CITY OF SIERRA MADRE WATER SYSTEM PROGRAM PLAN



MAY 2010 Revised November 2010

BUCKNAM & ASSOCIATES INC.

30131 Town Center Drive, Suite 268, Laguna Niguel, California 92677 T.949.363.6461 F.949.363.6505 www.bucknam.netinfo@bucknam.net

MF WHIPPLE & ASSOCIATES

23201 Mill Creek Drive, Suite 130, Laguna Hills, CA 92653 T.949.916.3492 F.949.916.3528 <u>www.mfwhipple.com</u>



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Bucknam and Associates, Inc. was commissioned by the City of Sierra Madre ("City") to prepare a revised Water System Program Plan to review the adequacy of the City's existing rate structure and to make recommendations to fund its operational, administrative and capital programs over a five year planning horizon. This revised report reflects the direction to City staff, by the City Council, following their review and assessment of the recommendations contained in the May 2010, "Water System Program Plan," report.

I. OVERVIEW

This Water System Program Plan addresses the need to reassess the City's existing rate structure covering operational, maintenance and capital expenditures over a five-year planning horizon encompassing Fiscal Years 2010/11 through 2014/15. These projected expenditures include system administration, operation and maintenance of the water system's primary elements including, wells, water mains, pumping facilities, and basins.

The City provides water to of the 11,000 residents living within its three square mile land area. The City serves 3,867 meters, of which 3,318 are single family residential units, 354 are multi-unit residential, 155 are commercial and institutional, 28 are landscape irrigation, and 12 are industrial units. Data from 2005 to 2007 suggests increased demand for water. Increased water demand, along with the current regulatory and natural droughts and increased costs of imported water*, and the need for capital improvements to the aging water system, has necessitated a review of water rates and charges at this juncture. A rate comparison analysis was also conducted to determine where the City's existing and proposed rates stand in comparison to nearby water purveyors.

II. WATER SYSTEM CHARACTERISTICS

A. Water Service Connections

The majority of water connections are 5/8" and 3/4" meters, which combined, represent about 75% of water users. Single family and multi-family residential units represent about the same percentage of water users, which is expected as these customer classes ordinarily have 5/8" and 3/4" meter sizes. Thus the proposed rate structure will focus more on encouraging efficient residential use. Large meters greater than 1" account for only 7% of the total customers served. Data confirms that about 75% of customers are single family and multi-family residential units as shown in Figure 1.

*Sierra Madre imports water infrequently, through its membership in the State Water Project via the San Gabriel Valley Municipal Water District. Water is imported via a system interconnection with the City of Arcadia. Annual operational costs include an allowance to cover potential water imports.



Landscape Irrigation 1%

Commercial / Institutional 5%

Multi-Family Residential

64%

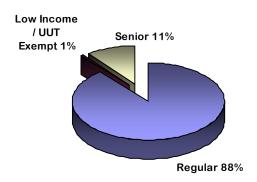
FIGURE 1. WATER USAGE BY CLASS

B. Water Connection Makeup by Income Category

10%

Billing data reveals that seniors represent approximately 11% of the customer demographic and 1% qualify for low income/UUT exemption on meter charges; the remainder, or 88%, of the ratepayers fall neither into senior nor low income/UUT exempt category (labeled in Figure 2 below as "regular" customers). Meter charges for low income/UUT exempt customers and seniors are the same at \$26.00/bimonthly for 5/8" and 3/4" meters and \$32.68/bimonthly for a 1" meter. City staff indicated that there is no current Council Resolution or formal approval by the City placing seniors in their own category and therefore receiving the same discounted meter charges as those customers who qualify for low income/UUT exempt meter pricing.

FIGURE 2. RATEPAYER TYPE



There are approximately 403 meters that qualify for senior meter pricing and approximately 28 meters that qualify for low income/UUT exempt meter pricing; the remaining 3,404 meters are in neither senior nor low/income exempt categories.

C. Water Demand

The City has 3,867 service connections and 1,404 multi-unit add-on service connections. The City has maintained an antiquated one-tiered rate structure that does not encourage water conservation at a time of increasing water demand, persistent regulatory and natural droughts, and continued cost increases in imported and replenished water and distribution. The City experienced an increase in customer water demand from 2005 to 2007 as shown in Figure 3.

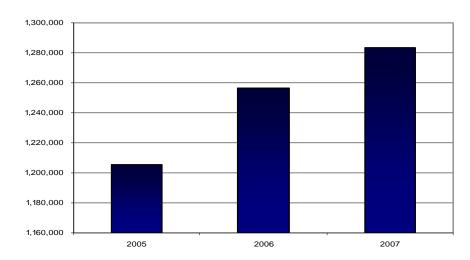


FIGURE 3. CUSTOMER WATER DEMAND – HUNDRED CUBIC FEET (HCF)

1 hcf equals 748 gallons 2005 Customer Water Demand: 1,205,785 hcf 2007 Customer Water Demand: 1,283,184 hcf % Change 2005 - 2007: + 6.4%

D. Water Rates Comparison

Both commodity rates and service charges to customers were evaluated on the basis of the average bi-monthly cost of water service to typical residential customers. The typical water consumption of a residential unit with a 5/8" meter in the City's service area is approximately 38 units bi-monthly (where 1 billing unit equals 1 hcf or 748 gallons). The agencies surveyed and their rates are listed in Appendix A-1 (Table RS1 – Water Rate survey for surrounding small communities and private water companies) and Appendix A-2 (Table RS2 – Water Rate survey for surrounding large cities) in the appendix.

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III. WATER RATE ANALYSIS ASSUMPTIONS

An evaluation of the City's current water budget was conducted incorporating direction received from City Council. It was determined to be inadequate to fund budgeted costs of operations and maintenance, would provide no funds for the planned capital programs identified in the WSIP. The proposed WSIP cannot be implemented at this writing without additional water rate increases over the planning horizon through Fiscal Year 2014/15.

The following is an overview of assumptions used in the analysis:

A. Rates & Charges

The City has not been immune to inflationary pressures and increasing costs to maintain the system. In order to generate revenue required to finance future capital improvements and maintain the overall health of the water system, a rate increase is necessary. The current rate structure is one-tiered and the commodity rate is \$1.79 per unit. The City requested a preparation of a three-tiered water rate structure analysis to encourage water conservation as the current one-tiered rate structure does not differentiate high water consumption users and users who may be efficiently using larger quantities of water. Data from 2006 and 2007 reveal that at least 75% of water users consume in the range of 18 to 33 units per month. For the first year of the five (5) year planning period, the water rate analysis assumes that water commodity rates is increased at a minimum by 7.54 %, for the recommended first tier of 35 units or less bi-monthly; 10.06% for the recommended second tier of 36 to 66 units bi-monthly; and, 11.73% for the recommended third tier for those users consuming over 66 units bi-monthly. It is assumed that residential customers will reduce water consumption by conservation to reduce the economic impact of rate increases.

B. Water Consumption

Water consumption is assumed to decrease by 10.0% beginning FY 2010/11 as customers respond to increase in rates.

C. Annual Rate Increases

In order to cover operating expenses, pay debt service, finance needed maintenance and repair improvements to the aging system and, at a minimum adjust for inflation, it is recommended the City implement a series of rate increases starting at 7.54% in Fiscal Year 2011/12, 7.54% in Fiscal Year 2012/13, 7.54% in in Fiscal Year 2013/14 and 7.24% in Fiscal Year 2014/15 as detailed in Appendix A-1, "Revenues and Expenditures Option 3A." Consideration should be given to adopting a policy of reviewing water rates annually to determine the fiscal health of the system and verify revenues are covering costs. Annual review of and adjustments to rates and charges may reduce the need for significant increases in future years.



D. Water System Improvement Plan

A Water System Improvement Plan (WSIP) covering a five-year planning period from FY 2010/11 through FY 2014/15 identifies the need for \$16.7M in capital improvements to the water system. The required improvements include construction of a new well, debris basin rehabilitation, and distribution systems. The improvements are intended to maintain water supply reliability and production and enhance seismic reliability. A copy of the WSIP spreadsheet is attached as Appendix B.

E. Cost Shares

Financial projections incorporate <u>estimated</u> federal cost share, San Gabriel Valley Municipal Water District loans and grants and LACPW contributions for the five-year planning horizon through Fiscal Year 2014/15. The 2010 WSIP estimates federal cost share totaling to \$12.5 million and SGVMWD grants and loans and LACPW funding totaling \$3.3 million through Fiscal Year 2014/15. These funds contribute significantly to water system improvements and obtaining these funds is critical and necessary to alleviate financial stress on the water budget. These funds are essential to carrying out the City's needed capital improvements to the system and much more significant rate and meter charge increases would be necessary without these funds. As noted above, without additional rate increases over the planning horizon, the WSIP program cannot be funded.

IV. WATER RATE RECOMMENDATIONS

A. Comparison of 2005 WSPP and 2010 WSPP

The 2005 WSPP recommended a 3.0% inflation rate adjustment commencing in Fiscal Year 2006/07. In the 2005 WSPP recommendation, the current one-tiered rate structure was preserved and financial projections were prepared. If the 2005 WSPP recommendation were applied to the one-tiered rate structure at \$1.79 per unit in FY 2006/07 and increased by 3.0% year-over-year beginning Fiscal Year 2006/07, the one-tier rate would be \$2.01 per unit in Fiscal Year 2010/11. Figure 4 below shows this gradual commodity rate increase.

\$1.74 \$1.79 \$1.84 \$1.90 \$1.74 \$1.79 \$1.84 \$1.90 \$1.84 \$1.90 \$1.84 \$1.90 \$1.84 \$1.90 \$1.84

FIGURE 4. RECOMMENDED COMMODITY RATES (2005 WSPP)

If the 2005 WSPP had been implemented, the current commodity rate would be \$1.95 per unit with an increase in Fiscal Year 2010/11 to \$2.01 per unit; and, hence, the recommended percentage increases in water rates for Fiscal Year 2010/11 would be lower.

B. Typical Residential Monthly Water Rates and Charges

In order to generate the revenue required to finance its operations and maintenance, the water utility will need to implement a series of rate increases, beginning in Fiscal Year 2011/2012. Water commodity rates and charges would then be increased every year until Fiscal Year 2014/15. The proposed rates and charges are shown in Appendix C-1.

TABLE 1						
Current and Proposed Commodity Rates and Meter Charges						
(1 unit equals 100 cubic feet = 748 gallons)						
		2011/12				
Commodity Rates	Current Rates	Proposed Rates	% Increase			
35 units or less bi-monthly	\$1.79	\$1.92	7.54%			
36-66 units bi-monthly	\$1.79	\$1.97	10.06%			
67 units and above bi-monthly	\$1.79	\$2.00	11.73%			
Meter Charges ^(a)						
Regular Meter	\$40.00	\$43.02	7.54%			
Low Income/UUT Exempt	\$26.00	\$27.96	7.54%			
(a) Refer to Appendix A-1 for the actual charges by meter size.						

When the rate and meter charge increases are applied to the average bimonthly water consumption (where fractional water usage is rounded up to the nearest whole number reflecting the operation of water meters), the average bimonthly bill can be estimated. Table 2 below reflects the average bimonthly bill per meter that may be generated for residential units with 5/8",

3/4", and 1" meters under current rates and proposed rates for Fiscal Year 2011/12 with a 10.0% decrease in water consumption.

TABLE 2 Estimated Average Bimonthly Bill Per Meter for Residential Units with 1" Meters or Less ^(a)							
Estimated Avera	Commodity		Combined				
	Mictel	Charge 2011/12Pr	2009/10	2011/12	2009/10	2011/12	
	Current	oposed	Current	Proposed	Current	Proposed	
Meter Size	Charges	Charges	Rates	Rates	Rates	Rates	
5/8"	\$40.00	\$43.02	\$68.02	\$73.11	\$108.02	\$116.13	
3/4"	40.00	43.02	89.50	73.11	129.50	116.13	
1"	46.68	50.20	121.72	78.90	168.40	123.31	

⁽a) Average bills shown are estimates and may significantly vary depending on water consumption. The combined average bill shown does not include charges for those units that are charged an additional Multi-Unit Add-on fee.

Table 3 below shows the recommended commodity rates and charges for meter sizes 5/8" to 1" for Fiscal Years 2011/12 through 2014/15. Appendices C-1 and C-2 show the complete table including meters larger than 1".

TABLE 3					
Proposed Commodity Rates and Bimonthly Meter Charges					
Commodity Rates:					
Fiscal Year	2011/12	2012/13	2013/14	2014/15	
Tier / Rate Increase	7.54%	7.54%	7.54%	7.24%	
35 units or less bi-monthly	\$1.92	\$2.06	\$2.21	\$2.37	
36-66 units bi-monthly	1.97	2.12	2.27	2.43	
Over 66 units bi-monthly	2.00	2.15	2.30	2.45	
Bimonthly Meter Charges:					
Meter Size					
5/8"	\$43.02	\$46.26	\$49.75	\$53.13	
3/4"	43.02	46.26	49.75	53.13	
1"	50.20	53.99	58.06	62.00	

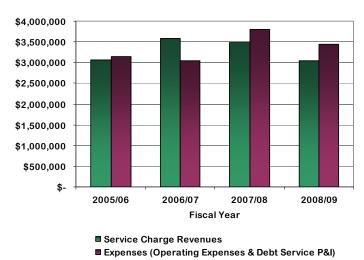
C. Revenue and Expense Projections

Using the number of meters by user class and monthly water consumption, revenue and expense projections were prepared using the recommended tiered rate structure. The revised analysis includes a five-year projection of revenues and expenses from Fiscal Years 2010/11 to 2014/15. Details of the Revenue and Expenditure Projections for Fiscal Years 2010/11 to 2014/15 are shown in Appendix C-1. The recommended rate increase is estimated to maintain a positive net income for the water division and avoid a potential substantial negative impact on the fund balance in the future.

Expenses, which include operating expenses and debt service payments exceeded service charge revenues for Fiscal Years of 2007/08, 2008/09, 2009/2010 and projected for 2010/2011. Figure 5 below does not include capital improvement expenditures. The City made \$3.1 million in capital improvements in Fiscal Year 2007/08 and audited financial statements reveal that there were no capital improvements made in Fiscal Year 2008/09 or 2009/2010.







Expenditures in the major expense categories - cost of sales and services, general and administrative, debt service payments, and capital improvements – varied year to year. However, historically, cost of sales and service represent on average about 45% of total cost expenditures, general and administrative about 20%, debt service payments about 31% and capital improvements about 4%.

Implementation of the rate increase is critical in achieving the minimum 120% debt service coverage required under the 2003 Water Revenue Parity Bonds test.

The financial analysis show that the City had 72% debt service coverage in Fiscal Year 2008/09 and an estimated 104% debt service coverage in Fiscal Year 2009/10; this is below the required minimum debt service coverage of 120%. Rate increases in Fiscal Year 2011/12 and 2012/13 are necessary to bring the City into agreement with its debt covenant.

V. FINANCIAL IMPLEMENTATION PLAN RECOMMENDATIONS

Recommended Key Program Objectives (KPO), are set forth below for the City's consideration in implementing the 2010 Water System Program Plan (WSPP) to provide adequate funding resources for its water system. The following is a brief synopsis of the KPO's:

KPO A – Recommended Rate Structure

The budget discussed in this section is recommended for the City's consideration. It is recommended that the City shift to a three-tiered water rate structure and increase meter charges by 7.54% in Fiscal Year 2011/2012; commodity rates and meter charges would then be increased as shown in Table 3 above, through Fiscal Year 2014/15. It is important to note that if the 2005 WSPP had been implemented, the recommended percentage increases in water rates and charges for Fiscal Year 2011/2012 would be lower. It is recommended that the City implement the recommended rates for Fiscal Year 2011/2012to reduce the negative impact on the water



enterprise budget. Furthermore, it is recommended that a re-evaluation of the rates and charges be conducted on a yearly basis. An annual review of water rates is recommended to ensure recovery of costs and financial stability for the water enterprise.

Meter Charges for Seniors

City staff indicated that there is no formal City Council Resolution that designates a meter charge category for seniors. Because meter charges for low income/UUT exempt water users are the same as meter charges for seniors, one recommendation is that City Council adopt a Resolution permitting discounted meter charges for those who qualify. The City may continue to exercise the current qualification criteria it is using for individuals requesting to be in the senior category. A scheduled periodic verification would be necessary to ensure compliance. However, the assumption that seniors automatically fall in the low-income bracket is inaccurate. A more prudent billing practice would be to eliminate the senior category entirely and transition those ratepayers already in the senior category to the low income/UUT exempt category by requesting proof of low income status.

KPO B - Fenced Account for Federal/LACPW Funds

It is recommended that funds obtained from Federal/LACPW be set aside specifically for capital improvements. It is essential that the City achieve federal cost sharing for the anticipated capital improvements to the water system. As stated previously, without cost sharing, the commodity rate and fixed charge increases would be higher than those recommended for Fiscal Year 2011/2012. City Council may adopt a Resolution to ensure these funds are applied for their intended use.

KPO C - Possible Funding Sources

If the City anticipates a deficit in the budget for capital improvements, the City could explore possible funding sources such as the State Infrastructure Bank and/or issuing revenue bonds. The State Infrastructure Bank offers a below market interest loan. If a below market interest loan is not desired or obtained, then a water revenue bond can be considered after revenues and expenses have stabilized following the recommended rate increases. The amount of capital improvement projects included in the WSIP would need to be adjusted to the available bond proceeds.

KPO D - Annual Budget and Rate Review

It is recommended that water rates and charges are reviewed when the City conducts its annual review of the water budget. The last water rate adjustment occurred in 2005. Annual budget and rate reviews are recommended, commencing in Fiscal Year 2012/13, following the adoption of the FY 2011/2012rate increases. Annual review of and adjustments to rates and charges may reduce the need for significant increases.



KPO E – Deferral of San Gabriel Valley Municipal Water District Loan Payments

It is recommended that consideration be given to requesting that the San Gabriel Valley Municipal Water District's (SGVMWD) annual loan payments be deferred for FY 2012/13. Consideration should be given, during each subsequent budget year to evaluate the need to requested deferral in subsequent fiscal years.