Project Information Sheet

Project: 806253 Water Main Development Costs (City Share)

Category:	Capital	Type:	Water	Department:	Public Works
Origination Year:	1999-00	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	200 Water Capital Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenues

Project Description/Scope/Purpose

This project provides ongoing funding to pay for the City's share of water mains constructed by private developers.

Construction of a private development often results in the need to add or improve a water main to meet the added needs of the development. This improvement may also provide additional benefit to the City, outside the immediate needs of the development, by improving service to other customers on the main. Therefore, the entire cost of the improvement should not be the responsibility of the developer, but should be shared by the City. Per Municipal Code Section 18.16.010 Improvement Costs - Cost Sharing, the costs have to be shared by the City when the developer is required to provide water mains in excess of 8 inches.

This is a city-wide project, and upgrading of the water main is needed in some areas to take care of future anticipated needs.

Project Evaluation & Analysis

The alternative would be to postpone the upgrading and reinstall the water main with a bigger size when needed in future. This will not be cost-effective, and actually will result in much higher cost to the City.

Fiscal Impact

See projects 806250 and 806251 for prior year expenditure history. The project is funded from the water fund, and the cost of upgrading the size will depend upon the size of the pipe. There will be no impact on the operating cost.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	20,000	0	0	0
2007-08	20,000	0	0	0
2008-09	20,000	0	0	0
2009-10	20,400	0	0	0
2010-11	20,808	0	0	0
2011-12	21,224	0	0	0
2012-13	21,649	0	0	0
2013-14	22,082	0	0	0
2014-15	22,523	0	0	0
2015-16	22,974	0	0	0
2016-17	23,433	0	0	0
2017-18	24,136	0	0	0
2018-19	24,860	0	0	0
2019-20	25,606	0	0	0
2020-21	26,374	0	0	0
2021-22	27,165	0	0	0
2022-23	27,980	0	0	0
2023-24	28,820	0	0	0
2024-25	29,684	0	0	0
2025-26	30,575	0	0	0
2026-27	31,492	0	0	0
20 Year Total	491,785	0	0	0
Grand Total	511,785	0	0	0

Project Information Sheet

Project: 806303 Water Pipes, Manholes, and Laterals Replacement

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	1999-00	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenues

Project Description/Scope/Purpose

This project provides funding for miscellaneous small water projects that may arise unexpectedly. Generally, funding is used for emergency repairs occurring outside normal operations. The City's aging infrastructure (water pipes, valves, etc.) are quickly deteriorating and breakages are becoming more and more frequent. Main line breaks are not only disruptive of the City's regular operations by pulling resources from normal tasks, but they also affect our residents and businesses. Additionally, water spilled during pipe breaks is a revenue loss for the City. Funding for the project was reduced when a new long-term project was established to replace water lines throughout the city. Replacement of impacted lines will take years, however, small and large breaks occurring in many areas need to be addressed immediately to reduce losses.

Project Evaluation & Analysis

Emergencies are occurring more and more often because of our aging water pipes and valves. If funding in the project is not available, staff would have to request additional funding from Council on an ongoing basis.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund. See project 806301 for prior year expenditure history.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	64,385	0	44,686	0
2006-07	20,000	0	0	0
2007-08	20,000	0	0	0
2008-09	20,000	0	0	0
2009-10	20,400	0	0	0
2010-11	20,808	0	0	0
2011-12	21,224	0	0	0
2012-13	21,649	0	0	0
2013-14	22,082	0	0	0
2014-15	22,523	0	0	0
2015-16	22,974	0	0	0
2016-17	23,433	0	0	0
2017-18	24,136	0	0	0
2018-19	24,860	0	0	0
2019-20	25,606	0	0	0
2020-21	26,374	0	0	0
2021-22	27,165	0	0	0
2022-23	27,980	0	0	0
2023-24	28,820	0	0	0
2024-25	29,684	0	0	0
2025-26	30,575	0	0	0
2026-27	31,492	0	0	0
20 Year Total	491,785	0	0	0
Grand Total	576,170	0	44,686	0

Project Information Sheet

Project: 806351 Water Meters for New Developments

Category:	Capital	Type:	Water	Department:	Public Works
Origination Year:	Ongoing	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	200 Water Capital Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Meter Sales				

Project Description/Scope/Purpose

The purpose of this project is to purchase and install radio read water meters for new development activities. Costs are reimbursed to the Water Supply and Distribution Fund by the end user from Water Meter Sales.

The budget for this project in FY 2006/2007 is $90,000. During FY 2006/2007 staff expects to need at least the same number of meters used during FY 2005/2006, plus an additional six large meters (at a cost of $5,000/ea.) for construction in the Moffet Park area. Beginning in FY 2008/2009 the budget will return to the average new meter cost.

Project Evaluation & Analysis

The project allows staff to purchase radio-read meters ahead of time, so that when new developments in the City are ready for meter installation the developer does not have to wait until we receive the meter. This saves the developer time (and money) and provides better customer service.

The funds used are recovered when the developer pays fees to the City, but staff needs to pay in advance to be able to provide swift service as needed. Meters are purchased in bulk, which allows us to obtain a better price than if purchased separately, some few at a time. Since the expense is ultimately paid by the developer, it makes sense to try to obtain the best price to keep developers interested in doing business in Sunnyvale.

Fiscal Impact

This project is funded by the Water Supply and Distribution Fund and reimbursed by developer fees.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	892,614	0	832,814	0
2006-07	59,800	0	0	0
2007-08	90,000	0	0	0
2008-09	60,000	0	0	0
2009-10	61,200	0	0	0
2010-11	62,424	0	0	0
2011-12	63,672	0	0	0
2012-13	64,946	0	0	0
2013-14	66,245	0	0	0
2014-15	67,570	0	0	0
2015-16	68,921	0	0	0
2016-17	70,300	0	0	0
2017-18	72,409	0	0	0
2018-19	74,581	0	0	0
2019-20	76,818	0	0	0
2020-21	79,123	0	0	0
2021-22	81,496	0	0	0
2022-23	83,941	0	0	0
2023-24	86,460	0	0	0
2024-25	89,053	0	0	0
2025-26	91,725	0	0	0
2026-27	94,477	0	0	0
20 Year Total	1,505,361	0	0	0
Grand Total	2,457,775	0	832,814	0

Project Information Sheet

Project: 806401 Detector Checks & Backflow Prevention Devices - New Dvlpmnts

Category:	Capital	Type:	Water	Department:	Public Works
Origination Year:	Ongoing	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	200 Water Capital Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Connection Fees

Project Description/Scope/Purpose

The purpose of this project is to purchase and install detector checks and backflow prevention devices for new development activities.

Depending on size, the equipment costs anywhere between $200 and $8,000 each. Costs are reimbursed by the developer to the Water Supply and Distribution Fund.

Project Evaluation & Analysis

This project is needed to fulfill California Code of Regulations requirements (Title 17). If the project is not funded the City of Sunnyvale will not be in compliance with legal requirements.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund and reimbursed by developers. There is no impact on the operating budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	338,727	0	318,286	0
2006-07	50,000	0	0	0
2007-08	20,000	20,000	0	0
2008-09	20,000	20,000	0	0
2009-10	20,400	20,400	0	0
2010-11	20,808	20,808	0	0
2011-12	21,224	21,224	0	0
2012-13	21,649	21,649	0	0
2013-14	22,082	22,082	0	0
2014-15	22,523	22,523	0	0
2015-16	22,974	22,974	0	0
2016-17	23,433	23,433	0	0
2017-18	24,136	24,136	0	0
2018-19	24,860	24,860	0	0
2019-20	25,606	25,606	0	0
2020-21	26,374	26,374	0	0
2021-22	27,165	27,165	0	0
2022-23	27,980	27,980	0	0
2023-24	28,820	28,820	0	0
2024-25	29,684	29,684	0	0
2025-26	30,575	30,575	0	0
2026-27	31,492	31,492	0	0
20 Year Total	491,785	491,785	0	0
Grand Total	880,512	491,785	318,286	0

Project Information Sheet

Project: 806453 Water Pump, Motor and Engine Replacement

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	1998-99	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

This project provides for the purchase and installation of water pumps and motors, as needed, to replace old or obsolete equipment. Generally, funding is used for emergency repairs occurring outside normal operations. Due to the aging of the system, it is expected that funds will continue to be needed and that the need will be expanding.

The project ensures provision of continuous water supply and pressure to the potable water and fire systems.

Raynor well's pump and motor were removed during FY 2005/2006 and sent to the manufacturer for evaluation. Evaluation results indicated that the equipment could not be rebuilt and would have to be replaced. Cost of the new equipment, which will be more cost-efficient to run and easier to maintain, is estimated at $60,000. Carryover from FY 2005/2006 will pay some of the cost. Because well equipment is aging to the point where maintenance is no longer enough to keep it working, carryover of project funds might be necessary in the future.

Project Evaluation & Analysis

The alternative to not funding this project is to leave equipment inoperative. In Raynor's case, this is a primary production well with back-up generation and essential during emergencies. If the well is not put back to work quickly, we will have problems providing water in case SFPUC or SCVWD is down. Since the well has been unavailable we have received several low-pressure alarms in that zone.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	37,415	0	29,284	0
2006-07	0	0	0	0
2007-08	25,000	0	0	0
2008-09	25,000	0	0	0
2009-10	25,500	0	0	0
2010-11	26,010	0	0	0
2011-12	26,530	0	0	0
2012-13	27,061	0	0	0
2013-14	27,602	0	0	0
2014-15	28,154	0	0	0
2015-16	28,717	0	0	0
2016-17	29,291	0	0	0
2017-18	30,170	0	0	0
2018-19	31,075	0	0	0
2019-20	32,008	0	0	0
2020-21	32,968	0	0	0
2021-22	33,957	0	0	0
2022-23	34,976	0	0	0
2023-24	36,025	0	0	0
2024-25	37,106	0	0	0
2025-26	38,219	0	0	0
2026-27	39,365	0	0	0
20 Year Total	614,734	0	0	0
Grand Total	652,149	0	29,284	0

Project Information Sheet

Project: 815203 Replacement of Water/Sewer Supervisory Control System

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	1999-00	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

This project, which involved replacing the Supervisory Control and Data Acquisition (SCADA) system hardware and software, was completed in FY 2006/2007. SCADA provides operators with remote control and monitoring of the water, sewer and storm stations, and it also provides information on water pressure, flow and tank levels. The previous SCADA system was old and obsolete, and needed to be replaced by a computer system which was centrally controlled. The Vulnerability Assessment recognized the need for immediate remote-control of valves in the event of an attack on the system. The budget for this project was intended for the replacement of infrastructure such as remote terminal units, telephone lines, and data concentrator, as well as software. The new system provides additional channels needed to measure pressures, water hammer and peak demands.

Staff estimates that SCADA's life expectancy is around 15 years. After that time, the software system only will need to be upgraded. Any repairs to the SCADA infrastructure that are needed in the meantime can be covered by the operating budget.

Project Evaluation & Analysis

The project is substantially complete. Implementation of the project will give the City refined control of the water system through pressure regulating valves (PRVs). Upon completion of work each location will provide operators with crucial information on water pressure and instantaneous indication of flow and position of PRVs. PRVs will be outfitted with a solenoid for remote operation. This will allow staff to: (1) track water flow to minimize source blending and provide customers more precise water quality information; (2) prevent costly water main breakages through early detection of valve malfunction; (3) further integrate system with a hydraulic water model for more precise water demand and fire flow planning; (4) allow for quick response and stabilization of water system in regional emergencies.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund, and it replaces an obsolete system. Operating expenses, maintenance and repairs are incorporated in the Water Supply and Distribution Program (313). It is estimated that the SCADA system will not need to be replaced again for the next 15 years.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	1,104,334	0	30,051	0
2006-07	826,504	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	89,013	0	0	0
2021-22	519,540	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	608,553	0	0	0
Grand Total	2,539,391	0	30,051	0

Project Information Sheet

Project: 819770 Utility Maintenance Management System

Category:	Special	Type:	Water	Department:	Public Works
Origination Year:	1995-96	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Jim Craig
Planned Completion Year :	2008-09	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Sewer 50%, Water 50%.

Project Description/Scope/Purpose

This project funds the development of a computerized maintenance management system (MMS) for the City's utility enterprise assets of water, sewer and storm drain systems. The MMS is an important tool used to inventory and track the maintenance of the utilities and to assist with the cost projections and scheduling for long range infrastructure renovation and replacement. Information from this system will be used to update the funding plan for the renovation and rehabilitation of the utility enterprise assets (Phase II of the Long-Range Infrastructure Plan). This funding plan is an important component for planning and budgeting the City's 20 Year Resource Allocation Plan and Capital Improvement Projects.

This project has been recommended by the audit of the Water Program in FY 2004/2005, and by Matrix Consulting Group in their staffing study of the Department of Public Works. Purchase of software, installation and training will take place during FY 2007/2008. During the second half of the year it is expected that a casual clerical employee will start importing data into the new system, and will continue to do it into the first half of the next fiscal year (FY 2008/2009). Yearly charges for software licensing and support will start in FY 2008/2009. It is expected that the software will have to be upgraded/replaced in cycles of 10 years.

The annual operating costs are required for software maintenance and data updates.

Project Evaluation & Analysis

This project will provide a database of utility components (for example, water mains, sewer mains, valves, fire hydrants, clean outs, repairs, pipe size and type, maintenance schedules). Several products are available, and there will be an evaluation prior to selection of the most appropriate program. We have been using a "service request" product created in ITD, and upgraded over the past few years, but it is not adequate for our needs. It does not include scheduling of maintenance and tracking of assets.

In the proposed system, the information will be used to estimate the functional life of the components and to update the funding plan for the renovation and rehabilitation of the utility enterprise assets. This product is important to the long term maintenance of the utility systems. We have been operating without it for 50 years. Each year our systems deteriorate farther without sufficient planning and application of needed maintenance.

Fiscal Impact

Purchase, data input, operation and maintenance of this program requires a significant capital outlay, and increase operating costs thereafter. Funding is from the Water and Sewer enterprise funds. Costs include purchase of the software, installation, and a lot of time inputting data into the database, to populate all the fields for the assets to be tracked. Inputting will take more than one calendar year, or will require

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	415,030	0	415,030	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	201,842	0	0	30,450
2009-10	0	0	0	31,059
2010-11	0	0	0	31,680
2011-12	0	0	0	32,314
2012-13	0	0	0	32,960
2013-14	0	0	0	33,619
2014-15	0	0	0	34,292
2015-16	0	0	0	34,977
2016-17	175,749	0	0	35,677
2017-18	0	0	0	36,747
2018-19	0	0	0	37,850
2019-20	0	0	0	38,985
2020-21	0	0	0	40,155
2021-22	0	0	0	41,359
2022-23	0	0	0	42,600
2023-24	0	0	0	43,878
2024-25	0	0	0	45,195
2025-26	0	0	0	46,550
2026-27	236,192	0	0	47,947
20 Year Total	613,783	0	0	718,294
Grand Total	1,028,813	0	415,030	718,294

Project Information Sheet

Project: 824281 Leak Detection Program

Category:	Special	Type:	Water	Department:	Public Works
Origination Year:	2003-04	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Jim Craig
Planned Completion Year :	Ongoing	Sub-Fund:	200 Water Capital Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

The project will provide funding to do a leak detection assessment of the City's 320 miles of water lines. Approximately 150 miles of City pipes will be assessed every 3 years at an estimated cost of $30,000 each time. This program is necessary because of the aging infrastructure of the water system.

As recommended by the California Urban Water Conservation Council and as identified in the City's adopted 2005 Urban Water Management Plan as Demand Management Measure #3, leak detection and system water audits are to be performed periodically by an outside contractor. Any water loss due to leakage, theft, under-billing of customers, faulty control systems, or any other reason represents revenue losses to the City. Follow-up actions when leaks are located may include repairing leaky pipes and valves, replacement of water mains with a history of serious leaks, annual exercising of valves, and a corrosion control procedure (i.e. cathodic protection program). The primary benefit of early leak detection is finding a leak before it becomes a larger problem, resulting in more water lost. Leak repair also keeps leaks from deteriorating into large-scale problems that can lead to system failure, causing emergency conditions and compromising public safety.

The program, started in FY 2003/2004, was successful at identifying leaks along the 21 miles tested at that time. Between FY 2004/2005 and FY 2005/2006 approximately 191 miles were inspected by the outside contractor. A total of 38 leaks, representing a loss of over 86,000 gallons of water per day, were identified.

Project Evaluation & Analysis

This project represents the most cost-efficient way to avoid water loss and future infrastructure problems in the water system. After two complete assessment cycles, the frequency of the audit schedule will be revisited.

Fiscal Impact

This project is funded by the Water Supply and Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	29,457	0	29,457	0
2006-07	0	0	0	0
2007-08	30,000	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	31,212	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	33,122	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	35,150	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	38,409	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	41,971	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	45,862	0	0	0
2026-27	0	0	0	0
20 Year Total	255,726	0	0	0
Grand Total	285,183	0	29,457	0

Project Information Sheet

Project: 824291 Water Cost of Service Study

Category:	Special	Type:	Water	Department:	Finance
Origination Year:	2003-04	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Tim Kirby
Planned Completion Year :	2006-07	Sub-Fund:	200 Water Capital Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenues

Project Description/Scope/Purpose

Every five years, the Utilities Division in the Department of Finance intends to perform a cost of service study of the water system to reallocate the costs of the City's water services among the various customer classes, based on their use of each service. Staff will work with a water finance specialist to develop a cost of service model and populate the model with current data. The study generates a cost of service for each customer class and recommends adjustments to the rate structure to ensure costs are recovered on an equitable basis from the different customer classes.

The current project will be completed in FY 2006/2007.

Project Evaluation & Analysis

Cost of service studies are important to perform on a regular basis for two reasons. First, it is important that utility rates reflect the cost of providing service. This is critical to make sure that the revenues generated through rates are sufficient to cover the cost of providing service. Second, utility rates should be equitable across customer classes. As the makeup of customer classes changes over time, it is important to re-adjust rates to insure that different customer classes are paying their fair share of costs.

Doing these projects on a regular basis simplifies the process and holds down costs as the makeup of customers doesn't tend to change significantly within five years.

Fiscal Impact

This project will be funded by the Water Supply and Distribution Fund. The project will stabilize the Fund through insuring that full cost recovery is achieved by the water rates.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	54,331	0	8,805	0
2006-07	27,272	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	21,224	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	23,433	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	27,165	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	31,492	0	0	0
20 Year Total	103,314	0	0	0
Grand Total	184,917	0	8,805	0

Project Information Sheet

Project: 824311 Refurbishment of Water tanks @ Wright Avenue

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2003-04	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2009-10	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water revenues

Project Description/Scope/Purpose

This project will refurbish two Wright Avenue tanks, inside and out, in accordance with a complete structural and coating evaluation done in 2004. The Wright Avenue tanks hold 10 million gallons of water. The City follows a routine tank maintenance schedule in order to assure water tanks are properly maintained. Staff performs a ten-year maintenance review to determine the condition of the tanks and to make recommendations on coating repair, recoating, cathodic protection and/or structural modifications. The last ten-year assessment of water tanks concluded that the Wright Avenue tanks were not in good condition. Both tanks require eventual removal of interior coatings by sand blasting and recoating with current standard materials. The project allowed for structural repair and interior coating of Tank #2 in FY 2006/2007. Exterior coating of both tanks will occur in FY 2008/2009, and interior coating of Tank #1 in FY 2009/2010.

Refurbishing the tanks is much more cost-efficient than replacing them, since the cost of replacing one tank is in the millions of dollars. Also, replacing the tanks would burden the water distribution system for a longer period of time, since less water storage would be available for drinking or fire protection. Proper coating and normal schedule of maintenance should keep the tanks in useable condition for up to 40 years. The water tanks located at Wright Ave. hold 100% of the water provided by Santa Clara Valley Water District, and represent approximately 40% of current City water-storage capacity.

Project Evaluation & Analysis

This is a critical project since Tank #2 is needed for storage of water to be in compliance with California Department of Health Services scores. Water quality in this tank will soon be impacted if its condition is not improved. Without the tank, it is entirely possible that we might not have enough water in case of emergencies (fire, earthquake) and maybe even for normal water operations.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	92,953	0	19,477	0
2006-07	1,922,047	0	0	0
2007-08	0	0	0	0
2008-09	1,280,000	0	0	0
2009-10	1,632,000	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	2,912,000	0	0	0
Grand Total	4,927,000	0	19,477	0

Project Information Sheet

Project: 824801 Roof Replacement of Water Plants

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2004-05	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenues

Project Description/Scope/Purpose

This project provides funding to repair the roofs at all five water plants (Mary/Carson, Wolfe/Evelyn, Central, Wright, and Hamilton). Structural repair work for the Mary/Carson Water Plant roof, estimated at $50,000, is necessary and will be scheduled in FY 2007/2008. In FY 2013/2014 the funds will be used to replace the roofs of all five water plants. The tar and gravel roofs, which by then will have reached the end of their useful life, will be replaced with a stronger and longer lasting roofing product. Gutters will also be installed. The project will preserve conditions at all water plants.

The new roofs should not need any maintenance for at least 10-15 years, and replacement should not be necessary for 20-25 years.

Project Evaluation & Analysis

The only alternative is to not fund this project and delay the needed replacement of the roofs. If funding is delayed too long, constant roofing repairs will be needed, to the point where replacement will be required. In the meantime, if leaks are developed the plant itself could be impacted. The new roofs will also be easier to maintain.

Fiscal Impact

This project is funded by the Water Supply and Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	50,000	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	77,286	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	127,286	0	0	0
Grand Total	127,286	0	0	0

Project Information Sheet

Project: 824811 Downtown Water Line Engineering Study

Category:	Special	Type:	Water	Department:	Public Works
Origination Year:	2004-05	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	200 Water Capital Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

This project involves a study to determine condition and appropriate water line size to service new Downtown redevelopment and the surrounding areas. The hydraulic studies to be conducted will verify that the water line for new development is adequately designed. The timing of this project is dependant on the Downtown redevelopment schedule.

Project Evaluation & Analysis

The project will determine requirements to service adequately the new development in the Downtown area. It will be very important for the City to verify that the proposed water line for the Downtown is of adequate size and also to determine the capacity of the existing system to handle this water demand. The City does not have the in-house resources to do this analysis.

Fiscal Impact

This project is funded by the water Utility fund. The project funds represents a nominal cost, and the actual cost to do the analysis would depend on the extent of work involved.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	10,000	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	10,000	0	0	0

Project Information Sheet

Project: 824841 Installation of Climb Resistant Fencing at Reservoir Sites

Category:	Capital	Type:	Water	Department:	Public Works
Origination Year:	2004-05	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2005-06	Sub-Fund:	200 Water Capital Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenues

Project Description/Scope/Purpose

Following the events of September 11, 2001, the United States Environmental Protection Agency (USEPA) received a supplemental appropriation from Congress to improve the safety and security of the nation's water supply. A grant program was established to assist local water utilities in responding to the threat of terrorist attacks and to improve the security of water utility infrastructure and operations. With grant monies, the City of Sunnyvale contracted with a security and vulnerability assessment team to provide a vulnerability assessment. The assessment recommended the installation of fencing around vulnerable water system components as one of the least costly, most effective ways to protect the water system.

This project provides for the installation of climb-resistant fencing at all reservoir sites and the replacement of damaged cyclone fencing and gates, as needed, as the most cost-effective first line security measure. Some landscaping changes were also included in the project for aesthetics.

The project is still necessary for security. Design of the project was recently completed in-house, after being delayed by concerns from property owners adjacent to two affected sites (Sunnyvale school district and a private party). The construction bid went out in September, with project cost estimated to require all available funding carried over from FY 05/06 ($197,000). Bids were received in early October and are currently being evaluated.

Project Evaluation & Analysis

According to the vulnerability assessment, installation of fencing around vulnerable water system components is one of the least-costly and most-effective ways to protect the system. Design of the fencing took into consideration neighborhoods' desire for something that would be aesthetically pleasing; any changes to try to lower costs would cause a problem.

Fiscal Impact

This project is funded by the utility fund. There is no impact on the operating budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	4,482	0	1,121	0
2006-07	185,618	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	190,100	0	1,121	0

Project Information Sheet

Project: 825221 Central Water Plant Building Reconstruction

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2009-10	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenues

Project Description/Scope/Purpose

This project provides funding for Central Water Plant Building reconstruction.

Funding in FY 2007/2008 will be used to inspect and evaluate the site for termites and wood rot and to evaluate the existing equipment for replacement needs and construction design.

In FY 2008/2009, the project will provide funding to install a new propane generator, magnetic flow meter, and underground piping. Refurbishment of the main building will begin in FY 2008/2009 along with construction of a new storage facility. Part of the initial design budget will be used for inspection of the facilities to determine infrastructure integrity and an action plan. Even though the equipment is currently operational, it is over 40 years old and will require replacement soon. If it is determined that its useful life can be extended through maintenance, the budget will be adjusted accordingly. However, it is anticipated that the evaluation will recommend rebuilding/replacing of pumps and motors.

Project Evaluation & Analysis

The Central Water Plant is a critical element of the City's water supply system. Existing buildings have deteriorated, and equipment is worn and needs replacement. If funding is delayed for too long, however, structural problems might develop as they have in the storage facility and the plant could be deemed unsafe to use.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	153,000	0	0	0
2008-09	843,529	0	0	0
2009-10	871,718	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	1,868,247	0	0	0
Grand Total	1,868,247	0	0	0

Project Information Sheet

Project: 825231 Cleaning of Water Tanks

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

This project involves cleaning the inside of all City-owned water tanks and effecting minor repairs, as needed. Cleaning of the five small tanks at Hamilton and Central plants was deleted from the project as a result of the water model developed in FY 2006/2007. Cost of cleaning each large tank is estimated at $18,000. At Wright plant, Tank #2 will be cleaned during FY 2011/2012, while Tank #1 will be cleaned during FY 2014/2015. At Mary/Carson plant, Tank #1 will be cleaned during FY 2016/2017, and Tank #2 during FY 2017/2018. The tank at Wolfe/Evelyn plant will be cleaned during FY 2018/2019. The tanks will then be placed on a five-year interval cleaning schedule, per Department of Health Services' recommendation to maintain water quality standards. Water tanks are critical to the storage and delivery of safe drinking water. A planned and scheduled program is better than a reactive shutdown of a tank once a problem is identified. The project will preserve the City's investment in its infrastructure and will help maintain water availability and quality.

Project Evaluation & Analysis

California Department of Health recommends cleaning of tanks per AWWA standards. Not funding this project could place the safety of our drinking water in jeopardy.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund. There is no impact on the operating budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	19,102	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	20,271	0	0	0
2015-16	0	0	0	0
2016-17	42,180	0	0	0
2017-18	21,723	0	0	0
2018-19	22,374	0	0	0
2019-20	23,045	0	0	0
2020-21	0	0	0	0
2021-22	48,898	0	0	0
2022-23	25,182	0	0	0
2023-24	0	0	0	0
2024-25	26,716	0	0	0
2025-26	0	0	0	0
2026-27	56,686	0	0	0
20 Year Total	306,177	0	0	0
Grand Total	306,177	0	0	0

Project Information Sheet

Project: 825241 Equipment Replacement at Six (6) Hetch-Hetchy Connections

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2007-08	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenue

Project Description/Scope/Purpose

This project provides for the replacement of pressure reducing valves, gate valves, control valves and vaults, and for the installation of magnetic meters at six connections to the Hetch-Hetchy water supply pipeline. Most valves to be replaced are 8" to 16" in diameter. The equipment is being replaced because of age (40 to 50 years old) and to provide upgrades allowing each facility to be connected to the City's Supervisory Control and Data Acquisition (SCADA) system.

The connections are located at Lawrence, Fair Oaks, Borregas, Lockheed, Palomar, and Mary (Hetch-Hetchy). There are a total of nine pressure-reducing valves, over 30 gate valves, six control valves with control centers, 13 vaults, and six magnetic meters to be replaced or installed. These items will provide better control of the water system.

Work on the first connection to the system (Borregas/Hetch-Hetchy), is being done in-house. The project is currently in process with three valves in the street already replaced and all street patching done. Staff is still waiting for PG&E to perform some work at the connection, for which we have already paid. Arrangements have been made with SFPUC to provide the vault required for this connection, which will also be paid by Sunnyvale. The estimated cost to finish the project, including reimbursement to PG&E and SFPUC, is $50,000.

The other five connections, which are larger than the one at Borregas, are estimated to cost $130,000 each. This budget reflects one connection being upgraded per year.

Project Evaluation & Analysis

The project not only replaces old components, but also updates them so that they can be remote-controlled by the SCADA system. This will increase system efficiency and help during emergencies, by allowing staff to react much faster to isolate possible problem points from the potable water system as a whole.

Fiscal Impact

This project is funded by the Water Supply and Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	59,952	0	0	0
2006-07	51,048	0	0	0
2007-08	130,000	0	0	0
2008-09	130,000	0	0	0
2009-10	132,600	0	0	0
2010-11	135,252	0	0	0
2011-12	137,957	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	665,809	0	0	0
Grand Total	776,809	0	0	0

Project Information Sheet

Project: 825251 Mary/Carson Water Plant Mechanical Reconstructions

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2008-09	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenues

Project Description/Scope/Purpose

The project will upgrade the Mary/Carson water plant's mechanical and electrical systems to better serve the City's needs. The existing pumping facilities and emergency pumping engine at the Mary/Carson water plant built and installed in 1966 are now old and inefficient. Equipment replacements and upgrades are necessary to maintain system integrity, conform to new Supervisory Control and Data Acquisition (SCADA) specifications, and lessen the impact of emergency engine operation on local air quality.

Needing replacement are 5 regulating valves, 3 electric motors (with a booster pump and a motor control center for each motor), and a lighting electrical sub-panel. One magnetic flow meter and one control valve will also be installed. These items will provide better control of the water system. The propane generator that will replace the motor will provide electricity during power failure to the whole station and not to just one pump as the existing system does. This project is similar to the Wright Ave Water Plant Mechanical Reconstruction project. Design of the project is scheduled for FY 10/11, with construction taking place in FY 11/12. Life expectancy for the new equipment is 40 years.

Project Evaluation & Analysis

An alternative would be to delay funding of the project and needed replacements. Based on the age of the system, however, if funding is delayed for too long repairs could be needed continuously at the plant. Total cost of repairs might be greater than the delayed replacement. Life expectancy of the reconstruction is 40 years.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	163,294	0	0	0
2011-12	945,529	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	1,108,823	0	0	0
Grand Total	1,108,823	0	0	0

Project Information Sheet

Project: 825261 Moat Renovation of Mary/Carson and Wolfe/Evelyn Water Plants

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2006-07	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

This project provides funding for the Moat Renovation of Mary/Carson and Wolfe/Evelyn Water Plants. This project involves repairing the moats (overflow containment areas) by grading and reshaping, developing effective erosion control on the slopes, and installing one sump pump at the Wolfe/Evelyn plant.

The Mary/Carson and Wolfe/Evelyn water plants are equipped with containment areas (moats) that surround the perimeter of the plants. The moats are designed to protect the surrounding neighborhoods from flooding in the event of a tank failure or failure of tank water supply to shut off at the appropriate level. The moats at these two plants have eroded or have slumped over time and need to be graded to re-establish suitable containment volume and structural integrity.

Construction of the project should be done in one year, for time- and cost-efficiency.

Project Evaluation & Analysis

The only alternative is to delay funding of the project and needed repairs until funds are approved by Council. If funding is delayed for too long, however, in the event of an earthquake breaching the tanks the moats will be unable to protect City and private structures from possible water damage.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund. There is no impact on the operating budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	65,974	0	0	0
2015-16	348,345	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	414,319	0	0	0
Grand Total	414,319	0	0	0

Project Information Sheet

Project: 825271 Well House Emergency Generator - Ortega Well

Category:	Capital	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2007-08	Sub-Fund:	200 Water Capital Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenues

Project Description/Scope/Purpose

This project involves construction of an emergency standby generator building for the Ortega well site and installation of a new backup propane generator.

An emergency standby generator is needed at this well site to provide electrical power in the event of a long-term power outage. During critical emergency situations, water supply from Hetch-Hetchy or the Santa Clara Valley Water District may be interrupted. In these instances, additional water supply and pressure from this well will be needed. The generator will be housed in an aesthetic enclosure to be acceptable to the surrounding land uses (park and residential). Staff will work with the neighborhood affected by the presence of the generator. The project is scheduled to begin in FY 2016/2017 and will be completed in FY 2017/2018. Total cost is estimated at $595,900 with $90,900 for design and the rest for construction work. Cost could increase depending on changes requested by neighbors.

Project Evaluation & Analysis

The only alternative is to not fund this project and leave the well with no electrical power during a power outage. This would affect the City's ability to provide water to its customers at a time that it might be needed for emergency situations.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	106,504	0	0	0
2017-18	609,439	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	715,943	0	0	0
Grand Total	715,943	0	0	0

Project Information Sheet

Project: 825301 Pressure Reducing Valve Replacement & Relocation for SCADA

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenues

Project Description/Scope/Purpose

This project will replace 60 existing pressure-reducing valves (PRVs) with new ones on a City-wide basis. Annual budgeted amounts are based on averages, but costs will vary depending upon the size of the value and whether the work involves replacement or repair. Work will be prioritized and done by City staff at a rate of 1 valve/yr starting in FY 2005/2006, ramping up to 2 valves/yr by FY 2011/2012, and connecting them to the Supervisory Control and Data Acquisition (SCADA) system. This will allow City staff to remotely monitor and control water system pressures, turn valves on and off quickly in emergencies, and in general, better manage and maintain water quality. PRVs are an integral part of the water distribution system, and provide balanced water pressure throughout the City. The PRVs are 40 to 50 years old, and preventive maintenance is exceeding replacement costs.

Project Evaluation & Analysis

This project is necessary to maintain existing essential infrastructure of the Water Utility, and therefore must be done. Properly functioning PRVs will help reduce the number of main breaks caused by high pressure and will also provide additional fire protection.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	34,892	0	0	0
2006-07	25,108	0	0	0
2007-08	60,000	0	0	0
2008-09	60,000	0	0	0
2009-10	61,200	0	0	0
2010-11	124,848	0	0	0
2011-12	127,345	0	0	0
2012-13	129,892	0	0	0
2013-14	132,490	0	0	0
2014-15	135,139	0	0	0
2015-16	137,842	0	0	0
2016-17	140,599	0	0	0
2017-18	144,817	0	0	0
2018-19	149,162	0	0	0
2019-20	153,636	0	0	0
2020-21	158,246	0	0	0
2021-22	162,993	0	0	0
2022-23	167,883	0	0	0
2023-24	172,919	0	0	0
2024-25	178,107	0	0	0
2025-26	183,450	0	0	0
2026-27	188,953	0	0	0
20 Year Total	2,769,521	0	0	0
Grand Total	2,829,521	0	0	0

Project Information Sheet

Project: 825391 Wolfe/Evelyn Plant Mechanical Reconstruction

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2007-08	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

The project will upgrade the Wolfe/Evelyn water plant's mechanical and electrical systems to better serve the City's needs. This project involves replacing booster pumps and regulating valves, motors, motor control center, and booster room underground piping at the Wolfe/Evelyn water plant. It will also replace an existing motor and pump with a propane generator and transfer switch and install a magnetic flow meter.

The Wolfe/Evelyn plant was built in 1959, and all the current equipment is original. Replacement of parts is currently very costly due to obsolescence of the pump. The electrical panels are sub-standard and in need of replacing.

Construction of the project must be done in one year, since all elements are related and cannot work without the others.

Project Evaluation & Analysis

An alternative would be to delay funding of the project and needed replacements until funds are approved by Council. Based on the age of the system, however, if funding is delayed for too long repairs could be needed continuously at the plant. Total cost of repairs might be greater than the delayed replacement.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	150,858	0	0	0
2009-10	915,647	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	1,066,505	0	0	0
Grand Total	1,066,505	0	0	0

Project Information Sheet

Project: 825411 Hamilton Plant Emergency Generator & Mechanical Reconst

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2007-08	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenues

Project Description/Scope/Purpose

This project provides an emergency generator and mechanical reconstruction for the Hamilton Plant in two parts. The first part is installing the already-purchased generator, including concrete pad base, with electrical connection and testing of the system. This needed to be done as soon as possible to avoid potential damage or deterioration of the generator. The estimated cost of this first part is $80,000, including structural engineering of the pad and underlying ground grid conduits from the pad to the building; permits from Bay Area Air Quality Management District and our Building Department; concrete construction; and system testing.

In addition, the pad base and part of the piping replacement have been finished. Quotes were obtained to provide the electrical connection of the generator to the system and the transfer switch, with the lowest one coming up close to $33,000. Staff will apply to the Planning Division for a miscellaneous planning permit for Hamilton, and neighbors were notified of the project in late 2006. Installation of the generator is expected in FY 2006/2007.

The second part of the project involves the mechanical reconstruction of 2 submersible well pumps and their motors, 4 motor control centers, 2 booster pumps and their motors, and the replacement of some piping. A new magnetic flow meter and a transfer switch for the emergency generator are also to be provided. Cost is estimated at $690,000 and the work will commence FY 2007/2008.

Project Evaluation & Analysis

The only alternative to not having finished part 1 of the project would have been to leave the generator in its previous condition. The consequence of this would have been no backup power to Hamilton's water pumps in the event of an emergency. In such an emergency, an inadequate supply of water would force the section to rent a generator, which would be costly and might not be immediately available.

Part 2 of the project is important to complete, due to potential future expenses if well pumps are not reconstructed. The equipment in the plant is very old and not up to current standards. Replacement of parts is likely to be more costly in the future because electrical components are becoming obsolete.

Fiscal Impact

This project is funded by the Water Supply and Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	10,507	0	0	0
2006-07	179,493	0	0	0
2007-08	690,000	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	690,000	0	0	0
Grand Total	880,000	0	0	0

Project Information Sheet

Project: 825421 Water Pressure Zone Three Expansion

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2005-06	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

The City's water system is separated into three pressure zones. Currently, pressures in the Hollenbeck/Homestead area, which are contained within pressure zone 3, are lower than desired. The project, started in FY 05/06, will install one pressure relief valve (SCADA-ready) at one of Zone 3 valve locations, improving pressures in the target area and, as a consequence, also improving fire services. Additionally, the project will upgrade the system in order to enable it to be connected through the new SCADA system.

The work for this project is being done in-house, and it involves installation of pressure-reducing valve (PRV) and abandonment of dead-end PRVs. Part of the work has already been done, and staff is requesting quotes for some vaults and other parts and materials to continue work and finish the project. Price for the vaults alone is expected to be between $16,000 and $20,000 and price for PRV is estimated to be between $3,000 to $6,000. Labor costs will also be incurred, and staff has requested that $45,000 be carried over from FY 05/06.

Project Evaluation & Analysis

The alternative to finishing the project would be to abandon the work already done and continue it at a later date. If the project is not finished due to lack of carryover funds, there are several possible problems: continued low water pressure in the area covered in Zone 3, inability of the SCADA system to access that area, and be potential water quality problems due to the dead-end PRVs that have not been removed yet.

Fiscal Impact

This project is funded by the utility fund. There is no impact on the operating budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	3,900	0	0	0
2006-07	50,000	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	53,900	0	0	0

Project Information Sheet

Project: 825431 Well Connections to Transmission Main

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2009-10	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

This project will connect the Raynor and Ortega wells to the Wolfe transmission main, thus allowing staff to provide water to the Wolfe/Homestead area if the water supply from Hetch-Hetchy, Santa Clara Valley Water District, or both, is interrupted. This project will involve installation of 1,820 feet of 10"-diameter ductile iron pipe, a new pressure-reducing valve, and isolation valves between FY 2008/2009 and 2009/2010 for the Raynor connection, and 2,450 feet of 12"-diameter ductile iron pipe, a new pressure-reducing valve, and isolation valves between FY 2009/10 and 2010/11 for the Ortega connection. The connections will greatly improve the stability of the water system and its ability to respond to water demands in an emergency.

The Raynor Well is one of the City's largest production wells and can assist in providing water to the Wolfe/Homestead area in case of an emergency. Costs for the Raynor part of the project are estimated at $430,000 and for Ortega at $700,000 for a total project cost of $1,130,000.

Project Evaluation & Analysis

The alternatives are to not fund this project or to delay it further. If this happens, the City's water system will be less reliable if imported water is unavailable for any reason. The City would be able to utilize groundwater to some extent to offset a loss of imported water. However, this project is necessary to distribute water more efficiently throughout the City.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	70,000	0	0	0
2009-10	484,500	0	0	0
2010-11	608,634	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	1,163,134	0	0	0
Grand Total	1,163,134	0	0	0

Project Information Sheet

Project: 825451 City-wide Water Line Replacement

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2021-22	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

This project replaces 20 miles out of a total of 280 miles of cast-iron water lines with C900 Class 200 lines, at a rate of 0.3 miles per year ramping up to 2 miles per year by 2011. Areas scheduled for replacement in FY 2007/2008 and FY 2008/2009 are San Diego Ave. and Hemlock Ave., Bartlett Ave. and its four connecting streets, and Manzanita Ave. and Ferndale Ave.

The project also upgrades pipes and fittings for seismic stability, thus minimizing the need for costly emergency response activities caused by pipe breaks. Ongoing scheduled water line replacement is not only more cost-efficient than corrective or emergency repairs, but also less disruptive to residents.

Project Evaluation & Analysis

The integrity of the City's water supply system is critical to protect public health, enhance sanitation, and provide fire suppression. The success of these goals is dependent on the maintenance and eventual replacement of aged and worn infrastructure. Currently, many portions of the water system have exceeded their estimated life expectancy or deteriorated over time because of chemical reaction with certain soils. Failure of a line due to structural failure of the eroded pipe material can result in failure of the pipe to deliver water, subsequently endangering a neighborhood or degrading the pressure and supply of the entire system, depending on the pipe size and location.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	16,698	0	0	0
2006-07	233,302	0	0	0
2007-08	468,480	0	0	0
2008-09	583,664	0	0	0
2009-10	595,337	0	0	0
2010-11	607,244	0	0	0
2011-12	619,389	0	0	0
2012-13	631,777	0	0	0
2013-14	644,412	0	0	0
2014-15	657,300	0	0	0
2015-16	677,020	0	0	0
2016-17	697,331	0	0	0
2017-18	718,251	0	0	0
2018-19	739,798	0	0	0
2019-20	761,992	0	0	0
2020-21	784,852	0	0	0
2021-22	808,397	0	0	0
2022-23	832,649	0	0	0
2023-24	857,629	0	0	0
2024-25	883,358	0	0	0
2025-26	909,858	0	0	0
2026-27	937,154	0	0	0
20 Year Total	14,415,892	0	0	0
Grand Total	14,665,892	0	0	0

Project Information Sheet

Project: 825461 Interior Coating of Water Tanks

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2013-14	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenues

Project Description/Scope/Purpose

The project was originally set up to remove the interior coal tar coating of five small water tanks and of three of the City's five large water tanks, and to recoat them to American Water Works Association standards. Coal tar coatings are no longer allowed by the Department of Health Services.

The small water tanks' existing coat is cracking and allowing growth of bacteria. The tanks were scheduled for recoating during FY 2005/2006 (2 tanks at Central and 3 tanks at Hamilton), but were then placed out of service until a water model was developed. Even though the model results indicated that the small tanks were not absolutely necessary to service demand, it was determined that it was still more cost-effective to keep the tanks in usable condition. Therefore, the tanks will be recoated as originally planned starting in FY 2007/2008. The large tanks, which are in better condition and do not represent an emminent health problem, are scheduled for recoating at a later time (one tank at Mary/Carson in FY 2011/2012 and the other one in FY 2012/2013, and the tank at Wolfe/Evelyn in FY 2013/2014). Refurbishing the tanks is much more cost-efficient than replacing them, since the cost of replacing one tank is in the millions of dollars. Also, replacing one or more of the tanks would burden the water distribution system for a longer period of time, since the storage of water would not be available for drinking or fire protection. Proper coating should keep the tanks in good condition for up to 40 years.

Project Evaluation & Analysis

If the project is not funded, the tanks would eventually be placed out of service completely due to unsanitary conditions. Once they get to that point, cleaning and disinfection would have to be done prior to recoating the tanks to return them to service.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	296,514	0	0	0
2008-09	300,000	0	0	0
2009-10	0	0	0	0
2010-11	20,808	0	0	0
2011-12	339,586	0	0	0
2012-13	346,379	0	0	0
2013-14	331,224	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	1,634,511	0	0	0
Grand Total	1,634,511	0	0	0

Project Information Sheet

Project: 825471 New Well Feasibility Study

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2014-15	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

This project will provide for a study of the feasibility of drilling two new wells to replace the old wells and improve the City's water supply. This will help the City to face future challenges balancing finite and variable water supplies, especially during prolonged periods of drought. During these periods, our local groundwater basin offers an emergency reserve.

Two of the City's existing wells are currently used for standby purposes only, since their production levels have tapered off significantly. Additionally, due to their low level, there are increased issues with water quality.

Groundwater also improves the water system's operational flexibility in the event of an emergency, such as potential outages of the Santa Clara Valley Water District (SCVWD) or the San Francisco Public Utilities Commission (SFPUC), which supply almost 90% of the total amount of water used within the City. The City should make preparations to ensure water supply reliability during periods of drought and/or disruption.

Results from the Water Model indicate that under current conditions no new wells are required. If conditions change in the future, the model might require this project to be reactivated. The project is therefore terminated.

Project Evaluation & Analysis

The only alternative is to not fund this project. As a consequence, no more wells will be drilled and Sunnyvale will not have additional sources of water in the future for emergency or regular use.

Fiscal Impact

This project is currently unfunded.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	45,046	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	45,046	0	0	0
Grand Total	45,046	0	0	0

Project Information Sheet

Project: 825481 Renovation of Westmoor and Serra Wells

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	Ongoing	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig

Funding Sources: Water Revenues

Project Description/Scope/Purpose

This project replaces the electrical panels in the motor control centers of Westmoor and Serra wells. The Serra well supplements water supply in the southern area of Sunnyvale, near Serra Park, and extending towards Fremont Ave. along Hollenbeck Ave. Water in the area is mainly supplied by Santa Clara Valley Water District, with the well supplementing supply through the year and during District shutdowns. The existing electrical control equipment dates back to the original construction of the well, and is no longer up to code. The project will replace and/or relocate the electrical cabinets to current building and electrical codes, and will add an electric transfer switch and connection for an emergency backup generator.

The Westmoor well supplements the demand for water in the southern area of Sunnyvale in a similar way, but along Homestead Rd. extending to Hollenbeck Ave. and The Dalles. The existing electrical control equipment also dates back to the original construction of the well, and is no longer up to code. The project will replace and relocate the electrical enclosure and equipment to current electrical codes.

The design of the project is scheduled for FY 2006/2007, and construction to take place in FY 2007/2008.

Project Evaluation & Analysis

The consequences of not continuing with both design and construction phases of this project might be failure of one or both well sites, with no water available to us in that case. Staff would have to go to Council to request funding for any necessary repairs at that point, on an emergency basis, which is always more expensive. The electrical panels and controls do not meet current standards, and upgrades need to be done as soon as possible.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	5,295	0	0	0
2006-07	34,705	0	0	0
2007-08	175,000	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	175,000	0	0	0
Grand Total	215,000	0	0	0

Project Information Sheet

Project: 825491 Exterior Painting of Water Tanks

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2010-11	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

This project was established, starting FY 2005/2006, to repaint the exterior of one 5M gallon water tank at Wolfe/Evelyn and one at Mary/Carson water plants during FY 2006/2007 and five 500K gallon water tanks at Hamilton and Central plants (3 and 2 respectively) during FY 2010/2011. The new paint will comply with American Water Works Association specifications, so as to meet current standards and protect this infrastructure investment and its 10-year life expectancy. Repainting is generally done on a 10-year cycle.

The funds available for the project in FY 2005/2006 were determined to be inadequate, since prices had gone up. Design of work for Wolfe/Evelyn will start in FY 2008/2009, with construction scheduled during FY 2009/2010. Design for the two Mary/Carson tanks will start in FY 2009/2010, with construction scheduled for FY 2010/2011. Even though water model results indicated that the small tanks were not absolutely necessary to service demand, it was determined that it was still more cost-effective to keep the tanks in usable condition. Therefore, the tanks will be painted as originally planned, with design for the two tanks at Central plant scheduled to be done in FY 20011/2012 and construction in FY 2012/2013. Design for the three tanks at Hamilton plant is scheduled for FY 2012/2013, and construction for FY 2013/2014. The tanks will then be placed on a 10-year painting maintenance schedule.

Project Evaluation & Analysis

The alternative would be to leave water tanks in the condition the currently are.

If no painting is done within the next two or three years the tanks might deteriorate to the point where we would be out of compliance with AWWA standards. If that happens, the tanks' ability to maintain cathodic protection will be impacted and corrosion will settle. At that point, the work necessary to bring the tanks back to standard would be much more costly. The feasibility study will serve as a prelude to the actual paint work.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	70,000	0	0	0
2009-10	836,400	0	0	0
2010-11	1,456,560	0	0	0
2011-12	42,448	0	0	0
2012-13	497,919	0	0	0
2013-14	662,448	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	87,011	0	0	0
2019-20	1,049,849	0	0	0
2020-21	1,846,198	0	0	0
2021-22	54,331	0	0	0
2022-23	643,550	0	0	0
2023-24	864,596	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	8,111,310	0	0	0
Grand Total	8,111,310	0	0	0

Project Information Sheet

Project: 825501 Wright Ave Water Plant Mechanical Reconstruction

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2012-13	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

The project will replace 5 regulating valves, 3 electric motors (with a booster pump and a motor control center for each motor), and a lighting electrical sub-panel at the Wright Avenue Water Plant. One magnetic flow meter and one control valve will also be installed. These items will provide better control of the water system. The propane generator that will replace the motor will provide electricity during power failure to the whole station not to just one pump as the existing system does. The most urgent item of the project is the installation of the control valve and magnetic meter to allow Supervisory Control and Data Acquisition (SCADA) control.

The FY 2006/2007 project includes the installation of a needed by-pass valve and design in the control valve and the magnetic meter. Design for renovation of the remainder of the plant will be done in FY 2010/2011. Construction of the motor control centers will start in FY 2011/2012 and valves and generator work will be done in FY 2012/2013.

Project Evaluation & Analysis

The alternative to not doing this project would be to leave the plant without connection to the SCADA system, which would slow down any response to emergencies in the plant. In case of an emergency situation in which SCVWD cannot provide us water, we would have to send a crew with a special truck to turn off the 30" valve connecting us to SCVWD. The control valve would give us the ability to remotely shut down the valve from the SCADA operations room.

Fiscal Impact

This project is funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	16,549	0	0	0
2006-07	33,451	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	112,616	0	0	0
2011-12	351,498	0	0	0
2012-13	591,213	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	1,055,327	0	0	0
Grand Total	1,105,327	0	0	0

Project Information Sheet

Project: 826590 Rehabilitation of Two Water Wells (Schroeder and Raynor)

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2006-07	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2007-08	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Val Conzet

Funding Sources: Water Supply and Distribution Fund

Project Description/Scope/Purpose

This project will provide funding to rehabilitate the Schroeder and Raynor water wells. In particular, work at the Schroeder well will replace its pump and motor and upgrade the casing, pedestal and other appurtenant well structures. Work at Raynor well will replace its pump and motor, provide general maintenance and possibly other improvements to the well casing and appurtenances.

Project Evaluation & Analysis

The project will ensure that the two wells continue to provide water for Sunnyvale when disruption of water delivery occurs from its regular water providers (SFPUC and SCVWD), and during peak demand periods to maintain adequate system pressure.

Fiscal Impact

This project is funded by the Water Supply and Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	333,804	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	0	0	0	0
Grand Total	333,804	0	0	0

Project Information Sheet

Project: 826910 H Street Water Line - 3rd to 8th Avenue

Category:	Capital	Type:	Water	Department:	Public Works
Origination Year:	2009-10	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2010-11	Sub-Fund:	200 Water Capital Subfund	Project Coordinator:	Jim Craig

Funding Sources: New Development

Project Description/Scope/Purpose

This project involves replacement of approximately 1,300 lineal feet of 6" diameter water line on H Street from 3rd to 8th Avenue with 12" diameter line. This upgrade is needed to meet water demand of future developments within the Moffett Specific Plan project area. In addition to meeting daily peak usage demands this upsizing will meet fire flow requirements. It is also identified as a required Mitigation in the Moffett Park Specific Plan. The useful life of the water line is 40 years.

Project Evaluation & Analysis

This project was identified as a required mitigation in the Moffett Park Specific Plan adopted by the Sunnyvale City Council on April 27, 2004 by Resolution 111-04.
This proposed project is a place holder. The actual timing of the project will depend on the future development in the area.

Fiscal Impact

The project is funded by the Water Supply & Distribution Fund.
The water line will be a replacement of an existing line and there should be no fiscal impact to the existing operations budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	24,454	0	0
2008-09	0	24,454	0	0
2009-10	0	36,682	0	0
2010-11	52,020	0	0	0
2011-12	344,893	144,705	0	0
2012-13	0	144,705	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	396,913	375,000	0	0
Grand Total	396,913	375,000	0	0

Project Information Sheet

Project: 826920 1st Avenue - east of E Street Water Line Improvement

Category:	Capital	Type:	Water	Department:	Public Works
Origination Year:	2007-08	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2011-12	Sub-Fund:	200 Water Capital Subfund	Project Coordinator:	Jim Craig

Funding Sources: New Development

Project Description/Scope/Purpose

This project is for the replacement of approximately 2,950 linear feet of 6" diameter existing water line on 1st Avenue east of E Street with 10" line. The additional capacity of the water line is needed to meet daily peak water usage demand and to meet fire flow requirements for the build-out of the area. It is also identified as a required mitigation in the Moffett Park Specific Plan. The useful life of the water line in 40 years.

Project Evaluation & Analysis

This project was identified as a required mitigation in the Moffett Park Specific Plan adopted by the Sunnyvale City Council on April 27, 2004 by Resolution 111-04. The proposed project is a place holder. The actual timing of the project will depend on the future development of the area.

Fiscal Impact

The project is funded by the Water Supply & Distribution Fund. The water line will be a replacement of an existing line and there should be no fiscal impact to the existing operations budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	55,308	0	0
2008-09	0	82,962	0	0
2009-10	0	0	0	0
2010-11	115,094	0	0	0
2011-12	782,641	327,274	0	0
2012-13	0	327,274	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	897,735	792,818	0	0
Grand Total	897,735	792,818	0	0

Project Information Sheet

Project: 826930 5th Avenue Water Line - E Street to H Street Improvement

Category:	Capital	Type:	Water	Department:	Public Works
Origination Year:	2007-08	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2010-11	Sub-Fund:	200 Water Capital Subfund	Project Coordinator:	Jim Craig

Funding Sources: New Development

Project Description/Scope/Purpose

This project is the replacement of approximately 1,150 linear feet of 6" diameter existing water line on 5th Avenue from E Street to H Street with 12" diameter line. The additional transmission line capacity is needed to meet future daily peak water usage demands and fire flow requirements and is also identified as required mitigation in the Moffett Park Specific Plan area. The useful life of the water line is 40 years.

Project Evaluation & Analysis

The project was identified as a required mitigation in the Moffett Park Specific Plan adopted by the Sunnyvale City Council on April 27, 2004 by resolution 111-04. This proposed project is a place holder. The actual timing of the project will depend on the future development of the area.

Fiscal Impact

The project is funded by the Water Supply & Distribution Fund. The water line will be a replacement of an existing line and there should be no fiscal impact to the existing operations budget.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	21,716	0	0
2008-09	0	32,573	0	0
2009-10	0	0	0	0
2010-11	47,338	0	0	0
2011-12	305,097	1,284,798	0	0
2012-13	0	128,498	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	352,435	1,467,585	0	0
Grand Total	352,435	1,467,585	0	0

Project Information Sheet

Project: 826940 Mary Avenue Transmission Main

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2003-04	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2007-08	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

This project is to improve the reliability and operation of the Mary Avenue Transmission Main. The large-diameter line (16” to 24”) is designed to transport water at high pressure from the Mary Carson Plant in Pressure Zone I to the Wright Ave. Plant and Pressure Zone III. Along the route of the transmission main there are some connections to the distribution system that have gate valves that are kept closed to avoid creating excessively high pressures in the distribution lines that could affect individual homes. Connections to the distribution system along the transmission main need to have automatic pressure-reducing valves to regulate water flow and prevent the distribution system from over-pressurizing, should the need arise to open the gate valves to provide water to the distribution system from this source.

The Mary Ave. transmission main transports water from the Mary-Carson Water Plant south, eventually connecting to the Wright Ave. transmission main at Maranta Ave. There are 4 transmission main connections that pose a potential pressure risk to the distribution system.

The project would install 4 pressure-regulating valves along the transmission main: one 12" and one 16” valves at Blair Ave., one 12" valve at El Camino Real, and one 8" valve at Olive Ave. The three smaller regulating valves will allow pressure in the transmission main to be increased, improving reliability and fire protection service. The valves will also improve control of distribution system pressures and of water-blending between sources, and will offer more defined borders for fluoridated water. The 16" valve will allow water to flow, under emergency conditions, between the Wright and Mary Ave. transmission mains. Also included in the project are two solar-powered Remote Terminal Units for remote control and monitoring of each valve from SCADA, two pressure transmitters on each valve for high- and low-pressure readings and one valve-position indicator each.

Project Evaluation & Analysis

This project would protect the water distribution system from high pressures that might cause pipe breaks, at the same time improving city-wide service since water flow capacity and pressure would improve. Reliability of the system would be increased by allowing for remote monitoring and operation, including switching between straight transmission to the higher pressure zone (Zone III), and supplemental supply to Zones I and II. The increase in pressure would also help fire protection service.

Fiscal Impact

This project would be funded by the Water Supply and Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	281,541	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	281,541	0	0	0
Grand Total	281,541	0	0	0

Project Information Sheet

Project: 826950 Install Asphalt Pavement at Water Plants

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2005-06	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2016-17	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

This project provides funding to install asphalt pavement around buildings at the Mary-Carson, Wolfe-Evelyn, Hamilton, Central, Wright and San Lucar plants. Paved surfaces will allow crews and equipment to have easier access for routine maintenance and emergency repair work, cutting down the amount of time it takes to get the task done and providing staff with cleaner working conditions.

Existing areas around the plant buildings are unsurfaced and subject to becoming soft and impassable during wet-weather conditions in the winter.

Project Evaluation & Analysis

The alternate would be to leave the area unpaved.

Fiscal Impact

The project will be funded by the Water Supply & Distribution Fund.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	0	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	20,566	0	0	0
2013-14	27,602	0	0	0
2014-15	63,065	0	0	0
2015-16	76,962	0	0	0
2016-17	32,806	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	221,001	0	0	0
Grand Total	221,001	0	0	0

Project Information Sheet

Project: 826960 Water Utility Master Plan

Category:	Infrastructure	Type:	Water	Department:	Public Works
Origination Year:	2007-08	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Hira Raina
Planned Completion Year :	2008-09	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	Jim Craig
Funding Sources:	Water Revenues				

Project Description/Scope/Purpose

This project provides funding for preparing a master plan for the Water System. A water model for the delivery system was completed in FY 2006/2007 under a separate capital project. This study will provide a condition assessment of the pipeline system. This project is one of the next steps in the Long Range Infrastructure Plan. The project will recommend improvements, and suggest a funding strategy.

Project Evaluation & Analysis

The City provides water supply services to residents and businesses within the City. This study is needed to define the capital projects that will be necessary to replace aging infrastructure and to identify any upgrades of the water lines that may be needed as a result of future developments. This is a Best Management Practice for ensuring the water service system can continue to provide reliable service.

Fiscal Impact

This study is estimated to cost $200,000. This will be paid from the Water Supply and Distribution Fund. The information developed as a result of this study can provide the necessary backup for the City to require developers to pay for upgrades of the lines.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	200,000	0	0	0
2009-10	0	0	0	0
2010-11	0	0	0	0
2011-12	0	0	0	0
2012-13	0	0	0	0
2013-14	0	0	0	0
2014-15	0	0	0	0
2015-16	0	0	0	0
2016-17	0	0	0	0
2017-18	0	0	0	0
2018-19	0	0	0	0
2019-20	0	0	0	0
2020-21	0	0	0	0
2021-22	0	0	0	0
2022-23	0	0	0	0
2023-24	0	0	0	0
2024-25	0	0	0	0
2025-26	0	0	0	0
2026-27	0	0	0	0
20 Year Total	200,000	0	0	0
Grand Total	200,000	0	0	0

Project Information Sheet

Project: 827180 Automation of Water Meter Reading

Category:	Infrastructure	Type:	Water	Department:	Finance
Origination Year:	2003-04	Fund:	460 Water Supply and Distribution Fund	Project Manager:	Tim Kirby
Planned Completion Year :	2010-11	Sub-Fund:	300 Water Infrastructure Subfund	Project Coordinator:	none

Funding Sources: Water Revenues

Project Description/Scope/Purpose

This project provides funding to automate the City's water meter reading process. The efficiency of the current meter reading process will be improved by converting every manual read meter in the city to a radio read meter.

For several years the City has been installing radio read meters as part of our regular meter replacement program. This project would accelerate the ongoing conversion to complete the majority of the city over a four year period. At conclusion of the project, it is anticipated that meter reading currently being done by three staff will be achieved by two and that the remainder of the conversion can be done as meters come up for replacement.

Prior to implementing this project, staff will be performing a detailed analysis regarding the best technology available going forward. For example, staff has recently been approached by PG&E to discuss piggy backing on their system that will be coming to Sunnyvale within the next two years. Also included will be a review of the return on investment of this effort.

Project Evaluation & Analysis

The City of Sunnyvale currently reads the majority of the water meters in the City manually. There are a total of approximately 28,000 meters, each of which is read at least six times a year. Manual meter reading is out of date, inaccurate, and inefficient. New technology has allowed water utilities to retrofit or replace existing meters with radio read meters. Radio read meters use radio frequency waves to transmit data from the meter to the receiving device. Radio read meters provide three advantages, 1) meters can be read much more quickly from a mobile or fixed location (truck or tower), 2) reads are more accurate, and 3) meter readers are not exposed to the dangers of reading meters.

This project will also provide the City flexibility through more accurate and timely reading and consumption data that can be used to shift billing cycles, promote conservation, etc.

Fiscal Impact

This project will be funded by the Water Supply and Distribution Fund. The conversion will provide the City with a state of the art meter reading system that will increase efficiency and accuracy far into the future. Savings will come in the form of reduced labor expense and the potential to realize revenue sooner through more accurate reading.

Project Financial Summary

	Project Costs	Revenues	Transfers In	Operating Costs
Prior Actual	0	0	0	0
2006-07	0	0	0	0
2007-08	0	0	0	0
2008-09	180,000	0	0	0
2009-10	183,600	0	0	0
2010-11	187,272	0	0	0
2011-12	191,017	0	0	-86,170
2012-13	0	0	0	-87,893
2013-14	0	0	0	-89,651
2014-15	0	0	0	-91,444
2015-16	0	0	0	-93,273
2016-17	0	0	0	-95,139
2017-18	0	0	0	-97,993
2018-19	0	0	0	-100,933
2019-20	0	0	0	-103,961
2020-21	0	0	0	-107,079
2021-22	0	0	0	-110,292
2022-23	0	0	0	-113,601
2023-24	0	0	0	-117,009
2024-25	0	0	0	-120,519
2025-26	0	0	0	-124,134
2026-27	0	0	0	-127,859
20 Year Total	741,889	0	0	-1,666,950
Grand Total	741,889	0	0	-1,666,950