



City of Milpitas

Water Rate Study

September 25th, 2015

DRAFT



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SECTION 1: EXECUTIVE SUMMARY

The City of Milpitas provides water service to residential, commercial, industrial, and institutional customers located within City boundaries. The City was incorporated as a general law city on January 26, 1954 and operates under a council/manager form of government. The City encompasses 13.6 square miles in Santa Clara County, near the southern end of the San Francisco Bay, and has a population of about 70,000.

In 2015 Bartle Wells Associates (BWA) was retained to perform an analysis on the existing rate structure and to recommend alterations based on the changing legal landscape, in particular the outcome of the court case *Capistrano Taxpayers Association, Inc. v. City of San Juan Capistrano*.

This update to the City's water rates is based on the following main factors:

1. BWA's proposed rates would come into effect beginning January 15th, 2016, providing a partial year of increased revenue in fiscal year (FY) 2015/16.
2. The City purchases all of its water from 3rd party wholesalers and is facing substantial cost increases including San Francisco Public Utilities Commission (SFPUC) wholesale rate increases of 28% and Santa Clara Valley Water District (SCVWD) wholesale rate increases of 20%.
3. The City's water enterprise is in good financial standing with an estimated \$7.2 million in operating reserves as of July 1st, 2015, however until a rate increase is adopted, the water enterprise is losing funds estimated at \$400,000 per month.
4. The City has identified approximately \$42 million of high priority capital improvement projects needed over the next 5 years. The rate study utilizes a combination of cash and debt funding for these projects.
5. The City anticipates substantial reductions in water consumption due to the ongoing drought. In FY 2014/15 total water use fell 5% from the prior year. Use in FY 2015/16 is estimated to decrease by an additional 20%.

This report provides a cost basis for proposed water service rates for the City of Milpitas in compliance with the California Constitution (Proposition 218). Rate increases for FY 2015/16 and FY 2016/17 are recommended in the analysis. The full schedule of current and proposed rates is shown on **Table 1**.

Current & Proposed Water Rates

Table 1
City of Milpitas - Water Rate Study
Current & Proposed Water Rate Schedule

Fixed Meter Charges

Meter Size	Current bimonthly rate	FY 15-16 bimonthly rate	FY 16-17 bimonthly rate
5/8 inch	\$27.36	\$18.00	\$19.44
3/4 inch	\$29.07	\$27.00	\$29.16
1 inch	\$41.28	\$45.00	\$48.60
1-1/2 inch	\$52.07	\$90.00	\$97.20
2 inch	\$67.96	\$144.00	\$155.52
3 inch	\$181.95	\$270.00	\$291.60
4 inch	\$230.57	\$450.00	\$486.00
6 inch and above	\$351.86 - \$667.31	\$900.00	\$972.00

Fire Meter Charges

Detector Check/ RPDa/DCDA	Current bimonthly rate	FY 15-16 bimonthly rate	FY 16-17 bimonthly rate
2 inch	\$43.72	\$28.80	\$31.10
3 inch	\$65.68	\$54.00	\$58.32
4 inch	\$72.99	\$90.00	\$97.20
6 inch and above	\$94.92 - \$138.69	\$180.00	\$194.40

Volumetric Rate Table

Category	Current per HCF*	FY 15-16 base rate per HCF	FY 15-16 capital surcharge rate per HCF	FY 16-17 base rate per HCF	FY 16-17 capital surcharge rate per HCF
Residential					
0-10	\$2.62	\$4.75	\$0.00	\$5.13	\$1.30
11-20	\$3.48	\$4.75	\$0.00	\$5.13	\$1.30
21-30	\$4.69	\$4.75	\$0.00	\$5.13	\$1.30
>30	\$5.29	\$4.75	\$0.00	\$5.13	\$1.30
Commercial	\$5.29	\$4.75	\$0.00	\$5.13	\$1.30
Industrial, Institutional, Construction	\$5.29	\$4.75	\$0.00	\$5.13	\$1.30
Potable Irrigation	\$5.29	\$4.75	\$0.00	\$5.13	\$1.30
Ed Levin Park**	\$3.08	\$3.75	NA	\$3.79	NA
City of Milpitas	\$5.29	\$4.75	\$0.00	\$5.13	\$1.30
Recycled Irrigation	\$4.08	\$2.42	NA	\$2.78	NA
Recycled Industrial, Dual-plumbed, Construction	\$2.65	\$2.42	NA	\$2.78	NA
Recycled City of Milpitas	\$2.51	\$2.42	NA	\$2.78	NA

* 1 HCF = 748 gallons

**County of Santa Clara rate is established by contract to be equivalent to the SFPUC wholesale rate.

FY 16-17 SFPUC rate is estimated to be \$3.79/HCF and staff will revise to actual rate once SFPUC adopts the FY 16-17 wholesale rate.

Summary of Water Rate Study Recommendations

- 1. Implement a uniform rate instead of a tiered rate for all customers:** The outcome of the court case *Capistrano Taxpayers Association, Inc. v. City of San Juan Capistrano* established precedent for how courts determine the constitutionality of tiered rates. Tiered rates must be based on the cost of service, with higher tiers based on higher costs (encouraging conservation is insufficient reason). To comply with the new ruling, BWA recommends all customers pay a uniform rate for water use.
- 2. Adopt American Water Works Association (AWWA) capacity standards to scale fixed charges:** Aligning fixed meter charges with AWWA guidelines for water meter flow capacity provides a standard cost basis for fixed meter charges. Meter charges are considered “availability” or “readiness-to-serve” charges for providing customers with access to water at all times. These constitute a fixed portion of the customers’ bills because they are levied whether or not water is used.
- 3. Utilize a long-term debt financing to fund a portion of capital projects with long term benefit:** The City is facing a unique confluence of factors including reduced water consumption from the drought and State-mandated cutbacks and a \$42 million capital improvement program planned over the next five years. The drought results in increased capital and operating expenses. Due to these factors, BWA recommends the City implement a \$25.5 million financing to smooth out the impact on rate payers and ensure intergenerational equity, which includes costs for all projects shown in Fiscal Years 2015/16, 2016/17, and 2017/18.
- 4. Recover capital costs through a capital program surcharge:** Since the City will be making substantial improvements to the water system, BWA recommends that the City breakout capital costs on each potable customer’s bill. The capital surcharge allows users to see how much of their bill is going to fund water system capital improvements. Recycled users are recommended to be charged a single rate due to the deminimis nature of the recycled capital surcharge.

SECTION 2: PROPOSITION 218

Constitutional Rate Requirements

The California Constitution includes two key articles that directly govern or impact the City's water rates: Article 10 and Article 13D (Proposition 218). The water rates developed in this update are designed to comply with both of these constitutional mandates as well as various provisions of the California Water Code and Government Code that support and add further guidance for implementing these constitutional requirements. In accordance with the constitutional provisions, the proposed rates are designed to a) recover the City's cost of providing service, b) recover revenues in proportion to the cost for serving each customer, and c) promote conservation and discourage waste.

Article 10, Section 2

Article 10, Section 2 of the California Constitution was established by voter-approval in 1976 and requires public agencies to maximize the beneficial use of water, prevent waste, and encourage conservation. Section 2 states that:

It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.

Article 13D, Section 6

Proposition 218 was adopted by California voters in 1996 and added Articles 13C and 13D to the California Constitution. Article 13D, Section 6 governs property-related charges, which the California Supreme Court subsequently ruled includes ongoing utility service charges such as water rates. Article 13D, Section 6 establishes a) procedural requirements for imposing or increasing property-related charges, and b) substantive requirements for those charges. Article 13D also requires voter approval for new or increased property-related charges but exempts from this voting requirement rates for water service.

The substantive requirements of Article 13D, Section 6 require the City's water rates to meet the following conditions:

- 1) Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.
- 2) Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.

- 3) The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.
- 4) No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question.
- 5) No fee or charge may be imposed for general governmental services, such as police or fire services, where the service is available to the public at large in substantially the same manner as it is to property owners.

A subsequent appellate court decision in 2011 further clarified that agencies must demonstrate, satisfactory to a court's independent judgment, that property-related fees and charges meet the proportionality requirement of Section 6.(3). This rate study provides that justification. The water rates derived in this report are based on a cost-of-service methodology that fairly apportions costs to all customers.

Use of Generally Accepted Rate-Making Principles

The rates were developed using generally accepted cost-based principles and methodologies for establishing water rates, charges, and fees contained and discussed in the AWWA's *M1 Manual, Principles of Water Rates, Fees, and Charges, Sixth Edition, 2012*. In developing water rates, it is important to know that there is no "one-size-fits-all" approach for establishing cost-based water rates, "the (M1 Manual) is aimed at outlining the basic elements involved in water rates and suggesting alternative rules of procedure for formulating rates, thus permitting the exercise of judgment and preference to meet local conditions and requirements."¹

¹ AWWA Manual M1 Manual, Principles of Water Rates, Fees, and Charges, Sixth Edition, 2012, page 5.

SECTION 3: COST ATTRIBUTIONS

Operating Costs

In **Table 2** BWA determined the percentage of water system operating costs attributed to fixed costs (costs that do not vary based on use), and variable costs (costs that vary based on use). Total system operating costs in FY 2015/16 are estimated to be \$21.7 million, with approximately 30% of operating costs (not including capital costs) attributed to fixed costs and 70% attributed to variable costs.

Non-rate revenues including subventions and grants, interest income, and miscellaneous revenue were subtracted from the operating expenses to determine the total water rate revenue requirement in FY 2015/16 (about \$21.45 million.)

Table 2
City of Milpitas - Water Rate Study
Fixed vs. Variable Cost Attribution

	2015/16	Fixed Costs		Variable Costs	
Operating Expenses					
SFPUC Wholesale Water	\$10,083,024	0%	\$0	100%	\$10,083,024
SCVWD Wholesale Water	2,291,200	0%	0	100%	2,291,200
Recycled Water Expenses	810,590	0%	0	100%	810,590
Personnel Services	2,702,000	75%	2,026,500	25%	675,500
Transfers Out (General Fund Admin Cost Reimb.)	2,461,000	75%	1,845,750	25%	615,250
Services and Supplies	1,994,000	75%	1,495,500	25%	498,500
Estimated Additional Operating Expenses	1,422,275	75%	1,066,706	25%	355,569
Total Operating Expenses	21,764,089	30%	6,434,456	70%	15,329,632
Less: Miscellaneous Revenue Offsets					
Subventions and Grants	45,000	50%	22,500	50%	22,500
Interest Income	98,000	50%	49,000	50%	49,000
Misc Revenue ¹	172,391	50%	86,196	50%	86,196
	315,391		157,696		157,696
Operating Revenue Requirement	21,448,698	29%	6,276,761	71%	15,171,937

¹ Non-rate revenues excluded from revenue offsets of \$2,609 for Ed Levin Park

Volumetric Charges

The City of Milpitas obtains substantially all of its water through wholesale purchases from three sources: San Francisco Public Utilities Commission (SFPUC), Santa Clara Valley District (SCVWD), and recycled water from the South Bay Recycling Program (SBWR). **Table 3** shows a summary of FY 2015/16 wholesale water purchases by source. Total annual water purchases amount to 3.7 million hundred cubic foot (hcf), with total expected sales of about 3.4 million hcf (lower due to losses).

Table 3
 City of Milpitas - Water Rate Study
 FY 2015/16 Wholesale Water Purchases & Estimated Sales¹

	Water Purchased	Water Loss %	Water Lost	Water Sold	%
SFPUC	2,352,053	11%	258,726	2,093,327	61%
SCVWD	984,192	11%	108,261	875,931	26%
Recycled Water	<u>440,000</u>	0%	<u>0</u>	<u>440,000</u>	<u>13%</u>
	3,776,246		366,987	3,409,259	100%

1 Water units in hundred cubic foot (hcf)

Table 4 shows an attribution of variable operating costs (\$15,171,937 from **Table 2**) to each unit of water expected to be sold in FY 2015/16.

Non-water purchase variable costs (includes a portion of personnel services, administrative costs, services and supplies, and estimated additional administration costs) amount to \$1,987,123 and are attributed to each unit of water expected to be sold in FY 2015/16 (~3.4 million hcf). The calculation amounts to \$0.58 per hcf and is referred to as the “base variable cost”.

Water purchase costs for each of the three water sources are divided by the estimated amount of water sold from each source in FY 2015/16 to determine the cost per hcf for each source. The base variable cost is added to the cost per unit for each source of water to determine the total cost per hcf for each source.

The cost of the potable water sources (SCVWD and SFPUC) are weighted based on the percentage of total potable use to determine the blended potable rate of \$4.75 per hcf.

Table 4
 City of Milpitas - Water Rate Study
 Variable Rate Cost Attribution

Total Variable Costs:	\$15,171,937		
	Non-Water Purchase		
	Variable Costs	Est. Water Sold	Base Variable Cost per HCF
Base Cost per HCF	\$1,987,123	3,409,259	\$0.58
	Water Purchased	Water Purchase Costs	Water Sold
SFPUC	2,352,053	\$10,083,024	2,093,327
SCVWD	984,192	2,291,200	875,931
Recycled Water	<u>440,000</u>	<u>810,590</u>	<u>440,000</u>
	3,776,246	13,184,814	3,409,259
	Cost Per HCF Sold	Plus: Base Cost Per HCF	Total Cost Per HCF
SFPUC	\$4.82	\$0.58	\$5.40
SCVWD	\$2.62	\$0.58	\$3.20
Recycled Water	\$1.84	\$0.58	\$2.42
	% of Potable Water Sold	Total Cost Per HCF	Potable Blended Rate per HCF
SFPUC	70.5%	\$5.40	\$4.75
SCVWD	<u>29.5%</u>	\$3.20	
	100.0%		

Table 5 shows estimated water use by customer class in FY 2015/16. Residential customers are the largest potable users with an estimated 54% of potable use, while non-City irrigation customers are the largest recycled users with an estimated 92% of the recycled use.

Table 5
 City of Milpitas - Water Rate Study
 FY 2015/16 Est. Water Use by Customer Class¹

User Breakdown of Water Sales	Est. Potable Sold	% of Potable	Est. Recycled Water Sold	% of Recycled	Totals
Residential	1,591,000	54%	-	-	1,591,000
Commercial	434,000	15%	-	-	434,000
Industrial	476,649	16%	4,331	1%	480,980
Institutional	90,000	3%	-	-	90,000
Irrigation	285,000	10%	403,793	92%	688,793
Ed Levin Park	2,610	0%	-	-	2,610
CITY Domestic	10,000	0%	-	-	10,000
CITY Irrigation	<u>80,000</u>	<u>3%</u>	<u>31,875</u>	<u>7%</u>	<u>111,875</u>
	2,969,259	100%	440,000	100%	3,409,259

1 Units in hundred cubic foot (hcf)

Table 6 shows a comparison of the current rates and proposed rates. Under proposed rates, potable customers pay the blended cost of potable water, while recycled customers pay the cost of recycled water established in **Table 4**.

Table 6
City of Milpitas - Water Rate Study
Customer Volumetric Charges

	Curent Rate	Proposed Rate	\$ Increase	Est. FY 2015/16 Use	Est. FY 2015/16 Revenue
Residential (Current Bimonthly Tiers)					
0-10 HCF	\$2.62	\$4.75	\$2.13	1,081,000	\$5,134,750
11-20	3.48	4.75	1.27	400,000	1,900,000
21-30	4.69	4.75	0.06	110,000	522,500
>31	5.29	4.75	-0.54	0	0
				1,591,000	7,557,250
Commercial/Industrial/Institutional and Construction					
	5.29	4.75	-0.54	1,010,649	4,800,583
Potable Irrigation	5.29	4.75	-0.54	365,000	1,733,750
Santa Clara County (Ed Levin Park) ¹	3.08	3.75	0.67	2,610	9,789
Recycled Irrigation	4.08	2.42	-1.66	403,793	977,180
Recycled Water Industrial / Dual Plumbed	2.65	2.42	-0.23	4,331	10,482
Recycled Water: City of Milpitas	2.51	2.42	-0.09	<u>31,875</u>	<u>77,138</u>
				1,696,257	7,608,921
Total Volumetric Revenue					15,166,171

¹ Rate determined by contract and offset through non-rate revenues (see Table 7)

Ed Levin Park is contracted to be charged the SFPUC wholesale rate of \$3.75. The difference in cost will be funded from non-rate revenues, such as miscellaneous revenues, amounting to approximately \$2,609 in FY 2015/16 and estimated to be \$6,948 in FY 2016/17.

Available Non-rate Revenues

Misc Revenue \$2,609

Mic. User Discount

	<u>Cost of Potable Water</u>	<u>SFPUC Rate¹</u>	<u>Rate Difference</u>	<u>Est. Annual Water Use</u>	<u>Total Difference</u>
Santa Clara County (Ed Levin Park)	\$4.75	\$3.75	\$1.00	2,610	\$2,609

¹ Ed Levin Park is contracted to be charged the SFPUC rate

Meter Charges

Bimonthly meter charges are considered “availability” or “readiness-to-serve” charges for providing customers with access to water at all times. These constitute a fixed portion of the customers’ bills because they are levied whether or not water is used. BWA recommends allocating these costs based on each user’s proportional capacity in the system as determined by their water meter flow capacity.

According to the California Urban Water Conservation Council (CUWCC) Best Management Practices (BMP) 1.4, the fixed component should be used to recover 30% or less of rate revenues to provide cost incentive to encourage conservation

Table 8 shows a comparison of existing and proposed meter charges and the calculation of proposed meter charges. Current meter charges cost ratios are not proportional to the capacity of the meter: for example the 6” meter is charged about 12.9x the 5/8” meter charge, while the American Water Works Association (AWWA) attributes 50x more capacity to the 6” meter.

Figure A shows AWWA 5/8” meter equivalents.

Figure A
 American Water Works Association
 Fixed Charge Meter Ratios

Water Meter Size	AWWA* (capacity)	Factor based on 5/8"
5/8 inch	20	1.00
3/4 inch	30	1.50
1 inch	50	2.50
1-1/2 inch	100	5.00
2 inch	160	8.00
3 inch	300	15.00
4 inch	500	25.00
6 inch	1,000	50.00

* Maximum Flow Rate (GPM) from AWWA Manual M22, 2nd Edition, 2004

BWA recommends that the City align meter charges with the AWWA standard 5/8" meter equivalents. Meter equivalents denote the maximum flow capacity of the meter. Total City water system 5/8" meter equivalents amount to 58,106, as shown in Appendix C, pg. 30.

In **Table 8**, proposed meter charges were developed by taking the fixed operating revenue requirement of \$6,276,761 from **Table 2** and dividing by total system meter equivalents of 58,106 to arrive at a bimonthly meter charge of \$18.00 for the base 5/8" meter. This charge is then increased based on AWWA capacity ratios for larger meters.

BWA recommends the City cap the AWWA 5/8" meter equivalents at 50 for meters 6" and above.

Based on AWWA guidelines, BWA recommends that fire meters be attributed 20% of the charge of regular meters to denote that these meters are on standby for emergencies, are not regularly used, and fire flow costs are estimated at about 20% of water system fixed costs.

BWA proposed meter charges are designed to recover 30% of operating costs (about 25% of total system costs including capital costs.)

Table 8
 City of Milpitas - Water Rate Study
 Fixed Operating Cost Attribution

Fixed Operating Costs

\$6,276,761

5/8" AWWA Meter Equivalents

58,106

\$/per 5/8" Meter Equivalent

\$108.02

Bimonthly \$/per 5/8" Meter Equivalent

\$18.00

Meter Size	Current Cost	AWWA Meter			\$ Increase / Decrease
	Ratio	Equivalents	Current	Proposed	
5/8 inch	1.0	1.0	\$27.36	\$18.00	-\$9.36
3/4 inch	1.1	1.5	29.07	27.00	-2.07
1 inch	1.5	2.5	41.28	45.00	3.72
1-1/2 inch	1.9	5.0	52.07	90.00	37.93
2 inch	2.5	8.0	67.96	144.00	76.04
3 inch	6.7	15.0	181.95	270.00	88.05
4 inch	8.4	25.0	230.57	450.00	219.43
6 inch & above ¹	12.9 - 24.4	50.0	351.86 - 667.31	900.00	232.69 - 548.14

Detector Valve (Fire Meter)	Proposed Meter				\$ Increase / Decrease
	Equivalents ²	Current	Proposed		
2 inch	1.6	43.72	28.80	-\$14.92	
3 inch	3.0	65.68	54.00	-11.68	
4 inch	5.0	72.99	90.00	17.01	
6 inch & above ¹	10.0	94.92 - 138.69	180.00	41.31 - 85.08	

1 Meter equivalents capped at 6".

2 Fire meter equivalents established at 20% of regular meter equivalents

Capital Costs

Table 9 shows the City of Milpitas water enterprise 5-year capital improvement program. The projects are broken down between existing projects identified in the City budget, and additional “unfunded projects.” All \$42 million of capital project costs are assumed to be funded in the 5-year period. The proposed rates include costs for all projects shown in Fiscal Years 2015/16, 2016/17, and 2017/18.

Table 9
City of Milpitas - Water Rate Study
CIP Schedule - Total Capital Projects

Project Expenses	2015/16	2016/17	2017/18	2018/19	2019/20	Total
Existing Identified Projects						
RMC Contract RW (30% Design, CEQA, Grant)	\$482,000					
Water Solutions Contract Potable (30% Design, CEQA, Grant)	430,000					
Dempsey Road Water Line Replacement	1,000,000					
Automated Water Meter Replacement		1,295,000	1,295,000	1,295,000	1,295,000	
Well Upgrade Project						
Los Coches Backbone		850,000	3,350,000			
Water System Replacement Study			100,000			
Hillside Pump Station Equipment Replacement			150,000			
Water System Seismic Improvements	1,000,000	1,000,000		1,000,000		
Misc Minor Water Projects 2017		100,000	100,000			
Supervisory Control and Data Acquisition (SCADA)			175,000	500,000	2,325,000	
Hydrant Replacement						
BART Project-Water Improvements	2,000,000					
Water Supply Augmentation Phase 1 (Funded Prior Year)						
Pinewood Well - \$1,300,000						
Curtis Well - \$1,400,000						
<i>Subtotal</i>	4,912,000	3,245,000	5,170,000	2,795,000	3,620,000	19,742,000
Project Expenses						
Additional Unfunded Projects						
Lower Berryessa Bore and Jack	\$250,000	\$775,000				
VTA BART Utilities Reimbursement	200,000					
Seismic Reliability		2,000,000				
Water System Replacement 18-19				1,000,000		
Water Valve Replacement			600,000			
Water Supply Augmentation Phase 2	10,000,000					
Seg. 1 Dempsey RW - \$4.5M						
Seg. 4 Yosemite RW - \$3.3M						
Seg. 5 Landess RW - \$2.2M						
Water Supply Augmentation Phase 3		3,300,000				
Curtis Well - \$3,300,000						
Water Supply Augmentation Phase 4					4,000,000	
Future Additional Wells (\$12,000,000 @ \$4M/Yr.)						
<i>Subtotal</i>	10,450,000	6,075,000	600,000	1,000,000	4,000,000	22,125,000
Total	15,362,000	9,320,000	5,770,000	3,795,000	7,620,000	41,867,000
Potable System	5,362,000	6,020,000	5,770,000	3,795,000	3,620,000	24,567,000
Water Augmentation	10,000,000	3,300,000	0	0	4,000,000	17,300,000
Funding Sources:						
Financed	10,450,000	9,320,000	5,770,000			25,540,000
Cash Funded	4,912,000			3,795,000	7,620,000	16,327,000
Total Funding Sources	15,362,000	9,320,000	5,770,000	3,795,000	7,620,000	41,867,000

Capital Surcharges

BWA recommends that the City recover capital costs through a “capital surcharge” levied on water use to recover all system capital costs beginning FY 2016/17.

Potable users are recommended to pay for both potable and recycled capital costs. The recycled water capital projects included in **Table 9** “Water Supply Augmentation Phase 2” are planned for the benefit of potable users and would not be constructed except for the benefit to potable customers. Benefits to potable users include: additional water supply reliability, an offset of demand for potable water, and an easing of the burden of reducing consumption on potable customers to meet State mandated cutback requirements.

Recycled water users will also benefit from recycled water capital projects, and therefore should share some of the burden of paying for the projects. The identified recycled water capital projects will help transition the Milpitas recycled water system from an immature to a mature system that will have better reliability from additional system looping and will increase the availability of recycled water.

Potable users are recommended to have the capital surcharge broken out as a separate charge on their bills to allow users to see how much of their bill is going to fund capital improvements. Recycled users are recommended to be charged a single rate because the recycled component of capital costs is too small to merit special surcharge consideration.

Table 10 shows the capital surcharge calculations. BWA recommends the City finance \$25.54 million of capital in FY 2015/16.

The potable capital surcharge consists of three components charged per potable hcf:

- 1. Debt Funded Capital:** BWA estimates debt service on a \$15.54 million borrowing for potable capital to be about \$926,000 per year beginning in FY 2016/17. The debt service is recommended to be fully funded through a \$0.31 charge on potable use. Additionally, BWA estimates debt service for a \$10 million borrowing for recycled capital to be about \$596,000 per year beginning in FY 2016/17. The debt service is recommended to be partially funded through a \$0.17 charge on potable use, with the remainder recovered from recycled use. The total debt service charge component of the potable capital surcharge amounts to \$0.48 per hcf.
- 2. Cash Funded Capital:** Beginning in FY 2018/19, the capital surcharge is recommended to fund all new potable capital through a \$1.26 charge component.

3. **FY 2015/16 Cash Funded Capital:** \$4.9 million of cash funded capital in FY 2015/16 is recommended to be recovered through an \$0.82 charge component on potable use between FY 2016/17 and FY 2017/18.

The recycled capital surcharge consists of one component charged per recycled hcf:

1. **Debt Funded Capital:** BWA estimates debt service on the \$10 million borrowing for the recycled portion of capital projects to be about \$596,000 per year beginning in FY 2016/17. The debt service is recommended to be partially funded through a \$0.17 charge on recycled use, with the remainder recovered from potable use.

Table 10
City of Milpitas - Water Rate Study
Fixed Capital Cost Allocation (Capital Surcharge Effective 7/1/2016)

	<u>2015/16</u>	<u>2016/17</u>	<u>Projected</u>		<u>Totals</u>
			<u>2017/18</u>	<u>2018/19</u>	
Financed Potable Capital	\$450,000	\$9,320,000	\$5,770,000	\$0	\$15,540,000
Cash Funded Potable Capital	4,912,000	0	0	3,795,000	8,707,000
Financed Recycled Capital	10,000,000				10,000,000
Potable Debt Service (\$15.54 million borrowing)		926,157	926,157	926,157	
Projected Potable Use (HCF)		3,011,610	3,011,610	3,011,610	
Potable Debt Service Charge		\$0.31	\$0.31	\$0.31	
Recycled Debt Service (\$10 million borrowing)		595,982	595,982	595,982	
Projected Recycled Use (HCF)		416,218	423,855	431,644	
Projected Recycled & Potable Use (HCF)		3,427,828	3,435,465	3,443,254	
Recycled Debt Service Charge		\$0.17	\$0.17	\$0.17	
Potable Customer Surcharge					
Debt Service (Recycled & Potable Capital)		\$0.48	\$0.48	\$0.48	
Cash Funded Capital		\$0.00	\$0.00	\$1.26	
FY 2016 Cash Funded Capital ¹		<u>\$0.82</u>	<u>\$0.82</u>	<u>\$0.00</u>	
Total Potable Capital Surcharge		\$1.30	\$1.30	\$1.74	
Expected Potable Surcharge Revenue		3,915,093	3,915,093	5,240,201	13,070,387
Recycled Customer Surcharge					
Debt Service (Recycled Capital)		<u>\$0.17</u>	<u>\$0.17</u>	<u>\$0.17</u>	
Total Recycled Capital Surcharge		\$0.17	\$0.17	\$0.17	
Expected Recycled Surcharge Revenue		70,757	72,055	73,379	216,192
Total Surcharge Revenue		3,985,850	3,987,148	5,313,581	13,286,579

¹ Recovered from 2016/17 to 2017/18

SECTION 4: ADDITIONAL RATE INCREASES

Table 11 shows a cash flow schedule for the Operating Fund². Additional rate increases are needed to meet key financial goals of the water enterprise including:

- Prevent further operating losses (estimated at \$400,000 per month)
- Meet debt service coverage requirements on any new debt issuances
- Maintain at least 30% of operating expenses in reserves
- Fund 5-year capital program
- Smooth out impact on rate payers

In addition to the rate structure adjustments recommended on January 1st 2016, BWA estimates the water enterprise requires overall rate increases to potable and recycled consumption and meter charges of **8%** in FY 2016/17, **8%** in FY 2017/18 and **5%** in FY 2018/19. The overall rate increases do not apply to the capital surcharges, which are calculated solely to recover all projected capital expenses.

Detailed projections of water use, rate increases, and revenues are shown in Appendix C.

Drought Penalty

There are typically two kinds of water use penalties levied by Cities:

- 1. Penalties for violations of the City's water use restrictions:** (e.g., watering landscaping more than two times per week or washing down driveways with water). Milpitas already has such penalties in place.
- 2. Penalties for excess water use:** For example, use at levels that could cause the City to run out of water.

Penalties for excess use are imposed to encourage high water users to adjust their behavior and, as such, are not considered water rates. Under Prop 26, fines and penalties are one of the seven exceptions to the definition of a tax and are not subject to Proposition 218. Administrative fines and penalties are authorized pursuant to government code section 53069.4 for the violation of an ordinance. Water agencies often adopt a water shortage contingency plan by ordinance and include in it fines and penalties for violations.

² The 30% Operating Expense Target was met in FY 2015/16 because reserves were replenished from the Bank/Interfund Loan. Funds were depleted as a result of being unable to recover enough revenue to cover costs due to late rate adoption.

Table 11
City of Milpitas - Water Rate Study
Detailed Cash Flow Projection - Operating Fund

	Estimated		Projected			
	2014/15	Escalation %	Budget 2015/16	2016/17	2017/18	2018/19
Beginning Fund Balance (Operating Fund)						
Cash and Cash Equivalents			\$7,276,000	\$15,103,000	\$8,454,000	\$7,187,000
REVENUES						
			1/1/2016	7/1/2016	7/1/2017	7/1/2018
Overall Rate Increases (Excluding Capital Surcharge)			Rate Restructure	8.0%	8.0%	5.0%
Operating Revenue¹						
Potable Meter Charges	4,478,476	Appendix C	4,829,223	6,351,981	6,860,502	7,203,510
Recycled Meter Charges	206,657	Appendix C	253,489	425,503	459,543	482,518
Potable Volumetric Charges	15,966,897	Appendix C	12,444,524	15,446,056	16,679,746	17,523,651
Recycled Volumetric Charges	1,937,743	Appendix C	1,570,465	1,086,329	1,195,270	1,277,666
Potable Capital Surcharges	-	Appendix C	-	3,911,700	3,911,700	5,235,660
Recycled Capital Surcharges	-	Appendix C	-	70,757	72,055	73,379
Other Operating Revenue	175,000	0%	175,000	175,000	175,000	175,000
<i>Subtotal Operating Revenue</i>	22,764,773		19,272,701	27,467,327	29,353,817	31,971,383
Non-Operating Revenue						
Bank / Interfund Loan (4.25% 30-Years)			25,540,000			
Subventions and Grants	45,000	0%	45,000	45,000	45,000	45,000
Transfers In	0	0%	0	0	0	0
Interest Income	98,000	0%	98,000	98,000	98,000	98,000
Developer Contributions	0	0%	0	0	0	0
<i>Subtotal Non-Operating Revenue</i>	143,000		25,683,000	143,000	143,000	143,000
TOTAL REVENUES	22,907,773		44,955,701	27,610,327	29,496,817	32,114,383
EXPENSES						
Operating Expenses						
SFPUC Wholesale Water (Est.)	8,576,105	Appendix C	10,083,024	10,193,107	10,215,417	11,485,483
SCVWD Wholesale Water (Est.)	3,004,819	Appendix C	2,291,200	2,634,880	3,030,112	3,484,629
Recycled Water Expenses (Est.)	603,531	Appendix C	810,590	1,013,238	1,291,878	1,647,144
Personnel Services ³	2,597,769	4%	2,702,000	2,810,000	2,922,000	3,039,000
Transfers Out (General Fund Admin Cost Reimb.) ³	2,366,459	4%	2,461,000	2,559,000	2,661,000	2,767,000
Services and Supplies ³	1,917,115	4%	1,994,000	2,074,000	2,157,000	2,243,000
Additional Operating Expenses	-	Appendix C	1,422,275	2,125,600	1,186,024	1,233,265
<i>Subtotal Operating Expenses</i>	19,065,799		21,764,089	23,409,825	23,463,431	25,899,521
Non-Operating Expenses						
Ed Levin Rate Reduction			2,609	6,896	7,966	8,461
Capital Expenditures (Transfer Out)	3,225,000	Table 9	15,362,000	9,320,000	5,770,000	3,795,000
Bank / Interfund Loan Debt Service				1,522,139	1,522,139	1,522,139
<i>Subtotal Non-Operating Expenses</i>	3,225,000		15,364,609	10,849,035	7,300,105	5,325,600
TOTAL EXPENSES	22,290,799		37,128,698	34,258,860	30,763,536	31,225,121
Net Revenues	616,974		7,827,003	(6,648,533)	(1,266,719)	889,263
Ending Fund Balance (Operating Fund)						
	7,275,776		15,103,003	8,454,467	7,187,281	8,076,263
Debt Service Coverage (Currently No Debt)						
Net Operating Revenues	3,698,974		(2,491,388)	4,057,502	5,890,386	6,071,863
Total Debt Service	0		0	1,522,139	1,522,139	1,522,139
<i>Coverage</i>	-		-	2.7	3.9	4.0
Unrestricted Fund Reserve Target						
30% Operating Expenses	5,719,740		6,529,227	7,022,947	7,039,029	7,769,856
<i>Target Met</i>	Yes		Yes	Yes	Yes	Yes

1 Charges prorated to take into account 2015/16 proposed rates effective January 1st, 2016 rather than July 1st, 2015

2 Equal to three years of capital expenses

3 2014/15 Actuals from Finance Department.

Proposed Rate Schedule

Table 12 shows BWA's proposed rate schedule for FY 2015/16 and FY 2016/17.

Table 12
City of Milpitas - Water Rate Study
Water Rate Schedule

BIMONTHLY WATER RATES

Meter Charges

Meter Size	Current Rates	Proposed 2015/16 ¹	\$ Increase	Proposed 2016/17 ¹	\$ Increase
5/8"	\$27.36	\$18.00	-\$9.36	\$19.44	\$1.44
3/4"	29.07	27.00	-2.07	29.16	2.16
1"	41.28	45.00	3.72	48.60	3.60
1-1/2"	52.07	90.00	37.93	97.20	7.20
2"	67.96	144.00	76.04	155.52	11.52
3"	181.95	270.00	88.05	291.60	21.60
4"	230.57	450.00	219.43	486.00	36.00
6" & above	351.86 - 667.31	900.00	232.69 - 548.14	972.00	72.00

Quantity Charges (per hcf)

Residential (bimonthly tiers)

1 - 10 hcf bimonthly	2.62	4.75	2.13	5.13	0.38
10 - 20 hcf bimonthly	3.48	4.75	1.27	5.13	0.38
20 - 30 hcf bimonthly	4.69	4.75	0.06	5.13	0.38
>30 hcf bimonthly	5.29	4.75	-0.54	5.13	0.38

Commercial/Industrial/Institutional and Construction

Potable Irrigation	5.29	4.75	-0.54	5.13	0.38
Santa Clara County (Ed Levin Park) ²	3.08	3.75	0.67	3.79	0.04
Recycled Irrigation	4.08	2.42	-1.66	2.78	0.36
Recycled Water Industrial / Dual Plumbed	2.65	2.42	-0.23	2.78	0.36
Recycled Water: City of Milpitas	2.51	2.42	-0.09	2.78	0.36

Potable Capital Surcharge (per hcf, FY 2016/17)

	-			1.30	
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1 BWA proposes the City charge residential a uniform rate

2 Contracted to be charged the SFPUC wholesale rate

APPENDIX A – RESIDENTIAL BILL IMPACTS

Appendix A
 City of Milpitas - Water Rate Study
 FY 2015/16 Residential Bimonthly Bill Impacts - Uniform Tier

Bimonthly Use (HCF)	Current Residential, 5/8" Meter			Bimonthly Use (HCF)	FY 2015/16 Proposed Residential, 5/8" Meter			\$ Increase
	Use Charge	Meter Charge	Bimonthly Bill		Use Charge	Meter Charge	Bimonthly Bill	
5	\$13.10	\$27.36	\$40.46	5	\$23.75	\$18.00	\$41.75	\$1.29
10	26.20	27.36	53.56	10	47.50	18.00	65.50	11.94
17	50.56	27.36	77.92	17	80.75	18.00	98.75	20.83
20	61.00	27.36	88.36	20	95.00	18.00	113.00	24.64
30	107.90	27.36	135.26	30	142.50	18.00	160.50	25.24
40	160.80	27.36	188.16	40	190.00	18.00	208.00	19.84
60	266.60	27.36	293.96	60	285.00	18.00	303.00	9.04

Residential FY 2013/14 Avg. Bi-monthly Use: 17.3 HCF

RESIDENTIAL BIMONTHLY WATER RATES - UNIFORM TIER

Meter Charges

Meter Size	Current Rates	Proposed 2015/16	% Increase
5/8"	\$27.36	\$18.00	-34%

Quantity Charges (per hcf)

Residential (bimonthly tiers)	Current Rates	Proposed 2015/16	% Increase
1 - 10 hcf bimonthly	2.62	4.75	81%
10 - 20 hcf bimonthly	3.48	4.75	36%
20 - 30	4.69	4.75	1%
31+	5.29	4.75	-10%

Appendix A (Continued)
 City of Milpitas - Water Rate Study
 FY 2016/17 Residential Bimonthly Bill Impacts - Uniform Tier

Bimonthly Use (HCF)	FY 2015/16 Proposed Residential, 5/8" Meter			FY 2016/17 Proposed Residential, 5/8" Meter				
	Use Charge	Meter Charge	Bimonthly Bill	Use Charge	Capital Surcharge	Meter Charge	Bimonthly Bill	<i>\$ Increase</i>
5	\$23.75	\$18.00	\$41.75	\$25.65	\$6.50	\$19.44	\$51.59	<i>\$9.84</i>
10	47.50	18.00	65.50	51.30	13.00	19.44	83.74	<i>18.24</i>
17	80.75	18.00	98.75	87.21	22.10	19.44	128.75	<i>30.00</i>
20	95.00	18.00	113.00	102.60	26.00	19.44	148.04	<i>35.04</i>
30	142.50	18.00	160.50	153.90	39.00	19.44	212.34	<i>51.84</i>
40	190.00	18.00	208.00	205.20	52.00	19.44	276.64	<i>68.64</i>
60	285.00	18.00	303.00	307.80	78.00	19.44	405.24	<i>102.24</i>

Residential FY 2013/14 Avg. Bi-monthly Use: 17.3 HCF

RESIDENTIAL BIMONTHLY WATER RATES - UNIFORM TIER

Meter Charges

Meter Size	Proposed 2015/16	Proposed 2016/17	% Increase
5/8"	\$18.00	\$19.44	8%

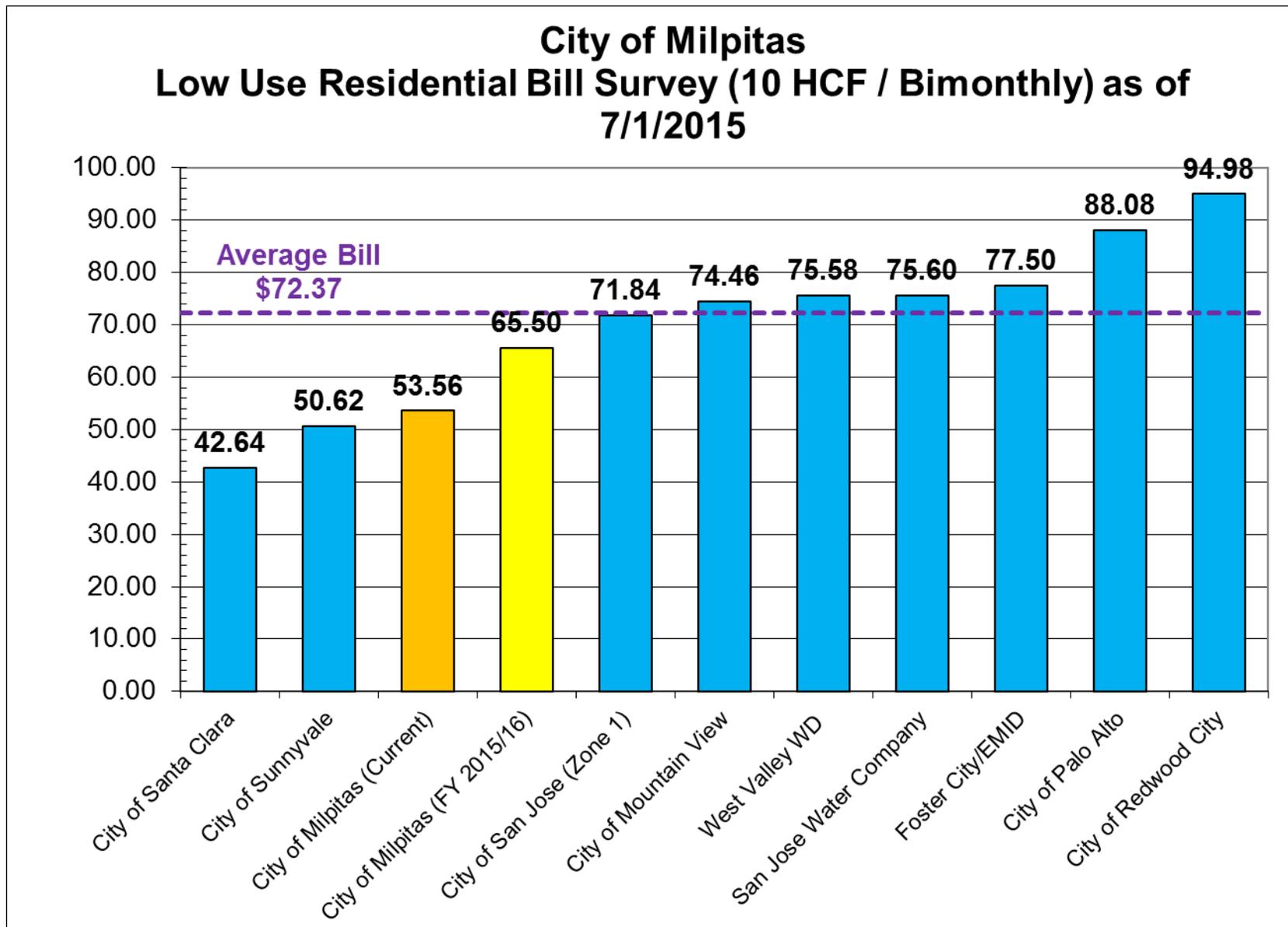
Quantity Charges (per hcf)

Residential (bimonthly tiers)

1 - 10 hcf bim	4.75	5.13	8%
10 - 20 hcf bir	4.75	5.13	8%
20 - 30	4.75	5.13	8%
31+	4.75	5.13	8%

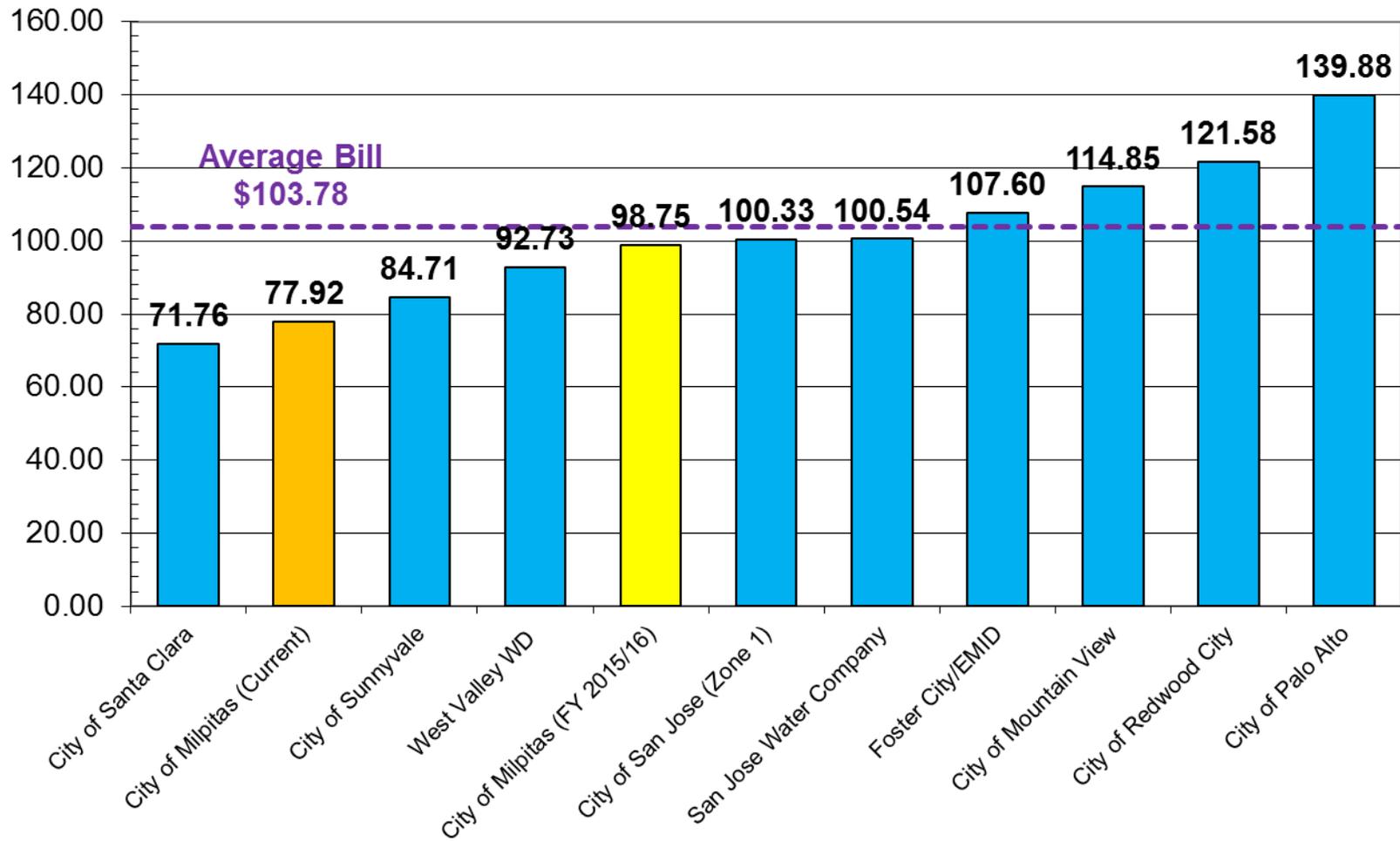
Potable Capital Surcharge (per hcf, FY 2016/17) 1.30

APPENDIX B - REGIONAL RATE SURVEY



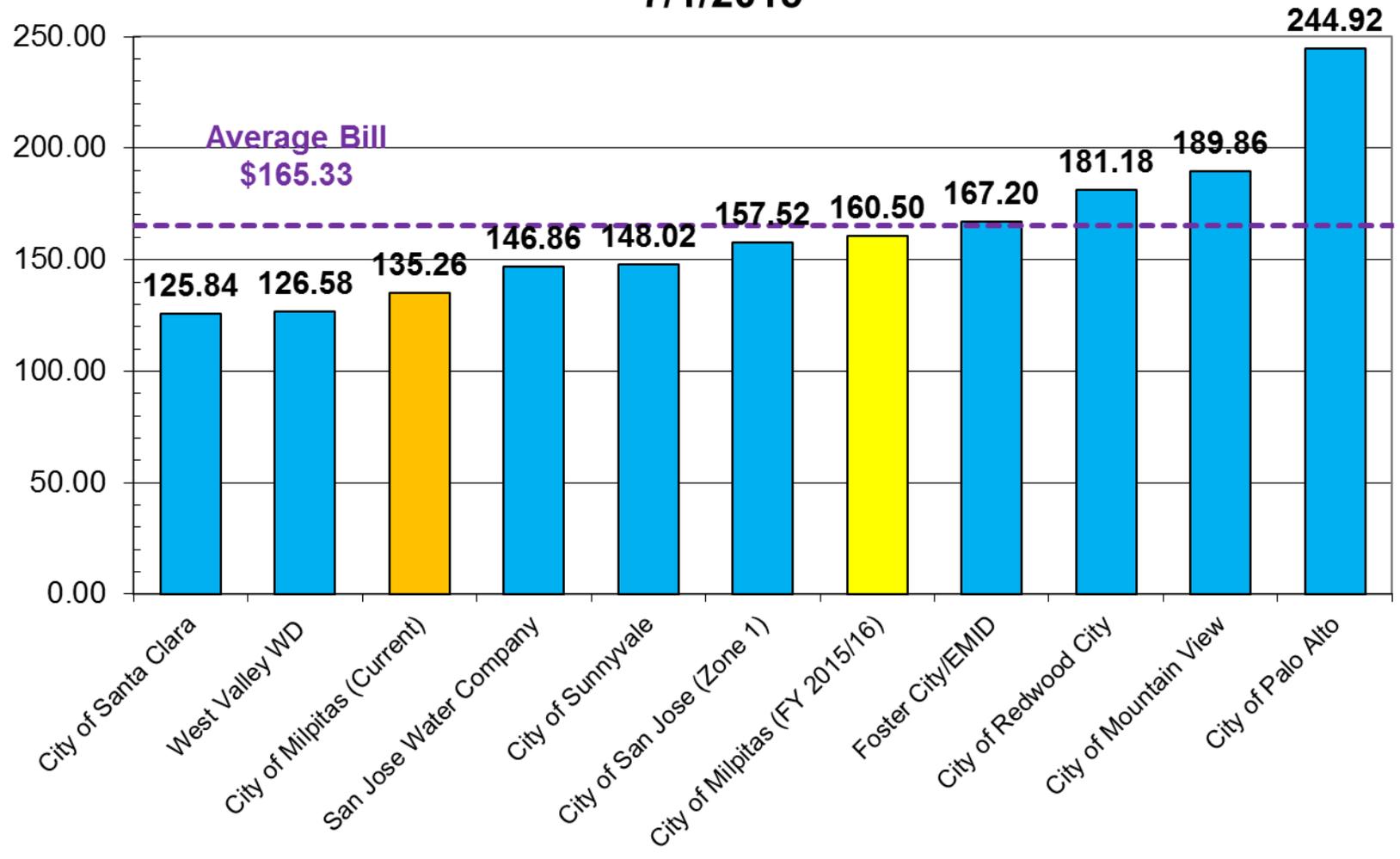
*Rates shown for a 5/8" meter with 10 hcf bimonthly water use
Based on proposed uniform tier*

City of Milpitas Avg. Use Residential Bill Survey (17 HCF / Bimonthly) as of 7/1/2015



*Rates shown for a 5/8" meter with 17 hcf bimonthly water use
Based on proposed uniform tier*

City of Milpitas High Use Residential Bill Survey (30 HCF / Bimonthly) as of 7/1/2015



*Rates shown for a 5/8" meter with 30 hcf bimonthly water use
Based on proposed uniform tier*

APPENDIX C – FINANCIAL DETAIL

Appendix C
City of Milpitas - Water Rate Study
Wholesale Water Purchases

Potable Water	Actual 13/14	Actual 14/15	15/16 Proposed	16/17 Projected	17/18 Projected	18/19 Projected
SFPUC Quantity Charge, \$/HCF	\$2.45	\$2.93	\$3.75	\$3.79	\$3.79	\$4.32
% Increase		20%	28%	1%	0%	14%
SFPUC Purchased, HCF	3,194,523	2,503,640	2,352,053	2,352,053	2,352,053	2,352,053
% Increase		-22%	-6%	0%	0%	0%
Subtotal: SFPUC Expenditures	\$7,826,581	\$7,335,665	\$8,821,140	\$8,909,352	\$8,909,352	\$10,156,661
% Increase		-6%	20%	1%	0%	14%
SFPUC Monthly Meter Charge	\$14,022	\$14,022	\$14,022	\$14,022	\$14,022	\$14,022
Monthly Debt Service	\$88,127	\$89,348	\$91,135	\$92,958	\$94,817	\$96,713
Subtotal: Annual Fixed Costs	\$1,225,788	\$1,240,440	\$1,261,884	\$1,283,756	\$1,306,066	\$1,328,822
% Increase		1%	2%	2%	2%	2%
Total \$Exp: SFPUC Purchased	\$9,052,369	\$8,576,105	\$10,083,024	\$10,193,107	\$10,215,417	\$11,485,483
% Increase		-5%	18%	1%	0%	12%
SCVWD Quantity Charge, \$/HCF	\$1.79	\$1.94	\$2.33	\$2.68	\$3.08	\$3.54
% Increase		8%	20%	15%	15%	15%
SCVWD Purchased, HCF	1,335,767	1,548,876	984,192	984,192	984,192	984,192
% Increase		16%	-36%	0%	0%	0%
Total \$Exp: SCVWD Purchased	\$2,391,824	\$3,004,819	\$2,291,200	\$2,634,880	\$3,030,112	\$3,484,629
% Increase		26%	-24%	15%	15%	15%
Total: Potable Purchases, HCF	4,530,290	4,052,516	3,336,246	3,336,246	3,336,246	3,336,246
% Increase		-11%	-18%	0%	0%	0%
Total: Potable \$Exp:	\$11,444,194	\$11,580,925	\$12,374,224	\$12,827,987	\$13,245,529	\$14,970,111
% Increase		1%	7%	4%	3%	13%

Recycled Water

WPCP Quantity Charge, \$/HCF	\$1.32	\$1.47	\$1.84	\$2.30	\$2.88	\$3.60
% Increase		12%	25%	25%	25%	25%
WPCP Purchased, HCF	378,528	409,507	440,000	440,000	448,800	457,776
% Increase		8%	7%	0%	2%	2%
Total: Recycled \$Exp:	\$499,657	\$603,531	\$810,590	\$1,013,238	\$1,291,878	\$1,647,144
% Increase		21%	34%	25%	28%	28%

TOTAL: ALL PURCHASES, HCF	4,908,818	4,462,023	3,776,246	3,776,246	3,785,046	3,794,022
% Increase		-9%	-15%	0%	0%	0%

TOTAL: ALL PURCHASES \$EXP	\$11,943,851	\$12,184,456	\$13,184,814	\$13,841,225	\$14,537,407	\$16,617,256
% Increase		2%	8%	5%	5%	14%

Appendix C (Continued)
City of Milpitas - Water Rate Study
Water Use

Potable Water	Actual 13/14	Estimated 14-15	15/16 Proposed	16/17 Projected	17/18 Projected	18/19 Projected
Residential (Bimonthly Tiers):						
0-10 usage, HCF	1,105,362	1,115,541	1,081,000	1,150,000	1,150,000	1,150,000
% Increase	0%	1%	-3%	6%	0%	0%
>10 usage, HCF	596,463	556,130	510,000	510,000	510,000	510,000
% Increase	0%	-7%	-8%	0%	0%	0%
21-30 usage, HCF	234,854	192,524	-	-	-	-
% Increase	33%	-18%				
31+ usage, HCF	200,451	140,661	-	-	-	-
% Increase	53%	-30%				
TOTAL Usage, HCF	2,137,130	2,004,855	1,591,000	1,660,000	1,660,000	1,660,000
% Increase	6%	-6%	-21%	4%	0%	0%
Commercial:						
Usage, HCF	579,485	573,064	434,000	434,000	434,000	434,000
% Increase	12%	-1%	-24%	0%	0%	0%
Industrial:						
Usage, HCF	589,369	602,726	476,649	450,000	450,000	450,000
% Increase	4%	2%	-21%	-6%	0%	0%
Institutional:						
Usage, HCF	120,318	117,728	90,000	90,000	90,000	90,000
% Increase	4%	-2%	-24%	0%	0%	0%
Irrigation:						
Irrigation Usage, HCF	481,371	376,440	285,000	285,000	285,000	285,000
% Increase	7%	-22%	-24%	0%	0%	0%
Ed Levin Park:						
Ed Levin Usage, HCF	4,599	3,593	2,610	2,610	2,610	2,610
% Increase	-25%	-22%	-27%	0%	0%	0%
CITY Domestic Accounts:						
CITY Domestic Usage, HCF	16,014	13,297	10,000	10,000	10,000	10,000
% Increase	-11%	-17%	-25%	0%	0%	0%
CITY Irrigation Accounts:						
CITY Irrigation Usage, HCF	142,193	103,277	80,000	80,000	80,000	80,000
% Increase	5%	-27%	-23%	0%	0%	0%
Subtotal Potable Use	4,070,479	3,794,979	2,969,259	3,011,610	3,011,610	3,011,610
% Increase	7%	-7%	-22%	1%	0%	0%

Recycled Water

Irrigation (Piped)						
Recycled Irrigation Usage, HCF	406,575	452,273	403,793	381,824	389,460	397,249
% Increase	25%	11%	-11%	-5%	2%	2%
Industrial Process Use						
Recycled Industrial Usage, HCF	3,933	4,375	4,331	4,115	4,115	4,115
% Increase	5%	11%	-1%	-5%	0%	0%
City of Milpitas - Irrigation Recycled						
Recycled Irrigation Usage, HCF	28,944	32,197	31,875	30,280	30,280	30,280
% Increase	2%	11%	-1%	-5%	0%	0%
Subtotal Recycled Use	439,452	488,846	440,000	416,218	423,855	431,644
% Increase	23%	11%	-10%	-5%	2%	2%

TOTAL: ALL USE, HCF	4,509,931	4,283,825	3,409,259	3,427,828	3,435,465	3,443,254
% Total Use Increase	8%	-5%	-20%	1%	0%	0%

Appendix C (Continued)
 City of Milpitas - Water Rate Study
 Water Rates

Potable Water	Actual 13/14	Actual 14/15	15/16 Proposed	16/17 Projected	17/18 Projected	18/19 Projected
Residential:						
0-10 Rate, \$/HCF	\$2.30	\$2.62	\$4.75	\$5.13	\$5.54	\$5.82
% Increase	14%	14%	81%	8.0%	8.0%	5.0%
>10 Rate, \$/HCF	\$3.22	\$3.48	\$4.75	\$5.13	\$5.54	\$5.82
% Increase	8%	8%	36%	8.0%	8.0%	5.0%
21-30 Rate, \$/HCF	\$4.34	\$4.69	-	-	-	-
% Increase	8%	8%				
31+ Rate, \$/HCF	\$4.86	\$5.29	-	-	-	-
% Increase	8%	9%				
Commercial:						
Rate, \$/HCF	\$4.94	\$5.29	\$4.75	\$5.13	\$5.54	\$5.82
% Increase	7%	7%	-10%	8.0%	8.0%	5.0%
Industrial:						
Rate, \$/HCF	\$4.94	\$5.29	\$4.75	\$5.13	\$5.54	\$5.82
% Increase	7%	7%	-10%	8.0%	8.0%	5.0%
Institutional:						
Rate, \$/HCF	\$4.94	\$5.29	\$4.75	\$5.13	\$5.54	\$5.82
% Increase	7%	7%	-10%	8.0%	8.0%	5.0%
Irrigation:						
Irrigation rate, \$/HCF	\$5.16	\$5.29	\$4.75	\$5.13	\$5.54	\$5.82
% Increase	4%	3%	-10%	8.0%	8.0%	5.0%
Ed Levin Park:						
Ed Levin rate, \$/HCF	\$2.45	\$3.08	\$3.75	\$3.79	\$3.79	\$4.32
% Increase	-15%	26%	22%	1.0%	0.0%	14.0%
CITY Domestic Accounts:						
CITY Domestic Rate, \$/HCF	\$3.98	\$5.29	\$4.75	\$5.13	\$5.54	\$5.82
% Increase	30%	33%	-10%	8.0%	8.0%	5.0%
CITY Irrigation Accounts:						
CITY Irrigation rate, \$/HCF	\$3.98	\$5.29	\$4.75	\$5.13	\$5.54	\$5.82
% Increase	30%	33%	-10%	8.0%	8.0%	5.0%

Recycled Water

Irrigation (Piped):						
Recycled Irrigation rate, \$/HCF	\$3.98	\$4.08	\$2.42	\$2.61	\$2.82	\$2.96
% Increase	2%	3%	-41%	8.0%	8.0%	5.0%
Industrial Process Use						
Recycled Industrial rate, \$/HCF	\$2.47	\$2.65	\$2.42	\$2.61	\$2.82	\$2.96
% Increase	7%	7%	-9%	8.0%	8.0%	5.0%
City of Milpitas - Irrigation Recycled						
Recycled Irrigation rate, \$/HCF	\$2.01	\$2.51	\$2.42	\$2.61	\$2.82	\$2.96
% Increase	25%	25%	-4%	8.0%	8.0%	5.0%

Capital Surcharges

Potable Capital Surcharge	-	-	-	\$1.30	\$1.30	\$1.74
					0.0%	33.8%
Recycled Capital Surcharge	-	-	-	\$0.17	\$0.17	\$0.17
					0.0%	0.0%

Appendix C (Continued)
City of Milpitas - Water Rate Study
Actual and Projected Water Sales Revenue

Potable Water	Actual 13/14	Estimated 14-15	15/16 Proposed	16/17 Projected	17/18 Projected	18/19 Projected
Residential						
0-10 Rate	\$2,542,333	\$2,922,716	\$5,134,750	\$5,899,500	\$6,371,000	\$6,693,000
% Increase	14%	15%	76%	15%	8%	5%
>10 Rate	1,920,611	1,935,333	2,422,500	2,616,300	2,825,400	2,968,200
% Increase	8%	1%	25%	8%	8%	5%
21-30	1,019,266	902,939	-	-	-	-
% Increase	44%	-11%				
31+	974,192	744,095	-	-	-	-
% Increase	65%	-24%				
Total Residential Revenue	6,456,402	6,505,082	7,557,250	8,515,800	9,196,400	9,661,200
% Increase	22%	1%	16%	13%	8%	5%
Commercial:						
	2,862,656	3,031,509	2,061,500	2,226,420	2,404,360	2,525,880
% Increase	20%	6%	-32%	8%	8%	5%
Industrial:						
	2,911,483	3,188,418	2,264,083	2,308,500	2,493,000	2,619,000
% Increase	11%	10%	-29%	2%	8%	5%
Institutional:						
	594,371	622,781	427,500	461,700	498,600	523,800
% Increase	11%	5%	-31%	8%	8%	5%
Irrigation:						
	2,483,874	1,991,366	1,353,750	1,462,050	1,578,900	1,658,700
% Increase	11%	-20%	-32%	8%	8%	5%
Ed Levin Park:						
	11,268	11,067	9,789	9,886	9,886	11,271
% Increase	-36%	-2%	-12%	1%	0%	14%
CITY Domestic Accounts:						
	63,736	70,339	47,500	51,300	55,400	58,200
% Increase	16%	10%	-32%	8%	8%	5%
CITY Irrigation Accounts:						
	565,928	546,333	380,000	410,400	443,200	465,600
% Increase	36%	-3%	-30%	8%	8%	5%
Subtotal: Potable Revenue	15,949,717	15,966,897	14,101,371	15,446,056	16,679,746	17,523,651
% Increase	18%	0%	-12%	10%	8%	5%

Recycled Water

Irrigation (Piped):						
	1,618,169	1,845,276	977,180	996,560	1,098,277	1,175,858
% Increase	27%	14%	-47%	2%	10%	7%
Industrial Process Use						
	9,715	11,572	10,482	10,739	11,603	12,179
% Increase	12%	19%	-9%	2%	8%	5%
City of Milpitas - Irrigation Recycled						
	58,177	80,896	77,138	79,031	85,390	89,629
% Increase	27%	39%	-5%	2%	8%	5%
Subtotal: Recycled Revenue	1,686,060	1,937,743	1,064,800	1,086,329	1,195,270	1,277,666
% Increase	27%	15%	-45%	2%	10%	7%

Total Use Revenue	17,635,778	17,904,640	15,166,171	16,532,386	17,875,016	18,801,316
% Increase	19%	2%	-15%	9%	8%	5%

Capital Surcharges

Potable Capital Surcharge	-	-	-	3,911,700	3,911,700	5,235,660
					0%	34%
Recycled Capital Surcharge	-	-	-	70,757	72,055	73,379
					2%	2%

Appendix C (Continued)
 City of Milpitas - Water Rate Study
 Water Meters

Potable Water Customers

Water Meter Size (inches)	Quantities					5/8" Meter Equivalents	
	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19		
Resid. Accts.(Includes Res. Irr)							
5/8	12,469	12,469	12,469	12,469	12,469	1.0	12,469
3/4	461	461	461	461	461	1.5	692
1	747	747	747	747	747	2.5	1,868
1-1/2	128	128	128	128	128	5.0	640
2	30	30	30	30	30	8.0	240
3	25	25	25	25	25	15.0	375
4	80	80	80	80	80	25.0	2,000
6	150	150	150	150	150	50.0	7,500
8	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	50.0	<u>5,500</u>
<i>Subtotal</i>	<i>14,200</i>	<i>14,200</i>	<i>14,200</i>	<i>14,200</i>	<i>14,200</i>		<i>31,283</i>
C/I/I and Irrig. Accts. (includes City Accounts)							
5/8	24	24	24	24	24	1.0	24
3/4	20	20	20	20	20	1.5	30
1	40	40	40	40	40	2.5	100
1-1/2	410	410	410	410	410	5.0	2,050
2	722	722	722	722	722	8.0	5,776
3	88	88	88	88	88	15.0	1,320
4	281	281	281	281	281	25.0	7,025
6	25	25	25	25	25	50.0	1,250
8	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	50.0	<u>1,000</u>
<i>Subtotal</i>	<i>1,630</i>	<i>1,630</i>	<i>1,630</i>	<i>1,630</i>	<i>1,630</i>		<i>18,575</i>
Fire Accounts							
2	0	0	0	0	0	1.6	0
3	0	0	0	0	0	3.0	0
4	0	0	0	0	0	5.0	0
6	0	0	0	0	0	10.0	0
8	<u>460</u>	<u>460</u>	<u>460</u>	<u>460</u>	<u>460</u>	10.0	<u>4,600</u>
<i>Subtotal</i>	<i>460</i>	<i>460</i>	<i>460</i>	<i>460</i>	<i>460</i>		<i>4,600</i>
Potable Totals	16,290	16,290	16,290	16,290	16,290		54,458

Recycled Water Customers

Recycled							
5/8	3	3	3	3	3	1.0	3
3/4	0	0	0	0	0	1.5	0
1	8	8	8	8	8	2.5	20
1-1/2	15	15	15	15	15	5.0	75
2	25	25	25	25	25	8.0	200
3	15	15	15	15	15	15.0	225
4	125	125	125	125	125	25.0	3,125
6	0	0	0	0	0	50.0	0
8	0	0	0	0	0	50.0	0
Recycled Totals	191	191	191	191	191		3,648

Total Meter Equivalents

58,106

Appendix C (Continued)
 City of Milpitas - Water Rate Study
 Water Meter Rates

	Current 14/15	Proposed 15/16	Projected 16/17	Projected 17/18	Projected 18/19
Bimonthly Meter Charge					
Rate Increases		Rate Restructure	8.0%	8.0%	5.0%
Resid. Accts.(Includes Res. Irr)					
5/8	\$27.36	\$18.00	\$19.44	\$21.00	\$22.05
3/4	29.07	27.00	29.16	31.49	33.06
1	41.28	45.00	48.60	52.49	55.11
1-1/2	52.07	90.00	97.20	104.98	110.23
2	67.96	144.00	155.52	167.96	176.36
3	181.95	270.00	291.60	314.93	330.68
4	230.57	450.00	486.00	524.88	551.12
6	351.86	900.00	972.00	1,049.76	1,102.25
8	460.99	900.00	972.00	1,049.76	1,102.25
C/I/I and Irrig. Accts. (includes City Accounts)			8.0%	8.0%	5.0%
5/8	27.36	18.00	19.44	21.00	22.05
3/4	29.07	27.00	29.16	31.49	33.06
1	41.28	45.00	48.60	52.49	55.11
1-1/2	52.07	90.00	97.20	104.98	110.23
2	67.96	144.00	155.52	167.96	176.36
3	181.95	270.00	291.60	314.93	330.68
4	230.57	450.00	486.00	524.88	551.12
6	351.86	900.00	972.00	1,049.76	1,102.25
8	460.99	900.00	972.00	1,049.76	1,102.25
Fire Accounts			8.0%	8.0%	5.0%
2	43.72	28.80	31.10	33.59	35.27
3	65.68	54.00	58.32	62.99	66.14
4	72.99	90.00	97.20	104.98	110.23
6	94.92	180.00	194.40	209.95	220.45
8	116.77	180.00	194.40	209.95	220.45
Recycled			8.0%	8.0%	5.0%
5/8	27.36	18.00	19.44	21.00	22.05
3/4	29.07	27.00	29.16	31.49	33.06
1	41.28	45.00	48.60	52.49	55.11
1-1/2	52.07	90.00	97.20	104.98	110.23
2	67.96	144.00	155.52	167.96	176.36
3	181.95	270.00	291.60	314.93	330.68
4	230.57	450.00	486.00	524.88	551.12
6	351.86	900.00	972.00	1,049.76	1,102.25
8	460.99	900.00	972.00	1,049.76	1,102.25

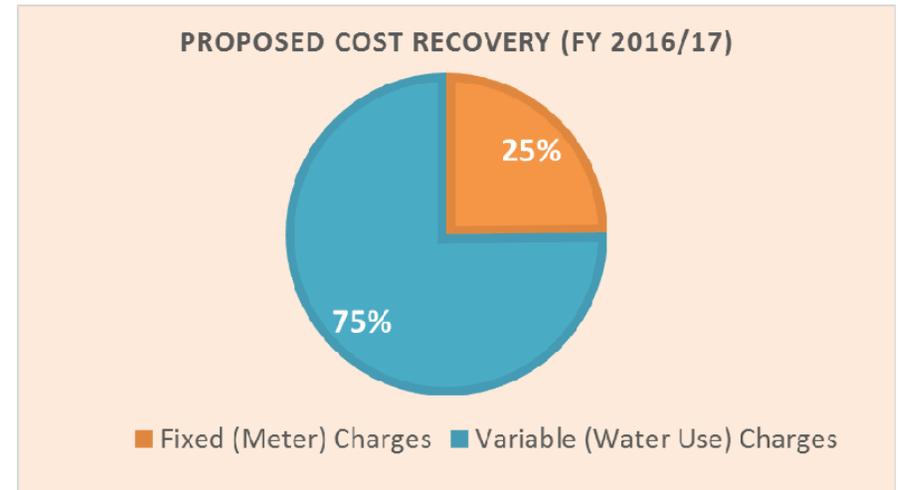
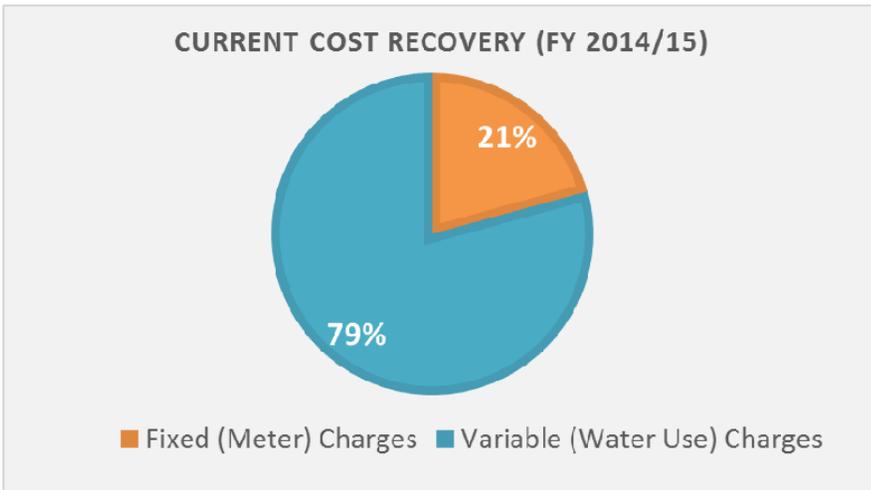
Appendix C (Continued)
City of Milpitas - Water Rate Study
Water Meter Revenue

Potable & Recycled Water Meters	Current 14/15	Proposed 15/16	Projected 16/17	Projected 17/18	Projected 18/19
Annual Meter Revenue					
Resid. Accts.(Includes Res. Irr)					
5/8	\$2,046,911	\$1,346,652	\$1,454,384	\$1,571,094	\$1,649,649
3/4	80,408	74,682	80,657	87,101	91,444
1	185,017	201,690	217,825	235,260	247,003
1-1/2	39,990	69,120	74,650	80,625	84,657
2	12,233	25,920	27,994	30,233	31,745
3	27,293	40,500	43,740	47,240	49,602
4	110,674	216,000	233,280	251,942	264,538
6	316,674	810,000	874,800	944,784	992,025
8	<u>304,253</u>	<u>594,000</u>	<u>641,520</u>	<u>692,842</u>	<u>727,485</u>
	3,123,452	3,378,564	3,648,849	3,941,120	4,138,147
C/I/I and Irrig. Accts. (includes City Accounts)					
5/8	3,940	2,592	2,799	3,024	3,175
3/4	3,488	3,240	3,499	3,779	3,967
1	9,907	10,800	11,664	12,598	13,226
1-1/2	128,092	221,400	239,112	258,251	271,166
2	294,403	623,808	673,713	727,603	763,992
3	96,070	142,560	153,965	166,283	174,599
4	388,741	758,700	819,396	884,948	929,188
6	52,779	135,000	145,800	157,464	165,338
8	<u>55,319</u>	<u>108,000</u>	<u>116,640</u>	<u>125,971</u>	<u>132,270</u>
	1,032,739	2,006,100	2,166,588	2,339,920	2,456,921
Fire Accounts					
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
6	0	0	0	0	0
8	<u>322,285</u>	<u>496,800</u>	<u>536,544</u>	<u>579,462</u>	<u>608,442</u>
	322,285	496,800	536,544	579,462	608,442
Recycled					
5/8	492	324	350	378	397
3/4	0	0	0	0	0
1	1,981	2,160	2,333	2,520	2,645
1-1/2	4,686	8,100	8,748	9,448	9,921
2	10,194	21,600	23,328	25,194	26,454
3	16,376	24,300	26,244	28,344	29,761
4	172,928	337,500	364,500	393,660	413,340
6	0	0	0	0	0
8	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	206,657	393,984	425,503	459,543	482,518
Potable Total	4,478,476	5,881,464	6,351,981	6,860,502	7,203,510
Total	4,685,133	6,275,448	6,777,484	7,320,046	7,686,028
<i>% Increase</i>		<i>34%</i>	<i>8%</i>	<i>8%</i>	<i>5%</i>

Appendix C (Continued)
 City of Milpitas - Water Rate Study
 Projected Water Service Revenues

Project Revenues	2014/15	Current Rates, 2015/16 Consumption	Prorated 2015/16 ¹ Revenue	Proposed Rates, 2015/16 Consumption	Projected		
					2016/17	2017/18	2018/19
Potable Capital Surcharge	\$0	\$0 -	-	-	\$3,911,700	\$3,911,700	\$5,235,660
Recycled Capital Surcharge	0	0 -	-	-	70,757	72,055	73,379
Potable Water Meter Charges	4,478,476	4,478,476	4,829,223	5,881,464	6,351,981	6,860,502	7,203,510
Recycled Water Meter Charges	206,657	206,657	253,489	393,984	425,503	459,543	482,518
Potable Water Volumetric Charges	15,966,897	11,892,242	12,444,524	14,101,371	15,446,056	16,679,746	17,523,651
Recycled Water Volumetric Charges	<u>1,937,743</u>	<u>1,739,020</u>	<u>1,570,465</u>	<u>1,064,800</u>	<u>1,086,329</u>	<u>1,195,270</u>	<u>1,277,666</u>
	22,589,773	18,316,395	19,097,701	21,441,619	27,292,327	29,178,817	31,796,383
<i>% Increase from Prior Fiscal Year</i>		-19%	-15%	-5%	27%	7%	9%

¹ Includes 9 months of current rates and 3 months of proposed rates



Appendix C (Continued)
 City of Milpitas - Water Rate Study
 Additional Water Operating Expenses

Additional Operational Costs	FY 2015/16	FY 2016/17	<u>Projected For Planning Purposes</u>		
			FY 2017/18	FY 2018/19	FY 2019/20
Drought Program (Education and Enforcement)	\$600,000	\$600,000			
Bartle Wells Rate Study	60,000	60,000			
Harris Staff Support	60,000	0			
Utility Maintenance Staffing	82,500	290,000	301,600	313,664	326,211
UM Equipment (vehicles)	5,000	25,000			
Utility Engineering Staffing	49,875	172,800	179,712	186,900	194,376
RMC Staffing Support	170,000	300,000			
40% Funding of Inspector	14,400	57,600	59,904	62,300	64,792
80% Funding of Design Associate	50,500	115,200	119,808	124,600	129,584
Water Model Software Annual Cost	5,000	5,000	5,000	5,000	5,000
Emergency Pipeline Repairs	<u>325,000</u>	<u>500,000</u>	<u>520,000</u>	<u>540,800</u>	<u>562,432</u>
Total	1,422,275	2,125,600	1,186,024	1,233,265	1,282,396