



Department of Water and Power

WATER AND RECLAIMED WATER RATE STUDY

Tom Moody





PRESENTATION OVERVIEW

- Utility Introduction and Statistics
- Purpose of Rate Setting
- Rate Study Process
- Rate Components
- Revenue Requirements
- Study Recommendations
- Impacts and Comparisons
- Proposed Timeline



PROPOSED COMMUNITY MEETINGS

- October 23rd
- November 2nd
- November 21st
- December 12th

UTILITY INTRODUCTION AND STATISTICS



POTABLE WATER UTILITY

- Established in 1964
- Supply over 10.5 billion gallons of drinking water per year
- 43,000+ accounts
- Own and operate:
 - Three treatment facilities
 - Reverse osmosis facility
 - 21 Wells
 - 20 Booster Stations
 - 16 Water Storage Tanks
 - 33 Pressure Reducing Stations
 - 593 Miles of Water Mains
- 62.24 Full-time employees



RECLAIMED WATER UTILITY

- Established in 2006
- Supply over 1.5 billion gallons of water per year
- 378 accounts
- Own and operate:
 - 6 Pump Stations
 - 3 Water Storage Tanks
 - 55 Miles of Water Mains
- 3.07 Full-time employees





PURPOSE OF RATE SETTING



PROPOSITION 218

- Enacted in 1996
- Ensures property-related fees / charges are proportional to cost of providing service
- Revenues only used for the purpose of the fee
- Cannot exceed costs required to provide service
- Service must be used or immediately available
- Written notice of proposed fees mailed 45 days prior to a public hearing



THE RATE SETTING PROCESS



- Hire rate consultant
- Document costs and revenue requirements
- Assign costs to appropriate services provided
- Distribute costs to fixed and variable charges
- Align with City's policies and State legislation
- Plan for contingencies

Revenue
Requirements

Cost of Service

Design and
Calculate Rates

PURPOSE OF STUDY AND RESULTS



- Current and future financial status
- 5-year financial plan
- Compliance with laws, rules and regulations
- Revenue adequacy and stability
- Capital reserves for system reliability
- Ensures equity

RATE STUDY PROCESS

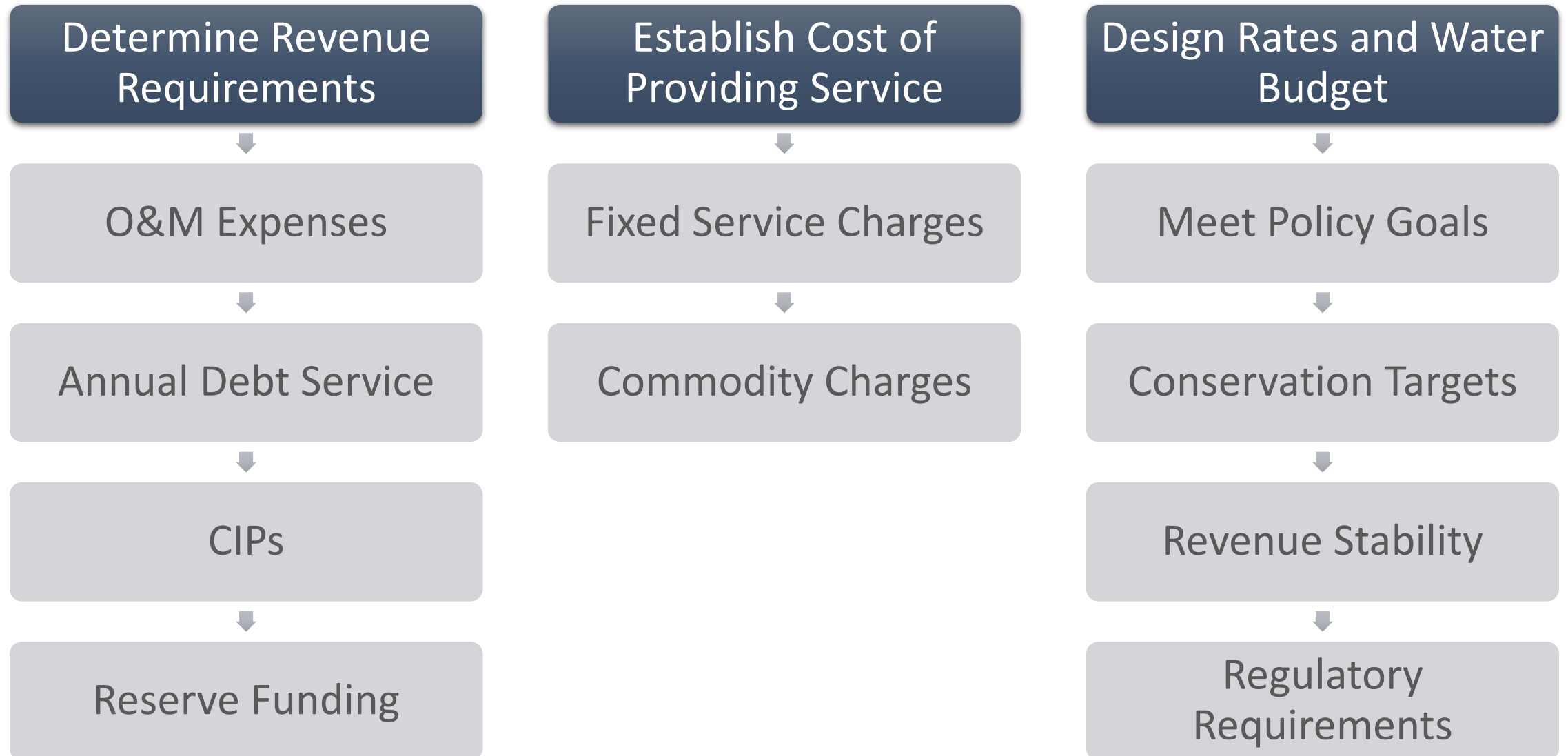


RATE STUDY TIMELINE & LIFECYCLE

Date	Event
Aug. 2009	Ordinance 3005 authorized Pass-through and CPI increases from 2010 through 2015
Feb. 2010	Adopted Tiered Rates and Water Budget in Ordinance 3025
July 2013	Last increase to reclaimed water rates
Feb. 2014	Last increase to potable water rates
May 2015	Began development of a rate study
2015-2018	Various regulations for water use efficiency in response to statewide drought
July 2018	Revisit rate study and update financial plan
Aug. 2018-Jan. 2019	Update budget/financial information and review rate study
Feb.-Nov. 2019	Review draft rate study, implement if approved
2023	Start next 5-year planning/rate study process



RATE DEVELOPMENT PROCESS



DETERMINE REVENUE REQUIREMENTS

- How much funding is required?
 - Water Supply
 - Regulatory Requirements
 - Debt Payments
 - Asset Replacement
 - Inflation

Revenue Requirements



O&M Expenses



Annual Debt Service

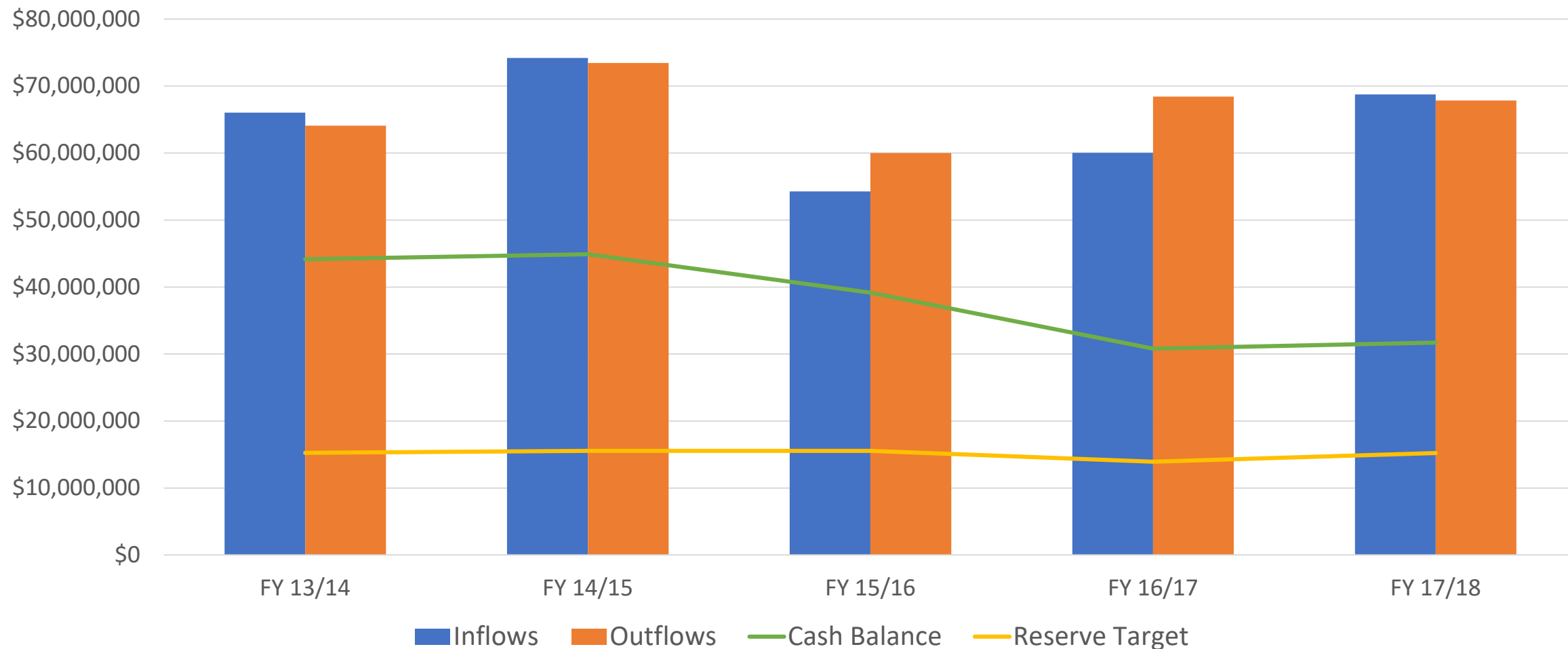


CIPs



Reserve Funding

CASH FLOW BALANCES



Cash Flow information from the City's [Comprehensive Annual Financial Reports](#)

Reserve Target is 90 days operating expenses plus 100% depreciation expense.

EXPENSES

Category	2016	2017	2018	2019
Capital Projects	\$5,378,075.09	\$4,415,854.55	\$5,431,507.44	\$3,218,140.64
Salaries & Benefits	\$7,613,141.64	\$7,849,198.37	\$8,801,397.11	\$8,706,802.15
Water Purchases	\$9,478,035.42	\$13,821,192.07	\$14,715,724.85	\$12,954,746.27
O&M General Expenses	\$8,043,215.62	\$6,175,579.94	\$7,393,972.16	\$7,614,495.05
Chemicals & Pumping	\$6,448,402.18	\$5,960,995.71	\$6,669,641.37	\$6,833,491.64
Admin, Rents & Leases	\$7,358,954.71	\$7,382,684.68	\$7,336,179.40	\$7,325,735.00
Debt Service	\$2,269,597.92	\$2,137,334.37	\$2,113,643.89	\$2,096,888.20
Interest/Bad Debt	\$1,221,316.88	\$987,229.36	\$1,088,415.74	\$994,459.21
Total	\$47,810,739.46	\$48,730,069.05	\$53,550,481.96	\$49,744,758.16

CAPITAL IMPROVEMENT PROJECTS



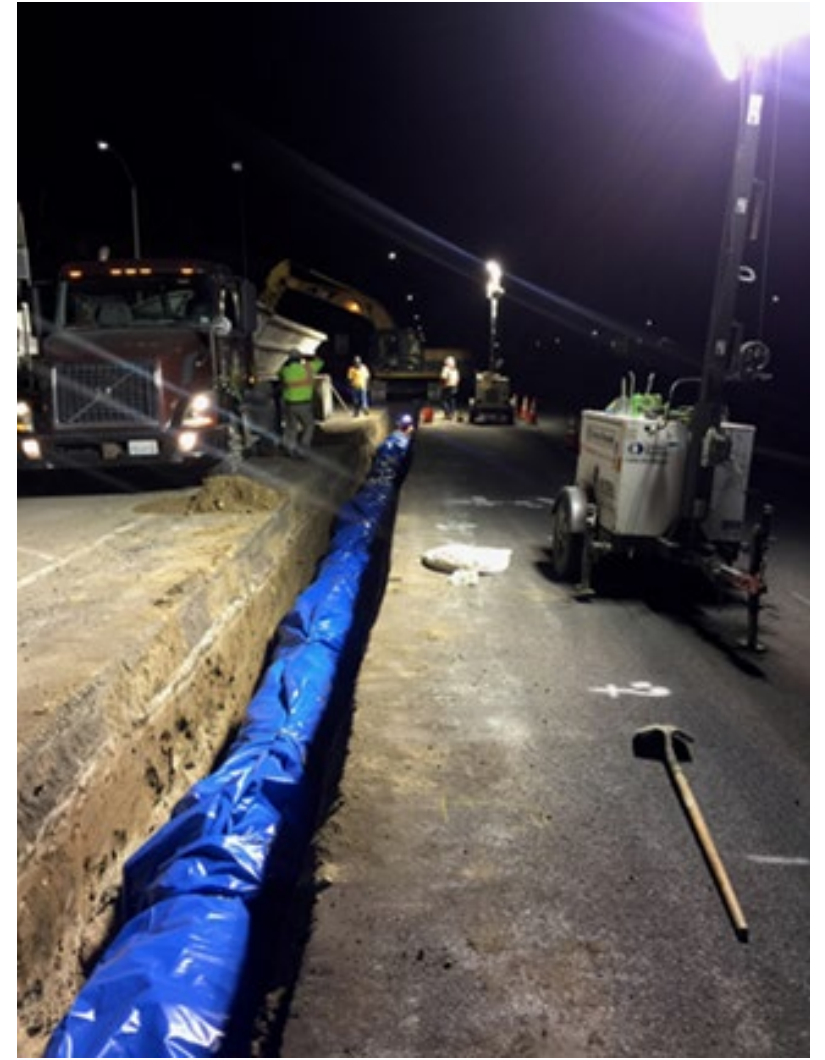
CAPITAL IMPROVEMENT PROJECTS



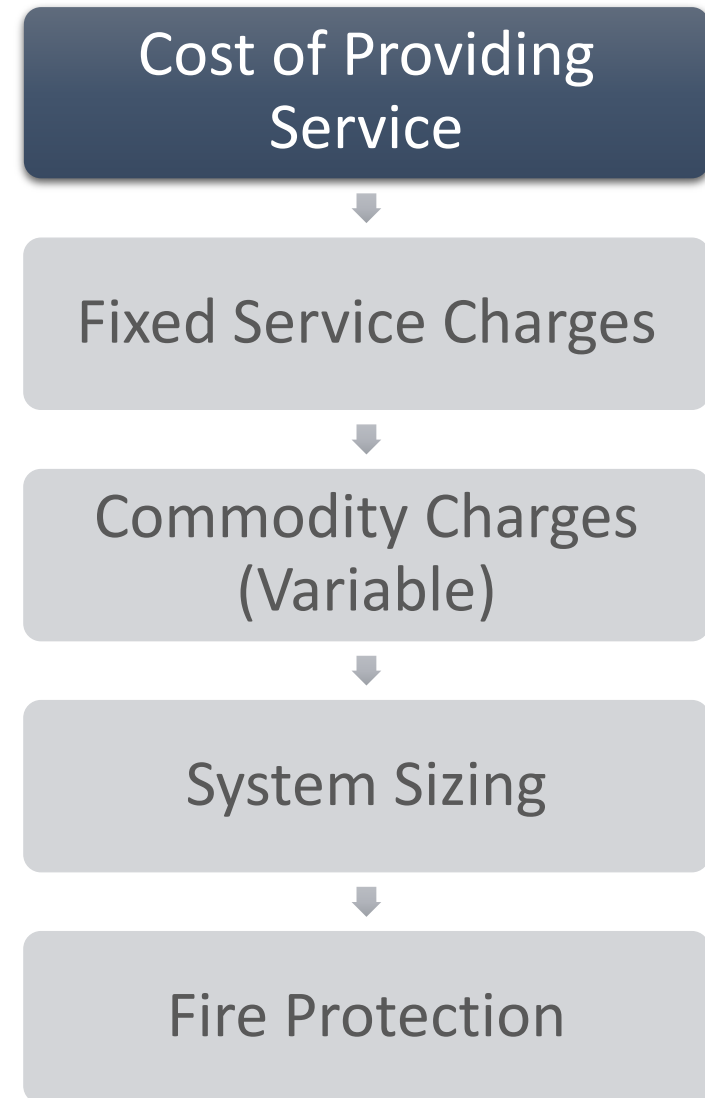
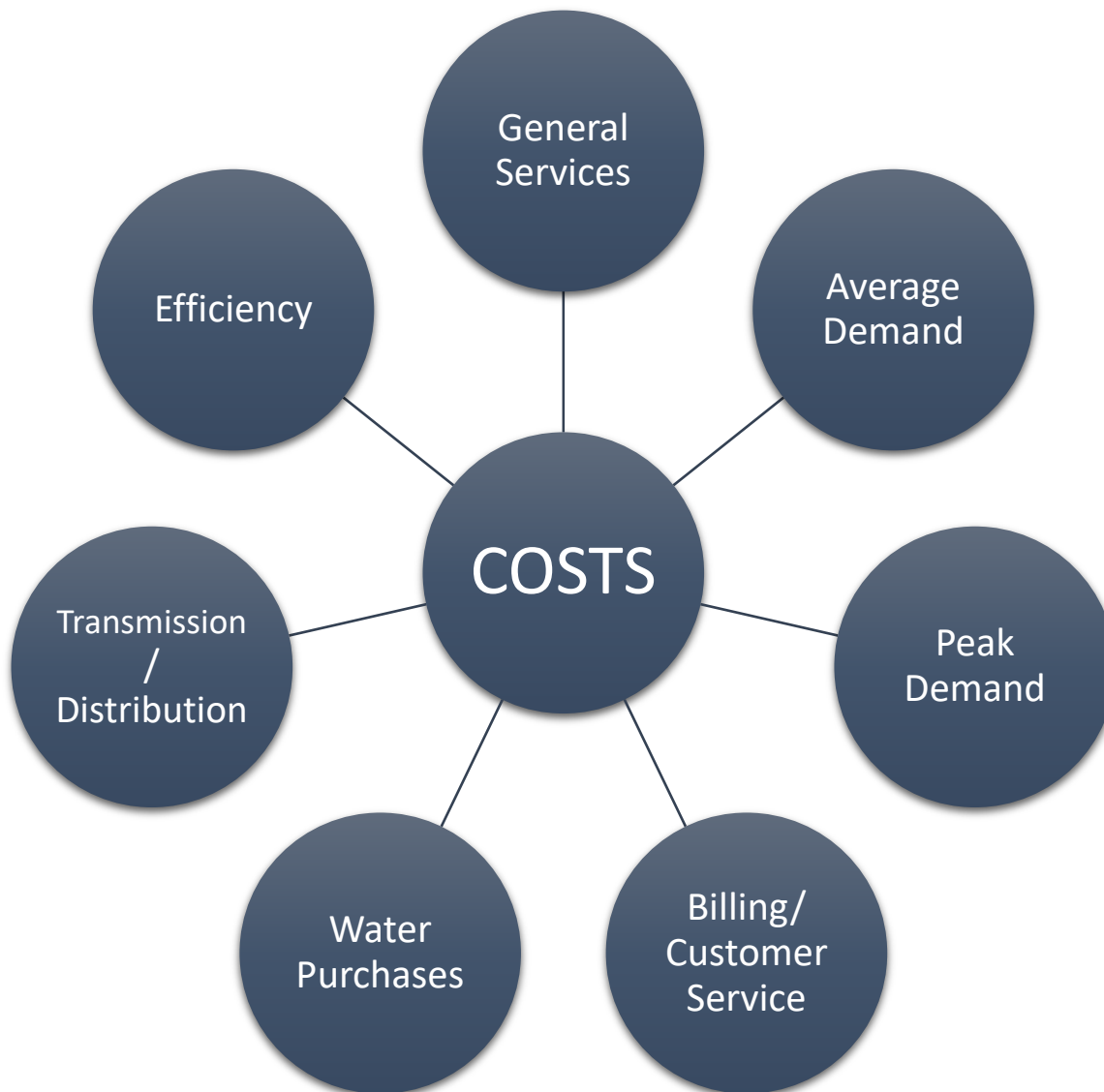
CAPITAL IMPROVEMENT PROJECTS



CAPITAL IMPROVEMENT PROJECTS



ESTABLISH COST TO PROVIDE SERVICE



ESTABLISH COST TO PROVIDE SERVICE



Cost of Providing
Service



Fixed Service Charges



Commodity Charges
(Variable)



System Sizing



Fire Protection

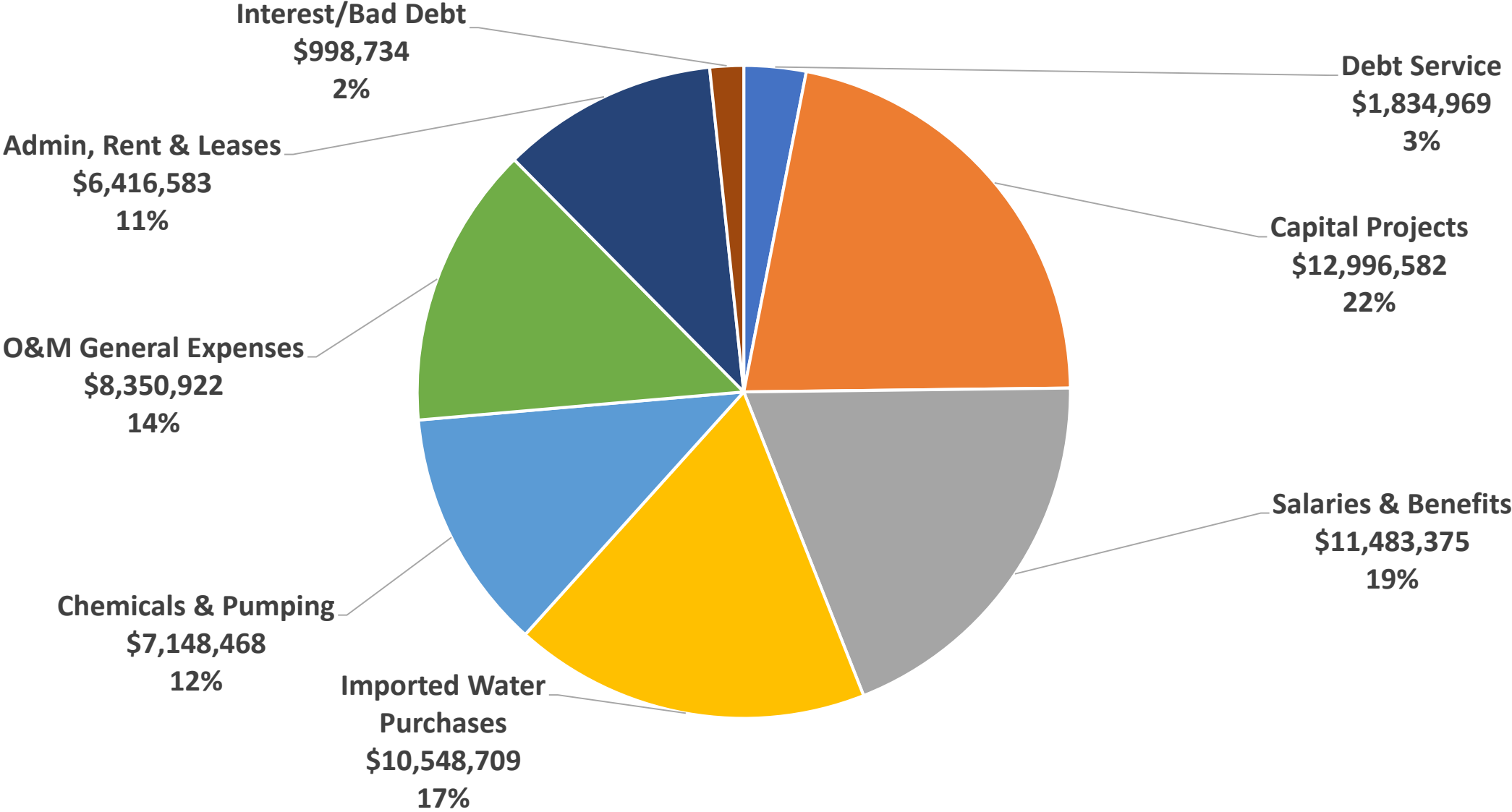
REGULATORY REQUIREMENTS

- Federal (EPA) and State (SWRCB) regulatory requirements
 - New technologies provide more sensitive detection
 - Regulations change in response
- Overall process
 - Increased monitoring activities
 - Reporting requirements
 - Establishment of Public Health Goals (PHG) and Maximum Contaminant Levels (MCLs)
 - Additional treatment processes

REVENUE REQUIREMENTS



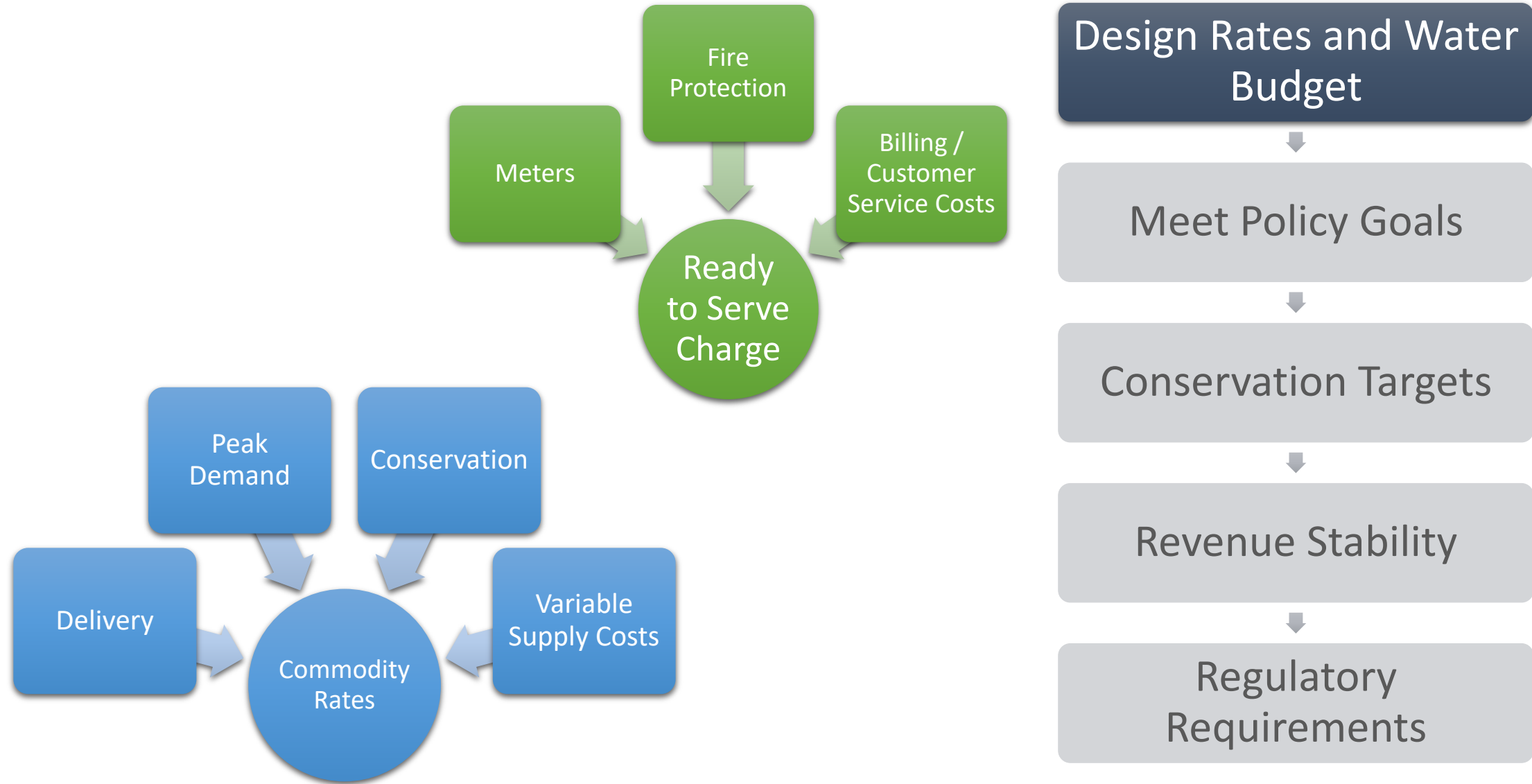
REVENUE REQUIREMENT – FY 2020



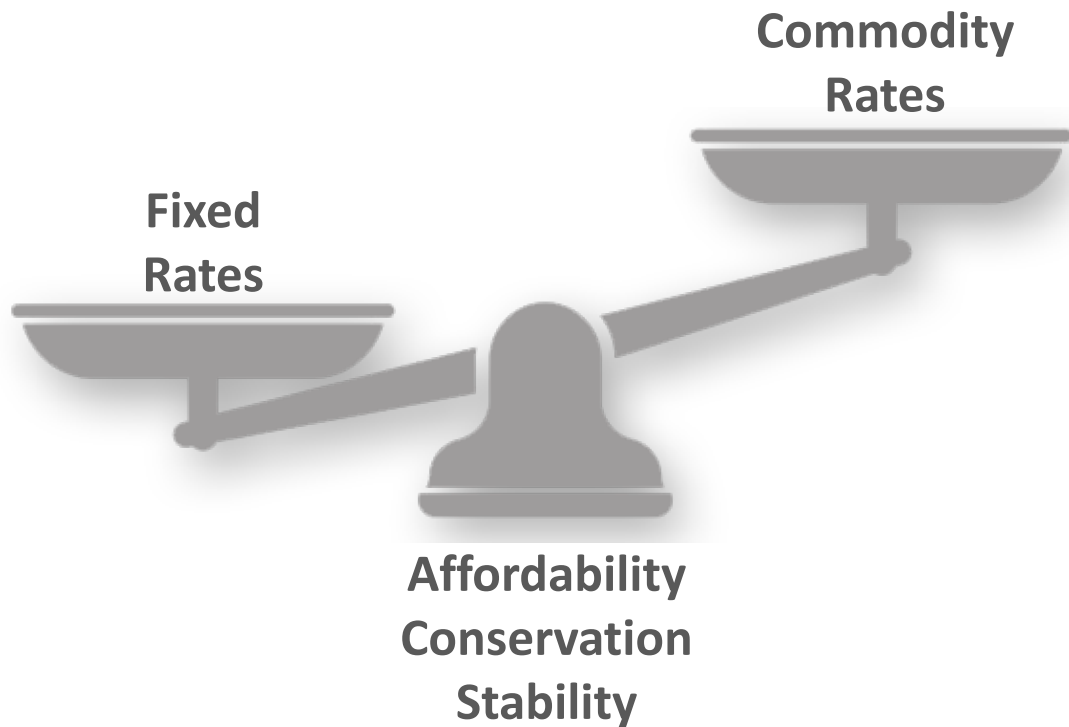
DESIGN RATE COMPONENTS



ALLOCATE COSTS TO RATE COMPONENTS



RATE COMPONENTS



Two main charges:

- Ready to Serve Charge
 - Fixed monthly charge to customer
 - Not tied to amount of water used
 - Based on meter size
 - Infrastructure, meter reading, billing, etc.- base costs necessary to deliver water to customer
- Commodity Charge
 - Variable costs / charge
 - Volumetric - how much water used
 - Tiered Rates
 - Water Budgets

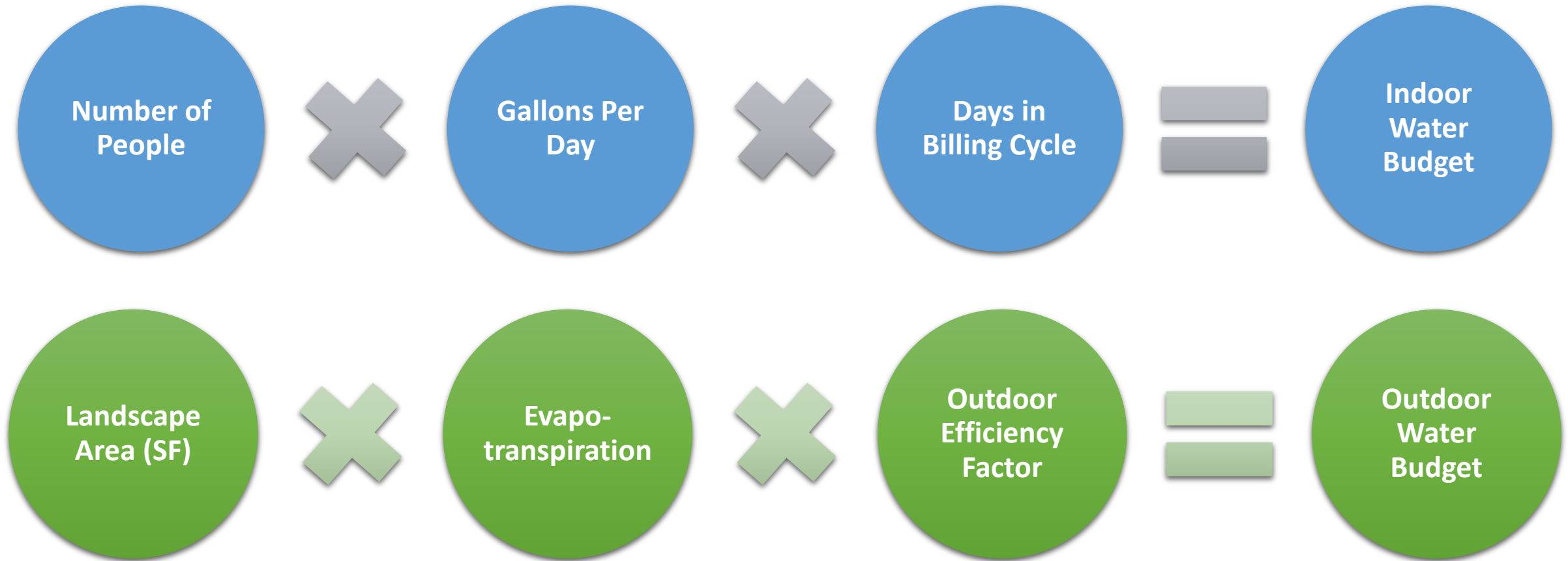
READY TO SERVE

- Charge based on meter size
- Water treatment and pumping facilities
- Public fire protection system – fire hydrants and flow
- Billing, customer service functions
- Water storage
- Peak system demand

COMMODITY – WATER SUPPLY APPLIED TO WATER DEMAND

Type	Cost per Acre-Foot	Sources
Blended	\$	Groundwater Wells Arlington Desalter Home Garden Wells Temescal Desalter MWD Untreated Tier 1
Imported	\$\$\$	MWD Untreated Tier 1 MWD Treated Tier 1 MWD Untreated Tier 2 MWD Treated Tier 2

COMMODITY - INDOOR AND OUTDOOR WATER BUDGETS



STUDY RESULTS & RECOMMENDATIONS

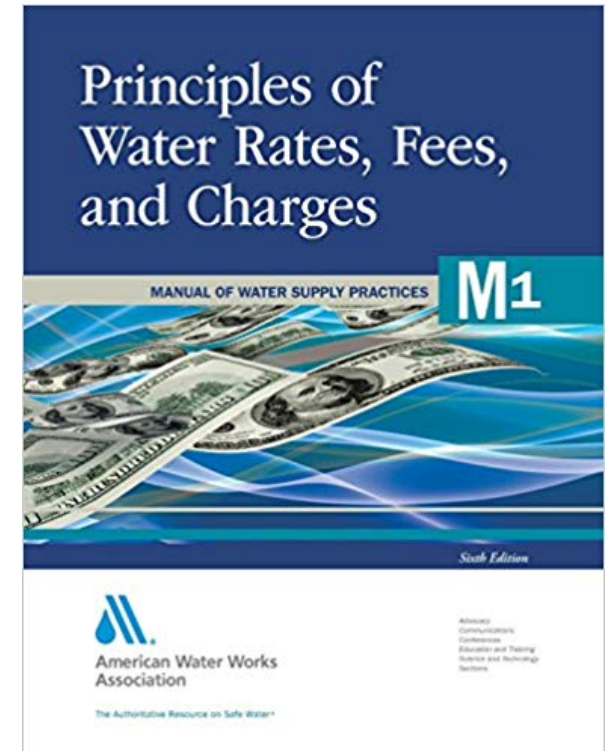


RECOMMENDATIONS

- Changes to water budget
- Adjustments to Ready to Serve charge
 - Allocate more of the fixed charges for revenue stability
 - Align with AWWA standards
- Wholesale agreement for groundwater recharge
- Implement a Temporary Revenue Stability Charge for emergencies
- Implement 5-years of rate increases

ADJUSTMENTS TO READY TO SERVE CHARGE

- American Water Works Association
- M1 Manual – Principles of Water Rates, Fees and Charges
- Based on meter size
- AWWA capacity factors
- Increase revenue stability
 - Change in allocation from commodity charges to Ready to Serve
 - From approx. 34% to 38%, approx. 4% shift



BASIS FOR WATER BUDGET CHANGES

Conservation mandates:

- State of California (AB 1668 and SB 606)
 - 55 GPCD as efficient indoor water use
- California Model Water Efficient Landscape Ordinance
 - Outdoor efficiency factor at 80%

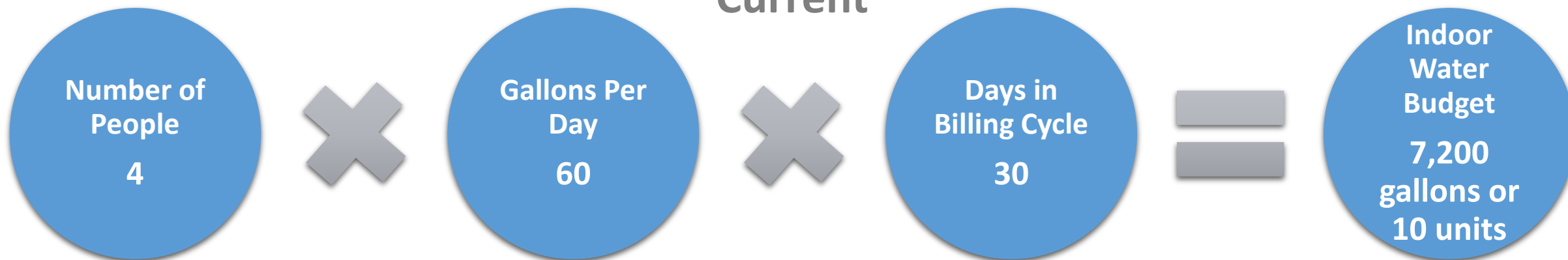


CHANGES TO WATER BUDGET FACTORS

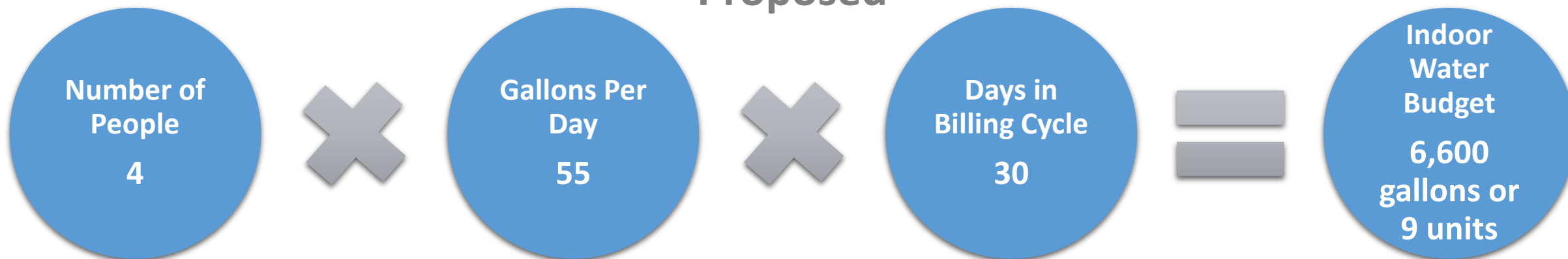
Factor	Existing	Proposed
Gallons per Capita per Day (GPCD)	60	55
Outdoor Efficiency Factor	114%	80%
Inefficient Use	20% of Total Water Budget	50% of Total Water Budget
Excessive Use	20% of Total Water Budget	50% of Total Water Budget
Unsustainable Use	> 140% of Total Water Budget	> 200% of Total Water Budget

SAMPLE RESIDENTIAL INDOOR BUDGET CALCULATION

Current



Proposed



SAMPLE OUTDOOR BUDGET CALCULATION

Current



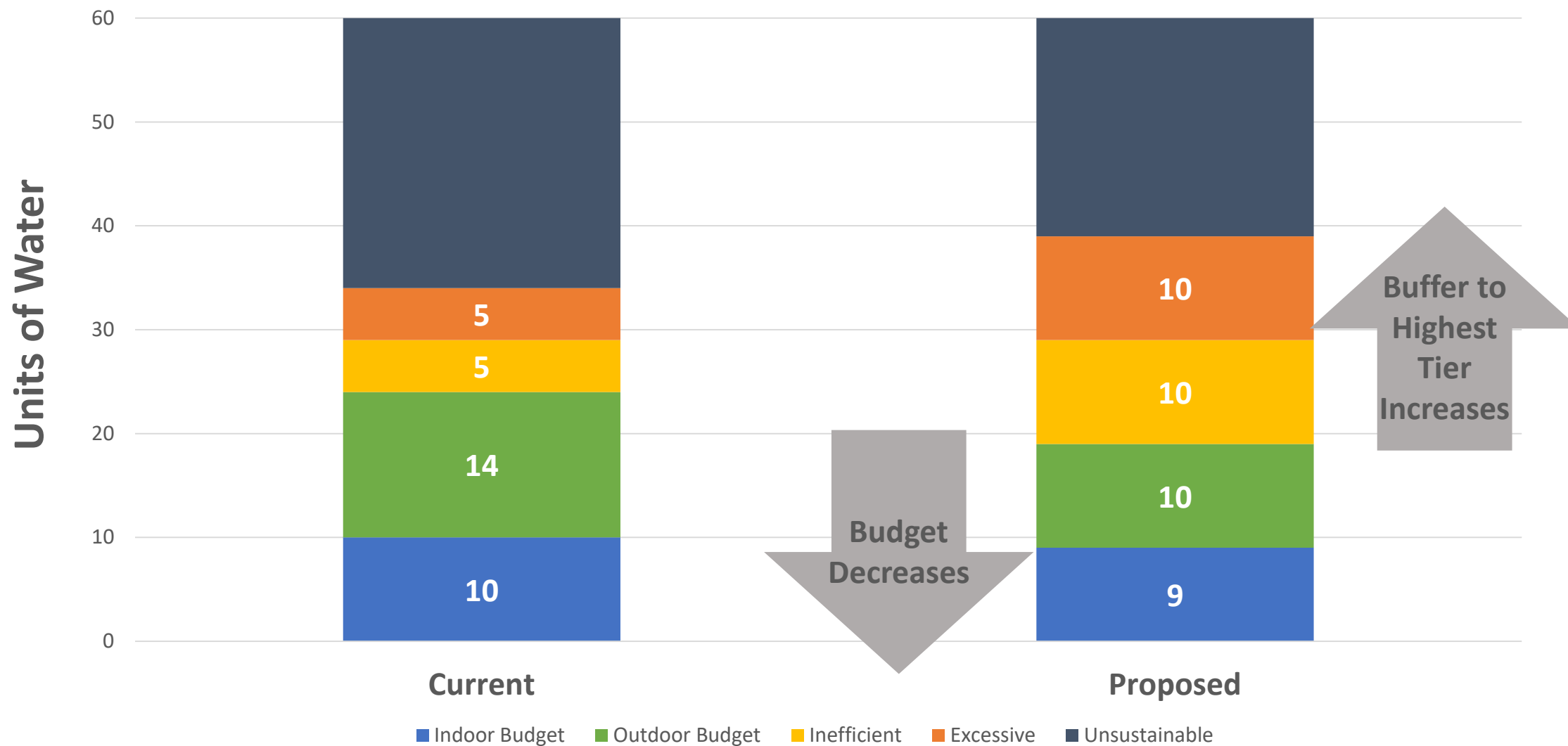
Proposed



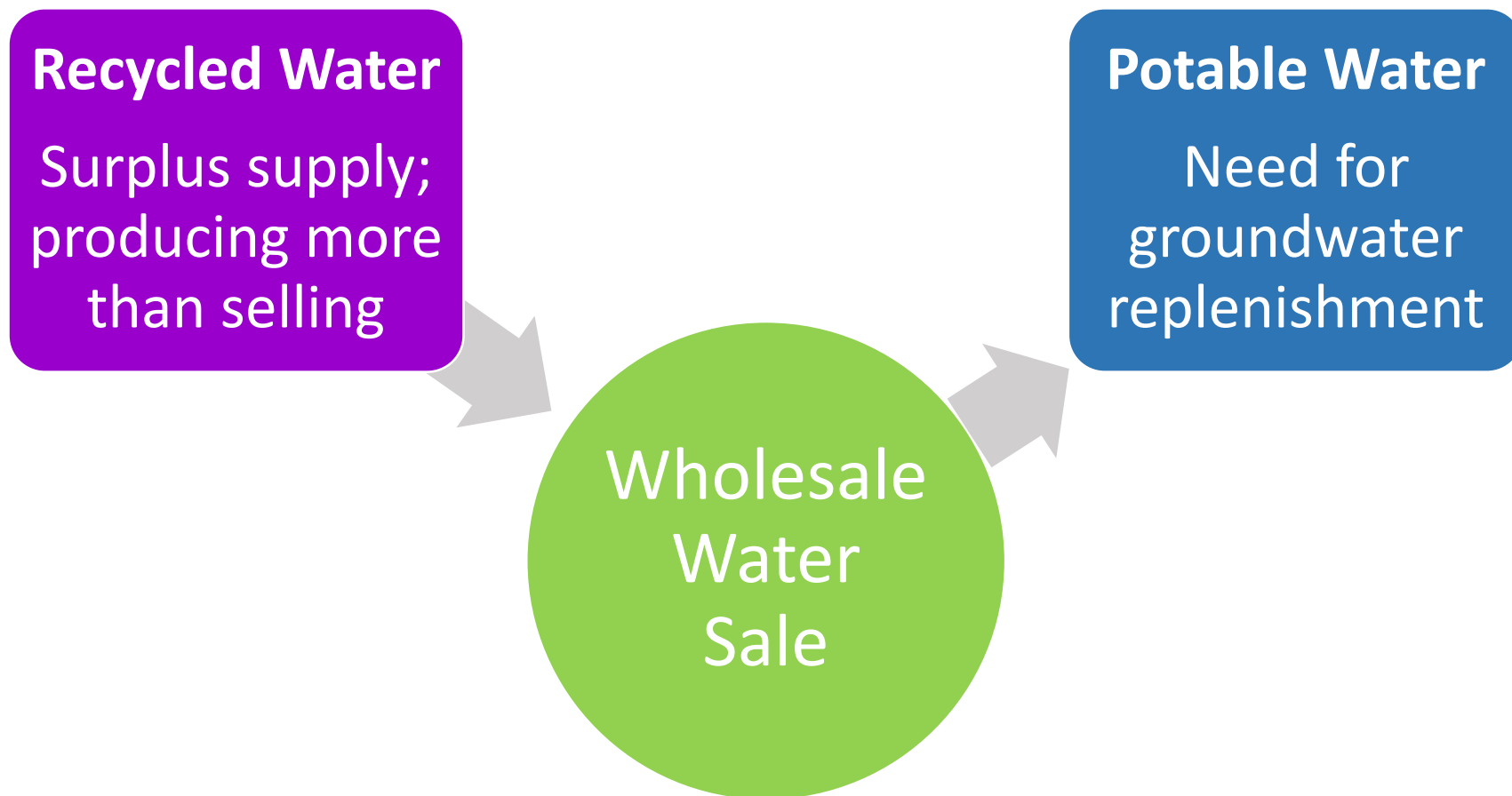
SAMPLE CALCULATION

Water Budget	Current	Proposed
Indoor Water Budget		
People per Household	4	4
Days in Billing Cycle	30	30
Gallons per Person, per Day	60	55
Convert to Units (748 gallons per unit)	10 units	9 units
Outdoor Water Budget		
Landscaped Area	2,500 sq. ft.	2,500 sq. ft.
Evapotranspiration	5.67 in. = 0.4725 ft.	5.67 in. = 0.4725 ft.
Outdoor Efficiency Factor	1.14	0.80
Convert to Units (100 cubic feet per unit)	14 units	10 units
Total Water Budget	24 units	19 units

SAMPLE IMPACT OF BUDGET CHANGES



RECYCLED WATER – GROUNDWATER RECHARGE



TEMPORARY REVENUE STABILITY CHARGE (TRSC)

What is it?

- An extra charge (per unit of water)
- Only used if City is in Stage 3 or higher
- Helps keep steady revenue during times of:
 - Natural disaster
 - Severe drought
 - Mandated cutbacks
- Reserves would be utilized first

Proposed Rates:

Stage	Water Reduction	TRSC (per unit)
Stage 3	16% to 20%	\$0.15
Stage 4	21% to 40%	\$0.45
Stage 5	Over 40%	\$0.84

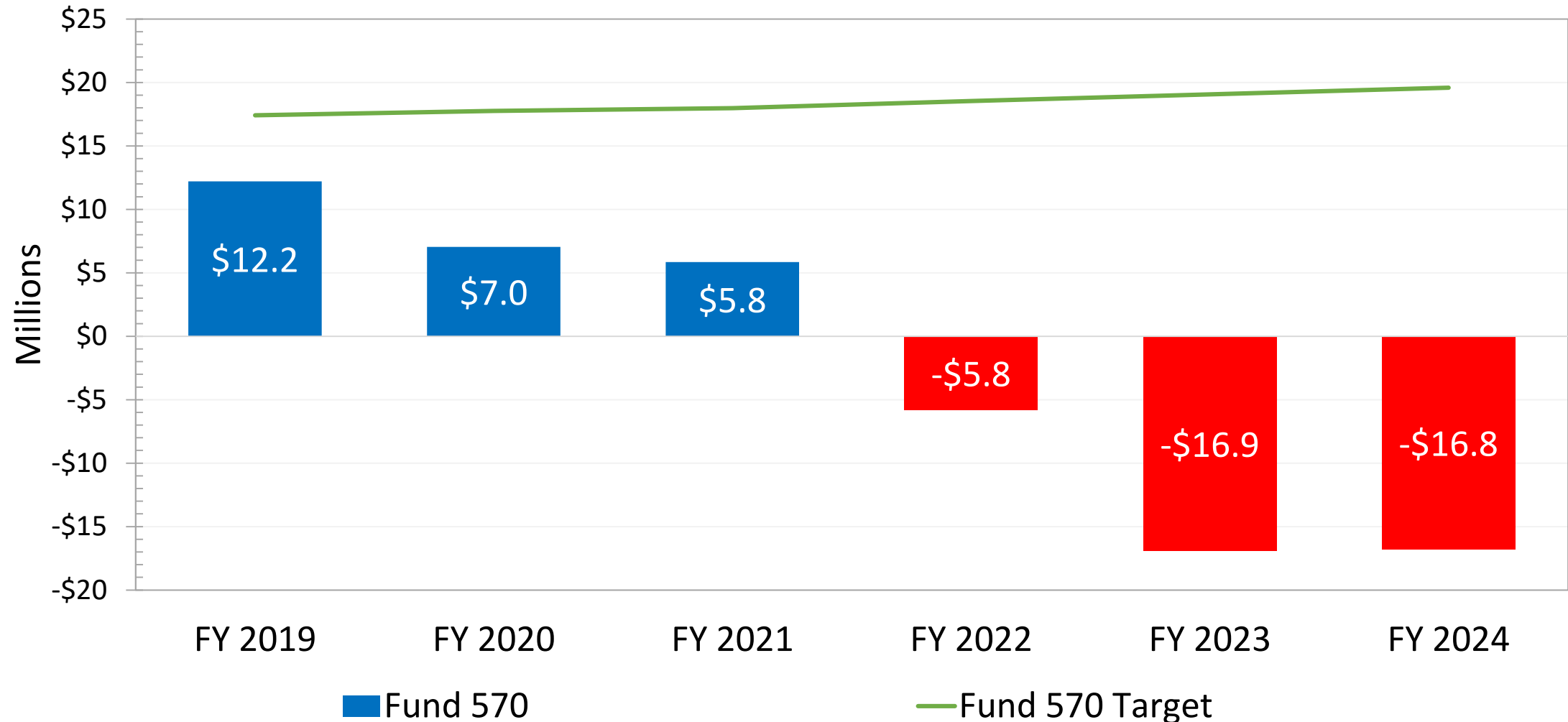
5-YEAR INCREASES

Rate increases to meet bond covenant and build capital reserves for system reliability

Fiscal Year	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Month Effective	January	January	January	January	January
Potable Water Adjustment	5%*	5%	5%	5%	5%
Reclaimed Water Adjustment	9%*	9%	8%	5%	5%

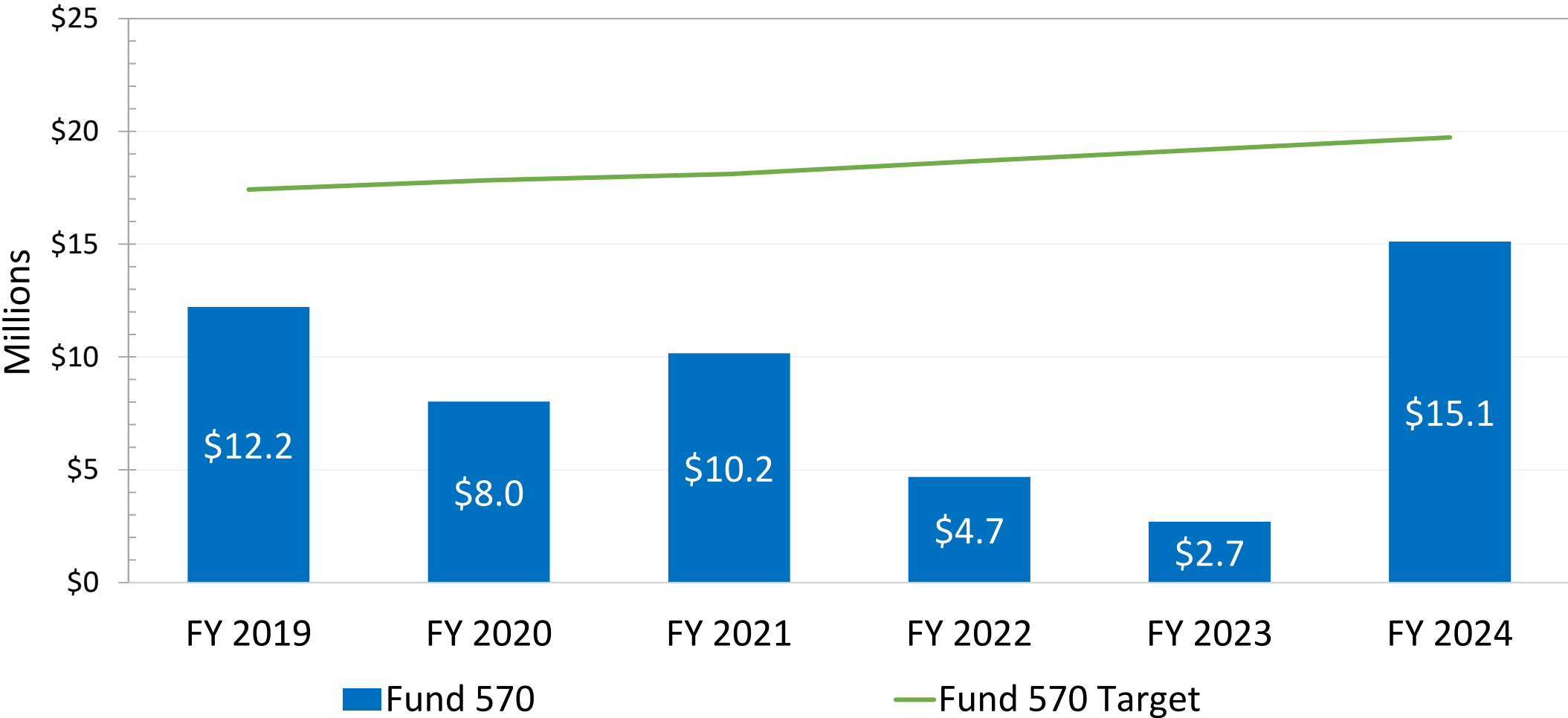
***Initial adjustment is to total revenue;** individual adjustments to rates will vary due to implementation of all recommendations.

POTABLE WATER – PROJECTED ENDING FUND BALANCE CURRENT FUNDING PLAN

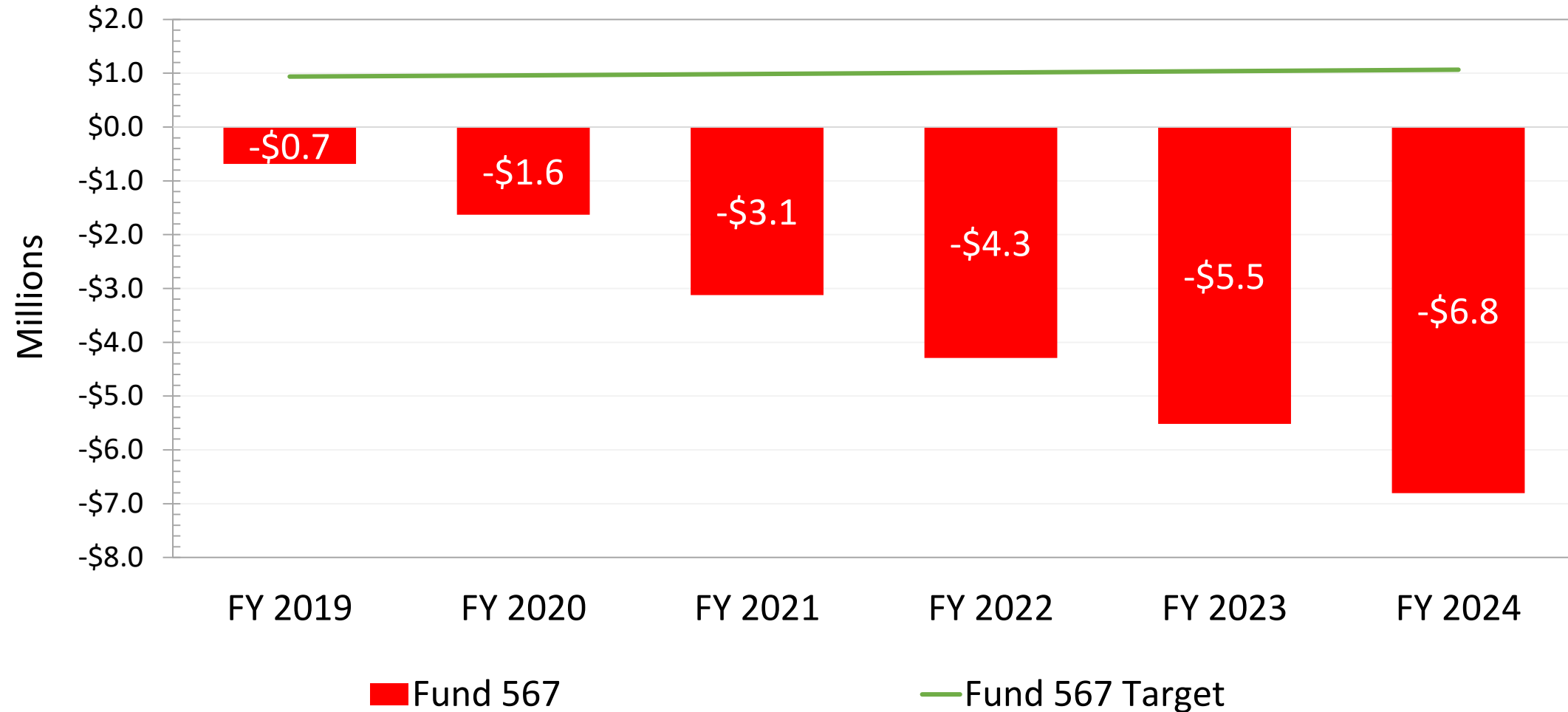


POTABLE WATER – PROJECTED ENDING FUND BALANCE PROPOSED FUNDING PLAN

WILL CHANGE DUE TO GW RECHARGE RATE

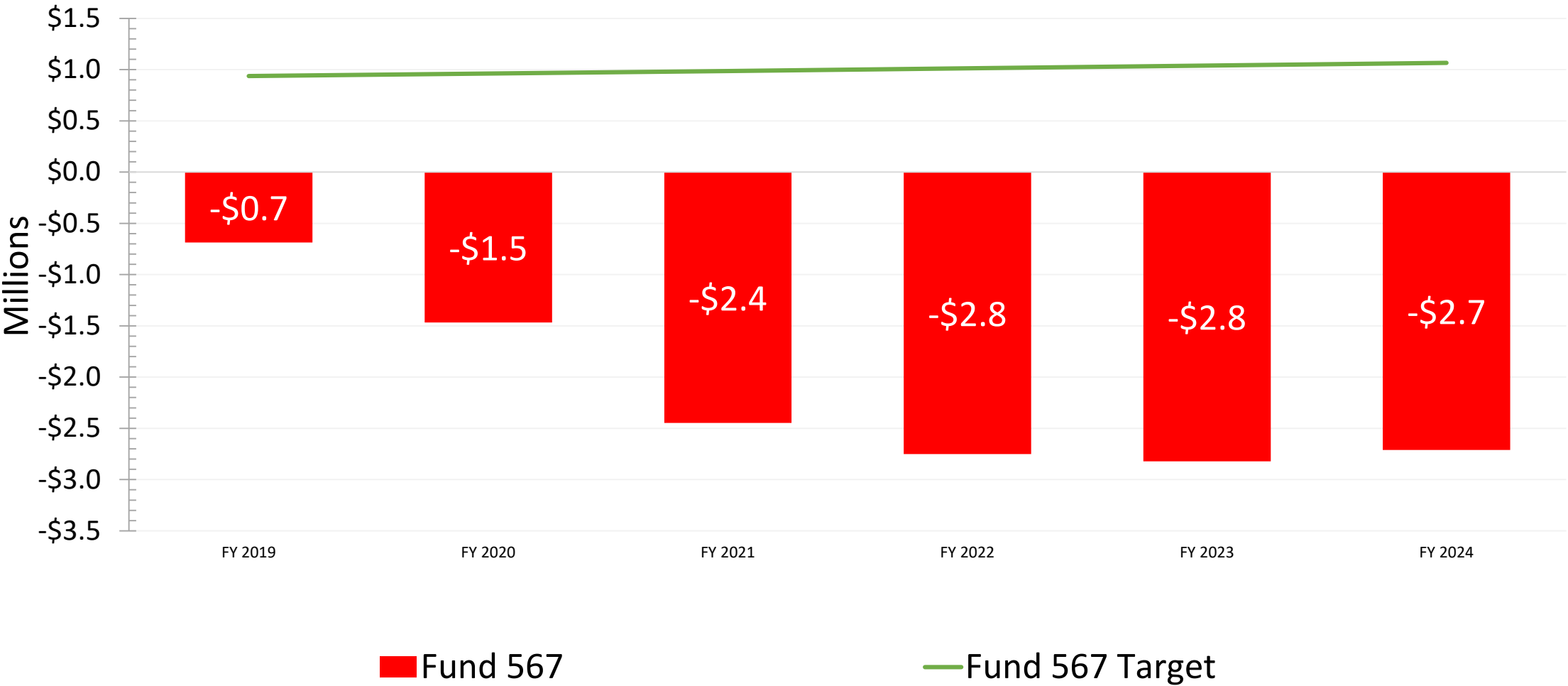


RECLAIMED WATER – PROJECTED ENDING FUND BALANCE CURRENT FUNDING PLAN



RECLAIMED WATER PROJECTED ENDING FUND BALANCE PROPOSED FUNDING PLAN

WILL CHANGE DUE TO GW RECHARGE RATE



IMPACTS AND COMPARISONS



READY TO SERVE RATES

Potable Water

Meter Size	Current	Proposed January 2020	No. Customers Impacted
5/8"	\$19.23	\$22.28	6,341
3/4"	\$25.23	\$33.98	28,795
1"	\$36.09	\$55.24	6,238
1 1/2"	\$62.90	\$159.49	1,227
2"	\$91.80	\$278.07	1,251
3"	\$156.91	\$339.98	80
4"	\$241.02	\$642.13	35
6"	\$442.64	\$1,525.63	9
8"	\$651.04	\$2,162.88	2
10"	\$651.04	\$3,240.88	0

Reclaimed Water

Meter Size	Current	Proposed January 2020	No. Customers Impacted
5/8"	\$18.90	\$18.12	0
3/4"	\$24.79	\$23.74	17
1"	\$35.46	\$34.97	60
1 1/2"	\$61.79	\$63.06	158
2"	\$90.18	\$96.77	83
3"	\$154.12	\$203.51	25
4"	\$236.76	\$360.81	12
6"	\$434.82	\$905.74	6
8"	\$639.52	\$1,579.89	1
10"	\$639.52	\$2,366.39	1

COMMODITY RATES - RESIDENTIAL

Category	Current	Proposed January 2020
Tier 1 – Indoor Use	\$2.10	\$1.57
Tier 2 – Outdoor Use	\$2.33	\$2.26
Tier 3 – Inefficient Use	\$3.17	\$4.49
Tier 4 – Excessive Use	\$6.35	\$7.48
Tier 5 – Unsustainable Use	\$11.64	\$11.17

COMMODITY RATES – NON-RESIDENTIAL

Potable Water

Category	Current	Proposed Jan. 2020
Tier 1 – Water Budget	\$2.33	\$2.26
Tier 2 – Inefficient Use	\$3.17	\$4.49
Tier 3 – Excessive Use	\$6.35	\$7.48
Tier 4 – Unsustainable Use	\$11.64	\$11.17
Construction Water	\$3.17	\$5.40

Reclaimed Water

Category	Current	Proposed Jan. 2020
Tier 1 – Water Budget	\$1.51	\$1.65
Tier 2 – Inefficient Use	\$2.27	\$2.47
Tier 3 – Excessive Use	\$3.02	\$3.29
Tier 4 – Unsustainable Use	\$4.53	\$4.94
Construction Water	\$2.27	\$2.47

COMPARISON TO OTHER AGENCIES

Potable Water - Ready to Serve

Meter Size	Current	Proposed Jan. 2020	<u>Riverside</u>	<u>YLWD</u>	<u>EVMWD</u>	<u>JCSD</u>	<u>Norco</u>
5/8"	\$19.23	\$22.28	\$18.07	\$19.45	N/A	\$32.51	N/A
3/4"	\$25.23	\$33.98	\$18.07	\$19.45	\$26.27	\$38.52	\$43.27
1"	\$36.09	\$55.24	\$28.69	\$32.49	\$41.29	\$64.79	\$64.26
1 ½"	\$62.90	\$159.49	\$55.00	\$64.78	\$78.85	\$132.03	\$150.14
2"	\$91.80	\$278.07	\$86.70	\$103.69	\$123.91	\$207.28	\$193.13
3"	\$156.91	\$339.98	\$160.72	\$227.04	\$266.59	\$620.69	\$505.88
4"	\$241.02	\$642.13	\$266.44	\$408.55	\$476.87	\$1,218.56	\$901.69
6"	\$442.64	\$1,525.63	\$583.43	\$907.95	\$1,205.35	\$1,985.44	\$2,144.75
8"	\$651.04	\$2,162.88	\$953.19	N/A	\$2,106.55	\$2,225.51	\$3,441.22
10"	\$651.04	\$3,240.88	\$1,481.47	N/A	\$3,157.94	\$2,831.43	\$5,444.23

COMPARISON TO OTHER AGENCIES

Potable Water –Commodity Charges

Category	Current	Proposed Jan. 2020	<u>Riverside</u>	<u>YLWD</u>	<u>EVMWD</u>	<u>JCSD</u>	<u>Norco</u>
Tier 1	\$2.10	\$1.57	\$1.19	\$2.70	\$2.34	\$1.52	\$2.44
Tier 2	\$2.33	\$2.26	\$1.50	\$2.70	\$2.84	\$1.93	N/A
Tier 3	\$3.17	\$4.49	\$2.76/\$3.37	\$2.70	\$5.05	\$2.22	N/A
Tier 4	\$6.35	\$7.48	N/A	\$2.70	\$7.48	\$2.48	N/A
Tier 5	\$11.64	\$11.17	N/A	N/A	N/A		N/A

5-YEAR INCREASES – POTABLE WATER

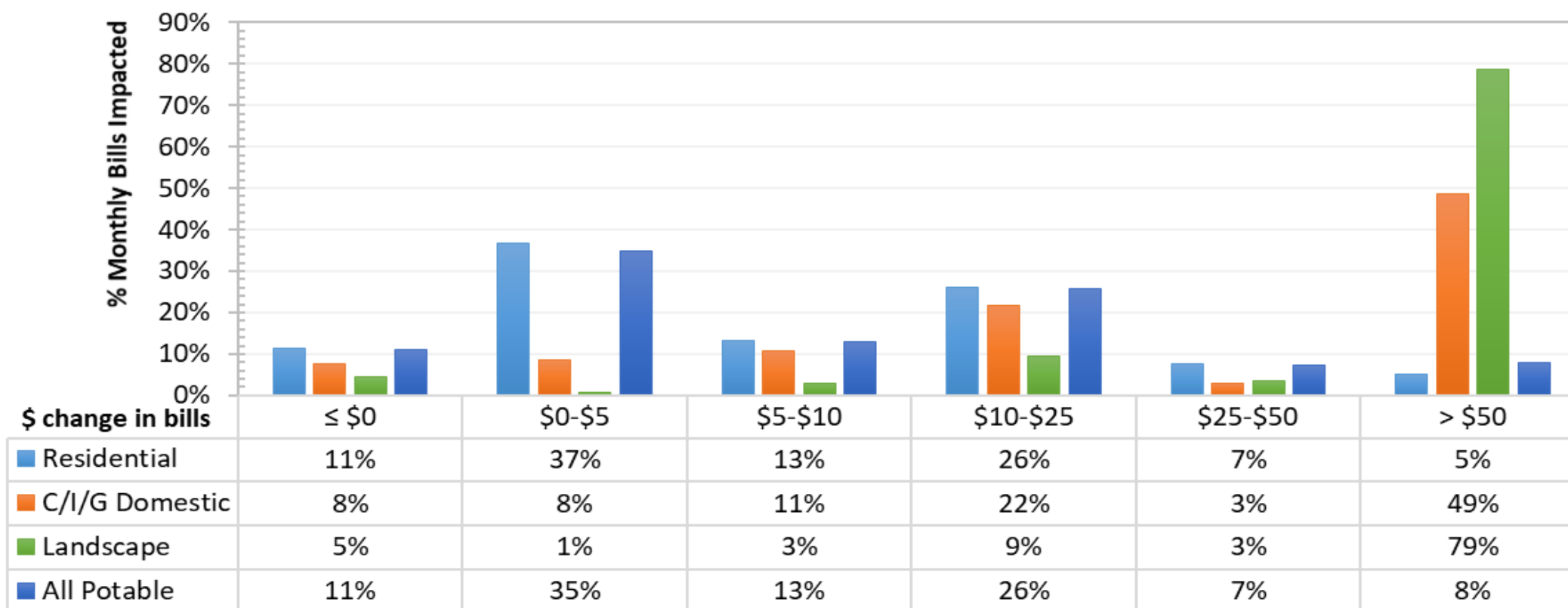
Meter Size	Current	2020	2021	2022	2023	2024	<u>Riverside</u>	<u>YLWD</u>	<u>EVMWD</u>	<u>JCSD</u>	<u>Norco</u>
5/8"	\$19.23	\$22.28	\$23.40	\$24.57	\$25.80	\$27.09	\$18.07	\$19.45	N/A	\$32.51	N/A
¾"	\$25.23	\$33.98	\$35.69	\$37.48	\$39.36	\$41.33	\$18.07	\$19.45	\$26.27	\$38.52	\$43.27
1"	\$36.09	\$55.24	\$58.00	\$60.90	\$63.95	\$67.15	\$28.69	\$32.49	\$41.29	\$64.79	\$64.26
1 ½"	\$62.90	\$159.49	\$167.47	\$175.85	\$184.65	\$193.89	\$55.00	\$64.78	\$78.85	\$132.03	\$150.14
2"	\$91.80	\$278.07	\$291.98	\$306.58	\$321.91	\$338.01	\$86.70	\$103.69	\$123.91	\$207.28	\$193.13
3"	\$156.91	\$339.98	\$356.99	\$374.84	\$393.59	\$413.27	\$160.72	\$227.04	\$266.59	\$620.69	\$505.88
4"	\$241.02	\$642.13	\$674.24	\$707.96	\$743.36	\$780.53	\$266.44	\$408.55	\$476.87	\$1,218.56	\$901.69
6"	\$442.64	\$1,525.63	\$1,601.91	\$1,682.01	\$1,766.12	\$1,854.43	\$583.43	\$907.95	\$1,205.35	\$1,985.44	\$2,144.75
8"	\$651.04	\$2,162.88	\$2,271.03	\$2,384.59	\$2,503.82	\$2,629.02	\$953.19	N/A	\$2,106.55	\$2,225.51	\$3,441.22
10"	\$651.04	\$3,240.88	\$3,402.93	\$3,573.08	\$3,751.74	\$3,939.33	\$1,481.47	N/A	\$3,157.94	\$2,831.43	\$5,444.23

5-YEAR INCREASES – POTABLE WATER

Tier	Current	2020	2021	2022	2023	2024	<u>Riverside</u>	<u>YLWD</u>	<u>EVMWD</u>	<u>JCSD</u>	<u>Norco</u>
Tier 1 – Indoor Use	\$2.10	\$1.57	\$1.65	\$1.74	\$1.83	\$1.93	\$1.19	\$2.70	\$2.34	\$1.52	\$2.44
Tier 2 – Outdoor Use	\$2.33	\$2.26	\$2.38	\$2.50	\$2.63	\$2.77	\$1.50	\$2.70	\$2.84	\$1.93	N/A
Tier 3 – Inefficient Use	\$3.17	\$4.49	\$4.72	\$4.96	\$5.21	\$5.48	\$2.76/\$3.37	\$2.70	\$5.05	\$2.22	N/A
Tier 4 – Excessive Use	\$6.35	\$7.48	\$7.86	\$8.26	\$8.68	\$9.12	N/A	\$2.70	\$7.48	\$2.48	N/A
Tier 5 – Unsustainable	\$11.64	\$11.17	\$11.73	\$12.32	\$12.94	\$13.59	N/A	N/A	N/A		N/A

BILL IMPACTS

Customer Impacts by Service Class



SAMPLE RESIDENTIAL BILL CALCULATIONS

24 Units of Water Used

4 People

2,500 SF

5.67 Evapotranspiration

Current	Units	Charge
Tier 1 – Indoor Budget	10	\$21.00
Tier 2 – Outdoor Budget	14	\$32.62
Ready to Serve		\$25.23
Total	24	\$78.85

Proposed	Units	Charge
Tier 1 – Indoor Budget	9	\$14.13
Tier 2 – Outdoor Budget	10	\$22.60
Tier 3 – Inefficient Use	5	\$22.45
Ready to Serve		\$33.98
Total	24	\$93.16

With no changes in water usage

SAMPLE RESIDENTIAL BILL CALCULATIONS

22 Units of Water Used

4 People

2,500 SF

5.67 Evapotranspiration

Current	Units	Charge
Tier 1 – Indoor Budget	10	\$21.00
Tier 2 – Outdoor Budget	14	\$32.62
Ready to Serve		\$25.23
Total	24	\$78.85

Proposed	Units	Charge
Tier 1 – Indoor Budget	9	\$14.13
Tier 2 – Outdoor Budget	10	\$22.60
Tier 3 – Inefficient Use	3	\$13.47
Ready to Serve		\$33.98
Total	22	\$84.18

With SOME conservation

SAMPLE RESIDENTIAL BILL CALCULATIONS

19 Units of Water Used

4 People

2,500 SF

5.67 Evapotranspiration

Current	Units	Charge
Tier 1 – Indoor Budget	10	\$21.00
Tier 2 – Outdoor Budget	14	\$32.62
Ready to Serve		\$25.23
Total	24	\$78.85

Proposed	Units	Charge
Tier 1 – Indoor Budget	9	\$14.13
Tier 2 – Outdoor Budget	10	\$22.60
Ready to Serve		\$33.98
Total	19	\$70.71

With MORE conservation

PROPOSED ACTIONS AND SCHEDULE



PROPOSED ACTIONS

- Changes to water budget
 - 60 to 55 gallons per person per day
 - 114% to 80% Outdoor Efficiency Standard
- Adjustments to Ready to Serve charge
 - Allocate more of the fixed charges for revenue stability
 - Align with AWWA standards
- Wholesale agreement for groundwater recharge
- Create a Temporary Revenue Stability Charge (TRSC)
- Implement 5-years of increases from 2020 to 2024

TENTATIVE SCHEDULE

Event	Date
Finalize Rate Study	September 2019
Initiate Proposition 218 Process	October 2019
Community Meetings	October-December 2019
Public Hearing	December 2019
Second Reading*	December 2019
Ordinance Effective*	January 2020
Rate Effective*	January 2020

** If approved by Corona City Council to proceed*

QUESTIONS?



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