



# **Ten Year Capital Improvement Program**

**For Fiscal Years 2009 - 2018**



Contra Costa Water District

**Ten-Year Capital Improvement Program  
For Fiscal Years 2009-2018**

**February 20, 2008**

**Board of Directors**

Joseph L. Campbell, President  
Elizabeth R. Anello, Ph.D, Vice President  
Bette Boatman  
John Burgh  
Karl L. Wandry

Walter J. Bishop, General Manager

## **Project Team**

Fran Garland, Principal Planner

Wayne Niehus, Rate and Financial Analyst

Jeff Quimby, Principal Engineer

Lars Sandberg, Project Controls Manager

**Table of Contents**

I.	Executive Summary .....	I-1
	2008-2017 CIP Update .....	I-1
	CIP Structure.....	I-2
	Program Highlights.....	I-3
	Operation and Maintenance Costs.....	I-6
	Financial Highlights.....	I-7
II.	Background .....	II-1
	District Mission and Goals .....	II-1
	Existing Facilities and Operations... ..	II-3
III.	CIP Context and Structure.....	III-1
	Financial Planning Context.....	III-1
	CIP Structure.....	III-2
	Development of the CIP and Financial Plan .....	III-5
IV.	Program Summary .....	IV-1
	Administrative, Support and Maintenance Facility... ..	
	Program.....	IV-2
	Delta Projects.....	IV-5
	Equipment and Other Capital Purchases Program.....	IV-7
	Expansion of Services Program.....	IV-9
	Future Water Supplies Program.....	IV-11
	Los Vaqueros Watershed and Recreation Program ..	IV-13
	Treated Water Distribution and Storage Facilities Program.....	IV-15
	Untreated Water Supply and Transport Program .....	IV-18
	Water Demand Reduction Program.....	IV-22
	Water Treatment Facility Improvements Program ....	IV-24

V.	Operating Cost Impacts of the Capital Improvement Program	V-1
	Background.....	V-1
	Summary of Operating Cost Impacts.....	V-2
VI.	Financial Plan .....	VI-1
	Key Planning Assumptions .....	VI-1
	Projected Revenues.....	VI-6
	Projected Expenditures .....	VI-10
	Capital Project Impacts on Revenue Requirements...	VI-12
VII.	Project Summaries .....	VII-1
	Administrative, Support and Maintenance Facility Improvement.....	VII-1
	Delta Projects.....	VII-4
	Equipment and Other Capital Purchases .....	VII-6
	Expansion of Services .....	VII-14
	Future Water Supplies .....	VII-16
	Los Vaqueros .....	VII-18
	Treated Water Distribution and Storage Facilities ....	VII-21
	Untreated Water Supply and Transport .....	VII-33
	Water Demand Reduction.....	VII-46
	Water Treatment Facility Improvements .....	VII-50
VIII	Exhibits	
	List of Abbreviations .....	VIII-1
	Glossary .....	VIII-3
IX.	Index .....	IX-1

## **Section I**

# **EXECUTIVE SUMMARY**

## **Section I: Executive Summary**

---

The Ten-Year Capital Improvement Program (CIP) identifies and prioritizes the capital assets required over the next ten years for Contra Costa Water District (CCWD or District) to successfully carry out the District's mission to "...strategically provide a reliable supply of high quality water at the lowest cost possible, in an environmentally responsible manner." The CIP contains the Ten-Year Financial Plan that projects revenue requirements and long-term rate impacts to fund the proposed projects and anticipated operating costs. The CIP and Financial Plan are updated annually as part of an ongoing financial planning cycle that includes bi-annual budgets and annual rate reviews.

### **2009 – 2018 CIP Update**

The proposed CIP for fiscal years 2009 - 2018 (2009 CIP) includes 55 projects with a total estimated cost of approximately \$525.2 million. CIP projects are ranked in three priority levels. The Financial Plan assumes that priority level 1 and 2 projects totaling \$362.9 million are funded. This funded level is \$4.4 million lower than the 2008 CIP funded level (\$367.3 million) and is the net result of adding new projects, adjusting cost estimates to reflect new information, and progress toward project completion. The 2009 CIP continues the aggressive implementation of the Alternative Intake Project, which will further the District's commitment to improving water quality by building a new intake in the Delta to increase access to high-quality water year-round. Design of this important project has been completed and the District is moving forward with an accelerated construction schedule and an in-service date of July 2010, a full year earlier than the schedule in last year's CIP. Another significant project reaching a milestone in this CIP is the potential expansion of the Los Vaqueros Reservoir. The 2009 CIP includes completion of the planning and environmental studies for this project, which will clear the path for design and construction of an expanded reservoir of up to 275,000 acre-feet. Design and construction costs for this project will depend on regional, federal, or state partnership agreements. Next year's CIP will reflect the results of these partnership agreements.

The Financial Plan anticipates the cost of water increasing at 10.5% annually as result of the Delta Vision process and the Bay Delta Conservation Plan (BDCP), which is 1.5 times the rate previously assumed. Both processes include the assessment of charges for diversion of water from the Delta. The Delta Vision Task Force recommended a stable source of funding for the Delta. The BDCP process will include ecosystem restoration projects that have a local cost component. As a proactive measure to ensure the financial impacts of this additional expense are minimized, this CIP includes a total of \$18 million in revenues between Fiscal Year (FY) 2010 and FY2018 to cover these costs.

All of the priority level 1 and 2 projects in the 2009 CIP can be funded and all operating costs and debt service obligations met with modest revenue increases over the ten-year CIP planning period. The proposed rate increases meet the Board's rate policy that all projected rate increases must be at or below annual inflation. Projected untreated water and treated water revenue increases do not exceed assumed inflation in any year, and the highest projected annual revenue increase over ten years is 3.75 percent. The District is able to achieve these consistently modest increases by reducing controllable operating costs, increasing competitiveness through expansion of service, investing in employee productivity through training, improved support

facilities and equipment, and use of reserves to reach Board established levels over the ten-year CIP period consistent with the reserve policy.

### **CIP Structure**

The CIP is organized into ten separate program areas, each representing a different function of the District. Organizing projects by function allows the CIP to be viewed as a series of programs for improvements in specific areas of District responsibility. The ten programs are:

- Administrative, Support and Maintenance Facility Improvement
- Delta Projects
- Equipment and Other Capital Purchases
- Expansion of Services
- Future Water Supplies
- Los Vaqueros Watershed and Recreation
- Treated Water Distribution and Storage Facilities
- Untreated Water Supply and Transport
- Water Demand Reduction
- Water Treatment Facility Improvements

Significant elements of each of the ten program areas are summarized in the Program Highlights section later in this Executive Summary. A more detailed description of the programs is included in Section IV: Program Summary.

Within each program area, projects are prioritized according to a standard set of criteria that measure the relative importance of a project based upon factors such as protection of health and safety, legal requirements, relationship to District goals, and rate of return on the District's investment. The priority levels provide a basis for deciding which projects should be done in any given year. They also provide a basis for scheduling projects over the ten-year span of the CIP.

The following three levels are used to reflect a range of priorities from high to low:

**Priority Level 1** -- These are the highest priority capital projects. They include projects already under construction and those required by legislation, regulation, contract, or for protecting health and safety. Priority level 1 also includes applicant and grant-funded projects.

**Priority Level 2** -- These are projects that provide measurable progress toward achieving the District's goals, but over which the District has a moderate level of control as to when they should be performed. Where return on investment is a determining factor, projects in this priority level will have a payback of less than five years.

**Priority Level 3** -- These are projects that are projected to be needed, but over which the District has a significant level of control as to when they should be performed or the District is awaiting response to a grant application. Where return on investment is a



determining factor, projects in this priority level will generally have a payback of greater than five years.

A more detailed description of the prioritization system is provided in Section III: CIP Context and Structure.

### **Program Highlights**

Each of the ten programs addresses a specific area of capital investment. Highlights of each program, including the planning basis, significant projects or capital improvements, and expected contributions to meeting CCWD's goals, are presented below.

**Administrative, Support and Maintenance Facility Improvement** -- Buildings and facilities not directly involved in the treatment, transmission, or storage of water are organized within this program. The planning basis is the Facilities Master Plan. Estimated funding required for this program is \$8 million over the ten-year CIP period, with \$4.3 million for the Annual Building and Facility Improvements (priority level 1). The Annual Building and Facility Improvements project provides for capital replacement of and improvements to existing District buildings and grounds. A new Energy Demand Reduction Project (\$150,000, priority level 2) has been added to identify strategies to reduce energy cost and to ensure the District is well positioned to meet any new greenhouse gas emission regulations.

**Delta Projects** -- This program includes water quality and reliability improvement projects being managed by the District under contract with the State or projects that implement Delta water quality objectives. Estimated funding for this program is approximately \$96.3 million over the ten-year CIP period. Sources of funding include State agencies, CCWD revenues, and other local agencies. There are two projects in this program, Los Vaqueros Reservoir Expansion Project (priority level 2, \$7.7 million) and the Alternative Intake Project (priority level 2, \$88.5 million).

The Los Vaqueros Reservoir Expansion Project is a project being managed by the District on behalf of State and federal agencies. The remaining planning level effort is focused on completing environmental and engineering studies including an Environmental Impact Report/Environmental Impact Study (EIR/EIS) and a public outreach program.

Funding assumptions for the Alternative Intake Project have been modified to reflect current cost estimates and prospects for State and federal funding. Total project costs are approximately \$111 million, with \$22.7 million projected to be spent through FY2008 and \$88.5 million included in this CIP. The Alternative Intake Project is a pivotal initiative in meeting the District's goal of improving drinking water quality. Source water quality will be improved with this project operational. Chloride levels in Victoria Canal during the summer and fall are lower than the District's other Delta intakes, thereby reducing the need for Los Vaqueros blending and saving more water in the reservoir.

**Equipment and Other Capital Purchases** -- The District has an ongoing need to invest in new or replacement capital equipment. Equipment replacement schedules are based on useful life, or when it is most cost effective based on anticipated future operating and repair costs. This

program includes nine projects for purchases of capital equipment totaling approximately \$14.8 million. Significant projects include:

- Fleet Vehicles and Heavy Equipment Replacement (priority level 2, \$7.6 million)
- GIS Implementation (priority level 2, \$0.7 million; level 3, \$0.3 million)
- Replacement/Upgrade of Computer Systems (priority level 2, \$2.5 million)
- Replacement/Upgrade of Network Systems and Hardware (priority level 2, \$1.2 million)

The Replacement/Upgrade of Computer Systems (Financial, Customer Information, and Human Resources Information Systems; formerly referred to as the Mainframe Computer) needs to be completed every seven to eight years based on hardware and software life cycles. The next replacement is scheduled for FY2011 – FY2012. The fleet vehicle and heavy equipment replacement program is funded from the Vehicle Replacement Fund. The Vehicle Replacement Fund, established in 1989, is a sinking fund with consistent annual contributions reflected in the ten-year Financial Plan. Continued implementation of a District-wide Geographic Information System (GIS) is included in this CIP following completion of the master plan in FY2007. The GIS is anticipated to result in significant operational efficiencies through improved utilization and management of District facilities, resources, and assets.

**Expansion of Services** -- The purpose of this program is to increase the competitiveness of the District through expanding services. Service expansion diversifies revenue sources and increases efficiencies through improved utilization of existing assets (e.g., sharing treatment plant facilities). This program includes \$49.5 million in capital improvements. The most significant project in this program is the CCWD/Brentwood Water Treatment Plant project (priority level 1, \$5.4 million) that includes design and construction of treatment facilities at Randall-Bold dedicated to serve Brentwood. Construction of the new 12 million gallon per day (MGD) plant is ahead of schedule and is anticipated to come online in July 2008. The new facilities are being funded by the City and will be owned and operated by the District. A 15 MGD expansion of this facility (priority level 1, \$44 million) is also included in the later years of the CIP. The expansion will serve the ultimate needs of the City of Brentwood and will be fully paid for by the City.

**Future Water Supplies** -- This program includes \$10 million in projects related to meeting future water supply requirements except conservation projects, which are in the Water Demand Reduction program. The program includes two projects, both priority level 2: 1) periodic updates to the Future Water Supply Study (\$0.4 million), and 2) a placeholder for water supply projects (\$9.6 million). The water supply projects in this program will serve future growth and are fully funded from Facility Reserve Charge (FRC) revenues. These projects help meet CCWD's goals of increasing water supply reliability (meeting all demands in normal years and at least 85% of supply in dry years for existing and future customers).

**Los Vaqueros Watershed and Recreation** -- The projects in this program total \$5.1 million and provide for renewal and replacement of recreation equipment and facilities (Recreation Facilities and Equipment, priority level 2, \$1.3 million), Watershed Improvements (priority level 2, \$2.3 million), and Land Acquisition and Real Property Management (priority level 2, \$1.4 million). Projects within this program are based on the Resource Management Plan and Recreation Plan for the Watershed. The Watershed projects are predominantly focused on meeting regulatory

permit requirements and helping to maintain water quality in the reservoir. This program also includes funding for projects that may increase revenues through leases of District lands for grazing, wind power, or other enterprises.

**Treated Water Distribution and Storage Facilities** -- This program is vital to maintaining the level of service, quality, and safety of the District's existing treated water system, as well as providing for expansion to meet future needs. The program relies on the following planning studies: 1) the Treated Water Master Plan (TWMP), approved in 2007; and 2) the Treated Water Renewal and Replacement Study (2005). Investments of approximately \$74.6 million over the ten-year CIP period are projected for this program. Of this, approximately \$51 million is to upgrade existing facilities—investments that directly advance the goals of increasing system reliability and improving delivered water quality. These projects also improve efficiencies and customer satisfaction. The program also includes \$1.4 million in new facilities to serve growth and an additional \$18.5 million is estimated for applicant-funded projects. Significant projects within this program include the following:

- Distribution Facilities (applicant projects) (priority level 1, \$18.5 million)
- Pipeline Renewal/Replacement (priority level 2, \$22 million)
- Port Chicago Pipeline Phase II (priority level 1 \$1.2 million)
- TW Facilities Improvement Program (priority level 2, \$16 million)
- TW Reservoir Rehabilitation (priority level 2, \$7 million)

Funding for rehabilitation projects is from treated water rate revenues. Funding for new facilities is split between treated water rate revenues and FRC revenues, depending on whether the facility is for growth or to improve efficiencies.

**Untreated Water Supply and Transport** -- The projects in this program serve to improve source water quality and to replace, expand, and improve the District's untreated water facilities. The planning bases are diverse and include the Untreated Water Facilities Improvement Plan and the Seismic Reliability Improvement Plan. The funding estimate for this program is approximately \$145.1 million. Significant projects within this program include the following:

- Canal Replacement Project (priority level 1, \$13.5 million; level 2, \$13 million; priority level 3, \$55.3 million)
- Los Vaqueros Energy Recovery (priority level 2, \$4.6 million)
- Untreated Water Data Logger Replacements (priority level 2, \$2 million)
- Untreated Water Facilities Improvement Program (priority level 2, \$19.6 million)
- Untreated Water Pipeline (priority level 2, \$20.1 million)

This program includes the Canal Replacement Project that improves source water quality, improves flood protection, and enhances public safety in areas adjacent to the unlined canal. Much of this project will be funded by others, including Reclamation, developers, State bond funds, and other State and federal funding programs. This project helps the District achieve its goal of improving water quality. The Untreated Water Facilities Improvement Program funds renewal and replacement of pumping and conveyance facilities and includes such activities as canal lining replacement and pump station rehabilitation. Overall, the Untreated Water Supply and Transport program contains approximately \$42 million for renewal and replacement of

existing untreated water facilities. This investment directly advances the goal of increasing system reliability. Construction of the Untreated Water Pipeline (the “Green Line”) is included in the latter portion of the ten-year CIP window. This project is scheduled to begin in FY2014 and will include a 36 MGD pump station and a four-mile untreated water pipeline to parallel the existing Canal and increase conveyance capacity and improve system reliability. The \$4.6 million Los Vaqueros Energy Recovery project has been moved from a priority 3 to a priority 2 and grants are being sought to fund up to 50% of the project costs.

**Water Demand Reduction** -- Activities in this program relate to planning and implementation of water conservation projects required to meet future water needs and the Best Management Practices (BMPs) required by the Central Valley Project Improvement Act (CVPIA) and the State Memorandum of Understanding regarding urban conservation. The Water Conservation Incentives project (\$8 million) consists of rebates for high efficiency toilets and water-conserving horizontal axis washing machines. Conservation incentives are expected to produce cumulative water savings of over 16,000 acre-feet over the ten-year CIP period. Three additional BMP projects that are funded in the annual operating budget are also included in this program. They are captured in the CIP so that all activities for conservation can be viewed together. The operating project costs are not included in CIP capital cost totals, but are shown as a component of the projected operating costs.

**Water Treatment Facility Improvements** -- This program contains capital improvements related to the District's water treatment facilities. The projects were identified in the Water Treatment Plant (WTP) Master Plan (2003). Estimated costs for the program are \$113.9 million, including \$17 million in priority level 2 projects to renew, replace, and enhance existing treatment facilities. These projects result in improved drinking water quality and increased system reliability. The priority level 3 costs are primarily related to the Membrane Filtration Placeholder (\$80 million), a water quality improvement project that may be necessary if Delta water quality degrades or if future new regulations require advanced treatment. Significant projects in this program include:

- Bollman WTP Improvements (priority level 2, \$10.7 million; priority level 3, \$5.2 million)
- City of Brentwood WTP Improvements (priority level 2, \$1.9 million; priority level 3, \$0.6 million)
- Membrane Filtration Placeholder (priority level 3, \$80 million)
- Randall-Bold WTP Improvements (priority level 2, \$4.3 million; priority level 3, \$4.7 million)

### **Operation and Maintenance Costs**

The Financial Plan considers total District operating costs in its analysis, including current operating costs inflated over time, as well as future costs related to implementing the CIP projects. Projected operating costs for the first year of the 2009 CIP are \$66.9 million. The actual operating expenses for FY2009 will be determined through the budget process. Future operating costs are assumed to increase by 4% annually, with the exception of CVP water costs that increase at approximately twice the rate of inflation. Operating cost impacts resulting from capital projects are incorporated into the operating cost projections in the year the facility comes on line. In addition, the Financial Plan anticipates an increase in water costs of \$18 million

between FY2010 and FY2018 as a result of the implementation of the Delta Vision and BDCP process.

Estimates of operating costs for each project are documented in the project summaries. CIP Section V: Operating Impacts of the Capital Improvement Program, includes an analysis of operating costs, including labor, related to implementing the CIP. In the tenth year of the CIP, the annual increase in operating costs related to implementing all of the priority level 1 and 2 projects in the CIP is estimated to be approximately \$2.6 million, including nine additional full time employees. Operating costs for the CCWD/Brentwood Water Treatment Plant will be funded by the City, which accounts for approximately 80% of the projected increase.

### **Financial Highlights**

The financial information in the CIP has been updated to include actual operating and capital expenditures and reserve balances through FY2008, and revised revenue projections and anticipated costs projected for the ten-year CIP period. The Financial Plan reflects the District’s continued commitment to provide outstanding customer service while controlling costs that impact water rates. It also reflects continued compliance with the District’s bond covenants including maintaining a debt service coverage ratio of at least 1.25 times annual debt service. Projected coverage ratios in this ten-year Financial Plan range from 2.0 to 1.43 times annual debt service. All of the priority level 1 and 2 projects can be funded and all operating costs and debt service obligations met with minimal, orderly revenue increases over the ten-year CIP planning period. The proposed rate increases meet the Board’s rate policy that all projected rate increases must be at or below the assumed annual rate of inflation. Projected untreated water and treated water revenue increases do not exceed assumed inflation in any year, and the highest projected revenue increase is three percent. Highlights of the ten-year Financial Plan are presented below.

#### Capital Projects and Funding Sources

The total cost of projects in the CIP is approximately \$525.2 million, an increase of approximately \$22 million from the 2008 CIP. The increase in total CIP costs is the net result of inflation, adding new projects, and adjusting cost estimates to reflect new information and progress towards completion. The Financial Plan assumes priority level 1 and priority level 2 projects are funded. Priority level 1 and priority level 2 projects total approximately \$362.9 million in the 2009 CIP. As shown in Table I-1, this total is approximately \$4.4 million less than the priority level 1 and 2 totals in the 2008 CIP. The lower costs reflect progress on several of the District’s larger projects, including completion of the design for the Alternative Intake Project and accelerated construction of the CCWD/Brentwood Water Treatment Plant. Priority level 3 projects have increased by approximately \$26 million over the 2008 CIP. The

Priority Level	2009 CIP Costs	2008 CIP Costs
1	\$ 100.2 million	\$123.8 million
2	\$ 262.7 million	\$243.5 million
<b>Subtotal</b>	<b>\$ 362.9 million</b>	<b>\$367.3 million</b>
3	\$ 162.3 million	\$136.1 million
<b>Total</b>	<b>\$ 525.2 million</b>	<b>\$503.4 million</b>

**Table I-1 CIP Project Cost Comparison  
by Priority**

primary driver is an \$18 million increase in the cost estimate for the Membrane Filtration Placeholder project based on updated project cost information.

As shown in Table I-2, of the \$362.9 million in funded project costs, approximately \$196.5 million are revenue funded (54%), \$146.3 million are funded by others (40%), and \$20.1 million (6%) are debt-funded. For comparison purposes, the funding sources for the 2008 CIP are also shown.

The decrease in debt-funded Brentwood reflects the City of Brentwood’s decision to issue long-term debt for the new water treatment plant and progress on construction. Funded by others has increased by approximately \$22 million driven primarily by outside funding being pursued for the Canal Replacement Project. Funded by others also includes \$30 million in State and federal funds for the Alternative Intake Project. The District has secured approximately \$6 million for this project, however the likelihood of additional funding is uncertain. This uncertainty has been considered in the projected revenue increases for both untreated and treated water. Revenue-funded projects have increased by \$7.3 million which is the net result of inflation, updated cost information, and progress on projects. The revenue-funded category also includes the use of commercial paper as a short-term cash flow tool for the Alternative Intake Project to take advantage of favorable interest rates. The related commercial paper will be retired by 2014 using CCWD reserves, but enables CCWD to maintain its reserve investments at a higher rate of return during construction.

Funding Source	2009 CIP Costs	2008 CIP Costs
Debt-funded CCWD	\$ 20.1 million	\$ 18.7 million
Debt-funded Brentwood	\$ 0	\$ 35.4 million
Funded by others	\$146.3 million	\$124.0 million
Revenue-funded	\$196.5 million	\$189.2 million
Total	\$362.9 million	\$367.3 million

**Table I-2 CIP Priority Level 1 and 2 Project Cost Comparison by Funding Source**

CIP funding by fiscal year for priority levels 1 and 2 projects is shown in Table I-3. For comparison purposes, the estimated costs from the 2008 CIP are also shown. The total CIP costs for priority level 1 and 2 projects are down slightly from the 2008 CIP (\$362.9 million versus \$367.3 million).

**Table I-3 Priority Level 1 and 2 Project Costs by Fiscal Year**  
(in millions of dollars, current dollars)

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
2009 CIP	N/A	77.0	66.8	29.5	25.2	26.1	26.1	42.8	33.5	21.4	14.7	362.9
2008 CIP	61.7	55.8	61.3	38.4	17.2	21.5	23.5	34.0	31.8	22.2	N/A	367.3

Revenue-Funded Capital and Debt Service Costs

The District’s annual investment in capital facilities is the sum of revenue-funded capital costs and existing and future debt service costs. CCWD currently pays debt service for Los Vaqueros, Randall-Bold, the Bisso Administration Building, the Multi-Purpose Pipeline and other seismic projects. The District also has low interest State Revolving Fund (SRF) loans for the Bollman Safety and Water Quality (SWQ) Project, the Contra Loma Swim Lagoon, and the Bollman Sedimentation Basin project. Rates are set to meet capital and debt service costs as well as District operating costs. Table I-4 shows a comparison of untreated and treated water capital and debt service costs by fiscal year between the 2009 CIP and the 2008 CIP for priority level 1 and 2 projects.

**Table I-4 CIP Capital and Debt Service Cost Estimate  
Comparison by Fiscal Year for Untreated and Treated Water  
Priority Level 1 and 2 Projects**  
(in millions of dollars, inflated dollars)

a) Untreated Water

CIP	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
2009	N/A	42.6	48.6	50.3	66.9	65.4	64.7	57.7	44.7	44.7	45.6	531.2
2008	50.2	64.0	82.2	45.2	44.1	43.2	43.8	48.7	44.3	44.9	N/A	510.6

b) Treated Water

CIP	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
2009	N/A	16.3	18.2	14.9	13.3	12.6	14.8	13.3	15.6	13.7	17.9	150.6
2008	22.4	14.3	16.5	17.1	15.4	15.0	16.3	15.6	18.0	20.1	N/A	170.7

The increase in untreated water costs is predominantly due to increases in the cost estimates for the Future Water Supplies Placeholder (\$8.3 million) and the Alternative Intake Project (\$11 million). The cost of the large water purchase identified in FY2015 was updated based on the District’s anticipated supply need and recent water cost information. This water purchase is FRC funded and does not impact rates. The cost estimate for the Alternative Intake Project was updated to reflect refinements made during design.

There was a decrease in treated water costs of approximately \$20 million over the ten-year period. The primary driver for the decrease is the City of Brentwood’s decision to finance construction of the new CCWD/Brentwood water treatment facilities. The 2008 CIP assumed that the District would be financing the new treatment plant with all costs reimbursed by the City.

Revenue Increase Projections

The projected untreated and treated water revenue increases required to fund priority level 1 and level 2 projects, while covering operating costs and debt service and maintaining required reserve balances, are shown on Tables I-5 (a) and (b), respectively. For comparison purposes, projected water revenue increases from the 2008 CIP are also shown. These are preliminary projections only. The Board of Directors determines actual revenue increases at the time of each annual rate study.

**Table I-5(a) Projected Untreated Water Revenue Increases Comparison  
Priority Levels 1 and 2 Projects**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
2009 CIP	N/A	3.0%	3.25%	3.5%	3.5%	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%
2008 CIP	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	N/A

**Table I-5(b) Projected Treated Water Revenue Increases Comparison  
Priority Levels 1 and 2 Projects**

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
2009 CIP	N/A	3.0%	3.15%	3.3%	3.3%	3.3%	3.3%	3.5%	3.5%	3.5%	3.5%
2008 CIP	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	N/A

Implementing the 2009 CIP will require annual untreated revenue increases ranging from 3% to 3.75%. Projected treated water revenue increases range from 3% to 3.5%. Both the untreated and treated water revenue increases consider the potential that not all of the outside funding for the Alternative Intake Project will be secured. Because the Board reviews and considers rate adjustments on an annual basis, outside funding actually secured for District projects will be incorporated in future CIPs and rate analyses.

These revenue increases are higher than those projected in the 2008 CIP. These increases are primarily the result of anticipated higher water costs due to implementation of the Delta Vision and BDCP process. Projected revenue increases remain consistent with the Board’s policy of keeping increases at or below the long-term rate of inflation (4%).



## **Section II**

# **BACKGROUND**

## Section II: Background

---

The Ten-Year Capital Improvement Program (CIP) and Financial Plan are annually updated as authorized under Contra Costa Water District (District) Code of Regulations Chapter 7.16.030.B. The CIP provides a comprehensive view of the asset investments required over the next ten years to meet the mission and goals of the District. The Financial Plan projects operating costs and reserve balances, and estimates revenue requirements necessary to fund the required projects and operate the District. This comprehensive approach provides an opportunity for the District to prioritize capital investments, monitor progress toward meeting its goals, manage cash flow, diversify revenue sources, and project rates and charges over ten years.

The 2009-2018 CIP is an update of the previous CIP covering fiscal years 2008-2017, adopted by the Board on February 21, 2007. Board adoption of the CIP establishes the scope and estimated costs of various capital projects designed to meet the long-term needs of the District. Adoption does not commit funds or authorize projects. Project approvals and funding are obtained through the budget process.

The District's mission and goals are set forth below. Also included is an overview of existing facilities and operations to provide context for the projects and programs in the CIP.

### **District Mission and Goals**

The Mission Statement represents the District's statement of purpose. The statement includes a set of seven values that govern how the District will conduct itself in meeting its mission. Ten major goals were developed to measure the success of meeting the purpose as defined by the Mission Statement, and Key Performance Measures have been developed to assess the District's progress in meeting those goals. The Mission Statement and District Goals were established by the Board and guide the development of the CIP and Financial Plan and are explained in more detail below.

#### Mission Statement

The mission of the Contra Costa Water District is to strategically provide a reliable supply of high quality water at the lowest cost possible, in an environmentally responsible manner.

In fulfilling this mission, The District will:

- Responsibly serve the public
- Provide District employees a safe and healthy work environment
- Ensure fair and equitable rates and charges
- Work cooperatively with local, regional, state, and federal agencies
- Practice ethical behavior
- Ensure an open process

- Ensure equal opportunity and diversity in personnel matters and contracting

### District Goals

The goals of the Contra Costa Water District are:

1. Ensure that the District delivers high quality and reliable water supplies for current and future needs.
2. Provide excellent customer service and high levels of customer satisfaction.
3. Plan, design, and construct high quality facilities consistent with District needs and industry standards.
4. Effectively manage the District's financial resources in conformance with Board policies.
5. Ensure that all District activities surpass all applicable laws and regulations.
6. Operate, maintain, and protect District facilities in a safe and cost-effective manner.
7. Provide leadership in water affairs.
8. Actively enhance effective community relations and public information.
9. Create and maintain a work environment that fosters teamwork and individual excellence.
10. Manage and maintain Reclamation and District natural and recreation resources, and protect public safety and water quality.

### Key Performance Measures

The purpose of the Key Performance Measures is to provide the Board with a summary tool for assessing the District's progress in meeting its goals. The five measures are:

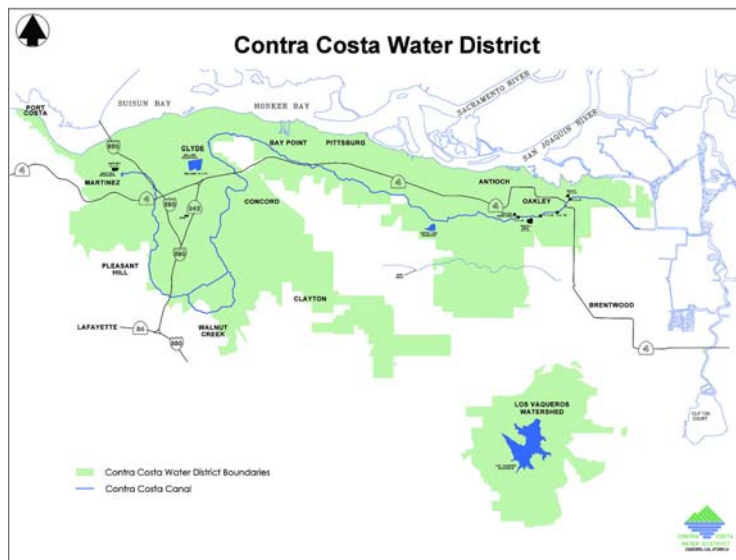
- Customer Service – Achieve sustained improvement in customer ratings of their satisfaction levels for contacts with District employees on a satisfaction scale from poor to excellent.
- Water Production – Hold increases in operating labor costs per equivalent connection at less than annual inflation.
- Employee Safety – Reduce the number of calendar year recordable accidents and lost workdays to achieve frequency and severity rates for industrial injuries below the District's five year rolling average.
- Water Quality/Reliability – Have no reportable Department of Health Services violations and no excesses of the Maximum Contaminant Level for substances listed in the Annual Water Report.
- Capital Projects – Ensure all District costs for administration, planning, design, and construction management on completed projects be less than the District's five year rolling average without reducing quality or performance.

## Existing Facilities and Operations

The District provides water to approximately 550,000 people in Contra Costa County. In performing this service, the District operates and maintains a complex system of water transmission, treatment, and storage facilities to supply both treated and untreated (raw) water to its customers.

The Contra Costa County Water District was approved by the voters in 1936 as the legal entity to contract, purchase, and distribute water provided by the U.S. Bureau of Reclamation through the Contra Costa Canal. (In 1981, "County" was dropped from the name, leaving Contra Costa Water District.) The 48-mile canal conveys water from the Sacramento-San Joaquin Delta, through Rock Slough and Old River, to eastern and central Contra Costa County.

The District's service area encompasses most of central and northeastern Contra Costa County, a total area of more than 137,127 acres (including the Los Vaqueros watershed area of approximately 19,100 acres). Water is provided to a combination of municipal, residential, commercial, industrial, landscape irrigation, and agricultural customers. Major untreated water municipal customers include the Golden State Water Company (Bay Point), Diablo Water District (Oakley), and the Cities of Antioch, Pittsburg, and Martinez. Treated water is distributed to customers living in the following communities: Clayton, Clyde, Concord, Pacheco, Port Costa, and parts of Martinez, Pleasant Hill, and Walnut Creek. In addition, CCWD treats and delivers water to the City of Brentwood, Golden State Water Company (Bay Point), Diablo Water District (DWD), and the City of Antioch.



**Figure II-1 District Service Area**

For the first 25 years of its existence, the District's main responsibility was the purchase and distribution of untreated water through the Contra Costa Canal. The cities and other water utilities within the District were responsible for treating water used by their customers. However, in the late 1950s, many citizens and public officials became concerned about the quality and cost of the water in the central county area. To solve this problem, the District purchased the California Water Service Company's Concord-area

treatment, pumping, storage, and distribution facilities. In 1968, the District replaced the old treatment facilities with the construction of its own Ralph D. Bollman Water Treatment Plant in Concord. The Bollman plant and the Randall-Bold Plant built in 1992

now provide treated water to approximately 265,000 people in the central county area and by contract to Bay Point. The Randall-Bold Water Treatment Plant in Oakley is jointly owned with DWD. The Randall-Bold plant provides treated water to DWD, and by contract, to the City of Brentwood and the City of Antioch and new growth in Central County. The Multi-Purpose Pipeline, constructed in 2003, transports treated water to new customers in Central County from the Randall-Bold plant.

### Water Supply

The District is a Central Valley Project (CVP) contractor, historically relying almost entirely on the federal government (the United States Bureau of Reclamation) to supply its water through the Sacramento-San Joaquin Delta. The 2005 Long-Term Renewal Contract with Reclamation provides for the operation of the Los Vaqueros Project, and for a maximum delivery of 195,000 acre-feet per year from the CVP, with a reduction in deliveries during water shortages including regulatory restricted and drought years. The Long-Term Renewal Contract was executed in May 2005 and is consistent with the Central Valley Project Improvement Act of 1992.

Other District supplies include water rights at Mallard Slough (License No. 10514 and Permit No. 19856) for a maximum diversion of Delta water of up to 26,700 acre feet per year. This water is subject to quality degradation and can only be used intermittently. On June 2, 1994, the State Water Resources Control Board issued Water Rights Decision 1629 that gives CCWD additional rights to divert and store water for beneficial uses. The State Board subsequently issued Water Rights Permits No. 20749 and 20750 for filling Los Vaqueros Reservoir from the new intake at Old River near Highway 4 and diversion and storage of the water of Kellogg Creek. These rights are in addition to the contractual rights to divert and store water furnished through the CVP. Construction of the reservoir began in September 1994 and was completed in January 1998. Diversion from the Old River intake for delivery to CCWD's service area began in the summer of 1997. Up to 95,850 acre-feet annually may be diverted for storage between November 1 of each year to June 30 of the succeeding year under Water Rights Permit No. 20749. On January 28, 1999, the Los Vaqueros Reservoir was filled to 100,000 acre-feet for the first time. In February 1999, CCWD released water from the reservoir for the first time for use in the District's service area. Releases were scheduled in compliance with the project's Biological Opinions to allow CCWD to cease all diversions from the Delta and provide benefits to Delta fisheries. Additionally, releases of high quality reservoir water have been used to blend with Delta water to improve delivered water quality as needed.

Additionally, the District has a contract with the East Contra Costa Irrigation District (ECCID) for untreated water that can be used in areas in East County within the boundaries of both the District and ECCID, and for additional drought supplies available through groundwater exchange. The District has an ongoing program to obtain additional sources for use during drought and to provide for future demands.

An intertie connecting the Los Vaqueros Pipeline with East Bay Municipal Utility District's (EBMUD) Mokelumne Aqueducts in Brentwood has recently been completed and will enable the wheeling of a portion of the District's CVP water via the Freeport

project and the Mokelumne Aqueducts. The intertie will also function as an emergency connection between EBMUD and the District, enabling the districts to share water resources in an emergency. EBMUD recently requested CCWD's assistance to wheel water from the Delta to EBMUD's Mokelumne Aqueduct if EBMUD's storage is below their drought target levels and until EBMUD's Freeport project comes on line. Up to 15,000 acre feet per year of EBMUD's Central Valley Project water would be pumped from the Delta at Old River through CCWD's Los Vaqueros Pipeline to EBMUD's Mokelumne Aqueduct.

### Water Quality

CCWD's mission is to "strategically provide a reliable supply of high-quality water at the lowest cost possible, in an environmentally responsible manner." CCWD obtains its water supply exclusively from the Sacramento-San Joaquin Delta (Delta) and serves treated and raw (untreated) water to approximately 550,000 people in central and eastern Contra Costa County. All of CCWD's intakes are subject to variations in water quality caused by salinity intrusion, Delta hydrodynamics, and discharges into the Delta and its tributary streams from both point and non-point sources. Since 1992, CCWD has spent over \$1 billion on capital improvements, including \$450 million on the Los Vaqueros Project, as well as over \$200 million on projects directly related to improving water quality and the security of CCWD's water delivery system (such as improvements at both Bollman and Randall-Bold Water Treatment Plants, construction of the Multi-Purpose Pipeline, improvements at Contra Loma Reservoir, and other CCWD projects). Notwithstanding these efforts, Delta water quality at CCWD's intakes (as measured by chlorides) has declined significantly over the last twenty years, affecting the reliability of CCWD's supplies and its ability to consistently provide high-quality water to its customers. The increase in chlorides directly impacts the performance of the Los Vaqueros project by requiring additional blending releases from the reservoir to meet the District's delivered chloride goal of 65 milligrams per liter.

CCWD is implementing a comprehensive water quality strategy to protect and improve source and treated water quality for its customers. CCWD's multi-pronged approach includes seeking improved water quality sources, reducing impacts of Delta agricultural drainage on source water quality, participating in collaborative research on advanced water treatment of Delta water, and supporting regulatory and legislative initiatives for improving drinking water quality and source water protection.

### Untreated Water System

The Contra Costa Canal is the District's major water supply facility, with a four-mile earth lined channel starting at Rock Slough leading into the 44-mile concrete-lined facility. The canal passes through many of the cities and communities in the northeastern and central county areas before ending at the Martinez Reservoir. Water is supplied to the canal from Old River via the Los Vaqueros Project pipelines and from Mallard and Rock Slough. A series of four pump stations (Pumping Plants One through Four) lift the water from Rock Slough to a height of 126 feet above sea level, after which gravity propels the water to its terminus in Martinez. Four reservoirs - Contra Loma Reservoir,

Martinez Reservoir, Mallard Reservoir, and Los Vaqueros Reservoir - provide approximately 110,000 acre-feet of storage capacity.

The Los Vaqueros Project was completed in 1998 and includes a 100,000 acre-foot reservoir, intake and pump station at Old River, and transmission facilities. Water diverted from Old River can be stored in the Los Vaqueros Reservoir or conveyed by pipeline to the canal system. In addition to emergency storage, the Los Vaqueros Reservoir provides high quality water for blending when Delta quality is degraded. Contra Loma Reservoir is used to provide emergency storage, to regulate flows in the Canal, to meet peak flows, and to provide back up during canal maintenance. Mallard Reservoir and Martinez Reservoir serve as terminal storage for flow regulation and emergency use.

An automated computer system called SCADA monitors and controls both the untreated and treated water systems, turning pump stations on and off, opening and closing valves, and regulating reservoir levels. The system uses microwave radio signals to communicate with instrumentation located throughout the untreated and treated Water systems.

### Treated Water System

The District operates two water treatment facilities, the 75 million gallons per day (MGD) Bollman Water Treatment Plant and the 40 MGD Randall-Bold Water Treatment Plant. The Bollman plant serves the District's treated water customers in Central County, and under special agreement, provides treated water to Bay Point. The Randall-Bold Plant in Oakley, which came on line in July 1992, currently provides treated water to the Diablo Water District and the Cities of Brentwood and Antioch. The Randall-Bold plant also serves new growth in Central County. The Multi-Purpose Pipeline, constructed in 2003, is primarily intended to transport treated water from Randall-Bold to new customers in Central County, but can also transport treated water from Central County to Randall-Bold. In the event of a major emergency, the Multi-Purpose Pipeline can also pump untreated water for fire suppression. A 12 MGD water treatment facility is currently under construction at the Randall-Bold site to serve the City of Brentwood.

Treated water distribution facilities include more than 800 miles of pipeline and 41 active storage reservoirs. Total treated water storage capacity is approximately 72 million gallons. Thirty pump stations are used to deliver the water and maintain water pressure within the distribution system. There are approximately 60,636 active service connections to the treated water system, servicing approximately 137,672 equivalent 5/8-inch connections.

New facilities are regularly added to the treated water system to meet new demands, increase reliability, improve operating efficiencies, and ensure service standards are met. These new facilities are identified and prioritized in a Treated Water Master Plan (TWMP), which forms the planning basis for many of the treated water projects in the CIP.

In addition, the District has entered into an agreement with the City of Brentwood to serve the long-term treated water needs of the City through treatment of non-Los Vaqueros water, for use in the part of Brentwood that is outside the District's service area. A separate treatment facility on the Randall-Bold site is being constructed and will be operated by the District for the City of Brentwood. All costs related to this facility will be paid by the City.



## **Section III**

# **CIP CONTEXT AND STRUCTURE**

### Section III: CIP Context and Structure

---

The CIP is part of the District's long-range capital investment and financial planning process. This section describes the CIP in relationship to other District planning efforts, the most important of which is the ten-year financial plan and rate model. This section also discusses CIP structure, how the CIP is developed, and key assumptions.

#### Financial Planning Context

The District undertakes three principle financial planning efforts starting with the annual CIP Update and ten-year Financial Plan, a two-year capital and operating budget, and an annual review of rates, fees, and charges. These processes are separate but inter-related. The District's need to construct new facilities and reinvest in existing infrastructure within a ten-year period is forecasted in the CIP. The CIP includes a ten-year Financial Plan that estimates ten years of capital and operating expenditures and the revenue requirements to meet the expenditures. This provides the basis for projecting ten-year rate impacts. The CIP is presented to the Board in February of each year. The budget is presented to the Board in May and June, every other year. Budget status is reviewed at approximately six-month intervals until the next two-year budget. Rates, fees, and charges are brought to the Board in November and December of each year, and adjustments are typically considered for Board action in January. The next CIP update will form the basis of the next two-year budget, and the cycle repeats. The District's financial planning process is shown in the following figure.

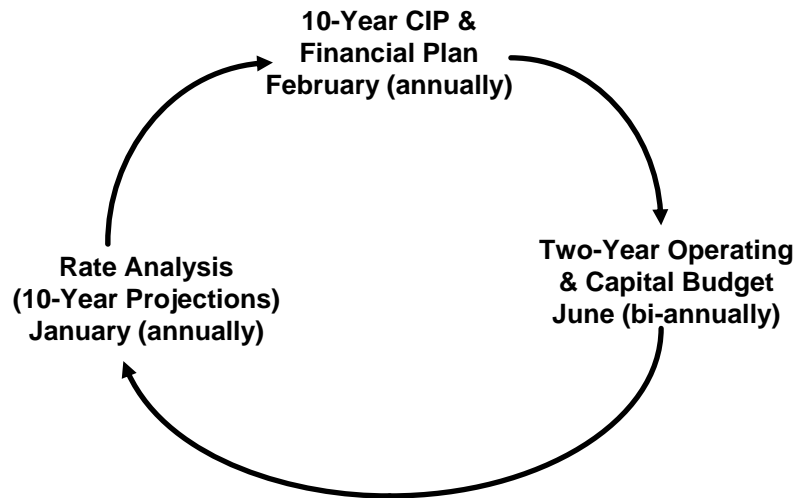


Figure III-1 District Financial Planning Process

All three financial planning efforts are integral to the overall financial integrity of the District. This integrated process ensures near-term financial decisions are made with an understanding of the long-term implications. Planning capital improvements over a ten-year period through the CIP provides flexibility to optimize capital investments while consistently adhering to the Board's rate policies. The approval and funding of projects through the two-year budget minimizes uncertainty in financial decision-making and maximizes control over financial resources.

### **CIP Structure**

Two structural elements provide the framework for analysis and review of the CIP: the program configuration and the project priority system. Each element is described below.

#### Program Configuration

The basic unit of the CIP is the project. Projects are grouped by program and sub-program. There are ten program areas, each representing a different function of the District. Organizing projects by functional group allows the CIP to be viewed as a series of programs for improvements in specific areas of District responsibility. Sub-programs are groups of related projects within a program. The allocation of project costs between untreated and treated water funds also follows program divisions. Programs, sub-programs, and cost allocations in the 2009 CIP are listed on Table III-1 on the following page.

The untreated/treated allocations listed in Table III-1 are based primarily on the assessment of who benefits from a particular project. This assessment is usually done during master plan development or by financial audit. Allocation of costs between untreated and treated customers is used in the Financial Plan to project the rates and charges needed to fund the CIP.

#### Project Priority System

Each CIP project is assigned a priority level according to prioritization criteria. The priority system provides a method to rank or rate the relative importance of a project based on factors such as protection of health and safety, legal requirements, and rate of return on the District's investment. The priority levels provide a basis for determining which projects should be done in any given year, and how projects should be scheduled over the ten-year span of the CIP. Only those projects with a priority level 1 or 2 ranking are included in the ten-year Financial Plan and Rate Model.

A description of the three priority levels and the prioritization criteria used to rank projects in the CIP is provided on Page III-4.

**Table III-1 PROGRAMS and SUB-PROGRAMS**  
**Allocation of District Costs Between Untreated and Treated Water Funds<sup>1</sup>**

	<b>Untreated/Treated</b>
	<b>(%)</b>
<b>Administrative, Support and Maintenance Facility Improvement Program</b>	<b>(38/62)</b>
Sub-programs:    Facilities Expansion	
Facilities Upgrades	
<b>Delta Projects</b>	<b>(100/0)</b>
<b>Equipment and Other Capital Purchases Program<sup>2</sup></b>	<b>(38/62)</b>
Sub-programs:    Equity Funded Equipment	
Vehicle Replacement Fund	
<b>Expansion of Services Program<sup>3</sup></b>	<b>(N/A)</b>
Sub-program:    Wholesale Treated Water	
<b>Future Water Supplies Program</b>	<b>(100/0)</b>
Sub-programs:    Water Supplies	
Planning	
<b>Los Vaqueros Watershed and Recreation Program</b>	<b>(100/0)</b>
Sub-programs:    Recreation	
Watershed	
<b>Treated Water Distribution and Storage Facilities Program</b>	<b>(0/100)</b>
Sub-programs:    Corrosion Control	
Non-District Funded Projects	
Pipe Upgrades	
Pipes - New	
Pump Upgrades	
Pumps - New	
Site Upgrades	
Storage - New Facilities	
Storage Upgrades	
TWSA Planning	
<b>Untreated Water Supply and Transport Program</b>	<b>(100/0)</b>
Sub-programs:    Untreated Water Facilities – SRIP	
Non-District Funded Projects	
Untreated Water Facilities - New	
Untreated Water Facilities - Planning	
Untreated Water Facilities - Upgrades	
<b>Water Demand Reduction Program</b>	<b>(100/0)</b>
Sub-program:    Best Management Practices Implementation	
<b>Water Treatment Facility Improvements Program</b>	<b>(0/100)</b>
Sub-programs:    Expansion	
Planning	
Upgrades	

1. A portion of untreated water costs is allocated to treated water customers based on consumption. Grant funds for projects affect District costs in the proportion shown.
2. The SCADA project is allocated 45% untreated / 55% treated per distribution of system components.
3. Allocations in this program are project specific.

### Priority Level 1

These are the highest priority of all capital projects. Projects are ranked priority level 1 if they meet one or more of the following criteria:

- **Project is required for health and safety.** This includes projects needed to protect and preserve the health and safety of customers, employees, and the public.
- **Project is required by law, regulation, or contract.** This includes projects required to meet requirements imposed by federal, State, or local governments.
- **Project is under construction.**
- **Project is funded by applicants or outside funding source.**

As an example, the Untreated Water Reservoir Rehabilitation project is ranked level 1 because it is required by the California Department of Safety of Dams and USBR to ensure dam safety.

### Priority Level 2

Priority level 2 projects are those that provide measurable progress toward achieving the District's goals, but the District has a moderate level of control as to when these projects should be accomplished. Projects are ranked priority level 2 if they meet all of the following criteria:

- **Project has a defined scope and provides measurable progress toward achieving the District's goals.**
- **The District has a moderate level of control over the schedule.**
- **Funding is available such that rate increases are at or below inflation.**
- **When return on investment is a determining factor, projects have a payback period of less than five years.**

New reservoirs as recommended in the Treated Water Master Plan are examples of projects in priority level 2. Treated water reservoirs help achieve the strategic goals of improving water system reliability and increasing competitiveness.

### Priority Level 3

Projects not meeting the criteria for priority level 1 or 2 are ranked as priority level 3. These are projects that are anticipated to be needed, but may not yet have defined scopes, schedules, or funding sources. In some cases where a project is defined but only a portion of the funding is available, the project will be phased with the funded portion in priority level 1 or 2 and the unfunded portion in priority level 3. Where return on investment is a determining factor, projects with a long-term payback of greater than five years are priority level 3 projects.

The three priority levels are consistent with those used in previous ten-year CIPs. Project priority rankings were re-evaluated during the project review process and changes were made where necessary to reflect changed circumstances.

### Project Summaries

A project summary has been prepared for each project in the CIP. These are presented in program order in Section VII. The project summary form is similar to that used in previous CIPs. Each summary includes a project description, justification, benefits, estimates of cash flow and O&M impacts, and funding source information. Schedules in time line form are provided for all projects (except annual projects). The schedules show the relative duration of planning, design, and construction activities. A category called "Other" is used for projects that do not fit this traditional pattern such as some capital equipment purchases. The schedules are plus or minus three months. A comparison to the 2008 CIP is provided for all continuing projects.

## **Development of the CIP and Financial Plan**

### Assumptions

Long-range financial planning is dependent on the ability to forecast future expenditures and revenues. Assumptions are made where necessary to proceed with the planning process. The assumptions used in the 2009 CIP are listed on Figure III-2. The assumptions have been organized so that related assumptions, such as those referring to water consumption, are grouped together. The assumptions for this update have not changed significantly from the 2008 CIP. Assumptions specific to the rate model are described further in Section VI: Financial Plan.

There are many ways to project growth and many sources of information. Growth projections will vary depending on the methodology chosen and the base data used, which in turn depend on the purpose of the projections. Growth projections for financial planning are used in projecting revenues and are therefore usually conservative or at the lower end of an acceptable range. In contrast, growth projections for capacity planning are used for sizing and scheduling facilities, and are more appropriately at the high end of a range.

Growth projections are refined and modified as necessary to meet the needs for the projects using information from the Future Water Supply Study (FWSS) and the Seismic and Reliability Improvements Project (SRIP). The FWSS projected annual demands for an average year regardless of source of supply. The goal of the projections was to determine how much water would be needed on an annual basis. The SRIP, on the other hand, started with FWSS demands, and then analyzed them to project peak demands on the untreated water conveyance system. Its purpose was to design facilities that will meet the maximum required conditions. These and other differences in assumptions are documented in each study. The projections in the two studies use the same base, but are modified as appropriate for their respective purposes.

---

## Figure III-2 Key Assumptions

### General

1. The ten-year CIP is a dynamic capital planning document that will be reviewed and revised annually.
2. CIP untreated and treated water costs for priority level 1 and level 2 projects will be held to a level that results in rate impacts at or below inflation. Cost containment is to be accomplished without impacting service levels.
3. Appropriations for capital improvements will be authorized by the Board as part of the budget process.
4. Facility reserve charges (FRCs) are a funding source for capital projects. A portion of the FRC will fund CIP projects related to growth or future water supplies. Allocations between existing and future customers will be consistent with the findings of the February 1998 FRC Report. The FRC methodology is used in the Financial Plan.
5. Capital projects with non-District funding sources (such as applicant funds and grants) are included in CIP cost estimate totals and the outside funding is included in revenue projections.
6. The Multi-Purpose Pipeline (MPP) Project-Untreated Water Pipeline is assumed to be debt-funded.
7. The District will utilize commercial paper to provide short-term financing consistent with District policy. Commercial paper, other than that eligible for refinancing with low interest State Revolving Fund loans, will be converted to 30-year fixed bonds in the future, or paid off from reserves.
8. District policy and bond covenants require maintaining a debt coverage ratio of at least 1.25:1.

### Revenue Forecasting

9. Municipal untreated water consumption is estimated to increase by approximately 1% each year for the full analysis period. Consumption for the Diablo Water District and the City of Brentwood is assumed to increase by approximately 2% each year based on approved growth in East County. East County growth rates have been reduced from last year's CIP to reflect recent trends.
10. Industrial untreated water consumption is estimated to remain constant at historical levels.

11. Treated water consumption is assumed to increase by 0.7% each year for the full analysis period.

#### Inflation

12. Inflation is projected at 4% per year for operating and maintenance expenditures (excluding purchased water) based on the historical average.
13. Inflation is projected at 4% per year for all capital costs in the Financial Plan.
14. CVP water costs are estimated to increase by approximately twice the rate of inflation per year, beginning in FY2010.

#### Capacity Planning

15. Demand projections from the Future Water Supply Study update (2002) are used as the basis for sizing and scheduling construction of capital facilities.
16. Future Water Supply Study demands may be adjusted to account for drought recovery trends, peak period demands, sources of supply, and other project-specific conditions as appropriate. All such adjustments will be noted in planning documents.

#### Cost Estimating

17. Project costs (capital and O&M) are expressed in current (FY2009) dollars unless otherwise noted. Costs in the Financial Plan are escalated by the appropriate inflation rates, as described above.
18. Cost estimates in the first year of the CIP do not include funds that could be re-budgeted to match cash flow from the current fiscal year's approved budget. For purposes of the CIP, it is assumed that budgeted funds are fully expended unless otherwise stated.
19. Components of capital cost estimates include land acquisition; construction; engineering services (planning, design, and construction management); direct costs (including legal fees and administrative support); indirect costs (such as office maintenance and utilities, accounting and other support services); and construction contingencies. Cost estimates include an allowance of 35% for engineering services and administrative support and up to 30% for construction contingencies depending on the characteristics of the project.
20. Estimates of O&M costs include labor, materials, equipment, and other expenses (such as power) required for all District operations, including operating and maintaining property and facilities.



21. Cost estimates for capital projects are accurate within plus and minus ranges that vary depending on project stage as follows:
  - a. Preliminary planning estimates (+50% to -30%)
  - b. Completion-of-planning estimates (+30% to -15%)
  - c. Design-level estimates (+15% to -5%)
  
22. Accuracy ranges provide guidelines for interpreting cost estimates--they do not represent project contingencies. Projects under construction do not have an accuracy range because it is assumed the project will be completed for the contract amount, which includes allowances for change orders and unforeseen circumstances consistent with District policy.
  
23. All cost estimates have been rounded to three significant figures, but in no case more refined than to the nearest thousand.

### Identifying Capital Projects

Most of the projects in the CIP are identified in master planning documents, such as the Treated Water Master Plan. Most of these planning documents are periodically updated to ensure that project planning is based on current and reliable information. Table III-2 lists major master plans and studies and the next scheduled update, if applicable. Some CIP projects are based on maintenance reports, field inspection records, and customer complaints; others are required by legislation, regulation, agreement, or Board policy. The CIP update team also meets with staff responsible for specific District functions, such as water treatment, to facilitate identification of capital project needs.

**Table III-2 – Master Plans and Planning Documents**

<b>Document</b>	<b>Completed</b>	<b>Next Update</b>
Canal Drainage Study	1995	(a)
Delta Region Drinking Water Quality Management Plan	2005	(a)
Facilities Master Plan	1999	(a)
Facility Reserve Charge Analysis	1998/2002	(b)
Future Water Supply Study	1996/2002	2008
Seismic and Reliability Improvements Project	1997	(a)
Treated Water Master Plan Update	2007	2012
Treated Water Renewal/Replacement Study	2005	2011
Untreated Water Renewal/Replacement Study	2006	2011
Water Treatment Plant Master Plan	2003	2013
Watershed Management Program	1997	(a)

(a) An update is not necessary or is not currently scheduled.

(b) Annual inflation adjustments are incorporated in construction-related elements of the FRC.

## Estimating Costs

Capital costs are estimated for each project according to industry data and District experience, and are expressed in current dollars. Each cost estimate has a plus and minus accuracy range that varies depending on project planning stage as described in Assumption 21. The accuracy of each cost estimate is noted as a dollar range on the project summary sheet. Unless stated otherwise, estimates include land acquisition, engineering services (planning, design, and construction management), construction, direct costs (including legal fees and administrative support), indirect costs (such as office maintenance and utilities, accounting, and other support services), and contingencies.

Cost estimates are expressed in current dollars, unless otherwise noted. According to the *Engineering News Record* (ENR), the Construction Cost Index for the Bay Area increased 7.2% from September 2006 to September 2007. Costs for projects in the previous CIP have also been adjusted as appropriate to reflect recent price increases for concrete, steel, and electrical work.

Estimates of annual costs associated with operating and maintaining new capital facilities are based on unit costs developed in cooperation with the Operations & Maintenance Department. Estimates for costs related to maintaining land owned by the District are based on preliminary dollar per acre figures provided by the Watershed and Lands Division.

Capital, operating, and debt cost estimates are factored into the Financial Plan. The Financial Plan accounts for inflation over the ten-year CIP period for all costs except projected debt service, by escalating costs for each project year by year. Debt service for long-term debt is based on fixed payment schedules for each debt issue. Debt service for short-term commercial paper is assumed at 3.5%. Starting in 2010, CVP water costs are increased at approximately twice the rate of inflation due to the volatility of Reclamation's rate setting methodology.

## Sources of Funding

The CIP Financial Plan includes a ten-year analysis of revenues and reserves necessary to fund CIP projects and the operating costs of the District including debt service. In order to perform the analysis, the relative benefits to the untreated and treated water systems and to existing and future customers have to be determined for each project.

Project benefits to the treated and untreated water systems have been defined by program as indicated on Table III-1 found on page III-3. Projects related to water supply or components of the untreated water system, such as the canal, are funded from untreated water revenues and/or reserves. Untreated water revenues include the untreated water portion of the treated water rate; treated water customers currently account for approximately 35% of untreated water revenues. Projects related to facilities in the Treated Water Service Area are funded from treated water revenues and/or reserves. The

benefits of facilities and equipment required for administrative purposes are allocated according to the proportion of District operating costs funded from untreated and treated water revenues, 38% and 62%, respectively.

The threshold question in allocating benefits between existing and future customers is whether a project is required irrespective of future development and growth, or only because of future development and growth. Once this has been established, it is necessary to determine whether a project directly or indirectly benefits the other category of customers. For example, an eight million gallon reservoir may be needed to meet current storage deficits, but in order to accommodate future growth; a twelve million gallon facility is built. Costs would be apportioned two-thirds to existing customers and one-third to future customers. The FRC is used to fund the portion of projects required for growth; rate revenues, including reserves, are used to fund the portion benefiting existing customers. Allocations are determined in the plans and studies identifying capital projects, not in the CIP.

It is assumed for purposes of this CIP that allocations between existing and future customers will be consistent with those in the final February 1998 FRC analysis (Montgomery Watson, Facility Reserve Charge Analysis, February 1998). Funding information is provided for each project in the project summary section.

## **Section IV**

# **PROGRAM SUMMARY**

## Section IV: Program Summary

---

This section provides a summary of each of the ten program areas of the 2009 CIP. Each summary contains a discussion of significant sub-programs and projects, the estimated funding required to accomplish the projects, and a comparison to the program costs estimated in the 2008 CIP. A table showing proposed annual funding levels for each project is included for each program. A separate Project Summary for each of the projects is included in Section VII: Project Summaries.

Table IV-1 provides a summary of total CIP expenditures by program over the ten-year period, along with a comparison to the 2008 CIP.

**Table IV-1 2009 CIP by Program**

(In millions of dollars, current dollars)

<b>Program</b>	<b>2009 CIP</b>	<b>2008 CIP</b>
Administrative, Support, and Maintenance Facility Improvements	8.0	4.6
Delta Projects	96.3	96.7
Equipment & Other Capital Purchases	14.8	15.2
Expansion of Services	49.5	82.1
Future Water Supplies	10.0	3.7
Los Vaqueros Watershed and Recreation	5.1	4.8
TW Distribution and Storage	74.6	66.7
Untreated Water Supply & Transport	145.1	126.7
Water Demand Reduction	8.0	7.0
Water Treatment Facilities	113.9	96.0
TOTAL	525.2	503.4

Though projects are organized by program, funding is determined by priority level. For reference while reviewing program expenditures, Tables IV-2 and IV-3 show funding by priority and by fiscal year for the 2009 CIP and 2008 CIP, respectively.

**Table IV-2 2009 CIP by Fiscal Year and Priority**  
(In millions of dollars, current dollars)

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Priority Level 1*	8.5	8.4	11.1	3.2	6.8	14.6	24.4	13.0	3.0	3.0	95.9
Priority Level 2*	21.9	42.6	18.3	22.0	19.3	11.1	17.1	11.2	9.3	11.7	184.6
Priority Level 3	0.8	9.4	11.4	53.0	36.1	22.8	1.6	13.6	13.5	0.0	162.3
<b>Total</b>	<b>8.5</b>	<b>8.4</b>	<b>11.1</b>	<b>3.2</b>	<b>6.8</b>	<b>14.6</b>	<b>24.4</b>	<b>13.0</b>	<b>3.0</b>	<b>3.0</b>	<b>442.8</b>
<b>Debt-funded CCWD</b>	<b>42.3</b>	<b>15.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>1.3</b>	<b>9.3</b>	<b>9.2</b>	<b>0.0</b>	<b>78.1</b>
<b>Debt-funded Brentwood</b>	<b>4.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>4.3</b>
<b>Grand Total</b>	<b>77.9</b>	<b>76.2</b>	<b>40.9</b>	<b>78.2</b>	<b>62.2</b>	<b>48.8</b>	<b>44.3</b>	<b>47.2</b>	<b>35.0</b>	<b>14.7</b>	<b>525.2</b>

\* Excluding debt-funded projects

**Table IV-3 2008 CIP by Fiscal Year and Priority**  
(In millions of dollars, current dollars)

	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	TOTAL
Priority Level 1*	13.1	10.4	2.7	2.9	2.8	6.2	13.5	22.3	12.0	2.7	88.5
Priority Level 2*	25.0	33.6	58.7	35.5	14.4	15.3	9.7	10.3	10.6	11.7	224.8
Priority Level 3	3.2	5.4	5.0	6.1	43.9	31.6	14.2	1.3	11.7	13.7	136.1
<b>Total</b>	<b>41.3</b>	<b>49.4</b>	<b>66.3</b>	<b>44.4</b>	<b>61.1</b>	<b>53.1</b>	<b>37.3</b>	<b>33.9</b>	<b>34.3</b>	<b>28.1</b>	<b>449.3</b>
<b>Debt-funded CCWD</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>1.3</b>	<b>9.3</b>	<b>7.8</b>	<b>18.7</b>
<b>Debt-funded Brentwood</b>	<b>23.5</b>	<b>11.9</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>35.4</b>
<b>Grand Total</b>	<b>64.8</b>	<b>61.3</b>	<b>66.3</b>	<b>44.4</b>	<b>61.1</b>	<b>53.1</b>	<b>37.6</b>	<b>35.2</b>	<b>43.6</b>	<b>35.9</b>	<b>503.4</b>

\* Excluding debt-funded projects

## **Administrative, Support, and Maintenance Facility Improvement Program**

In addition to water transmission, treatment, and storage facilities, the District operates a variety of buildings and facilities that support operation of the system and services to customers. The projects in this program provide capital improvements to these facilities, including maintenance shops and offices, the District Center, the Antioch Service Center buildings, and others. As District services expand, so must the infrastructure of facilities that support those services. The District must also continue to reinvest in its existing buildings and facilities to protect and maintain its capital investment.

The District Facilities Master Plan (FY1999) has been the key document guiding development of new facilities. The Master Plan assessed space requirements based on current and future personnel, equipment, and operational needs. With the completion of the O&M Building Upgrade in FY2004, the Bisso Administration Building in FY2003, and new maintenance facilities in Concord and Antioch in FY2002, the high priority projects identified in the plan have been constructed. There are no additional new administrative facilities included in this CIP.

The Annual Building and Facility Improvements project (priority level 1, \$4.3 million) provides for renewal and replacement of existing District buildings and grounds. Typical improvements funded under this project include re-roofing, replacement or upgrading of heating, cooling and electrical systems, and structural upgrades. A project to rewire the District Center’s communications systems is planned for FY2011.

Estimated expenditures in this program for the 2009 CIP are \$8 million. Estimated funding for this program, by fiscal year, is shown in Table IV-4. For comparison, 2008 CIP funding levels are also shown.

**Table IV-4 Administrative, Support and Maintenance Facility Improvement Program  
By Fiscal Year**

(In millions of dollars, current dollars)

CIP	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	10-YR. TOTAL
2009	NA	1.0	3.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	8.0
2008	1.0	0.4	0.4	0.6	0.4	0.4	0.4	0.4	0.3	0.3	NA	4.6

The projects proposed within this program are the following:

- Annual Building and Facility Improvements (priority level 1, \$4.3 million)
- Energy Demand Reduction (priority level 2, \$150,000)
- Solar Power Project (priority level 3, \$3.5 million)

Table IV-5 shows a comprehensive listing of projects within this program. The projects are grouped by sub-program and by priority within the sub-program. For comparison purposes, project costs as estimated in the 2008 CIP are also shown.

Comparison to 2008 CIP

There is a net increase of approximately \$3.4 million for this program compared to the 2008 CIP estimate. The primary driver for the increase is the addition of a new \$3.5 million placeholder Solar Power Project. This is a priority 3 project and is not funded in the financial plan. Grants and other funding are being sought for this project in order to meet the District’s investment criteria. There is also a new Energy Demand Reduction project (priority level 2, \$150,000) that will evaluate the District’s current energy use and identify alternatives to reduce the District’s energy use and greenhouse gas emissions.

**Table IV-5 Projects within the Administrative, Support, and Maintenance Facility Improvement Program**

**A. 2009 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Facilities Upgrades	Annual Bldg. & Facility Imp.	1	533	398	613	398	398	398	398	398	398	398	4,330
Facilities Upgrades	Energy Demand Reduction	2	150										150
Facilities Upgrades	Solar Project	3	313	3,187									3,500
	<b>PROGRAM TOTAL</b>		996	3,585	613	398	398	398	398	398	398	398	7,980

**B. 2008 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	TOTAL
Facilities Upgrades	Annual Bldg. & Facility Imp.	1	398	371	371	571	371	371	371	371	371	371	3,937
Facilities Upgrades	Bisso Building Emergency Generator	2	648										648
	<b>PROGRAM TOTAL</b>		1,046	371	371	571	371	371	371	371	371	371	4,585



## Delta Projects

This program includes Delta projects that improve the District’s source water quality and supply reliability. Sources of funding include outside agencies, CCWD revenues, and other local agencies.

In the past five years, the District has completed the Rock Slough and Old River Water Quality Projects for CALFED, and has completed design of the Alternative Intake Project. The Rock Slough Water Quality project included removal of an existing agricultural drain on Veale Tract that discharged into Rock Slough. The Old River project included construction of a new pump station and discharge outfall with a diffuser to minimize impacts from agricultural discharges into Old River.

Estimated expenditures within this program over the next ten years are \$96.3 million and include two projects. The Los Vaqueros Reservoir Expansion Project is a CALFED project being managed by the District and would help meet CCWD’s goals of increasing reliability (extending the amount of emergency storage available to CCWD customers). The Alternative Intake Project is a pivotal initiative in meeting the District’s goal of improving water quality. Water quality objectives will be met 95% of the time with this project on line and both average and maximum delivered chlorides would be lower.

Estimated funding for this program, by fiscal year, is shown in Table IV-6. For comparison, program costs from the 2008 CIP are also shown.

**Table IV-6 Delta Projects Program  
By Fiscal Year**

(In millions of dollars, current dollars)

CIP	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	10-YR. TOTAL
2009	NA	51.8	41.3	3.1								96.3
2008	7.1	22.6	47.2	19.8								96.7

The two projects proposed within this program are:

- Alternative Intake Project (priority level 2, \$88.5 million, escalated dollars)
- Los Vaqueros Reservoir Expansion Project (priority level 2, \$7.7 million)

Table IV-7 shows a comprehensive listing of projects within this program. For comparison purposes, project costs as estimated in the 2008 CIP are also shown.

Comparison to 2008 CIP

Estimated program costs have decreased by \$0.4 million compared to the 2008 CIP. This is the net result of progress towards completion and an increase in estimated project costs. Total costs for the Alternative Intake Project have increased by approximately \$11 million to incorporate refinements made during design including increasing the pipeline diameter and adding variable frequency drives to improve operational efficiencies. The construction schedule has also been accelerated by approximately one year to bring the project online in FY2011.

Los Vaqueros Expansion Project costs have increased by \$1.3 million to reflect the remaining work required to complete the Environmental Impact Report/Environmental Impact Statement, which are scheduled to be released in Spring 2008.

**Table IV-7 Projects within the Delta Projects Program**

**A. 2009 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Delta Projects	Los Vaqueros Expansion Project	2	4,225	3,520									7,745
Delta Projects	Alternative Intake Project	2	47,619	37,765	3,123								88,507
	PROGRAM TOTAL		51,844	41,285	3,123								96,252

**B. 2008 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	TOTAL
Delta Projects	Los Vaqueros Expansion Project	2	2,845	3,555									6,400
Delta Projects	Alternative Intake Project	2	4,224	19,081	47,152	19,799							90,256
	PROGRAM TOTAL		7,069	22,636	47,152	19,799							96,656

## Equipment and Other Capital Purchases Program

Prudent planning requires that the District consider its long-term capital equipment needs as part of its overall financial planning. This program provides a category within which to recognize these capital expenditures. Specific capital equipment designated for replacement is generally included in the two-year budget. Capital equipment expenditures for larger items with a long life are included within the context of the ten-year CIP.

This program includes two sub-programs, Equity Funded Equipment (\$7.1 million) and Vehicle Replacement Fund (\$7.6 million). Replacement of and upgrades to the District’s computer systems, telecommunications equipment, and SCADA are included in the first sub-program; replacement of the District’s fleet vehicles and heavy equipment are included in the second. Vehicles and heavy equipment are replaced when it is determined that they have reached the end of their serviceable life or when it is most cost-effective to replace based on anticipated future operating and repair costs. Replacements are funded from the Vehicle Replacement Fund, which is a sinking fund established by the Board for this purpose. New vehicles require a business justification before they are added to the fleet.

Estimated expenditures in this program over the ten-year CIP period are approximately \$14.8 million. Estimated funding for this program, by fiscal year, is shown in Table IV-8. For comparison, 2008 CIP funding levels are also shown.

**Table IV-8 Equipment and Other Capital Purchases Program by Fiscal Year**  
(In millions of dollars, current dollars)

CIP	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	10-YR. TOTAL
2009	NA	2.0	1.9	1.8	1.3	1.0	2.0	1.0	1.7	1.2	0.9	14.8
2008	1.8	2.6	1.4	2.3	1.6	1.1	1.1	1.0	1.1	1.2	NA	15.2

Significant projects proposed in this program include the following:

- Replacement/Upgrade of Computer Systems (priority level 2, \$2.5 million)
- Fleet Vehicles & Heavy Equipment (priority level 2, \$4.3 million)
- GIS Implementation (priority level 2, \$0.7 million; level 3, \$0.3 million)

Table IV-9 shows a comprehensive listing of projects included in this program. The projects are grouped by sub-program, and by priority level within the sub-program. For comparison purposes, project costs as estimated in the 2008 CIP are also shown.

Comparison to 2008 CIP

Total program costs have decreased by approximately \$400,000 from the 2008 CIP. This is the net result of adjustments for inflation, updated cost estimates, and progress on projects. Fleet Vehicles & Heavy Equipment have been combined into one sub-program in this CIP.

**Table IV-9 Projects within the Equipment and Other Capital Purchases Program**

**A. 2009 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Equity Funded	GIS	2/3	452	213	128	193							986
Equity Funded	Lindsey Basin Communications Reloc.	2	374										374
Equity Funded	Repl/Upgrade of Radio Equipment	2	50	50									100
Equity Funded	Repl/Upgrade of Comp Systems	2	86	123	86	86	123	971	123	691	86	123	2,498
Equity Funded	Repl/Upgrade of Network Systems and Hardware	2	49	86	215	230	11	49	86	215	230	11	1,182
Equity Funded	Repl/Upgrade of SCADA	2	200	640	100	100	134	134					1,308
Equity Funded	Repl/Upgrade of Telecomm. Equip.	2	30	45	447		78				30	45	675
Vehicle Repl. Fund	Fleet Vehicles & Heavy Equipment	2	750	750	822	661	640	871	812	815	818	700	7,639
<b>PROGRAM TOTAL</b>			<b>1,991</b>	<b>1,907</b>	<b>1,798</b>	<b>1,270</b>	<b>986</b>	<b>2,025</b>	<b>1,021</b>	<b>1,721</b>	<b>1,164</b>	<b>879</b>	<b>14,762</b>

**B. 2008 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	TOTAL
Equity Funded	GIS	2/3	495	265	200		120	180					1,260
Equity Funded	Lindsey Basin Communications Relocation	2	120	320									440
Equity Funded	Repl/Upgrade of Radio Equipment	2	50	50									100
Equity Funded	Repl/Upgrade of Comp Systems	2	183	965	80	565	80	115	80	115	80	115	2,378
Equity Funded	Repl/Upgrade of Network Systems and Hardware	2		46	80	201	215	10	46	80	201	215	1,094
Equity Funded	Repl/Upgrade of SCADA	2		90	130	300	500	100	100				1,220
Equity Funded	Repl/Upgrade of Telecomm. Equip.	2	28	28	42	417		73				28	616
Vehicle Repl. Fund	Fleet Vehicles	2	303	467	491	456	425	367	491	428	431	434	4,293
Vehicle Repl. Fund	Heavy Equipment	2	625	396	385	366	236	273	380	384	384	384	3,813
<b>PROGRAM TOTAL</b>			<b>1,804</b>	<b>2,627</b>	<b>1,408</b>	<b>2,305</b>	<b>1,576</b>	<b>1,118</b>	<b>1,097</b>	<b>1,007</b>	<b>1,096</b>	<b>1,176</b>	<b>15,214</b>

## Expansion of Services Program

The purpose of this program is to improve and expand services, increase the competitiveness of the District, diversify revenue, and increase efficiencies (through, for example, sharing treatment plant facilities). There are currently two projects in this program, both related to the City of Brentwood. The CCWD/Brentwood WTP project includes construction of new treatment facilities to serve the long-term needs of Brentwood. Pursuant to the September 2004 Agreement between the District and the City of Brentwood, this facility is being funded by the City of Brentwood and will be owned and operated by the District. In addition, there is a planned expansion of this facility in the latter portion of the CIP. Estimated funding for this program is shown in Table IV-10.

**Table IV-10 Expansion of Services Program by Fiscal Year**  
(In millions of dollars, current dollars)

CIP	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	10-YR. TOTAL
2009	NA	5.4			0.2	3.8	11.1	18.9	10.0			49.5
2008	27.4	13.6			0.2	3.6	10.4	17.6	9.4		NA	82.1

The significant projects within this program are:

- CCWD/Brentwood WTP (priority level 1, \$5.4 million)
- CCWD/Brentwood WTP Expansion (priority level 1, \$44 million)

Table IV-11 shows a comprehensive listing of the projects included in this program. For comparison purposes, project costs estimated in the 2008 CIP are also shown.

### Comparison to 2008 CIP

Program costs are \$32.6 million lower than in the 2008 CIP. The primary driver for the decrease is the completion of projects and progress on the CCWD/Brentwood WTP. The EBMUD Intertie, Pittsburg Emergency Intertie, and RBWTP Sedimentation basin projects were completed in FY2008. The construction schedule for the CCWD/Brentwood WTP has been accelerated approximately six months with substantial completion in FY2008.

**Table IV-11 Projects within the Expansion of Services Program**

### **A. 2009 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Wholesale TW	CCWD/Brentwood WTP	1	5,424										5,424
Wholesale TW	CCWD/Brentwood WTP Expansion	1				176	3,821	11,141	18,876	10,024			44,038
<b>PROGRAM TOTAL</b>			5,424			176	3,821	11,141	18,876	10,024			49,462

**B. 2008 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	TOTAL
	EBMUD Intertie	1	1,052										1052
Wholesale TW	CCWD/Brentwood WTP	1	25,864	13,638									39,502
Wholesale TW	CCWD/Brentwood WTP Expansion	1					165	3,565	10,384	17,612	9,355		41,081
Wholesale TW	Pittsburg Emergency Intertie	1	282										282
Wholesale TW	RBWTP Sed Basins	1	160										160
<b>PROGRAM TOTAL</b>			<b>27,358</b>	<b>13,638</b>			<b>165</b>	<b>3,565</b>	<b>10,384</b>	<b>17,612</b>	<b>9,355</b>		<b>82,077</b>

## Future Water Supplies Program

This program includes projects related to meeting future water supply requirements. These projects help meet CCWD’s goals of increasing water supply reliability (meeting all demands in normal years and at least 85% of supply in dry years for existing and future customers). The program currently has two projects, the Future Water Supply Study (FWSS) Updates and a placeholder for water supply projects identified in the FWSS. The FWSS was adopted by the Board in August 1996 and updated in 2002. Updates are scheduled at approximately five-year intervals.

The FWSS resulted in a long-range plan to ensure a reliable supply of high quality water for service to District customers. The Future Water Supplies Placeholder provides funding for projects, including purchases of water rights or other long-term supplies, required to implement this plan. The FWSS examines both water supply and demand reduction alternatives for meeting future water supply requirements. Funding to implement demand reduction recommendations is included in the Water Demand Reduction Program. The 2002 FWSS update did not result in a shift in the priorities among new supplies, demand reduction, and recycling, all of which combine to meet future demand. However, the alternatives are currently being reviewed as part of the FY2008 study update.

The Future Water Supplies Placeholder includes annual funding for new supplies for growth (\$9.6 million). Water purchases for future growth will be made only as funds are available. This project is fully funded by FRC revenues consistent with the projection used in the Financial Plan.

Estimated funding for this program, \$10 million, is shown by fiscal year in Table IV-12. For comparison, the 2008 CIP cost estimates are also shown.

**Table IV-12 Future Water Supplies Program by Fiscal Year**  
(In millions of dollars, current dollars)

CIP	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	10-YR. TOTAL
2009	NA	0.2	0.2	0.2	0.2	0.3	0.2	8.2	0.2	0.2	0.4	10.0
2008	0.4	0.2	0.2	0.2	0.2	0.3	0.2	1.9	0.2	0.2	NA	3.7

The two projects within this program are:

- Future Water Supplies Placeholder (priority level 2, \$9.6 million)
- Future Water Supply Study Updates (priority level 2, \$0.4 million)

Table IV-13 on page IV-12 shows a comprehensive listing of projects within this program. For comparison, 2008 CIP funding levels are also shown.

### Comparison to 2008 CIP

Program costs have increased by approximately \$6.3 million versus the 2008 CIP, with the entire increase in the Future Water Supplies Placeholder. The amount for a large purchase in FY2015 was increased to reflect the quantity of water supply the District will be seeking to accommodate future growth. This purchase will be fully funded by FRC revenues.

**Table IV-13 Projects within the Future Water Supplies Program**

**A. 2009 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Planning	Future Water Supply Study Updates	2					150					275	425
Water Supplies	Future Water Supplies Placeholder	1/2	153	153	153	153	153	153	8,241	153	153	153	9,618
	<b>PROGRAM TOTAL</b>		153	153	153	153	303	153	8,241	153	153	428	10,043

**B. 2008 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	TOTAL
Planning	Future Water Supply Study Updates	2	274					115					389
Water Supplies	Future Water Supplies Placeholder	1/2	153	153	153	153	153	153	153	1,906	153	153	3,283
	<b>PROGRAM TOTAL</b>		427	153	153	153	153	268	153	1,906	153	153	3,672



## Los Vaqueros Watershed and Recreation Program

Projects within the Los Vaqueros Watershed and Recreation Program cover capital costs associated with owning and managing the Los Vaqueros watershed and related facilities. There are three projects in this program. The Los Vaqueros Recreation Facilities and Equipment Project provides for the renewal and replacement of Los Vaqueros recreation facilities and equipment, including docks, rental boats, picnic tables and benches, and other miscellaneous recreational improvements. The Watershed projects are predominantly focused on meeting permit requirements but do help maintain water quality in the reservoir and may increase revenues through leases of District lands for grazing, wind power, or other enterprises. The Recreation projects contribute to competitiveness by maintaining customer satisfaction with the recreation program. The Land Acquisition project is also included in this program.

Estimated expenditures for the program are shown in Table IV-14. The program total is \$5.1 million. For comparison, 2008 CIP funding levels are also shown.

**Table IV-14 Los Vaqueros Watershed and Recreation Program by Fiscal Year**

(In millions of dollars, current dollars)

CIP	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	10-YR. TOTAL
2009	NA	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5.1
2008	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	NA	4.8

The three projects proposed in this program are the following:

- Los Vaqueros Recreation Facilities & Equipment (priority level 2, \$1.3 million)
- Land Acquisition (priority level 2, \$1.4 million)
- Los Vaqueros Watershed Improvements (priority level 2, \$2.3 million)

Table IV-15 shows a comprehensive listing of the projects in this program. For comparison purposes, project costs as estimated in the 2008 CIP are also shown.

### Comparison to 2008 CIP

Project costs were adjusted for inflation. There were no significant changes within this program.

**Table IV-15 Projects within the Los Vaqueros Watershed and Recreation Program**

**A. 2009 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Recreation	LV Rec Facilities and Equipment	2	131	131	131	131	131	131	131	131	131	131	1,310
Watershed	Land Acquisition	2	144	144	144	144	144	144	144	144	144	144	1,440
Watershed	LV W/S Improvements	1/2	234	234	234	234	234	234	234	234	234	234	2,340
	<b>PROGRAM TOTAL</b>		<b>509</b>	<b>509</b>	<b>509</b>	<b>509</b>	<b>509</b>	<b>509</b>	<b>509</b>	<b>509</b>	<b>509</b>	<b>509</b>	<b>5,090</b>

**B. 2008 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	TOTAL
Recreation	LV Rec Facilities and Equipment	2	131	122	122	122	122	122	122	122	122	122	1,229
Watershed	Land Acquisition	2	145	135	135	135	135	135	135	135	135	135	1,360
Watershed	LV W/S Improvements	1/2	234	218	218	218	218	218	218	218	218	218	2,196
	<b>PROGRAM TOTAL</b>		<b>510</b>	<b>475</b>	<b>475</b>	<b>475</b>	<b>475</b>	<b>475</b>	<b>475</b>	<b>475</b>	<b>475</b>	<b>475</b>	<b>4,785</b>

## Treated Water Distribution and Storage Facilities Program

The objective of this program is to maintain and improve the level of service, quality, and safety of the District's existing treated water system. Facilities organized under this program include treated water pipelines, reservoirs, and pump stations. Projects within this program provide for expansion of treated water facilities to meet future needs as well as replacement of water mains and other components of the treated water infrastructure. Investments identified within this program directly advance the District's goals of increasing system reliability and improving delivered water quality and indirectly help increase competitiveness by improving efficiencies and customer satisfaction. A key component of this program is the Treated Water Service Area Master Plan (TWMP), which was last updated in FY2008. The TWMP provides the planning basis for many significant projects proposed in the CIP, including new pipelines, pump stations, and reservoirs. The Treated Water Renewal and Replacement Study (updated in FY2005) provides a schedule for renewal, replacement, and upgrades to existing pump stations, pipelines, and reservoirs.

In the past five years, the District has invested \$35 million in capital improvements within this program, including approximately \$1.5 million annually in main replacements, two new treated water reservoirs, and rehabilitation of five existing reservoirs and seven treated water pump stations. New storage facilities increase system reliability for existing customers and provide storage capacity necessary to accommodate future growth. Pump station rehabilitations ensure continued reliable service and improve operational efficiencies by replacing older pumps and motors with more efficient models.

Future expenditures of approximately \$74.6 million are projected for this program over the next ten years. Significant investments are proposed for upgrades to existing facilities (approximately \$51 million) and installation of new facilities (\$1.4 million). The growth-related portion of new facilities is funded through the treated water FRC. The program also includes \$18.5 million in developer-funded projects. These investments directly advance the District's goals of increasing system reliability and improving delivered water quality and indirectly help increase competitiveness by improving efficiencies and customer satisfaction.

Proposed funding for this program, by fiscal year, is shown in Table IV-16. For comparison, 2008 CIP funding levels are also shown.

**Table IV-16 Treated Water Distribution and Storage Facilities Program by Fiscal Year**

(In millions of dollars, current dollars)

CIP	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	10-YR. TOTAL
2009	NA	13.0	10.9	7.7	6.6	5.5	6.2	5.2	6.2	5.5	7.7	74.6
2008	11.7	8.0	5.8	5.0	5.8	5.1	5.8	5.0	6.3	8.0	NA	66.7

Significant projects proposed within this program include the following:

- Pipeline Renewal/Replacement (Main Replacements) (priority level 2, \$22 million)
- Distribution Facilities - Developer Projects (priority level 1, \$18.5 million)
- Treated Water Facilities Improvement Program (priority level, 2 \$16 million)

- Treated Water Reservoir Rehabilitation Program (priority level 2, \$7 million)
- Country Club Pump Station Rehabilitation (priority level 2, \$2.2 million)

Table IV-17 shows a comprehensive listing of projects proposed for this program. The projects are grouped by sub-program, and by priority level within the sub-program. For comparison purposes, project costs from the 2008 CIP are also shown.

Comparison to 2008 CIP

Total program costs have increased by \$7.9 million from the 2008 CIP. The primary drivers for the increase are a \$5 million increase in Distribution Facilities – Developer Projects and a \$3 million increase in the Pipeline Renewal/Replacement project. Costs within these programs have been updated to reflect changing market conditions.

**Table IV-17 Projects within the Treated Water Distribution and Storage Facilities Program**

**A. 2009 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Corrosion	Corrosion Control	2	80	80	80	80	80	80	80	80	80	80	800
Non-Dist Funded	Distribution Facilities - Developer Projects	1	5,645	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	1,428	18,497
Pipe Upgrades	Pipeline Renewal / Replacement	2	2,667	2,367	2,367	2,367	2,033	2,033	2,033	2,033	2,033	2,033	21,966
Pipes - New	MPP Pressure Sustaining Valve	2										125	125
Pipes - New	Port Chicago Pipeline - Phase II	2									125	1,034	1,159
Site Upgrades	Country Club Expansion	2/3	2,688	2,712									5,400
Site Upgrades	TW Facilities Improvement Program	2	1,709	2,091	1,500	1,550	1,500	1,550	1,500	1,550	1,500	1,550	16,000
Storage – New	Subzone 34 Reservoir	2										195	195
Storage – Upgrades	TW Reliability Improvements	2/3		857	1,988								2,845
Storage - Upgrades	TW Reservoir Rehabilitation Program	2	256	1,388	206	1,138	206	1,138	206	1,138	206	1,138	7,020
TWSA Planning	TW Renewal/ Replacement Study	2			130						120		250
TWSA Planning	TWSA Master Plan Updates	2					215					135	350
	<b>PROGRAM TOTAL</b>		<b>13,045</b>	<b>10,923</b>	<b>7,699</b>	<b>6,563</b>	<b>5,462</b>	<b>6,229</b>	<b>5,247</b>	<b>6,229</b>	<b>5,492</b>	<b>7,718</b>	<b>74,607</b>

**B. 2008 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	TOTAL
Corrosion	Corrosion Control	2	162	150	150	150	150	150	150	150	150	150	1,512
Non-Dist Funded	Distribution Facilities - Developer Projects	1	1,455	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	1,292	13,083
Pipe Upgrades	Pipeline Renewal / Replacement	2	2,094	1,875	1,875	1,875	1,875	1,875	1,875	1,875	1,875	1,875	18,969
Pipes - New	MPP Delivery to Zone 2	2	353										353
Pipes - New	Port Chicago Pipeline - Phase II	2								81	500	2,738	3,319
Site Upgrades	Country Club Expansion	2	165	875									1,040
Site Upgrades	Port Costa Water Service Replacement	2	471										471
Site Upgrades	TW Facilities Improvement Program	2	2,316	1,393	1,443	1,393	1,443	1,393	1,443	1,393	1,443	1,393	15,053
Storage - New	Midhill II Reservoir	2	2,681										2,681
Storage - New	Subzone 34 Reservoir	2										200	200
Storage - Upgrades	TW Reliability Improvements	2/3	375	2,266									2,641
Storage - Upgrades	TW Reservoir Rehabilitation Program	2	1,530	191	1,073	191	1,073	191	1,073	191	1,073	191	6,777
TWSA Planning	TW Renewal/ Replacement Study	2				130						120	250
TWSA Planning	TWSA Master Plan Updates	2	123					215					338
	<b>PROGRAM TOTAL</b>		<b>11,725</b>	<b>8,042</b>	<b>5,833</b>	<b>5,031</b>	<b>5,833</b>	<b>5,116</b>	<b>5,833</b>	<b>4,982</b>	<b>6,333</b>	<b>7,959</b>	<b>66,687</b>

## **Untreated Water Supply and Transport Program**

This program includes projects to improve source water quality and to enhance, renew, and expand the District's untreated water facilities. Facilities included in this program are diversion facilities, the Multi-Purpose Pipeline (MPP), the Los Vaqueros pipelines, the Contra Costa Canal, and improvements within the canal right-of-way such as fencing, bridges, drainage facilities, service roads, and other features. The program has been divided into five sub-programs including Untreated Water Facilities-Seismic Reliability Improvement Project (UWF-SRIP), Untreated Water Facilities-New (UWF-New), Untreated Water Facilities-Planning (UWF-Planning), Untreated Water Facilities-Upgrades (UWF-Upgrades), and Non-District Funded. The program directly advances the District's goal of increasing system reliability and increases competitiveness by ensuring capacity is available to meet the needs of new customers.

The District has invested approximately \$110 million under this program in the past five years to maintain and enhance the reliability and capacity of the untreated water conveyance facilities. Implementation of the capacity and reliability projects recommended in the SRIP study has been the focus of this program for several years, which included construction of the MPP and rehabilitation of the Mallard Slough Pump Station. These projects assist in meeting near-term and long-term demands and significantly improved the District's ability to continue water deliveries after a major earthquake. Other improvements completed include structural, electrical, and mechanical upgrades to the Rock Slough pumping plants and relining of high priority sections of the canal. The pump station rehabilitations improve the District's ability to reliably provide water service and improve operational efficiencies by replacing older, less efficient equipment. Canal lining repairs improved operational efficiencies by reducing water losses.

With completion of Phase 1 of the MPP, an increased emphasis is being placed on protecting source water quality. The Canal Replacement Project, which will protect source water quality as well as provide flood protection and enhance public safety, is included in this program. Additional source water quality improvement projects are in the Delta Projects Program. The Canal Replacement Project (priority level 1, \$13.5 million; level 2, \$13 million; priority level 3, \$55.3 million) will improve source water quality at the Rock Slough Intake by hydraulically isolating the saline groundwater from the canal. The project also improves flood protection and enhances public safety and security by replacing the unlined canal with a buried pipeline. Much of this project will be funded by others, including US Corps of Engineers, Reclamation, developers, State bond funds, and other State and federal funding programs.

The other area of significant investment is the Untreated Water Facilities-Upgrades sub-program. It contains seven projects in addition to the Canal Replacement Project to renew, replace, and upgrade existing untreated water facilities for a total of approximately \$36 million. The largest of the six projects is the Untreated Water Facilities Improvement Program (priority level 2, \$19.6 million), which funds projects identified in the Untreated Water Facilities Improvement Plan such as pumping plant improvements and replacement of canal lining, and improvements to the Los Vaqueros project pumps and pipelines.

Projects totaling approximately \$145.1 million for the ten-year CIP period are proposed for this program. Estimated funding for this program, by fiscal year, is shown in Table IV-18. For comparison, 2008 CIP funding estimates are also shown.

**Table IV-18 Untreated Water Supply and Transport Program by Fiscal Year**  
(In millions of dollars, current dollars)

CIP	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	10-YR. TOTAL
2009	NA	3.2	11.5	14.6	22.2	21.6	12.8	7.3	25.0	24.7	2.1	145.1
2008	9.2	8.5	3.9	9.0	13.7	17.8	11.4	6.5	23.1	23.6	NA	126.7

Significant projects proposed within this program include the following:

- Canal Replacement Project (priority level 1, 13.5 million; level 2, \$13 million; priority level 3, \$55.3 million)
- Untreated Water Facilities Improvement Program (priority level 2, \$19.6 million)
- Untreated Water Pipeline (priority level 2, \$20 million)

Table IV-19 shows a comprehensive listing of projects within this program. The projects are grouped by sub-program and by priority level within the sub-program. For comparison purposes, project costs as estimated in the 2008 CIP are also shown.

Comparison to 2008 CIP

Program costs in the 2009 CIP are \$18.4 million higher than in the 2008 CIP. Costs for the Canal Replacement Project have been increased by \$12.4 million based on an updated cost estimate. This project has also been delayed for up to two years because of the unsettled operational constraints that may affect the District’s Delta operations in 2008 (e.g., Judge Wanger’s decision, the District’s CVP water allocation, less than average water year to-date). Other changes to this program include an increase in the Los Vaqueros Energy Recovery Project of approximately \$1.3 million to reflect updated cost information. This project has been moved from a priority level 3 to priority level 2 and grants are being sought to fund up to 50 percent of the project costs. Other projects have been adjusted as necessary for inflation.

A new \$2 million project has also been added to rehabilitate the District’s untreated water revenue meter data loggers. The existing data collection equipment has reached the end of its useful life and is being upgraded to maintain accurate revenue metering for the District. The District has twenty five untreated water metering sites to be upgraded with reliable electrical power systems and data collection/telemetry equipment. Twelve of the twenty five metering sites represent Customers whose consumption charges are greater than \$1 million per year.

**Table IV-19 Projects within the Untreated Water Supply and Transport Program**

**A. 2009 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Non-District Funded	Applicant Funded Projects	1	185	185	185	185	185	185	185	185	185	185	1,850
UWF - Planning	Los Vaqueros Energy Recovery	2/3	50	645	1,825	2,030							4,550
UWF - Planning	Untreated Water Facility Imp Plan Updates	2			375					210			585
UWF - SRIP	Untreated Water Pipeline	2						333	1,325	9,260	9,164		20,082
UWF - Upgrades	Canal Replacement Project	1/2/3	60	5,455	8,616	12,424	16,595	9,921	1,556	13,637	13,507		81,771
UWF - Upgrades	LVP Relocation @ Balfour	1						466	2,534				3,000
UWF - Upgrades	Mallard Slough Channel Rehabilitation	2/3	150	130	253	2,767							3,300
UWF - Upgrades	Rock Slough Fish Screen	1	10	10	10	10	10						50
UWF - Upgrades	Rock Slough Improvements	2	120	165	335	2,987	2,975						6,582
UWF - Upgrades	Untreated Water Facilities Improvement Program	2	2,220	2,665	1,930	1,830	1,880	1,880	1,730	1,730	1,880	1,880	19,625
UWF - Upgrades	Untreated Water Reservoir Rehab	1/3	202	439	1,093								1,734
UWF - Upgrades	Untreated water Revenue Meter Upgrades	2	230	1,780									2,010
	<b>PROGRAM TOTAL</b>		3,227	11,474	14,622	22,233	21,645	12,785	7,330	25,022	24,736	2,065	145,139



**B. 2008 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	TOTAL
Non-District Funded	Applicant Funded Projects	1	159	170	170	170	170	170	170	170	170	170	1,689
UWF – Planning	Los Vaqueros Energy Recovery	2/3	3	50		757	2,401						3,211
UWF – Planning	Untreated Water Facility Imp Plan Updates	2				375					210		585
UWF - SRIP	Untreated Water Pipeline	2							333	1,318	9,259	7,819	18,729
UWF - Upgrades	Canal Replacement Project	1/2/3	5,207	5,115	50	1,450	6,360	15,829	8,598	1,270	11,746	13,736	69,361
UWF - Upgrades	LVP Relocation @ Balfour	1							430	2,070			2,500
UWF - Upgrades	Mallard Slough Channel Rehabilitation	3		130	345	1,260							1,735
UWF - Upgrades	Rock Slough Fish Screen	1	52	28									80
UWF - Upgrades	Rock Slough Improvements	2	169	165	335	2,987	2,975						6,631
UWF - Upgrades	Stormwater Remediation	2	698	220									918
UWF - Upgrades	Untreated Water Facilities Improvement Program	2	1,961	1,850	1,952	2,019	1,760	1,845	1,859	1,695	1,709	1,859	18,509
UWF - Upgrades	Untreated Water Reservoir Rehab	1/3	915	804	1,020								2,739
	<b>PROGRAM TOTAL</b>		9,164	8,532	3,872	9,018	13,666	17,844	11,390	6,523	23,094	23,584	126,687

## Water Demand Reduction Program

This program includes the District’s Water Conservation Program, which is split into four distinct elements including: 1) Residential Water Audits/Plumbing Retrofit, 2) Landscape Water Conservation Audits, 3) Commercial/Industrial and Institutional (CII) Water Conservation Audits, and 4) Water Conservation Incentives. The program meets the goals of the District’s Future Water Supply Study (FWSS) and conforms to the requirements of the U.S. Bureau of Reclamation (Reclamation) water supply contract. The Reclamation contract requires the District to implement the Best Management Practices (BMPs) for water conservation as prescribed in the Memorandum of Understanding for Urban Water Conservation in California. The long-term water conservation program savings goal in the FWSS is to reduce demand by five percent of what demand is projected to be in 2040, a goal of approximately 10,000 acre-feet annually. The Water Conservation Program is estimated to save 3,000 acre-feet of water in FY2008 and is on track to meet the long-term FWSS goal.

Of the four Water Conservation Program elements described in the CIP, only the Water Conservation Incentives project is capital. The other three are funded as part of the operating budget. Only the capital project is included in program and CIP cost estimate totals. The ten-year estimated cost for the Water Conservation Incentives project is \$8 million. The District applies for and is awarded grants on a regular basis to help fund this program.

Estimated funding for the capital portion of the program, by fiscal year, is shown in Table IV-20. For comparison, 2008 CIP funding levels are also shown.

**Table IV-20 Water Demand Reduction Program by Fiscal Year**

(In millions of dollars, current dollars)

CIP	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	10-YR. TOTAL
2009	NA	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	8.0
2008	1.1	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	NA	7.0

The only capital project proposed in this program is the following:

- Water Conservation Incentives (priority level 1, \$8 million)

Also shown but not included in CIP or program totals are the following operating projects and estimated costs:

- Residential Water Audits/Plumbing Retrofit (\$3.5 million)
- Landscape Conservation (\$2 million)
- Commercial/Industrial Conservation (\$1.6 million)

Table IV-21 shows a comprehensive listing of projects within this program. For comparison purposes, project costs as estimated in the 2008 CIP are also shown.

Comparison to 2008 CIP

Project costs have increased by approximately \$1 million compared to the 2008 CIP. This is the result of inflation and increased program activity and device distribution. The District has been successful in obtaining grants for conservation activities. Of the \$8 million costs indicated in the CIP, approximately \$2 million is anticipated to come from grants and other outside sources.

The three operating budget projects are included to give an overview of the cost of the Water Demand Reduction Program but they are not included in the total CIP cost.

**Table IV-21 Projects within the Water Demand Reduction Program**

**A. 2009 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
BMPs	Water Conservation Incentives	1	801	801	801	801	801	801	801	801	801	801	8,010
	<b>PROGRAM TOTAL</b>		801	801	801	801	801	801	801	801	801	801	8,010
BMPs	Commercial/Indust. Conservation	NA	155	155	155	155	155	155	155	155	155	155	1,550
BMPs	Landscape Conservation	NA	202	202	202	202	202	202	202	202	202	202	2,020
BMPs	Res. Audits/Plumbing Retrofit	NA	350	350	350	350	350	350	350	350	350	350	3,500
	<b>OPERATING BUDGET TOTAL*</b>		707	707	707	707	707	707	707	707	707	707	7,070

**B. 2008 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	TOTAL
BMPs	Water Conservation Incentives	1	1,058	665	665	665	665	665	665	665	665	665	7,043
	<b>PROGRAM TOTAL</b>		1,058	665	665	665	665	665	665	665	665	665	7,043
BMPs	Commercial/Indust. Conservation	NA	149	151	151	151	151	151	151	151	151	151	1,508
BMPs	Landscape Conservation	NA	194	196	196	196	196	196	196	196	196	196	1,958
BMPs	Res. Audits/Plumbing Retrofit	NA	337	340	340	340	340	340	340	340	340	340	3,397
	<b>OPERATING BUDGET TOTAL</b>		680	687	687	687	687	687	687	687	687	687	6,863

## Water Treatment Facility Improvements Program

The District's water treatment facilities are an essential element in providing high-quality water to its treated water customers. This program involves projects for replacing, improving, and enhancing these facilities to maintain and enhance water quality and system reliability. The projects are organized into three sub-programs: Treatment Plant Upgrades, Treatment Plant Expansion, and Planning. The Water Treatment Plant (WTP) Master Plan, completed in FY2004, provides the planning basis for both renewal and replacement projects and new facilities related to reliability and regulatory requirements at both treatment plants.

The District has invested over \$20 million dollars in the last five years to improve and maintain water treatment facilities, including completion of a third sedimentation basin at the Bollman Water Treatment Plant. Other upgrades to the plant include enhanced electrical power systems, seismic improvements, and safer facilities for the storage and use of chemicals.

The District is also constructing treatment facilities for the City of Brentwood to serve the City's customers outside of the Los Vaqueros service area under the Expansion of Services program. That project will be completed in FY2009 and an expansion of the plant to up to 30 MGD is scheduled to begin as early as FY2012.

Program funding for the next ten years is estimated at \$113.9 million and includes \$10.7 million, \$4.3 million, and \$1.9 million in priority level 2 WTP improvements at the Bollman, Randall-Bold, and City of Brentwood treatment facilities, respectively. These improvements include renewal and replacement of WTP facilities, media replacement, and treatment plant restoration activities. Additionally, the program includes an \$80 million priority level 3 membrane filtration project that could be necessary to meet increasingly stringent treatment regulations with increasingly degraded source water. This is a priority level 3 project because the scope and timing is uncertain at this time. Estimated funding for this program, by fiscal year, is shown in Table IV-22. For comparison, 2008 CIP funding levels are also shown.

**Table IV-22 Water Treatment Facility Improvements Program by Fiscal Year**

(In millions of dollars, current dollars)

CIP	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	10-YR. TOTAL
2009	NA	1.3	6.1	10.8	45.9	28.1	14.6	1.7	2.1	1.5	1.7	113.9
2008	4.7	4.1	6.4	6.4	38.2	23.7	7.3	1.7	2.0	1.5	NA	96.0

Significant projects proposed in this program include the following:

- Bollman WTP Improvements (priority level 2, \$10.7 million; level 3, \$5.2 million)
- Randall-Bold WTP Improvements (priority level 2, \$4.3 million; level 3, \$4.7 million)
- City of Brentwood WTP Improvements (priority level 2, \$1.9 million; level 3, \$0.6 million)
- Membrane Filtration Placeholder (priority level 3, \$80 million)

Table IV-23 shows a comprehensive listing of projects within this program. The projects are grouped by sub-programs and by priority level within sub-program. For comparison purposes, project costs as estimated in the 2008 CIP are also shown.

Comparison to 2008 CIP

Total funding for this program has increased by approximately \$17.9 million from the 2008 CIP. The primary driver for the increase in this program is an increase in the cost estimate for the Membrane Filtration Placeholder Project. The estimated cost of this project was increased by \$18 million based on recent feasibility studies completed by other agencies. This is a priority level 3 project and does not impact rates. Other adjustments were made to project costs to reflect inflation and progress to date. A new priority 3 project (Randall-Bold Capacity Upgrades) was added to potentially increase the capacity of the existing Randall-Bold WTP to up to 50 MGD.

**Table IV-23 Projects within the Water Treatment Facility Improvements Program**

**A. 2009 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
Expansion	Drinking Water Lab	3			400	1,600							2,000
Planning	WTPMP Updates and Placeholder	2					210	245	882	882	882	882	3,983
Upgrades	Bollman WTP Improvements	2/3	821	5,582	5,288	755	202	755	755	755	202	755	15,870
Upgrades	City of Brentwood WTP Improvements	2/3	110	374	96	889	363			363	363		2,558
Upgrades	Membrane Filtration	3			4,295	39,529	24,839	11,337					80,000
Upgrades	Randall-Bold WTP Improvements	2/3	322	166	629	2,719	2,482	2,289	96	96	96	96	8,991
Upgrades	Randall-Bold Capacity Upgrades	3			93	407							500
	<b>PROGRAM TOTAL</b>		1,253	6,122	10,801	45,899	28,096	14,626	1,733	2,096	1,543	1,733	113,902

**B. 2008 CIP**

(In thousands of dollars, current dollars)

Sub-Prog	Project	Priority	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	TOTAL
Expansion	Drinking Water Lab	3		371	1,490								1,861
Planning	WTPMP Updates and Placeholder	2						210	245	880	880	922	3,137
Upgrades	Bollman WTP Improvements	2/3	4,559	3,364	4,483	2,673	748	209	748	748	748	209	18,489
Upgrades	City of Brentwood WTP Improvements	2/3		110	335	94	805	324			324	324	2,316
Upgrades	Membrane Filtration	3				3,100	34,110	20,610	4,180				62,000
Upgrades	Randall-Bold WTP Improvements	2/3	125	255	90	533	2,510	2,317	2,092	90	90	90	8,192
	<b>PROGRAM TOTAL</b>		4,684	4,100	6,398	6,400	38,173	23,670	7,315	1,768	2,092	1,595	95,995

## **Section V**

# **OPERATING COST IMPACTS OF THE CAPITAL IMPROVEMENT PROGRAM**

## **Section V: Operating Cost Impacts of the Capital Improvement Program**

---

Implementation of the CIP affects District operating costs. Adding new facilities can result in increases in operating costs as additional labor or materials are needed to operate and maintain the facilities. Other capital facilities, such as the CCWD/Brentwood Water Treatment Plant, will generate payments from the City of Brentwood, which will completely offset the District's costs to operate and maintain the plant. Some capital projects yield improved efficiency and productivity resulting in reduced operating costs. To be an effective long-range financial planning tool, the CIP must consider the capital costs of constructing facilities, income generated by facilities, and the resulting impacts on operating costs.

This section provides background on District operating costs, an overview of the operating impacts of the CIP, and a discussion of specific impacts on labor and energy. The operating impacts are factored into the Financial Plan along with capital costs, debt-service, and overall operating costs. The operating impacts of individual projects are described in Section VII: Project Summaries.

### **Background**

#### Current Operating Costs

Projected operating costs for the first year of the 2009 CIP are \$66.9 million. The actual operating budget for FY2009 will be determined through the budget process. Significant operating costs include labor, power, purchased water, and chemicals. In the Financial Plan, operating costs are assumed to increase by 4% annually, with the exception of CVP water costs that increase at approximately twice the rate of inflation. Operating cost impacts resulting from capital projects are incorporated into the operating cost projections in the year the facility comes on line. In addition, the Financial Plan anticipates an increase in operating costs resulting from fees assessed by State and Federal agencies to implement Delta improvements that result from the Delta Vision process. It is anticipated that the District may be required to contribute to the funding of projects and programs aimed at fixing the Delta. As a proactive measure to ensure the financial impacts of this additional expense are minimized, this CIP includes approximately \$2 million in annual revenues beginning in FY2010 to cover these costs.

#### Operating Cost Impacts Assumptions

Operating cost impacts are determined for each project based on current costs to operate similar facilities, industry standards, or market trends. Operating costs include labor, materials, supplies, equipment, and administrative costs. Total operating cost impacts as shown are net of savings that might also result from the project. The two operating cost components most affected by capital projects are labor and energy, both of which are discussed later in this section. Impacts on labor operating costs are net only of labor savings and not savings in other operating costs to ensure the full impact on labor is identified. For example, savings in energy or chemicals due to a more efficient facility would not reduce the need for staff to maintain the facility. Energy impacts presented are

net increases or savings in energy usage for each project. Operating costs are assumed to start in the year scheduled for the project’s completion, and are pro-rated by half-year.

The impact of capital projects on operating labor costs differs by type of facility. Operating labor costs reflect current proportions of labor to total operating costs by type of facility or activity. To estimate full time equivalent employees, the operating labor cost is divided by an assumed cost of employment. For purposes of the CIP, the assumed cost of employment is set at \$100,000 per year per new employee, reflecting salaries and benefits, plus equipment, supplies, training, administrative support, and other District costs of support. Other costs of employment may be used if specific staffing plans have been completed. Actual salaries would vary depending on classification, hours worked, etc. Because of the uncertainty surrounding this assumption, the number of full time equivalents related to implementation of this CIP is presented as a range of plus or minus 25 percent.

### Summary of Operating Cost Impacts

The following tables show the increase in total operating costs (Table V-1), labor costs (Table V-2) and energy costs (Tables V-3) resulting from CIP projects by fiscal year. Projects and sub-programs with significant impacts have been individually listed. A discussion of the significance of the increase to rates or staffing needs follows each table as appropriate. Significant operating impacts from priority level 3 projects are shown separately because they are not included in the CIP Financial Plan.

Annual Total Operating Cost Increases - The net increase in total operating costs related to capital projects is shown in the following tables.

**Table V-1 Net Increase in Total O&M by Fiscal Year**  
(In thousands of dollars, current dollars)

PROJECT	PROG	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
CCWD/Brentwood Water Treatment Plant	Exp	1,740	1,772	1,806	1,842	1,879	1,918	1,959	2,002	2,047	2,094	19,059
Applicant Funded	TW	70	80	90	100	110	120	130	140	150	160	1,150
New Reservoir sub-program	TW	8	17	17	17	17	17	17	17	17	17	161
Alternative Intake Project	UW			150	300	300	300	300	300	300	300	2,250
Applicant Funded	UW	15	17	19	21	23	25	27	29	31	33	240
EBMUD Intertie	UW		50	100	100	100	100	100	100	100	100	850
LV Energy Recovery	UW					(185)	(370)	(370)	(370)	(370)	(370)	(2,035)
Rock Slough Fish Screen	UW					75	150	150	150	150	150	825
Bollman WTP Improvements	WTP	50	50	50	50	50	50	50	50	50	50	500
R-B WTP Improvements	WTP	90	90	90	90	90	90	90	90	90	90	900
<b>TOTAL PRIORITY 1&amp;2</b>		<b>1,973</b>	<b>2,076</b>	<b>2,322</b>	<b>2,520</b>	<b>2,459</b>	<b>2,400</b>	<b>2,453</b>	<b>2,508</b>	<b>2,565</b>	<b>2,624</b>	<b>23,900</b>
Membrane Filtration	WTP							3,300	6,600	6,600	6,600	23,100
Solar Power Project	ADM			(55)	(110)	(110)	(110)	(110)	(110)	(110)	(110)	(825)
<b>TOTAL PRIORITY 3</b>				<b>(55)</b>	<b>(110)</b>	<b>(110)</b>	<b>(110)</b>	<b>3,190</b>	<b>6,490</b>	<b>6,490</b>	<b>6,490</b>	<b>22,275</b>



A measure of the potential impact on rates is the increase in annual operating costs as a result of bringing new capital facilities online. By FY2018, the annual increase reaches approximately \$2.6 million. Operating costs for the CCWD/Brentwood Water Treatment Plant will be funded by the City, which accounts for approximately 80% of the increase. As shown in Table V-1, annual operating costs for individual projects tend to be consistent from year to year while costs for sub-programs increase over time. This increase is a result of new facilities being added on a continuous basis throughout the CIP period.

The projects with the most significant operating impacts are Rock Slough Fish Screen, Alternative Intake, and the CCWD/Brentwood Water Treatment Plant, all of which are more fully described below. The cumulative total operating impact of applicant-funded projects (untreated and treated water) is also significant, adding \$193,000 per year by the last year of the CIP. Applicants pay only for capital costs; however, because applicant projects result in growth to the system, these additional operating costs are generally covered by the rates paid by the added customers.

Alternative Intake Project (FY2011): \$300,000/year (current dollars)

Operating costs associated with this project are predominantly related to new pumping and conveyance facilities and include incremental power (\$50,000), labor (\$100,000), levee maintenance (\$100,000), and other miscellaneous activities such as fish monitoring and site maintenance.

Rock Slough Fish Screen (FY2013): \$150,000/year (current dollars)

Operating costs associated with the fish screen include power, fish monitoring activities, and dredging. Of the total operating costs, approximately \$100,000 are for labor and \$50,000 is for energy costs related to screen cleaning, fish monitoring, and other maintenance activities.

CCWD/Brentwood Water Treatment Plant (FY2009): \$1,740,000/year (current dollars)

Operating costs associated with the new treatment plant include plant staff, chemicals, and power. Of the total operating costs, approximately \$1,100,000 is attributed to labor and \$640,000 to chemical and energy costs. Operating costs increase in later years due to expected increases in plant production. Additional operating expenses for future expansion of the CCWD/Brentwood Water Treatment Plant have not been included in the CIP due to the uncertainty in the timing of the project.

The potential future impact on operating costs related to the priority level 3 projects, if implemented, is significant. By FY2018, the annual increase reaches approximately \$6.5 million.

Annual Operating Labor Cost Impacts

The portion of the projected increase in operating costs related to labor is presented in Table V-2.

**Table V-2 Net Increase in Operating Labor by Fiscal Year**  
(in thousands of dollars, current dollars)

PROJECT	PROG	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
CCWD/Brentwood Water Treatment Plant*	Exp	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	11,000
Applicant Funded	TW	35	40	45	50	55	60	65	70	75	80	575
New Reservoir sub-program	TW	8	17	17	17	17	17	17	17	17	17	161
Alternative Intake Project	UW		50	100	100	100	100	100	100	100	100	850
Applicant Funded	UW	8	9	10	11	12	13	14	15	16	17	125
EBMUD Intertie	UW		3	5	5	5	5	5	5	5	5	43
LV Energy Recovery	UW					25	50	50	50	50	50	275
Rock Slough Fish Screen	UW					50	100	100	100	100	100	550
Bollman WTP	WTP	8	8	8	8	8	8	8	8	8	8	80
R-B WTP	WTP	8	8	8	8	8	8	8	8	8	8	80
<b>TOTAL PRIORITY 1&amp;2</b>		<b>1,167</b>	<b>1,235</b>	<b>1,293</b>	<b>1,299</b>	<b>1,380</b>	<b>1,461</b>	<b>1,467</b>	<b>1,473</b>	<b>1,479</b>	<b>1,485</b>	<b>13,739</b>
<b>Additional Staff</b>		<b>6</b>	<b>1</b>			<b>1</b>	<b>1</b>					<b>9</b>
Membrane Filtration	WTP							80	160	160	160	560
Solar Power Project	ADM											
<b>TOTAL PRIORITY 3</b>								<b>80</b>	<b>160</b>	<b>160</b>	<b>160</b>	<b>560</b>
<b>Additional Staff</b>								<b>1</b>				<b>1</b>

\* CCWD/Brentwood Water Treatment Plant assumed to be staffed with four operators and two maintenance mechanics. Fixed labor costs are estimated to be \$1,100,000 based on the Final Preliminary Design Report. Labor costs do not include District overhead.

By the tenth year of the CIP, operating and maintaining District facilities will require an increase in annual labor expenditures of approximately \$1.5 million, the majority of which is funded by the City of Brentwood. The analysis of impact on labor assumes current operating parameters such as frequency and standard of maintenance are maintained.

If all the priority level 1 and 2 projects were built as described, based on the assumptions noted above, the District would need approximately nine additional full-time employees (+/- 25%) over the ten-year CIP period. Six of the additional employees would be added for the CCWD/Brentwood Water Treatment Plant. The distribution of these staff needs is shown on the bottom line of Table V-2.

If all priority level 3 projects identified within the ten-year CIP schedule were implemented, the increase in annual operating labor expenditures by FY2018 would be approximately \$160,000. This equates to one additional employee by year ten of this CIP.

Energy Impacts

The portion of the projected increase in operating costs related to energy is presented in Tables V-3. By the tenth year in the CIP, operating District facilities will require an increase in net annual energy costs of approximately \$285,000. Projects with significant energy impacts include the CCWD/Brentwood Water Treatment Plant and the Los Vaqueros Energy Recovery Project. Energy costs for the CCWD/Brentwood Water

Treatment Plant will be fully paid for by the City of Brentwood. The Los Vaqueros Energy Recovery Project will reduce the District's energy costs by \$420,000 per year.

There are two priority level 3 projects that would have impacts to the District's energy costs, if implemented. The Solar Power project would lower energy costs by approximately \$110,000 per year by installing solar panels at several District facilities. The Membrane Filtration placeholder would increase the District's energy costs by approximately \$6 million if new regulations or further degradation of Delta water quality require the installation of membranes at the District's water treatment plants.

**Table V-3 Net Increase in Energy Costs by Fiscal Year**  
(in thousands of dollars, current dollars)

PROJECT	PROG	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	TOTAL
CCWD/Brentwood Water Treatment Plant	Exp	340	357	375	394	414	435	457	480	504	529	4,285
Applicant Funded	TW											
New Reservoir sub-program	TW											
Alternative Intake Project	UW			25	50	50	50	50	50	50	50	375
Applicant Funded	UW											
EBMUD Intertie	UW		47	95	95	95	95	95	95	95	95	807
LV Energy Recovery	UW					(210)	(420)	(420)	(420)	(420)	(420)	(2,310)
Rock Slough Fish Screen	UW					13	25	25	25	25	25	138
Bollman WTP	WTP	4	4	4	4	4	4	4	4	4	4	40
R-B WTP	WTP	2	2	2	2	2	2	2	2	2	2	20
<b>TOTAL PRIORITY 1&amp;2</b>		<b>346</b>	<b>410</b>	<b>501</b>	<b>545</b>	<b>368</b>	<b>191</b>	<b>213</b>	<b>236</b>	<b>260</b>	<b>285</b>	<b>3,355</b>
Membrane Filtration	WTP							3,220	6,440	6,440	6,440	22,540
Solar Power Project	ADM			(55)	(110)	(110)	(110)	(110)	(110)	(110)	(110)	(825)
<b>TOTAL PRIORITY 3</b>				<b>(55)</b>	<b>(110)</b>	<b>(110)</b>	<b>(110)</b>	<b>3,110</b>	<b>6,330</b>	<b>6,330</b>	<b>6,330</b>	<b>21,715</b>
<b>TOTAL PRIORITY 3</b>				<b>(59)</b>	<b>(123)</b>	<b>(128)</b>	<b>(132)</b>	<b>3,857</b>	<b>8,102</b>	<b>8,356</b>	<b>8,608</b>	<b>28,481</b>

**Section VI**  
**FINANCIAL PLAN**

## Section VI: Financial Plan

---

The ten year CIP is also the vehicle for the District's Ten-Year Financial Plan. The Financial Plan estimates expenditures and revenue requirements to fund ten years of capital and operating costs, while remaining in compliance with Board policies on rate increases, reserve balances and bond coverage ratios. The 2009-2018 Financial Plan concludes that CIP priority level 1 and 2 projects can be funded and all operating costs and debt service obligations met with annual revenue increases that meet the Board's rate policy of keeping rate increases at or below assumed inflation.

### Key Planning Assumptions

The CIP and Ten-Year Financial Plan serves as the District's primary planning document for funding capital projects, operating costs and debt service and, together with the adopted budget, provides the basis for the ten year rate projections.

The following key planning assumptions were used in the preparation of the Ten-Year Financial Plan for the 2009-2018 CIP

#### Cost and Revenues

- \$5.4 million of FY07 positive financial results allocated to the Alternative Intake Project (AIP).
- \$18.0 million for increase in the cost of water from 2010 to 2018 as a result of the Delta Vision process and the Delta Habitat Conservation Plan (HCP) process. These costs are revenue funded.
- The operating budgets are based on assumed 4% inflationary adjustments to the adopted FY08 budget.
- Debt service assumptions include the reduced cost in 2009 because of the Series O refunding bonds and the elimination of long-term debt in all ten years associated with the financing of the CCWD/Brentwood water treatment plant.
- Short-term debt funding of \$60 million in commercial paper will be used for the AIP to manage cash flows during the construction which increases debt service in this CIP. The commercial paper will be retired by 2014 with the use of reserves.
- Revenue generated by the treated water service agreements with the Cities of Antioch and Brentwood, as well as the Golden State Water Company (Bay Point) are included in the CIP, consistent with previous CIPs.
- Revenue anticipated from the long-term agreement with the City of Brentwood has been incorporated in this analysis, accounting for a capacity rights purchase of shared

facilities at the Randall-Bold Water Treatment Plant and full funding of construction and operations of the new treatment plant by the City.

Consistent with the recently completed 2008 rate review, the projected revenue increases include an assumption that less than \$30 million in outside funding for the AIP will be received due to uncertainty surrounding the extent and timing of State and Federal funding. The District is moving ahead with the AIP project, while continuing to aggressively pursue outside funding. All other assumptions are consistent with the prior CIP and the 2008 rate review, including assumed growth in new connections at slightly less than one-half of the Association of Bay Area Governments (ABAG) projections. Increases to Facility Reserve Charges (FRC) to recover 95% of the calculated amount of the FRC has been included, consistent with the 2008 rate review. Growth rates are consistent with the projections used for planning purposes.

Account Growth and Consumption

The growth rates assumed in this CIP are based on reevaluation of long-term consumption growth trends, with adjustments to growth assumptions made where appropriate. Growth in the untreated water municipal customer service areas is projected to increase by an average of 0.8% per year through 2011 and slightly higher for the remainder of the ten-year CIP period, for a cumulative total of 10.1%. This is lower than the growth rate assumed in the 2008 CIP. The slightly lower growth rates through 2011 reflect the implementation of Diablo Water District’s (DWD) well project. DWD growth was estimated at 2% for 2012 through 2015 and then drops back to 1%, consistent with the other municipal customers. Industrial and irrigation consumption is expected to remain at historical levels. Table VI-1a presents the assumed growth rates for the 2009 CIP, and Table VI-1b shows the 2008 CIP assumed growth rates.

Consumption in the Treated Water Service Area is projected to increase by an average of 0.7% per year through the ten-year CIP period. Specifically, the growth assumption per year by major customer class is shown in Tables VI-1a and VI-1b. These assumptions are consistent with the 2008 CIP.

**Table VI-1a Growth Assumption Per Year by Major Customer Class  
2009 CIP**

	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>
<b>Untreated Water</b>										
- Municipal	0.8%	0.8%	0.8%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
- Industrial	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
- Irrigation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Treated Water</b>										
- Residential	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
- Commercial	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
- Industrial	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%

**Table VI-1b Growth Assumption Per Year by Major Customer Class  
2008 CIP**

	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	<u>FY16</u>	<u>FY17</u>
<b>Untreated Water</b>										
- Municipal	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.6%	1.6%	1.6%	1.7%
- Industrial	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
- Irrigation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Treated Water</b>										
- Residential	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
- Commercial	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
- Industrial	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%

Although consumption growth assumptions are similar to the prior CIP, the base year consumption estimate has been decreased relative to the 2008 CIP projection. This is based on reevaluation of actual consumption levels in the untreated water service area, including FY07 results. Total annual consumption levels assumed in the current and the 2008 CIP are shown in Table VI-2. The decrease in the base year estimate and the assumed growth rates translate to water consumption that is slightly lower than the prior CIP over the ten-year planning period.

**Table VI-2 – Assumed Annual Consumption (000’s Acre-feet) 1)**

<u>CIP</u>	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>	<u>FY13</u>	<u>FY14</u>	<u>FY15</u>	<u>FY16</u>	<u>FY17</u>	<u>FY18</u>
2009	NA 2)	108.5	109.1	109.7	110.4	111.1	111.8	112.5	113.1	113.8	114.5
2008	108.8	109.6	110.4	111.2	112.1	113.0	113.9	114.9	115.6	116.3	NA
Difference		-1.1	-1.3	-1.5	-1.7	-1.9	-2.1	-2.4	-2.5	-2.5	

1) Does not include City of Brentwood consumption, estimated at 6,241 acre feet in 2008

2) Current estimate for 2008 is 107,900 acre feet

**Inflation**

Inflation is projected at 4% per year for operating and maintenance expenditures and capital improvement projects consistent with the long-term historical average. CVP water costs are estimated to increase by approximately 10.5% annually beginning in 2010 given historical increases and continued cost volatility, approximately 1.5 times higher than in the previous CIP.

### Debt/Bond Financing

To minimize rate impacts and optimize cash flows during construction of projects, the District uses short term commercial paper when appropriate. This CIP's rate analysis assumes a balance of approximately \$20.1 million in commercial paper at the end of the ten year planning period primarily to fund the Untreated Water Pipeline that will augment canal capacity for the delivery of untreated water. Because this project is related to growth, the associated debt service will be paid from MPP-SRIP restricted reserve funds. The commercial paper used to fund this project will be converted to long-term debt upon completion of the project. For purposes of this Financial Plan, it is assumed that the new treatment plant to serve the City of Brentwood will be funded with short-term debt. The construction of the plant will be financed with commercial paper, which will be paid in full by bonds issued by the City of Brentwood upon completion of construction. It is assumed that the commercial paper will be issued at a 3.5% interest rate. All debt service for this facility will be paid for by the City of Brentwood. In addition, this CIP assumes the use of \$60 million in commercial paper to meet cash flow requirements related to the accelerated construction schedule of the AIP. This commercial paper will be issued through the completion of the project in 2011, and paid off over the following three years with District reserves. If outside funding were to become available, it could be used to pay off the debt earlier than planned.

### Debt Ratings

The District's long-term debt rating is Aa3 from Moody's and AA from Standard and Poor's. Both ratings were reaffirmed during FY07. The District's commercial paper ratings were reaffirmed during FY07 at the highest quality levels of P-1 from Moody's and A-1 from Standard & Poor's. This CIP assumes that the current ratings will be maintained.

### Debt Service Coverage

The current Los Vaqueros and Randall-Bold bond covenants as well as Board policy require the District to maintain a debt service coverage ratio of 1.25 on water revenue bonds and other parity debt. For purposes of this Financial Plan, a minimum coverage ratio of 1.25 is assumed for the ten-year period, although actual projected coverage varies from 2.0 to 1.43. The average coverage ratio during the ten-year planning period is 1.6. The rate projections included in this Financial Plan are driven by planned revenue funded capital expenditures not by the debt service coverage requirement, although the coverage requirement is met throughout the ten-year CIP period.

### Reserve Funds

The District's reserve funds include a combination of unrestricted, legally restricted and Board restricted. Those reserves that are restricted by contractual or legal requirements are considered to be *legally restricted*; those that are Board restricted require previous action by the Board to limit their usage to specific purposes.

The District has a Board policy setting the minimum reserve balance at the total of six months' debt service and operating expense. The six months' operating expense requirement



will be met by a combination of unrestricted reserves and the Board restricted Rate Stabilization Fund. The six months of debt service requirement will be met by the legally restricted Bond Reserve Funds. A breakdown of the District's reserves as of December 31, 2007, including those reserves used to smooth rate increases, is provided on Table VI-3. Earnings from interest are assigned to the reserve balances that earn the interest, both restricted and unrestricted, and are used for the purposes of those reserves.

Table VI-3		Reserve Fund Balances - December 31, 2007			
(\$000)	Untreated	Treated	Other	TOTAL	
<b>Legally Restricted Funds</b>					
Los Vaqueros Bond Reserves			38,110	38,110	
Randall-Bold Bond Reserves			3,789	3,789	
State Revolving Loan Reserves			718	718	
Commercial Paper			4,065	4,065	
Canal Replacement			1,642	1,642	
USBR Reserve	1,113	-	-	1,113	
Subtotal	1,113	-	48,324	49,437	
<b>Board Restricted Reserves</b>					
Capital Improvement Fund 1)	26,027	26,157		52,184	
Rate Stabilization Fund 1)	38,655	18,240		56,895	
Sacramento/EBMUD Mitigation Reserve	2,495			2,495	
Vehicle Replacement Fund			2,135	2,135	
Self Insurance Reserve		1,321		1,321	
Workers' Compensation Deductible Reserve			1,291	1,291	
Clean Water Act Funds 1)		468		468	
MPP/FWSS Reserve 2)	34,796			34,796	
Drought Relief Fund			3,500	3,500	
Retiree Health Benefits Reserve Fund			7,235	7,235	
Las Vaqueros Commitment Reserve	3,526	-	-	3,526	
Subtotal	105,499	46,185	14,161	165,846	
<b>Unrestricted Funds</b>					
Unrestricted Reserves 1)	13,247	28,731	-	41,977	
Subtotal	13,247	28,731	-	41,977	
<b>TOTAL</b>	<b>119,859</b>	<b>74,916</b>	<b>62,485</b>	<b>257,260</b>	

1) Funds used to smooth rate increases over the next ten years.

2) Portion of these reserves used to pay qualifying debt service attributable to the MPP

## Projected Revenues

The District generates revenue from several sources, including water sales, Facility Reserve Charges, interest earnings, property taxes, grants and miscellaneous other sources. The primary sources of revenue are described below.

### Water Sales

Water sales generate approximately 75% of the District's total revenue. Treated water sales, including wholesale treated water and the untreated water component of the treated water rate, will provide approximately 63% of the total water sales revenue anticipated during the ten-year period of the Capital Improvement Program, with the remaining 37% generated by the sale of untreated water to untreated water only customers.

### Projected Revenue Increases

Table VI-4 compares the projected untreated water revenue increases necessary to fund untreated water only customers' share of all priority level 1 and 2 projects in the 2009 CIP, as well as projected operating costs and debt service. Virtually all of the revenue increases will result from increased untreated water rates and assumed growth. As with the prior CIP, no annual increase exceeds the assumed rate of annual inflation in the ten-year planning period. The revenue increase projections shown in Table VI-4 for this CIP are higher than the 2008 CIP. These increases are primarily the result of anticipated higher water costs as a result of the Delta Vision and HCP processes. The increase in water costs total approximately \$18 million over the final nine years of the ten-year financial plan and also impact revenue projections for treated water.

Table VI-5 compares the projected treated water revenue increases necessary to fund all priority level 1 and 2 projects in the 2009 CIP, as well as treated water operating costs, debt service and treated water's share of untreated water costs. The revenue increase projections are higher than the 2008 CIP. These increases are primarily the result of anticipated higher water costs to implement the Delta Vision and HCP processes as previously noted. These projected increases provide funding for new or increased treated water projects as well as treated water customers' share of the source water quality improvement projects. An increase of 3.5% is projected for the newly added year of 2018.

**Table VI-4 Projected Untreated Water Revenue Increases - Priority Level 1 and 2 Projects**  
**Comparison of 2009 and 2008 CIPs**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
2009 CIP	3.0%	3.25%	3.5%	3.5%	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%
2008 CIP	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	NA

**Table VI-5 Projected Treated Water Revenue Increases - Priority Level 1 and 2 Projects**  
**Comparison of 2009 and 2008 CIPs**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
2009 CIP	3.0%	3.15%	3.3%	3.3%	3.3%	3.3%	3.5%	3.5%	3.5%	3.5%
2008 CIP	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	N/A

Facility Reserve Charges

The Facility Reserve Charge (FRC) is a one-time charge for system capacity paid prior to a customer connecting to the District's water system. All new connections pay the untreated water FRC, and new connections in the Treated Water Service Area (TWSA) also pay the treated water FRC. Both the untreated and treated water FRCs include a “reimbursement” component and a “future facilities” component. The reimbursement component is based on the value and remaining capacity of existing facilities. This component reimburses existing customers for the portion of the costs of "oversizing" facilities to accommodate future growth. The future facilities component recognizes the cost of future water supply and facilities that are necessary to serve new connections. As FRC revenue is received the reimbursement component is used to fund costs in the year received and the future facilities component is apportioned to the appropriate reserve accounts for application to future and existing capital projects, consistent with the FRC methodology. FRCs have been increased to 95% of the calculated value with a two-year phase in period to reduce the amount of the current subsidy.

The estimated FRC reserve balances at the end of each fiscal year, summarized by major component, are identified in Table VI-6. The reimbursement component of the FRCs accumulate in the unrestricted reserve accounts. It is assumed that the reimbursement component of the untreated and treated water facility reserve charges will be expended in the year received, so no balances are included on the chart below. The negative balances identified in Table VI-6 represent those years where expenditures exceed accumulated revenues. FRC revenues will continue to accrue over a longer period than the ten-year CIP planning period. The beginning balance of zero in FY09 in the Untreated Water Future Supply Component is the result of the accelerated construction of the AIP. The balances grow again in FY10 until a large water right purchase projected in FY16. The balances in the Untreated Water Future Capacity component reflect the difference between collected amounts and debt service for growth's share of the Multi-Purpose Pipeline Project. Current projections show sufficient fund balances to pay for growth's share of Multi-Purpose Pipeline debt service through 2018.

**Table VI-6 Projected FRC Reserve Balances (cumulative)**

(\$ in millions)	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Untreated Water										
- Future Supply Component 1)	-	2.3	4.6	6.9	8.3	9.5	11.9	3.6	5.9	8.3
- Future Capacity Component 2)	26.2	27.3	28.4	29.5	30.6	31.7	32.8	33.9	35.0	36.1
Treated Water										
- Future Facilities Component	(5.7)	(4.1)	(2.6)	(1.0)	0.6	2.0	3.6	5.2	6.8	8.3

- 1) Funds used for Alternative Intake Studies and Long-term Future Water Purchases
- 2) Funds used for qualified amount of Multi-Purpose Pipeline Project debt

The Future Facilities Component of the Treated Water FRC reflects how continued collections over time reduce the negative balance resulting from prior years' expenditures for growth exceeding FRC collections. Current projects identified to serve "future" facility needs, or a percentage of current projects applicable to "future" needs, should be fully FRC funded by FY13. Until that time, the FRC balances will be negative.

In recent years, the conservative projections used by the District have been, on average, more reflective of actual growth than the ABAG projections. Table VI-7 shows the last five years of new connections as compared with the assumption used in this analysis. The assumptions are consistent with the 2008 rate analysis.

**Table VI-7 New Connections**

Annual New Connections	Five Year Historical Results					5 Year Average	Annual Projection 2009 CIP
	2003	2004	2005	2006	2007		
Raw Water	1,463	1,703	1,502	2,242	1,562	1,694	2,000
Treated Water	279	226	270	239	394	282	290

Revenue Projections

Table VI-8 below shows projected revenues for the period 2009 through 2018. These projections are based on the required funding of all priority level 1 and 2 projects; funding for discretionary projects (priority level 3) is not included. Rate revenues are adjusted for projected growth and estimated revenue increases. FRC revenues are computed by multiplying the FRC rate by the projected growth in connections. FRCs were adjusted to 95% of the calculated amount by the Board 2007. This increase is reflected in the 2009 CIP. It has been assumed that the FRC components subject to inflation will be increased by the Engineering News Record (ENR) index on an annual basis consistent with Board direction. Other revenues and property taxes are adjusted for inflation. The Other Revenues category in the 2009 CIP includes a one time payment from the City of Brentwood for the purchase of infrastructure and lands at the new treatment plant site. Property tax revenues were adjusted upward to reflect an end to funds being diverted to the Educational Revenue Augmentation Fund (ERAF) in 2005 and 2006. Interest income is computed on fund balances (including debt reserve funds whose interest is used to pay related debt service) at 5%, consistent with

the long-term historical average. Interest income declines in the later years as reserve balances are drawn down.

This CIP breaks out the estimated revenue from the City of Brentwood related to the long-term treated water service agreements. The revenues from the City of Brentwood include all estimated costs related to treated water delivered from the Randall-Bold treatment plant, treated water delivered from the new CCWD/Brentwood treatment plant currently in construction, and revenues received to make the debt service payments for the new plant through the construction phase of the project. The first year of the analysis assumes Brentwood will use on average all of the six million gallons per day (MGD) capacity it purchased from the Randall-Bold treatment plant, and when appropriate will use additional rented capacity from the plant. The remaining nine years assume a fully operational new treatment plant in addition to the six MGD purchased at the Randall-Bold Treatment Plant. Revenues from Brentwood over the ten-year planning period total \$71.7 million. Finally, Diablo Water District (DWD) revenue includes DWD's contractual share of debt service, and DWD's share of projected inflated operating expenses for the Randall-Bold treatment plant.

Table VI-8 shows the revenue projected in this CIP, and Table VI-9 shows the revenue projected in the 2008 CIP. Changes in the revenue estimates in the 2009 CIP include higher estimates in cumulative rate revenues related to continued growth in 2018 and recovery of additional operating costs related to higher cost of water as a result of the Delta Vision and HCP processes. The Land Levy taxes will be collected through 2010, when the USBR will have been fully paid for the Contra Costa Canal System. Total collections in the CIP reflect two years of Land Levy taxes, while the prior CIP had three years.

Source	(in millions of dollars)										Total
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Rate Revenues	101.4	103.9	107.9	112.3	117.3	123.1	129.1	136.6	145.0	154.6	1,231.2
Rate Increases	2.3	3.1	3.2	3.3	3.4	3.5	3.6	3.8	3.7	4.1	34.0
FRC	13.6	13.7	13.8	14.0	14.1	14.2	14.4	14.5	14.6	14.8	141.7
City of Brentwood	3.1	5.2	7.0	7.3	7.5	7.8	8.0	8.3	8.6	8.9	71.7
Other Revenues	1.0	2.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	11.9
Interest Income	8.4	8.7	7.4	7.1	6.1	5.2	4.8	4.8	4.8	4.8	62.1
Property Taxes	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.6	24.7
Land Levy Taxes	0.7	0.7	-	-	-	-	-	-	-	-	1.4
DWD Revenue	2.4	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.6	2.6	25.0
<b>Total</b>	<b>135.2</b>	<b>143.0</b>	<b>145.1</b>	<b>149.8</b>	<b>154.3</b>	<b>159.8</b>	<b>166.0</b>	<b>174.2</b>	<b>182.9</b>	<b>193.4</b>	<b>1,603.7</b>

(in millions of dollars)											
Source	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Rate Revenues	97.9	101.5	105.2	109.0	113.1	116.9	120.8	124.7	128.3	133.0	1,150.4
Rate Increases	2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	34.4
FRC	12.7	12.8	12.9	13.1	13.2	13.3	13.5	13.6	13.7	13.9	132.7
City of Brentwood	3.1	5.2	7.0	7.3	7.5	7.8	8.0	8.3	8.6	8.9	71.7
Other Revenues	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.2	10.6
Interest Income	7.2	7.4	7.0	5.1	4.6	4.7	4.7	4.7	4.6	4.5	54.5
Property Taxes	1.7	1.8	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	18.9
Land Levy Taxes	0.7	0.7	0.7	-	-	-	-	-	-	-	2.1
DWD Revenue	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.6	24.7
<b>Total</b>	<b>129.4</b>	<b>135.8</b>	<b>141.2</b>	<b>143.1</b>	<b>147.1</b>	<b>151.7</b>	<b>156.1</b>	<b>160.8</b>	<b>164.8</b>	<b>170.0</b>	<b>1,500.0</b>

### **Projected Expenditures**

The Financial Plan considers estimated expenditures for District-wide operations and maintenance activities as well as completion of the priority level 1 and 2 capital projects included in the CIP. Estimates are presented both in current and inflated dollars at 4% for the ten-year planning period.

#### Operations and Maintenance Expenditures

Estimated 2009 operating and maintenance (O&M) costs are lower than the previous CIP due primarily to lower than anticipated cost of CVP water, based on a change in budgeting for CVP power costs. Beginning in 2010, it is anticipated that the cost of water will increase as a result of the Delta Vision process. Water cost increases of approximately \$18 million over the final nine years have been assumed in the Financial Plan to use towards these increased costs. The O&M impacts of planned improvements are detailed in Section V: Operating Impacts of the Capital Improvement Program in Table V-1 (current dollars) and Table V-2 (inflated dollars). These are also included in the projections below. The new Brentwood long-term agreement includes the operating cost of the new treatment plant, fully paid by the City, plus a component for District overhead. These operating cost estimates include maintenance costs for the Alternative Intake project, assumed to be operational by FY10.

Table VI-10 summarizes projected total District O&M expenses in current dollars compared to the estimates in the 2008 CIP. Table VI-11 summarizes O&M expenses in inflated dollars at 4% annually for the ten-year planning period.

**Table VI-10 Total District Operating & Maintenance Expenses**  
(in millions of dollars, current dollars)

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
2009 CIP	66.9	68.9	70.5	72.0	72.5	72.9	73.4	73.8	74.0	74.8
2008 CIP	68.0	69.6	70.9	72.0	72.4	72.7	72.8	72.7	72.3	N/A

**Table VI-11 Total Projected District Operating & Maintenance Expenses**  
(in millions of dollars, inflated dollars)

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
2009 CIP	66.9	71.0	75.1	79.2	83.3	87.8	93.0	98.4	104.2	110.2
2008 CIP	68.0	71.8	75.4	79.1	83.2	87.6	92.2	96.9	101.8	N/A

### Capital Projects

The Financial Plan assumes that all priority level 1 & 2 projects are funded for a ten-year total of approximately \$362.9 million in current dollars and \$429.7 million in inflated dollars. Priority level 3 projects are assumed to be unfunded. Only the capital costs of priority level 1 and 2 projects have been included for the purpose of developing projected adjustments.

### Capital Funding Sources

The District's primary revenue source is the sale of untreated and treated water. Rate revenues, along with other District revenues and reserves, cover the costs of O&M expenses, debt service and equity funded (pay-as-you-go) capital expenditures. Commercial paper is available to meet short-term cash flow requirements if needed and is generally used during the construction phase of capital projects. This CIP projects a balance in commercial paper of approximately \$21.0 million at the end of the ten-year planning period, primarily to fund the Untreated Water Pipeline during construction. Long-term debt will be issued when the project is complete with the debt service paid from SRIP-MPP restricted reserves. Commercial paper is also used to fund construction of the CCWD/Brentwood Water Treatment Plant and through 2011 to fund the accelerated construction schedule of the AIP. The commercial paper for the water treatment plant will be retired with bonds issued by the City of Brentwood. The commercial paper for the AIP will be retired from CCWD reserves over three years, 2012 to 2014.

Another significant revenue source comes from funding by others as shown in Table VI-14a. Projects funded by other agencies or applicants total \$166.7 million, higher than in the prior CIP by \$21.7 million. The majority of the change in funded by other agencies is the anticipated funding for the Canal Replacement Project which is approximately \$13.3 million higher with \$10.0 million funded from the Water Resources Development Act (WRDA). The City of Brentwood funding for the new treatment plant is not reflected Table VI-14a under the "funded by others category" as these costs are funded by District short-term debt initially. The projected debt service for the District during the ten-year planning period includes two

major changes from the prior CIP projections. A significant reduction in the treated water debt service is the result of the City of Brentwood's decision to provide the long-term financing for the new treatment plant. A significant increase in the untreated water debt service is the result of the decision to finance the construction of the AIP with commercial paper and retire that debt by 2014 with reserves. Total revenue funded projects in this CIP decreased by \$52.9 million (inflated dollars) driven primarily by the decision to fund the construction of the AIP with commercial paper.

The Board restricted Rate Stabilization Fund, Capital Improvement Fund and Unrestricted Reserves will also be used during this ten-year period to partially fund the proposed priority level 1 and 2 capital expenditures as well as debt service for previously completed debt-funded capital projects. The Rate Stabilization fund balance was established in accordance with the Master Bond Resolution adopted by the Board in October 1987. The purpose of the fund is to assist in smoothing rates to pay Los Vaqueros Project debt service and to assure that minimum debt service coverage ratios required by the District's bond covenants are met. Funds deposited into this reserve were treated as operating costs in the year of deposit and will be treated as revenue in years of use for the purpose of computing the District's debt service coverage ratio. Initial use of this reserve is projected to occur in 2011 with the entire reserve used by the end of the ten-year planning period, consistent with the District's reserve policy.

Other reserve balances are used to smooth the District's cash flow needs from year to year. This allows an orderly progression of single-digit rate increases at less than the rate of assumed inflation. However, as minimum reserve balances and debt coverage levels are approached, it will be necessary to plan for water rates that, when combined with other revenue sources, will fully cover annual costs. Reserve balance projections are provided on page VI-18.

This financial plan reflects a conservative view of required revenues, it assumes all of the capital expenditures in the FY08 budget occur. This assumption sets the beginning reserve balances consistent with the recently completed rate review, and adds a year (FY18) of additional capital expenditures and other costs to this analysis.

### **Capital Project Impacts on Revenue Requirements**

#### Priority Level 1 and 2 Projects (Non-Debt Funded)

The following two tables show how the priority level 1 and 2 Projects impact equity funded capital expenditures by program. Equity funded projects are funded by water rates, FRC revenues, and reserves. Tables VI-12 and VI-13 include all projects designated as priority level 1 and 2 that are not debt, developer or grant funded, such as funds received by outside agencies. Tables VI-12a and VI-12b show program estimates in current dollars for the 2009 CIP and 2008 CIP, respectively, while Tables VI-13a and VI-13b display the estimates for both CIPs in inflated dollars. During the common years of the 2008 and 2009 CIPs (FY09 through FY17), the equity funded portion is \$44.2 million lower in the 2009 CIP in current dollars. This is primarily the result of the decision to use commercial paper to fund \$58.5



million dollar of the AIP cash flows scheduled for FY10 and FY11 in the 2008 CIP. The projects in both Untreated Water and Treated Water were reevaluated for the impact of inflation on current dollar estimates.

**Table VI-12a Equity Funded Capital Expenditures by Program <sup>[1]</sup>  
- Priority Level 1 and 2 Projects  
2009 CIP (in millions of dollars, current dollars)**

Program	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	Total
Administrative Support Facilities	0.7	0.4	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	4.5
Delta Projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment & Capital Purchases	2.0	1.9	1.7	1.1	1.0	2.0	1.0	1.7	1.2	0.9	14.5
Expansion of Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Future Water Supplies	0.2	0.2	0.2	0.2	0.3	0.2	8.2	0.2	0.2	0.4	10.3
Los Vaqueros	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5.0
Treated Water Distribution & Storage	6.9	6.4	4.3	5.1	4.0	4.8	3.8	4.8	4.1	6.3	50.5
Untreated Water Supply & Transport	1.5	4.4	6.6	4.1	3.1	2.5	4.4	2.1	2.0	2.1	32.8
Water Demand Reduction	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	6.0
Water Treatment Facilities	0.9	2.9	2.9	0.8	1.2	1.2	1.4	1.4	0.9	1.4	15.0
<b>Total</b>	<b>13.3</b>	<b>17.3</b>	<b>17.4</b>	<b>12.8</b>	<b>11.1</b>	<b>12.2</b>	<b>20.3</b>	<b>11.7</b>	<b>9.9</b>	<b>12.6</b>	<b>138.6</b>

[1] Does not include projects funded by applicants, debt or other agencies

**Table VI-12b Equity Funded Capital Expenditures by Program <sup>[1]</sup>  
- Priority Level 1 and 2 Projects  
2008 CIP (in millions of dollars, current dollars)**

Program	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	Total
Administrative Support Facilities	1.0	0.4	0.4	0.6	0.4	0.4	0.4	0.4	0.4	0.4	4.8
Delta Projects	3.5	19.1	38.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.9
Equipment & Capital Purchases	1.8	2.6	1.4	2.3	1.5	0.9	1.1	1.0	1.1	1.2	14.9
Expansion of Services	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Future Water Supplies	0.4	0.2	0.2	0.2	0.2	0.3	0.2	1.9	0.2	0.2	4.0
Los Vaqueros	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5.0
Treated Water Distribution & Storage	9.9	4.9	4.5	3.7	4.5	3.8	4.5	3.7	5.0	6.7	51.2
Untreated Water Supply & Transport	4.4	2.6	2.1	3.4	2.8	1.8	2.3	3.8	1.9	1.9	27.0
Water Demand Reduction	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5.2
Water Treatment Facilities	4.6	0.8	2.4	2.7	0.9	1.3	1.3	1.4	1.4	0.9	17.7
<b>Total</b>	<b>27.0</b>	<b>31.6</b>	<b>50.3</b>	<b>13.9</b>	<b>11.3</b>	<b>9.5</b>	<b>10.8</b>	<b>13.2</b>	<b>11.0</b>	<b>12.3</b>	<b>190.9</b>

[1] Does not include projects funded by applicants, debt or other agencies

**Table VI-13a Equity Funded Capital Expenditures by Program [1]  
 -Priority Level 1 and 2 Projects  
 2009 CIP (in millions of dollars, inflated dollars)**

Program	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	Total
Administrative Support Facilities	0.7	0.4	0.7	0.5	0.5	0.5	0.5	0.6	0.6	0.6	5.6
Delta Projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment & Capital Purchases	2.1	2.1	1.9	1.3	1.2	2.6	1.4	2.4	1.7	1.3	18.0
Expansion of Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Future Water Supplies	0.2	0.2	0.2	0.2	0.4	0.2	10.9	0.2	0.2	0.6	13.3
Los Vaqueros	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	6.5
Treated Water Distribution & Storage	1.6	4.8	7.1	4.6	3.6	3.2	5.9	2.9	2.9	3.1	39.7
Untreated Water Supply & Transport	7.2	7.0	4.9	6.1	5.0	6.1	5.1	6.6	5.8	9.4	63.2
Water Demand Reduction	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9	0.9	7.6
Water Treatment Facilities	1.0	3.2	3.3	1.0	1.5	1.6	1.9	2.0	1.3	2.2	19.0
<b>Total</b>	<b>13.9</b>	<b>19.0</b>	<b>19.4</b>	<b>15.0</b>	<b>13.5</b>	<b>15.7</b>	<b>27.2</b>	<b>16.2</b>	<b>14.1</b>	<b>18.9</b>	<b>172.9</b>

[1] Does not include projects funded by applicants, debt or other agencies

**Table VI-13b Equity Funded Capital Expenditures by Program [1]  
 - Priority Level 1 and 2 Projects  
 2008 CIP (in millions of dollars, inflated dollars)**

Program	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	Total
Administrative Support Facilities	1.0	0.4	0.4	0.7	0.5	0.5	0.5	0.5	0.5	0.5	5.5
Delta Projects	3.5	19.1	38.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.9
Equipment & Capital Purchases	1.8	2.8	1.6	2.7	1.8	1.2	1.4	1.4	1.6	1.7	18.0
Expansion of Services	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Future Water Supplies	0.4	0.2	0.2	0.2	0.2	0.3	0.2	2.6	0.2	0.2	4.7
Los Vaqueros	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	6.0
Treated Water Distribution & Storage	9.9	5.3	5.1	4.4	5.5	4.8	6.0	5.0	7.2	9.9	63.1
Untreated Water Supply & Transport	4.4	2.8	2.3	3.8	3.2	2.3	3.0	5.2	2.7	2.8	32.5
Water Demand Reduction	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	6.7
Water Treatment Facilities	4.6	0.8	2.7	3.2	1.0	1.7	1.6	2.0	2.0	1.4	21.0
<b>Total</b>	<b>27.0</b>	<b>32.5</b>	<b>51.7</b>	<b>16.2</b>	<b>13.4</b>	<b>12.1</b>	<b>14.0</b>	<b>18.1</b>	<b>15.6</b>	<b>18.0</b>	<b>218.6</b>

[1] Does not include projects funded by applicants, debt or other agencies

### Revenue and Debt Funded, Priority Level 1 and 2 Projects

Comparison of the 2009 CIP (Table VI-14a) and 2008 CIP (Table VI-14b) identifying the projected capital expenditures by their untreated and treated water funding sources shows the overall impacts of the adjustments discussed in this document. Specifically, the changes are as follows:

**Untreated Water Revenue Funded Projects** - The 2009 CIP reflects a decrease in untreated water revenue funded projects of \$41.3 million (inflated) dollars in the first nine years, the years in common with the prior CIP and increased an additional \$5.5 million (inflated) dollars for the additional year in this analysis, 2018. The decrease of \$35.8 million over the ten-year period is almost entirely the result of the decision to fund \$58.1 million of the accelerated AIP construction schedule with commercial paper. Increases in other projects offset the decrease from the portion of AIP that is debt funded: Untreated Water Rights Purchases - \$8.3 million, Los Vaqueros Energy - \$2.6 million, Untreated Water Meter Upgrades - \$2.2 million, Canal Replacement Project - \$1.9 million

**Treated Water Revenue Funded Projects** - The 2009 CIP shows an increase of \$3.4 million (inflated) over the common years of the two CIPs and the addition of \$12.3 million in the final year of this 2009 CIP. Various treated water programs have been reprioritized to make up the change in the common years. The addition of \$12.8 million in 2018 is the result of continuing treated water programs.

**Table VI-14a Projected Capital and Debt Service Expenditures  
- Priority Level 1 and 2 Projects  
(in millions of dollars, inflated dollars)**

<b>2009 CIP</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>
<b>Untreated Water(a)</b>											
Revenue-Funded Projects	3.9	7.2	9.6	6.8	6.0	6.0	19.0	5.7	5.5	6.1	75.8
Debt-Service (b)	0.8	1.8	2.1	21.4	20.7	20.0	0.0	0.1	0.4	0.7	68.0
Debt-Service (c)	37.9	39.6	38.6	38.7	38.7	38.7	38.7	38.9	38.8	38.8	387.4
Total Untreated	42.6	48.6	50.3	66.9	65.4	64.7	57.7	44.7	44.7	45.6	531.2
<b>Treated Water</b>											
Revenue-Funded Projects	10.0	11.8	9.8	8.2	7.5	9.7	8.2	10.5	8.6	12.8	97.1
Debt-Service (d)	1.2	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5
Debt-Service (c)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	51.0
Total Treated	16.3	18.2	14.9	13.3	12.6	14.8	13.3	15.6	13.7	17.9	150.6
<b>Funded by Others</b>											
Delta Projects (e)	9.5	31.9	8.6	4.1	3.4						57.5
Funded by Other Agencies	1.8	1.2	2.9	8.3	12.5	15.2	25.7	15.0	1.2	0.7	84.5
Funded by Applicants	6.1	1.8	1.8	1.9	2.0	2.1	2.1	2.2	2.3	2.4	24.7
Total Funded by Others	17.4	34.9	13.3	14.3	17.9	17.3	27.8	17.2	3.5	3.1	166.7
<b>Total District</b>	<b>76.3</b>	<b>101.7</b>	<b>78.5</b>	<b>94.5</b>	<b>95.9</b>	<b>96.8</b>	<b>98.8</b>	<b>77.5</b>	<b>61.9</b>	<b>66.6</b>	<b>848.5</b>

- (a) Approximately 38% of Untreated Water Expenditures are paid by Treated Water Rates (as the Treated Water Service Area is also a Untreated Water Customer)
- (b) Debt service – Commercial Paper and future Long Term Debt - Seismic and Reliability Improvement Projects, Alternative Intake Project
- (c) Existing debt service (Los Vaqueros, Randall-Bold, Canal, Bollman, and Issued SRIP long term debt)
- (d) Debt service – Commercial Paper – CCWD/Brentwood WTP (Fully paid by the City of Brentwood)
- (e) Funded by CALFED agencies

**Table VI-14b Projected Capital and Debt Service Expenditures  
- Priority Level 1 and 2 Projects  
(in millions of dollars, inflated dollars)**

<b>2008 CIP</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>Total</b>
<b>Untreated Water(a)</b>											
Revenue-Funded Projects	10.5	24.3	42.6	6.5	5.4	4.5	5.1	9.9	5.0	5.3	119.1
Debt-Service (b)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.7	1.2
Debt-Service (c)	39.7	39.7	39.6	38.7	38.7	38.7	38.7	38.7	38.9	38.9	390.3
Total Untreated	50.2	64.0	82.2	45.2	44.1	43.2	43.8	48.7	44.3	44.9	510.6
<b>Treated Water</b>											
Revenue-Funded Projects	16.5	8.2	9.1	9.7	8.0	7.6	8.9	8.2	10.6	12.7	99.5
Debt-Service (b)	0.8	1.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	20.2
Debt-Service (c)	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	51.0
Total Treated	22.4	14.3	16.5	17.1	15.4	15.0	16.3	15.6	18.0	20.1	170.7
<b>Funded by Others</b>											
Delta Projects (d)	4.9	8.1	8.9	19.8							41.7
Funded by Other Agencies	4.5	3.4	0.8	3.4	5.1	13.3	14.4	24.7	14.4	1.1	85.1
Funded by Applicants	1.6	1.6	1.6	1.7	1.8	1.9	1.9	2.0	2.1	2.2	18.4
Total Funded by Others	11.0	13.1	11.3	24.9	6.9	15.2	16.3	26.7	16.5	3.3	145.2
<b>Total District</b>	<b>83.6</b>	<b>91.4</b>	<b>110.0</b>	<b>87.2</b>	<b>66.4</b>	<b>73.4</b>	<b>76.4</b>	<b>91.0</b>	<b>78.8</b>	<b>68.32</b>	<b>826.5</b>

- (a) Approximately 38% of Untreated Water Expenditures are paid by Treated Water Rates (as the Treated Water Service Area is also a Untreated Water Customer)
- (b) Debt service – Commercial Paper and future Long Term Debt - Seismic and Reliability Improvement Projects, CCWD/Brentwood WTP (Fully paid by the City of Brentwood)
- (c) Existing debt service (Los Vaqueros, Randall Bold, Canal)
- (d) Funded by CALFED agencies

Reserve Balances – Reserves are utilized as necessary through the ten-year rate projection period to enable small and consistent revenue increases for both untreated and treated water customers. Reserve balances used to smooth rates will be drawn down to the Board established minimum level of six months of projected operating expense by the end of the ten-year rate analysis.

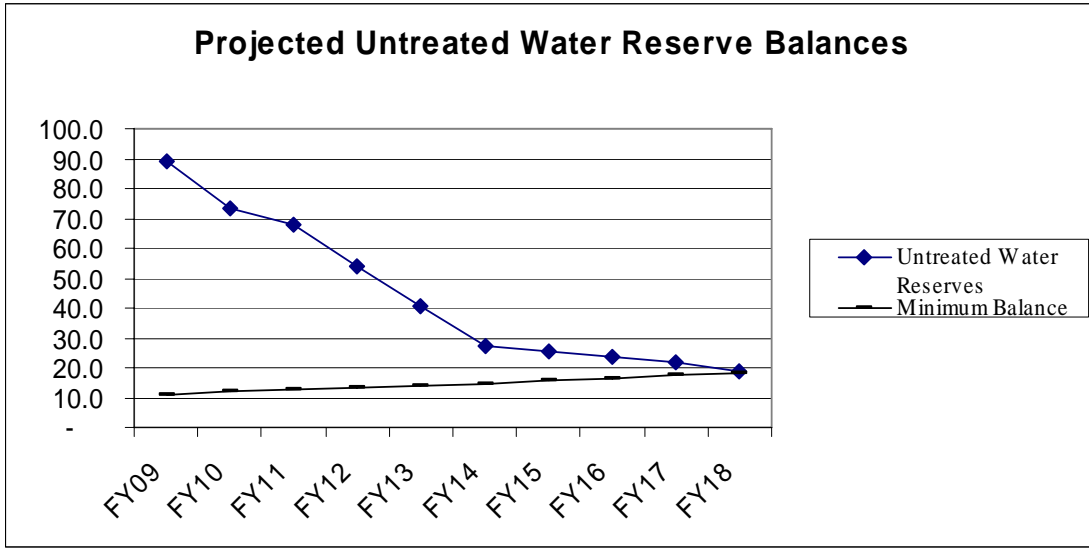
The reserves shown in Table VI-15 and Figures VI-1 and VI-2 primarily consist of untreated and treated water reserves, the Capital Improvement Reserve Fund and the Rate Stabilization Reserve Fund. The minimum balance requirements reflect six months of projected operating expense consistent with Board Policy. The District also maintains six months of debt service obligation in the bond reserve funds. However, because the bond reserve funds are restricted, they are not included in the reserve balances to offset revenue increases.

**Table VI-15 Treated and Untreated Water Reserve\* Balances by Fiscal Year**

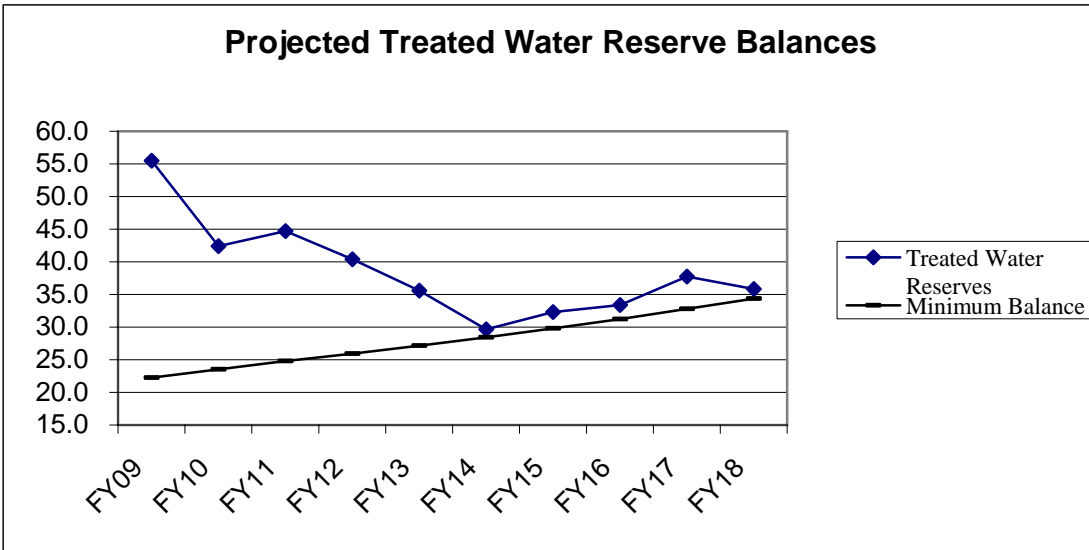
(\$ in millions)	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Untreated Water Reserves	89.0	73.4	67.6	54.0	40.9	27.1	25.5	23.5	21.5	18.7
Minimum Balance	11.2	11.9	12.6	13.3	13.9	14.7	15.5	16.4	17.3	18.2
Treated Water Reserves	55.5	42.4	44.7	40.4	35.6	29.6	32.3	33.4	37.8	35.8
Minimum Balance	22.3	23.5	24.8	25.9	27.1	28.4	29.8	31.2	32.8	34.4

\* Includes Unrestricted and Board restricted Capital Improvement and Rate Stabilization Funds. Does not include legally restricted and other Board restricted reserves.

**Figure VI-1**



**Figure VI-2**



**Revenue Increase Projections**

Table VI-16 provides the projected increases on the untreated water revenues necessary to meet the projected expenditures in the 2009 CIP as compared with the 2008 CIP. Table VI-17 shows the treated water projections from the 2009 CIP and the 2008 CIP. Both the untreated and treated water revenue increases consider the potential that not all of the outside funding for the Alternative Intake Project (AIP) will be received. Although sources of outside funding are available, they have not been committed to the AIP as of this CIP. As outside funding is secured, future CIPs will reflect the impacts on projected revenue increases. These revenue increases are higher than those projected in the 2008 CIP as a result of an anticipated increase to the cost of water driven by the Delta Vision and HCP processes.

**Table VI-16 Untreated Water Projected Rate Impacts – Priority Level 1 and 2 Projects**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
2009 CIP	3.0%	3.25%	3.5%	3.5%	3.5%	3.5%	3.75%	3.75%	3.75%	3.75%
2008 CIP	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	N/A

**Table VI-17 Treated Water Projected Rate Impacts – Priority Level 1 and 2 Projects**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
2009 CIP	3.0%	3.15%	3.3%	3.3%	3.3%	3.3%	3.5%	3.5%	3.5%	3.5%
2008 CIP	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	N/A

If rates were set to fund all projects identified in the three CIP priority categories, rather than just priority level 1 and 2, an additional \$200.6 million in revenue would be required in the 2009 CIP over the ten-year period. Included in the unfunded priority level 3 projects are \$96.6 million for a membrane filtration water quality project and \$72.2 million for a large portion of the Canal Replacement Project.

**Section VII**

**PROJECT SUMMARIES**



**Administrative, Support and Maintenance Facility  
Improvement Program**

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Administrative, Support and Maintenance Facility Improvement  
**Sub-Program:** Facilities Upgrades  
**Project:** Annual Building and Facility Improvements  
**Priority:** 1

The purpose of this project is to protect the health and safety of employees and customers and to comply with codes and regulations related to building health and safety through capital improvements to existing District buildings and grounds.

Examples of types of improvements include: roof replacement; replacement or upgrading of heating and cooling systems; electrical systems or equipment; plumbing and other mechanical components; and major structural, interior, and site improvements. Improvement projects are initiated based on findings reported on maintenance and field inspection reports. A seismic assessment of District Center will be performed in FY2009 and the District Center communications rewiring project has been identified for FY2011.

This program was included in the FY2008 CIP at a ten-year cost of \$3,937,000. The cost has been adjusted for inflation, and to reflect the addition of the seismic assessment project.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$4,330,000  
**Cost Estimate Accuracy Range:** \$6,495,000 to \$3,031,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$533	\$398	\$613	\$398	\$398	\$398	\$398	\$398	\$398	\$398
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** 38% of the cost of this project will be funded by untreated water rates and 62% by treated water rates as described in Section III, Table III-1.

**Operational Impacts:** These improvements will serve to reduce operation and maintenance costs or to keep these costs from rising through replacement or upgrades to facility systems and components. Improvements will also serve to extend the useful life of facilities.

**Basis for Priority:** This project has been ranked as priority level 1 based on the need to continually reinvest in the District's support facilities and buildings in order to protect the health and safety of employees and customers and to comply with codes and regulations related to building health and safety.

**Budgeting Department/Division:** Operations and Maintenance

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Administrative, Support and Maintenance Facility Improvement

**Sub-Program:**

**Project:** Energy Demand Reduction Program

**Priority:** 2

The purpose of this project is to evaluate the District’s energy use and identify strategies to reduce energy cost, ensure the District is well positioned to meet any new regulations, and to conform to the District’s mission of delivering service in an environmentally responsible manner.

The District has experienced cost increases in electrical energy that are roughly double the rate of inflation. One issue contributing to the pricing uncertainty is the signing into law last year of AB 32, California’s Global Warming Solutions Act of 2006. The regulations implementing AB 32 are in development and are expected to result in increasing pressure on the District to reduce energy consumption. A water-energy nexus exists because water treatment, transmission, and distribution of drinking water are energy intensive processes.

This project includes preparation of an energy reduction master plan prioritizing projects that could be implemented to reduce energy consumption, specifically electricity and fossil fuel use. The master plan will evaluate the District’s current energy use and will identify energy efficiency type projects including solar, hydropower, pump replacements, and fuel savings. The master plan will include a cost/benefit analysis for each alternative identified.

This project is new to the CIP.

**Total Project:** \$150,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$150,000

**Cost Estimate Accuracy Range:** \$173, 000 to \$135,000 (+15%/-10%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$150									
P P P P									

P = Planning

D = Design

C = Construction

O = Other

**Project Funding:** 38% of the cost of this project will be funded by untreated water rates and 62% by treated water rates as described in Section III, Table III-1.

**Operational Impacts:** Impacts to total annual O&M costs are anticipated to be negligible.

**Basis for Priority:** This project has been ranked priority level 2 because the District has a moderate level of control over the schedule.

**Budgeting Department/Division:** Planning

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Administrative, Support and Maintenance Facility Improvement  
**Sub-Program:**  
**Project:** Solar Power Project  
**Priority:** 3

The purpose of this project is to reduce the District’s carbon footprint and offset increasing energy costs with renewable energy sources and to conform to the District’s mission of delivering service in an environmentally responsible manner. The District has experienced cost increases in electrical energy that are roughly double the rate of inflation and these increases are projected to continue in the coming years.

The project would entail installation of solar power systems at various District Facilities.

This project is new to the CIP.

**Total Project:** \$3,500,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$3,500,000

**Cost Estimate Accuracy Range:** \$173, 000 to \$135,000 (+15%/-10%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$313	\$3,187								
D D D D C C C C									

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** The District is pursuing partial project funding through the California Solar Initiative Performance Rebate program. Any District-funded cost would be allocated based on benefits received.

**Operational Impacts:** Annual operating cost savings are estimated to be approximately \$110,000.

**Basis for Priority:** This project has been ranked priority level 3 because it does not meet the District’s five-year payback criteria

**Budgeting Department/Division:** Engineering

## **Delta Projects Program**

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Delta Projects  
**Sub-Program:**  
**Project:** Alternative Intake Project  
**Priority:** 2

The purpose of this project is to protect and improve water quality delivered to the District’s customers. The project includes the planning, design, and construction of a new intake on Victoria Canal where higher quality source water is available. Because of water quality degradation in the Delta and increasingly stringent drinking water regulations, the District needs this alternative intake to continue meeting its water quality objectives. This project is key to ensuring CCWD’s Board-adopted water quality objectives continue to be met.

Major features of the project include a 72-inch diameter pipeline, a tunnel beneath Old River connecting to the existing Old River Pipeline on Byron Tract, and a new pump station with a capacity of 250 cubic feet per second. Design will be completed in FY2008, and construction is anticipated to be completed in FY2011.

This project was included in the FY2008 CIP at a total project cost of \$100,000,000. The cost has been adjusted for inflation and to reflect changes during design development including an increase in the pipeline diameter and the addition of variable frequency drives.

**Total Project:** \$111,207,000 (Escalated)  
**Cost to Date through FY2008:** \$22,700,000  
**CIP Total:** \$88,507,000 (Escalated)  
**Cost Estimate Accuracy Range:** \$137,759,000 to \$97,931,000 (+30%/-15%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$47,619	\$37,765	\$3,123							
C C C C	C C C C	C							

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** The District’s share of project costs is anticipated to be \$80 million (funded from untreated water FRCs and commercial paper to be serviced with untreated water rates). The District is seeking \$30 to \$50 million in funding from various State and federal agencies.

**Operational Impacts:** The District’s operations and maintenance costs are estimated to increase by \$300,000 per year starting in FY2011. Included in this estimate are labor, additional power cost and levee maintenance for the new facility.

**Basis for Priority:** This project has been ranked as priority level 2 because the District has a moderate level of control as to the project schedule.

**Budgeting Department/Division:** Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Delta Projects  
**Sub-Program:**  
**Project:** Los Vaqueros Reservoir Expansion Project  
**Priority:** 2

The purpose of this project is to enhance the Delta environment and improve Bay Area water supply reliability and water quality. The project is a result of the recommendations in the long term CALFED Bay-Delta Program. Expansion of Los Vaqueros is one of the surface water storage projects recommended for project-specific study. If this project is shown to be feasible, all CCWD customers could potentially benefit.

Completion of the initial planning studies in FY2003 allowed the Board of Directors to consider the CALFED Bay-Delta Program Proposal for an Enlarged Los Vaqueros Reservoir and call an advisory vote in March 2004 as required in the CCWD Board Principles. The positive vote allowed the project to move forward. A final decision on whether and how to enlarge Los Vaqueros will consider the results of the planning studies, the CCWD Board Principles, and the additional assurances, commitments, and requirements adopted by the Board on June 25, 2003.

FY2009 and FY2010 activity will include completion of the environmental and engineering studies including an EIS/EIR, a Federal Feasibility Study, a State Feasibility Study, and a public outreach program.

This project was included in the FY2008 CIP at a total cost of \$24,310,000. The cost has been adjusted to reflect current and projected future funding.

**Total Project:** \$28,437,000  
**Cost to Date through FY2008:** \$20,692,000  
**CIP Total:** \$7,745,000  
**Cost Estimate Accuracy Range:** \$32,310,000 to \$26,114,000 (+50% /-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$4,225	\$3,520								
P P P P	P P P P								

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** The planning phase of this project is funded entirely by the California Department of Water Resources and the United States Department of the Interior, Bureau of Reclamation, including CCWD staff labor and overhead.

**Operational Impacts:** These planning activities will not result in O&M impacts. The extent of O&M impacts of an enlarged Los Vaqueros will be determined as part of the engineering studies.

**Basis for Priority:** This project is ranked as priority level 2 because the District has flexibility in conducting and implementing recommendations from the studies, and funding is provided by outside sources.

**Budgeting Department/Division:** Delta Projects

## **Equipment and Other Capital Purchases Program**



CONTRA COSTA WATER DISTRICT

TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY

**Program:** Equipment and Other Capital Purchases  
**Sub-Program:** Equity Funded Equipment  
**Project:** District-Wide Geographic Information System  
**Priority:** 2/3

The purpose of this project is to improve operating efficiencies by establishing a centralized data source for the District’s drawings, maps, and other operational and planning data. Implementing a Geographic Information System (GIS) assures data consistency and integrity by avoiding errors and eliminating duplication of effort and improves the sharing of planning information with other agencies and utilities. The system will also track potential hazard information.

The initial phase of the project was a master plan that was completed in FY2006. Implementation of the GIS is being conducted in phases. The first phase includes acquiring all necessary software licenses, developing the database, converting existing data into the new database format, and developing several key GIS applications including a record drawing and mapping library viewer, shutdown optimization, and customer notification tools. Work will be completed by District staff and consultants with specialized experience. Future phases are included as a priority level 3 placeholder, subject to funding availability.

This project was included in the FY2008 CIP at a total cost of \$1,496,000. Costs have been adjusted for inflation.

**Total Project:** \$1,692,000  
**Cost to Date through FY2008:** \$706,000  
**CIP Total:** \$986,000  
**Cost Estimate Accuracy Range:** \$1,988,000 to \$1,544,000 (+30%/-15%)

**Annual Cost Distribution (in 000's) and Schedule: Priority 2**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$452	\$231								
o o o o	o o o o								

**Annual Cost Distribution (in 000's) and Schedule: Priority 3**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
		\$128	\$193						
		o o o o	o o o o						

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** 38% of the cost of this project will be funded by untreated water rates and 62% by treated water rates.

**Operational Impacts:** This project is expected to result in net annual productivity benefits of \$200,000 from streamlined mapping, record management and maintenance, and customer service.

**Basis for Priority:** The implementation has been ranked as a priority level 2 because the District has a significant level of control over its schedule.

**Budgeting Department/Division:** Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Equipment and Other Capital Purchases  
**Sub-Program:** Equity Funded - Upgrade  
**Project:** Lindsey Basin Communication Lines Relocation  
**Priority:** 2

The purpose of this project is to ensure that the District’s communications infrastructure at the Randall-Bold Water Treatment Plant, which is essential to supporting District operations, continues to be accessible for repair or replacement.

The District’s existing joint trench/communication line from the Antioch Service Center to the Randall-Bold Water Treatment Plant was covered with approximately twenty feet of fill during construction of Contra Costa County’s Lindsey Basin flood control project. The work performed by the County was within its fee title property and is permitted per the District’s easement agreement. However, the work created a significant impediment to maintenance or repair of the now deeply buried communications line.

This project consists of evaluating the need for the line to be relocated in an alignment and depth that can be easily maintained, or potentially developing a wireless communications system and abandon the existing conduits.

This project was included in the FY2008 CIP at a total cost of \$440,000. Costs have been adjusted for inflation.

**Total Project:** \$463,000  
**Cost to Date through FY2008:** \$89,000  
**CIP Total:** \$374,000  
**Cost Estimate Accuracy Range:** \$650,000 to \$351,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$374									
D   D   C   C									

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** 38% of the cost of this project will be funded by untreated water rates and 62% by treated water rates as described in Section III, Table III-1.

**Operational Impacts:** This project reduces operating and maintenance costs by making the communications line accessible for maintenance and repair.

**Basis for Priority:** The project has been ranked as priority level 2 because the District has a moderate level of control as to when upgrades need to occur.

**Budgeting Department:** Engineering

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Equipment and Other Capital Purchases  
**Sub-Program:** Equity Funded Equipment  
**Project:** Replacement/Upgrade of Computer Systems  
**Priority:** 2

The purpose of this annual program is to ensure that the District’s financial, customer billing, and Human Resources information system needs continue to be met in an efficient manner.

New hardware was acquired and installed in FY2001 and a new, Oracle-based financial information system was brought on line in FY2002. An upgraded customer billing system and a new Human Resources Information System were implemented during FY2005. These systems are scheduled for replacement in FY2014 and FY2016. The project also includes annual software and hardware upgrades.

This program was included in the FY2008 CIP at a ten-year cost of \$2,378,000. The cost of the annual upgrades has been adjusted for inflation.

**Total Project:** NA  
**Cost to Date through FY2008:** NA  
**CIP Total:** \$2,498,000  
**Cost Estimate Accuracy Range:** \$4,020,000 to \$2,022,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$86	\$123	\$86	\$86	\$123	\$971	\$123	\$691	\$86	\$123
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** 38% of the cost of this project will be funded by untreated water rates and 62% by treated water rates as described in Section III, Table III-1.

**Operational Impacts:** Operating efficiencies are anticipated to increase as the new enhancements are implemented.

**Basis for Priority:** The District’s computer systems are required for efficient operation of the District, and must be replaced periodically to ensure that the District’s financial and customer billing information systems needs continue to be met in an efficient manner. The project has been ranked as priority level 2 because the District has a moderate level of control as to when upgrades need to occur.

**Budgeting Department:** Finance

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Equipment and Other Capital Purchases  
**Sub-Program:** Equity Funded Equipment  
**Project:** Replacement/Upgrade of Network Systems and Hardware  
**Priority:** 2

The purpose of this annual program is to ensure that the District’s core network hardware, which is essential to supporting District operations, continues to be replaced or updated in an efficient manner.

Core network hardware includes switch-hubs and routers that provide for transmission of email, access to electronic data files, and staff access to key business systems including the Financial Information System and Customer Billing Information System. Upgrades are scheduled on a five-year cycle to ensure network reliability.

This program was included in the FY2008 CIP at a ten-year cost of \$1,094,000. The cost has been adjusted for inflation.

**Total Project:** NA  
**Cost to Date through FY2008:** NA  
**CIP Total:** \$1,182,000  
**Cost Estimate Accuracy Range:** \$1,773,000 to \$827,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$49	\$86	\$215	\$230	\$11	\$49	\$86	\$215	\$230	\$11
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** 38% of the cost of this project will be funded by untreated water rates and 62% by treated water rates as described in Section III, Table III-1.

**Operational Impacts:** This project reduces operating and maintenance costs by replacing equipment when it is most cost-effective to do so.

**Basis for Priority:** The District’s network hardware systems are required for efficient operation of the District, and must be replaced periodically to ensure that the District’s financial and customer billing information systems needs continue to be met in an efficient manner. The project has been ranked as priority level 2 because the District has a moderate level of control as to when upgrades need to occur.

**Budgeting Department:** Finance

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Equipment and Other Capital Purchases  
**Sub-Program:** Equity Funded Equipment  
**Project:** Replacement/Upgrade of Radio System Equipment  
**Priority:** 2

The purpose of this project is to ensure effective and reliable communications among District’s personnel. The District’s existing low band radio system is over 40 years old. Newer components have been purchased and installed but the technology is not well supported by vendors. Furthermore, the existing system does not cover the District’s entire service area. Reliability of the existing radio system during normal operations and emergencies is questionable.

Replacement of the radio system entails the purchase of new communication equipment for District vehicles, base stations, and portable units. A new system could allow the District to establish networks allowing interfacing with other local agencies, including police and fire departments. It is anticipated that the next system upgrade will occur in FY2019.

This project was included in the FY2008 CIP at a total cost of \$300,000.

**Total Project:** \$300,000  
**Cost to Date through FY2005:** \$200,000  
**CIP Total:** \$100,000  
**Cost Estimate Accuracy Range:** \$315,000 to \$295,000 (+15%/-5%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$50	\$50								
o o o o	o o o o								

P = Planning                                  D = Design                                  C = Construction                                  O = Other

**Project Funding:** 38% of the cost of this project will be funded by Untreated Water funds and 62% by Treated Water funds as described in Section III, Table III-1.

**Operational Impacts:** No significant change in operating cost is anticipated.

**Basis for Priority:** This project has been ranked as priority level 2 because the District has a moderate level of control as to when upgrades need to occur.

**Budgeting Department/Division:** Operations and Maintenance

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Equipment and Other Capital Purchases  
**Sub-Program:** Equity Funded Equipment  
**Project:** Replacement/Upgrade of SCADA Equipment  
**Priority:** 2

The purpose of this project is to ensure future capability to remotely monitor and control the District's operational system. Supervisory Control and Data Acquisition (SCADA) system hardware and software manufacturers continually upgrade their products, making older systems obsolete and expensive to maintain. In addition, system capacity is limited and must be expanded as the District grows.

This project provides for the upgrade and replacement of the District's SCADA system, including hardware and software approximately every 10 years and will extend the life of the system while allowing for anticipated expansion.

Installation of a new digital radio system, new control center equipment, new remote site computer equipment at all District facilities, and control room modifications to allow the relocation of the SCADA controls to the Bollman Water Treatment Plant were completed in FY2002. The start of the next upgrade is scheduled for FY2009 and will be based on a phased approach to upgrade the work station, host computers, and the remote sites over time.

This project was included in the FY2008 CIP with a total project cost of \$1,220,000. The cost has been adjusted for inflation.

**Total Project:** \$1,308,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$1,308,000  
**Cost Estimate Accuracy Range:** \$1,962,000 to \$916,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$200	\$640	\$100	\$100	\$134	\$134				
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o				

P = Planning

D = Design

C = Construction

O = Other

**Project Funding:** 38% of the cost of this project will be funded by untreated water funds and 62% by treated water funds as described in Section III, Table III-1.

**Operational Impacts:** This project has no operational impacts.

**Basis for Priority:** This project has been ranked as priority level 2 because the District has a moderate level of control as to when upgrades need to occur.

**Budgeting Department:** Operations and Maintenance

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Equipment and Other Capital Purchases  
**Sub-Program:** Equity Funded Equipment  
**Project:** Replacement/Upgrade of Telecommunications Equipment  
**Priority:** 2

The purpose of this project is to ensure that the District’s telecommunications needs are being met in an efficient and cost-effective manner by periodically re-assessing and upgrading the District’s telecommunications system, including telephones services, the Internet, and computer network. The initial master plan was completed in FY2004 and its recommendations are being implemented through FY2010. The next re-assessment is scheduled for FY2011.

This project was included in the FY2008 CIP at a ten-year cost of \$616,000. The cost has been adjusted for inflation and to reflect the completion of FY2008 and the addition of FY2018.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$675,000  
**Cost Estimate Accuracy Range:** \$1,013,000 to \$473,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$30	\$45	\$447		\$78				\$30	\$45
o o o o	o o o o	o o o o		o o o o				o o o o	o o o o

P = Planning

D = Design

C = Construction

O = Other

**Project Funding:** 38% of the cost of this project will be funded by untreated water rates and 62% by treated water rates as described in Section III, Table III-1.

**Operational Impacts:** This project is not anticipated to have any operational impacts.

**Basis for Priority:** This project has been ranked as priority level 2 because the District has a moderate level of control as to when upgrades need to occur.

**Budgeting Department/Division:** Finance

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Equipment and Other Capital Purchases  
**Sub-Program:** Vehicle Replacement  
**Project:** Replacement of Fleet Vehicles & Heavy Equipment  
**Priority:** 2

The purpose of this project is to provide safe, reliable, and cost-efficient operations and transportation for employees in the performance of their duties.

When each vehicle or piece of equipment reaches a specified level of mileage or years of service, it is reviewed for replacement. Each is evaluated based on current condition, maintenance and repair history, and other factors. Vehicles or equipment are recommended for replacement when it is determined that they have reached the end of their serviceable life, or when it is more cost-effective to replace them based on anticipated future operating and repair costs.

This program was included in the FY2008 CIP as the Replacement of Fleet Vehicles and Replacement of Heavy Equipment projects at a combined ten-year cost of \$8,106,000. The cost has been adjusted based on a needs assessment.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$7,639,000  
**Cost Estimate Accuracy Range:** \$9,931,000 to \$6,493,000 (+30%/-15%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$750	\$750	\$822	\$661	\$640	\$871	\$812	\$815	\$818	\$700
o o o o o o o o	o o o o o o o o	o o o o o o o o	o o o o o o o o	o o o o o o o o	o o o o o o o o	o o o o o o o o	o o o o o o o o	o o o o o o o o	o o o o o o o o

P = Planning

D = Design

C = Construction

O = Other

**Project Funding:** This project is funded by the Vehicle Replacement Fund.

**Operational Impacts:** This project reduces operating and maintenance costs by replacing vehicles when it is most cost-effective to do so. For purposes of the CIP, operational impacts are assumed to be negligible.

**Basis for Priority:** This project has been ranked as priority level 2 because it maintains and enhances existing assets.

**Budgeting Division:** Finance



## **Expansion of Services Program**

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Expansion of Services  
**Sub-Program:** Wholesale Treated Water  
**Project:** CCWD/Brentwood Water Treatment Plant  
**Priority:** 1

The purpose of this project is to implement the District's agreement with the City of Brentwood to serve the long-term treated water needs of the City. Under the agreement, CCWD will construct, own, operate, and finance a water treatment plant adjacent to the Randall-Bold site for the exclusive use of the City. The Brentwood plant will treat the City's surface water supply purchased from East Contra Costa Irrigation District.

The Brentwood water treatment plant is being designed as recommended in a joint technical study completed in FY2004. Permitting and design began in FY2005, and construction began in FY2007 and is scheduled to be completed in FY2009. The facility will have an initial treatment capacity of 12 MGD and can be expanded to 30 MGD.

This project was included in the FY2008 CIP at an escalated cost of \$52,122,000. The cost has been adjusted to reflect costs to date.

**Total Project:** \$51,823,000 (escalated)  
**Cost to Date through FY2008:** \$46,399,000  
**CIP Total:** \$5,424,000 (escalated)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$5,424									
C C									

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** The project is funded entirely by the City of Brentwood. The City has deposited funds for project design and administration prior to these costs being incurred. The District will debt-fund the construction cost. The City will pay debt service and financing costs.

**Operational Impacts:** Estimated annual costs are approximately \$1,740,000 starting in FY2009. These costs will be paid by the City of Brentwood. The treatment facility will be owned and operated by the District. It is anticipated that significant savings in O&M costs will be realized by the District, DWD, and the City of Brentwood by having the District joint operate both the Randall-Bold and Brentwood Water Treatment Plants with a common staff.

**Basis for Priority:** This project is ranked as priority level 1 because it is funded by others.

**Budgeting Department/Division:** Construction

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Expansion of Services  
**Sub-Program:** Wholesale Treated Water  
**Project:** CCWD/Brentwood Water Treatment Plant Expansion  
**Priority:** 1

The purpose of this project is to expand the City of Brentwood’s Water Treatment Plant to meet the anticipated water demands of its growing population. The District is currently constructing a treatment plant for the City on the Randall-Bold campus. Construction is scheduled to be complete in FY2009.

Expansion of the treatment plant is anticipated to begin in FY2012 and be completed in FY2016. This project includes costs to expand the City of Brentwood Water Treatment Plant from its initial capacity to 30 MGD. The expansion schedule depends on the pace of development within the City of Brentwood which may modify the schedule.

This project was included in the FY2008 CIP at a total project cost of \$41,081,000. The cost has been adjusted for inflation.

**Total Project:** \$44,038,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$44,038,000  
**Cost Estimate Accuracy Range:** \$66,057,000 to \$30,827,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
			\$176	\$3,821	\$11,141	\$18,876	\$10,024		
				P P D D D D	C C C C C C C C	C C C C C C C C			

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project is entirely funded by the City of Brentwood.

**Operational Impacts:** Operating impacts for the future expansion of the CCWD/Brentwood Water Treatment Plant have not been included in the CIP due to the uncertainty in the timing of the project. Operational costs will be paid by the City of Brentwood.

**Basis for Priority:** This project has been ranked as priority level 1 because it is funded by others.

**Budgeting Department/Division:** Engineering

## **Future Water Supplies Program**

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Future Water Supplies  
**Sub-Program:** Planning  
**Project:** Future Water Supply Study Updates  
**Priority:** 2

The purpose of this project is to enable the District to implement economically and environmentally sound options to ensure high-quality, reliable water supplies for the next fifty years.

The Future Water Supply Study (FWSS) is the District’s long-term water supply plan, and was first completed in August 1996. Updates are needed to ensure the action plan accurately reflects current demand and supply conditions, technological advances, and regulatory changes. The FWSS is updated approximately every five years, with the most recent update completed in FY2008

This project was included in the FY2008 CIP at a total cost of \$578,000. The cost has been adjusted for inflation and to reflect completion of the FY2008 work and addition of the update in FY2018

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$425,000  
**Cost Estimate Accuracy Range:** \$553,000 to \$361,000 (+30%/-15%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
				\$150					\$275
				P   P   P   P					P   P   P   P

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** Updates of the FWSS have been allocated entirely to untreated water with 10% to existing customers and 90% to future customers, based on the allocation of implementation costs for the Future Water Supply Program. The share allocated to existing customers is sub-allocated to untreated water and treated water rates based on consumption.

**Operational Impacts:** As a study, there are no direct operations and maintenance costs associated with this project. Operational impacts for each project recommended in the study would be evaluated as projects are implemented.

**Basis for Priority:** This project has been ranked as priority level 2 because the District has a moderate level of control over scope and timing. This study is necessary to determine water supply needs of existing and future customers during times of increasing supply uncertainty.

**Budgeting Department/Division:** Planning

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Future Water Supplies  
**Sub-Program:** Water Supplies  
**Project:** Future Water Supplies Placeholder  
**Priority:** 2

The purpose of this placeholder is to help the District meet water supply reliability criteria and future service obligations, as recommended in the Future Water Supply Study (FWSS) updated in FY2008.

The project consists of investments from FY2009 through FY2018 consistent with the FWSS recommendations of securing water for shortages (as a first priority) and for future growth. Purchases for growth are funded from the untreated water Facility Reserve Charge (FRC). Increased conservation efforts from the FWSS are assumed in all years and are included in the Water Demand Reduction Program in the CIP.

New supplies for both growth and shortage are assumed. Purchases for drought reliability (and a fraction for growth) commenced in FY1999 (ECCID purchase). This project includes the annual buy-in for ECCID water and a placeholder for additional supplies in FY2015. Supplies for shortages are assumed to achieve a firm level of availability of 15% of customer demand. The water purchase plan for the CIP follows the approved FWSS, but is adjusted to the actual demand growth. Under this schedule, the amount of future water purchased would be limited to the amount collected through the FRC. Water purchases for future growth will not affect rates.

This program was included in the FY2008 CIP at a ten-year cost of \$3,283,000. The cost has been adjusted for inflation and to reflect a larger investment in additional supplies in FY2015.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$6,918,000  
**Cost Estimate Accuracy Range:** \$14,427,000 to \$6,733,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$153	\$153	\$153	\$153	\$153	\$153	\$8,241	\$153	\$153	\$153
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** Water supplies acquired under this project are necessary to serve the needs of future customers and are fully funded from the untreated water FRC.

**Operational Impacts:** None. Costs for pumping water for future growth are included in the Financial Plan.

**Basis for Priority:** This project has been ranked as priority level 2 because it is required to meet future service obligations and the District has some control over the timing.

**Budgeting Department/Division:** Planning

## **Los Vaqueros Program**

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Los Vaqueros  
**Sub-Program:** Recreation  
**Project:** Los Vaqueros Recreation Facilities and Equipment  
**Priority:** 2

The purpose of this program is to provide rehabilitation of existing and future recreation facilities and infrastructure necessary to meet the District’s commitments to operating the Los Vaqueros Recreation Program. The first recreation facilities were completed and opened for public use in 1999. Subsequent public use will result in routine deterioration and incidental vandalism of the facilities. Prompt and timely replacement or restoration of the facilities will insure that they are safe for public use and maintain a positive image to the public, which helps to minimize future vandalism.

Facilities included are: public buildings and bathrooms, marina structures, fishing docks, paved and unpaved internal site access roads and parking areas, internal site trails and staging areas, water supply and waste water systems, emergency communications facilities, electrical power and telephone utilities, and other related facilities and equipment for public access and use.

This program was included in the FY2008 CIP at a ten-year cost of \$1,229,000. The cost has been adjusted for inflation.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total** \$1,310,000  
**Cost Estimate Accuracy Range:** \$1,965,000 to \$917,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$131	\$131	\$131	\$131	\$131	\$131	\$131	\$131	\$131	\$131
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project is funded entirely by untreated water rates.

**Operational Impacts:** The operational impacts of this project are anticipated to be negligible. These improvements will extend the useful life of facilities and help deter vandalism.

**Basis for Priority:** This project has been ranked as priority level 2 in order to maintain the recreation functions and a positive public image of the Los Vaqueros Recreation Program.

**Budgeting Department/Division:** Watershed and Lands



CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Los Vaqueros  
**Sub-Program:** Watershed  
**Project:** Land Acquisition and Real Property Management  
**Priority:** 2

The purpose of this program is to protect the District’s investment and real property rights in the Los Vaqueros Project and other District-owned lands by acquiring property rights needed for watershed protection or protection and enhancement of other District-owned properties and operating facilities. Acquisitions may include real property, easements, licenses, land leases, or development rights.

This program was included in the FY2008 CIP at a ten-year cost of \$1,360,000. The cost has been adjusted for inflation.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$1,440,000  
**Cost Estimate Accuracy Range:** \$2,160,000 to \$1,008,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$144	\$144	\$144	\$144	\$144	\$144	\$144	\$144	\$144	\$144
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project is funded entirely by untreated and/or treated water rates, depending on the nature and purpose of the property.

**Operational Impacts:** There may be minimal impacts related to maintaining or leasing out acquired property.

**Basis for Priority:** This project has been ranked as priority level 2 based on the need to protect water quality and to facilitate District operations. There is a moderate level of control over when land acquisitions and other interests in land can occur.

**Budgeting Department/Division:** Watershed and Lands

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Los Vaqueros  
**Sub-Program:** Watershed  
**Project:** Los Vaqueros Watershed Improvements  
**Priority:** 2

The purpose of this program is to improve the District’s capability to protect, manage, and maintain the 19,100-acre LV watershed area for its primary water quality and natural resource management purposes and to meet the District’s commitments for Los Vaqueros project-related environmental mitigation.

The watershed improvements include roads, fences, oak tree plantations, sediment control basins, project-related replacement ponds and wetlands, remote water resource facilities for project-related replacement, wetland and pond maintenance, fire prevention and suppression, public safety, communications equipment and facility improvements, and demolition and removal of unsafe structures.

This program was included in the FY2008 CIP at a ten-year total of \$2,196,000. The cost has been adjusted for.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$2,340,000  
**Cost Estimate Accuracy Range:** \$3,510,000 to \$1,638,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$234	\$234	\$234	\$234	\$234	\$234	\$234	\$234	\$234	\$234
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** The project is funded by untreated water rates.

**Operational Impacts:** The operational impacts of this project are anticipated to be minimal.

**Basis for Priority:** The project has been ranked as priority level 2 because it is a Los Vaqueros Project requirement to effectively maintain District watershed lands and comply with the terms and conditions of the *LVP Biological Opinions*.

**Budgeting Department/Division:** Watershed and Lands

## **Treated Water Distribution and Storage Facilities Program**

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Treated Water Distribution and Storage Facilities  
**Sub-Program:** Corrosion Control  
**Project:** Corrosion Control Program  
**Priority:** 2

The purpose of this project is to protect and prolong the service life and system reliability of the District’s existing treated water facilities. By providing cathodic protection, the District extends the service life of its metallic water treatment, storage, transmission, and distribution facilities. Since corrosion is an ongoing destructive process with water system components, postponement of the planned projects may result in the lack of protection to the steel pipelines and structures and may lead to future corrosion-related problems and failures.

This project implements measures identified in the 1991 Corrosion Control Management Report, the 1996 Treated Water Renewal and Replacement Study, and the 1999 Facility Corrosion Control Program Assessment.

Specific projects are defined annually based on monitoring, inspection, and evaluation of the District’s existing facilities. Future projects include the replacement of deep well anode beds and installation of new corrosion control systems on non-protected mains, pumps, and reservoirs.

This program was included in the FY2008 CIP at a total ten-year cost of \$1,512,000. The cost has been adjusted to reflect historical expenditures.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$800,000  
**Cost Estimate Accuracy Range:** \$1,200,000 to \$560,000, (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80	\$80
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project is funded entirely by treated water rates.

**Operational Impacts:** This project will result in operational cost reductions due to lower maintenance requirements and reduced corrosion-related failures. For the purposes of the CIP, operational impacts are assumed to be negligible.

**Basis for Priority:** This project has been ranked as priority level 2 because it is necessary to maintain existing capital facilities.

**Budgeting Department/Division:** Operations and Maintenance

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Treated Water Distribution and Storage Facilities  
**Sub-Program:** Non-District Funded Projects  
**Project:** Distribution Facilities  
**Priority:** 1

The purpose of this program is to install water service and distribution facilities, as requested and funded by developers and other applicants. The facilities typically include service requests and main extensions, but may include pipelines, pump stations, and storage reservoirs. These projects are usually handled jointly between the District and the applicant.

Specific projects generally cannot be identified until an applicant presents development plans and requests service. The cost estimates are based on past experience, but may be significantly lower or higher in any given year depending upon applicant requests.

FY2009 activities include the design and installation of facilities associated with the Clayton Regency Mobile Home Park main extension, which is being implemented as a result of Contra Costa County declaring a health emergency.

This program was included in the FY2008 CIP at a ten-year cost of \$13,083,000. The cost has been adjusted for inflation and to reflect the addition of the Clayton Regency project in FY09.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$18,497,000  
**Cost Estimate Accuracy Range:** \$27,746,000 to \$12,948,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$5,645	\$1,428	\$1,428	\$1,428	\$1,428	\$1,428	\$1,428	\$1,428	\$1,428	\$1,428
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project is fully applicant funded.

**Operational Impacts:** The operational impact of this project depends on the actual facilities built.

**Basis for Priority:** This project has been ranked as priority level 1 as it is applicant funded. This could include funding from applicants requesting water service, other governmental agencies, special loan arrangements, governmental grants, or assessment districts. The relocation of pipelines and other District facilities must be performed to avoid conflicts with new construction.

**Budgeting Department/Division:** Engineering

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Treated Water Distribution and Storage Facilities  
**Sub-Program:** Upgrades  
**Project:** Multi-Purpose Pipeline Pressure Sustaining Valve  
**Priority:** 2

The purpose of this project is to ensure reliable service to the District’s existing and future customers by installing a pressure sustaining valve in the Multi-Purpose Pipeline (MPP). The MPP was reconfigured shortly after start-up to serve Zone 2 to maintain adequate operating pressures in the pipeline and to operate more efficiently. As demands grow in the TWSA and more water needs to come from Randall Bold, a means to redirect flow in the MPP from Zone 2 to Zone 1 is required. The recommended solution is to install a pressure sustaining valve in the MPP downstream of the Antioch turnout which would allow the return of the Port Chicago Pipeline and MPP to Zone 1 service during periods of high demand. This will allow the District to meet future demands and to maintain adequate pressures in the MPP under low flow conditions.

This project is new to the CIP.

**Total Project:** \$900,000  
**Cost to Date through FY2008:** \$0,000  
**CIP Total:** \$125,000  
**Cost Estimate Accuracy Range:** \$1,350,000 to \$630,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
									\$125
									D D D D

P = Planning                                      D = Design                                      C = Construction                                      O = Other

**Project Funding:** This project is funded by treated water rates.

**Operational Impacts:** Impacts to total annual O&M costs are anticipated to be negligible.

**Basis for Priority:** This project has been ranked priority level 2 because it will enable the District to maintain water pressure and flow standards as demands grow.

**Budgeting Department/Division:** Planning

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Treated Water Distribution and Storage Facilities  
**Sub-Program:** Pipe Upgrades  
**Project:** Pipeline Renewal and Replacements  
**Priority:** 2

The purposes of this program are to: 1) ensure reliable, cost efficient delivery of treated water through replacement of pipelines that have experienced significant leak repair incidents or are undersized for fire flow and distribution capacity, 2) improve water quality circulation by creating interties between existing pipelines, and 3) relocate existing pipelines as legally required.

The 1996 Treated Water Renewal and Replacement Study and the 2007 Treated Water Master Plan Update outlined a methodology for prioritizing pipeline replacements. In addition, pipelines are relocated as requested by agencies or property owners, or when pipeline location conflicts with the construction work of other agencies.

Projects planned for FY2009 and FY2010 include various main replacements in downtown Concord, rehabilitation of the Crockett Pipeline intertie to EBMUD, and transmission valve rehabilitations at strategic locations. In addition, the District is improving circulation and reliability improvements in the Concord area within the District’s treated water service area by installing approximately 2,200 linear feet of new 12-inch water main, coinciding with the City of Concord’s planned street extension from Commerce Avenue to Waterworld Parkway in FY2009.

This program was included in the FY2008 CIP at a ten-year cost of \$18,969,000. The cost has been adjusted for inflation and to reflect the intertie and valve work.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$21,966,000  
**Cost Estimate Accuracy Range:** \$32,949,000 to \$15,376,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$2,667	\$2,367	\$2,367	\$2,367	\$2,033	\$2,033	\$2,033	\$2,033	\$2,033	\$2,033
C C D D	C C D D	C C D D	C C D D	C C D D	C C D D	C C D D	C C D D	C C D D	C C D D

P = Planning                          D = Design                          C = Construction                          O = Other

**Project Funding:** This project is entirely treated water rate funded.

**Operational Impacts:** These projects provide increased reliability and improved circulation, and eliminate conflicts with other utilities. Failure to replace aging pipelines would increase operating costs. For the purpose of the CIP, operating cost impacts are assumed to be negligible.

**Basis for Priority:** This project has been ranked as priority level 2 because pipeline upgrades are necessary to ensure reliable treated water system performance and minimize a source of unscheduled maintenance demands upon the Operations and Maintenance Department.

**Budgeting Department/Division:** Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Treated Water Distribution and Storage Facilities  
**Sub-Program:** Pipes - New  
**Project:** Port Chicago Pipeline Phase II  
**Priority:** 2

The purpose of this project is to ensure reliable service to the District’s existing and future treated water customers by providing a new backbone transmission main recommended in the Seismic Reliability Improvement Project (SRIP) Study and identified in the 2007 Treated Water Master Plan update.

This project consists of the design and construction of approximately 10,400 feet of 24 to 36 inch diameter pipeline extending from the Port Chicago Phase I pipeline near Willow Pass Road to Cowell Road. Planning/design is scheduled to start in FY2017 and construction completion is scheduled by FY2020.

This project was included in the FY2008 CIP at a total project cost of \$6,116,000. The cost has been updated based on the 2007 Treated Water Master Plan Update and reflects the District’s recent cost history on similarly sized pipelines.

**Total Project:** \$8,300,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$1,159,000  
**Cost Estimate Accuracy Range:** \$12,450,000 to \$5,810,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
								\$125	\$1,034
								P P D D	C C C C

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project is funded by treated water rates (49.6%) and treated water FRCs (50.4%) per the 2007 Treated Water Master Plan update.

**Operational Impacts:** The operational impact of this project is estimated to be \$5,000 per year beginning in FY2020, which is outside of the current CIP window, and includes valve exercising, corrosion protection, monitoring and maintenance, and occasional flushing.

**Basis for Priority:** This project has been ranked as priority level 2 because it will enable the District to maintain water pressure and flow standards for the entire system as demands grow.

**Budgeting Department/Division:** Planning





CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Treated Water Distribution and Storage Facilities  
**Sub-Program:** Site Upgrades  
**Project:** Treated Water Facilities Improvements Program  
**Priority:** 2

The purpose of this program is to ensure reliable operation of the District’s treated water facilities, some of which are nearing the end of their useful life.

The project consists of the rehabilitation of pump stations, improvements to facility site drainage, water quality, fencing, landscaping, pavement, pump station roofing, and demolition of permanently inactive pump stations and reservoirs, as identified in the District’s Treated Water Renewal and Replacement Study. Improvements will be performed in order of priority based on criteria that include health and safety, facility’s ability to meet critical demands, impacts to operations, damage, estimated remaining useful life, and appearance.

Planned major projects include completing construction of the Pine Hollow Chloramine Booster Station project in FY2009. Future projects will focus on construction of additional chloramine booster stations to improve distribution system water quality, and the rehabilitation of pumps. In addition, improvements to the Seminary Pump Station and to the Canterbury and Divide Tanks access roads will be designed in FY2009 for construction in FY2010.

This program was included in the FY2008 CIP at a ten-year cost of \$15,053,000. The cost has been adjusted for inflation.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$16,000,000  
**Cost Estimate Accuracy Range:** \$24,000,000 to \$11,200,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$1,709	\$2,091	\$1,500	\$1,550	\$1,500	\$1,550	\$1,500	\$1,550	\$1,500	\$1,550
D D C C	D D C C	D D C C	D D C C	D D C C	D D C C	D D C C	D D C C	D D C C	D D C C

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project is entirely funded by treated water rates. The cost of the pump rehabilitation program will be offset by a reduction in operating budget.

**Operational Impacts:** The impact of this project on operations and maintenance costs is expected to be minimal.

**Basis for Priority:** This project has been ranked as priority level 2 because treated water site upgrades are necessary to maintain and enhance existing assets.

**Budgeting Department/Division:** Engineering

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Treated Water Distribution and Storage Facilities  
**Sub-Program:** Storage – New Facilities  
**Project:** Subzone 34 Reservoir  
**Priority:** 2

The purpose of this project is to ensure reliable service to the District’s existing and future treated water customers by providing a new water storage facility to alleviate emergency storage and operational deficiencies in Subzone 34, as identified and prioritized in the 2007 Treated Water Master Plan update.

This project consists of the design and construction of a 1.0 million gallon buried concrete reservoir at an undetermined site in Subzone 34 in the Northgate area of Walnut Creek. The reservoir is sized to mitigate existing storage deficiencies in Subzones 34 and 35, and to accommodate future growth.

Design of the reservoir is scheduled to begin in FY2018 and construction will begin outside of the current CIP window.

This project was included in the FY2008 CIP at a cost of \$3,365,000. The cost has been updated based on the 2007 Treated Water Master Plan Update and reflects the District’s recent cost history on similarly sized reservoirs and the schedule has been shifted to begin in FY2018 based on an updated assessment of storage needs in the sub-zone.

**Total Project:** \$4,660,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$195,000  
**Cost Estimate Accuracy Range:** \$6,990,000 to \$3,262,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
									\$195
									P P

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project is funded by treated water rates (86.7%) and treated water FRCs (13.3%) per the 2007 TWSA Master Plan update.

**Operational Impacts:** The operational impact of this project is estimated to be \$14,000 per year and will begin in FY2020, which is outside of the current CIP window. The costs include routine inspection of instrumentation, exercising of valves, response to alarms, and periodic cleaning and inspection of the interior.

**Basis for Priority:** This project has been ranked as priority level 2 because its completion is needed to satisfy the District’s emergency storage criteria. Adhering to these criteria will increase or maintain the reliability of the TWSA system.

**Budgeting Department/Division:** Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Treated Water Distribution and Storage Facilities  
**Sub-Program:** Storage - Upgrades  
**Project:** Treated Water Reliability Improvements  
**Priority:** 2/3

The purpose of this project is to improve the emergency response capability of the Treated Water Service Area (TWSA) to ensure reliable service to the District’s existing and future treated water customers. The 2002 TWSA Master Plan update recommended a combination of pumping, pipeline, and storage improvements as a cost-effective means to achieve an equivalent level of reliability that storage alone would provide.

Installation of standby generators and seismic valves at seven sites was completed in FY2006. The installation of generators at San Miguel Pump Station was completed in FY2007 and will be completed at Seminary Pump Station in FY2010. Pipeline seismic improvements at Concord Fault Crossings (priority level 2) were constructed in FY2007. The second phase of pipeline improvements (priority level 3) would be designed in FY2010 and implemented in FY2011, subject to receipt of grant funding.

This project was included in the FY2008 CIP at a total project cost of \$7,266,000. The cost has been adjusted for inflation.

**Total Project:** \$7,377,000  
**Cost to Date through FY2008:** \$4,532,000  
**CIP Total:** \$2,845,000

**Cost Estimate Accuracy Range:** \$8,800,000 to \$6,523,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule: Priority Level 2**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
	\$453								
	C C C C								

**Annual Cost Distribution (in 000's) and Schedule: Priority Level 3**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
	\$404	\$1,988							
	D D D D	C C C C							

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** The priority level 2 component is funded by treated water rates. Priority level 3 activities would be funded by grant funds.

**Operational Impacts:** The operational impacts of this project are estimated at \$20,000 per year for maintenance service of the standby generators.

**Basis for Priority:** The initial phase of the project has been ranked as priority level 2 because its completion is needed to satisfy the District’s emergency storage criteria. The second phase has been ranked as priority level 3 because it is dependent upon outside funding sources.

**Budgeting Department/Division:** Engineering



CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Treated Water Distribution and Storage Facilities  
**Sub-Program:** TWSA Planning  
**Project:** Treated Water Service Area Master Plan Update  
**Priority:** 2

The purpose of this project is to ensure timely, cost-effective, and environmentally sound improvement to the District’s treated water service area facilities. The current Treated Water Service Area (TWSA) Master Plan was completed in 2007. Periodic updates are needed to ensure that the plan accurately reflects changes in the communities to which treated water service is provided.

This project was included in the FY2008 CIP at a ten-year cost of \$338,000. The cost has been adjusted for inflation.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$250,000  
**Cost Estimate Accuracy Range:** \$325,000 to \$213,000 (+30%/-15%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
		130						\$120	
		P P P P						P P P P	

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project is funded by treated water rates (46.5%) and treated water FRCs (53.5%) per the 1998 Facility Reserve Charge Analysis.

**Operational Impacts:** There are no operations and maintenance costs associated with the plan. Operational impacts for each capital improvement recommended in the plan will be evaluated as the improvements are implemented.

**Basis for Priority:** This project is ranked as priority level 2 because it ensures that the District will meet water service and reliability commitments. The plan ensures an integrated approach for meeting the supply and distribution needs of the TWSA.

**Budgeting Department/Division:** Planning

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Treated Water Distribution and Storage Facilities  
**Sub-Program:** TWSA Planning  
**Project:** Treated Water Renewal/Replacement Study Update  
**Priority:** 2

The purpose of this project is to ensure timely, cost effective, and environmentally sound improvement to the District’s treated water service area through periodic updates of the Treated Water Renewal/Replacement Study.

The Study presents the technical planning basis for many of the projects included in the CIP’s Treated Water Distribution and Storage Facilities Program. An update was completed in FY2005. This project will update the study in FY2011 and FY2017 to reflect changes in the condition of the treated water facilities including pumping stations, concrete reservoirs, and steel tanks.

This project was included in the FY2008 CIP at a ten-year cost of \$250,000.

**Total Project:** \$250,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$250,000  
**Cost Estimate Accuracy Range:** \$325,000 to \$213,000 (+30%/-15%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
				\$215					\$135
				P   P   P   P					P   P   P   P

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project is funded by treated water rates.

**Operational Impacts:** There are no operations and maintenance costs associated with the plan. Operational impacts for each capital improvement recommended in the plan will be evaluated as the improvements are implemented.

**Basis for Priority:** This project is ranked as priority level 2 because it ensures that the District will meet water service and reliability commitments.

**Budgeting Department/Division:** Planning

## **Untreated Water Supply and Transport Program**



CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Untreated Water Supply and Transport  
**Sub-Program:** Non-District Funded Projects  
**Project:** Untreated Water Applicant Funded Projects  
**Priority:** 1

The purpose of this program is to relocate untreated water facilities as requested and funded by developers and other applicants. Specific projects cannot be identified until an applicant presents development plans and requests service. The cost estimates are based on past experiences, but may be significantly lower or higher in any given year depending upon applicant requests.

Ongoing development in East County causes the continued need for the type of untreated water facility relocations and modifications provided by this project. Anticipated future projects include relocation of portions of laterals.

This program was included in the FY2008 CIP at a ten-year cost of \$1,689,000. The cost has been adjusted for inflation.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$1,850,000  
**Cost Estimate Accuracy Range:** \$2,775,000 to \$1,295,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$185	\$185	\$185	\$185	\$185	\$185	\$185	\$185	\$185	\$185
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** The project is fully applicant funded.

**Operational Impacts:** The operational impact of this project depends on the actual facilities built.

**Basis for Priority:** This project has been ranked as priority level 1 as the funding is from non-District sources. The relocation of pipelines and other District facilities must be performed to avoid conflicts with new construction.

**Budgeting Department/Division:** Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Untreated Water Supply and Transport  
**Sub-Program:** Untreated Water Facilities - Planning  
**Project:** Los Vaqueros Energy Recovery  
**Priority:** 2

The purpose of this project is to offset energy costs by implementing energy generating facilities, such as hydropower, if feasible. The project has been divided into phases: a study to identify and evaluate potential energy generating facilities and an implementation phase for design and construction of any recommended facilities, subject to funding.

Feasibility studies completed to date conclude that constructing a hydropower generation facility at the Los Vaqueros Pipeline has a payback of approximately ten years, contingent on how the Public Utilities Commission addresses the phase out of Competitive Transition Charges and future legislation regarding small hydropower facilities. The District will pursue grants as they become available. Assuming 50 percent outside funding would shorten the payback period to less than the District’s five-year criteria for priority level 2 projects.

Funds are included in FY2009 to continue feasibility studies on alternative sources of energy for the District.

This project was included in the FY2008 CIP at a total project cost of \$3,405,000. The cost has been adjusted to reflect an updated cost estimate.

**Total Project:** \$4,734,000  
**Cost to Date through FY2008:** \$184,000  
**CIP Total:** \$4,550,000  
**Cost Estimate Accuracy Range:** \$7,009,000 to \$3,369,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule – Priority 2:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$50	\$645	\$1,825	\$2,030						
P P P P	D D D D	C C C C	C C C C						

**Project Funding:** The study phase is funded by untreated water rates. Funding for the implementation phase is assumed to be funded 50 percent by untreated water rates and 50 percent by grants.

**Operational Impacts:** Annual operating cost savings are estimated to be approximately \$370,000, beginning in FY13.

**Basis for Priority:** This project has been ranked as priority level 2 because the District has a moderate level of control over scope and timing.

**Budgeting Department/Division:** Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Untreated Water Supply and Transport  
**Sub-Program:** Untreated Water Facilities - Planning  
**Project:** Untreated Water Facility Improvement Plan Update  
**Priority:** 2

The purpose of this project is to ensure timely, cost effective, and environmentally sound improvements to the District's untreated water facilities. The Untreated Water Facilities Improvement Plan (UWFIP) evaluates future needs of the untreated water facilities including such items as required capacity improvements, structural upgrades, renewal/replacement needs, and evaluation of alternatives to reduce canal loop maintenance costs.

Periodic updates are needed to ensure that the plan accurately reflects current improvement priorities. The plan was last updated in FY2006. Future updates of the UWFIP will be completed in FY2011 and FY2016.

This project was included in the FY2008 CIP at a cost of \$585,000.

**Total Project:** \$585,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$585,000  
**Cost Estimate Accuracy Range:** \$761,000 to \$497,000 (+30%/-15%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
		\$375					\$210		
		P P P P					P P P P		

P = Planning

D = Design

C = Construction

O = Other

**Project Funding:** The project is funded by untreated water rates.

**Operational Impacts:** As a study, there are no direct operations and maintenance costs associated with this project. Operational impacts for each project recommended in the study would be evaluated as projects are implemented.

**Basis for Priority:** This project has been ranked as priority level 2 because the integrity of the untreated water system depends on a comprehensive plan to ensure timely and cost effective improvements. The Untreated Water Facility Improvement Plan will prioritize projects necessary to meet future needs of the District.

**Budgeting Department/Division:** Planning

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Untreated Water Supply and Transport  
**Sub-Program:** Untreated Water Facilities - New  
**Project:** Untreated Water Pipeline Placeholder  
**Priority:** 2

The purpose of this project is to supplement the District’s untreated water conveyance system, to meet near-term and long-term water demands, and to improve fire-fighting flows after a major earthquake. The project was identified in the Seismic and Reliability Improvements Project (SRIP), which was adopted by the Board on January 8, 1997.

The project, tentatively scheduled to be started in FY2014 and completed in FY2017, includes a 4-mile long untreated water pipeline and a 36 million gallon per day untreated water pump station in Antioch. The timing for the project will depend on demand growth in the service area. Canal demands are analyzed as part of the Future Water Supply Study.

This project was included in the FY2008 CIP at a total project cost of \$18,729,000. The cost has been adjusted for inflation.

**Total Project:** \$20,082,000  
**Cost to Date through FY2008:** NA  
**CIP Total:** \$20,082,000  
**Cost Estimate Accuracy Range:** \$30,123,000 to \$14,057,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
						\$333	\$1,325	\$9,260	\$9,164
						P P D D	D D D D	C C C C	C C C C

P = Planning                                      D = Design                                      C= Construction                                      O = Other

**Project Funding:** The project would be debt-funded with debt service being funded by untreated and treated water rates and untreated water FRCs.

**Operational Impacts:** The additional cost of operating the untreated water pump station will be determined during project design. Operating impacts will begin after project completion in FY2018.

**Basis for Priority:** This project has been ranked as priority level 2 because the District has a moderate level of control over the scope and implementation of this project.

**Budgeting Department/Division:** Planning



CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Untreated Water Supply and Transport  
**Sub-Program:** Untreated Water Facilities -Upgrades  
**Project:** Canal Replacement Project - *continued*  
**Priority:** 1/2/3

---

**Project Funding:** The District's share of the project cost is anticipated to be \$5.6 million, which is needed to satisfy cost sharing requirements from various grants. The balance of the project cost would be funded by Developers' contributions and various State and Federal grants, including WRDA 219

**Operational Impacts:** The operational costs of this project are anticipated to be significant due to new activities required to maintain and clear debris from the new pipeline. However, these costs will be offset by a reduction of activities associated with the open waterway (such as levee maintenance, application of herbicides, dredging, etc.) that will no longer be needed. Net operating impacts are assumed to be negligible.

**Basis for Priority:** The first phase of this project is ranked as priority level 1 because the District has received project funding through grant agreements and funding from developers with a cash flow tied to the pace of housing development. The final phase of the project is ranked as priority level 3 because the District has significant control as to when to implement these portions of this project.

**Budgeting Department/Division:** Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Untreated Water Supply and Transport  
**Sub-Program:** Untreated Water Facilities - Upgrades  
**Project:** Los Vaqueros Pipeline Relocation – Balfour Road  
**Priority:** 1

The purpose of this project is to comply with the 1994 Agreement between the District and the State Route 4 Bypass Authority (Authority) for construction of the original Los Vaqueros Pipeline (LVP) at Balfour Road in Brentwood, by relocating the pipeline to accommodate State Route 4 Bypass (Bypass) construction at this location.

To accommodate original construction of the LVP and avoid possible unnecessary costs for accommodating a then proposed Bypass interchange at Balfour Road, the District entered into an agreement with the Authority to allow the LVP to be constructed straight through the future proposed interchange that connects Balfour to the new Bypass. This approach saved initial construction costs, while avoiding expending LVP project funds for a future Bypass project that might not occur.

The Authority has recently budgeted for this specific interchange at Balfour Road. Additionally, the Authority has prepared preliminary designs for this interchange indicating the LVP will be required to be relocated to allow for Bypass construction. This project provides the design and construction funding necessary to meet the District’s obligation to relocate the LVP at this location in 2015.

This project was included in the FY2008 CIP at a cost of \$2,500,000. The cost has been adjusted for inflation

**Total Project:** \$3,000,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$3,000,000  
**Cost Estimate Accuracy Range:** \$4,500,000 to \$2,100,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
					\$466	\$2,534			
					D D D D	C C C C			

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** If the Authority awards construction for the interchange prior to June 2015, the project will be funded from the Los Vaqueros Commitments Reserve Fund and untreated water rates; otherwise the Authority will fund the relocation.

**Operational Impacts:** Operational impacts of the relocation are expected to be minimal.

**Basis for Priority:** This project has been ranked a priority level 1 because it is a contractual obligation of the District.

**Budgeting Department/Division:** Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Untreated Water Supply and Transport  
**Sub-Program:** Untreated Water Facilities - Upgrades  
**Project:** Mallard Slough Channel Rehabilitation  
**Priority:** 2/3

The purpose of this program is to enable the District to operate the Mallard Slough Pump Station as originally designed without operational restrictions due to suction water re-charge issues.

The Mallard Slough is forty feet wide and twenty-five hundred feet long and was acquired by CCWD in 1961 to draw water from Suisun Bay to the Mallard Slough Pump Station in Bay Point. The District performed a bathymetric survey of the slough in October 2006 and determined there is five feet of sediment buildup since the last dredging in 1987 when the bottom of the slough was dredged to seven and a half feet below mean sea level. The buildup of sediment can reduce the capacity of the pump station by up to 15 percent.

This project will dredge the slough to its original design depth and remove the sediment spoils to a designated disposal site, as well as re-shape the walls of the intake channel. The permitting phase of the project is Priority Level 2, and is scheduled to occur in FY2009 and FY2010. Design and construction are Priority Level 3, subject to funding availability.

This project was included in the FY2008 CIP at a cost of \$1,735,000. The cost has been adjusted to reflect a new cost estimate.

**Total Project:** \$3,300,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$3,300,000  
**Cost Estimate Accuracy Range:** \$4,950,000 to \$2,310,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule: Priority 2**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$150	\$130								
P P P P	P P P P								

P = Planning                      D = Design                      C = Construction                      O = Other

**Annual Cost Distribution (in 000's) and Schedule: Priority 3**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
		\$253	\$2,767						
		D D D D	D C C C						

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project would be funded entirely by untreated water rates.

**Operational Impacts:** Operational impacts for this project are expected to be minimal

**Basis for Priority:** This project has been ranked priority level 3, as the project scope and schedule have been defined only on a conceptual level.

**Budgeting Department/Division:** Planning/Engineering



CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Untreated Water Supply and Transport  
**Sub-Program:** Untreated Water Facilities - Upgrades  
**Project:** Rock Slough Fish Screen  
**Priority:** 1

The purpose of this project is to provide support to Reclamation’s efforts to construct a fish screen at the Rock Slough intake to the Contra Costa Canal. The fish screen is required by the Central Valley Project Improvement Act (CVPIA) and the U.S. Fish and Wildlife Service’s Los Vaqueros Project Biological Opinion on Delta Smelt. The project is currently required to be completed by December 2008. Reclamation has initiated discussions with the resource agencies to extend the deadline to 2013.

This project was included in the FY2008 CIP at a total project cost of \$326,000. The cost includes staff time that will be required during the design and construction of the fish screen.

**Total Project:** \$336,000  
**Cost to Date through FY2008:** \$286,000  
**CIP Total:** \$50,000  
**Cost Estimate Accuracy Range:** \$361,000 to \$321,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$10	\$10	\$10	\$10	\$10					
o o o o	o o o o	o o o o	o o o o	o o o o					

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** Under the CVPIA, the costs of the fish screen are to be shared among the federal government (37.5%), the CVP (37.5%) and the State of California (25%). The District incurs ongoing costs for staff time during planning, design and construction phases. District staff costs are entirely untreated water rate funded.

**Operational Impacts:** It is assumed that the District would take responsibility for the operations and maintenance of this federal facility, as it has for the Contra Costa Canal and related facilities. The District’s O&M costs are estimated to increase by \$150,000 per year starting in FY2010 (first full year of operation). Labor costs account for two-thirds (\$100,000) of this estimate.

**Basis for Priority:** This project has been ranked as priority level 1 because it is part of the CVPIA and Los Vaqueros Project Delta Smelt Biological Opinion requirements. Continued pumping at Rock Slough is dependent on meeting the requirements of the CVPIA.

**Budgeting Department/Division:** Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Untreated Water Supply and Transport  
**Sub-Program:** Untreated Water Facilities - Upgrades  
**Project:** Rock Slough Flood Improvements  
**Priority:** 2

The purpose of this project is to ensure reliable delivery of untreated water by rehabilitating the unlined first four miles of the Contra Costa Canal against possible levee failure and subsequent flooding.

The U.S. Army Corps of Engineers (COE) continues the evaluation of the Rock Slough project, and is moving the project to the cost sharing feasibility stage. The District has pursued funding assistance from the COE, and \$4,300,000 was authorized under the Water Resources Development Act (WRDA 205) authorization bill in late 2000. The District has been seeking appropriations from the COE, but additional time is required for the COE to complete its assessment.

The District has been working with the COE to integrate this flood mitigation project with the Canal Replacement Project to fund the proportionate flood control benefits realized by encasing the unlined Canal up to Pumping Plant 1.

This project was included in the FY2008 CIP at a total project cost of \$6,847,000. The start of design has been delayed by one year to accommodate additional COE studies.

**Total Project:** \$6,840,000  
**Cost to Date through FY2008:** \$258,000  
**CIP Total:** \$6,582,000  
**Cost Estimate Accuracy Range:** \$10,131,000 to \$4,865,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$120	\$165	\$335	\$2,987	\$2,975					
P P P P	D D D D	D D D D	C C C C	C C C C					

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funded:** Feasibility study and design costs will be split equally between the COE and the District. Construction of the project is mainly funded by the COE (65%), with the District matching 35%.

**Operational Impacts:** The operational impact of this project is estimated to be negligible.

**Basis for Priority:** This project is ranked as priority level 2 because it will ensure reliable delivery of untreated water.

**Budgeting Department/Division:** Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Untreated Water Supply and Transport  
**Sub-Program:** Untreated Water Facilities - Upgrades  
**Project:** Untreated Water Facilities Improvement Program  
**Priority:** 2

The purpose of this project is to improve operational reliability of the District’s untreated water facilities, many of which are over 65 years old and nearing the end of their useful life. The project focuses on rehabilitating canal system deficiencies in an effort to improve current operations and ensure safe access to the Contra Costa Canal. Improvements are identified and prioritized in the Untreated Water Facilities Improvement Plan.

The project consists of such improvements as mechanical and electrical equipment, structures, instrumentation, geotechnical improvements, lateral, wasteway and check structure rehabilitation; untreated water corrosion activities; rehabilitation of damaged concrete canal lining section, roads, bridges and fences and the restoration of erosion damaged sites at various locations along the Contra Costa Canal.

Planned FY2009 and FY2010 work includes the elimination of flow restrictions in the canal loop and other work to prepare for a Shortcut Pipeline interior inspection.

This program was included in the FY2008 CIP at a ten-year cost of \$18,509,000. The cost has been adjusted for inflation.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$19,625,000  
**Cost Estimate Accuracy Range:** \$29,438,000 to \$13,738,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$2,220	\$2,665	\$1,930	\$1,830	\$1,880	\$1,880	\$1,730	\$1,730	\$1,880	\$1,880
0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0

P = Planning

D = Design

C = Construction

O = Other

**Project Funding:** This project is funded entirely by untreated water rates. The cost of the pump rehabilitation program will be offset by a reduction in operating budget.

**Operational Impacts:** The operational impact of this project is estimated to be negligible. This project improves operations and maintenance of the Canal and reduces water loss.

**Basis for Priority:** This project has been ranked as priority level 2. The District’s untreated water facilities may be approaching the end of their useful life. The improvements made by this project will insure a reliable system of operation and greater maintenance efficiency.

**Budgeting Department/Division:** Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Untreated Water Supply and Transport  
**Sub-Program:** Untreated Water Facilities - Upgrades  
**Project:** Untreated Water Reservoir Rehabilitation Program  
**Priority:** 2/3

The purpose of this project is to improve operational reliability of the District’s untreated water reservoirs, some of which are over 60 years old, and address issues raised by the State of California, Division of Safety of Dams (DSOD) and the United States Bureau of Reclamation (USBR).

Priority level 2 FY2009 and FY2010 improvements include installation of a staff gauge at Contra Loma Reservoir, completing an evaluation of the Mallard Reservoir outlet discharge to determine if modifications are needed to conduct outlet valve testing, and responding to requests from DSOD and USBR. Priority 3 work includes additional dam erosion protection and site upgrades at Mallard Reservoir, and will be done as funds are made available.

This project was included in the FY2008 CIP at a total cost of \$11,919,000. The cost has been adjusted to reflect an updated estimate.

**Total Project:** \$11,891,000  
**Cost to Date through FY2008:** \$10,157,000  
**CIP Total:** \$1,734,000  
**Cost Estimate Accuracy Range:** \$12,758,000 to \$11,370,000 (+50 %/- 30%)

**Annual Cost Distribution (in 000's) and Schedule: Priority Level 2**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$202									
D D C C									

**Annual Cost Distribution (in 000's) and Schedule: Priority Level 3**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
	\$439	\$1,093							
	D D D D	C C C C							

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project is funded by untreated water rates.

**Operational Impacts:** Operational impacts of this project are anticipated to be minimal. Increasing automated dam monitoring instrumentation will decrease the cost of obtaining data, and increase the level of dam oversight through higher quality, faster data.

**Basis for Priority:** This project has been ranked as priority level 2 because the District has a moderate level of control over the scope and implementation of this project.

**Budgeting Department/Division:** Engineering

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Untreated Water Supply and Transport  
**Sub-Program:** Upgrades  
**Project:** Untreated Water Revenue Meter Data Logger Replacements  
**Priority:** 2

The purpose of this project is to improve the accuracy and reliability of revenue metering sites of major untreated water customers. The electrical power system and data collection/telemetry equipment are approaching the ends of their useful lives, and are becoming increasingly unreliable. In addition, the physical sites are in need of refurbishment. These meters account for annual revenues in excess of \$36 million.

A data collection upgrade prototype is currently being field tested at two sites, using cellular telemetry to directly communicate real-time revenue data, reducing the need for District staff to manually read these meters. This project consists of installation of successful prototype systems at all twenty-three remaining untreated water metering sites. The project also includes security, power, and safety and access improvements at each site.

This project is new to the CIP.

**Total Project:** \$2,010,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$2,010,000  
**Cost Estimate Accuracy Range:** \$3,015,000 to \$1,407,000 (+50 %/- 30%)

**Annual Cost Distribution (in 000's) and Schedule: Priority Level 2**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$230	\$1,780								
D D C C C C C C									

**Project Funding:** This project is funded by untreated water rates.

**Operational Impacts:** Operational impacts of this project are anticipated to be minimal. Any additional operating cost, i.e., cellular costs, would be more than offset by decreased labor effort (equipment maintenance and meter reading), which would be re-directed to other activities.

**Basis for Priority:** The project is ranked as priority level 2 because unreliable metering results in inequitable revenue collection.

**Budgeting Department/Division:** Engineering

## **Water Demand Reduction Program**

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Water Demand Reduction  
**Sub-Program:** Best Management Practices Implementation  
**Project:** Water Conservation Incentives  
**Priority:** 1

The purpose of this program is to reduce water demands by providing water conservation incentives for the Residential, Commercial/Industrial/Institutional and Landscape customer classes. Incentives are consistent with the Future Water Supply Study (FWSS) and the Best Management Practices (BMP's).

The program includes incentives for the installation of efficiency toilets, clothes washers, smart irrigation timers and various commercial devices and irrigation equipment.

This program was included in the FY2008 CIP at a ten-year cost of \$7,043,000. Costs have been adjusted for inflation, and to reflect changes in individual program elements.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$8,010,000  
**Cost Estimate Accuracy Range:** \$9,212,000 to \$7,610,000 (+15%/-5%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$801	\$801	\$801	\$801	\$801	\$801	\$801	\$801	\$801	\$801
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This project is funded by untreated water rates and supplemented with grant funds. Annual grant income is estimated to be \$200,000.

**Operational Impacts:** This project has no operational impact.

**Basis for Priority:** This project has been ranked as priority level 1 because it is a BMP program required to be implemented in the Conservation Section of the District's USBR Contract.

**Budgeting Department/Division:** Finance

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Water Demand Reduction  
**Sub-Program:** Best Management Practices Implementation  
**Project:** Commercial/Industrial Conservation  
**Priority:** N/A

The purpose of this program is to reduce water demands by providing conservation audits to commercial customers to evaluate water uses on site and to provide suggestions for improved water use efficiency. The program also provides the pre-inspection at commercial establishments for the water conservation incentive program.

This is an operating budget program and is not included in program or CIP cost estimate totals. It is included here to provide a comprehensive picture of the District's Water Demand Reduction program.

This program was included in the FY2008 CIP at a ten-year cost of \$1,508,000. The cost has been adjusted for inflation.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$1,550,000  
**Cost Estimate Accuracy Range:** \$1,772,000 to \$1,473,000 (+15%/-5%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$155	\$155	\$155	\$155	\$155	\$155	\$155	\$155	\$155	\$155
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This program is funded by untreated water rates.

**Operational Impacts:** This is an operating budget program. There are no O&M impacts beyond administering the project.

**Responsible Department/Division:** Finance



CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Water Demand Reduction  
**Sub-Program:** Best Management Practices Implementation  
**Project:** Landscape Conservation  
**Priority:** N/A

The purpose of this program is to reduce water demands by providing landscape surveys in business parks, homeowner association’s common landscape areas, city parks and other areas that have irrigation meters and large areas of turf. It also provides an annual follow-up to those surveyed sites in order to assure continued savings. In addition, this program involves developing landscape water budgets for all dedicated irrigation accounts.

This is an operating budget program and is not included in program or CIP cost estimate totals. It is included here to provide a comprehensive picture of the District’s Water Demand Reduction program.

This program was included in the FY2008 CIP at a ten-year cost of \$1,958,000. The cost has been adjusted for inflation.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$2,020,000  
**Cost Estimate Accuracy Range:** \$2,320,000 to \$1,920,000 (+15%/-5%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$202	\$202	\$202	\$202	\$202	\$202	\$202	\$202	\$202	\$202
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                                      D = Design                                      C = Construction                                      O = Other

**Project Funding:** This program is funded by untreated water rates.

**Operational Impacts:** This is an operating budget program. There are no O&M impacts beyond administering the project.

**Responsible Department/Division:** Finance

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Water Demand Reduction  
**Sub-Program:** Best Management Practices Implementation  
**Project:** Residential Water Audits/Plumbing Retrofit  
**Priority:** N/A

The purpose of this program is to reduce water demands by providing water audits to single-family and multi-family residential customers. The Residential Water Audit Program works with District customers at their homes to improve water efficiency. Trained surveyors test for leaks in toilets, install showerheads and conduct comprehensive landscape water use evaluations. The Program makes water saving devices (showerheads, faucet aerators, etc.) available to customers free of charge.

This is an operating budget program and is not included in program or CIP cost estimate totals. It is included here to provide a comprehensive picture of the District's Water Demand Reduction program.

This program was included in the FY2008 CIP at a ten-year cost of \$3,397,000. The cost has been adjusted for inflation.

**Total Project:** N/A  
**Cost to Date through FY2008:** N/A  
**CIP Total:** \$3,500,000  
**Cost Estimate Accuracy Range:** \$4,025,000 to \$3,325,000 (+15%/-5%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This program is funded by untreated water rates.

**Operational Impacts:** This is an operating budget program. There are no O&M impacts beyond administering the project.

**Responsible Department/Division:** Finance

## **Water Treatment Facility Improvements Program**

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Water Treatment Facility Improvements  
**Sub-Program:** Expansion  
**Project:** Drinking Water Laboratory  
**Priority:** 3

The purpose of this project is to enable the District to meet new, more stringent analytical requirements related to new regulations, potential new water supplies, and expanded outreach to our municipal customers.

The Facilities Master Plan (FMP) adopted by the Board on in 1999, recommended construction of a new 6,500 to 10,000 square foot laboratory adjacent to the Bollman Water Treatment Plant at a cost of \$2.6 to \$6.0 million to provide additional space and state-of-the-art equipment. Due to funding constraints, the proposed project has been reduced to 5,000 square feet.

Estimated annual operating costs and amortized capital costs of the laboratory are about equal to the cost of using commercial laboratories to perform the projected analysis. A cost-benefit analysis comparing the use of commercial facilities versus constructing a District facility will be provided before project funding. The District has conducted significant outreach to municipal customers to provide lab services to them at a competitive cost. While limited success has been achieved, sufficient additional work to justify lab expansion, based on this criterion alone, has not been generated. The outreach will continue.

This project was included in the FY2008 CIP at a cost of \$1,861,000. The cost has been adjusted for inflation, and the schedule has been delayed two years to allow for additional outreach.

**Total Project:** \$2,000,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$2,000,000  
**Cost Estimate Accuracy Range:** \$3,000,000 to \$1,400,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
		\$400	\$1,600						
		P P D D	C C C C						

P = Planning

D = Design

C = Construction

O = Other

**Project Funding:** This project is funded by treated water and untreated water rates.

**Operational Impacts:** This project will increase the District’s analytical capability by providing state-of-the-art equipment and a more efficient laboratory layout, ensuring the lab’s ability to meet new and more stringent regulations. Any additional operating costs would be offset by the lessened need for outside laboratory services, and fees collected from other agencies using the lab.

**Basis for Priority:** This project has been ranked as priority level 3 because the District has maximum flexibility in implementing this project.

**Budgeting Department/Division:** Operations and Maintenance

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Water Treatment Facility Improvements  
**Sub-Program:** Planning  
**Project:** Water Treatment Plant Master Plan Update and Implementation Placeholder  
**Priority:** 2

The purpose of this project is to ensure timely, cost effective and environmentally sound improvements to the District’s water treatment facilities through periodic updates of the FY2004 Water Treatment Plant Master Plan (WTPMP). The WTPMP also provides a review of upcoming regulatory requirements possibly affecting the water treatment plants so the District can continue to be proactive on regulatory compliance.

The next plan update is scheduled for FY2013. This project also includes approximately \$4,900,000 for the implementation of improvements recommended by the study.

This project was included in the FY2008 CIP at a cost of \$4,757,000. The cost has been adjusted for inflation.

**Total Project:** \$5,100,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$3,983,000  
**Cost Estimate Accuracy Range:** \$7,651,000 to \$3,570,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
				\$210	\$245	\$882	\$882	\$882	\$882
				P P P P	D D D D	C C C C	C C C C	C C C C	C C C C

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This District’s share of the project is funded by treated water rates. Partners in the Randall-Bold facility pay a share based on capacity rights.

**Operational Impacts:** Plan updates do not have operational impact. Operational impacts for projects recommended in the plan will be evaluated as they are developed.

**Basis for Priority:** This project has been ranked as priority level 2 because master plan updates are required to ensure that new regulations, capacity requirements, and other factors are addressed in a timely manner.

**Budgeting Department/Division:** Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Water Treatment Facility Improvements  
**Sub-Program:** Upgrades  
**Project:** Membrane Filtration Placeholder  
**Priority:** 3

The purpose of this project is to ensure the District’s water quality objectives will continue to be met through advanced treatment process improvements. Future increases to water demands from the Delta, in the absence of definite projects to protect the District and other Bay Area users of Delta water, will likely lead to degraded water quality. There is also a trend to increasing regulations to ensure high quality water is delivered to urban water users. These regulations are targeting areas now unregulated, including new viral, bacterial and protozoan pathogens, more stringent disinfection by-product regulations and regulations on currently unregulated chemicals. This trend also leads to an increasing likelihood of a need for advanced treatment.

If the State proceeds with options for the Delta that create degraded water quality at the District’s intakes, then the District must consider the potential need for the implementation of advanced treatment technologies such as membrane filtration and multiple barriers (including multiple disinfectants, UV disinfection, and higher filtration levels). If implementation were deemed necessary, this project would be initiated in FY2012 with an estimated completion date in FY2015.

This project was included in the FY2008 CIP at a total cost of \$61,994,000. The cost has been adjusted based on cost estimates for membrane filtration developed as part of the Regional Desalination Feasibility Project.

**Total Project:** \$80,000,000  
**Cost to Date through FY2006:** \$0  
**CIP Total:** \$80,000,000  
**Cost Estimate Accuracy Range:** \$120,000,000 to \$56,000,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
		\$4,295	\$39,529	\$24,839	\$11,337				
		D D D D	C C C C	C C C C	C C C C				

P = Planning                                  D = Design                                  C = Construction                                  O = Other

**Project Funding:** This project would be funded by treated water rates.

**Operational Impacts:** For purposes of planning, the total annual O&M costs are estimated to be \$6.6 million per year, of which \$160,000 is attributable to labor costs.

**Basis for Priority:** This project has been ranked as priority level 3 because the District has maximum flexibility in implementing this project, and the outcome of the CALFED Program is uncertain.

**Budgeting Department/Division:** Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Water Treatment Facility Improvements  
**Sub-Program:** Upgrades  
**Project:** Water Treatment Plant Improvements - Bollman  
**Priority:** 2/3

The purpose of this program is to continue meeting District water quality objectives by providing a programmatic approach to addressing water quality, renewal and replacement and solids handling needs at the District’s Bollman Water Treatment Plant (WTP). Bollman WTP was constructed in 1968 and has facilities and equipment that are in need of renewal and replacement due to age and normal wear and tear. Recommended improvements were identified in the FY2004 Water Treatment Plant Master Plan (WTPMP).

Projects planned for FY2009 and FY2010 include Sedimentation Basin and Clearwell Seismic Improvements, Filter Valve Replacements and Polymer System Upgrades. There is a priority level 3 placeholder project to implement any recommendations from the solids handling evaluation.

The projects identified in this program were included in FY2008 CIP at a total cost of \$30,620,000. The costs have been adjusted for inflation.

**Total Project:** \$31,787,000  
**Cost to Date through FY2008:** \$15,917,000  
**CIP Total:** \$15,870,000  
**Cost Estimate Accuracy Range:** \$38,165,000 to \$25,468,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule: *Priority 2***

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$821	\$2894	\$2820	\$755	\$202	\$755	\$755	\$755	\$202	\$755
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

**Annual Cost Distribution (in 000's) and Schedule: *Priority 3***

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
	\$2,688	\$2,468							
	D D C C	C C C C							

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This program is funded by treated water rates.

**Operational Impacts:** The total operational impacts for this project are estimated to be \$50,000 per year beginning in FY2009. Labor costs account for \$8,000 of the total costs.

**Basis for Priority:** This program has been ranked as priority level 2 for components that have been defined and priority level 3 for components that are pending the outcome of investigations.

**Budgeting Department/Division:** Planning

CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Water Treatment Facility Improvements  
**Sub-Program:** Upgrades  
**Project:** Water Treatment Plant Improvements - City of Brentwood  
**Priority:** 2/3

The purpose of this program is to provide a programmatic approach to addressing water quality, renewal and replacement, and solids handling needs at the City of Brentwood’s Water Treatment Plant (CBWTP). The CBWTP is currently under construction and is expected to begin operation in FY2009. Per the agreement with the City of Brentwood for the design, construction, and operation of CBWTP, the District has developed a capital improvement program for the new facilities.

This project includes re-rating the filters to increase the plant’s capacity from 12 MGD to 15 MGD in FY2009 and media replacement. Filter media is assumed to be replaced on a four-year cycle beginning in FY2012. There is a priority level 3 placeholder project to line the wash water lagoons if required by the Regional Water Quality Control Board.

The projects identified in this program were included in FY2008 CIP at a total cost of \$2,316,000. The costs have been adjusted for inflation.

**Total Project:** \$2,558,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$2,558,000  
**Cost Estimate Accuracy Range:** \$3,837,000 to \$1,790,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule: *Priority 2***

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
110	\$374		\$363	\$363			\$363	\$363	
o o o o	o o o o		o o o o	o o o o			o o o o	o o o o	

**Annual Cost Distribution (in 000's) and Schedule: *Priority 3***

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
		\$96	\$526						
		D D D D	C C C C						

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** This program is funded by the City of Brentwood.

**Operational Impacts:** The total operational impacts for this project are minimal.

**Basis for Priority:** This program has been ranked as Priority level 2 for components that have been defined and priority level 3 for components that are pending the outcome of investigations.

**Budgeting Department/Division:** Planning



CONTRA COSTA WATER DISTRICT

**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
PROJECT SUMMARY**

**Program:** Water Treatment Facility Improvements  
**Sub-Program:** Upgrades  
**Project:** Water Treatment Plant Improvements – Randall-Bold  
**Priority:** 2/3

The purpose of this program is to continue meeting District water quality objectives by providing a programmatic approach to addressing water quality, renewal and replacement and solids handling needs at the District’s Randall-Bold Water Treatment Plant (WTP). Randall-Bold WTP was constructed in 1992 and has facilities and equipment that are in need of renewal and replacement due to age and normal wear and tear. Recommended improvements were identified in the FY2004 Water Treatment Plant Master Plan (WTPMP).

Projects included in this program include DCS replacement, filter media replacement, and groundwater monitoring and alternatives analysis for lagoon operations at the site. There are priority level 3 placeholder projects to line the wash water and solids lagoons if required by the Regional Water Quality Control Board, and to convert the plant to hypochlorite if required by Congress.

The projects identified in this program were included in FY2008 CIP at a total cost of \$12,192,000. The costs have been adjusted for inflation.

**Total Project:** \$13,073,000  
**Cost to Date through FY2008:** \$4,081,000  
**CIP Total:** \$8,992,000  
**Cost Estimate Accuracy Range:** \$16,580,000 to \$9,385,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule: Priority 2**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$322	\$166	\$186	\$226	\$2,221	\$761	\$96	\$96	\$96	\$96
o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o	o o o o

**Annual Cost Distribution (in 000's) and Schedule: Priority 3**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
		\$443	\$2,493	\$261	\$1,529				
		D D D D	C C C C	D D D D	C C C C				

P = Planning                      D = Design                      C = Construction                      O = Other

**Project Funding:** A portion of this program is funded by Diablo Water District, City of Brentwood, and the City of Antioch. The remainder of the program is funded by treated water rates.

**Operational Impacts:** The total operational impacts for this project are estimated to be \$90,000 per year beginning in FY2009. Labor costs account for \$8,000 of the total costs.

**Basis for Priority:** This program has been ranked as priority level 2 for components that have been defined and priority level 3 for components that are pending the outcome of investigations or potential legislation.

**Budgeting Department/Division:** Planning

CONTRA COSTA WATER DISTRICT  
**TEN-YEAR CAPITAL IMPROVEMENT PLAN  
 PROJECT SUMMARY**

**Program:** Water Treatment Facility Improvements  
**Sub-Program:** Upgrades  
**Project:** Randall-Bold Water Treatment Plant Upgrades for Increased Capacity  
**Priority:** 3

**Description:** The purpose of this project is to upgrade the Randall-Bold Water Treatment Plant to increase treatment capacity at the facility. A filter assessment study is currently underway to determine if the plant’s filtration rates can be increased from 40 MGD to 54 MGD. If the results of the study indicate that capacity increases are feasible, additional upgrades for greater storage and higher treatment capacity will be needed to meet the 35% production increase. Examples of upgrades needed are additional chemical tanks and chemical feeders, higher waste discharge capacity, greater capacity for solid waste handling, and modifications to influent piping to alleviate hydraulic constrictions.

A placeholder of \$500,000 has been included in this CIP for implementation of projects necessary to increase capacity at the Randall-Bold Water Treatment Plant. The project scope and costs will be updated based on the results of the filter assessment study and as funding becomes available.

This project is new to the CIP.

**Total Project:** \$500,000  
**Cost to Date through FY2008:** \$0  
**CIP Total:** \$500,000  
<sup>+</sup>  
**Cost Estimate Accuracy Range:** \$750,000 to \$350,000 (+50%/-30%)

**Annual Cost Distribution (in 000's) and Schedule:**

FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
		\$93	\$407						
		D D D D	C C C C						

P = Planning

D = Design

C = Construction

O = Other

**Project Funding:** This project would be funded by treated water rates and FRCs.

**Operational Impacts:** Impacts to total annual O&M costs are anticipated to be negligible.

**Basis for Priority:** This project has been ranked priority level 3, as the project scope and schedule have been defined only on a conceptual level.

**Budgeting Department/Division:** Planning

**Section VIII**  
**EXHIBITS**

## List of Abbreviations

ABAG	Association of Bay Area Governments
BDCP	Bay Delta Conservation Plan
BMP	Best Management Practice
CCWD	Contra Costa Water District
CEQA	California Environmental Quality Act
CII	Commercial, Industrial, and Institutional
CIP	Capital Improvement Program
COE	United States Army Corps of Engineers
CTC	Competitive Transition Charges
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
CUWCC	California Urban Water Conservation Council
DOHS	California Department of Health Services
DSOD	California Division of Safety of Dams
DWD	Diablo Water District
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
ECCID	East Contra Costa Irrigation District
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ENR	Engineering News Record
EOC	Emergency Operations Center
ERAF	Education Revenue Augmentation Fund
ET	Evapo-transpiration
FMP	Facilities Master Plan
FRC	Facilities Reserve Charge
FTE	Full-Time Equivalent
FWSS	Future Water Supply Study
FY	Fiscal Year
GAC	Granular Activated Carbon
GIS	Geographic Information System
JPA	Joint Powers Authority
LVP	Los Vaqueros Project
MGD	Million Gallons per Day
M&I	Municipal and Industrial
MOU	Memorandum of Understanding
MPP	Multi-Purpose Pipeline
O&M	Operations and Maintenance
OCAP	Operations Criteria and Plan
POE/POU	Point of Entry/Point of Use
PUC	Public Utilities Commission
RBWTP	Randall-Bold Water Treatment Plant

## **List of Abbreviations**

*(continued)*

ROD	Record of Decision
SCADA	Supervisory Control and Data Acquisition
SRIP	Seismic Reliability Improvement Project
SWQ	Safety and Water Quality
TW	Treated Water
TWFIP	Treated Water Facility Improvement Program
TWMP	Treated Water Master Plan
TWSA	Treated Water Service Area
ULFT	Ultra-Low Flush Toilet
USBR	United States Bureau of Reclamation
UV	Ultra-violet
UW	Untreated water
UWFIP	Untreated Water Facility Improvement Program
WQ	Water Quality
WRDA	Water Resources Development Act
WRIF	Water Resources Investment Fund
WTP	Water Treatment Plant
WTPMP	Water Treatment Plant Master Plan

## Glossary

**Acre-Foot** – The volume of water that will cover one acre to a depth of one foot. One acre-foot of water equals 325,828.8 gallons.

**Annual Rate Analysis** – Rates, fees, and charges are examined annually and are brought to the Board in November and December of each year, and adjustments are typically considered for Board approval in January. CIP cost estimates are among several factors used in the annual rate analysis.

**Bay Delta Conservation Plan** - An applicant-driven effort to provide for the conservation and management of Delta aquatic species and regulatory assurances related to water supply reliability and water quality. It is a voluntary mechanism to provide Delta water users compliance with Federal Endangered Species Act, California Endangered Species Act, and/or the Natural Community's Conservation Plan Act.

**CALFED** - The California Bay-Delta Authority (formerly CALFED) oversees the 25 state and federal agencies working cooperatively to improve the quality and reliability of California's water supplies while restoring the Bay-Delta ecosystem.

**Central Valley Project** – California water project owned by the United States and managed by the Bureau of Reclamation for diversion, storage, carriage, distribution and beneficial use of waters of the Sacramento River, the American River, the Trinity River, and the San Joaquin River and their tributaries. The CVP is composed of some 20 reservoirs with a combined capacity of more than 11 million acre-feet, 11 power plants, and more than 500 miles of major canals and aqueducts. The CVP delivers about 7 million acre-feet of water annually for agricultural, urban, and wildlife use. The Contra Costa Canal is a CVP facility. CCWD's CVP water service contract is for 195,000 acre-feet annually.

**Central Valley Project Improvement Act** - Multipurpose water legislation that was signed into law October 30, 1992. The Central Valley Project Improvement Act mandated changes in management of the Central Valley Project, particularly for the protection, restoration, and enhancement of fish and wildlife. The Rock Slough Fish Screen is a requirement of the CVPIA.

**CIP Programs** - Projects in the CIP are organized by program and sub-program. There are ten program areas, each representing a different function of the District. Sub-programs are groups of related projects within a program.

**Debt Service** – The District's obligation to pay the principal and interest of bonds and other debt instruments according to a predetermined payment schedule.

**Debt Service Coverage Ratio** – Revenues net of operating costs divided by maximum annual debt service.

**Delta** – The Delta is the largest estuary on the west coast and the hub of California's water system. It is formed by California's two largest rivers, the Sacramento and San Joaquin. The Delta has increasingly become a center of controversy as federal, state, and local governments and private entities have sought to make use of its resources.

**Delta Vision** – Governor Arnold Schwarzenegger appointed the Delta Vision Blue Ribbon Task Force to develop a long-term sustainable vision for the Delta by December 2007 and an implementation plan by October 2008. The task force recommended a significant increase in conservation and water system efficiency, new facilities to move and store water, and likely reductions in the amount of water taken out of the Delta watershed. The task force also recommended a new governing structure for the Delta that would have secure funding and the ability to approve spending, planning and water export levels.

**Facility Reserve Charge** - A one-time up-front fee paid by each new customer when they connect to the system. The fee covers the new customer's share of the facilities required to provide service. Such fees are commonly referred to as connection fees, capacity fees, system development fees, or impact fees. There are separate Facility Reserve Charges for untreated and treated water customers. The current fees are contained in Chapters 5.12 and 5.16 of the District Code of Regulations.

**Fiscal Year** - The period from and including July 1 of each calendar year through June 30 of the following calendar year.

**Funded by Others** – Funding received from non-District agencies or entities. Other sources of funding include CALFED, Proposition 50 and 84, grants, Brentwood, developers, and other entities either benefiting from District actions or mitigating for impacts to the District.

**M&I Deficit** - This M&I deficit was largely comprised of compound interest on capital costs computed retroactively back to 1949. A large component of the deficit was eliminated by the passage of two pieces of Federal legislation that resulted in the transfer of the Sly Park and Sugar Pine dams and reservoirs to the respective local beneficiary agencies.

**Minimum Reserve Balances** – The District has a minimum reserve balance policy of the total of six months of debt service and operating expenses.

**Operations Criteria and Plan** – Plan developed by the Bureau of Reclamation for operation of the Central Valley Project in conjunction with the State Water Project. The plan includes numeric and nonnumeric operating criteria and strategies for all CVP divisions, including the Trinity River Division, Shasta and Sacramento County Divisions, American River Division, Delta Division, West San Joaquin Division, and Friant Division.

**Prioritization System** - A method to rank or rate the relative importance of a project in the CIP based upon factors such as protection of health and safety, legal requirements and rate of return on the District's investment. The priority levels provide a basis for deciding which projects should be done in any given year.

**Priority Level 1** – Projects in this priority level are the highest priority of all capital projects. They include projects already under construction and those required by legislation, regulation, contract or for protecting health and safety. Priority level 1 also includes applicant funded projects.

**Priority Level 2** - Projects in this priority level need to be done, but the District has a moderate level of control as to when they should be performed. Where return on

investment is a determining factor, projects in this priority level will have a short-term payback of less than five years.

**Priority Level 3** - Projects in this priority level are needed, but the District has a significant level of control as to when they should be performed. Where return on investment is a determining factor, projects in this priority level will have a long-term payback of greater than five years.

**Proposition 50** - Authorized general obligation bonds, to be repaid from state's General Fund, to fund a variety of water projects including: specified Bay-Delta Program projects including urban and agricultural water use efficiency projects; grants and loans to reduce Colorado River water use; purchasing, protecting and restoring coastal wetlands near urban areas; competitive grants for water management and water quality improvement projects; development of river parkways; improved security for state, local and regional water systems; and grants for desalination and drinking water disinfecting projects.

**Proposition 84** – Authorized \$5.4 billion in general obligation bonds to fund projects to provide safe drinking water, improve local water supply reliability, strengthen flood protection, and preserve California’s natural landscapes, including parks, lakes, rivers, beaches, bays, ocean and coastline.

**Rate Policy** – The Board’s rate policy limits annual rate increases to levels at or below inflation.

**Restricted Reserves** – Reserve funds whose use is constrained by Board action or by contractual or legal requirements.

**Revenue** – Moneys that the District receives as income. It includes such items as water sales, fees for services, contributions, interest income and other miscellaneous receipts. Estimated revenues are those expected to be collected over the panning period.

**Ten-Year Capital Improvement Program** - The Ten-Year Capital Improvement Program and Financial Plan (CIP) provides a comprehensive view of the asset investments required over the next ten years to ensure adequate water resources, maintain high quality water, and meet the service needs of present and future customers.

**Treated Water Service Area** – Portion of the service area that receives treated water from the District's Bollman Water Treatment Plant in Concord and supplemental supply from Randall-Bold Treatment Plant via the Multi-Purpose Pipeline. The treated water service area encompasses all or part of the cities and communities of Concord, Clayton, Clyde, Pleasant Hill, Walnut Creek, Martinez, and Port Costa.

**Two-Year Budget** - The District’s budget is presented to the Board in May and June every other year. Budget status is reviewed at approximately six-month intervals until the next two-year budget.

**Unrestricted Reserves** – Reserve funds that are not constrained by Board action or by contractual or legal requirements.



**Untreated Water Service Area** – Portion of the District’s service area that receives untreated water from the Contra Costa Canal for municipal, industrial, landscape irrigation, and agricultural purposes. The District’s municipal customers include the Diablo Water District; Cities of Antioch, Pittsburg, and Martinez; and the Golden State Water Company (Bay Point).

## **Section IX**

### **INDEX**

## Index

Alternative Intake Project.....	I-1, I-3, I-7, I-8, I-9, I-10, IV-5, IV-6, V-2, V-3, V-4, VI-1 .....VI-8, VI-10, VI-16, VI-19, VII-4
Annual Building and Facility Improvements.....	I-3, IV-3, VII-1
Canal Replacement Project.....	I-5, I-8, IV-18, IV-19, IV-20, IV-21, VI-11, VI-15 .....VI-19, VII-37, VII-38, VII-42
CCWD/Brentwood Water Treatment Plant.....	I-4, I-7, I-8, I-9, IV-9, IV-10, V-1, V-2 .....V-3, V-4, V-5, VI-1, VI-9, VI-11, VI-16, VI-17, VII-14
CCWD/Brentwood Water Treatment Plant Expansion.....	IV-9, IV-10, V-3, VII-15
Commercial/Industrial Conservation.....	IV-22, VII-47
Corrosion Control Program.....	III-3, IV-16, IV-17, VII-21
Country Club Pump Station Expansion.....	IV-16, IV-17, VII-26
Distribution Facilities.....	I-5, I-8, II-3, II-6, IV-15, IV-16, IV-17, VII-22
District-Wide Geographic Information System.....	I-4, VII-6
Drinking Water Laboratory.....	IV-25, VII-50
Energy Demand Reduction Program.....	I-3, IV-3, IV-4, VII-2
Future Water Supplies Placeholder.....	I-9, IV-11, IV-12, VII-17
Future Water Supply Study Updates.....	IV-11, IV-12, VII-16
Land Acquisition and Real Property Management.....	I-4, IV-13, IV-14, VII-19
Landscape Conservation.....	IV-22, IV-23, VII-48
Lindsey Basin Communication Lines Relocation.....	IV-8, VII-7
Los Vaqueros Energy Recovery.....	I-5, I-6, I-8, IV-19, IV-20, IV-21, V-4, V-5, VII-34
Los Vaqueros Pipeline Relocation-Balfour Road.....	IV-20, IV-21, VII-39
Los Vaqueros Recreation Facilities and Equipment.....	IV-13, VII-18
Los Vaqueros Reservoir Expansion Project.....	I-1, I-3, IV-5, IV-6, VII-5
Los Vaqueros Watershed Improvements.....	IV-13, VII-20
Mallard Slough Channel Rehabilitation.....	IV-20, IV-21, VII-40
Membrane Filtration Placeholder.....	I-6, I-8, IV-24, IV-25, V-5, VI-19, VII-52
Multi-Purpose Pipeline Pressure Sustaining Valve.....	IV-16, VII-23
Pipeline Renewal and Replacements.....	I-5, IV-15, IV-16, IV-17, VII-24
Port Chicago Pipeline Phase II.....	I-5, IV-16, IV-17, VII-25
Randall-Bold Water Treatment Plant Upgrades for Increased Capacity.....	IV-4, IV-25, VII-56
Replacement of Fleet Vehicles and Heavy Equipment.....	IV-7, IV-8, VII-13
Replacement/Upgrade of Computer Systems.....	I-4, IV-7, VII-8
Replacement/Upgrade of Network Systems and Hardware.....	I-4, IV-8, VII-9
Replacement/Upgrade of Radio System Equipment.....	VII-10, VII-11
Replacement/Upgrade of SCADA Equipment.....	III-3, IV-7, IV-8, VII-11
Replacement/Upgrade of Telecommunications Equipment.....	IV-7, VII-12
Residential Water Audits/Plumbing Retrofit.....	IV-22, IV-23, VII-49
Rock Slough Fish Screen.....	IV-20, IV-21, V-2, V-3, V-4, V-5, VII-41
Rock Slough Flood Improvements.....	IV-18, VII-42
Solar Power Project.....	IV-3, IV-4, V-2, V-4, V-5, VII-3
Subzone 34 Reservoir.....	IV-16, VII-28
Treated Water Facilities Improvement Program.....	I-5, IV-16, IV-17, VII-27
Treated Water Reliability Improvements.....	IV-16, IV-17, VII-29

Treated Water Renewal/Replacement Study Update.....I-5, III-8, IV-15, IV-16, IV-17  
.....VII-21, VII-24, VII-27

Treated Water Reservoir Rehabilitation Program.....I-5, IV-16, IV-17, VII-30

Treated Water Service Area Master Plan Update.....IV-15, VII-31

Untreated Water Applicant Funded Projects.....V-2, V-4, V-5, VII-33

Untreated Water Facilities Improvement Program.....I-5, IV-18, IV-19, IV-20, IV-21  
.....VII-35, VII-43

Untreated Water Facility Improvement Plan Update.....I-5, IV-18, VII-35

Untreated Water Pipeline Placeholder.....VII-36

Untreated Water Revenue Meter Data Logger Replacements.....I-5, IV-19, VII-45

Untreated Water Reservoir Rehabilitation Program.....III-4, IV-20, IV-21, VII-44

Water Conservation Incentives.....I-6, IV-22, IV-23, VII-46, VII-47

Water Treatment Plant Improvements – Bollman.....I-6, IV-24, IV-25, V-2, VII-53

Water Treatment Plant Improvements – City of Brentwood.....I-6, IV-24, IV-25, VII-54

Water Treatment Plant Improvements – Randall-Bold.....I-6, IV-24, IV-25, VII-55

Water Treatment Plant Master Plan Update and Implementation Placeholder.....VII-51