upgrade <i>(Completed)</i>	3-Jul-11	7-Dec-11	30-Jun-11	29-Jun-12	0	+7
Bay Division Region							
35301	BDPL Nos. 3 & 4 Crossover/Isolation Valves <i>(Completed)</i>	15-Nov-07	31-Jul-09	15-Nov-07	31-Jul-09	0	0
35302	Seismic Upgrade of BDPL Nos. 3 & 4	16-Jun-14	26-Apr-15	24-Sep-14	26-Jun-15	+3	+2
36301	SCADA System - Phase II	29-Nov-10	24-Feb-12	29-Nov-10	3-May-13	0	+14
36801	BDPL Reliability Upgrade - Tunnel	2-Mar-15	13-Nov-15	2-Mar-15	13-Nov-15	0	0
36802	BDPL Reliability Upgrade - Pipeline	11-Feb-12	5-Mar-13	26-Dec-12	1-Oct-13	+11	+7
36803	BDPL Reliability Upgrade - Relocation of BDPL Nos. 1 & 2 <i>(Completed)</i>	NA	28-May-10	NA	28-May-10	NA	0
38001	BDPL Nos. 3 & 4 - Crossovers	15-Aug-12	17-May-13	15-Aug-12	17-May-13	0	0
38901	SFPUC/EBMUD Intertie	7-Sep-07	30-Dec-11	7-Sep-07	28-Sep-12	0	+9
39301	BDPL No. 4 Condition Assessment PCCP Sections <i>(No Construction - Completed)</i>	NA	6-Feb-09	NA	6-Feb-09	NA	0

TABLE 3-1: FY 2011-12 CHANGES IN PROJECT SCHEDULES FORECASTS

Project No.	Project Name	June 2011 FORECAST		June 2012 FORECAST		Variance (in months)	
		Construction Substantial Completion	Project Completion Date	Construction Substantial Completion	Project Completion Date	Construction Substantial Completion	Project Completion Date
Peninsula Region							
35401	Lower Crystal Springs Dam Improvements	13-Nov-11	27-Sep-12	20-Nov-11	27-Sep-12	0	0
35601	New Crystal Springs Bypass Tunnel	14-Jul-11	29-Mar-12	14-Jul-11	21-Sep-12	0	+6
35701	Adit Leak Repair - Crystal Springs/Calaveras <i>(Completed)</i>	30-Nov-07	31-Jul-08	30-Nov-07	31-Jul-08	0	0
36101	Pulgas Balancing - Inlet/Outlet Work <i>(Completed)</i>	2-Feb-06	11-May-06	2-Feb-06	11-May-06	0	0
36102	Pulgas Balancing - Discharge Channel Modifications <i>(Completed)</i>	23-Oct-09	30-Jul-10	23-Oct-09	30-Jul-10	0	0
36103	Pulgas Balancing - Structural Rehabilitation & Roof Replacement	26-Jul-11	24-Feb-12	26-Jul-11	27-Jul-12	0	+5
36105	Pulgas Balancing - Modifications of the Existing Dechloramination Facility	16-Sep-11	30-May-12	28-Sep-12	20-Mar-13	+13	+10
36501	Cross Connection Controls <i>(Completed)</i>	26-Nov-08	30-Apr-09	26-Nov-08	30-Apr-09	0	0
36601	HTWTP Short-Term Improvements - Demo Filters <i>(Completed)</i>	11-Jan-06	14-Nov-06	11-Jan-06	14-Nov-06	0	0
36603	HTWTP Short-Term Improvements - Coagulation & Flocculation/Remaining Filters <i>(Completed)</i>	21-Dec-09	28-Jul-10	21-Dec-09	28-Jul-10	0	0
36701	HTWTP Long -Term Improvements	29-Nov-14	1-Dec-15	29-Nov-14	1-Dec-15	0	0
36702	Peninsula Pipelines Seismic Upgrade	27-Oct-15	6-Jul-16	27-Oct-15	6-Jul-16	0	0
36901	Capuchino Valve Lot Improvements <i>(Completed)</i>	14-Feb-08	19-Aug-08	14-Feb-08	19-Aug-08	0	0
37101	Crystal Springs/San Andreas Transmission Upgrade	7-Jul-13	23-Apr-14	7-Jun-13	21-May-14	-1	+1
37801	Crystal Spring Pipeline No. 2 Replacement	30-Nov-12	25-Sep-13	30-Nov-12	25-Sep-13	0	0
37901	San Andreas Pipeline No. 3 Installation	29-Mar-11	21-Nov-11	29-Mar-11	30-Aug-12	0	+9
39101	Baden & San Pedro Valve Lots Improvements	31-Mar-11	1-Aug-12	31-Mar-11	1-Aug-12	0	0
San Francisco Regional Region							
30103	Regional Groundwater Storage and Recovery	4-Aug-15	17-Jun-16	21-Dec-15	29-Jul-16	+5	+1
35801	Sunset Reservoir - North Basin <i>(Completed)</i>	19-Sep-08	10-Sep-10	19-Sep-08	10-Sep-10	0	0
37201	University Mound Reservoir - North Basin	25-Jun-11	11-Jan-12	25-Jun-11	31-Dec-12	0	+12
Support Projects							
36302	System Security Upgrades	24-Jan-16	29-Apr-16	25-Jan-16	29-Apr-16	0	0
38801	Programmatic EIR ⁽²⁾ <i>(Completed)</i>	NA	30-Jun-09	NA	30-Jun-09	NA	0
38802	Bioregional Habitat Restoration	2-Apr-13	24-Jun-16	13-Feb-15	28-Jul-16	+23	+1
39201	Program Management ⁽²⁾	NA	29-Jul-16	NA	29-Jul-16	NA	0
39401	Watershed Environmental Improvement Program	NA	26-Jun-14	NA	26-Jun-14	NA	0

Note: ⁽¹⁾ The Construction Substantial Completion date reported for the Tesla Treatment Facility does not include the small Tesla Portal Protection contract added in March 2012. That contract does not impact the project overall completion date.

⁽²⁾ Not considered a capital project and therefore not included in the total Regional Program project count of 46.

The construction substantial completion of eight projects was delayed during the reporting period. One of those projects has already reached substantial completion (Alameda Siphon #4), and one is a support project which does not contribute directly to the system's LOS goals (Bioregional Habitat Restoration). Two projects are forecasted to achieve substantial completion in the next few months (BDPL Reliability Upgrade – Pipeline and Pulgas Balancing – Modifications of the Existing Dechloramination Facility). The current status of the four remaining projects that were delayed is listed below.

New Irvington Tunnel:

Construction of this project is nearly 60% complete. The construction substantial completion is forecasted to be delayed seven months due to the more restrictive requirements of operating under a Cal/OSHA Gassy Tunnel Classification and the challenging and hazardous conditions encountered during excavation which involve excessive groundwater inflow, tunnel face instability, and running or squeezing ground conditions.

Seismic Upgrade of BDPL Nos. 3 & 4:

The construction contract for this project was awarded in June 2012, and the construction Notice to Proceed (NTP) will be issued on 09/04/2012. The construction substantial completion is forecasted to be delayed three months due to the need for additional pre-construction archeological survey work and difficulties with the procurement process for one-of-a-kind equipment, which pushed back the start of construction activities.

San Antonio Backup Pipeline:

The project team is finalizing the construction contract documents that are scheduled to be advertised in September 2012. Construction is anticipated to start in early January 2013. The construction substantial completion is forecasted to be delayed two months due to scope additions, which were made to increase operational reliability and flexibility.

Regional Groundwater Storage and Recovery:

This water supply project is in the design phase and five of the six test wells have been built as of the end of June 2011. Construction on this project is anticipated to begin in May 2014. The construction substantial completion is forecasted to be delayed five months due to difficulties reaching consensus on key agreements and modeling assumptions with the regional agencies partnering with the SFPUC on this project.

3.1 Tracking and Controlling Project Schedules

Although in some cases some project delays cannot be avoided for reasons that are out of the control of the SFPUC (e.g., presence of protected species at work site), the WSIP team has put in place a number of measures to track and control project schedules in an effort to avoid or minimize potential delays. The intent of many of the WSIP's procedures is to keep projects on schedule. They include:

-
- PM Procedure 5.02: WSIP Project Change Management
 - PM Procedure 5.03: Schedule Development and Control
 - PM Procedure 5.05: Monthly Statusing
 - PM Procedure 5.07: Monthly Progress Meetings
 - CM Procedure 15: Construction Schedule Management
 - CM Procedure 16: Construction Change Management
 - CM Procedure 20: Project Construction Progress Reports
 - CM Procedure 28: Weekly Project Construction Reports
 - CM Procedure 65: CM Project Quarterly Review Meetings
 - CM Plan Section 2.2.11: Project Controls

In addition to the enforcement of the above mentioned procedures, the WSIP management team is implementing a number of measures aimed at controlling potential schedule delays during construction. These include: (1) reviewing and updating all active construction schedules on a monthly basis; (2) generating progress curves for each construction contract and measuring actual progress against the contractor's approved baseline schedule; (3) performing "What If" schedules analyses to assess impacts of potential changes; (4) minimizing owner-requested changes; (5) requiring certain proposed changes to be approved by a Change Control Board; (6) expediting design changes when required to facilitate work in the field; (7) pro-actively pursuing mitigation measures identified in projects' construction risk registers; (8) keeping decision making at the pre-designated levels of authority; (9) conducting monthly shutdown coordination meetings with all parties involved; (10) utilizing biologists and environmental inspectors to monitor and clear sites ahead of planned construction activities; (11) assigning full-time operators to certain projects requiring a lot of client attention (e.g., treatment plant projects); (12) assigning full-time project engineer in the field to provide timely technical support to the CM team; (13) actively tracking all contractor submittals to ensure timely response and contract compliance; and (14) clearly defining in advance what constitutes substantial completion on a project-specific basis. Finally, as specified in WSIP contracts, whenever contractors fall behind by more than 15 days, they are required to submit a schedule recovery plan.

3.2 Keeping the Public and Stakeholders Informed

To make sure the general public and stakeholders are kept informed of project status and potential changes, the WSIP management team publishes extensive quarterly reports that include revised cost and schedule forecasts for all projects. These reports are distributed to a number of oversight bodies (e.g., SFPUC Commission, RBOC and BAWSCA) and posted on the program's Website (sfwater.org/wsip). The WSIP Director also verbally updates the Commission on the program's current challenges and their potential impacts on WSIP delivery at a public meeting twice a month. Likewise, throughout the year, the WSIP Director addresses various boards (e.g., County Board of Supervisors, wholesale water agencies) and speaks at public forums throughout the system's service area about the program status. Additionally, the WSIP team conducts information tours of project sites with elected officials, wholesale agency representatives and other stakeholders. Another tool

used to keep the public and stakeholders informed is the publication of a WSIP Quarterly in Brief bulletin that gets distributed to stakeholders and interested parties either via email or hard copies. Finally, these publications and outreach efforts are promoted on a regular basis through other social media platforms.

4.0 ACHIEVEMENTS AND CHALLENGES (FY 2011-2012)

WSIP implementation is organized geographically to make program delivery more manageable and to take into account project adjacency issues. This section highlights the achievements and challenges of the program’s five regional teams.

4.1 San Joaquin Region

The status of all regional projects in the San Joaquin Region as of the end of FY 2011-2012 is summarized in Table 4-1.

Table 4-1: Status of San Joaquin Regional Projects as of June 30, 2012

Project/Contract Name	Status
Lawrence Livermore WQ Improvement	Closeout - Construction Completed
SJPL System - Crossovers	Construction - Substantial Completion
SJPL System - Western Segment	Construction - 92% Complete
SJPL System - Eastern Segment	Construction - 36% Complete
Rehabilitation of Existing SJPLs - Roselle	Closeout - Construction Completed
Tesla Treatment Facility	Construction - Substantial Completion
Tesla Portal Protection	Construction - 22% Complete

As indicated in Table 4-1, two out of the seven San Joaquin Regional projects/contracts were in closeout, two achieved construction substantial completion and three remained in construction as of the end of the reporting period.

Achievements

The design of the Tesla Portal Protection contract package for the Tesla Treatment Facility project was completed and a construction NTP was issued in early 2012. Also, the final operations permit for the recently completed Tesla Treatment Facility was granted by the California Department of Public Health (CDPH) and the renewable energy solar system became operational with a peak output of 32 kilowatts.

For the SJPL System project, the new Emery and Pelican Crossovers were substantially completed, the 10.3-mile Western Segment of SJPL4, (including trenchless crossings of highways 5, 33, 580 and Chrisman Road), as well as the bridged crossing of the California Aqueduct were completed and made ready for testing. In addition, the Eastern Segment contract work that was completed during the reporting period includes critical shutdown work on the tie-in points at Oakdale Portal and to SJPL3, as well as one mile out of the proposed six miles of pipeline installation.

Challenges

Following the substantial completion of the Tesla Treatment Facility in late FY 2010-2011, the new plant underwent rigorous commissioning over the past 12 months. An extensive effort of continued testing, engineering documentation, debugging of operational control, maintenance and reporting routines, and warranty callback has required that the planned spring demobilization of the CM team be postponed. The year closed with design-build contract requirements remaining outstanding, which are anticipated to require the CM team to be retained into September 2012.

On the SJPL System – Crossover project, work at the Pelican Crossover which was scheduled to take place during a system shutdown in November 2011, failed to meet quality requirements within the allotted time for the outage and had to be aborted. The contract was substantially completed without this work so that the contractor and CM teams could be demobilized. The aborted work will be completed by a Job Order Contracting (JOC) contractor when it can be coordinated with a future system shutdown.

An incidental Take Permit for California Tiger Salamander from the CDFG was not issued until after the Bid and Award phase for SJPL4 Eastern Segment work. CDFG permit requirements were anticipated to match those established by US Fish & Wildlife during federal permitting of the project. After a very time-consuming process, the take permit was finally obtained this spring immediately prior to the planned start of work in the field. The permit imposed new seasonal restrictions requiring pipeline work be constrained to the period between May 15th and October 31st which was not stipulated in the contract documents. To recover from delays to the start of work (an unrelated result of the nesting of protected birds on site) and mitigate the impact of the schedule constraint imposed by the take permit, the project team has formulated a work acceleration strategy with the objective of completing the pipeline work by October 31, 2012. The implementation of such a strategy is more cost effective than the option of remobilizing and finishing pipe installation in the spring of 2013.

4.2 Sunol Valley Region

The status of all regional projects in the Sunol Valley Region as of the end of FY 2011-2012 is summarized in Table 4-2.

Table 4-2: Status of Sunol Valley Regional Projects as of June 30, 2012

Project/Contract Name	Status
Upper Alameda Creek Filter Gallery	On Hold
Standby Power Facilities	Completed
New Irvington Tunnel	Construction - 56% Complete
Alameda Siphon #4	Construction - Substantial Completion
Pipeline Repair & Readiness Improvements	Completed
Calaveras Dam Replacement	Construction - 21% Complete
Calaveras Reservoir Upgrades	Completed
San Antonio Backup Pipeline	Design - 100% Contract Package
SVWTP Expansion and TWR	Construction - 85% Complete
San Antonio Pump Station Upgrade	Completed

As indicated in Table 4-2, only one of the 10 Sunol Valley Regional projects/contracts remained in pre-construction as of the end of the reporting period. Four projects were completed, one achieved construction substantial completion and three remained in construction as of June 30, 2012. One water supply project has been put on hold while scoping issues are being worked out.

Achievements

An NTP for the start of construction activities on the Calaveras Dam Replacement project was issued in August 2011. The contractor has completed the access roads, electrical power installations, staging area improvements at the site, the dike at Disposal 3, and soldier piles wall for the right abutment. Excavation commenced on the spillway, stilling basin, and right abutment of the dam foundation area for a total of approximately 1,000,000 cubic yards of earth and rock excavation to date. Cleaning and soil treatment of the right abutment dam foundation, and excavation of the inlet/outlet shaft have also started.

The New Irvington Tunnel project surpassed the 50% tunnel excavation completion milestone. Alameda Siphons #4 attained substantial completion and was put into service. Having this new asset available significantly increased the seismic reliability of the Hetch Hetchy Regional Water System. The San Antonio Pump Station construction was completed and the project was closed out.

The SVWTP Expansion and Treated Water Reservoir project achieved a major milestone with the successful completion of major upgrades to nine of the plant's 12 existing filters, which subsequently passed a high-rate filtration test mandated by the California Department of Public Health. The remaining three filters are currently in the process of being upgraded and this work is on track to be completed as planned.

Challenges

Calaveras Dam Replacement had numerous construction challenges that were successfully resolved. One of the most significant challenges was the softer foundation soils encountered at the Disposal Site 3 area, which required in-situ soil improvement by mixing cement with foundation soils. Another on-going challenge first emerged in mid-June 2012 when the contractor's engineering geologist observed several geologic features at the temporary "false" cut above the left abutment of the new dam, which could potentially affect the slope stability. The WSIP CM and engineering teams had just started investigating the contractor's claims of a differing site conditions by the end of the reporting period. The cost and schedule impacts of these newly discovered geologic features are still being evaluated and will be reported to State agencies separately in coming months.

Construction of the New Irvington Tunnel continues under a Cal/OSHA Gassy Tunnel permit, which was revised in June 2011 from an initial Potentially Gassy permit due to multiple gas detections in the tunnel excavation. This stricter classification mandates upgraded ventilation, continuous gas monitoring, and hot work safety permits which were not required when construction commenced in August 2010. The contractors also continues to encounter extremely challenging and hazardous field conditions that involve excessive groundwater inflow, tunnel face instability, and running or squeezing ground conditions.

4.3 Bay Division Region

The status of all regional projects in the Bay Division Region as of the end of FY 2011-2012 is summarized in Table 4-3. As indicated in that table, construction on only one of the 10 Bay Division Regional projects/contracts had yet to be initiated as of the end of the reporting period but it will begin shortly as a construction contract was awarded for that project. Three projects were completed, three were in closeout after reaching construction final completion and three remained in construction as of June 30, 2012.

Table 4-3: Status of Bay Division Regional Projects as of June 30, 2012

Project/Contract Name	Status
BDPL Nos. 3 & 4 Crossover / Isolation Valves	Completed
Seismic Upgrade of BDPL Nos. 3 & 4	Construction Contract Awarded
SCADA System - Phase II	Closeout - Construction Completed
BDPL Reliability Upgrade - Tunnel	Construction - 58% Complete
BDPL Reliability Upgrade - EB Pipeline	Closeout - Construction Completed
BDPL Reliability Upgrade - Pen Pipeline	Construction - 90% Complete
BDPL Reliability Upgrade - BDPL Nos. 1 & 2	Completed
BDPL Nos. 3 & 4 Crossovers	Construction - 91% Complete
SFPUC/EBMUD Intertie	Closeout - Construction Completed
BDPL No. 4 Condition Assessment	Completed

Achievements

The construction contract for the Seismic Upgrade of BDPL Nos. 3 & 4 project was advertised and subsequently awarded. A CM consultant agreement for the management of construction activities on that project was also awarded during the reporting period.

Final completion was achieved in June 2012 on the East Bay Reaches construction contract of the BDPL Reliability Upgrade - Pipeline project. Also in June 2012, the Peninsula Reaches construction contract of the same project achieved substantial completion. A third construction contract was awarded on BDPL Reliability Upgrade - Pipeline project during FY 2011-2012 to address the discovery of an archeological site that included human remains. The site in question was discovered while performing the work on the Peninsula Reach contract. To minimize cost and expedite the work in this sensitive area, a decision was made to micro-tunnel a 1,400 foot segment under the impacted area using a separate contract. The Cordilleras Micro-Tunnel contract was awarded and construction was initiated in FY 2011-2012.

With the construction at one of the three crossover sites substantially completed, the contractor for the BDPL Nos. 3 & 4 Crossovers project started the construction of the second and third crossover facilities during the FY 2011-2012. Four shutdowns were successfully completed on or ahead of schedule to facilitate that work. This contract is anticipated to be completed successfully under budget and on schedule during FY 2012-2013.

Several milestones were successfully achieved for the BDPL Reliability Upgrade - Tunnel project during the FY 2011-2012. Starting with the successful launch of the tunnel boring machine (TBM) from the drive shaft in Menlo Park, the installation of the machine's 650-foot trailing gear inside the tunnel, and the start of the ground freezing for the Newark receiving shaft. At the end of the FY 2011-2012 reporting period, approximately 55% of the concrete tunnel lining has been installed and tunneling production has been meeting or exceeding target rates.

Challenges

The Seismic Upgrade of BDPL Nos. 3 and 4 project encountered numerous pre-construction challenges in FY 2011-2012. These challenges were successfully resolved but caused the extension of the bid & award phase which will consequently delay the start of the construction phase. Some of the most significant challenges included the findings of soil with characteristics consistent with archeological discoveries in one of the 36 pre-construction archeological borings. This triggered requirements by the USACE and the San Francisco Planning Department for additional archeological test trenches at the site. Moreover, lengthy negotiations with manufacturer of the project's unique state-of-the-art ball joint regarding terms and conditions delayed the bid advertisement and required issuance of addenda that delayed the bid opening of the construction contract.

Construction of the East Bay reaches of the BDPL Reliability Upgrade – Pipeline project encountered various unanticipated conditions including: contaminated water at Newark, nesting of special status species along the construction right-of-way (ROW) causing disruption to sequence of pipe installation, conflicts with utilities and railroad structures, and other issues. The contractor was however able to reach construction substantial completion on schedule.

Schedule delay in the construction of the BDPL Reliability Upgrade - Pipeline in the Peninsula was encountered as a result of weld quality issues and unanticipated archeological discoveries. Despite these challenges, construction substantial completion was achieved during the reporting period. Surface restoration work for this contract is ongoing and should be completed by the end of September 2012. A dispute regarding the weld repairs required by the SFPUC is also ongoing.

4.4 Peninsula Region

The status of all regional projects in the Peninsula Region as of the end of FY 2011-2012 is summarized in Table 4-4.

Table 4-4: Status of Peninsula Regional Projects as of June 30, 2012

Project/Contract Name	Status
Lower Crystal Springs Dam Improvements	Closeout - Construction Completed
New Crystal Springs Bypass Tunnel	Closeout - Construction Completed
Adit Leak Repair - Crystal Springs/Calaveras	Completed
Pulgas Balancing - Inlet/Outlet Work	Completed
Pulgas Balancing - Discharge Channel Modifications	Completed
Pulgas Balancing - Structural Rehabilitation & Roof	Closeout - Construction Completed
Pulgas Balancing - Dechloramination Facility	Construction - 95% Complete
Cross Connection Controls	Completed
HTWTP Short-Term Improvements - Demo Filters	Completed
HTWTP Short-Term Improvements - Coag & Flocc	Completed
HTWTP Long-Term Improvements	Construction - 16% Complete
Capuchino Valve Lot Improvements	Completed
Crystal Springs/San Andreas Transmission Upgrade	Construction - 50% Complete
Crystal Springs Pipeline No. 2 Replacement	Construction - 74% Complete
San Andreas Pipeline No. 3 Installation	Closeout - Construction Completed
Baden & San Pedro Valve Lots Improvements	Closeout - Construction Completed
Peninsula Pipelines Seismic Upgrade	Design - 35% Package

As indicated in Table 4-4, only one of the 17 Peninsula regional projects/contracts remained in pre-construction as of the end of the reporting period. Seven others were completed, five were in closeout after reaching construction final completion, and four remained in construction as of June 30, 2012.

Achievements

Construction activities on five contracts were completed during the reporting period: Lower Crystal Springs Dam Improvements, New Crystal Springs Bypass Tunnel, Pulgas Balancing Reservoir – Structural Rehabilitation and Roof Replacement, San Andreas Pipeline No. 3 Rehabilitation, and Baden San Pedro Valve Lot Improvements. All change orders and open issues were fully resolved equitably with the respective contractors to the satisfaction of the City and within the established approved budgets and schedules. Closeout activities are underway.

The Draft Conceptual Engineering Report for the Peninsula Pipeline Seismic Upgrade project was issued for internal review and detailed design activities were initiated in January 2012. The project's First Administrative Draft of the EIR was completed and will be distributed for internal review in July 2012.

Challenges

Overall, construction activities on ongoing contracts are progressing per plan. The project team and the contractor are paying extra attention and providing all necessary resources to maintain the shutdown schedules for the HTWTP Long-Term Improvements and the Crystal Springs/San Andreas Transmission Upgrade projects. Focused coordination meetings with Operations' representatives have been ongoing on both projects. The Project team and

contractor have developed detailed work plans including definition of contingency measures should unforeseen conditions be encountered. Since the beginning on construction activities on the Peninsula, several major shutdowns have been completed successfully, but remaining system shutdowns remain one of the program's greatest challenges.

The CSPL No. 2 Replacement project team encountered various unexpected differing site conditions but was able to address them without impacting the project's currently planned final completion milestone. A major pipeline break occurred at one of the project's construction sites in November 2011. A third-party investigation of the incident led to the modified design of service connections on that project. The contractor, project team and SFPUC operations staff worked closely with representatives from the City of South San Francisco and impacted residents to expedite the required restoration work following the incident.

4.5 San Francisco (Regional) Region

The status of all regional projects in the San Francisco Region as of the end of FY 2011-2012 is summarized in Table 4-5.

Table 4-5: Status of San Francisco Regional Projects as of June 30, 2012

Project/Contract Name	Status
Regional Groundwater Storage & Recovery	Design - 95% Package
Sunset Reservoir - North Basin	Completed
University Mound Reservoir - North Basin	Closeout - Construction Completed

As indicated in Table 4-5, one of the three San Francisco regional projects/contracts remained pre-construction as of the end of the reporting period. One project was completed and one was in closeout after reaching construction final completion.

Achievements

On the Regional Groundwater Storage & Recovery project, consensus was reached with the California Water Service Company and the Cities of Daly City and San Bruno on the key elements of the Operating Agreement and model assumptions. This allowed for the EIR analysis to be restarted and led to the completion this year of a major portion of the technical analysis to support the EIR. Preparation of the project's Draft EIR is continuing, with an estimated publication date of February 2013. Construction of six test wells was initiated in March 2012. As of June 2012, construction of five of the six test wells had been completed. The design team completed the 65% construction package and continues to work toward 95% design completion for the remaining scope, consisting of production wells, well stations and connecting pipelines.

Challenges

Progress on the overall delivery of the Regional Groundwater Storage & Recovery project was impacted due to the delay in reaching consensus on key agreements and modeling assumptions with the project's partner agencies (Cities of San Bruno and Daly City, and California Water Service Company). Much of the schedule delay was mitigated by accelerating portions of the ROW, bid & award, and closeout phases, as well as delaying

project completion by 1.5 months. The ROW agreements required to implement this project remain a challenge and will need to be negotiated with BART, Lake Merced Golf Club, Golden Gate National Cemetery, San Mateo County, Jefferson Unified School District and two retail outlets. The project team is proactively working to initiate pre-CEQA ROW outreach with the above parties and developing draft memorandums of agreement.

5.0 STATUS OF AB1823 PROJECTS

The status of the 10 projects identified in AB 1823 is summarized in Table 5.1. As of July 1, 2012, one project was completed, one project was in closeout after reaching construction final completion, seven projects remain in construction and one project is about to begin construction (contract awarded).

Table 5-1: Status of AB 1823 Projects as of July 1, 2012

Project Name	Status
New Irvington Tunnel	Construction - 56% Complete
Alameda Siphon # 4	Construction - Substantial Completion
Calaveras Dam Replacement	Construction - 21% Complete
BDPL Nos. 3 & 4 Crossover / Isolation Valves	Completed
Seismic Upgrade of BDPL Nos. 3 & 4	Construction Contract Awarded
BDPL Reliability Upgrade - Tunnel	Construction - 58% Complete
BDPL Reliability Upgrade - Pipeline	Construction - 92% Complete
BDPL Nos. 3 & 4 Crossovers	Construction - 91% Complete
New Crystal Springs Bypass Tunnel	Closeout - Construction Completed
Crystal Springs/San Andreas Transmission Upgrade	Construction - 50% Complete

The construction contract for the Seismic Upgrade of BDPL Nos. 3 & 4 project was awarded in June 2012 and construction is projected to begin in September 2012. It should be noted that the original list of projects in AB1823 includes the BDPL Nos. 1 & 2 - Repair of Caissons/Pipe Bridge project. That project was removed from the WSIP following completion of a facilities condition assessment that led to the addition of a fifth conduit parallel to BDPL Nos. 1 & 2 to the SFPUC capital program. The conduit, referred to as BDPL No. 5, is currently under construction as part of the BDPL Reliability Upgrade - Tunnel and BDPL Reliability Upgrade - Pipeline projects.

Half of the 10 projects listed in AB1823 contribute to the construction of a new seismically-designed lifeline that will carry water from the Sunol Valley in the East Bay to the mid-Peninsula by the end of 2015. That lifeline involves six segments contracted out separately – Alameda Siphon #4, New Irvington Tunnel, BDPL Reliability Upgrade (East Bay Reaches), BDPL Reliability Upgrade – Tunnel, BDPL Reliability Upgrade (Peninsula Reaches) and New Crystal Springs Bypass Tunnel. Construction activities have now been completed on four of the six segments. Construction of the two remaining segments - New Irvington Tunnel and BDPL Reliability Upgrade - Tunnel (also known as the Bay Tunnel) – is forecasted to be substantially complete by October 2014 and March 2015, respectively.

APPENDIX A
WSIP Quarterly Report
Regional Projects (Q4/FY 2011-2012)

Report available on the SFPUC Website at the following address:

<http://sfwater.org/modules/showdocument.aspx?documentid=2523>

APPENDIX B

**Current Approved WSIP Schedule
Regional Projects (as of June 30, 2012)**

APPENDIX B: Current Approved WSIP - Project-Level Schedules

Project Name	Start	Finish	FY2007		FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	
Regional Improvement Projects			31-Mar-00 A			29-Jul-16																																				
San Joaquin Region			01-Jul-02 A			25-Mar-14																																				
CUW36401	Lawrence Livermore Water Quality Imprc	02-Feb-04 A	14-Sep-11																																							
CUW37301	San Joaquin Pipeline System	19-Aug-02 A	25-Mar-14																																							
CUW37302	Rehabilitation of Existing San Joaquin Pip	03-Jul-06 A	12-Mar-14																																							
CUW38401	Tesla Treatment Facility	01-Jul-02 A	28-Sep-12																																							
Sunol Valley Region			19-Dec-01 A			29-Jul-16																																				
CUW35501	Standby Power Facilities - Various Locati	11-Jul-02 A	22-Dec-10C	7CAD@H98																																						
CUW35901	New Irvington Tunnel	19-Dec-01 A	21-Jan-16																																							
CUW35902	Alameda Siphon #4	19-Dec-01 A	12-Jun-12																																							
CUW37001	Pipeline Repair & Readiness Improvemen	21-Apr-03 A	16-Apr-09C	7CAD@H98																																						
CUW37401	Calaveras Dam Replacement	03-Sep-02 A	29-Jul-16																																							
CUW37402	Calaveras Reservoir Upgrades (Completed)	19-Nov-03 A	28-Jul-06	7CAD@H98																																						
CUW37403	San Antonio Backup Pipeline	17-Dec-03 A	09-Mar-15																																							
CUW38101	SVWTP Expansion & Treated Water Resc	22-Apr-05 A	05-Dec-13																																							
CUW38601	San Antonio Pump Station Upgrade (Com	01-Jul-04 A	07-Dec-11C	7CAD@H98																																						
CUW35201	Upper Alameda Creek Filter Gallery	30-Sep-03 A	15-Jul-16																																							
Bay Division Region			19-Dec-01 A			13-Nov-15																																				
CUW35301	BDPL Nos. 3 & 4 Crossover/Isolation Val	06-Jan-03 A	31-Jul-09C	7CAD@H98																																						
CUW35302	Seismic Upgrade of BDPL Nos. 3 & 4	22-Oct-04 A	24-Apr-15																																							
CUW36301	SCADA System - Phase II	22-Apr-05 A	24-Feb-12																																							
CUW36801	BDPL Reliability Upgrade - Tunnel	19-Dec-01 A	13-Nov-15																																							
CUW36802	BDPL Reliability Upgrade - Pipeline	19-Dec-01 A	01-Oct-13																																							
CUW36803	BDPL Reliability Upgrade - Relocation of	24-Apr-06 A	28-May-10C	7CAD@H98																																						
CUW38001	BDPL Nos. 3 & 4 Crossovers	17-Feb-04 A	17-May-13																																							
CUW38901	SFPUC/EBMUD Intertie	24-Jun-02 A	30-Dec-11																																							
CUW39301	BDPL No. 4 Condition Assessment PCCP	04-Aug-06 A	06-Feb-09C	7CAD@H98																																						
Peninsula Region			01-Nov-00 A			06-Jul-16																																				
CUW35401	Lower Crystal Springs Dam Improvements	01-Nov-00 A	27-Sep-12																																							
CUW35601	New Crystal Springs Bypass Tunnel	07-Jan-02 A	29-Mar-12																																							
CUW35701	Adit Leak Repair - Crystal Springs/Calave	01-Apr-05 A	31-Jul-08C	7CAD@H98																																						
CUW36101	Pulgas Balancing - Inlet/Outlet Work (Com	15-May-02 A	11-May-06C	7CAD@H98																																						
CUW36102	Pulgas Balancing - Discharge Channel Mc	01-Apr-05 A	30-Jul-10	7CAD@H98																																						
CUW36103	Pulgas Balancing - Structural Rehabilitat	03-Apr-06 A	24-Feb-12																																							
CUW36105	Pulgas Balancing - Modifications of the E	02-Apr-07 A	19-Nov-12																																							
CUW36501	Cross Connection Controls (Completed)	01-Jul-03 A	30-Apr-09C	7CAD@H98																																						
CUW36601	HTWTP Short-Term Improvements (Dem	04-Sep-02 A	14-Nov-06C	7CAD@H98																																						
CUW36603	HTWTP Short-Term Improvements - Coa	03-Jul-06 A	28-Jul-10	7CAD@H98																																						
CUW36701	HTWTP Long-Term Improvements	01-Jul-03 A	01-Dec-15																																							
CUW36702	Peninsula Pipelines Seismic Upgrade	01-Jul-09 A	06-Jul-16																																							
CUW36901	Capuchino Valve Lot Improvements (Con	22-Apr-05 A	19-Aug-08C	7CAD@H98																																						
CUW37101	Crystal Springs/San Andreas Transmissio	18-Aug-03 A	23-Apr-14																																							
CUW37801	Crystal Springs Pipeline No. 2 Replacement	15-Jan-04 A	25-Sep-13																																							
CUW37901	San Andreas Pipeline No. 3 Installation	15-Jan-04 A	21-Nov-11																																							
CUW39101	Baden and San Pedro Valve Lots Improve	03-Oct-05 A	01-Aug-12																																							



Revision Date: 07/12/12

APPENDIX B: Current Approved WSIP - Project-Level Schedules

Project Name	Start	Finish	FY2007				FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2			
San Francisco Regional Region	31-Mar-00 A	17-Jun-16	[Gantt chart for San Francisco Regional Region showing project phases across fiscal years 2007-2017]																																									
CUW30103 Regional Groundwater Storage and Recov	01-Jun-03 A	17-Jun-16	[Gantt chart for CUW30103 showing project phases across fiscal years 2007-2017]																																									
CUW35801 Sunset Reservoir - North Basin (Complete	31-Mar-00 A	10-Sep-10C	[Gantt chart for CUW35801 showing project phases across fiscal years 2007-2017]																																									
CUW37201 University Mound Reservoir - North Basin	24-Oct-05 A	14-Feb-12	[Gantt chart for CUW37201 showing project phases across fiscal years 2007-2017]																																									
Support Projects	13-Apr-04 A	29-Jul-16	[Gantt chart for Support Projects showing project phases across fiscal years 2007-2017]																																									
CUW38801 Programmatic EIR (Completed)	13-Apr-04 A	30-Jun-09C	[Gantt chart for CUW38801 showing project phases across fiscal years 2007-2017]																																									
CUW38802 Bioregional Habitat Restoration	06-Sep-06 A	24-Jun-16	[Gantt chart for CUW38802 showing project phases across fiscal years 2007-2017]																																									
CUW39201 Program Management Project	01-Aug-05 A	29-Jul-16	[Gantt chart for CUW39201 showing project phases across fiscal years 2007-2017]																																									
CUW39401 Watershed Environmental Improvement P	02-Jan-07 A	27-Jun-14	[Gantt chart for CUW39401 showing project phases across fiscal years 2007-2017]																																									
CUW36302 System Security Upgrades	07-Jan-06 A	29-Apr-16	[Gantt chart for CUW36302 showing project phases across fiscal years 2007-2017]																																									



Revision Date: 07/12/12

APPENDIX B: Current Approved WSIP - Phase-Level Schedules

Project Name	Start	Finish	FY2007				FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2			
Regional Improvement Projects																																												
San Joaquin Region																																												
CUW36401 Lawrence Livermore Water Quality Imprc	02-Feb-04	14-Sep-11																																										
Project Management	02-Feb-04A	14-Sep-11																																										
Planning	02-Feb-04A	28-Sep-07A																																										
Environmental	31-Aug-06A	25-Feb-09A																																										
Design	01-Oct-07A	31-Mar-09A																																										
Bid & Award	01-Dec-08A	25-Aug-09A																																										
Construction Management	27-Feb-09A	11-Mar-11A																																										
Construction	26-Aug-09A	11-Mar-11A																																										
Closeout	14-Mar-11A	14-Sep-11																																										
CUW37301 San Joaquin Pipeline System	19-Aug-02	25-Mar-14																																										
Project Management	19-Aug-02A	25-Mar-14																																										
Planning	19-Aug-02A	28-Dec-06A																																										
Environmental Review	17-Feb-04A	22-Jun-11A																																										
Right of Way	02-Jan-07A	30-Dec-11																																										
Design	02-Jan-07A	23-Mar-11A																																										
Bid & Award	27-Apr-09A	09-Aug-11A																																										
Construction Management	03-Feb-09A	20-Sep-13																																										
Construction	13-Oct-09	20-Sep-13																																										
Closeout	06-Feb-12	25-Mar-14																																										
CUW37302 Rehabilitation of Existing San Joaquin Pip	03-Jul-06	12-Mar-14																																										
Project Management	03-Jul-06A	12-Mar-14																																										
Planning	03-Jul-06A	28-Sep-11																																										
Environmental Review	26-Sep-06A	30-Nov-12																																										
Design	31-Jul-06A	31-Mar-11A																																										
Bid & Award	02-May-08A	31-Mar-11A																																										
Construction Management	03-Jul-06A	31-Jul-11A																																										
Construction	02-Oct-06A	07-Sep-13A																																										
Closeout	01-Aug-11A	12-Mar-14																																										
CUW38401 Tesla Treatment Facility	01-Jul-02	28-Sep-12																																										
Project Management	01-Jul-02A	28-Sep-12																																										
Planning	01-Jul-02A	29-Jun-07A																																										
Environmental	30-Jun-06A	25-Feb-09A																																										
Right of Way	17-Mar-08A	16-Oct-08A																																										
Design	15-Feb-07A	20-Nov-09A																																										
Bid & Award	30-Jan-08A	10-Nov-08A																																										
Construction Management	02-Feb-09A	28-Jun-12																																										
Construction	08-Sep-08A	28-Jun-12																																										
Closeout	01-Jul-11A	28-Sep-12																																										
Sunol Valley Region																																												
CUW35501 Standby Power Facilities - Various Locatio	11-Jul-02A	22-Dec-10A	COMPLETED																																									
Project Management	11-Jul-02A	22-Dec-10A																																										
Planning	11-Jul-02A	30-Jun-05A																																										
Environmental (CatEx)	26-May-05A	23-Sep-05A																																										

- Project Management
 Environmental
 Right-of-Way
 Construction Mgmt
 Closeout
- Planning
 Design
 Bid & Award
 Construction
 Program Mgmt

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APPENDIX B: Current Approved WSIP - Phase-Level Schedules

Project Name	Start	Finish	FY2007				FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2			
Design	01-Jul-05A	04-May-07A	[Yellow]																																									
Bid & Award	16-Apr-07A	31-Dec-07A					[Orange]																																					
Construction Management	10-Dec-07A	22-Jun-10A									[Dark Red]																																	
Construction	10-Dec-07A	28-May-10A									[Green]																																	
Closeout	10-Sep-08A	07-Oct-10A													[Grey]																													
CUW35901 New Irvington Tunnel	19-Dec-01	21-Jan-16																																										
Project Management	19-Dec-01A	09-Dec-15																																										
Planning	19-Dec-01A	07-Oct-05A																																										
Environmental	25-Aug-04A	07-Mar-11A	[Blue]																																									
Right of Way	03-Jul-06A	28-Mar-14					[Red]																																					
Design	11-Oct-05A	12-Jan-10A	[Yellow]																																									
Bid & Award	05-Jan-09A	21-Jul-10A									[Orange]																																	
Construction Management	01-Dec-08A	16-Jun-14													[Dark Red]																													
Construction	31-Mar-09A	20-Jul-15									[Green]																																	
Close Out	21-Jul-15	21-Jan-16																									[Grey]																	
CUW35902 Alameda Siphon #4	19-Dec-01	12-Jun-12																																										
Project Management	19-Dec-01A	12-Jun-12																																										
Planning	19-Dec-01A	07-Oct-05A																																										
Environmental	25-Aug-04A	30-Mar-10A	[Blue]																																									
Right of Way	04-Jun-07A	09-Feb-09A					[Red]																																					
Design	11-Oct-05A	13-Mar-09A	[Yellow]																																									
Bid & Award	03-Nov-08A	25-Aug-09A									[Orange]																																	
Construction Management	26-Aug-09A	30-Dec-11													[Dark Red]																													
Construction	20-Apr-09A	30-Dec-11									[Green]																																	
Closeout	30-Dec-11	12-Jun-12																	[Grey]																									
CUW37001 Pipeline Repair & Readiness Improvement	21-Apr-03A	16-Apr-09A	COMPLETED																																									
Project Management	21-Apr-03A	16-Apr-09A					[Grey]																																					
Planning	21-Apr-03A	30-Mar-07A	[Cyan]																																									
Environmental (CatEx)	14-Jan-05A	29-Dec-06A	[Blue]																																									
Design	07-Jun-04A	05-Feb-07A	[Yellow]																																									
Bid & Award	31-Oct-05A	23-Jul-07A					[Orange]																																					
Construction Management	30-Jan-06A	15-Oct-08A					[Dark Red]																																					
Construction	30-Jan-06A	15-Oct-08A					[Green]																																					
Close Out	18-Sep-06A	16-Apr-09A					[Grey]																																					
CUW37401 Calaveras Dam Replacement	03-Sep-02	29-Jul-16																																										
Project Mangement	03-Sep-02A	29-Jul-16																																										
Planning	03-Sep-02A	04-Nov-05A																																										
Environmental	16-May-05A	29-Jul-11A	[Blue]																																									
Design	14-Nov-05A	27-Jul-11	[Yellow]																																									
Bid & Award	27-Dec-10A	29-Jul-11									[Orange]																																	
Construction Management	01-Aug-11A	30-Jul-15													[Dark Red]																													
Construction	31-May-11A	29-Jan-16									[Green]																																	
Closeout	01-Feb-16	29-Jul-16																					[Grey]																					
CUW37402 Calaveras Reservoir Upgrades (Completed)	19-Nov-03A	28-Jul-06A	COMPLETED																																									
Project Management	19-Nov-03A	28-Jul-06A	[Grey]																																									

- Project Management
- Environmental
- Right-of-Way
- Construction Mgmt
- Closeout
- Planning
- Design
- Bid & Award
- Construction
- Program Mgmt

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APPENDIX B: Current Approved WSIP - Phase-Level Schedules

Project Name	Start	Finish	FY2007				FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2							
Planning	19-Nov-03A	18-Nov-05A																																										
Environmental	21-May-04A	18-Nov-05A																																										
Design	16-Dec-04A	18-Nov-05A																																										
Bid & Award	28-Jan-05A	18-Nov-05A																																										
Construction Management	27-Jun-05A	14-Feb-06A																																										
Construction	27-Jun-05A	14-Feb-06A																																										
Close Out	07-Oct-05A	28-Jul-06A																																										
CUW37403 San Antonio Backup Pipeline	17-Dec-03A	09-Mar-15																																										
Project Management	17-Dec-03A	09-Mar-15																																										
Planning	17-Dec-03A	11-May-07A																																										
Environmental	02-Oct-06A	06-Jul-12																																										
Design	01-Mar-07A	14-Jun-12																																										
Bid & Award	18-May-11A	26-Oct-12																																										
Construction Management	29-Oct-12	05-Sep-14																																										
Construction	29-Oct-12	05-Sep-14																																										
Close Out	08-Sep-14	09-Mar-15																																										
CUW38101 SVWTP Expansion & Treated Water Rese	22-Apr-05A	05-Dec-13																																										
Project Management	22-Apr-05A	05-Dec-13																																										
Planning	22-Apr-05A	29-Jun-07A																																										
Environmental Review	21-Jul-06A	30-Jun-10A																																										
Right of Way	03-Jul-06A	16-Jun-09A																																										
Design	16-Jan-07A	10-Dec-09A																																										
Bid & Award	23-Nov-09A	22-Jun-10A																																										
Construction Management	30-Apr-10A	31-May-13																																										
Construction	23-Jun-10A	02-Jun-13																																										
Closeout	03-Jun-13	05-Dec-13																																										
CUW38601 San Antonio Pump Station Upgrade (Comp	01-Jul-04A	07-Dec-11A	COMPLETED																																									
Project Management	01-Jul-04A	07-Dec-11A																																										
Planning	01-Jul-04A	12-Jan-07A																																										
Environmental (CatEx)	02-Jan-07A	21-Jun-07A																																										
Design	06-Jul-07A	15-May-09A																																										
Bid & Award	14-Apr-09A	30-Oct-09A																																										
Construction Management	02-Nov-09A	01-Sep-11A																																										
Construction	02-Nov-09A	01-Sep-11A																																										
Close-Out	04-Aug-11A	07-Dec-11A																																										
CUW35201 Upper Alameda Creek Filter Gallery	30-Sep-03A	15-Jul-16																																										
Project Management	30-Sep-03A	15-Jul-16																																										
Planning	30-Sep-03A	30-Jun-10A																																										
Environmental Phase	23-Apr-10A	14-Mar-14																																										
Design Phase	01-Jul-10A	29-Oct-13																																										
Bid & Award Phase	17-Mar-14	17-Sep-14																																										
Construction Management Phase	17-Sep-14	17-May-16																																										
Construction	17-Sep-14	17-May-16																																										
Closeout Phase	18-May-16	15-Jul-16																																										
Bay Division Region	19-Dec-01A	13-Nov-15																																										



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APPENDIX B: Current Approved WSIP - Phase-Level Schedules

Project Name	Start	Finish	FY2007		FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	
CUW35301 BDPL Nos. 3 & 4 Crossover/Isolation Val	06-Jan-03A	31-Jul-09A	COMPLETED																																							
Project Management	06-Jan-03A	31-Jul-09A	[Gantt bar]																																							
Planning - Phase A	06-Jan-03A	20-Jul-04A	[Gantt bar]																																							
Environmental - Phase A	16-Jul-03A	28-Feb-06A	[Gantt bar]																																							
Design - Phase A	03-May-04A	16-May-06A	[Gantt bar]																																							
Bid & Award - Phase A	16-May-05A	18-Aug-06A	[Gantt bar]																																							
Construction Management - Phase A	23-Jan-06A	03-Apr-09A	[Gantt bar]																																							
Construction - Phase A	11-Oct-05A	19-Mar-08A	[Gantt bar]																																							
Close Out - Phase A	20-Mar-08A	31-Jul-09A	[Gantt bar]																																							
CUW35302 Seismic Upgrde of BDPL Nos. 3 & 4	22-Oct-04A	24-Apr-15	[Gantt bar]																																							
Project Management	22-Oct-04A	24-Apr-15	[Gantt bar]																																							
Planning - Phase B	22-Oct-04A	12-Dec-08A	[Gantt bar]																																							
Environmental (EIR) - Phase B	11-Sep-06A	02-Dec-11A	[Gantt bar]																																							
Right of Way Phase B	03-Jul-06A	26-Aug-11A	[Gantt bar]																																							
Design - Phase B	05-Mar-07A	30-Sep-11	[Gantt bar]																																							
Bid and Award - Phase B	03-Nov-08A	01-May-12	[Gantt bar]																																							
Construction Management - Phase B	03-May-10A	20-Oct-14	[Gantt bar]																																							
Construction - Phase B	12-Jan-10A	20-Oct-14	[Gantt bar]																																							
Close Out - Phase B	21-Oct-14	24-Apr-15	[Gantt bar]																																							
CUW36301 SCADA System - Phase II	22-Apr-05A	24-Feb-12	[Gantt bar]																																							
Project Management	22-Apr-05A	24-Feb-12	[Gantt bar]																																							
Planning	26-Apr-05A	24-Dec-07A	[Gantt bar]																																							
Environmental	30-Oct-07A	15-Jul-09A	[Gantt bar]																																							
Right of Way	10-Apr-07A	01-Jun-09A	[Gantt bar]																																							
Design	26-Dec-07A	27-Jul-09A	[Gantt bar]																																							
Bid & Award	22-Jun-09A	11-Dec-09A	[Gantt bar]																																							
Construction Management	23-Sep-08A	28-Feb-11A	[Gantt bar]																																							
Construction	25-Jul-08A	23-Aug-11	[Gantt bar]																																							
Close Out	01-Mar-11A	24-Feb-12	[Gantt bar]																																							
CUW36801 BDPL Reliability Upgrde - Tunnel	19-Dec-01A	13-Nov-15	[Gantt bar]																																							
Project Management	19-Dec-01A	13-Nov-15	[Gantt bar]																																							
Planning	19-Dec-01A	31-May-06A	[Gantt bar]																																							
Environmental	18-Nov-04A	01-Sep-11	[Gantt bar]																																							
Right of Way	03-Jul-06A	31-Aug-11	[Gantt bar]																																							
Design - BAY TUNNEL	01-Aug-05A	03-Aug-09A	[Gantt bar]																																							
Bid & Award - BAY TUNNEL	01-May-09A	31-Mar-10A	[Gantt bar]																																							
Construction Management - BAY TUNNEL	24-Jun-08A	01-May-15	[Gantt bar]																																							
Construction - BAY TUNNEL	17-Jul-09A	01-May-15	[Gantt bar]																																							
Close Out - BAY TUNNEL	04-May-15	13-Nov-15	[Gantt bar]																																							
CUW36802 BDPL Reliability Upgrde - Pipeline	19-Dec-01A	01-Oct-13	[Gantt bar]																																							
Project Management	03-Jan-06A	01-Oct-13	[Gantt bar]																																							
Planning	19-Dec-01A	31-May-06A	[Gantt bar]																																							
Environmental	18-Nov-04A	12-Feb-10A	[Gantt bar]																																							
Right of Way	03-Jul-06A	08-Dec-10A	[Gantt bar]																																							
Design - PIPELINE	03-Jan-06A	17-Aug-09A	[Gantt bar]																																							

- Project Management
- Environmental
- Right-of-Way
- Construction Mgmt
- Closeout
- Planning
- Design
- Bid & Award
- Construction
- Program Mgmt

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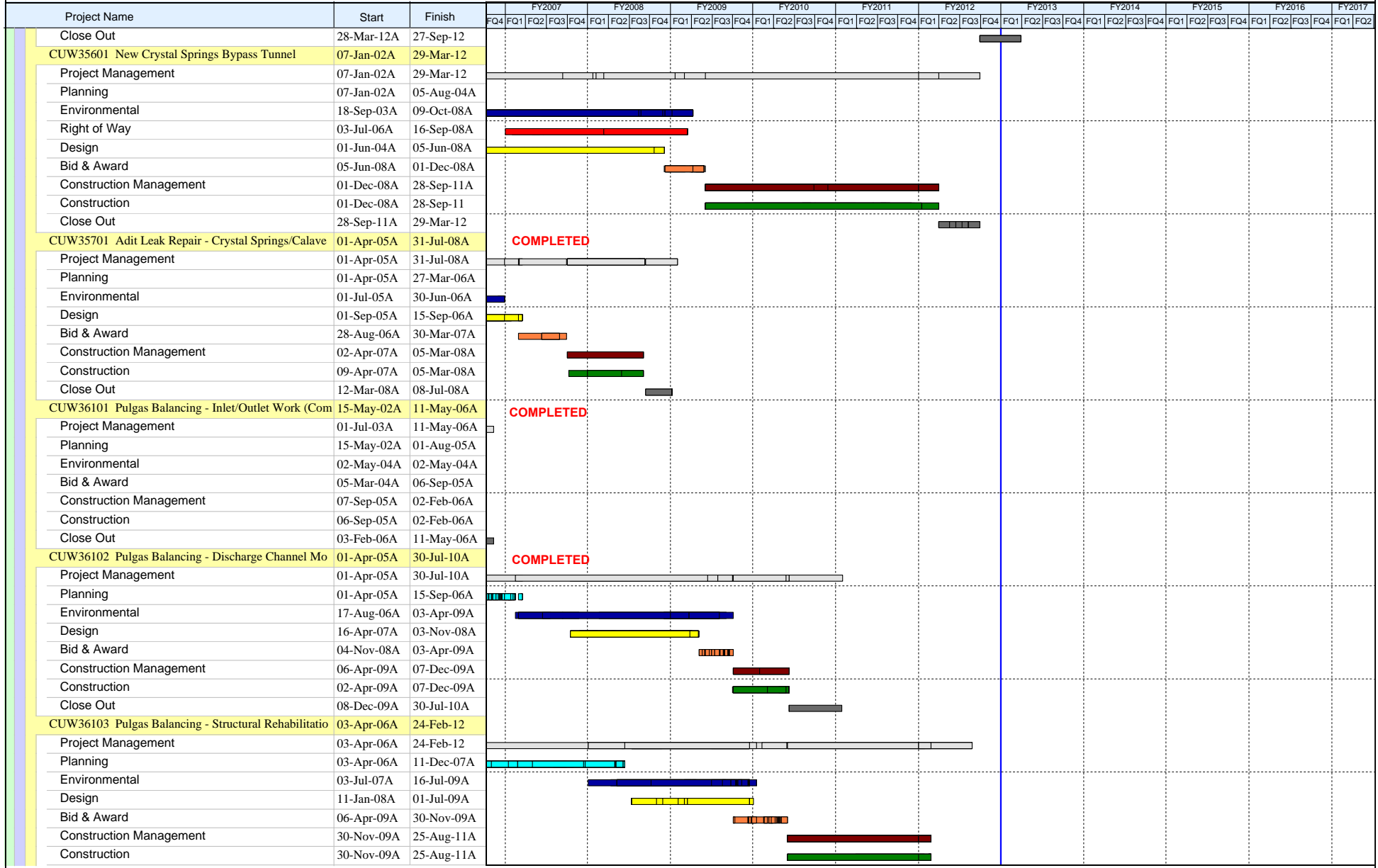
APPENDIX B: Current Approved WSIP - Phase-Level Schedules

Project Name	Start	Finish	FY2007				FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017			
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4			
Bid and Award	22-Apr-09A	09-Mar-10A																																												
Construction Management	23-Sep-08A	01-Mar-13																																												
Construction	04-Jan-10A	01-Mar-13																																												
Closeout	06-Aug-12	01-Oct-13																																												
CUW36803 BDPL Reliability Upgrade - Relocation of	24-Apr-06A	28-May-10A	COMPLETED																																											
Project Management	24-Apr-06A	28-May-10A																																												
Right of Way	28-May-10A	28-May-10A																																												
Design	24-Apr-06A	16-Jan-07A																																												
Bid and Award	17-Jan-07A	06-Jan-10A																																												
Construction Management	02-Jul-07A	28-May-10A																																												
Construction	15-Nov-06A	28-May-10A																																												
Closeout	28-May-10A	28-May-10A																																												
CUW38001 BDPL Nos. 3 & 4 Crossovers	17-Feb-04A	17-May-13																																												
Project Management	17-Feb-04A	17-May-13																																												
Planning	17-Feb-04A	14-Nov-06A																																												
Environmental	28-Aug-06A	31-Dec-08A																																												
Right of Way	04-Sep-07A	30-Jun-11																																												
Design	04-Dec-06A	20-Jul-09A																																												
Bid & Award	05-Nov-08A	10-Jul-09A																																												
Construction Management	23-Sep-08A	16-Nov-12																																												
Construction	30-Jan-09A	16-Nov-12																																												
Close Out	19-Nov-12	17-May-13																																												
CUW38901 SFPUC/EBMUD Intertie	24-Jun-02A	30-Dec-11																																												
Project Management	24-Jun-02A	30-Dec-11																																												
Planning	24-Jun-02A	11-Oct-02A																																												
Environmental	14-Oct-02A	31-Mar-03A																																												
Design	01-Apr-03A	30-Jul-04A																																												
Bid & Award	02-Aug-04A	21-Dec-04A																																												
Construction Management	18-Jan-05A	31-Jan-08A																																												
Construction	18-Jan-05A	31-Jan-08A																																												
Close Out	01-Feb-08A	30-Dec-11																																												
CUW39301 BDPL No. 4 Condition Assessment PCCP	04-Aug-06A	06-Feb-09A	COMPLETED																																											
Project Management	04-Aug-06A	06-Feb-09A																																												
Planning	04-Aug-06A	06-Feb-09A																																												
Environmental	16-Jul-07A	30-Sep-08A																																												
Peninsula Region	01-Nov-00A	06-Jul-16																																												
CUW35401 Lower Crystal Springs Dam Improvements	01-Nov-00A	27-Sep-12																																												
Project Management	01-Nov-00A	27-Sep-12																																												
Planning	01-Nov-00A	30-Dec-04A																																												
Environmental Review	03-Jan-05A	28-Apr-11A																																												
Right of Way	03-Jul-06A	30-Jun-10A																																												
Design	08-Mar-07A	30-Sep-10A																																												
Bid & Award	20-Aug-10A	28-Jan-11A																																												
Construction Management	31-Jan-11A	27-Mar-12A																																												
Construction	31-Jan-11A	27-Mar-12A																																												



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APPENDIX B: Current Approved WSIP - Phase-Level Schedules



	Project Management		Environmental		Right-of-Way		Construction Mgmt		Closeout
	Planning		Design		Bid & Award		Construction		Program Mgmt

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APPENDIX B: Current Approved WSIP - Phase-Level Schedules

Project Name	Start	Finish	FY2007		FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2					
Close Out	26-Aug-11A	24-Feb-12	[Gantt bar: 26-Aug-11A to 24-Feb-12]																																							
CUW36105 Pulgas Balancing - Modifications of the Ex	02-Apr-07A	19-Nov-12	[Gantt bar: 02-Apr-07A to 19-Nov-12]																																							
Project Management	02-Apr-07A	30-May-12	[Gantt bar: 02-Apr-07A to 30-May-12]																																							
Planning	02-Apr-07A	17-Mar-09A	[Gantt bar: 02-Apr-07A to 17-Mar-09A]																																							
Environmental	19-Nov-07A	04-Mar-10A	[Gantt bar: 19-Nov-07A to 04-Mar-10A]																																							
Design	02-Jan-09A	12-Mar-10A	[Gantt bar: 02-Jan-09A to 12-Mar-10A]																																							
Bid & Award	29-Jan-10A	22-Sep-10A	[Gantt bar: 29-Jan-10A to 22-Sep-10A]																																							
Construction Management	22-Sep-10A	30-Nov-11	[Gantt bar: 22-Sep-10A to 30-Nov-11]																																							
Construction	22-Sep-10A	19-Nov-12	[Gantt bar: 22-Sep-10A to 19-Nov-12]																																							
Close Out	01-Dec-11	30-May-12	[Gantt bar: 01-Dec-11 to 30-May-12]																																							
CUW36501 Cross Connection Controls (Completed)	01-Jul-03A	30-Apr-09A	COMPLETED																																							
Project Management	01-Jul-03A	27-Feb-09A	[Gantt bar: 01-Jul-03A to 27-Feb-09A]																																							
Planning	01-Jul-03A	03-Aug-04A	[Gantt bar: 01-Jul-03A to 03-Aug-04A]																																							
Environmental	01-Jul-03A	05-Aug-08A	[Gantt bar: 01-Jul-03A to 05-Aug-08A]																																							
Right of Way	03-Sep-07A	30-Sep-08A	[Gantt bar: 03-Sep-07A to 30-Sep-08A]																																							
Design	03-Aug-04A	30-Dec-05A	[Gantt bar: 03-Aug-04A to 30-Dec-05A]																																							
Bid & Award	01-Apr-05A	31-May-05A	[Gantt bar: 01-Apr-05A to 31-May-05A]																																							
Construction Management	01-Jun-05A	26-Nov-08A	[Gantt bar: 01-Jun-05A to 26-Nov-08A]																																							
Construction	01-Jun-05A	26-Nov-08A	[Gantt bar: 01-Jun-05A to 26-Nov-08A]																																							
Close Out	01-Dec-08A	30-Apr-09A	[Gantt bar: 01-Dec-08A to 30-Apr-09A]																																							
CUW36601 HTWTP Short-Term Improvements (Dem	04-Sep-02A	14-Nov-06A	COMPLETED																																							
Project Management	04-Sep-02A	14-Nov-06A	[Gantt bar: 04-Sep-02A to 14-Nov-06A]																																							
Planning	04-Sep-02A	30-Apr-03A	[Gantt bar: 04-Sep-02A to 30-Apr-03A]																																							
Environmental	01-Aug-03A	08-Aug-05A	[Gantt bar: 01-Aug-03A to 08-Aug-05A]																																							
Design	01-Aug-03A	11-Feb-05A	[Gantt bar: 01-Aug-03A to 11-Feb-05A]																																							
Bid & Award	14-Feb-05A	08-Sep-05A	[Gantt bar: 14-Feb-05A to 08-Sep-05A]																																							
Construction Management	09-Sep-05A	27-Feb-06A	[Gantt bar: 09-Sep-05A to 27-Feb-06A]																																							
Construction	09-Sep-05A	27-Feb-06A	[Gantt bar: 09-Sep-05A to 27-Feb-06A]																																							
Close Out	12-Jan-06A	13-Nov-06A	[Gantt bar: 12-Jan-06A to 13-Nov-06A]																																							
CUW36603 HTWTP Short-Term Improvements - Coag	03-Jul-06A	28-Jul-10A	COMPLETED																																							
Project Management	03-Jul-06A	28-Jul-10A	[Gantt bar: 03-Jul-06A to 28-Jul-10A]																																							
Planning	03-Jul-06A	22-Aug-07A	[Gantt bar: 03-Jul-06A to 22-Aug-07A]																																							
Environmental	03-Jul-06A	18-Oct-07A	[Gantt bar: 03-Jul-06A to 18-Oct-07A]																																							
Design	13-Jul-07A	22-Feb-08A	[Gantt bar: 13-Jul-07A to 22-Feb-08A]																																							
Bid & Award 2 & 3	03-Sep-07A	09-Jul-08A	[Gantt bar: 03-Sep-07A to 09-Jul-08A]																																							
Construction Management 2 & 3	18-Jun-08A	31-Mar-10A	[Gantt bar: 18-Jun-08A to 31-Mar-10A]																																							
Construction 2 & 3	19-Feb-08A	31-Mar-10A	[Gantt bar: 19-Feb-08A to 31-Mar-10A]																																							
Close Out 2 & 3	01-Apr-10A	28-Jul-10A	[Gantt bar: 01-Apr-10A to 28-Jul-10A]																																							
CUW36701 HTWTP Long-Term Improvements	01-Jul-03A	01-Dec-15	COMPLETED																																							
Project Management	01-Jul-03A	01-Dec-15	[Gantt bar: 01-Jul-03A to 01-Dec-15]																																							
Planning	01-Jul-03A	29-Aug-08A	[Gantt bar: 01-Jul-03A to 29-Aug-08A]																																							
Environmental	09-Jan-07A	15-Mar-11A	[Gantt bar: 09-Jan-07A to 15-Mar-11A]																																							
Design	02-Sep-08A	15-Oct-10A	[Gantt bar: 02-Sep-08A to 15-Oct-10A]																																							
Bid & Award	01-Jul-10A	15-Mar-11A	[Gantt bar: 01-Jul-10A to 15-Mar-11A]																																							
Construction Management	16-Mar-11A	29-May-15	[Gantt bar: 16-Mar-11A to 29-May-15]																																							



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APPENDIX B: Current Approved WSIP - Phase-Level Schedules

Project Name	Start	Finish	FY2007		FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	
Right of Way	01-Aug-06A	13-Aug-09A	[Red bar from FQ4 FY2007 to FQ4 FY2010]																																							
Design	01-May-05A	17-Apr-09A	[Yellow bar from FQ4 FY2007 to FQ4 FY2010]																																							
Bid & Award	20-Apr-09A	26-Aug-09A	[Orange bar from FQ4 FY2010 to FQ1 FY2011]																																							
Construction Management	26-Aug-09A	17-May-11A	[Dark Red bar from FQ4 FY2010 to FQ4 FY2012]																																							
Construction	26-Aug-09A	17-May-11A	[Green bar from FQ4 FY2010 to FQ4 FY2012]																																							
Closeout	18-May-11A	21-Nov-11	[Grey bar from FQ4 FY2012 to FQ1 FY2013]																																							
CUW39101 Baden and San Pedro Valve Lots Improvem	03-Oct-05A	01-Aug-12	[Grey bar from FQ4 FY2007 to FQ4 FY2012]																																							
Project Management	03-Oct-05A	01-Aug-12	[Grey bar from FQ4 FY2007 to FQ4 FY2012]																																							
Planning	03-Oct-05A	03-Nov-06A	[Cyan bar from FQ4 FY2007 to FQ1 FY2008]																																							
Environmental	05-Oct-06A	21-Oct-08A	[Blue bar from FQ1 FY2008 to FQ4 FY2009]																																							
Right of Way	05-Oct-06A	31-Mar-08A	[Red bar from FQ1 FY2008 to FQ4 FY2009]																																							
Design	29-Mar-07A	12-Jan-09A	[Yellow bar from FQ1 FY2008 to FQ4 FY2009]																																							
Bid & Award	29-Sep-08A	07-Apr-09A	[Orange bar from FQ4 FY2009 to FQ1 FY2010]																																							
Construction Management	08-Apr-09A	31-Jan-12A	[Dark Red bar from FQ4 FY2009 to FQ4 FY2012]																																							
Construction	03-Apr-09A	31-Jan-12A	[Green bar from FQ4 FY2009 to FQ4 FY2012]																																							
Close Out	01-Feb-12A	01-Aug-12	[Grey bar from FQ4 FY2012 to FQ1 FY2013]																																							
San Francisco Regional Region	31-Mar-00A	17-Jun-16	[Grey bar from FQ4 FY2007 to FQ4 FY2012]																																							
CUW30103 Regional Groundwater Storage and Recov	01-Jun-03A	17-Jun-16	[Grey bar from FQ4 FY2007 to FQ4 FY2012]																																							
Project Management	01-Jul-05A	17-Jun-16	[Grey bar from FQ4 FY2007 to FQ4 FY2012]																																							
Planning	01-Jun-03A	31-Jan-08A	[Cyan bar from FQ4 FY2007 to FQ4 FY2008]																																							
Environmental	15-Oct-07A	18-Dec-13	[Blue bar from FQ1 FY2008 to FQ4 FY2012]																																							
Right of Way	07-Apr-08A	19-Sep-13	[Red bar from FQ1 FY2008 to FQ4 FY2012]																																							
Design	02-Jan-08A	22-Apr-13	[Yellow bar from FQ1 FY2008 to FQ4 FY2012]																																							
Bid & Award	11-Mar-09A	18-Dec-13	[Orange bar from FQ4 FY2009 to FQ1 FY2010]																																							
Construction Management	04-Mar-08A	18-Dec-15	[Dark Red bar from FQ4 FY2009 to FQ4 FY2012]																																							
Construction	01-Jul-03A	18-Dec-15	[Green bar from FQ4 FY2009 to FQ4 FY2012]																																							
Closeout	21-Dec-15	17-Jun-16	[Grey bar from FQ4 FY2012 to FQ1 FY2013]																																							
CUW35801 Sunset Reservoir - North Basin (Complete	31-Mar-00A	10-Sep-10A	COMPLETED																																							
Project Management	31-Mar-00A	10-Sep-10A	[Grey bar from FQ4 FY2007 to FQ4 FY2010]																																							
Planning	31-Mar-00A	28-Sep-01A	[Cyan bar from FQ4 FY2007 to FQ4 FY2008]																																							
Environmental	21-May-04A	21-Dec-04A	[Blue bar from FQ1 FY2008 to FQ4 FY2008]																																							
Design	01-Oct-01A	12-Apr-06A	[Yellow bar from FQ1 FY2008 to FQ4 FY2008]																																							
Bid & Award	22-Oct-04A	10-Oct-06A	[Orange bar from FQ4 FY2008 to FQ1 FY2009]																																							
Construction Management	11-Apr-05A	26-Mar-09A	[Dark Red bar from FQ4 FY2008 to FQ4 FY2010]																																							
Construction	11-Apr-05A	09-Nov-09A	[Green bar from FQ4 FY2008 to FQ4 FY2010]																																							
Close Out	13-Nov-06A	10-Sep-10A	[Grey bar from FQ4 FY2010 to FQ1 FY2011]																																							
CUW37201 University Mound Reservoir - North Basin	24-Oct-05A	14-Feb-12	[Grey bar from FQ4 FY2007 to FQ4 FY2012]																																							
Project Management	24-Oct-05A	14-Feb-12	[Grey bar from FQ4 FY2007 to FQ4 FY2012]																																							
Planning	24-Oct-05A	06-Apr-07A	[Cyan bar from FQ4 FY2007 to FQ1 FY2008]																																							
Environmental	26-Dec-06A	18-Jul-07A	[Blue bar from FQ1 FY2008 to FQ1 FY2008]																																							
Design	07-Apr-07A	24-Mar-09A	[Yellow bar from FQ1 FY2008 to FQ4 FY2009]																																							
Bid & Award	02-Feb-09A	31-Jul-09A	[Orange bar from FQ4 FY2009 to FQ1 FY2010]																																							
Construction Management	03-Aug-09A	01-Sep-11	[Dark Red bar from FQ4 FY2009 to FQ4 FY2012]																																							
Construction	27-Jul-09A	01-Sep-11A	[Green bar from FQ4 FY2009 to FQ4 FY2012]																																							
Close Out	02-Sep-11A	14-Feb-12	[Grey bar from FQ4 FY2012 to FQ1 FY2013]																																							

- Project Management
- Environmental
- Right-of-Way
- Construction Mgmt
- Closeout
- Planning
- Design
- Bid & Award
- Construction
- Program Mgmt

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Project Name	Start	Finish	FY2007				FY2008				FY2009				FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017	
			FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2			
Support Projects	13-Apr-04A	29-Jul-16	COMPLETED																																									
CUW38801 Programmatic EIR (Completed)	13-Apr-04A	30-Jun-09A	COMPLETED																																									
Project Management	13-Apr-04A	30-Jun-09A	[Grey bar]																																									
Planning	13-Apr-04A	28-Feb-07A	[Cyan bar]																																									
Environmental Review	15-Jun-04A	30-Jun-09A	[Blue bar]																																									
CUW38802 Bioregional Habitat Restoration	06-Sep-06A	24-Jun-16	[Grey bar]																																									
Project Management	01-Nov-06A	24-Jun-16	[Grey bar]																																									
Planning	06-Sep-06A	31-Dec-07A	[Cyan bar]																																									
Environmental Review	03-Jan-07A	31-Aug-11	[Blue bar]																																									
Right of Way	02-Jul-08A	08-Nov-13	[Red bar]																																									
Design	16-Jul-07A	01-Dec-11	[Yellow bar]																																									
Bid & Award	04-Dec-09A	09-Jan-12	[Orange bar]																																									
Construction Management	22-Jun-10A	29-Mar-16	[Dark Red bar]																																									
Construction	06-Mar-09A	29-Mar-16	[Green bar]																																									
Closeout	23-May-14	24-Jun-16	[Grey bar]																																									
CUW39201 Program Management Project	01-Aug-05A	29-Jul-16	[Blue bar]																																									
CUW39401 Watershed Environmental Improvement P	02-Jan-07A	27-Jun-14	[Grey bar]																																									
Project Management	02-Jul-07A	27-Jun-14	[Grey bar]																																									
Planning	02-Jan-07A	29-Jul-11A	[Cyan bar]																																									
Environmental	01-Aug-11A	29-Jun-12	[Blue bar]																																									
Right of Way	14-Mar-11A	28-Mar-14	[Red bar]																																									
Design	31-May-11A	31-May-11A	[Vertical tick]																																									
Bid & Award	31-May-11A	31-May-11A	[Vertical tick]																																									
Construction Management	31-May-11A	31-May-11A	[Vertical tick]																																									
Construction	31-May-11A	31-May-11A	[Vertical tick]																																									
Closeout	31-Mar-14	27-Jun-14	[Grey bar]																																									
CUW36302 System Security Upgrades	07-Jan-06A	29-Apr-16	[Grey bar]																																									
Project Management	19-Jun-06A	29-Apr-16	[Grey bar]																																									
Planning	19-Jun-06A	08-Jul-09A	[Cyan bar]																																									
Environmental	19-Jun-06A	28-Mar-12A	[Blue bar]																																									
Right of Way	26-Nov-08A	26-Nov-08A	[Vertical tick]																																									
Design	19-Jun-06A	09-Aug-12	[Yellow bar]																																									
Bid & Award	07-Jan-06A	16-Oct-12	[Orange bar]																																									
Construction Management	13-Nov-06A	22-Jan-16	[Dark Red bar]																																									
Construction	13-Nov-06A	24-Jan-16	[Green bar]																																									
Close Out	24-Sep-07A	29-Apr-16	[Grey bar]																																									

- [Grey bar] Project Management [Blue bar] Environmental [Red bar] Right-of-Way [Dark Red bar] Construction Mgmt [Grey bar] Closeout
- [Cyan bar] Planning [Yellow bar] Design [Orange bar] Bid & Award [Green bar] Construction [Blue bar] Program Mgmt

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