

A dynamic background image showing water being poured from a glass, creating a large splash with many bubbles. The water is clear and bright blue. The background is divided into sections of dark blue, light blue, and grey, with a vertical green bar on the right side.

San Lorenzo Valley Water District Water Rate Design Study

Public Workshop
July 13, 2017

Presented by
Carmen Narayanan, Consultant, NBS

Overview

- **Recap of Rate Study Results**
- **Water Rates**
 - ✓ Recap of Water Usage
 - ✓ Recap of Cost-of-Service Analysis
 - ✓ Financial Plan Results (annual rate increases needed)
 - ✓ Water Rate Design (how rates will be collected)
 - ✓ Monthly Bill Comparisons
- **Next Steps**

Rate Study Tasks & Methodology

Key Components in a Rate Study:

1 FINANCIAL PLAN / REVENUE REQUIREMENTS

Step 1: Financial Plan/ Revenue Requirements - Compares current sources and uses of funds and determines the revenue needed from rates and projected rate adjustments.

2 COST-OF-SERVICE ANALYSIS

Step 2: Cost-of-Service Analysis - Allocates revenue requirements to the customer classes in a "fair and equitable" manner that complies with Prop 218.

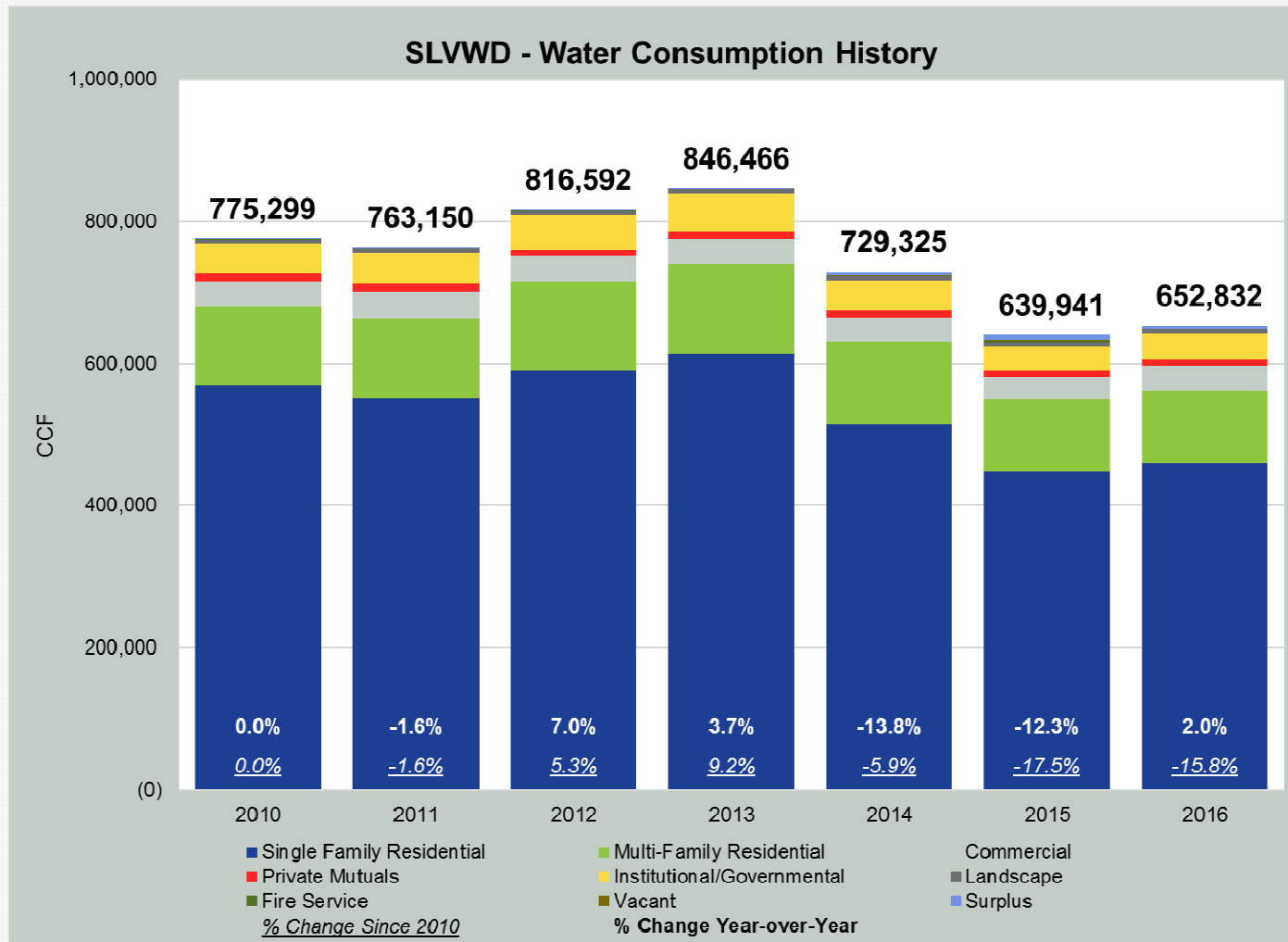
3 RATE DESIGN

Step 3: Rate Design - Considers what rate structure alternatives will best meet the District's need to collect rate revenue from each customer class.

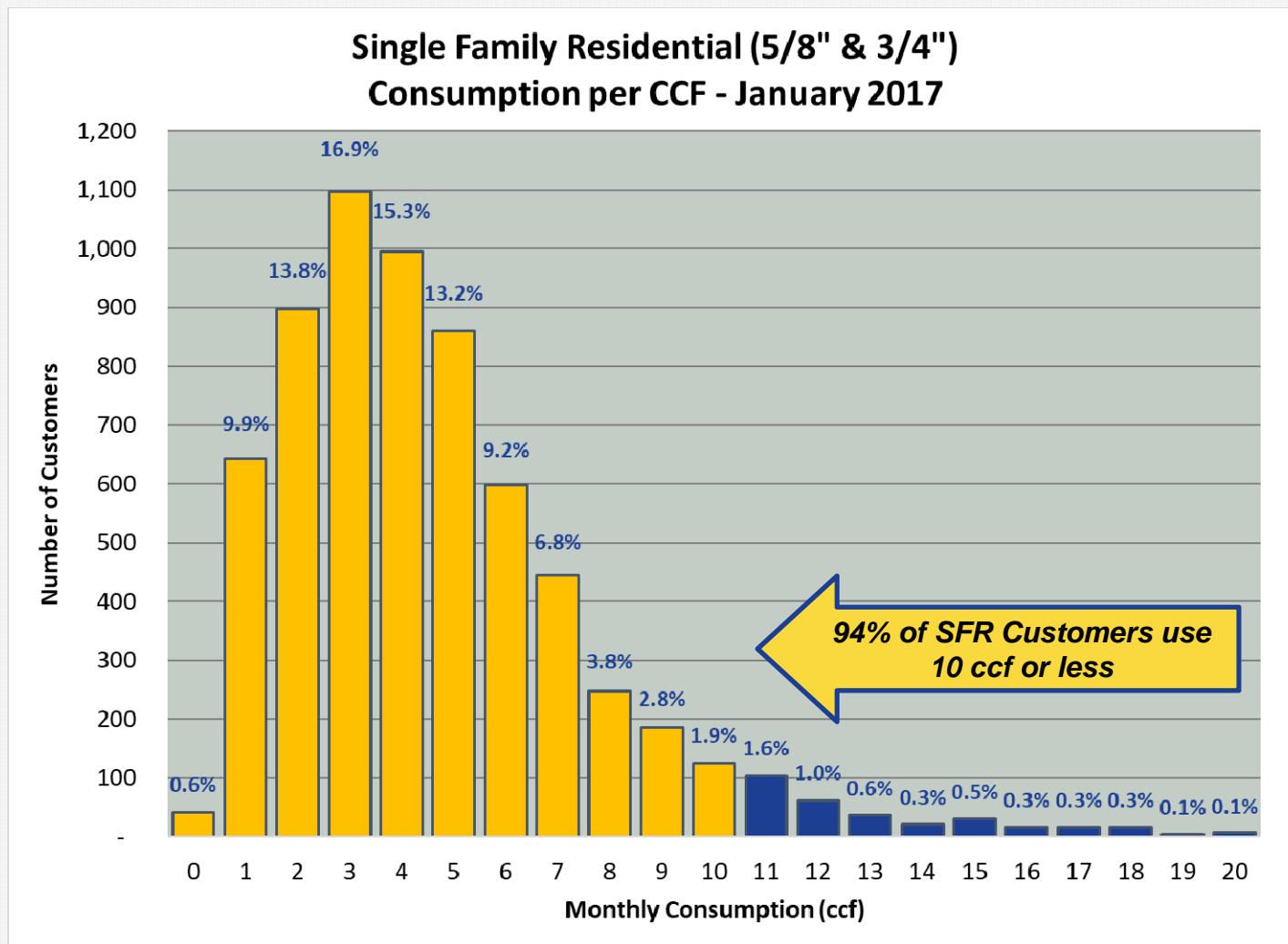
**Covered in Cost of Service Study
(adopted January 2017)**

**Focus of Rate
Design Study**

Water Consumption History



Water Consumption for SFR in Jan. 2017



Recap of Cost-of-Service Analysis

Allocates revenue requirements to the customer classes based on three classification components:

- ✓ **Commodity related costs** – associated with the total consumption (flow) of water over a specific period of time.
- ✓ **Capacity related costs** – associated with the maximum demand required at one point in time or the maximum size of facilities required to meet this demand.
- ✓ **Customer related costs** – associated with having a customer on the water system.

COSA Results

Classification Components	Net Cost Requirements (2017/18)
Commodity-Related Costs	46.6%
Capacity-Related Costs	44.7%
Customer-Related Costs	8.7%
Net Revenue Requirement	100%

True Fixed Costs

Classification Components (1)	Fixed/Variable Net Revenue Requirements (2017/18)
Variable Costs	22.2%
Fixed Costs	77.8%
Net Revenue Requirements	100%

Water Financial Plan Scenarios

Various financial plan scenarios were evaluated:

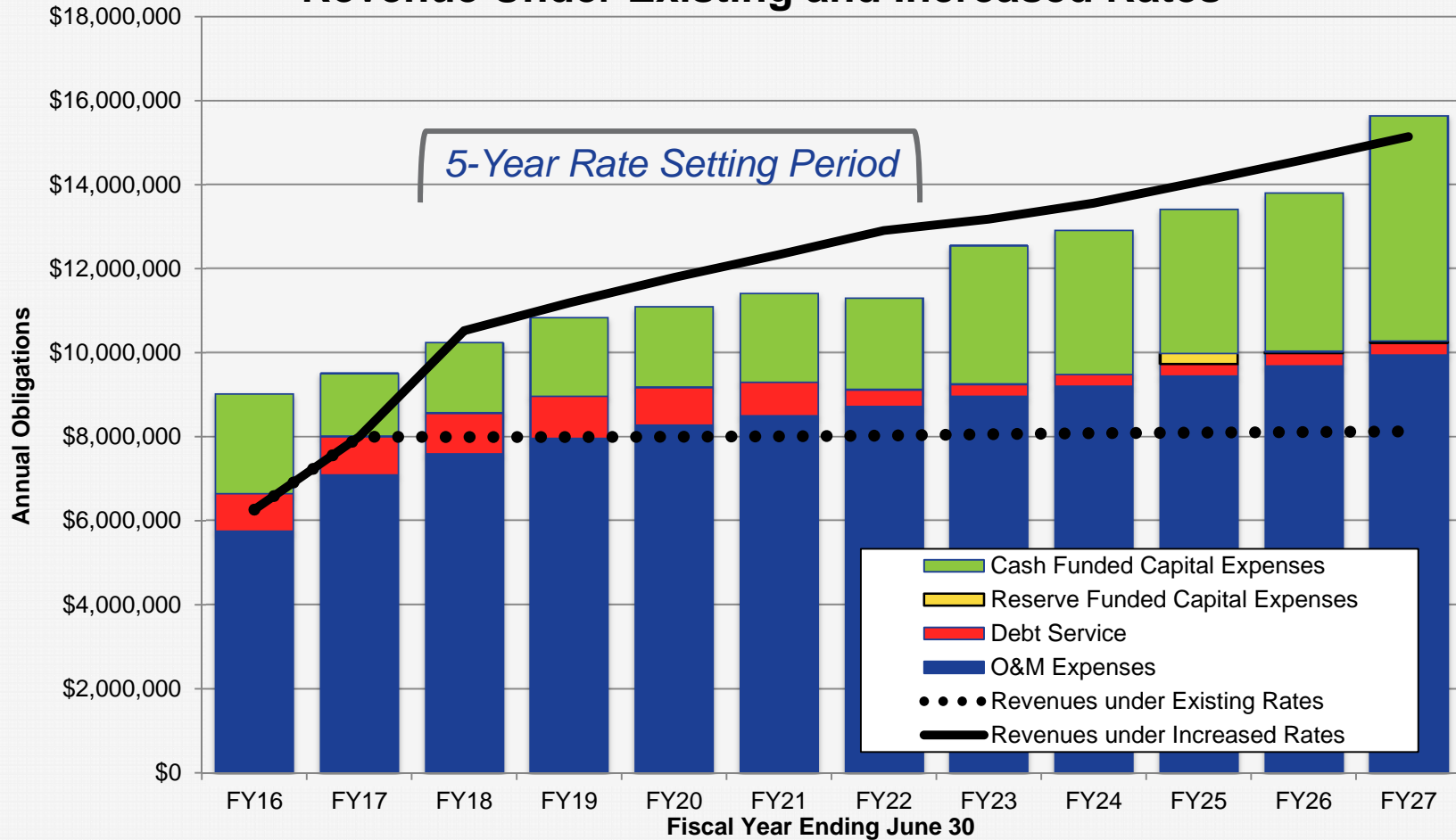
- ✓ Cumulative effect on District's water customers.
- ✓ Overall effect on District's long-term reserves and capital improvement program expenditures.

1. Mid Flat Rate Increases	Limited CIP through Year 5, Reserves recover by Year 10 & Phased-In CIP Spending
2. 10-Year Phase In	100% of CIP & Reserves by Year 10
3. 5-Year Phase In	100% of CIP & Reserves by Year 5
4. Rates with Phased-In CIP	<ul style="list-style-type: none">✓ Limited CIP through Year 5✓ Phased-In CIP Spending✓ 100% of Reserves by Year 5
5. Low Flat Rate Increases	Limited CIP through Year 5, Reserves recover after Year 10 & Phased-In CIP Spending

**Preferred
Financial
Plan**

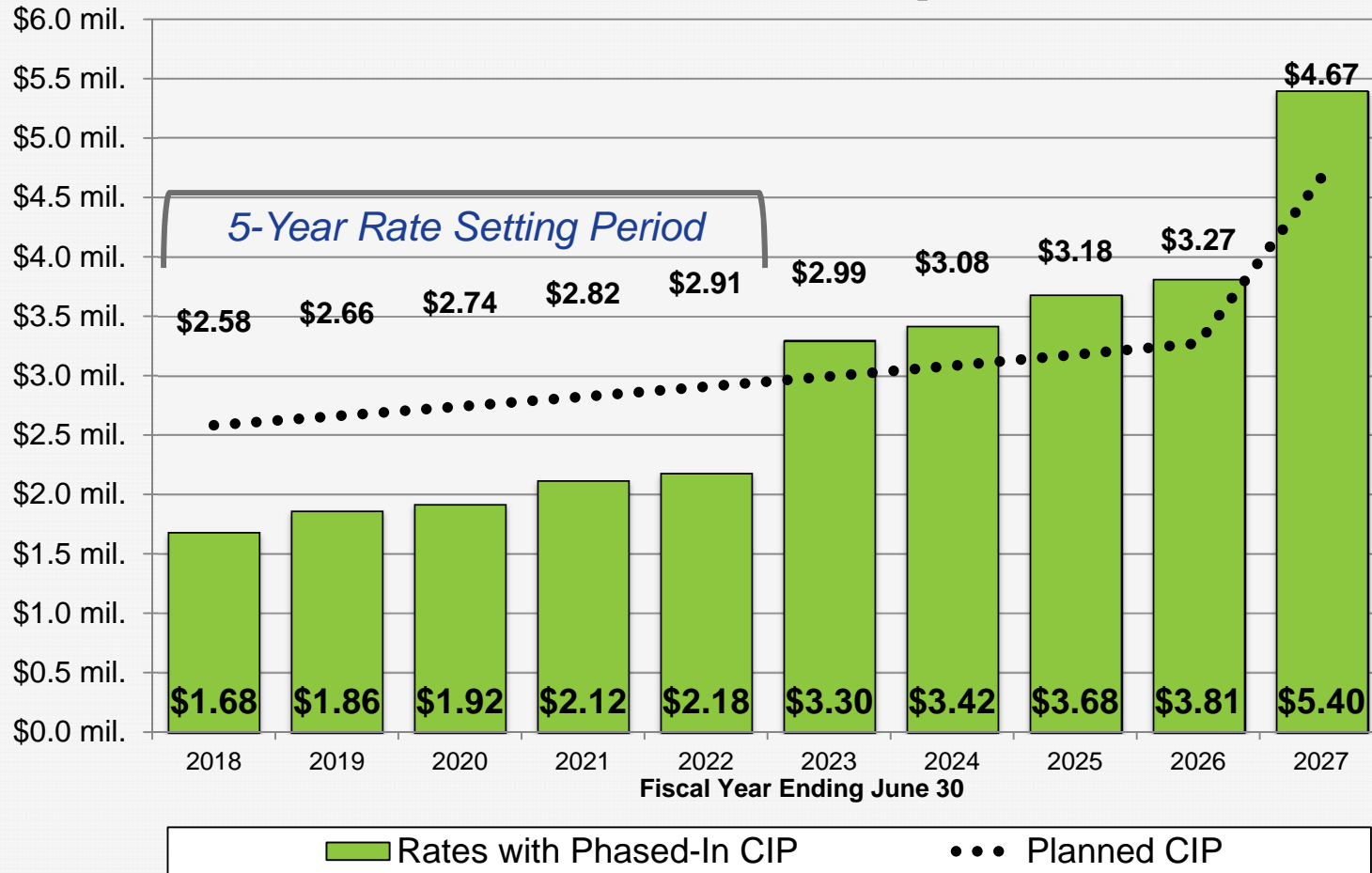
Preferred Financial Plan Summary

Projected Water Cost Requirements vs. Revenue Under Existing and Increased Rates



Annual CIP with Preferred Financial Plan

Annual CIP Expenditures



Overview of Rate Design

- ✓ Rate Design results reflect the Preferred Financial Plan Scenario
- ✓ All Rate Designs are “revenue-neutral”: they all collect the same target annual revenue.
- ✓ Rate Design Components Considered:
 - % of Revenue Collected from Fixed & Variable Charges
 - What Should Target Conservation Levels Be?
 - Volumetric Surcharge – *Assumed to be Eliminated*

Water Rate Design Alternatives Considered

% Fixed vs. Variable Charges: Rate Alternatives Adjust how Revenue is Collected.

Option	Fixed	Variable	Total	Attributes
<i>Current Rates</i> ¹	50%	50%	100%	
Rate Alternative #1	70%	30%	100%	Lower Volumetric Rates
Rate Alternative #2	50%	50%	100%	Reflects Current Rates
Rate Alternative #3	30%	70%	100%	Higher Volumetric Rates

1. Current Rates Variable portion includes drought surcharge revenue, which will be eliminated.

Note: If current fixed charge remains the same (\$34.00/month for a SFR 5/8-inch meter), Rate Design would equal approximately 37% Fixed / 63% Variable.

**Preferred
Financial
Plan**

Water Rate Design *(cont.)*

1. Fixed Rates with Higher % Volumetric Charges:

- ✓ Shift Costs to Those Using More Water.
- ✓ Subjects District to More Drought-Risks/Revenue Instability.

2. Volumetric Rates:

- ✓ Current Volumetric Rates are 4-Tiers – but are now difficult to defend.
- ✓ Single (uniform) tier rates are simple to administer, fair and equitable, and easy to defend.
- ✓ Assumption: Eliminate Drought Surcharge of \$1/ccf.

Water Rate Design *(cont.)*

3. Revenue Stabilization Rates: These rates are intended to stabilize District's variable rate revenues that may be effected by conservation or unusual weather patterns.

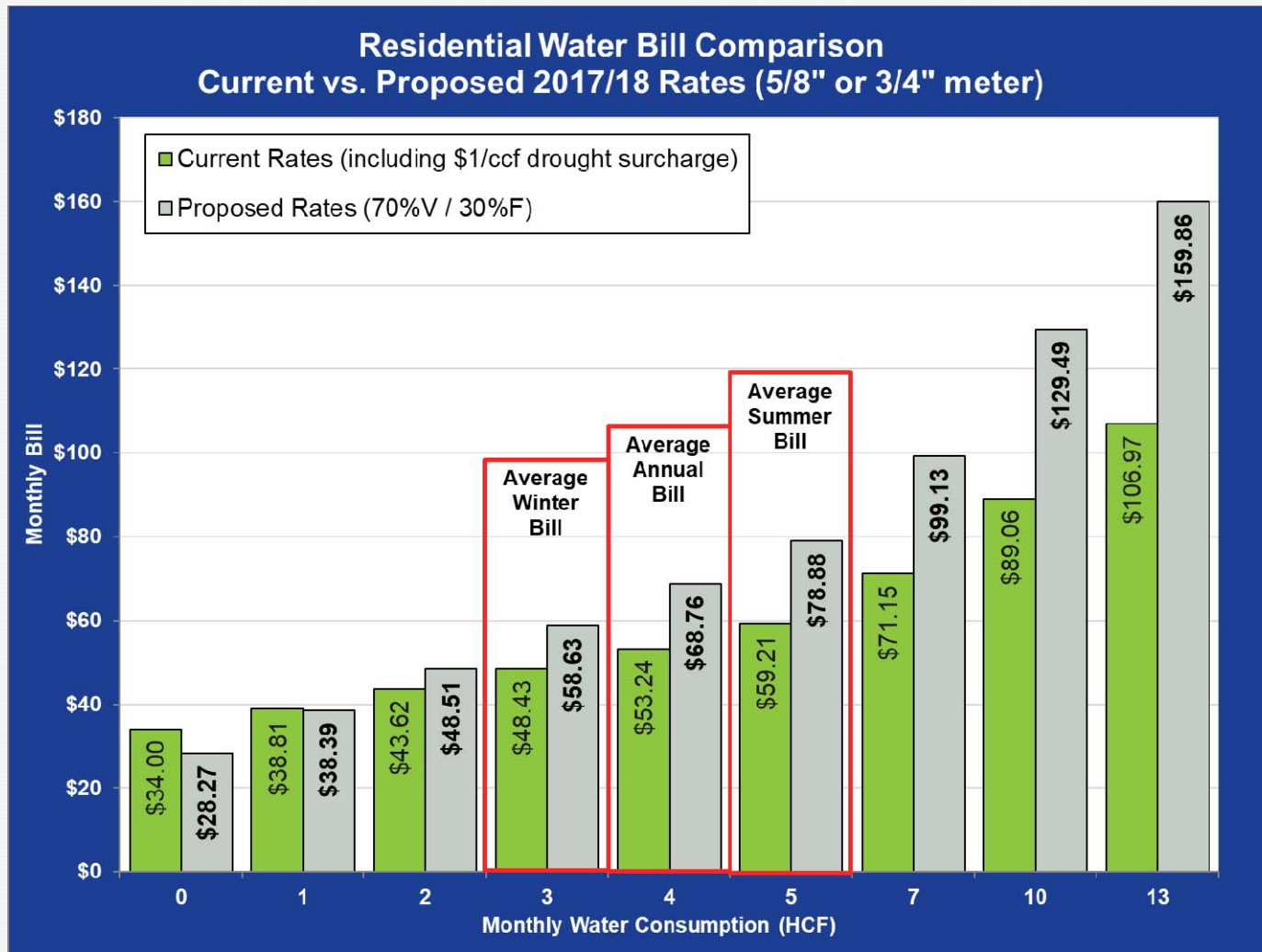
- ✓ **Implementation** – Once adopted through Prop 218, they can be implemented by Board of Directors.
- ✓ **Reversible** – When water sales revenue has returned to expected levels, the rate stabilization rates will be automatically rescinded.
- ✓ **Public Notification** – District will provide adequate notice prior to Conservation Rates being implemented (or removed).
- ✓ **Rates** – The Revenue-Stabilization rate schedule will be the current uniform volumetric rate that is 10%, 15%, and 20% higher, with 20% being the maximum.

Proposed Rates

Water Rate Schedule	Current Rates		Proposed Rates - 30% Fixed / 70% Variable				
			FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
			37.00%	7.00%	6.00%	5.00%	5.00%
Fixed Service Charge							
Monthly Fixed Service Charges:							
5/8 inch		\$34.00	\$28.27	\$30.24	\$32.06	\$33.66	\$35.34
3/4 inch		\$34.00	\$28.27	\$30.24	\$32.06	\$33.66	\$35.34
1 inch		\$56.50	\$42.36	\$45.33	\$48.05	\$50.45	\$52.97
1 1/2 inch	<i>per account</i>	\$114.00	\$77.61	\$83.04	\$88.03	\$92.43	\$97.05
2 inch		\$181.50	\$119.91	\$128.30	\$136.00	\$142.80	\$149.94
3 inch		\$341.00	\$232.70	\$248.98	\$263.92	\$277.12	\$290.97
4 inch		\$567.00	\$359.58	\$384.75	\$407.84	\$428.23	\$449.64
Surplus Water (1)		\$114.00	\$77.61	\$83.04	\$88.03	\$92.43	\$97.05
Volumetric Charges for All Water Consumed							
Tier 1	0 - 4 ccf	\$3.81	--	--	--	--	--
Tier 2	5 - 15 ccf	\$4.97	--	--	--	--	--
Tier 3	16 - 50 ccf	\$5.96	--	--	--	--	--
Tier 4	51+ ccf	\$6.61	--	--	--	--	--
Drought Surcharge	per CCF	\$1.00	--	--	--	--	--
Flat Rate (Uniform Rate)	per CCF	\$4.64	\$10.12	\$10.83	\$11.48	\$12.06	\$12.66
Surplus Water	per CCF	\$10.00	\$14.39	\$15.40	\$16.32	\$17.14	\$17.99

1. Per District policy, Surplus water accounts are charged the 1 1/2 inch meter monthly fee.

Bill Comparison – SFR 5/8” or 3/4”



Bill Comparison Tables – SFR 5/8” or 3/4”

Single Family Residence with a 5/8" or 3/4" Meter:

CCF per Month	Total Bill with Current Rates	Total Bill with Proposed Rates 30% Fixed / 70% Variable - SINGLE TIER					Year 1 Effective Rate Increase (%)	Year 5 Effective Rate Increase (%)	Compound Annual Growth Rate (CAGR) %
		FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22			
		37.00%	7.00%	6.00%	5.00%	5.00%			
0	\$34.00	\$28.27	\$30.24	\$32.06	\$33.66	\$35.34	-16.9%	4.0%	0.8%
1	\$38.81	\$38.39	\$41.08	\$43.54	\$45.72	\$48.00	-1.1%	23.7%	4.3%
2	\$43.62	\$48.51	\$51.91	\$55.02	\$57.77	\$60.66	11.2%	39.1%	6.8%
3	\$48.43	\$58.63	\$62.74	\$66.50	\$69.83	\$73.32	21.1%	51.4%	8.6%
4	\$53.24	\$68.76	\$73.57	\$77.98	\$81.88	\$85.98	29.1%	61.5%	10.1%
5	\$59.21	\$78.88	\$84.40	\$89.47	\$93.94	\$98.64	33.2%	66.6%	10.7%
6	\$65.18	\$89.00	\$95.23	\$100.95	\$105.99	\$111.29	36.5%	70.7%	11.3%
7	\$71.15	\$99.13	\$106.06	\$112.43	\$118.05	\$123.95	39.3%	74.2%	11.7%
8	\$77.12	\$109.25	\$116.90	\$123.91	\$130.10	\$136.61	41.7%	77.1%	12.1%
9	\$83.09	\$119.37	\$127.73	\$135.39	\$142.16	\$149.27	43.7%	79.6%	12.4%
10	\$89.06	\$129.49	\$138.56	\$146.87	\$154.22	\$161.93	45.4%	81.8%	12.7%

Bill Comparison Tables – SFR 1”

Single Family Residence with a 1" Meter:

CCF per Month	Total Bill with Current Rates	Total Bill with Proposed Rates 30% Fixed / 70% Variable - SINGLE TIER					Year 1 Effective Rate Increase (%)	Year 5 Effective Rate Increase (%)	Compound Annual Growth Rate (CAGR) %
		FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22			
		37.00%	7.00%	6.00%	5.00%	5.00%			
0	\$56.50	\$42.36	\$45.33	\$48.05	\$50.45	\$52.97	-25.0%	-6.2%	-1.3%
1	\$61.31	\$52.49	\$56.16	\$59.53	\$62.51	\$65.63	-14.4%	7.1%	1.4%
2	\$66.12	\$62.61	\$66.99	\$71.01	\$74.56	\$78.29	-5.3%	18.4%	3.4%
3	\$70.93	\$72.73	\$77.82	\$82.49	\$86.62	\$90.95	2.5%	28.2%	5.1%
4	\$75.74	\$82.86	\$88.66	\$93.97	\$98.67	\$103.61	9.4%	36.8%	6.5%
5	\$81.71	\$92.98	\$99.49	\$105.46	\$110.73	\$116.27	13.8%	42.3%	7.3%
6	\$87.68	\$103.10	\$110.32	\$116.94	\$122.78	\$128.92	17.6%	47.0%	8.0%
7	\$93.65	\$113.22	\$121.15	\$128.42	\$134.84	\$141.58	20.9%	51.2%	8.6%
8	\$99.62	\$123.35	\$131.98	\$139.90	\$146.89	\$154.24	23.8%	54.8%	9.1%
9	\$105.59	\$133.47	\$142.81	\$151.38	\$158.95	\$166.90	26.4%	58.1%	9.6%
10	\$111.56	\$143.59	\$153.64	\$162.86	\$171.01	\$179.56	28.7%	60.9%	10.0%

Bill Comparison Tables – MFR 1” & 2 units

Multi Family Residence 1" Meter and 2 Units (Current Rate Tiers are double):

CCF per Month	Total Bill with Current Rates	Total Bill with Proposed Rates 30% Fixed / 70% Variable - SINGLE TIER					Year 1 Effective Rate Increase (%)	Year 5 Effective Rate Increase (%)	Compound Annual Growth Rate (CAGR) %
		FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22			
		37.00%	7.00%	6.00%	5.00%	5.00%			
0	\$56.50	\$42.36	\$45.33	\$48.05	\$50.45	\$52.97	-25.0%	-6.2%	-1.3%
2	\$66.12	\$62.61	\$66.99	\$71.01	\$74.56	\$78.29	-5.3%	18.4%	3.4%
4	\$75.74	\$82.86	\$88.66	\$93.97	\$98.67	\$103.61	9.4%	36.8%	6.5%
6	\$85.36	\$103.10	\$110.32	\$116.94	\$122.78	\$128.92	20.8%	51.0%	8.6%
8	\$94.98	\$123.35	\$131.98	\$139.90	\$146.89	\$154.24	29.9%	62.4%	10.2%
10	\$106.92	\$143.59	\$153.64	\$162.86	\$171.01	\$179.56	34.3%	67.9%	10.9%
12	\$118.86	\$163.84	\$175.31	\$185.82	\$195.12	\$204.87	37.8%	72.4%	11.5%
14	\$130.80	\$184.08	\$196.97	\$208.79	\$219.23	\$230.19	40.7%	76.0%	12.0%
16	\$142.74	\$204.33	\$218.63	\$231.75	\$243.34	\$255.50	43.1%	79.0%	12.3%
18	\$154.68	\$224.57	\$240.29	\$254.71	\$267.45	\$280.82	45.2%	81.5%	12.7%
20	\$166.62	\$244.82	\$261.96	\$277.67	\$291.56	\$306.14	46.9%	83.7%	12.9%

Bill Comparison Tables – Commercial 1”

Commercial with a 1" Meter and Flat Rate:

CCF per Month	Total Bill with Current Rates	Total Bill with Proposed Rates 30% Fixed / 70% Variable - SINGLE TIER					Year 1 Effective Rate Increase (%)	Year 5 Effective Rate Increase (%)	Compound Annual Growth Rate (CAGR) %
		FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22			
		37.00%	7.00%	6.00%	5.00%	5.00%			
0	\$56.50	\$42.36	\$45.33	\$48.05	\$50.45	\$52.97	-25.0%	-6.2%	-1.3%
1	\$62.14	\$52.49	\$56.16	\$59.53	\$62.51	\$65.63	-15.5%	5.6%	1.1%
2	\$67.78	\$62.61	\$66.99	\$71.01	\$74.56	\$78.29	-7.6%	15.5%	2.9%
3	\$73.42	\$72.73	\$77.82	\$82.49	\$86.62	\$90.95	-0.9%	23.9%	4.4%
4	\$79.06	\$82.86	\$88.66	\$93.97	\$98.67	\$103.61	4.8%	31.0%	5.6%
5	\$84.70	\$92.98	\$99.49	\$105.46	\$110.73	\$116.27	9.8%	37.3%	6.5%
10	\$112.90	\$143.59	\$153.64	\$162.86	\$171.01	\$179.56	27.2%	59.0%	9.7%
15	\$141.10	\$194.21	\$207.80	\$220.27	\$231.28	\$242.85	37.6%	72.1%	11.5%
20	\$169.30	\$244.82	\$261.96	\$277.67	\$291.56	\$306.14	44.6%	80.8%	12.6%
25	\$197.50	\$295.43	\$316.11	\$335.08	\$351.83	\$369.43	49.6%	87.1%	13.3%
30	\$225.70	\$346.05	\$370.27	\$392.49	\$412.11	\$432.72	53.3%	91.7%	13.9%

Next Steps

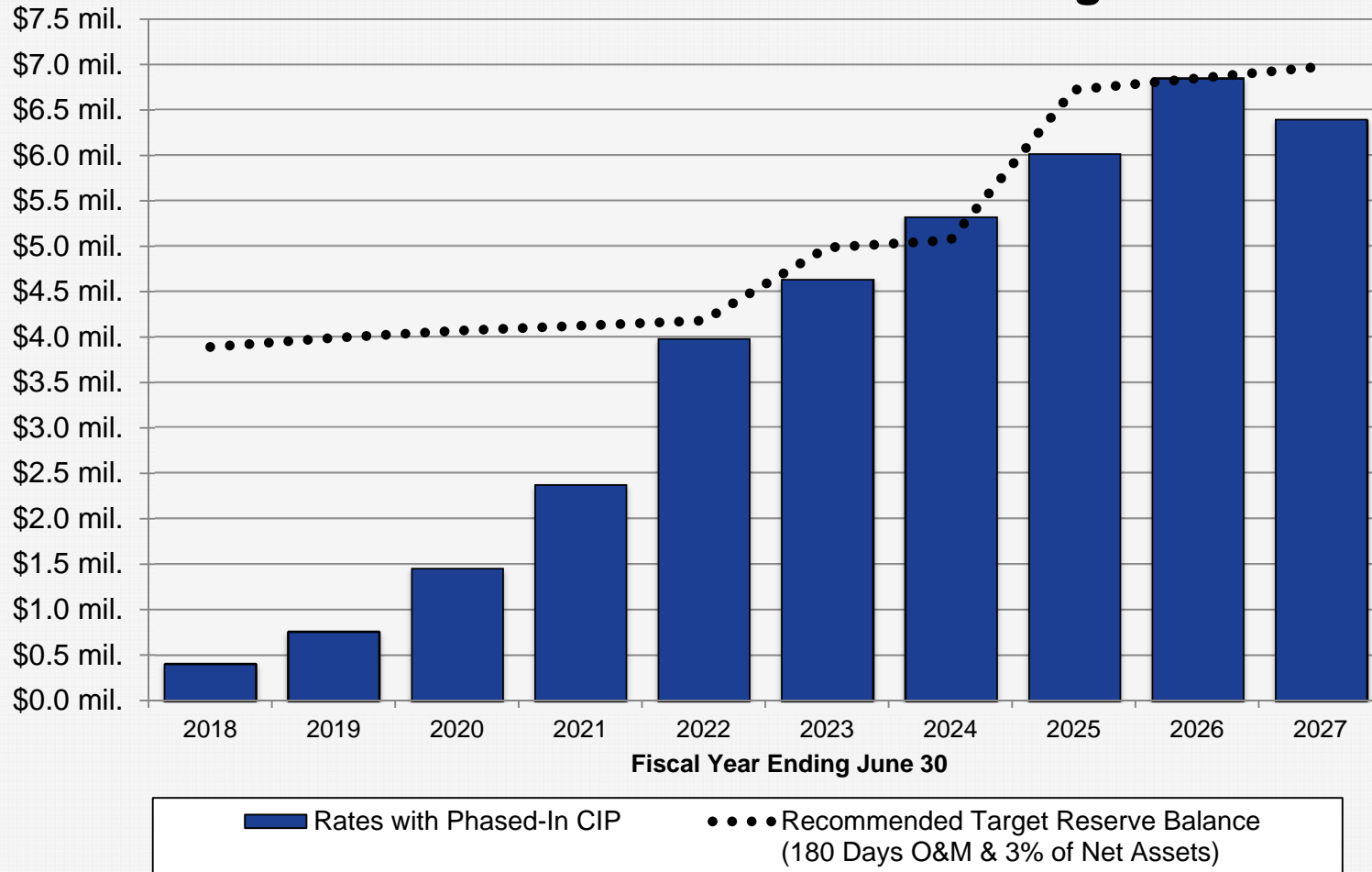
- 1. Board Needs to Accept/Approve Recommended Water Rates & Initiate Prop 218 Process.**

QUESTIONS and COMMENTS



Reserves with Preferred Financial Plan

Ending Cash Balances vs. Recommended Reserve Targets



Preferred Financial Plan Summary

Cost of Service Summary	Budget	Projected				
	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
Sources of Water Funds						
Rate Revenue Under Prevailing Rates	\$ 6,847,640	\$ 6,847,640	\$ 6,847,640	\$ 6,847,640	\$ 6,847,640	\$ 6,847,640
Non-Rate Revenues	1,143,800	1,143,800	1,143,800	1,143,800	1,143,800	1,143,800
Interest Earnings	5,000	-	-	-	-	-
Total Sources of Funds	\$ 7,996,440	\$ 7,991,440	\$ 7,991,440	\$ 7,991,440	\$ 7,991,440	\$ 7,991,440
Costs of Water Service						
Water Fund Expenses	\$ 7,567,612	\$ 7,969,789	\$ 8,282,159	\$ 8,502,813	\$ 8,729,059	\$ 8,961,692
Debt Service	1,000,751	1,000,751	899,339	797,926	395,840	291,041
Capital Expenses	1,678,988	1,862,385	1,918,257	2,116,934	2,180,442	3,299,649
Total	\$ 10,247,352	\$ 10,832,926	\$ 11,099,754	\$ 11,417,672	\$ 11,305,340	\$ 12,552,382
Surplus / (Deficiency)	\$ (2,250,912)	\$ (2,841,486)	\$ (3,108,314)	\$ (3,426,232)	\$ (3,313,900)	\$ (4,560,942)
Additional Revenue from Rate Increases (1)	-	2,533,627	3,190,315	3,792,593	4,324,604	4,883,217
Surplus (Deficiency) after Rate Increase	\$ (2,250,912)	\$ (307,859)	\$ 82,002	\$ 366,361	\$ 1,010,705	\$ 322,275
Projected Annual Rate Increase	0.00%	37.00%	7.00%	6.00%	5.00%	5.00%
<i>Cumulative Rate Increases</i>	<i>0.00%</i>	<i>37.00%</i>	<i>46.59%</i>	<i>55.39%</i>	<i>63.15%</i>	<i>71.31%</i>
Net Revenue Requirement (2)	\$ 9,098,552	\$ 9,689,126	\$ 9,955,954	\$ 10,273,872	\$ 10,161,540	\$ 11,408,582

1. Assumes new rates are implemented July 1, 2017.

2. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from water rates.