



**DATE:** March 13th, 2020  
**TO:** City of Foster City/Estero Municipal Improvement District  
**FROM:** Bartle Wells Associates  
**SUBJECT:** Water and Wastewater Rate Study Update Results

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## **SUMMARY OF FINDINGS AND RECOMMENDATIONS**

### **Introduction and Background**

The Estero Municipal Improvement District (District) engaged Bartle Wells Associates (BWA) to develop 10-year financial projections for the District's Water and Wastewater Enterprises and to recommend water and wastewater rate increases for the next five-year period. BWA last conducted formal rate studies in 2019, which resulted in a one-year rate approval for water rates for FY 2020 and five-year rate approval for wastewater rates.

Current and projected water service rates are in the lower range compared to other agencies on the Peninsula and wastewater service rates are in the lower middle range compared to other agencies on the Peninsula. The District water and wastewater enterprises face unique infrastructure funding challenges.

### **Water**

The primary driver for the proposed rate increases are to smooth District rate increases due to projected increases in the San Francisco Public Utilities Commission (SFPUC) wholesale water rate. The District faces costs associated with the \$4.8 billion Water System Improvement Project (WSIP) to upgrade the Hetch Hetchy Water System, resulting in significant additional wholesale SFPUC rate increases beginning in FY 2023. The WSIP is over 98.5% complete, however SFPUC operating costs and debt service are projected to increase over the next five years.

The San Francisco Public Utilities Commission (SFPUC), the sole source of water supply for the District, released updated projections for their wholesale rate for the next year (FY 2021). SFPUC is projecting the current rate of \$4.10 in FY 2020 per hundred cubic feet (ccf) will remain the same in FY 2021.

SFPUC rates are projected to be held level at \$4.10/ccf for the next two years despite escalating SFPUC debt service and operating costs through use of a balancing account. The balancing account was built up from SFPUC wholesale water sales exceeding projections used in rate setting. SFPUC rates are projected to increase by 7.1% in FY 2023 7.7% in FY 2024 and 6.8% in FY 2025. BWA proposed water rates are designed to phase in District rate increases over time to avoid sharp increases.

The District will also continue to make annual payments, projected to be \$820,776 in FY 2021, to the Bay Area Water Supply and Conservation Agency (BAWSCA) for the WSIP capital improvements that were funded through the issuance of bonds. The water enterprise's single largest cost is water purchases from SFPUC.

BWA proposed water rates are designed to maintain the operating fund above target levels (90 days operating expenses in reserves) and cover District operating and capital costs. Excluding water purchase related costs, District operating costs are projected to increase by about 3% per year. Additionally, the District sets aside \$205,000 per year for capital costs. Current and proposed water rates are based on 11.5% water loss. That is, 88.5% of the water EMID purchases is sold to retail customers.

To maintain the operating reserves and phase in volumetric rates as wholesale costs are projected to increase, BWA recommends the District implement an approximately 3% volumetric rate increase in FY 2021. Additionally, meter charges are recommended to be increased by about 3%.

Detailed water rate calculations are shown in APPENDIX C.

## **Wastewater**

The District has entered into a Joint Powers Agreement with the City of San Mateo where the District receives treatment of its wastewater via the San Mateo Wastewater Treatment Plant (WWTP). The District is responsible for its share of operating and maintenance costs that San Mateo (as the lead agency and the contracting party) incurs treating the District's wastewater, as well as approximately 24% of the capital improvement costs incurred as part of the Clean Water Program (CWP), a 10-year comprehensive capital improvement project initiated in 2014 at the WWTP. The Cities of San Mateo and Foster City (District) are expanding the jointly owned WWTP at an estimated cost of \$551 MM with \$133 MM of that falling under Foster City's contributions. Program management fees and other, smaller WWTP-related projects amounting to \$20 MM bring Foster City's total contributions to \$153 MM. This is in addition to local capital projects for the District's own sewage collection system. The wastewater enterprise intends to fund collection system capital expenditures through annual transfers of about \$1.6 MM from the operating fund to the capital improvement fund.

In June 2019, to fund the anticipated costs of the WWTP CWP improvements, the District Board approved 4 years of wastewater rate increases of 14.25% per year from FY 2020 through FY 2023 and a 10% wastewater rate increase in FY 2024. BWA's 2020 analysis shows that the District has adequate financing capacity for projected debt issuances in the next several years. Additional rate increases 2% each year thereafter are projected, however BWA recommends reevaluating outer year increases over the next several years as financing terms and capital costs materialize.

Detailed wastewater rate calculations are shown in APPENDIX E.

## **Rate Surveys**

A survey of communities along the San Francisco Peninsula was conducted to compare the District's typical residential monthly water and wastewater bills with neighboring communities. The results of the water survey are summarized in APPENDIX B and the results of the wastewater survey are summarized in APPENDIX D.

Including the recommended increase, the District's average monthly water bill proposed for FY 2021 is \$69.93. Since it is unknown what the comparator agencies are proposing for FY 2021, the District compares its current monthly residential water bills for FY 2020 to the current rates for the neighboring agencies. The survey indicates the District's water rates remain among the lowest on the Peninsula. For FY 2020, the average monthly water bill for the region (based on 8 units of water for monthly usage) is \$91.01 per month and the District's current (FY 2020) average monthly residential water bill is \$67.87 per month, or about 25% less than the current average of neighboring communities.

The District's wastewater rates remain slightly below the average amongst its comparator agencies. The average monthly bill among comparator agencies for FY 2020 is \$95.24. Since it is unknown what the comparator agencies are proposing for FY 2021, the District's compares its current monthly residential wastewater bills for FY 2020 to the current rates for the neighboring agencies. For FY 2020, the District's average rate is \$85.20 per month, or about 11% less than the average (\$95.24) of the neighboring communities for FY 2020.

# Water Enterprise Fund

The District currently provides water service to a population of approximately 37,687. Most of the District's customers are residential. Table 1 shows the approximately 8,166 accounts/meters that allow for water service and fire protection service.

Table 1  
City of Foster City / Estero Municipal Improvement District  
Water Meters By Size

Data as of: 01/24/20

Meter Size	Accounts	Meter Ratio <sup>1,2</sup>	Est. Meter Equivalents <sup>3</sup>
<b>Water Service</b>			
3/4"	6,763	1.00	6,763
1"	442	1.67	737
1-1/2"	167	4.00	668
2"	383	5.33	2,043
3"	89	11.67	1,038
4"	54	21.00	1,134
6"	28	46.67	1,307
8" or greater	<u>21</u>	80.00	<u>1,680</u>
Subtotal	7,947		15,370
<b>Private Fire Protection Service</b>			
3/4"	0	1.40	0
1"	7	1.40	10
1-1/2"	3	1.40	4
2"	0	1.87	0
3"	8	4.08	33
4"	27	7.35	198
6"	98	16.33	1,600
8" or greater	<u>76</u>	28.00	<u>2,128</u>
Subtotal	219		3,973
Total	8,166		19,343

Source: Foster City/Estero Municipal Improvement District water use records

[1] The meter ratios shall be based on meter size in compliance with ratios established by the American Water Works Association (AWWA) Sizing Water Service Lines and Meters M22, Second Edition, 2004 (M22 Manual)

[2] Private fire protection service ratio based on the fire service line; Resolution No. 2715

[3] Equals the number of accounts multiplied by the meter ratio for each meter size.

Table 2 illustrates the current reserves that the District can draw down in case of emergency or to smooth any “rate shocks” to its customers. In recent years reserves were used as a buffer due to unexpected increases in system water losses.

BWA projected rate increases to meet the District’s 90-day operating fund reserve target by FY 2021 (estimated to be \$3.56 million in FY 2021.)

Fund Reserve Component	July 1, 2019
	Reserve Balance
Reserved for Maintenance & Operation (401)	\$2,346,144
Total	\$2,346,144

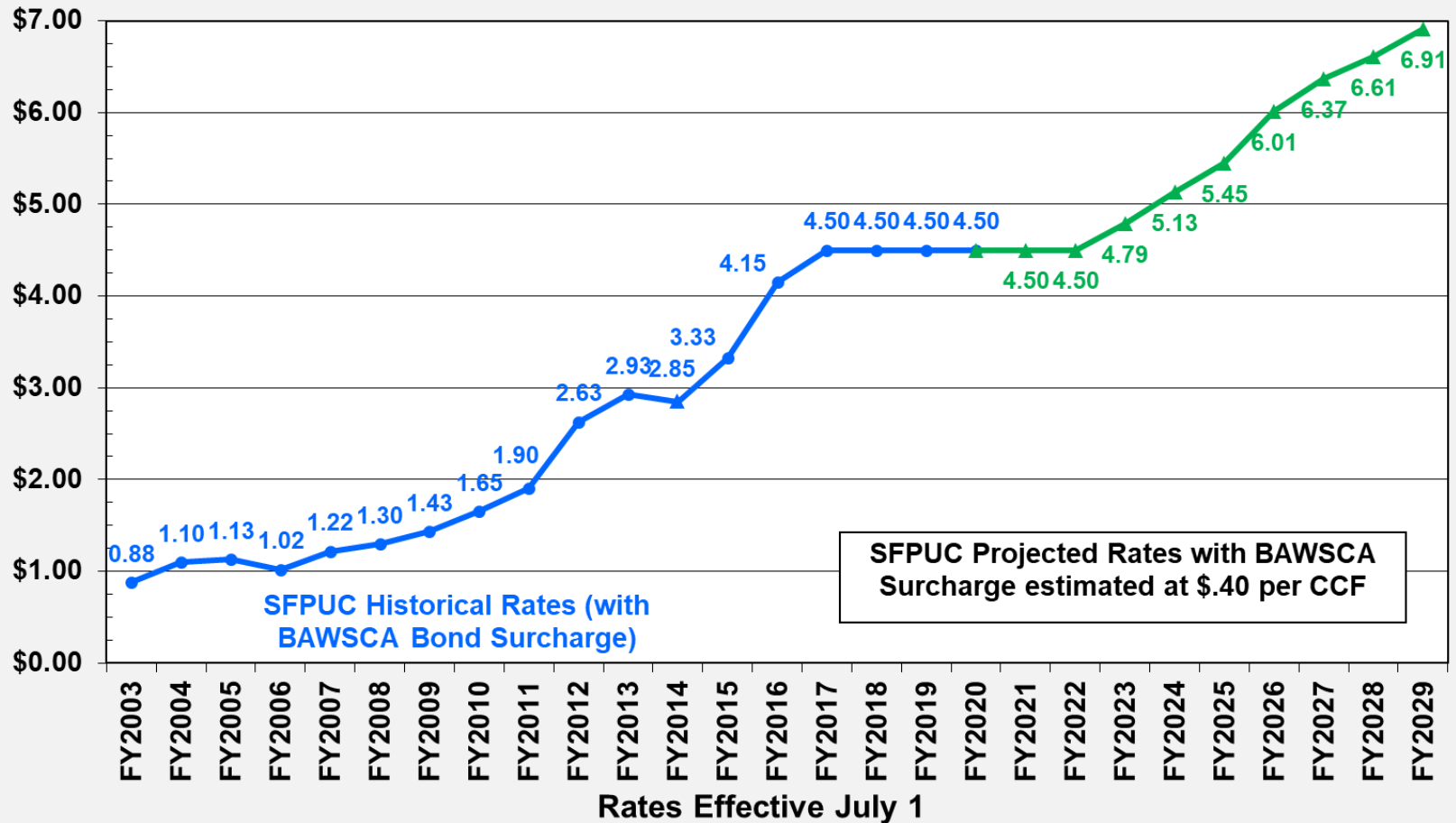
Note: Rate model only includes fund reserve components available to fund ongoing operating expenditures.

Source: City of Foster City/Estero Municipal Improvement District Staff

The wholesale water purchase rates that SFPUC is projecting through FY 2025 are shown graphically in CHART A. The SFPUC also collects the BAWSCA Bond Surcharge from the District. The chart incorporates the BAWSCA Bond Surcharge estimated at \$0.40 cents per ccf. The SFPUC rates and BAWSCA surcharge combined are projected to remain flat from FY 2021 to FY 2022 at \$4.50/ccf (\$4.10 SFPUC + \$.40 BAWSCA). The SFPUC rate is projected to increase by almost 23% from FY 2023 to FY 2025.

CHART A

## SFPUC Wholesale Water Rates (\$ per ccf)



SFPUC wholesale rate projections as of February 2020 BAWSCA Bond Surcharge estimated at \$0.40 per ccf as of February 2020 for Foster City/EMID;BAWSCA repayment began in FY2014

Table 3 summarizes the District’s projected operating expenditures which are anticipated to increase over the next five years by about 22%.

Table 3  
 City of Foster City / Estero Municipal Improvement District  
 Water Enterprise O&M Projection

Expenditures	FY2020 Budget	Five Year Projection					Annual % Increase [1]
		FY2021	FY2022	FY2023	FY2024	FY2025	
Employee Services	2,244,578	2,362,154	2,456,640	2,554,905	2,657,101	2,763,386	4.0%
Internal Services - Others	705,891	768,092	787,294	806,976	827,151	847,829	2.5%
Internal Services - ERF	456,701	443,967	455,066	466,443	478,104	490,056	2.5%
Services & Supplies	560,550	598,900	613,873	629,219	644,950	661,074	2.5%
SFPUC Water Purchases	8,596,412	8,618,000	8,638,000	9,265,000	10,000,000	10,696,000	varies
BAWSCA Bond Repayment	820,776	820,776	870,000	870,000	870,000	870,000	
Reallocation	1,064,229	1,206,812	1,236,982	1,267,907	1,299,605	1,332,095	2.5%
Water Sustainability	200,000	200,000	200,000	200,000	200,000	200,000	
Capital Outlay	-	-	-	-	-	-	2.5%
<b>TOTAL O&amp;M Expenditures</b>	<b>14,649,137</b>	<b>15,018,700</b> 2.5%	<b>15,257,854</b> 1.6%	<b>16,060,450</b> 5.3%	<b>16,976,910</b> 5.7%	<b>17,860,440</b> 5.2%	

[1] Based on City/District Staff direction



Table 4 summarizes the current water rates. The District has variable expenditures which are expenditures that are impacted by the amount of water its customers consume. These costs must be recouped via its volumetric water charge, \$5.70 per ccf in FY 2020. Likewise, the District's meter charges recover fixed expenditures, expenditures that are fixed regardless of amount of water that is consumed, \$23.15 for a ¾" meter in FY 2020.

The District has a two-tiered model for its residential customers where higher levels of water consumption are subject to higher water rates based on a proportionate share of conservation program costs. Commercial customers are charged a uniform rate, which includes commercial customer's proportionate share of conservation program costs.

For its irrigation customers, the District has worked with John Whitcomb of Waterfluence to assign each irrigation customer a water budget. Any water consumed above the irrigation customers allotted amount is subject to a higher Tier 2 rate based on each customer's share of conservation program costs.

APPENDIX A shows District historical water use trends. Customer use has reversed declines due to drought and has bumped up from FY 2016 lows. BWA's proposed rates are designed to match volumetric expenses (such as water purchases) with volumetric revenue. The rate structure mitigates over or under collecting revenue due to fluctuations in water use.

Table 4  
 City of Foster City / Estero Municipal Improvement District  
 Current Rates

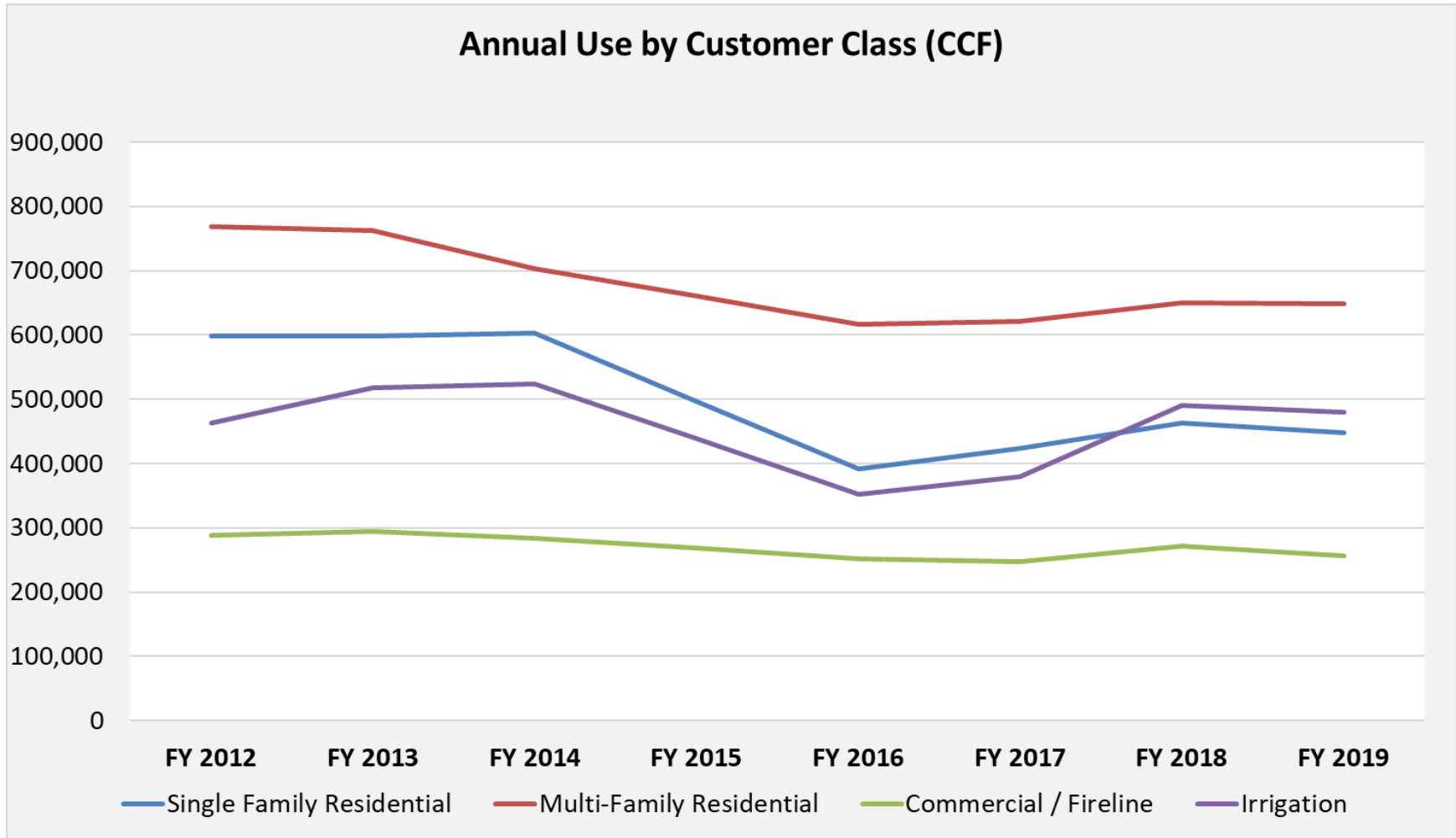
Current Rates		2020
<b>Fixed Meter Charge</b>		
<b>Monthly Meter Charge</b>		
<u>Meter Size</u>		
3/4"		\$23.15
1"		\$38.58
1-1/2"		\$92.60
2"		\$123.47
3"		\$270.08
4"		\$486.15
6"		\$1,080.33
8" or greater		\$1,852.00
<b>Bi-Monthly Water Consumption Tiers and Rates</b>		
<u>Single Family Residential</u>		
Tier 1	0-20 per ccf	\$5.59
Tier 2	Over 20 ccf	\$6.20
<u>Multi-Family Residential</u>		
Tier 1	0-10 ccf per living unit	\$5.59
Tier 2	Over 10 ccf per living unit	\$6.20
<u>Irrigation Customers</u>		
Tier 1	<=100% of annual budget	\$5.59
Tier 2	>100% of annual budget	\$6.17
<u>Commercial and Fire Line</u>		
All usage		\$5.70
<b>Monthly Private Fire Protection Charge</b>		
<u>Meter Size</u>		
3/4"		\$32.41
1"		\$32.41
1-1/2"		\$32.41
2"		\$43.29
3"		\$94.45
4"		\$170.15
6"		\$378.04
8" or greater		\$648.20

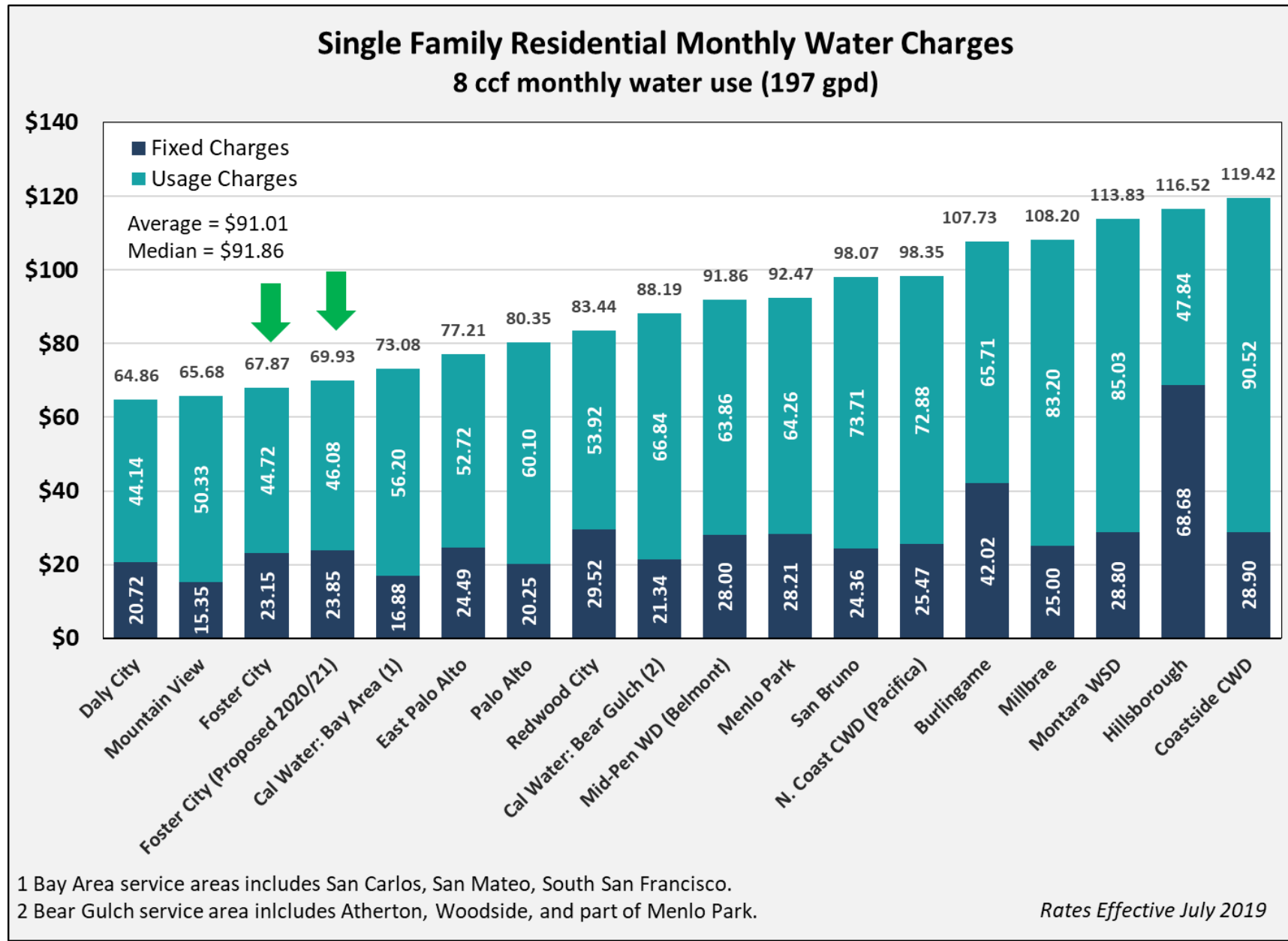
## **Low Income Discount**

BWA examined the potential for implementing a rate discount for low-income customers to help offset the impact of increasing water rates. According to Pacific Gas & Electric, 680 customers enrolled in the PG&E CARE Program in Foster City. BWA estimates that approximately 227 of these customers are single family residential and therefore would be eligible for the discount. Multifamily units would not be eligible for the discount because water service is often not separately metered for each unit and the bill is typically not paid by the individual units.

Should the District choose to implement such a discount, non-rate sources of revenue such as fines and penalties, cell tower lease or general fund revenue must be used to offset the cost to maintain compliance with California Proposition 218. A \$10/month discount would cost approximately \$28,000 per year. Since the low income discount revenue sources cannot be funded with water rates, water rates are unaffected by the decision on the terms of the program and hence are not required to be included in the Proposition 218 notification.

APPENDIX A





APPENDIX C

Table 1  
 City of Foster City / Estero Municipal Improvement District  
 Water Enterprise Cash Flow Projection - Residential Two Tier Rate Structure Hybrid Model

Fiscal Year Ending June 30	Five Year Projection						Extended Year Projection				
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Assumptions:</b>											
Interest Earnings Rate	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
Revenue Increase from Growth [1]		0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Fixed Charge	\$23.15	\$23.85	\$24.55	\$25.30	\$26.05	\$26.85	\$27.50	\$28.20	\$28.90	\$29.60	\$30.35
Fixed Rate Adjustment		3.0%	2.9%	3.1%	3.0%	3.1%	2.4%	2.5%	2.5%	2.4%	2.5%
SFR Variable Charge	\$5.59	\$5.76	\$5.93	\$6.11	\$6.30	\$6.49	\$6.85	\$7.26	\$7.52	\$7.86	\$7.86
Variable Rate Adjustment		3.0%	3.0%	3.0%	3.1%	3.0%	5.5%	6.0%	3.6%	4.5%	0.0%
Monthly Service Charge Single Family (8 ccf)	\$67.87	\$69.93	\$71.99	\$74.18	\$76.45	\$78.77	\$82.30	\$86.28	\$89.06	\$92.48	\$93.23
Rate Adjustment		3.0%	2.9%	3.0%	3.1%	3.0%	4.5%	4.8%	3.2%	3.8%	0.8%
<b>Beginning Fund Balance</b>	\$2,346,144	\$3,658,000	\$4,931,300	\$6,506,400	\$7,838,900	\$8,840,000	\$9,551,600	\$9,737,600	\$9,908,600	\$10,048,600	\$10,160,600
<b>Revenues</b>											
Water Sales & Service Charges											
<i>Meter Charge Revenue Estimate</i>	5,374,000	5,550,000	5,727,000	5,917,000	6,108,000	6,311,000	6,480,000	6,661,000	6,844,000	7,027,000	7,223,000
<i>Volumetric Revenue Estimate</i>	10,477,000	10,840,000	11,185,000	11,531,000	11,905,000	12,281,000	12,976,000	13,766,000	14,294,000	14,963,000	14,994,000
Connection Fees [1]	227,831	0	0	0	0	0	0	0	0	0	0
Interest Earnings - Operating Reserve [2]	35,000	55,000	74,000	98,000	118,000	133,000	143,000	146,000	149,000	151,000	152,000
Interest Earnings - Capital Improvement Fund [3]	52,000	52,000	52,000	52,000	52,000	52,000	52,000	52,000	52,000	52,000	52,000
Other	0	0	0	0	0	0	0	0	0	0	0
<b>Operating Revenues</b>	<b>16,165,831</b>	<b>16,497,000</b>	<b>17,038,000</b>	<b>17,598,000</b>	<b>18,183,000</b>	<b>18,777,000</b>	<b>19,651,000</b>	<b>20,625,000</b>	<b>21,339,000</b>	<b>22,193,000</b>	<b>22,421,000</b>
<b>Expenses</b>											
Employee Services	2,244,578	2,362,154	2,456,640	2,554,905	2,657,101	2,763,386	2,874,000	2,989,000	3,109,000	3,233,000	3,362,000
Internal Services - Others	705,891	768,092	787,294	806,976	827,151	847,829	869,000	891,000	913,000	936,000	959,000
Internal Services - ERF	456,701	443,967	455,066	466,443	478,104	490,056	502,000	515,000	528,000	541,000	555,000
Services & Supplies	560,550	598,900	613,873	629,219	644,950	661,074	678,000	695,000	712,000	730,000	748,000
SFPUC Water Purchases	8,596,412	8,618,000	8,638,000	9,265,000	10,000,000	10,696,000	11,902,000	12,690,000	13,228,000	13,896,000	13,928,000
BAWSCA Bond Repayment	820,776	820,776	870,000	870,000	870,000	870,000	870,000	870,000	870,000	870,000	870,000
Reallocation	1,064,229	1,206,812	1,236,982	1,267,907	1,299,605	1,332,095	1,365,000	1,399,000	1,434,000	1,470,000	1,507,000
Capital Outlay	0	0	0	0	0	0	0	0	0	0	0
<b>Operating Expenses</b>	<b>14,449,137</b>	<b>14,818,700</b>	<b>15,057,854</b>	<b>15,860,450</b>	<b>16,776,910</b>	<b>17,660,440</b>	<b>19,060,000</b>	<b>20,049,000</b>	<b>20,794,000</b>	<b>21,676,000</b>	<b>21,929,000</b>
<b>Operating Net Revenues</b>	<b>1,716,694</b>	<b>1,678,300</b>	<b>1,980,146</b>	<b>1,737,550</b>	<b>1,406,090</b>	<b>1,116,560</b>	<b>591,000</b>	<b>576,000</b>	<b>545,000</b>	<b>517,000</b>	<b>492,000</b>
<b>Water Sustainability Fund Transfer</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>
<b>Capital Improvement Transfer [4]</b>	<b>205,000</b>	<b>205,000</b>	<b>205,000</b>	<b>205,000</b>	<b>205,000</b>	<b>205,000</b>	<b>205,000</b>	<b>205,000</b>	<b>205,000</b>	<b>205,000</b>	<b>205,000</b>
Total Expenses	14,854,137	15,223,700	15,462,854	16,265,450	17,181,910	18,065,440	19,465,000	20,454,000	21,199,000	22,081,000	22,334,000
<b>Revenues Less O&amp;M Expenses</b>	<b>1,716,694</b>	<b>1,678,300</b>	<b>1,980,146</b>	<b>1,737,550</b>	<b>1,406,090</b>	<b>1,116,560</b>	<b>591,000</b>	<b>576,000</b>	<b>545,000</b>	<b>517,000</b>	<b>492,000</b>
<b>Revenues Less Total Expenses</b>	<b>1,311,694</b>	<b>1,273,300</b>	<b>1,575,146</b>	<b>1,332,550</b>	<b>1,001,090</b>	<b>711,560</b>	<b>186,000</b>	<b>171,000</b>	<b>140,000</b>	<b>112,000</b>	<b>87,000</b>
<b>Ending Fund Balance</b>	<b>3,657,838</b>	<b>4,931,300</b>	<b>6,506,446</b>	<b>7,838,950</b>	<b>8,839,990</b>	<b>9,551,560</b>	<b>9,737,600</b>	<b>9,908,600</b>	<b>10,048,600</b>	<b>10,160,600</b>	<b>10,247,600</b>
<b>Revenue Test: Annual Revenues &gt; O&amp;M Expenses</b>											
Annual Revenues Less O&M Expenses	1,716,694	1,678,300	1,980,146	1,737,550	1,406,090	1,116,560	591,000	576,000	545,000	517,000	492,000
Pass/fail	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
<b>Fund Reserve Test: Minimum Fund Balance &gt; 25% O&amp;M Expenses</b>											
Year-end fund balance	3,657,838	4,931,300	6,506,446	7,838,950	8,839,990	9,551,560	9,737,600	9,908,600	10,048,600	10,160,600	10,247,600
25% operating expenses	3,560,000	3,650,000	3,710,000	3,910,000	4,140,000	4,350,000	4,700,000	4,940,000	5,130,000	5,340,000	5,410,000
# of Days O&M in Reserves	92	121	158	180	192	197	186	180	176	171	171
Pass/fail	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

[1] Estimated for planning purposes  
 [2] Calculated as 1.5% of the Beginning Fund Balance of the Water Revenue Fund  
 [3] Calculated as 1.5% of the Beginning Fund Balance of the Water Capital Improvement Project Fund  
 [4] Capital Improvements are funded through the Long-Term Capital Improvement Project Fund

Table 2  
City of Foster City / Estero Municipal Improvement District  
Water Rate Calculation - Two Tier Hybrid Model

Fiscal Year Ending June 30	Five Year Projection					Extended Year Projection					
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Fixed Meter Charge Increase</b>		<b>3.00%</b>	<b>3.00%</b>	<b>3.00%</b>	<b>3.00%</b>	<b>3.00%</b>	<b>2.50%</b>	<b>2.50%</b>	<b>2.50%</b>	<b>2.50%</b>	<b>2.50%</b>
<b>Fixed Revenues +/- 5% of Fixed Costs?</b>		<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>Reserves % Above (Below) Reserve Target</b>		135.1%	175.4%	200.5%	213.5%	219.6%	207.2%	200.6%	195.9%	190.3%	189.4%
<b>Reserve Target Met?</b>		<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
<b>Revenue Estimates</b>											
Meter Charge Revenue	\$ 5,374,000	\$ 5,550,000	\$ 5,727,000	\$ 5,917,000	\$ 6,108,000	\$ 6,311,000	\$ 6,480,000	\$ 6,661,000	\$ 6,844,000	\$ 7,027,000	\$ 7,223,000
Other Fixed Revenue	\$ 314,831	\$ 107,000	\$ 126,000	\$ 150,000	\$ 170,000	\$ 185,000	\$ 195,000	\$ 198,000	\$ 201,000	\$ 203,000	\$ 204,000
Volumetric Revenue	\$ 10,477,000	\$ 10,837,000	\$ 11,193,000	\$ 11,532,000	\$ 11,897,000	\$ 12,276,000	\$ 12,980,000	\$ 13,756,000	\$ 14,299,000	\$ 14,968,000	\$ 15,000,000
<b>Total Projected</b>	<b>\$ 16,165,831</b>	<b>\$ 16,494,000</b>	<b>\$ 17,046,000</b>	<b>\$ 17,599,000</b>	<b>\$ 18,175,000</b>	<b>\$ 18,772,000</b>	<b>\$ 19,655,000</b>	<b>\$ 20,615,000</b>	<b>\$ 21,344,000</b>	<b>\$ 22,198,000</b>	<b>\$ 22,427,000</b>
<b>Total Projected Revenue (Rounded '000's)</b>	<b>\$ 16,166,000</b>	<b>\$ 16,494,000</b>	<b>\$ 17,046,000</b>	<b>\$ 17,599,000</b>	<b>\$ 18,175,000</b>	<b>\$ 18,772,000</b>	<b>\$ 19,655,000</b>	<b>\$ 20,615,000</b>	<b>\$ 21,344,000</b>	<b>\$ 22,198,000</b>	<b>\$ 22,427,000</b>
	\$16,165,831	\$16,497,000	\$17,038,000	\$17,598,000	\$18,183,000	\$18,777,000	\$19,651,000	\$20,625,000	\$21,339,000	\$22,193,000	\$22,421,000
<b>Revenue Allocation</b>											
Fixed	35.2%	34.3%	34.3%	34.5%	34.5%	34.6%	34.0%	33.3%	33.0%	32.6%	33.1%
Variable	64.8%	65.7%	65.7%	65.5%	65.5%	65.4%	66.0%	66.7%	67.0%	67.4%	66.9%
<b>Costs Estimates</b>											
Fixed Costs [1]	\$5,236,949	\$5,584,924	\$5,754,854	\$5,930,450	\$6,111,910	\$6,299,440	\$6,493,000	\$6,694,000	\$6,901,000	\$7,115,000	\$7,336,000
Variable Costs [2]	\$9,617,188	\$9,638,776	\$9,708,000	\$10,335,000	\$11,070,000	\$11,766,000	\$12,972,000	\$13,760,000	\$14,298,000	\$14,966,000	\$14,998,000
<b>Total Projected Costs</b>	<b>\$14,854,137</b>	<b>\$15,223,700</b>	<b>\$15,462,854</b>	<b>\$16,265,450</b>	<b>\$17,181,910</b>	<b>\$18,065,440</b>	<b>\$19,465,000</b>	<b>\$20,454,000</b>	<b>\$21,199,000</b>	<b>\$22,081,000</b>	<b>\$22,334,000</b>
<b>Net Revenue</b>											
Fixed Charges	\$451,882	\$72,076	\$98,146	\$136,550	\$166,090	\$196,560	\$182,000	\$165,000	\$144,000	\$115,000	\$91,000
Volumetric Charges	\$859,812	\$1,198,224	\$1,485,000	\$1,197,000	\$827,000	\$510,000	\$8,000	-\$4,000	\$1,000	\$2,000	\$2,000
<b>Total</b>	<b>\$1,311,694</b>	<b>\$1,270,300</b>	<b>\$1,583,146</b>	<b>\$1,333,550</b>	<b>\$993,090</b>	<b>\$706,560</b>	<b>\$190,000</b>	<b>\$161,000</b>	<b>\$145,000</b>	<b>\$117,000</b>	<b>\$93,000</b>
<b>Cost Analysis</b>											
Fixed	35.3%	36.7%	37.2%	36.5%	35.6%	34.9%	33.4%	32.7%	32.6%	32.2%	32.8%
Variable	64.7%	63.3%	62.8%	63.5%	64.4%	65.1%	66.6%	67.3%	67.4%	67.8%	67.2%
<b>Meter Charge Calculation</b>											
Monthly charge per meter equivalent (Rounded to nearest \$0.05)	\$ 23.15	\$ 23.85	\$ 24.55	\$ 25.30	\$ 26.05	\$ 26.85	\$ 27.50	\$ 28.20	\$ 28.90	\$ 29.60	\$ 30.35
Annual charge per meter equivalent	\$ 277.80	\$ 286.20	\$ 294.60	\$ 303.60	\$ 312.60	\$ 322.20	\$ 330.00	\$ 338.40	\$ 346.80	\$ 355.20	\$ 364.20
Meter equivalents [3]	19,343	19,392	19,440	19,489	19,538	19,587	19,636	19,685	19,734	19,783	19,832
Meter Charge Revenue Estimate	\$ 5,374,000	\$ 5,550,000	\$ 5,727,000	\$ 5,917,000	\$ 6,108,000	\$ 6,311,000	\$ 6,480,000	\$ 6,661,000	\$ 6,844,000	\$ 7,027,000	\$ 7,223,000
<b>Volumetric Rate Calculation</b>											
<b>EMID Proposed Uniform Rate</b>	<b>\$5.70</b>	<b>\$ 5.88</b>	<b>\$ 6.06</b>	<b>\$ 6.23</b>	<b>\$ 6.41</b>	<b>\$ 6.60</b>	<b>\$ 6.96</b>	<b>\$ 7.36</b>	<b>\$ 7.63</b>	<b>\$ 7.97</b>	<b>\$ 7.97</b>
Projected annual water sales (ccf) [4]	1,838,000	1,843,000	1,847,000	1,851,000	1,856,000	1,860,000	1,865,000	1,869,000	1,874,000	1,878,000	1,882,000
Variable revenue estimate	\$10,477,000	\$10,837,000	\$11,193,000	\$11,532,000	\$11,897,000	\$12,276,000	\$12,980,000	\$13,756,000	\$14,299,000	\$14,968,000	\$15,000,000
<b>% Spread between EMID and SFPUC Surcharge</b>											
<b>SFPUC PROJECTED RATES</b>	<b>\$4.10</b>	<b>\$4.10</b>	<b>\$4.10</b>	<b>\$4.39</b>	<b>\$4.73</b>	<b>\$5.05</b>	<b>\$5.61</b>	<b>\$5.97</b>	<b>\$6.21</b>	<b>\$6.51</b>	<b>\$6.51</b>
Increase (Decrease) %		0.0%	0.0%	7.1%	7.7%	6.8%	11.1%	6.4%	4.0%	4.8%	0.0%
<b>BAWSCA Surcharge</b>	<b>\$0.40</b>	<b>\$0.40</b>	<b>\$0.40</b>	<b>\$0.40</b>	<b>\$0.40</b>	<b>\$0.40</b>	<b>\$0.40</b>	<b>\$0.40</b>	<b>\$0.40</b>	<b>\$0.40</b>	<b>\$0.40</b>
<b>SFPUC Rate + BAWSCA Surcharge</b>	<b>\$4.50</b>	<b>\$4.50</b>	<b>\$4.50</b>	<b>\$4.79</b>	<b>\$5.13</b>	<b>\$5.45</b>	<b>\$6.01</b>	<b>\$6.37</b>	<b>\$6.61</b>	<b>\$6.91</b>	<b>\$6.91</b>
<b>EMID Fixed Meter Charge Increase (Decrease)</b>		3.0%	2.9%	3.1%	3.0%	3.1%	2.4%	2.5%	2.5%	2.4%	2.5%
<b>EMID Volumetric Rate Increase (Decrease)</b>		3.2%	3.1%	2.8%	2.9%	3.0%	5.5%	5.7%	3.7%	4.5%	0.0%

Note:  
[1] Includes: Employee Services, Internal Services - Other, Internal Services - ERF, Services & Supplies, Reallocation, Capital Outlay, Capital Improvement Fund Transfers, and net revenues for the operating fund.  
[2] Includes: SFPUC Water Purchases, BAWSCA Bond Repayment, and Water Sustainability Fund Transfers.  
[3] 0.25% growth estimated for planning purposes  
[4] Includes 11.5% water loss factor

Table 3  
 City of Foster City / Estero Municipal Improvement District  
 Proposed Water Rates - Two Tier Hybrid Model

**TWO TIER HYBRID MODEL**

Recommended Rates	Current Rates	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030
<b>Monthly Meter Charge</b>											
3/4"	\$23.15	\$23.85	\$24.55	\$25.30	\$26.05	\$26.85	\$27.50	\$28.20	\$28.90	\$29.60	\$30.35
1"	38.58	39.75	40.92	42.17	43.42	44.75	45.83	47.00	48.17	49.33	50.58
1-1/2"	92.60	95.40	98.20	101.20	104.20	107.40	110.00	112.80	115.60	118.40	121.40
2"	123.47	127.20	130.93	134.93	138.93	143.20	146.67	150.40	154.13	157.87	161.87
3"	270.08	278.25	286.42	295.17	303.92	313.25	320.83	329.00	337.17	345.33	354.08
4"	486.15	500.85	515.55	531.30	547.05	563.85	577.50	592.20	606.90	621.60	637.35
6"	1,080.33	1,113.00	1,145.67	1,180.67	1,215.67	1,253.00	1,283.33	1,316.00	1,348.67	1,381.33	1,416.33
8" or greater	1,852.00	1,908.00	1,964.00	2,024.00	2,084.00	2,148.00	2,200.00	2,256.00	2,312.00	2,368.00	2,428.00
<b>Conservation-Based Water Rate Model (based on bi-monthly allotments)</b>											
<b>Single Family Residential</b>											
Tier 1 0-20 per ccf	5.59	5.76	5.93	6.11	6.30	6.49	6.85	7.26	7.52	7.86	7.86
Tier 2 Over 20 ccf	6.20	6.41	6.60	6.75	6.92	7.09	7.42	7.83	8.09	8.43	8.43
<b>Multi-Family Residential (per living unit)</b>											
Tier 1 0-10 ccf per living unit	5.59	5.76	5.93	6.11	6.30	6.49	6.85	7.26	7.52	7.86	7.86
Tier 2 Over 10 ccf per living unit	6.20	6.46	6.65	6.80	6.96	7.14	7.47	7.87	8.14	8.48	8.47
<b>Irrigation Customers</b>											
Tier 1 <=100% of annual budget	5.59	5.76	5.93	6.11	6.30	6.49	6.85	7.26	7.52	7.86	7.86
Tier 2 >100% of annual budget	6.17	6.39	6.57	6.72	6.89	7.07	7.40	7.80	8.07	8.41	8.41
<b>Commercial and Fire Line Customers</b>											
Base Consumption Rate	5.70	5.88	6.06	6.23	6.41	6.60	6.96	7.36	7.63	7.97	7.97
<b>Monthly Fire Meter Charge</b>											
3/4"	32.41	33.39	34.37	35.42	36.47	37.59	38.50	39.48	40.46	41.44	42.49
1"	32.41	33.39	34.37	35.42	36.47	37.59	38.50	39.48	40.46	41.44	42.49
1-1/2"	32.41	33.39	34.37	35.42	36.47	37.59	38.50	39.48	40.46	41.44	42.49
2"	43.29	44.60	45.91	47.31	48.71	50.21	51.43	52.73	54.04	55.35	56.75
3"	94.45	97.31	100.16	103.22	106.28	109.55	112.20	115.06	117.91	120.77	123.83
4"	170.15	175.30	180.44	185.96	191.47	197.35	202.13	207.27	212.42	217.56	223.07
6"	378.04	389.47	400.90	413.15	425.40	438.46	449.08	460.51	471.94	483.37	495.62
8" or greater	648.20	667.80	687.40	708.40	729.40	751.80	770.00	789.60	809.20	828.80	849.80
(Minimum charge is equivalent to 1-1/2" meter charge)											



Table 4  
 Foster City / Estero Municipal Improvement District  
 Projected Water Rate Impacts

		Current	FY2021
		Rates	Two Tier Hybrid Model
Monthly meter charge		\$23.15	\$23.85
% Change			3.0%
<b>Single Family Residential</b>			
<b>Bi-Monthly Tiers</b>			
Tier 1: 0 to 20 ccf		\$5.59	\$5.76
Tier 2: over 20 ccf		\$6.20	\$6.41
<u>Water Use Level</u>	<u>Monthly Use (ccf)</u>		<u>Monthly Bill</u>
<b>Low User</b>	5	\$51.10	\$52.65
\$ Increase			1.55
% Increase			3.0%
<b>Average User</b>	8	\$67.87	\$69.93
\$ Increase			2.06
% Increase			3.0%
<b>High User</b>	10	\$79.05	\$81.45
\$ Increase			2.40
% Increase			3.0%
<b>Very High User</b>	20	\$134.95	\$145.55
\$ Increase			10.60
% Increase			7.9%
<b>Excessive User</b>	50	\$320.95	\$337.85
\$ Increase			16.90
% Increase			5.3%

Table 5  
 Foster City / Estero Municipal Improvement District  
 Projected Water Rate Impacts

Projected Water Bills	Current	Fiscal Year Ending June 30					Extended Year Projection				
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<u>Two Tier Hybrid Model</u>											
Single Family Residential Monthly Rate	\$67.87	\$69.93	\$71.99	\$74.18	\$76.45	\$78.77	\$82.30	\$86.28	\$89.06	\$92.48	\$93.23
\$ Increase		2.06	2.06	2.19	2.27	2.32	3.53	3.98	2.78	3.42	0.75
% Increase		3.0%	2.9%	3.0%	3.1%	3.0%	4.5%	4.8%	3.2%	3.8%	0.8%

***Based on Single Family Residential Use of 8 ccf***

## Wastewater Enterprise Fund

There are approximately 13,789 wastewater accounts serviced by the District. The majority of accounts are residential with the remainder consisting of commercial and institutional accounts as shown in Table 1.

Table 1  
Foster City / Estero Municipal Improvement District  
Wastewater Service Accounts

Data as of: 02/14/20

Customer Class	Number of Accounts
<b>Residential</b>	
Single Family	4,534
Townhouse/Duplex	2,199
Apartment/Condominium (Pools w/ Restrooms)	<u>6,798</u>
Residential Total	13,531
<b>Commercial</b>	
Restaurants	48
Commercial/Hotels/Offices/Industrial/Laundromats	<u>175</u>
Commercial Total	223
<b>Institutional</b>	
Institutional/Schools	<u>35</u>
Institutional Total	35
Total	13,789

Source: Cognos Sewer Customer Count Report

The District has approximately \$9,092,033 in its wastewater maintenance and operations reserve fund as shown in Table 2. The District's minimum operating reserve target is 25% of operating and maintenance expenses (est. to be about \$2 million).

Table 2  
 Foster City / Estero Municipal Improvement District  
 Wastewater Operating Fund Reserves

Fund Reserve Component	July 1, 2019
	Balance
Reserved for Maintenance & Operation	\$9,092,033
Total	\$9,092,033

Note: Rate model only includes fund reserve components available to fund ongoing operating and capital expenditures.

Source: City of Foster City/Estero Municipal Improvement District Staff

Table 3 summarizes the current wastewater service rates.

Table 3  
 Foster City / Estero Municipal Improvement District  
 Current Wastewater Rates

Fiscal Year Ending June 30	Current 2020
<b>Residential (flat monthly rate)</b>	
Single Family	\$85.20
Townhouse/Duplex	71.57
Apartment/Condominium (Pools w/ Restrooms)	71.57
<b>Commercial (rate per ccf of water use)</b>	
Restaurants	15.48
Commercial/Hotels/Offices/Industrial/Laundromats	5.44
<b>Institutional (rate per ccf of water use)</b>	
Institutional/Schools	3.58

Table 4 summarizes the operating expenditures of the enterprise. Costs are expected to remain relatively stable over the next five years. Projected operating expenditures are anticipated to increase over the next five years by about 20%.

Table 4  
 City of Foster City / Estero Municipal Improvement District  
 Wastewater Enterprise O&M Projection

Expenditures	Five Year Projection						Annual % Increase [1]
	FY2020 Budget	FY2021	FY2022	FY2023	FY2024	FY2025	
Employee Services	\$2,336,391	\$2,440,195	\$2,537,803	\$2,639,315	\$2,744,888	\$2,854,684	4.0%
Internal Services (from City)	814,566	878,885	900,857	923,378	946,462	970,124	2.5%
Internal Services -ERF	279,163	269,346	276,080	282,982	290,057	297,308	2.5%
Services & Supplies	439,750	447,550	458,739	470,207	481,962	494,011	2.5%
EMID Share WWTP O&M	2,900,000	2,900,000	3,045,000	3,197,250	3,357,113	3,524,969	5.0%
Contract Services	105,500	153,000	156,825	160,746	164,765	168,884	2.5%
Reallocation	<u>806,442</u>	<u>788,160</u>	<u>807,864</u>	<u>828,061</u>	<u>848,763</u>	<u>869,982</u>	2.5%
<b>TOTAL O&amp;M Expenditures</b>	<b>\$7,681,812</b>	<b>\$7,877,136</b>	<b>\$8,183,168</b>	<b>\$8,501,939</b>	<b>\$8,834,010</b>	<b>\$9,179,962</b>	
		2.5%	3.9%	3.9%	3.9%	3.9%	

[1] Based on historical results

## Wastewater Financial Projections

Wastewater projections are shown in APPENDIX E.

### San Mateo-Foster City Public Financing Authority:

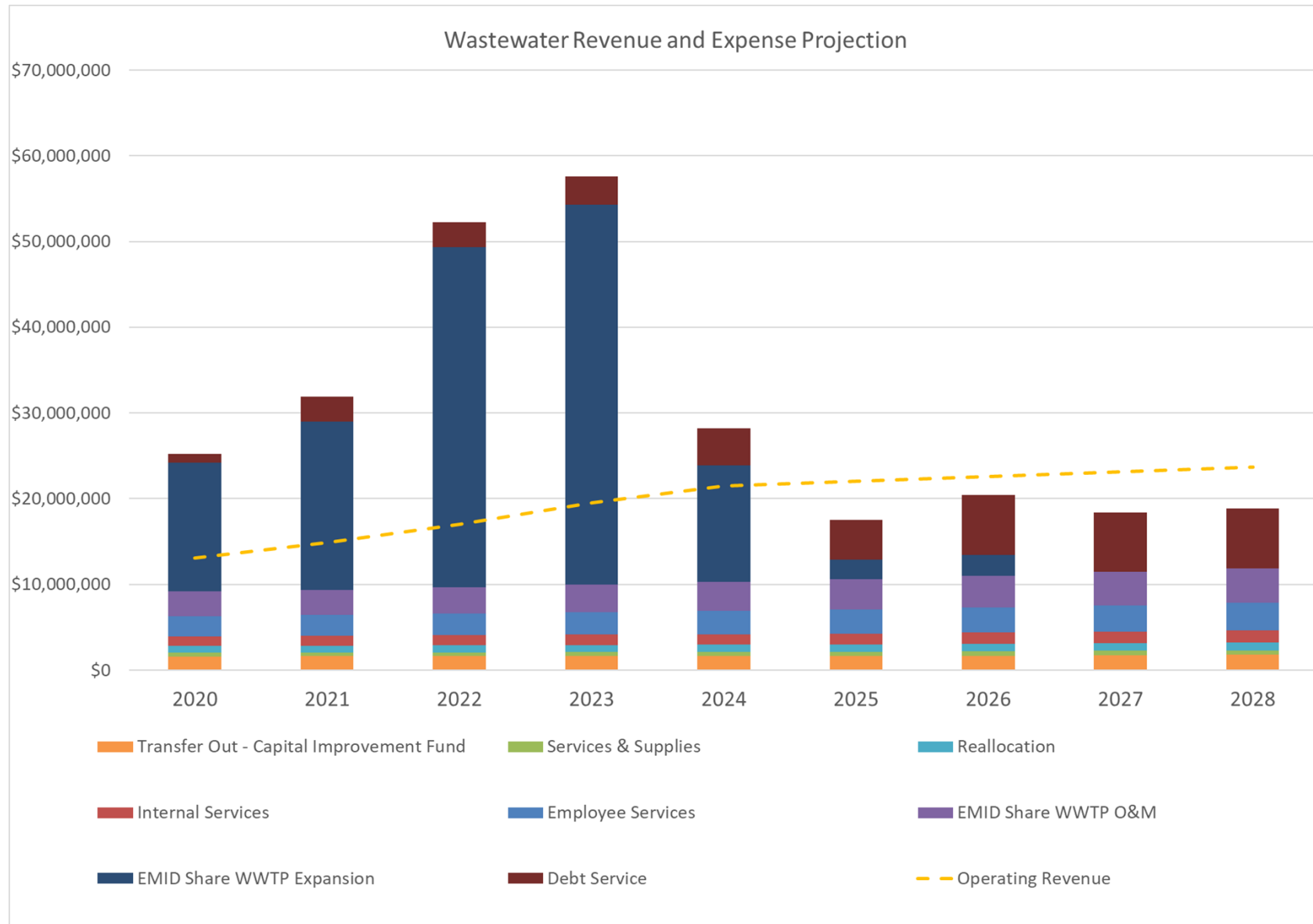
Projections anticipate a \$117.9 million of debt issues between FY 2020 and FY 2025 (\$66.8 MM of WIFIA proceeds and \$51.1 MM of bonds) to fund WWTP expansion costs. BWA projects that the approved rate increases are adequate to secure projected debt issuances over the next several years. Additional increases of 2% thereafter are recommended to keep rates in line with inflation.

Table 5 shows debt service estimates for the District’s share of WWTP costs. Annual debt service for the combined total debt issuances is estimated to amount to \$6.9 MM by FY 2026.

Table 5  
City of Foster City / Estero Municipal Improvement District  
Debt Service Estimates

<b>Debt Service</b>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
2019 WIFIA Loan	\$0	\$0	\$0	\$0	\$0	\$0	\$2,983,168	\$2,983,169	\$2,983,168	\$2,983,168	\$2,983,169
2019 Financing Agreement	1,041,154	2,083,625	2,087,125	2,084,250	2,085,000	2,084,250	2,086,875	2,087,750	2,086,875	2,084,250	2,084,750
2020 Construction Note	0	835,155	835,155	835,155	835,155	835,155	0	0	0	0	0
2021 Financing Agreement	0	0	0	0	0	0	0	0	0	0	0
2022 Financing Agreement	0	0	0	0	0	0	0	0	0	0	0
2023 Financing Agreement	0	0	0	364,302	728,604	998,604	996,989	995,252	997,356	998,453	998,523
2024 Financing Agreement	0	0	0	0	641,450	641,450	876,450	876,703	880,823	878,773	880,945
<u>2025 Financing Agreement</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total Debt Service</b>	<b>\$1,041,154</b>	<b>\$2,918,780</b>	<b>\$2,922,280</b>	<b>\$3,283,707</b>	<b>\$4,290,209</b>	<b>\$4,559,459</b>	<b>\$6,943,482</b>	<b>\$6,942,873</b>	<b>\$6,948,222</b>	<b>\$6,944,644</b>	<b>\$6,947,386</b>

**CHART B**



## Wastewater Cost of Service Analysis

Bartle Wells performed a Wastewater Cost of Service Analysis to determine equitable cost allocation to the various user classes. BWA recommends continuing the practice of placing commercial customers into three wastewater strength categories, (low, medium and high) based on the State Water Resources Control Board (SWRCB) Wastewater Revenue Program Guidelines. Low strength wastewater (Class A) customers include banks, laundromats, retail stores, schools, churches and others as shown in Table 6.

Medium strength wastewater (Class B) customers have wastewater strength factors that are assumed to be similar to residential wastewater strength factors. They include typical commercial activities such as libraries, spas, nail salons, gas stations and bars.

High strength wastewater (Class C) customers primarily include food-related businesses such as restaurants, bakeries, dairies, wineries, catering, butcher shops and fish markets.

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Table 6  
City of Foster City/Estero Municipal Improvement District  
Strength Classifications into Low, Medium/Domestic, and High Strength Dischargers

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**Low Strength**

Banks & Financial Institutions  
Barber Shops/Hair Salons (hair cutting only)  
Post Offices/Government  
Retail Stores  
Libraries  
Schools  
Churches, Halls & Lodges

**Medium/Commercial/  
Domestic Strength**

Residential - All  
Appliance Repair  
Beauty Shops ( hair cutting w/additional treatments)  
Dry Cleaners  
Nail Salons  
Pet Groomers  
Commercial Laundromats  
Bars & Taverns  
Tasting Rooms  
Hospitals - General, Convalescent & Veterinarian



Hotels, Motels, B&Bs, and Vacation Rentals  
Offices - Business and Professional  
Offices - Medical/Dental  
Pools with Restrooms (Clubhouse)  
Theaters  
Warehouses  
Car Washes  
High Tech Medical Manufacturing  
Light Manufacturing/Industrial  
Gym or Health Club  
Machine Shops  
Service Stations, Garages, Auto Repair Shops  
Mini Marts - W/O Dish Washer or Garbage Disposal  
Mini Mart with Gas Pumps - W/O Dish Washer or Garbage Disposal  
Spa with Various Beauty Treatments  
Parking Garages

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**High Strength**

Restaurants  
Coffee Shops  
Ice Cream Parlors  
Catering  
Eatery  
Bakeries  
Butcher Shops  
Fish Market/Shop  
Markets - with Dish Washer or Garbage Disposal  
Markets - with Bakeries or Butcher Shops  
Mini Marts - with Dish Washer or Garbage Disposal  
Wineries  
Market  
Dairies (milk producers, yogurt, ice cream maker)  
Specialty Foods Manufacturing (e.g., cheese or olive oil maker)

Note: Wastewater users who have Fats, Oils, and Grease (FOG) waste will be put into the High Strength user category

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Table 7 summarizes the assumed wastewater strength factors for the low, medium and high strength groups that are based on typical strengths provided in the SWRCB’s Revenue Program Guidelines. The strength factor for medium strength customers is equivalent to residential or “domestic” strength, of 1.00. The strength factor for low strength is calculated at 0.66 and for high strength is calculated at 2.85 based on the SWRCB guidelines.

Table 7  
 City of Foster City/Estero Municipal Improvement District  
 Assumed Wastewater Strength Factors

Strength Class	LOW	LOW-MEDIUM	MEDIUM	HIGH
Examples:	Institutional Bank	Townhouse, Duplex, Apartment, Condo	Residential Offices	Restaurant Bakery
Flow (gpd)	200	168	200	200
BOD <sup>1</sup> (mg/l)	130	240	240	1000
TSS <sup>2</sup> (mg/l)	100	240	240	800
Strength Factor	0.66	0.84	1.00	2.85
Strength Factor Formula	SF=(Flow(gpd)/200)*(0.34+(0.33*BOD(mg/l)/240)+(0.33*TSS(mg/l)/240))			

WW flows and strengths based on State Water Resources Control Board's Revenue Program Guidelines

1 "BOD" stands for Biochemical Oxygen Demand

2 "TSS" stands for Total Suspended Solids

Table 8 summarizes the mass-balance analysis for the City's wastewater system and calculates the wastewater rates for each customer class. Single family residences are assumed to have an average daily (dry weather) flow of 200 gallons per day (gpd).

Based on residential occupancy data provided by the City of Foster City, single family residences are estimated to have an average of 2.67 residents per household and multi-family residences are estimated to have an average of 2.25 residents per household (84% of a single family household).

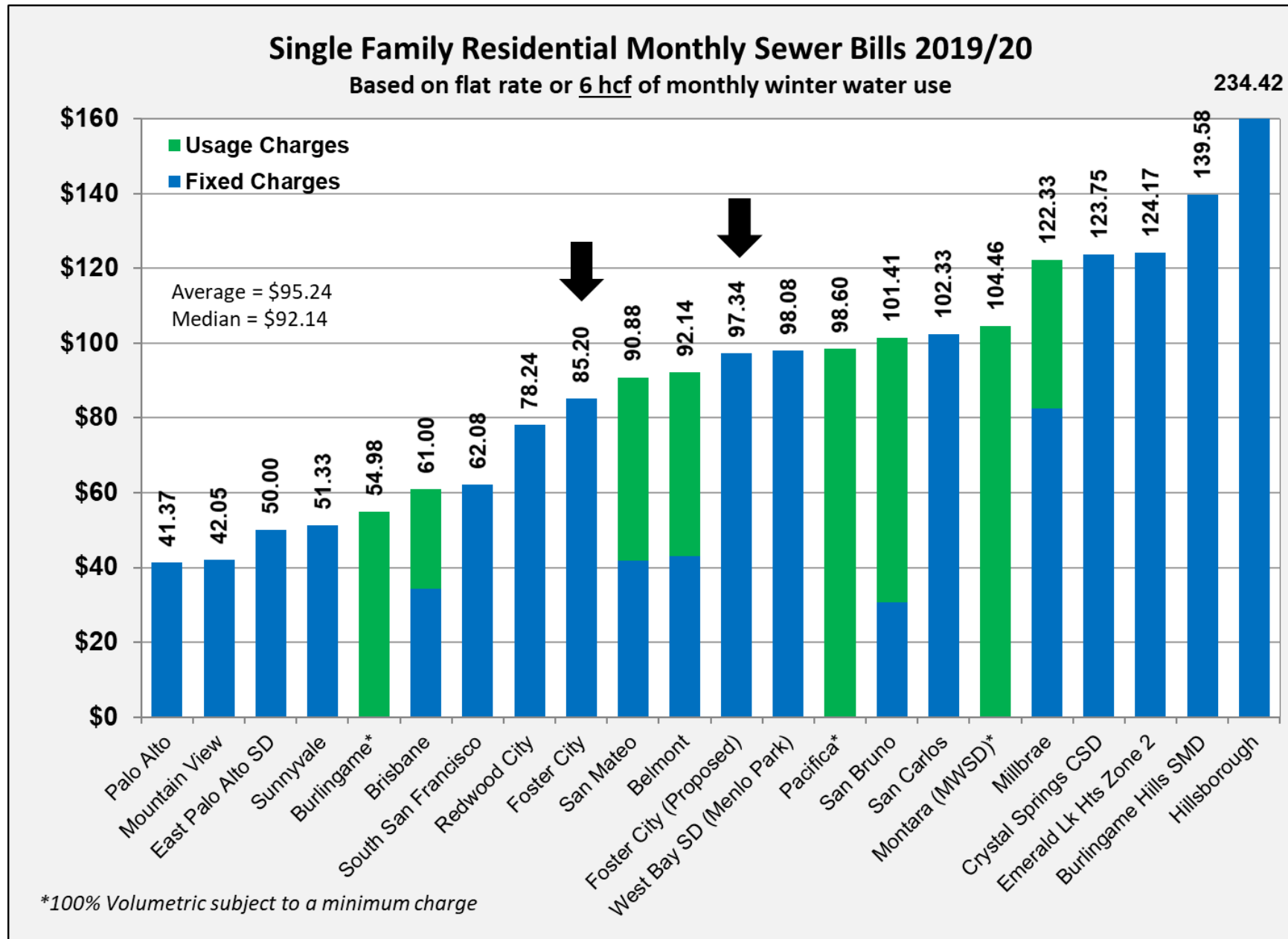
Multi-family dwellings are billed based on an estimated flow of 168 gpd or 0.84 times the single family flow. As a check, the mass balance in Table 8 compares the total calculated and measured daily wastewater flows for Foster City (average dry weather flow).

The results agree well with the estimated daily flow at 2.71 million gallons per day (mgd) and the measured flow at 2.37 mgd.

Table 8  
 City of Foster City/Estero Municipal Improvement District  
 Summary of Wastewater Users by Customer Class

Customer Class	EDUs <sup>1</sup>	ADWF Flow (gal/day)	FY 2020 Estimate EDU x Flow ADWF Flow (gal/day)	BOD <sup>3</sup> (mg/l)	TSS <sup>4</sup> (mg/l)	Calculated Current Rate	
<b>Residential</b>							
Single Family Residential	4,534	200	906,800	240	240	85.20	
Townhouse/Duplex	2,199	168	369,432	240	240	71.57	
Apartment/Condos	6,798	168	1,142,064	240	240	71.57	
Subtotal			2,418,296				
Commercial	Accounts	Use (gal/day)	Flow Factor	Estimated ADWF Flow (gal/day)	BOD <sup>3</sup> (mg/l)	TSS <sup>4</sup> (mg/l)	Calculated Current Rate
Low Strength	35	56,110	65%	36,471	130	100	3.58
Medium/Domestic Strength	175	361,320	53%	191,247	240	240	5.44
High Strength	48	93,375	70%	65,363	1000	800	15.48
Subtotal		510,805		293,081			
<b>Totals</b>				2,711,377			
Check Against Lowest Actual Monthly Avg. Day Flow (May 2014 from LS 59 Flow Log):				2,367,806			

1 "EDU" stands for Equivalent Dwelling Unit  
 2 "ADWF" stands for Average Dry Weather Flow  
 3 "BOD" stands for Biochemical Oxygen Demand  
 4 "TSS" stands for Total Suspended Solids



APPENDIX E

Table 1  
City of Foster City / Estero Municipal Improvement District  
Wastewater Enterprise Cash Flow Projection

	Five Year Projection						Extended Year Projection				
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Assumptions:</b>											
Interest Earnings Rate	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
Revenue Increase from Growth		0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Rate Adjustment		14.25%	14.25%	14.25%	10.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Monthly Service Charge for Single Family	\$85.20	\$97.34	\$111.21	\$127.06	\$139.77	\$142.56	\$145.41	\$148.32	\$151.29	\$154.31	\$157.40
<b>Beginning O&amp;M Fund Balance</b>	\$9,092,033	\$11,813,900	\$10,303,200	\$14,776,800	\$11,013,600	\$17,345,400	\$21,728,400	\$23,739,800	\$28,280,600	\$32,953,300	\$37,762,700
<b>Operating Revenues</b>											
Service Charges	12,862,000	14,727,000	16,862,000	19,307,000	21,286,000	21,765,000	22,255,000	22,756,000	23,268,000	23,792,000	24,327,000
Connection Fees [1]	45,500										
Interest Earnings [2]	136,380	177,000	155,000	222,000	165,000	260,000	326,000	356,000	424,000	494,000	566,000
Other Revenue	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>Operating Revenue</b>	<b>13,044,880</b>	<b>14,905,000</b>	<b>17,018,000</b>	<b>19,530,000</b>	<b>21,452,000</b>	<b>22,026,000</b>	<b>22,582,000</b>	<b>23,113,000</b>	<b>23,693,000</b>	<b>24,287,000</b>	<b>24,894,000</b>
<b>Non Operating Revenue</b>											
Bond / Loan [3]	14,894,666	15,448,115	39,868,596	34,455,199	13,239,488	0	0	0	0	0	0
<b>Non Operating Revenue</b>	<b>14,894,666</b>	<b>15,448,115</b>	<b>39,868,596</b>	<b>34,455,199</b>	<b>13,239,488</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Revenue</b>	<b>27,939,546</b>	<b>30,353,115</b>	<b>56,886,596</b>	<b>53,985,199</b>	<b>34,691,488</b>	<b>22,026,000</b>	<b>22,582,000</b>	<b>23,113,000</b>	<b>23,693,000</b>	<b>24,287,000</b>	<b>24,894,000</b>
<b>Operating Expenses</b>											
Employee Services	2,336,391	2,440,195	2,537,803	2,639,315	2,744,888	2,854,684	2,968,871	3,087,626	3,211,131	3,339,576	3,473,159
Internal Services (from City)	814,566	878,885	900,857	923,378	946,462	970,124	994,377	1,019,236	1,044,717	1,070,835	1,097,606
Internal Services -ERF	279,163	269,346	276,080	282,982	290,057	297,308	304,741	312,360	320,169	328,173	336,377
Services & Supplies	439,750	447,550	458,739	470,207	481,962	494,011	506,361	519,020	531,996	545,296	558,928
EMID Share WWTP O&M	2,900,000	2,900,000	3,045,000	3,197,250	3,357,113	3,524,969	3,701,217	3,886,278	4,080,592	4,284,622	4,498,853
EMID Share WWTP Capital Improvements	105,500	153,000	156,825	160,746	164,765	168,884	173,106	177,434	181,870	186,417	191,077
<b>Reallocation</b>	<b>806,442</b>	<b>788,160</b>	<b>807,864</b>	<b>828,061</b>	<b>848,763</b>	<b>869,982</b>	<b>891,732</b>	<b>914,025</b>	<b>936,876</b>	<b>960,298</b>	<b>984,305</b>
<b>Operating Expenses</b>	<b>7,681,812</b>	<b>7,877,136</b>	<b>8,183,168</b>	<b>8,501,939</b>	<b>8,834,010</b>	<b>9,179,962</b>	<b>9,540,405</b>	<b>9,915,979</b>	<b>10,307,351</b>	<b>10,715,217</b>	<b>11,140,305</b>
<b>Operating Net Revenue</b>	<b>5,363,068</b>	<b>7,027,864</b>	<b>8,834,832</b>	<b>11,028,061</b>	<b>12,617,990</b>	<b>12,846,038</b>	<b>13,041,595</b>	<b>13,197,021</b>	<b>13,385,649</b>	<b>13,571,783</b>	<b>13,753,695</b>
<b>Capital Expenses</b>											
<b>Transfer Out - Capital Improvement Fund</b>	<b>1,600,000</b>	<b>1,615,000</b>	<b>1,615,000</b>	<b>1,615,000</b>	<b>1,615,000</b>	<b>1,615,000</b>	<b>1,663,450</b>	<b>1,713,354</b>	<b>1,764,754</b>	<b>1,817,697</b>	<b>1,872,228</b>
EMID Share WWTP Expansion	14,894,666	19,452,861	39,692,535	44,347,797	13,620,420	2,288,615	2,423,260	0	0	0	0
<b>Capital Expenses</b>	<b>16,494,666</b>	<b>21,067,861</b>	<b>41,307,535</b>	<b>45,962,797</b>	<b>15,235,420</b>	<b>3,903,615</b>	<b>4,086,710</b>	<b>1,713,354</b>	<b>1,764,754</b>	<b>1,817,697</b>	<b>1,872,228</b>
<b>Annual Debt Service</b>	<b>1,041,154</b>	<b>2,918,780</b>	<b>2,922,280</b>	<b>3,283,707</b>	<b>4,290,209</b>	<b>4,559,459</b>	<b>6,943,482</b>	<b>6,942,873</b>	<b>6,948,222</b>	<b>6,944,644</b>	<b>6,947,386</b>
Debt Service	1,041,154	2,918,780	2,922,280	3,283,707	4,290,209	4,559,459	6,943,482	6,942,873	6,948,222	6,944,644	6,947,386
<b>Debt Coverage [4]</b>	<b>5.15</b>	<b>2.41</b>	<b>3.02</b>	<b>3.36</b>	<b>2.94</b>	<b>2.82</b>	<b>1.88</b>	<b>1.90</b>	<b>1.93</b>	<b>1.95</b>	<b>1.98</b>
Total Expenditures	25,217,632	31,863,777	52,412,983	57,748,443	28,359,639	17,643,036	20,570,597	18,572,206	19,020,327	19,477,558	19,959,918
<b>Revenues Less Total Expenditures</b>	<b>2,721,914</b>	<b>(1,510,662)</b>	<b>4,473,613</b>	<b>(3,763,245)</b>	<b>6,331,848</b>	<b>4,382,964</b>	<b>2,011,403</b>	<b>4,540,794</b>	<b>4,672,673</b>	<b>4,809,442</b>	<b>4,934,082</b>
<b>Ending O&amp;M Fund</b>	<b>11,813,947</b>	<b>10,303,238</b>	<b>14,776,813</b>	<b>11,013,555</b>	<b>17,345,448</b>	<b>21,728,364</b>	<b>23,739,803</b>	<b>28,280,594</b>	<b>32,953,273</b>	<b>37,762,742</b>	<b>42,696,782</b>
<b>Cash Fund Reserve Test: Minimum Fund Balance &gt; 25% O&amp;M Expenses</b>											
Year-end O&M Fund	11,813,947	10,303,238	14,776,813	11,013,555	17,345,448	21,728,364	23,739,803	28,280,594	32,953,273	37,762,742	42,696,782
25% Operating Expenses	1,920,453	1,969,284	2,045,792	2,125,485	2,208,503	2,294,991	2,385,101	2,478,995	2,576,838	2,678,804	2,785,076
# of Days O&M in Reserves	561	477	659	473	717	864	908	1,041	1,167	1,286	1,399
Pass/fail	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

[1] Growth projections for planning purposes  
 [2] Projected interest calculated as 1.5% of the Beginning Fund Balance of the Wastewater O&M Fund.  
 [3] Calculated by William Euphrat Municipal Finance, Inc. 3/2020  
 [4] Minimum requirement debt service coverage requirement = 1.25x

Table 2  
City of Foster City / Estero Municipal Improvement District  
Projected Wastewater Rate Impacts

Projected Rates	Current	Projected - Fiscal Year Ending June 30				
	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
<b>% Rate Increase</b>		<b>14.25%</b>	<b>14.25%</b>	<b>14.25%</b>	<b>10.00%</b>	<b>2.00%</b>
<b>Residential (flat monthly rate)</b>						
Single Family	\$85.20	\$97.34	\$111.21	\$127.06	\$139.77	\$142.57
<i>Increase (Decrease)</i>		12.14	13.87	15.85	12.71	2.80
Townhouse/Duplex	\$71.57	\$81.77	\$93.42	\$106.73	\$117.40	\$119.75
<i>Increase (Decrease)</i>		10.20	11.65	13.31	10.67	2.35
Apartment/Condominium (Pools w/ Restrooms)	\$71.57	\$81.77	\$93.42	\$106.73	\$117.40	\$119.75
<i>Increase (Decrease)</i>		10.20	11.65	13.31	10.67	2.35
<b>Commercial (rate per ccf of water use)</b>						
High Strength	\$15.48	\$17.69	\$20.21	\$23.09	\$25.40	\$25.91
<i>Increase (Decrease) per ccf</i>		2.21	2.52	2.88	2.31	0.51
Medium/Domestic Strength	\$5.44	\$6.22	\$7.11	\$8.12	\$8.93	\$9.11
<i>Increase (Decrease) per ccf</i>		0.78	0.89	1.01	0.81	0.18
Low Strength	\$3.58	\$4.09	\$4.67	\$5.34	\$5.87	\$5.99
<i>Increase (Decrease) per ccf</i>		0.51	0.58	0.67	0.53	0.12

CHART C

