



# PUBLIC WORKS DEPARTMENT

Council Meeting Date: April 18, 2006  
Staff Report #: 06-071

Agenda Item #: E2

**PUBLIC HEARING: Adoption of a Resolution Approving an 11.9 Percent Annual Increase in Water Meter and Consumption Charges in Each of the Next Four Years, Increasing the Capital Facilities Charge in Fiscal Year 2006-07, Transferring Approximately \$4.4 Million From the Water Operating Fund to the Water Capital Fund, and Authorizing an Additional Staff Position.**

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## RECOMMENDATION

Staff recommends that the City Council adopt a resolution to do the following:

- 1) Approve an 11.9 percent annual increase in water meter and consumption charges in each of the next four years;
- 2) Increase the Capital Facilities Charge in Fiscal Year 2006-07;
- 3) Transfer approximately \$4.4 million from the Water Operating Fund to the Water Capital Fund; and
- 4) Authorize an additional staff position.

## BACKGROUND

The Menlo Park Municipal Water District (MPMWD) relies on a single source of potable water--the Hetch Hetchy regional water system operated by the San Francisco Public Utilities Commission (SFPUC). With the Hetch Hetchy system currently planning major delivery systems rehabilitation and improvement projects, considerable increases are projected in the cost of wholesale water to Menlo Park and the other agencies served by the system. The price of water from the SFPUC is expected to more than triple over the next 10 years, according to its own estimates.

In addition to planning for increases in Hetch Hetchy water costs, the MPMWD is currently evaluating sites for a major water storage reservoir. Including related facilities, that project is estimated to cost up to \$18 million. Water enterprise capital reserves are available to fund a share of the project costs, but the remainder would need to be funded from other revenues and possibly the sale of bonds.

The City retained Bartle Wells Associates (Bartle Wells) to review the MPMWD's water revenues to determine if they are adequate over time to pay for the anticipated increases in wholesale water costs, ongoing projects, and any planned major capital projects.

On December 13, 2005, staff presented a report on the Bartle Wells water rate study to the City Council and asked for direction (Attachment C). In summary, the City Council supported the following staff recommendations:

- 1) Increase the capital facilities charge.
- 2) Meet with large water users and representatives of homeowners associations to present the draft water rate study.
- 3) Use the modified water rate increase Option C that closely matches the SFPUC projected rates but smoothes the low and high rates so there is not a drastic increase in water rates from year to year.
- 4) Develop a four-year water rate plan.
- 5) Maintain a minimum operating fund reserve of \$2.5 million, and transfer the remaining reserve to the water capital fund.
- 6) Maintain a minimum capital fund reserve of \$3 million.

When staff presented the water rate study in December 2005, the SFPUC's latest information was that there would be no water rate increases in 2006-07. Since that City Council meeting in December, the SFPUC has informed staff that it plans to increase water rates by almost 14 percent in 2006-07.

## ANALYSIS

### Water Rates

The MPMWD water rates have three elements: A monthly service charge based on meter size, a consumption charge based on the measured amount of water consumed, and a capital surcharge of \$0.35 per hundred cubic feet (ccf) of water use. The water capital surcharge was established in 1990 to fund major water capital projects. Table 1 below shows consumption charges and the capital surcharge.

**Table 1. Water Rates**

<b>Water Consumption</b>	<b>Consumption Charge per ccf (\$)</b>	<b>Capital Surcharge per ccf (\$)</b>	<b>Total Consumption Charge per ccf (\$)</b>
First 5 hundred cubic feet (ccf)	\$0.80	\$0.35	\$1.15
Next 6 through 10 ccf	1.00	0.35	1.35
Next 11 through 25 ccf	1.20	0.35	1.55
Consumption over 25 ccf	1.60	0.35	1.95

Table 2 below shows current monthly service charges by meter size.

**Table 2. Monthly Service Charges**

<b>Meter Size</b>	<b>Monthly Service Charge</b>
3/4" or smaller	\$5.00
1"	\$8.00
1-1/2"	\$16.50
2"	\$26.50
3"	\$48.50
4"	\$75.00
6"	\$166.50
8"	\$369.50
10"	\$820.00

**Capital Facilities Charge**

Currently, the MPMWD charges a capital facilities "hookup" charge of \$325 for a 5/8", 3/4", or smaller meter, the basic residential water meter sizes. This charge has not been adjusted since early 1991. In the meantime, the MPMWD has constructed new facilities, adding to the value of the water system.

The vast majority of water agencies in California and elsewhere require that new users pay the costs of facilities provided to serve them. Capital facilities charges are the fairest and easiest method of collecting funds for system improvements and expansions. These charges are collected as new customers begin to use the facilities. Capital facilities charges should equitably reflect the value of water facilities provided to each new service unit as it connects to the MPMWD's water system.

The water capital facilities charge for a 3/4" or smaller meter is proposed to increase from the current \$325 to \$2,520. The Bartle Wells study explains how the updated charge was determined (Attachment B, page SE-1). In summary, the study estimated the total assets of the water system and distributed the value of the water assets to the number of meters in the MPMWD. A value per equivalent meter was obtained. Then the charge was increased based upon the proportionate capacity of the meter size. The study also recommends that the fee be updated annually by indexing it to the Engineering News Record (ENR) Index for the San Francisco area. By way of comparison, the City of Palo Alto currently charges \$3,638 for a one-inch or smaller meter, Redwood City charges \$2,680.50 for a 3/4" meter, and California Water Service Company (Cal Water) does not have a capital facilities charge.

**Table 3. Capital Facilities Charge**

<b>Meter Size</b>	<b>Ratio to 5/8" Meter</b>	<b>Current Capital Facilities Charge</b>	<b>Proposed Capital Facilities Charge</b>
3/4" or smaller	1.0	\$325.00	\$2,250
1"	1.6	\$520.00	\$4,030
1-1/2"	3.3	\$1,072.50	\$8,320
2"	5.3	\$1,722.50	\$13,360
3"	9.7	\$3,152.50	\$24,440
4"	15.0	\$4,875.00	\$37,800
6"	33.3	\$10,822.50	\$83,920

Because of the low rate of growth within the MPMWD service area, minimal additional revenue is expected from the updated capital facilities charge. Rather, the level of the charges is intended to promote equity between existing customers and new customers connecting to the system.

During the December 13, 2005, City Council meeting, Council asked staff to consider giving a credit to current water customers who increase water meter sizes so that they do not have to pay the full amount of the proposed capital facilities charge. Staff supports this recommendation and will make it part of the capital facilities charge increase.

### Water Rate Charges

The SFPUC has provided future projections of its wholesale water rates. Future wholesale rates will be greatly influenced by the cost of capital projects completed in the Hetch Hetchy system and added to the rate base. Table 4 below shows the SFPUC's most recent projected water rate increases. These projections are approximately 20 percent greater than what were previously provided by the SFPUC.

In the December 2005 presentation of the water rate study to the City Council, staff recommended a modified water rate in an effort to smooth out the high and low water rates proposed by the SFPUC. Staff subsequently sent a letter to the MPMWD's 15 largest water users and to 16 homeowner's association representatives informing them of meetings at which staff would discuss the water rate report. Representatives of the Belle Haven Homeowners Association, SRI, and Sharon Heights Golf Course attended the meetings. Staff informed those in attendance that the SFPUC had revised its future water rate projections, which were higher than previously projected at the time of the December 13, 2005, City Council meeting. Those who attended preferred the uniform annual rate increase instead of the staff's recommendation of the Option C modified SFPUC rate. They said they preferred the uniform increase because it would be easier to remember and to calculate for their budget projections. In addition, there was no objection to the four-year water rate plan. A four-year water rate plan that smoothed out the high SFPUC water rates would allow business to plan for the increases.

Table 4 below shows the latest projected SFPUC water rate increases and the staff-recommended water rate that would be sufficient to recover expenses over the next 10 years.

**Table 4. SFPUC Projected Water Rate increases**

<b>Year</b>	<b>SFPUC Water Rate Increase projections (Cost per ccf) 3/2006</b>		<b>Uniform Increase</b>
Existing		\$1.02	
2006-07	13.40%	(\$1.16)	11.9%
2007-08	8.49%	(\$1.26)	11.9%
2008-09	-1.94%	(\$1.23)	11.9%
2009-10	8.79%	(\$1.34)	11.9%
2010-11	31.04%	(\$1.75)	11.9%
2011-12	24.32%	(\$2.18)	11.9%
2012-13	28.16%	(\$2.80)	11.9%

2013-14	27.64%	(\$3.57)	11.9%
2014-15	3.32%	(\$3.69)	11.9%
2015-16	-1.88%	(\$3.62)	11.9%

The Bay Area Water Supply and Conservation Agency ( BAWSCA) has just completed its annual survey of member agencies' water rates. Using the 27 agencies' average water use for residential customers, the MPMWD has the lowest monthly water rates. The average residential water use of the BAWSCA agencies is 14 units per month. This amounts to a monthly bill of \$23.70 for MPMWD customers. Attachment C shows a comparison of monthly bills for BAWSCA agencies.

### Proposed Consumption Charges

Water Consumption	Consumption Charge per ccf (\$)	Proposed 2006-07	Proposed 2007-08	Proposed 2008-09	Proposed 2009-2010
First 5 hundred cubic feet (ccf)	\$0.80	\$0.90	\$1.00	\$1.12	\$1.25
Next 6 through 10 ccf	\$1.00	\$1.12	\$1.25	\$1.40	\$1.57
Next 11 through 25 ccf	\$1.20	\$1.34	\$1.50	\$1.68	\$1.88
Consumption over 25 ccf	\$1.60	\$1.79	\$2.00	\$2.24	\$2.51

### Proposed Monthly Service Charges

Meter Size	Current Monthly Service Charge	Proposed 2006-07	Proposed 2007-08	Proposed 2008-09	Proposed 2009-10
3/4" or smaller	\$5.00	\$5.60	\$6.26	\$7.01	\$7.84
1"	\$8.00	\$8.95	\$10.02	\$11.21	\$12.54
1-1/2"	\$16.50	\$18.46	\$20.66	\$23.12	\$25.87
2"	\$26.50	\$29.65	\$33.18	\$37.13	\$41.55
3"	\$48.50	\$54.27	\$60.73	\$67.96	\$76.04
4"	\$75.00	\$83.93	\$93.91	\$105.09	\$117.59
6"	\$166.50	\$186.31	\$208.48	\$233.29	\$261.06
8"	\$369.50	\$413.47	\$462.67	\$517.73	\$579.34
10"	\$820.00	\$917.58	\$1,026.77	\$1,148.96	\$1,285.68

Failure to increase rates now would result in significantly larger rate increases in the future, based upon projections to future SFPUC wholesale customers.

### Minimum Fund Reserves

Bartle Wells evaluated the fund balance necessary and prudent to maintain for both the operating reserve and the capital reserve.

### Operating Reserve

Water revenues vary greatly seasonally and with weather patterns. Summer water sales are two-and-one-half times greater than sales during the winter. Revenue from monthly water meter charges, however, is stable and helps modulate the fluctuating water consumption revenue.

The wholesale cost of water from the SFPUC is another uncertainty that affects the operating reserves. A reserve fund can be used to smooth out large water rate variations over the short term. This reserve would be drawn down when needed and replenished up to the minimum reserve level.

The report recommends a minimum operating reserve equal to six months of operating expenses, but not less than \$2.5 million. In Fiscal Year 2004-05, six months of operating expenses was \$1.5 million. The estimated operating reserve at the end of FY 2005-06 is \$6.9 million. (This is a net decrease in reserves from FY 2004-05 of \$1.7 million due to the increased water rates from SFPUC and inflation.) The Bartle Wells report further recommends that funds in the amount of \$4.4 million, essentially the difference between the current reserve and the recommended minimum, be transferred to the capital reserve to help fund the reservoir project now under consideration.

### Capital Reserve

The water capital reserve is used to fund emergency repairs or provide funding for the planning, design, and construction of improvements to the water system. The MPMWD currently has two reservoirs, a pump station, and over 55 miles of water mains, which are in constant use.

The underlying assumptions about the size of the reserve is that the MPMWD should be prepared for one emergency at any given time, and that an allowance of \$3 million will be sufficient to fund major repairs or the major design and planning of future capital projects. The estimated capital reserve at the end of Fiscal Year 2005-06 is approximately \$9 million. A minimum capital reserve of \$3 million would leave a fund balance of approximately \$6 million available to fund a share of the new reservoir currently under consideration.

These minimum reserve levels should be treated as financial targets. The recommended reserves provide a prudent level of financial security and generate a substantial amount of interest earnings for the water enterprise.

### **Financing Capital Improvements**

To finance major water system improvements, staff recommends a plan involving the use of existing capital reserves, revenues from MPMWD capital surcharges, and long-term debt. Because the MPMWD has not yet selected a reservoir project alternative, more information on how to finance the reservoir project will be presented at a future Council meeting once the cost of the reservoir is known.

### **Staffing**

In 1995, the MPMWD contracted with Cal Water for meter reading and billing. This allowed City staff to perform other water operation tasks that were previously not being

addressed. Since 1995, there has been no increase in water staffing levels, although regulatory requirements from both Federal and State agencies have increased significantly and the water service area was expanded in 2001 to include the Menlo Park Business Park on O'Brien Drive.

The requirement that has had the largest impact on staff time is the February 2004 changeover by the SFPUC from chlorine to chloramines for the treatment of water. This required the MPMWD to change the way it operates the entire water system. With the addition of chloramines, staff now tests and monitors the water quality on a weekly basis. Staff also began a new water line flushing method in order to maintain the quality of water. It now takes approximately three months to flush the entire water system, compared to the three to four weeks it took before the conversion.

With the new regulatory requirements, staff must continuously keep up with new technology and be certified by the State to operate the water system. In addition, a new monitoring requirement will take effect over the next two years that requires staff to develop a plan and obtain State Health Department approval of it and requires the MPMWD to implement it.

Staff recommends the addition of one staff position so that the MPMWD can continue to operate the water system in compliance with State and Federal requirements. Staff believes that this new position could perform some of the testing of the water system that is now contracted out to SFPUC, which would result in savings of approximately \$11,000 in contract services. Upon Council approval the funds for the position will be incorporated into the Fiscal Year 2006-07 budget.

## **IMPACT ON CITY RESOURCES**

The recommendation for a new water staff position entails an annual cost of approximately \$100,000 to be paid from the water operating fund. If approved, staff would begin the hiring process this fiscal year and include the costs of the position in the Fiscal Year 2006-07 budget.

The additional revenues from increased water meter and consumption charges will enable the MPMWD to pay for the anticipated increases in the SFPUC's water rates, additional water quality testing, and the additional staff position.

## **POLICY ISSUES**

This report develops a framework to finance the MPMWD's water facilities and outlines rate adjustments needed to meet the water enterprise's operating and capital needs for the next 10 years. The report makes recommendations on water policy issues related to maintaining minimum reserves and transferring water operating fund balances to the water capital fund.

## **ENVIRONMENTAL REVIEW**

An environmental review is not required.

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Ruben Niño  
Director of Engineering Services

**PUBLIC NOTICE:** Public Notification was achieved by posting the agenda, with this agenda item being listed, at least 72 hours prior to the meeting.

**ATTACHMENTS:**

- A. Resolution
- B. April 2006 Final Water rate study
- C. Comparison of BAWSCA water use

RESOLUTION NO. \_\_\_\_\_

RESOLUTION OF THE CITY COUNCIL OF THE  
CITY OF MENLO PARK INCREASING WATER  
RATES FOR THE MENLO PARK WATER DEPARTMENT

WHEREAS, the Menlo Park Municipal Water District (MPMWD) receives all of its water from the San Francisco Public Utilities Commission (SFPUC).

WHEREAS, the SFPUC over the next ten years projects to approximately triple water rates;

WHEREAS, the MPMWD is currently in the process of evaluating sites for a major water storage reservoir;

WHEREAS, the City hired Bartle Wells Associates to review the MPMWD water rates to determine if they are adequate over time to pay for the anticipated increase in wholesale water costs, ongoing replacement projects, and any planned major capital projects.

NOW, THEREFORE, BE IT RESOLVED that the following water rate increases are adopted to be effective as of the July 1, 2006, billing period:

1. There shall be water rate increases to both the fixed monthly meter charge and the consumption charge (See Exhibit A attached hereto.), not including the capital charge, annually over each of the next four years and ending on July 1, 2010;
2. A capital facilities charge for new connections shall be collected in an amount equivalent to \$325 for 5/8" - 3/4" meters. This charge shall be proportionately higher for larger meters. (See Exhibit A attached hereto.). The charge shall be adjusted annually by indexing it to the Engineering News Record (ENR) Index for the San Francisco area. A credit shall be given for existing customers upgrading meter size based upon their existing meter size.

I, Silvia Vonderlinden, City Clerk of the City of Menlo Park, do hereby certify that the above foregoing Resolution was duly and regularly passed and adopted at a meeting by said Council on the 18<sup>th</sup> of April, 2006, by the following vote:

AYES:           COUNCIL MEMBERS:  
NOES:           COUNCIL MEMBERS:  
ABSENT:        COUNCIL MEMBERS:  
ABSTAIN:       COUNCIL MEMBERS:

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Official Seal of said City this 18<sup>th</sup> day of April, 2006.

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Silvia Vonderlinden  
City Clerk

## EXHIBIT A

### Capital Facilities Charge

<b>Meter Size</b>	<b>Ratio to 5/8" Meter</b>	<b>Current Capital Facilities Charge</b>	<b>Proposed Capital Facilities Charge</b>
3/4" or smaller	1.0	\$325.00	\$2,250
1"	1.6	\$520.00	\$4,030
1-1/2"	3.3	\$1,072.50	\$8,320
2"	5.3	\$1,722.50	\$13,360
3"	9.7	\$3,152.50	\$24,440
4"	15.0	\$4,875.00	\$37,800
6"	33.3	\$10,822.50	\$83,920

### Water Consumption Charge

<b>Water Consumption</b>	<b>Current Consumption Charge per ccf (\$)</b>	<b>Proposed 2006-07</b>	<b>Proposed 2007-08</b>	<b>Proposed 2008-09</b>	<b>Proposed 2009-2010</b>
First 5 hundred cubic feet (ccf)	\$0.80	\$0.90	\$1.00	\$1.12	\$1.25
Next 6 through 10 ccf	\$1.00	\$1.12	\$1.25	\$1.40	\$1.57
Next 11 through 25 ccf	\$1.20	\$1.34	\$1.50	\$1.68	\$1.88
Consumption over 25 ccf	\$1.60	\$1.79	\$2.00	\$2.24	\$2.51

### Water Meter Charge

<b>Meter Size</b>	<b>Current Monthly Service Charge</b>	<b>Proposed 2006-07</b>	<b>Proposed 2007-08</b>	<b>Proposed 2008-09</b>	<b>Proposed 2009-10</b>
3/4" or smaller	\$5.00	\$5.60	\$6.26	\$7.01	\$7.84
1"	\$8.00	\$8.95	\$10.02	\$11.21	\$12.54
1-1/2"	\$16.50	\$18.46	\$20.66	\$23.12	\$25.87
2"	\$26.50	\$29.65	\$33.18	\$37.13	\$41.55
3"	\$48.50	\$54.27	\$60.73	\$67.96	\$76.04
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6"	\$166.50	\$186.31	\$208.48	\$233.29	\$261.06
8"	\$369.50	\$413.47	\$462.67	\$517.73	\$579.34
10"	\$820.00	\$917.58	\$1,026.77	\$1,148.96	\$1,285.68

**City of Menlo Park**  
WATER RATE REVIEW

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**FINAL REPORT**

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April 2006

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# **CITY OF MENLO PARK – WATER FINANCING PLAN**

## **EXECUTIVE SUMMARY**

### **Background**

Menlo Park's municipal water system is currently in excellent financial condition. Water rates and charges adequately fund operation and maintenance, purchased water from the San Francisco Public Utilities Commission (SFPUC), and capital improvements and replacements. The water system has also accumulated considerable reserves that are available to fund capital projects as well as help buffer increased operating costs.

The City relies on a single source of potable water supply, the SFPUC's Hetch Hetchy regional water system. With the Hetch Hetchy system currently planning major rehabilitation and improvement projects, considerable increases are projected in the cost of wholesale water to Menlo Park and the other agencies served by the system. Water purchases currently account for 60 to 70% of the City's water system operating expenses. Both the amount and percentage of these costs are projected to increase dramatically over the next ten years.

In addition to projected increases in Hetch Hetchy water costs, the City water utility is currently in the process of selecting among project alternatives for a major water reservoir. Including related facilities, this project could eventually cost over \$18 million. Water enterprise capital reserves are available to fund a share of project costs, but the remainder would be funded from revenues and the possible sale of bonds.

### **Purpose & Scope**

Bartle Wells Associates was retained by Menlo Park to review current and future water rates and to develop a financing plan to fund expected wholesale water rate increases, pay for necessary capital facilities projects and fund ongoing water enterprise costs. The objectives of this analysis include the following:

- Determine the annual revenue requirements needed to fund the City's operating and capital programs and recommend necessary rate adjustments
- Evaluate financing alternatives and recommend a financing strategy to fund the water reservoir project while maintaining the financial health of the water enterprise
- Develop cash flow projections to evaluate the water enterprise's financial position over the next 10 years
- Maintain a prudent level of minimum fund reserves
- Recommend alternative plans for adjusting water rates to minimize the impact on ratepayers.

The findings and recommendations presented in this report were developed with a substantial amount of input from City staff.

## **Current Finances & Rates**

Menlo Park's water enterprise is in excellent financial condition. Water revenues are sufficient to fund all operating expenses as well as capital repairs and replacements. The enterprise began the current fiscal year with an operating reserve of about \$8.5 million and a capital fund reserve totaling about \$8.2 million. These reserves will be very important in helping to meet the expected increased costs for water as well as provide a share of the required funding for a major water reservoir project facing the City.

Menlo Park's current water rates are the lowest of neighboring water purveyors. An average single family residence uses about 15 hundred cubic feet (ccf) of water per month and pays a water charge of \$50.50 per bi-monthly billing period, or \$25.25 per month. Basic rates have not been increased for over 10 years.

The City's capital facilities charge, paid by new customers to purchase capacity in the water system, have not been adjusted since 1991. The current facilities fee for a typical single family residence is \$325 for a new 5/8-inch or 3/4-inch meter connection. The facilities fee should be updated to account for capital investment in the City's water system since 1991 and for new projects needed to generate water supply needed to serve growth.

## **Water Capital Project Costs**

The City is currently evaluating alternatives for a major reservoir project. The final alternative has not yet been selected, but could cost over \$18 million. Financing for this project as well as others including a pump station and annual system replacements would likely be funded from a combination of reserves, revenues and debt. The actual amount of any debt requirement is yet to be determined. A financing for as much as \$9.0 million may be required. This report also projects ongoing annual system replacement expenses of \$500,000.

## **Cash Flow Projections**

Cash flow projections are developed to estimate the long-term revenue requirements of the water enterprise and to determine necessary water rate adjustments. Bartle Wells Associates evaluated operating and capital financing scenarios.

## **Projected Water Rate Increases**

Three options for future water rate increases are developed in this report. Required rate increases closely parallel the increased cost of SFPUC water. Option C anticipates SFPUC increases and allows for more level increases rather than abrupt adjustments following SFPUC changes. Cash flow projections indicate the need for a series of annual rate increases through 2015. The increases will enable Menlo Park to:

- a. Anticipate wholesale water cost increases,
- b. maintain a reasonable level of fund reserves,
- c. fully fund operating and capital programs, and
- d. meet future debt service coverage requirements.

Year	SFPUC Projected Water Rate Increase	Option A Uniform Increase	Option B SFPUC Pass-Thru	Option C Modified SFPUC Pass-Thru
2006/07	13.7%	11.9%	10.0%	6.0%
2007/08	8.6%	11.9%	13.0%	8.0%
2008/09	-2.4%	11.9%	0.0%	9.0%
2009/10	8.9%	11.9%	6.0%	12.0%
2010/11	30.6%	11.9%	22.0%	15.0%
2011/12	24.6%	11.9%	22.0%	15.0%
2012/13	28.4%	11.9%	27.0%	15.0%
2013/14	27.5%	11.9%	21.0%	14.0%
2014/15	3.4%	11.9%	0.0%	7.0%
2015/16	-1.9%	11.9%	0.0%	0.0%

The City needs to start phasing in rate increases beginning 2006/07, rather than wait until all financing details have been finalized. Failure to raise rates next year will result in the need for substantially higher rate increases in following years. For example, bypassing a 6% increase in 2006/07 results in the need for a 15% rate increase in 2007/08. The City should consider adopting 4 to 5 years of rate increases during the next rate review period.

The rate increases are assumed to apply to both the fixed service charge and the volume charge. The City can adjust each of these charges separately as long as an 8% overall rate increase is achieved. The rate increases are needed for a number of reasons including:

- About 85% of projected operating cost increases through 2014/15 are due to an increase in wholesale water costs. Wholesale water rates from the SFPUC are projected to almost triple by 2014/15 in order to provide financing payments for \$3 to \$4 billion of capital improvements to the Hetch Hetchy water system. These wholesale water cost increases are projected to total over \$5 million by 2014/15 versus current water purchase costs of about \$2 million.
- The water enterprise will incur additional costs for debt service payments needed to finance the reservoir project. The City has not yet selected the project and cost estimates are preliminary. But based on a conservative estimate of \$18.26 million, this project would result in about \$0.985 million in new annual debt service payments, accounting for about 20% of total (operating and capital) water enterprise cost increases through 2014/15.
- Expenditures for an additional water department staff member plus supplies and equipment are projected at \$100,000 per year beginning 2006/07.
- Cost inflation is projected to increase general operating expenses by 3.5% annually.

## **Minimum Fund Reserves**

The City should maintain its existing fund reserves but at a reduced level to provide a financial safeguard for:

- a. dealing with financial emergencies, and
- b. enabling the City to financially weather a drought for one year without rationing water or imposing immediate, large rate increases.

This report recommends minimum fund reserve levels comprised of two components:

- a. operating reserve. This reserve is needed for unanticipated operating expenses increases and to act as a rate stabilization fund to level anticipated rate increases.
- b. capital and replacement reserve. This reserve is available if needed for emergency replacement projects such as those caused by a system breakdown or natural disaster.

This report recommends a minimum operating reserve of six months of operating expenses, but not less than \$2.5 million. The current operating reserve is well above this amount. Projections show that the current operating reserve will be reduced substantially to absorb some of the impacts of Hetch Hetchy rate increases.

This report recommends a minimum capital reserve of \$3.0 million. This reserve would be available to fund a facility failure or emergency repair. The current capital reserve is well above this amount. A portion of the existing capital reserve would be used to fund a share of the reservoir project cost.

These minimum reserve levels should be treated as financial targets. The recommended reserves provide a prudent level of financial security and generate a substantial amount of interest earnings for the water enterprise.

## **Recommended Capacity Facilities Charge**

The City's facilities fees have not been adjusted since 1991. The fee should be updated to account for:

- a. capacity in existing water facilities, and
- b. the value of existing water enterprise assets.

This report calculates a new water facilities fee of \$2,520 for a 5/8" or 3/4" meter, which are the standard size meters for a single family residence. The City's facilities fee should be updated annually by indexing the fee to the Engineering News-Record Construction Cost Index for the San Francisco area.

## **INTRODUCTION & POLICY ASSUMPTIONS**

Several new challenges face Menlo Park's water system over the next several years. The San Francisco Public Utilities Commission is planning the first major refurbishment of the entire Hetch Hetchy water supply system. Construction on the system was begun prior to 1920 and the system has served admirably since then without any major planned replacements. Now the SFPUC has developed a greatly needed major capital program to rehabilitate this important water supply facility. The SFPUC has prepared cost projections together with estimates of the impact on wholesale water rates. The Hetch Hetchy system supplies all or some of the water to 27 water purveyors in Alameda, San Francisco, San Mateo, and Santa Clara Counties. All of the water purveyors will face increased water costs as the system's costs are shared in accordance with a Master Sales Agreement executed in 1974 after years of litigation and negotiations.

Similar to other public and private water agencies, Menlo Park's water distribution system requires ongoing repairs and replacements to maintain operating efficiency and to reduce leaks. Each year the department plans for repairs, replacements and improvements to the facilities. In addition, from time to time a major capital facility is required to maintain high quality service. The City has engaged the engineering firm of Kennedy-Jenks to develop alternatives for major water reservoirs. These facilities are a supplement to Hetch Hetchy facilities to insure adequate supplies during emergencies and as an alternative water source.

Kennedy/Jenks recently submitted a feasibility evaluation study that outlined four alternatives for the reservoir project. These are currently under review by City Public Works staff. Financing any of the alternatives will likely require a combination of reserves, revenues and debt.

Bartle Wells Associates was retained to review the City water revenues to insure adequacy for funding increases in wholesale water costs, ongoing replacement projects, and the planned major capital project. This report presents our finding and recommendations. The objectives of this analysis include the following:

- Evaluate financing alternatives and recommend a financing strategy to fund the reservoir project while maintaining the financial health of the water enterprise
- Develop cash flow projections to evaluate the water enterprise's financial position over the next 10 years
- Determine the annual revenue requirements needed to fund the City's operating and capital programs and recommend necessary rate adjustments
- Recommend a prudent level of minimum fund reserves
- Update the capital facilities charge to recover an appropriate share of the costs of water system infrastructure used to serve new development

## Policy Assumptions

This report develops a plan to finance the water facilities and recommends rate adjustments needed to meet the water enterprise's operating and capital revenue requirements over the next 10 years. The financing plan is based on adherence to the City's current financial policies and on new policy assumptions recommended in this report. Key policy assumptions that form the basis of our recommended financing plan include the following:

- Operating costs will be funded mainly by a combination of water consumption charges and water meter charges.
- Water consumption charges will be maintained at a level to fully fund wholesale water costs as well as a share of city distribution costs.
- Consumption rates include four tiers. The rate for the first (lowest) tier shall be adjusted to at least 80% of the SFPUC wholesale rate (currently 78.5%). The City should consider a rate structure that at least covers the cost of purchased water in the first tier.
- Water meter charges shall be maintained to generate not less than 16% (current share) of operating revenues.
- The City would review water rates with a long-term approach and would approve water rates for at least a four or five-year term.
- Capital replacements and improvements will be funded by a combination of water consumption surcharges and capacity facilities charges.
- Replacements will be funded on a pay-as-you-go basis from capital reserves and capital revenues.
- Major capital improvements shall be funded from reserves and capital revenues to the extent reasonably possible. Debt would be used only as needed to fund remaining project costs.
- Consumption surcharges shall be adjusted to provide assured funding for debt service. Any required adjustments would occur prior to debt issuance.
- The City would increase the capacity charge from \$325 for a 3/4" meter to \$2,520 to reflect the actual cost of water facilities assets provided to a new connection to the system.
- Capacity charges for larger meters would be proportional to the charge for a 3/4" meter.
- The capacity charge would be adjusted annually by changes in the Engineering News Record (ENR) Construction Cost Index.
- A target minimum of six months of operating expenses but not less than \$2.5 million would be maintained in the operating reserve.
- The current operating reserve surplus would be used over the next ten years to mitigate the rate impacts of wholesale water cost increases.
- The capital reserve would maintain a minimum target amount of not less than \$3.0 million.
- The current capital reserve surplus would be used to fund a share of the major reservoir project now in the planning stages.
- The water department would maintain annual facilities replacements at not less than \$500,000.

# WATER DEPARTMENT RESOURCES

## General

The City of Menlo Park is a general law city incorporated in 1927. The City's municipal water department is responsible for maintenance, operation, and repair of the City's water distribution system. The municipal water department's service area is not coterminous with the City's boundaries. California Water Service Company also supplies water within City limits and contracts to provide meter reading and billing for the City.

## Municipal Water Department

The water department is a self-supporting City enterprise. Sale of water to customers generates the revenue needed to support operations and capital replacement needs.

Table 1 shows water fund balances for the last three years. Both the Capital Fund 855 and the Operations Fund 861 are maintaining healthy balances. The Capital Fund had a beginning FY 2005/06 balance of \$9.1 million and the Operations Fund had a balance of \$6.9 million. These funds are available to pay a portion of future capital costs and serve as a buffer on projected increases in future wholesale water costs. The Operations Fund was drawn down last year by about \$1.6 million to fund replacement projects and increased water purchase costs.

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Table 1  
City of Menlo Park Water Utility  
Water Fund - Beginning Balances

### Capital Fund - 855

2003/04	\$8,222,600
2004/05	8,228,483
2005/06	9,056,907

### Operations Fund - 861

2003/04	\$11,653,886
2004/05	8,528,719
2005/06	6,938,554

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Source: City accounting records

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The City prepares a water budget each year to project revenue and expense. Table 2 shows the water budgets for the last two years. Revenues are provided primarily from water sales and meter charges. Interest income from fund balances is another major revenue source.

Table 2

City of Menlo Park Water Utility  
Budgets - 2004/05 and 2005/06

	2004/05	2005/06
<b>Revenues</b>		
Service fees and charges	\$2,718,000	\$2,720,000
Capital facilities surcharge	576,800	580,000
Connection fees	5,000	7,000
Other	6,000	8,000
Interest income	<u>199,000</u>	<u>150,000</u>
Total revenues	3,504,800	3,465,000
<b>Expenses</b>		
Water delivery		
Salaries and fringes	306,600	341,700
Operating expense	35,300	50,000
Water purchase	2,038,000	2,500,000
Utilities	87,000	79,000
Services	230,600	194,500
Fixed assets and capital outlay	31,500	60,000
Repairs and maintenance	81,500	60,000
Other	3,500	2,700
Main replacement staffing & services	<u>1,800</u>	<u>34,400</u>
Subtotal - Water delivery	2,814,000	3,322,300
Water supply		
Salaries and fringes	79,700	109,700
Operating expense	5,000	8,100
Services	100,000	100,000
Main replacement staffing & services	299,300	13,600
Main replacement construction	<u>1,555,800</u>	<u>0</u>
Subtotal - Water supply	2,039,800	231,400
Total expenses - Municipal Water	\$4,853,800	\$3,553,700

Source: Water Department budgets

## Water Service Connections

The water department has just over 5,000 service connections. Many accounts include more than one meter. The City serves about 4,000 accounts. Table 3 shows water meters by size and type of service. About 83 percent of the connections are single-family dwelling units. Slightly over 11 percent of the department's service connections are commercial/industrial.

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Table 3  
City of Menlo Park Water Utility  
Water Meters by Size and User Class

<b>Meter Size</b>	Single Family	Multi Family	Commercial	Industrial	Irrigation	Public Agency	Total by Size
<b>5/8"</b>	3,430	57	81	78	16	1	3,663
<b>3/4"</b>	70	11		4	2		87
<b>1"</b>	654	20	65	54	32	5	830
<b>1-1/2"</b>	9	2	22	74	30	3	140
<b>2"</b>	11	17	56	86	41	17	228
<b>3"</b>	3	7	14	2	3	2	31
<b>4"</b>	2	3				3	8
<b>6"</b>			3	5		3	11
<b>8"</b>			2	5			7
<b>10"</b>				1			1
<b>Totals</b>	4,179	117	243	309	124	34	5,006

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Source: City records

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## Water Rates and Charges

The water department's water rates have two elements – a monthly service charge based on meter size and a consumption charge based on the measured amount of water consumed. Table 4 shows current water service charges and consumption charges.

Monthly service charges are a form of readiness-to-serve charge and relate to the meter size as a relative measure of the potential demand a customer may place on the department's facilities. A 5/8" x 3/4" meter is the basic meter size for a residential unit, and the corresponding monthly service charge is \$5.00. Service charges increase proportionately for larger meters – up to a monthly charge of \$820 for a 10" meter.

Many public water agencies now levy the service charge portion of their water charge in proportion to a demand factor based on meter size. Table 4 shows that Menlo Park's meter charges are proportional to the demand factor. The table also shows that capital facilities charges are also proportional to a meter's design capacity and demand on the water system.

Table 4  
City of Menlo Park Water Utility  
Water Rates and Charges

<b>Meter Size</b>	Monthly Service Charge	Ratio to 5/8" Meter	Capital Facilities Charge	Ratio to 5/8" Meter
<b>5/8"</b>	\$5.00	1.0	\$325.00	1.0
<b>3/4"</b>	5.00	1.0	325.00	1.0
<b>1"</b>	8.00	1.6	520.00	1.6
<b>1-1/2"</b>	16.50	3.3	1,072.50	3.3
<b>2"</b>	26.50	5.3	1,722.50	5.3
<b>3"</b>	48.50	9.7	3,152.50	9.7
<b>4"</b>	75.00	15.0	4,875.00	15.0
<b>6"</b>	166.50	33.3	10,822.50	33.3
<b>8"</b>	369.50	73.9		
<b>10"</b>	820.00	164.0		

Water Consumption	Consumption Charge per ccf	Capital Surcharge per ccf	Total Consumption Charge per ccf
First 5 hundred cubic feet (ccf)	\$0.80	\$0.35	\$1.15
Next 6 through 10 ccf	1.00	0.35	1.35
Next 11 through 25 ccf	1.20	0.35	1.55
Consumption over 25 ccf	1.60	0.35	1.95

Source: City master fee schedule

Consumption charges are based on the measured amount of water actually used. The water department's bimonthly consumption charge is \$0.80 per hundred cubic feet (ccf) for the first 5 ccf and increases in three steps to \$1.60 per ccf for water consumption over 25 ccf. In addition, the City established a \$0.35 per ccf capital surcharge on all water used to fund capital facilities and replacements.

Table 5 lists the water department's water accounts by type of user and shows annual water consumption for a ten-year period from 1995 through 2004. The City has experienced low growth in new connections over this period. For example, single family accounts have only increased from 3,308 in 1995 to 3,378 in 2004. Other account classes, such as commercial have increased by a higher rate over the same period.

Table 5  
City of Menlo Park Water Utility  
Water Consumption by Revenue Class - 1995 to 2004

	2004		2003		2002		2001		2000	
	Avg Accts.	Total Units CCFs	Avg Accts.	Total Units CCFs	Avg Accts.	Total Units CCFs	Avg Accts.	Total Units CCFs	Avg Accts.	Total Units CCFs
Single Family	3,378	626,255	3,364	646,569	3,380	666,683	3,366	654,416	3,354	640,434
Multi-Family	108	97,178	106	99,906	107	103,897	107	110,465	107	109,907
Commercial	182	190,834	182	200,411	188	194,990	188	227,772	188	219,749
Industrial	255	466,153	255	476,754	262	513,035	212	471,802	160	436,406
Land/Irrigation	112	134,150	110	155,667	110	168,282	111	187,858	111	179,340
Temp. meters	5	8,030	6	1,291	6	2,653	6	853	6	950
Public Facility	32	118,424	32	125,152	32	132,188	32	133,187	31	180,515
Totals	4,072	1,641,024	4,055	1,705,750	4,085	1,781,728	4,021	1,786,353	3,957	1,767,301
	1999		1998		1997		1996		1995	
	Avg Accts.	Total Units CCFs	Avg Accts.	Total Units CCFs	Avg Accts.	Total Units CCFs	Avg Accts.	Total Units CCFs	Avg Accts.	Total Units CCFs
Single Family	3,339	608,251	3,308	558,103	3,298	619,854	3,335	609,539	3,308	567,855
Multi-Family	107	103,598	107	96,804	107	113,516	105	75,354	148	89,444
Commercial	186	222,564	181	217,627	180	232,866	168	225,913	138	213,245
Industrial	153	425,999	156	426,332	157	441,040	156	375,732	164	402,451
Land/Irrigation	111	178,237	111	132,007	112	197,918	112	187,776	106	162,122
Temp. meters	8	914	7	1,434	9	3,492	3	3,902	2	12
Public Facility	30	121,398	31	99,112	31	121,707	32	128,120	34	141,123
Totals	3,933	1,660,961	3,901	1,531,419	3,894	1,730,393	3,911	1,606,336	3,900	1,576,251

Source: City records

Table 6 shows monthly water consumption for fiscal year 2004/05. The table demonstrates that water consumption and hence water revenues fluctuate greatly from month to month. For example water sales during January, February, and March were less than 40% of the corresponding sales during July, August, and September. This seasonal fluctuation influences the level of operating reserves that the water department should prudently maintain.

Table 6  
City of Menlo Park Water Utility  
Monthly Water Consumption by Revenue Class - FY 2004/05

Class Code	July 2004		August 2004		September 2004		October 2004		November 2004		December 2004		Avg Accts.	Total Units	
	Accts.	Units	Accts.	Units	Accts.	Units	Accts.	Units	Accts.	Units	Accts.	Units			
Single Family 01	3,374	82,143	3,377	74,736	3,377	78,630	3,382	60,881	3,381	39,485	3,370	37,549			
Multi-Family 15	108	11,070	108	10,058	108	11,254	108	9,693	108	6,578	108	6,986			
Commercial 02	182	24,996	181	23,145	181	23,064	182	21,109	181	12,790	181	11,592			
Industrial 03	251	58,044	254	52,565	255	45,499	255	42,628	255	28,595	254	24,977			
Land/Irrigation 07	111	28,223	111	26,101	111	26,445	111	8,410	112	5,707	112	2,846			
Temp. meters 08	6	1,339	7	1,022	6	836	6	1,062	6	556	6	560			
Public Facility 11	32	19,835	32	18,925	32	18,496	32	15,312	32	9,421	32	3,964			
Total	4,064	225,650	4,070	206,552	4,070	204,224	4,076	159,095	4,075	103,132	4,063	88,474			
Class Code	January 2005		February 2005		March 2005		April 2005		May 2005		June 2005		Avg Accts.	Total Units	
Single Family 01	3,378	32,859	3,374	32,305	3,377	32,776	3,379	38,170	3,380	46,973	3,382	69,748	3,378	626,255	38.13%
Multi-Family 15	108	6,057	108	5,710	107	5,983	108	6,755	108	7,338	108	9,696	108	97,178	5.92%
Commercial 02	182	8,721	182	10,028	182	10,063	182	11,746	180	14,227	182	19,353	182	190,834	11.62%
Industrial 03	256	26,863	256	25,828	255	25,112	257	31,157	257	38,832	257	66,053	255	466,153	28.38%
Land/Irrigation 07	112	3,367	113	734	114	1,397	113	3,980	113	7,708	113	19,235	112	134,153	8.17%
Temp. meters 08	4	2	3	1	3	785	3	643	4	664	4	2,127	5	9,597	0.58%
Public Facility 11	32	4,279	32	3,846	32	3,316	32	5,146	31	7,717	31	8,167	32	118,424	7.21%
Total	4,072	82,148	4,068	78,452	4,070	79,432	4,074	97,597	4,073	123,459	4,077	194,379	4,071	1,642,594	100%

Source: City records

The City's current rate structure is based on water rate tiers. Therefore, the amount of water sold in each tier (or block) is needed to determine annual revenues. Table 7 shows the amount of consumption in each rate tier and the revenue derived from sales within each tier.

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Table 7  
City of Menlo Park Water Utility  
Water Sales Revenue

Block	Share of Consumption	Amount of Consumption	Rate/ccf (1)	Annual Revenue
1 to 5 ccf	7.0%	116,000	\$1.15	\$130,000
6 to 10	12.0%	198,000	1.35	270,000
11 to 25	23.0%	380,000	1.55	590,000
over 26	58.0%	957,000	1.95	1,870,000
Totals	100.0%	1,650,000		2,860,000

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1 - Includes \$0.35/ccf capital facilities surcharge.  
Source: Based on updated consumption block review.

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Table 8 shows historic and projected SFPUC rates. The SFPUC provides future projections of their wholesale water rates from time to time. Future wholesale rates are greatly influenced by the level of capital projects completed by the Hetch Hetchy system and added to the rate base. Future wholesale rates can be widely varying rates depending on when new projects are placed on line. For example, Table 8 shows three SFPUC rate projections within a one-year period that vary greatly. However, all three projections show that within about seven years, wholesale rates will more than double. After about 10 years they are projected to triple.

Of note, for the first two rate tiers the City charges its customers less than the wholesale rate charged to the City by the SFPUC. The City currently pays the SFPUC \$1.02/ccf for wholesale water and currently charges \$0.80/ccf and \$1.00/ccf respectively for the first and second tiers of consumption. The City should consider increasing the lowest tier at least equal to the SFPUC wholesale rate.

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Table 8  
City of Menlo Park Water Utility  
SFPUC Historic and Estimated Wholesale Water Cost

Year	Estimated Change	Cost Per CCF
2001/02	Historic	\$0.88
2002/03	Historic	0.94
2003/04	Historic	1.10
2004/05	Historic	1.13
2005/06	Historic	1.02

SFPUC Projections						
	Estimated	Cost	Estimated	Cost	Estimated	Cost
	Change	Per CCF	Change	Per CCF	Change	Per CCF
	Dec. 2004		Feb. 2005		Dec. 2005	
2005/06	-31%	\$0.77	-10%	\$1.02	--	\$1.02
2006/07	40%	1.08	0%	1.02	14%	1.16
2007/08	2%	1.11	11%	1.13	9%	1.26
2008/09	9%	1.20	6%	1.20	-2%	1.23
2009/10	20%	1.44	8%	1.29	9%	1.34
2010/11	24%	1.78	33%	1.72	31%	1.75
2011/12	18%	2.10	27%	2.19	25%	2.18
2012/13	16%	2.43	13%	2.48	28%	2.80
2013/14	12%	2.73	13%	2.81	28%	3.57
2014/15	0%	2.73	8%	3.04	3%	3.40

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Source: SFPUC

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In addition to water sales revenue, the water department also collects bimonthly meter service charge revenues. This revenue source is more secure than water sales revenue and doesn't fluctuate seasonally. Table 9 shows net annual meter charge revenue of about \$436,000. Note that this stable revenue source only accounts for about 13 percent of total water revenues. Many water purveyors try to maintain not less than 25% of revenues from meter charges to provide greater revenue stability. This is offset by the need for water conservation provided by consumption charges.

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Table 9  
City of Menlo Park Water Utility  
Meter Revenue - FY 2004/05

Meter Size	Number of Meters	Monthly Rate	Annual Revenue
<b>5/8"</b>	3,663	\$5.00	\$219,800
<b>3/4"</b>	87	5.00	5,200
<b>1"</b>	830	8.00	79,700
<b>1-1/2"</b>	140	16.50	27,700
<b>2"</b>	228	26.50	72,500
<b>3"</b>	31	48.50	18,000
<b>4"</b>	8	75.00	7,200
<b>6"</b>	11	166.50	22,000
<b>8"</b>	7	369.50	31,000
<b>10"</b>	1	820.00	9,800
Inactive meters	73		<u>-57,000</u>
Annual meter charge revenue			\$435,900

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Source: Prepared by Bartle Wells Associates from information supplied by the City

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## FINANCING REQUIREMENTS

### Capital Facilities Charges

Currently, the water department charges a capital facilities charge of \$325 for a 5/8" or 3/4" meter, the basic residential water meter sizes. This charge has not been adjusted since early 1990. Since then the ENR Construction Cost Index (ENR Index), which is widely used within the water industry to determine changes in the cost of capital facilities, has increase by a factor of 1.36. In addition, the City has constructed new facilities adding to the value of the water system.

The vast majority of water agencies in California and elsewhere require that future users pay the costs of facilities provided to serve them. Capital facilities charges are the fairest and easiest method of collecting funds for system improvements and expansions.

Charges are collected during the construction period as new customers begin to use the facilities. Capital facilities charges should equitably reflect the value of water facilities provided to each new service unit as it connects to the City's water system.

Because of the low rate of growth within the water department's service area, little revenue is projected from the updated capacity facilities charge. However the level of the charge is intended to promote equity between existing customers and new customers connecting to the system.

### Operating Fund Reserves

Two main needs for an operating fund reserve are identified.

- Operating cash flow

- Water rate stabilization

**Operating cash flow:** The City needs to fund ongoing monthly operating expenses, which are relatively stable from month to month. Meanwhile, revenues vary greatly seasonally and with weather patterns. As shown on Table 6, summer water sales are two and one-half times greater than sales for the winter. Meter charge revenue is stable and mitigates this problem somewhat.

**Water rate stabilization:** In the case of agencies purchasing water from the SFPUC another need for operating reserves is looming. As wholesale water costs are projected to increase dramatically in the coming years, an operating reserve can provide a cushion to help even out rate adjustments to customers. Eventually customer rates will need to increase, but a reserve can help reduce the short-term impacts.

A rate stabilization account is used to spread a permanent cost increase over a number of years or to fund one-time expenses without the need for a rate adjustment. Such an account provides flexibility if unexpected costs occur beyond a budgeted amount. Use of a rate stabilization account involves drawing on the account when needed and then eventually replacing the funds used up to the minimum reserve target.

The operating reserve currently shows a balance of \$8.5 million. Generally an operating reserve of about six to eight months of operating expenses (about \$1.5 to \$2.5 million) would be sufficient. The availability of surplus operating reserves will provide a cushion as wholesale water costs increase.

**Recommendation:** This report recommends a minimum operating reserve equal to six months of operating expenses, but not less than \$2.5 million.

## **Capital Fund Reserve**

A capital fund reserve is generally used to fund major projects and to provide a financing safeguard in the case of emergencies.

**Emergency repairs:** By its very nature a water purveyor is capital intensive. Such an agency requires a series of expensive public works facilities including pipelines, reservoirs, pump stations, and delivery facilities. These facilities cost many millions of dollars and are required for constant use. In the event of a breakdown or equipment failure, the City is obligated to instigate repairs under emergency conditions if necessary. The repairs must be implemented immediately and only later may a permanent capital plan be developed.

A source of emergency funding is a necessity. The capital reserve is available to serve as an efficient and painless method of funding emergency repairs.

An emergency reserve sized to fund a major general catastrophe such as one caused by an earthquake is not practical. Damage caused by this type of disaster could be widespread and would likely result in state and federal emergency assistance.

The minimum amount for such a reserve may be determined in several ways. One method is to use the replacement cost of an expensive facility subject to a possible emergency breakdown and crucial to operations. A reservoir is an example of an expensive facility that must keep operating to avoid interruption of water service. The same could be said of a major distribution pipeline.

A general philosophy for an emergency repair amount is to assume that the City would prepare for one equipment emergency at any given time. The City could use the fund to make the needed repairs and gain time to seek grants, disaster relief, or permanent funding. An allowance of about \$3.0 million would be sufficient to fund major repairs to either of these major facilities. A capital reserve is also available to provide funding for design and planning of future capital projects.

The capital reserve currently shows a balance of nearly \$9.1 million. A minimum capital reserve target of \$3.0 million leaves a balance of up to about \$6.0 million available to fund a share of the reservoir project currently under review by the water department.

**Recommendation:** This report recommends a minimum capital reserve target equal to not less than \$3.0 million.

## FINANCING PLAN

### Operating Revenues and Expenses

For purposes of financial planning, this report presents separate plans for operating and capital. Operating expenses will be greatly impacted by the expected increase in SFPUC wholesale water rates. As shown, the exact timing of the rate projections is not available, but the end result is a significant water rate increase for the City's water users.

Fortunately, the water department is in a good financial position to mitigate some of the most drastic future impacts. Major factors in the City's currently favorable situation include the availability of a substantial reserve to use as a water rate stabilization fund to allow rate phasing. In addition, the City's current rates are well below neighboring water purveyors, so the increase will commence at lower levels. The City's third financial advantage is that by adopting a plan prior to actual SFPUC increases the City is able to spread the impact over a longer period of time.

Table 10 shows a summary of water rate increase options developed in Tables 10A, 10B, and 10C. Table 10 also shows the latest SFPUC projection of wholesale water rate increases. The table shows that required Menlo Park rate increases are mainly driven by SFPUC water costs.

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Table 10  
City of Menlo Park Water Utility  
Projection of Water Operating Rates  
Comparison of Water Rate Options

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Year	SFPUC Projected Water Rate Increase (1)	Option A Uniform Increase	Option B SFPUC Pass-Thru	Option C Modified SFPUC Pass-Thru
2006/07	13.7%	11.9%	10.0%	6.0%
2007/08	8.6%	11.9%	13.0%	8.0%
2008/09	-2.4%	11.9%	0.0%	9.0%
2009/10	8.9%	11.9%	6.0%	12.0%
2010/11	30.6%	11.9%	22.0%	15.0%
2011/12	24.6%	11.9%	22.0%	15.0%
2012/13	28.4%	11.9%	27.0%	15.0%
2013/14	27.5%	11.9%	21.0%	14.0%
2014/15	3.4%	11.9%	0.0%	7.0%
2015/16	-1.9%	11.9%	0.0%	0.0%

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1 - December 2005 SFPUC wholesale water rate projection

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Rate Option A projects the uniform annual increase to develop sufficient annual revenues by 2015. This rate option doesn't closely mirror the SFPUC increases, however, it does allow the City's larger customers to adequately budget for the increases. Rate Option B most closely mirrors the SFPUC rate increases. This option results in very large increases in some years and with significantly smaller increases in other years. Rate Option C attempts to smooth the rate adjustments by reducing the highs and slightly increasing the lows. In any event, the table shows that significant future rate increases are required. All of the more than 25 water purveyors purchasing Hetch Hetchy water will face similar circumstances.

Other factors also influence the need for the projected Menlo Park increases. Tables 10A, 10B, and 10C project water operating revenues and expenses through 2015. By this time most of the Hetch Hetchy projects are scheduled for construction and most of the wholesale rate impacts are anticipated. In addition to wholesale water supply cost increases, the water department anticipates the need for one additional staff position. Including salary, fringe benefits, supplies and equipment an additional \$100,000 is added to annual expenses. Allowance for the additional staff position is included beginning in fiscal year 2006/07. To account for annual inflation, most other operating expenses are increased by an allowance of 3.5%. The projections are based on maintaining at least the recommended minimum reserve balance target.

Table 10A  
City of Menlo Park Water Utility  
Projection of Operating Revenues and Expenses  
Uniform Annual Rate Increases - Option A

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Water sales - ccf	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000
SFPUC rate projection \$/ccf (1)	\$1.02	\$1.16	\$1.26	\$1.23	\$1.34	\$1.75	\$2.18	\$2.80	\$3.57	\$3.69	\$3.62
Percent increase	\$0.00	13.7%	8.6%	-2.4%	8.9%	30.6%	24.6%	28.4%	27.5%	3.4%	-1.9%
Menlo Park rate adjustment		11.9%	11.9%	11.9%	11.9%	11.9%	11.9%	11.9%	11.9%	11.9%	11.9%
Average monthly water bill (15 ccf)	\$25.25	\$28.25	\$31.61	\$35.37	\$39.58	\$44.29	\$49.56	\$55.46	\$62.06	\$69.45	\$77.71
Beginning fund balance	\$6,938,000	\$6,994,000	\$2,594,000	\$2,619,000	\$3,056,000	\$3,722,000	\$4,155,000	\$4,374,000	\$4,110,000	\$3,164,000	\$2,724,000
<b>Revenues</b>											
Meter charge	\$436,000	\$488,000	\$546,000	\$611,000	\$684,000	\$765,000	\$856,000	\$958,000	\$1,072,000	\$1,200,000	\$1,343,000
Water consumption charge	2,280,000	2,551,000	2,855,000	3,195,000	3,575,000	4,000,000	4,476,000	5,009,000	5,605,000	6,272,000	7,018,000
Other	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Interest income @ 2.75%	<u>191,000</u>	<u>192,000</u>	<u>71,000</u>	<u>72,000</u>	<u>84,000</u>	<u>102,000</u>	<u>114,000</u>	<u>120,000</u>	<u>113,000</u>	<u>87,000</u>	<u>75,000</u>
Total revenues	2,912,000	3,236,000	3,477,000	3,883,000	4,348,000	4,872,000	5,451,000	6,092,000	6,795,000	7,564,000	8,441,000
<b>Expenses (2)</b>											
Water delivery (3)	625,000	747,000	773,000	800,000	828,000	857,000	887,000	918,000	950,000	983,000	1,017,000
Supply (SFPUC) (4)	1,765,000	2,007,000	2,180,000	2,129,000	2,319,000	3,029,000	3,772,000	4,845,000	6,178,000	6,386,000	6,264,000
Billing service (Cal Water)	235,000	243,000	252,000	261,000	270,000	279,000	289,000	299,000	309,000	320,000	331,000
Transfer to capital		4,400,000									
Water supply salaries & supplies	<u>231,000</u>	<u>239,000</u>	<u>247,000</u>	<u>256,000</u>	<u>265,000</u>	<u>274,000</u>	<u>284,000</u>	<u>294,000</u>	<u>304,000</u>	<u>315,000</u>	<u>326,000</u>
Total expenses and transfers	2,856,000	7,636,000	3,452,000	3,446,000	3,682,000	4,439,000	5,232,000	6,356,000	7,741,000	8,004,000	7,938,000
Net revenues	\$56,000	-\$4,400,000	\$25,000	\$437,000	\$666,000	\$433,000	\$219,000	-\$264,000	-\$946,000	-\$440,000	\$503,000
Ending fund balance	\$6,994,000	\$2,594,000	\$2,619,000	\$3,056,000	\$3,722,000	\$4,155,000	\$4,374,000	\$4,110,000	\$3,164,000	\$2,724,000	\$3,227,000
Minimum reserve target (5)	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,616,000	\$3,178,000	\$3,871,000	\$4,002,000	\$3,969,000

1 - December 2005 SFPUC projection

2 - Most expenses increased 3.5% annually (not SFPUC supply).

3 - One additional staff in FY 2006/07 for water operations.

4 - Includes SFPUC service charge and water delivered charge.

5 - Six months of operating expenses and not less than \$2.5 million.

Source: Prepared by Bartle Wells Associates

Table 10B  
City of Menlo Park Water Utility  
Projection of Operating Revenues and Expenses  
SFPUC Wholesale Water Rate Increase Pass-Through - Option B

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Water sales - ccf	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000
SFPUC rate projection \$/ccf (1)	\$1.02	\$1.16	\$1.26	\$1.23	\$1.34	\$1.75	\$2.18	\$2.80	\$3.57	\$3.69
Percent increase	n/a	13.7%	8.6%	-2.4%	8.9%	30.6%	24.6%	28.4%	27.5%	3.4%
Menlo Park rate adjustment	0.0%	10.0%	13.0%	0.0%	6.0%	22.0%	22.0%	27.0%	21.0%	0.0%
Average monthly water bill (15 ccf)	\$25.25	\$27.78	\$31.39	\$31.39	\$33.27	\$40.59	\$49.52	\$62.89	\$76.10	\$76.10
Beginning fund balance	\$6,938,000	\$6,994,000	\$2,543,000	\$2,542,000	\$2,547,000	\$2,519,000	\$2,521,000	\$2,690,000	\$3,178,000	\$3,714,000
<b>Revenues</b>										
Meter charge	\$436,000	\$480,000	\$542,000	\$542,000	\$575,000	\$702,000	\$856,000	\$1,087,000	\$1,315,000	\$1,315,000
Water consumption charge	2,280,000	2,508,000	2,834,000	2,834,000	3,004,000	3,665,000	4,471,000	5,678,000	6,870,000	6,870,000
Other	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Interest income @ 2.75%	<u>191,000</u>	<u>192,000</u>	<u>70,000</u>	<u>70,000</u>	<u>70,000</u>	<u>69,000</u>	<u>69,000</u>	<u>74,000</u>	<u>87,000</u>	<u>102,000</u>
Total revenues	2,912,000	3,185,000	3,451,000	3,451,000	3,654,000	4,441,000	5,401,000	6,844,000	8,277,000	8,292,000
<b>Expenses (2)</b>										
Water delivery (3)	625,000	747,000	773,000	800,000	828,000	857,000	887,000	918,000	950,000	983,000
Supply (SFPUC) (4)	1,765,000	2,007,000	2,180,000	2,129,000	2,319,000	3,029,000	3,772,000	4,845,000	6,178,000	6,386,000
Billing service (Cal Water)	235,000	243,000	252,000	261,000	270,000	279,000	289,000	299,000	309,000	320,000
Transfer to capital		4,400,000								
Water purchase salaries & supplies	<u>231,000</u>	<u>239,000</u>	<u>247,000</u>	<u>256,000</u>	<u>265,000</u>	<u>274,000</u>	<u>284,000</u>	<u>294,000</u>	<u>304,000</u>	<u>315,000</u>
Total expenses and transfers	2,856,000	7,636,000	3,452,000	3,446,000	3,682,000	4,439,000	5,232,000	6,356,000	7,741,000	8,004,000
Net revenues	\$56,000	-\$4,451,000	-\$1,000	\$5,000	-\$28,000	\$2,000	\$169,000	\$488,000	\$536,000	\$288,000
Ending fund balance	\$6,994,000	\$2,543,000	\$2,542,000	\$2,547,000	\$2,519,000	\$2,521,000	\$2,690,000	\$3,178,000	\$3,714,000	\$4,002,000
Minimum reserve target (5)	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,616,000	\$3,178,000	\$3,871,000	\$4,002,000

1 - February 2005 SFPUC projection  
2 - Most expenses increased 3.5% annually (not SFPUC supply).  
3 - One additional staff in FY 2006/07 for water operations.  
4 - Includes SFPUC service charge and water delivered charge.  
5 - Six months of operating expenses and not less than \$2.5 million.  
Source: Prepared by Bartle Wells Associates

Table 10C  
City of Menlo Park Water Utility  
Projection of Operating Revenues and Expenses  
SFPUC Wholesale Water Rate Increase Modified Pass-Through - Option C

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Water sales - ccf	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000
SFPUC rate projection \$/ccf (1)	\$1.02	\$1.16	\$1.26	\$1.23	\$1.34	\$1.75	\$2.18	\$2.80	\$3.57	\$3.69	\$3.62
Percent increase	n/a	13.7%	8.6%	-2.4%	8.9%	30.6%	24.6%	28.4%	27.5%	3.4%	-1.9%
Menlo Park rate adjustment		10.0%	12.0%	9.0%	12.0%	15.0%	15.0%	15.0%	14.0%	12.0%	0.0%
Average monthly water bill (15 ccf)	\$25.25	\$27.78	\$31.11	\$33.91	\$37.98	\$43.68	\$50.23	\$57.76	\$65.85	\$73.75	\$73.75
Beginning fund balance	\$6,938,000	\$6,994,000	\$2,543,000	\$2,513,000	\$2,789,000	\$3,274,000	\$3,627,000	\$3,901,000	\$3,868,000	\$3,319,000	\$3,341,000
<b>Revenues</b>											
Meter charge	\$436,000	\$480,000	\$538,000	\$586,000	\$656,000	\$754,000	\$867,000	\$997,000	\$1,137,000	\$1,273,000	\$1,273,000
Water consumption charge	2,280,000	2,508,000	2,809,000	3,062,000	3,429,000	3,943,000	4,534,000	5,214,000	5,944,000	6,657,000	6,657,000
Other	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Interest income @ 2.75%	<u>191,000</u>	<u>192,000</u>	<u>70,000</u>	<u>69,000</u>	<u>77,000</u>	<u>90,000</u>	<u>100,000</u>	<u>107,000</u>	<u>106,000</u>	<u>91,000</u>	<u>92,000</u>
Total revenues	2,912,000	3,185,000	3,422,000	3,722,000	4,167,000	4,792,000	5,506,000	6,323,000	7,192,000	8,026,000	8,027,000
<b>Expenses (2)</b>											
Water delivery (3)	625,000	747,000	773,000	800,000	828,000	857,000	887,000	918,000	950,000	983,000	1,017,000
Supply (SFPUC) (4)	1,765,000	2,007,000	2,180,000	2,129,000	2,319,000	3,029,000	3,772,000	4,845,000	6,178,000	6,386,000	6,264,000
Billing service (Cal Water)	235,000	243,000	252,000	261,000	270,000	279,000	289,000	299,000	309,000	320,000	331,000
Transfer to Capital Fund		4,400,000									
Water purchase salaries & supplies	<u>231,000</u>	<u>239,000</u>	<u>247,000</u>	<u>256,000</u>	<u>265,000</u>	<u>274,000</u>	<u>284,000</u>	<u>294,000</u>	<u>304,000</u>	<u>315,000</u>	<u>326,000</u>
Total expenses and transfers	2,856,000	7,636,000	3,452,000	3,446,000	3,682,000	4,439,000	5,232,000	6,356,000	7,741,000	8,004,000	7,938,000
Net revenues	\$56,000	-\$4,451,000	-\$30,000	\$276,000	\$485,000	\$353,000	\$274,000	-\$33,000	-\$549,000	\$22,000	\$89,000
Ending fund balance	\$6,994,000	\$2,543,000	\$2,513,000	\$2,789,000	\$3,274,000	\$3,627,000	\$3,901,000	\$3,868,000	\$3,319,000	\$3,341,000	\$3,430,000
Minimum reserve target (5)	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,616,000	\$3,178,000	\$3,871,000	\$4,002,000	\$3,969,000

1 - December 2005 SFPUC projection  
2 - Most expenses increased 3.5% annually (not SFPUC supply).  
3 - One additional staff in FY 2006/07 for water operations.  
4 - Includes SFPUC service charge and water delivered charge.  
5 - Six months of operating expenses and not less than \$2.5 million.  
Source: Prepared by Bartle Wells Associates

Operating revenues include meter charges and consumption charges but not including the capital surcharge. For the past two years, operating expenses have exceeded revenues and the shortfall was funded from a drawdown of reserves.

## Capital Improvements

The water department is currently reviewing a major reservoir project. A number of alternatives are being considered and the City has not yet determined which alternative to implement. Including engineering, ancillary projects, and contingencies, the project could cost about \$18.3 million. A combination of reserves, revenues, and possible use of long-term debt could fund this project.

As shown on Table 11, the water department is also reviewing additional projects to maintain and improve the water system. Improvements to the Sharon Heights pump station as well as other projects are in early stages. To allow for ongoing improvements, this report has included an allowance of \$500,000 for annual system capital expenses.

Table 11 City of Menlo Park Water Utility Water Capital Improvements	
	Estimated Cost
Solo-city reservoir project	\$18,260,000
Sharon Heights pump station	1,000,000
Sand Hill Road Reservoir roof	265,000
<hr/>	
On-Going Facilities Improvements	
Water facilities annual capital	500,000

Source: City Water Department

## Financing Capital Improvements

This section examines the method for financing the water system improvements. The recommended plan involves use of existing capital reserves, revenues from capacity charges and capital surcharges, and long-term debt. Because the City has not yet selected a reservoir project alternative, the recommended plan is for example purposes and may be adjusted to reflect actual project costs.

### Water Capital Surcharge

The City currently levies a capital surcharge to pay for capital projects. The charge was established in 1990 as a water quantity capital surcharge of \$0.35/ccf of water use. The charge has not been increased since then. For capital purposes a surcharge on volume use is the most

equitable way of financing water facilities because it is based on demand. Since its inception the water surcharge has been used to finance numerous capital improvements. In addition, surplus revenues from the charge have added to the capital reserves and are now available to fund a share of the new reservoir project.

An increase in the capital surcharge is required to fund a portion of project costs that would be financed with municipal bonds. The amount of the increase depends on the share of the project financed with bonds. A later table (Table 15) shows an example of the level of surcharge required for a specific bond issue.

### **Capacity Charge**

The storage and other facilities will not only benefit current users but will benefit future users as well. Any revenues from capacity charges to new connections to the water system are also available to fund a portion of reservoir project costs. Because of low development in Menlo Park, revenues from the capacity charge are not expected to be significant. Notwithstanding the amount of revenue generated, such a charge equitably shares project costs among those benefiting.

This section determines and recommends an equitable capital facilities charge, considering the value of existing water assets. The basic intent of the recommendation is to charge each new water user the estimated reasonable costs of providing water service pursuant to California Government Code §66000 and following.

Table 12 shows the major assets of the water fund from the June 30, 2004 Comprehensive Financial Report. Major assets of the water fund total \$20.7 million. This amount is based on depreciated original cost of facilities and is well below current facilities replacement cost. A large portion of assets includes fund balances. These funds will likely be converted to water facilities in the future, but as such would still provide full value to future customers.

Table 12  
 City of Menlo Park Water Utility  
 System Value and Capacity Charge Calculation

Water Fund Major Assets (1)

Cash and Investments	\$15,600,000
Non-depreciable assets	1,300,000
Depreciated assets (net)	<u>3,800,000</u>
Total major assets	\$20,700,000

Equivalent Connections

Meter Size	Ratio to 5/8" Meter	Number of Meters	Equivalent 5/8" Meter
5/8"	1.0	3,663	3,663
3/4"	1.0	87	87
1"	1.6	830	1,328
1-1/2"	3.3	140	462
2"	5.3	228	1,208
3"	9.7	31	301
4"	15.0	8	120
6"	33.3	11	366
8"	73.9	7	517
10"	164.0	1	<u>164</u>
Total			8,217

System Value per Equivalent 5/8" or 3/4" Meter

Major asset value	\$20,700,000
Equivalent meters	8,217
Value per meter equivalent	\$2,520

1 - Source: City Comprehensive Annual Financial Report, year ending June 30, 2004

The value per equivalent meter is also shown on Table 13. Equivalent meters are based on a meter's capacity as related to the basic meter size. The table shows that each existing meter equivalent has contributed an average of \$2,520. New connections requiring larger meters would pay a proportionately greater capacity charge.

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Table 13  
 City of Menlo Park Water Utility  
 Capacity Charge Amount

Capacity charge for 5/8" meter		\$2,520
	Ratio to	
Meter Size	5/8" Meter	
5/8"	1.0	\$2,520
3/4"	1.0	2,520
1"	1.6	4,030
1-1/2"	3.3	8,320
2"	5.3	13,360
3"	9.7	24,440
4"	15.0	37,800
6"	33.3	83,920

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## Bond Financing

The estimated cost of the Seminary Oaks Park reservoir alternative is currently estimated at \$18,260,000. If this alternative is selected, the project would be further defined, design and permits would proceed, and finally construction bids received. For purposes of this report, however, a cost of \$18.26 million is assumed.

The project could be financed as follows:

Cash from Capital Reserve	\$5,700,000
Cash from Operating Reserve	4,400,000
Bond proceeds	<u>8,160,000</u>
Total project cost	\$18,260,000

Table 14 shows the amount of bonds required to fund project costs above the amount funded from the capital reserve. Use of all available reserves is not envisioned because a water agency must retain a minimum level of emergency reserves. Table 14 shows that a bond issue of about \$9 million would yield proceeds of \$8.16 million, fund a bond reserve, and pay bond issuance costs. The table shows that net annual debt service of \$620,000 would be required to pay annual principal and interest.

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Table 14

City of Menlo Park Water Utility  
Bond Amount for Reservoir Project

Total project cost	\$18,260,000
Less: available Capital Reserve	5,700,000
Less: transfer for Operating Reserve	<u>4,400,000</u>
Required additional funding	8,160,000
Issuance cost	120,000
Reserve fund - 7%	620,000
Underwriter - 0.75%	<u>80,000</u>
Amount of bonds	\$8,980,000
Average annual debt service 25 years, 5.0%	\$640,000
Less: earns on reserve @ 2.75%	<u>20,000</u>
Net annual debt service	\$620,000

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## **Borrowing Methods**

The City can borrow for water system improvements using a number of techniques. Some must be approved by City voters, others may be authorized by City Council action. The most common form of borrowing for water projects in California today is certificates of participation. These and alternative forms of borrowing are discussed briefly below.

**General Obligation Bonds:** Traditionally general obligation (GO) bonds have been a major source of capital funds for public agencies. While any source of funds can be used for debt service on GO bonds, they are secured by the City's power and obligation to levy property taxes without limitation as to rate or amount for the payment of bond service. GO bonds under California law require approval by two-thirds vote. Because voters are often confused regarding the use of property taxes, GO bonds are probably not a very likely source of financing for the City's water project. In addition, only a portion of City residents are served by City water.

**Revenue Bonds:** Revenue bonds are secured by the City's ability to generate non-property-tax revenues from its water customers. These bonds are secured by water revenues – service charges, volume charges and other revenues. Revenue bonds for water projects can be issued under the Revenue Bond Law of 1941. The 1941 act requires approval by majority vote. Revenue bonds may also be issued by a joint powers agency. These bonds may be issued by authorization of the governing board of the joint powers agency.

**Certificates of Participation:** Certificates of participation (COP's) are a form of lease financing used frequently by California local agencies to finance water and wastewater projects. This form of financing is based on the City's ability to enter into contracts. COPs may be approved by vote of the City Council. In a COP transaction, the City enters into a contract to purchase specified water facilities and to make a series of payments, which are sufficient to pay debt service on the facilities. A COP may be structured so that the bond payment stream and method appears virtually identical to a revenue bond.

Both revenue bonds and COPs automatically allocate the costs of a project to those who use it. Because the instruments are secured only by revenues of the enterprise (in this case the City water enterprise), bond purchasers require assurances that: (1) revenues of the enterprise are sufficient to meet all expenses; (2) annual bond service has a lien on the revenues of the enterprise; and (3) future revenue bond issues will not reduce the security of prior bond issues.

Revenue bonds and COPs generally require a minimum coverage pledge. Coverage is the ratio of net revenue (i.e., gross revenue less operating expenses) to annual bond service. The coverage pledge generally requires that net revenue be 1.1 to 1.3 times annual bond service, depending on the type of charges which will provide debt service and their method of collection.

If the City decides to issue debt for this project, certificates of participation are recommended as the most flexible financing available at the present time. These instruments are an easily implemented form of debt and may be repaid from any available water department revenues. In addition to capital surcharge revenue, the water department could also use revenue from a capital facilities charge, interest earnings on the capital fund reserve, or water service charges toward the

repayment of debt. This financing method provides the City with the most advantageous financing for its borrowing.

### **Capital Revenues and Expenses**

Including bond issuance described above, an increased capacity charge, and an \$18.26 million reservoir project, Table 15 shows the resulting capital revenue and expense projection. Capital revenues include the capacity charge, the capital surcharge, and interest earnings on the reserve fund. To meet debt service requirements as assumed, and provide \$500,000 of annual replacements, the capital surcharge would need to increase from the current level of \$0.35/ccf to \$0.65/ccf.

The table shows that any increase in the capital surcharge could be coordinated with actual construction of the reservoir project. This would allow a more precise determination of the amount of surcharge actually required. The adjustment to the capacity charge is not dependent on the project alternative selected and could be implemented earlier. However, the surcharge should be implemented prior to the sale of any debt. An established revenue stream should be in place before any bonds are sold. This would show potential bondholders that the revenues are available to support the bonds and would result in lower interest costs to the City.

Table 15  
City of Menlo Park Water Utility  
Projection of Capital Revenues and Expenses

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Water sales - ccf	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000	1,650,000
Capital surcharge rate per ccf	\$0.35	\$0.35	\$0.65	\$0.65	\$0.65	\$0.65	\$0.65	\$0.65	\$0.65	\$0.65	\$0.65	\$0.65
Capital facilities charge	\$325	\$2,520	\$2,610	\$2,700	\$2,790	\$2,890	\$2,990	\$3,090	\$3,200	\$3,310	\$3,430	\$3,550
Beginning fund balance	\$9,057,000	\$9,389,000	\$3,550,000	\$3,127,000	\$3,143,000	\$3,160,000	\$3,179,000	\$3,199,000	\$3,221,000	\$3,245,000	\$3,270,000	\$3,297,000
	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
<b>Revenues</b>												
Capital surcharge	\$578,000	\$578,000	\$1,073,000	\$1,073,000	\$1,073,000	\$1,073,000	\$1,073,000	\$1,073,000	\$1,073,000	\$1,073,000	\$1,073,000	\$1,073,000
Capacity charge (1)	5,000	25,000	26,000	27,000	28,000	29,000	30,000	31,000	32,000	33,000	34,000	36,000
Interest income @ 2.75%	<u>249,000</u>	<u>258,000</u>	<u>98,000</u>	<u>86,000</u>	<u>86,000</u>	<u>87,000</u>	<u>87,000</u>	<u>88,000</u>	<u>89,000</u>	<u>89,000</u>	<u>90,000</u>	<u>91,000</u>
Total revenues	832,000	861,000	1,197,000	1,186,000	1,187,000	1,189,000	1,190,000	1,192,000	1,194,000	1,195,000	1,197,000	1,200,000
<b>Expenses</b>												
Reservoir project		5,700,000										
Sharon Heights pump stations		500,000	500,000									
Water facilities replacements	500,000	500,000	500,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000
Reservoir project debt service	<u>0</u>	<u>0</u>	<u>620,000</u>	<u>620,000</u>	<u>620,000</u>	<u>620,000</u>	<u>620,000</u>	<u>620,000</u>	<u>620,000</u>	<u>620,000</u>	<u>620,000</u>	<u>620,000</u>
Total capital expenses	500,000	6,700,000	1,620,000	1,170,000	1,170,000	1,170,000	1,170,000	1,170,000	1,170,000	1,170,000	1,170,000	1,170,000
Net revenues	\$332,000	-\$5,839,000	-\$423,000	\$16,000	\$17,000	\$19,000	\$20,000	\$22,000	\$24,000	\$25,000	\$27,000	\$30,000
Ending fund balance	\$9,389,000	\$3,550,000	\$3,127,000	\$3,143,000	\$3,160,000	\$3,179,000	\$3,199,000	\$3,221,000	\$3,245,000	\$3,270,000	\$3,297,000	\$3,327,000
Capital Reserve Target - minimum \$3.0 million												

1 - Based on 10 new equivalent connections annually  
Source: Prepared by Bartle Wells Associates

## **Water Rate Comparisons**

Even with the projected rate increases the City's water rates may remain well below the current rates of neighboring public agencies. Table 16 compares current water rates for California Water, Palo Alto, Redwood City, Hillsboro, and Menlo Park. Each of these agencies is also subject to increased costs for Hetch Hetchy water.

Table 16  
 City of Menlo Park Water Utility  
 Comparison of Current Water Rates

<b>Meter Size</b>	<b>Monthly Service Charge</b>				
	Menlo Park	Cal Water	Palo Alto (2)	Redwood City (3)	Hillsboro
<b>5/8"</b>	\$5.00	\$12.15	\$0.00	\$11.56	\$6.00
<b>3/4"</b>	5.00	18.25	0.00	17.34	6.00
<b>1"</b>	8.00	22.85	0.00	28.90	6.00
<b>1-1/2"</b>	16.50	33.50	0.00	57.80	8.00
<b>2"</b>	26.50	49.00	0.00	92.48	16.00
<b>3"</b>	48.50	102.00	0.00	173.40	40.00
<b>4"</b>	75.00	170.00	0.00	289.00	--
<b>6"</b>	166.50	305.00	0.00	578.00	75.00
<b>8"</b>	369.50	972.00	0.00	578.00	--
<b>10"</b>	820.00	1,397.25	0.00	578.00	--

<b>Water Consumption</b>	<b>Consumption Charge per ccf</b>				
	Menlo Park (1)	Cal Water	Palo Alto (2)	Redwood City (3)	Hillsboro (4)
1 to 5	\$1.15	\$2.40	\$3.71	\$1.13	\$3.17
6 to 7	1.35	2.40	3.71	1.13	3.17
8 to 10	1.35	2.40	4.03	1.13	3.17
11 to 25	1.55	2.40	4.03	2.00	3.17
26 to 50	1.95	2.40	4.03	2.40	3.17
51 to 75	1.95	2.40	4.03	2.80	3.70
76 to 100	1.95	2.40	4.03	3.25	3.70
100 to 150	1.95	2.40	4.03	3.25	4.54
150 to 200	1.95	2.40	4.03		5.14
over 200	1.95	2.40	4.03	3.25	5.85

1 - Includes \$0.35/ccf capital surcharge.

2 - Palo Alto has no meter charge. All non-residential consumption charged \$4.03/ccf.

3 - Residential units charged \$11.56/mo regardless of meter size. All consumption between 11 and 75 ccf charged at the higher applicable rate.

4 - Shows residential rates, non-residential rates are slightly higher and billed monthly.

Source: Information supplied by the water purveyors

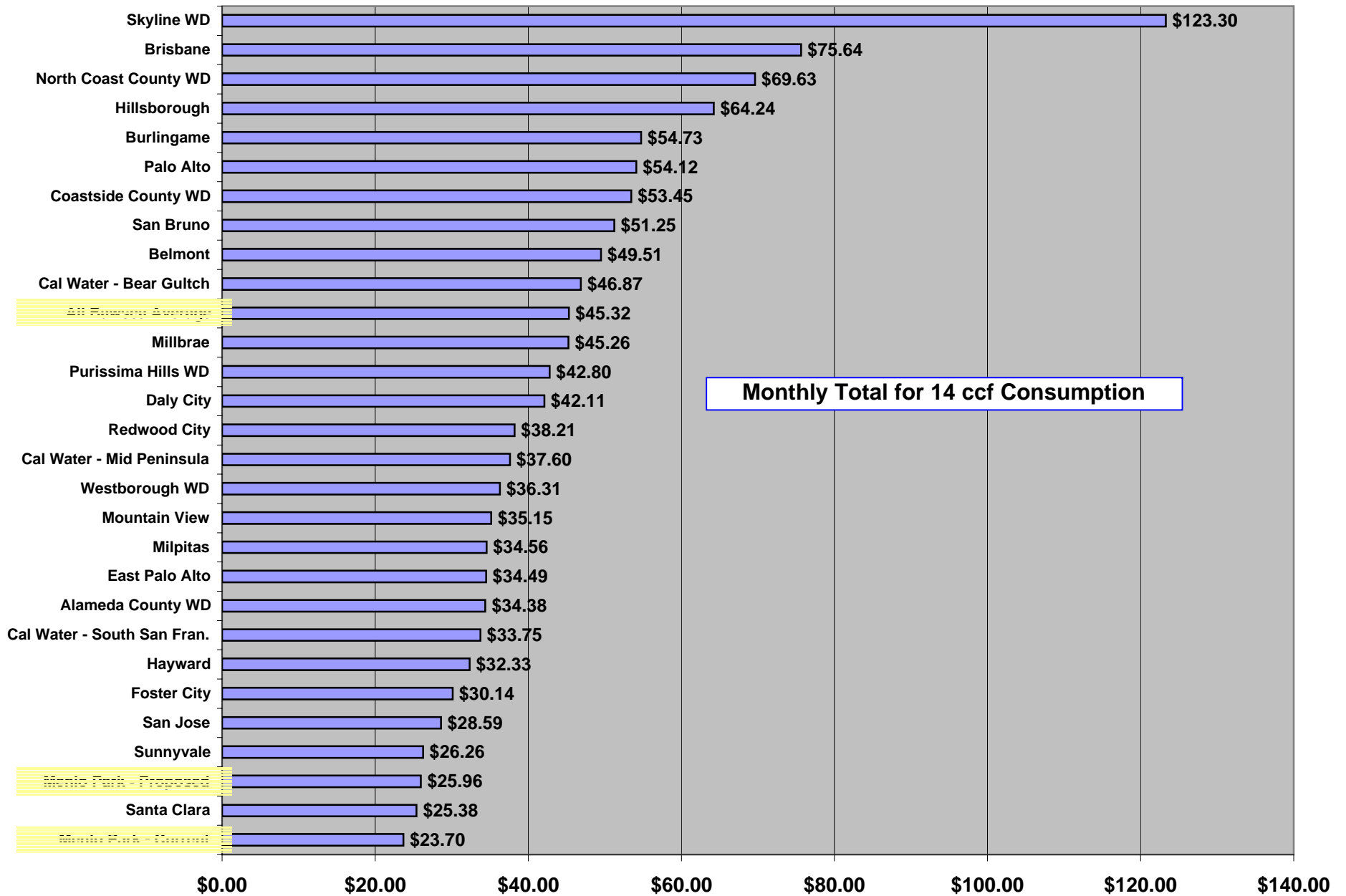
Table 17 compares currently monthly water bills for the same list of local water purveyors. Menlo Park’s average monthly bills are currently the lowest of the group. We expect that each of these purveyors will experience significant future increases in monthly water bills.

Table 17  
 City of Menlo Park Water Utility  
 Comparison of Current Monthly Water Bills

<b>Meter Size</b>	<b>Monthly Water Bill</b>				
	Menlo Park	Cal Water	Palo Alto	Redwood City	Hillsboro
<b><u>Average Residential Customer</u></b>					
<b>3/4" Meter</b>	\$5.00	\$18.25	\$0.00	\$17.34	\$6.00
<b>Consumption - 15 ccf</b>	20.25	36.00	58.21	21.30	47.55
<b>Monthly water bill</b>	\$25.25	\$54.25	\$58.21	\$38.64	\$53.55
<b><u>Typical Commercial Customer</u></b>					
<b>1" Meter</b>	\$8.00	\$22.85	\$0.00	\$28.90	\$6.00
<b>Consumption - 75 ccf</b>	133.25	180.00	300.01	171.30	251.00
<b>Monthly water bill</b>	\$141.25	\$202.85	\$300.01	\$200.20	\$257.00
<b><u>Typical Large Industrial Customer</u></b>					
<b>2" Meter</b>	\$26.50	\$49.00	\$0.00	\$92.48	\$16.00
<b>Consumption - 150 ccf</b>	279.50	360.00	602.26	415.05	570.50
<b>Monthly water bill</b>	\$306.00	\$409.00	\$602.26	\$507.53	\$586.50

Source: Prepared by Bartle Wells Associates from information supplied by the water purveyors

# BAWSCA Agency Water Rates



Monthly Total for 14 ccf Consumption