

Alameda County Water District

Cost of Service, Rates, & Water Shortage Emergency Stage Rates

December 9, 2021



A close-up photograph of clear water being poured from a glass pitcher into a glass. The water is captured in mid-pour, creating a dynamic, flowing shape. The background is a soft, light blue, and the lighting highlights the transparency and movement of the liquid.

Agenda

- 1. Updated Cost of Service Rates**
- 2. Proposed Rates**
- 3. Stage Rates**
- 4. Next Steps**

Cost of Service

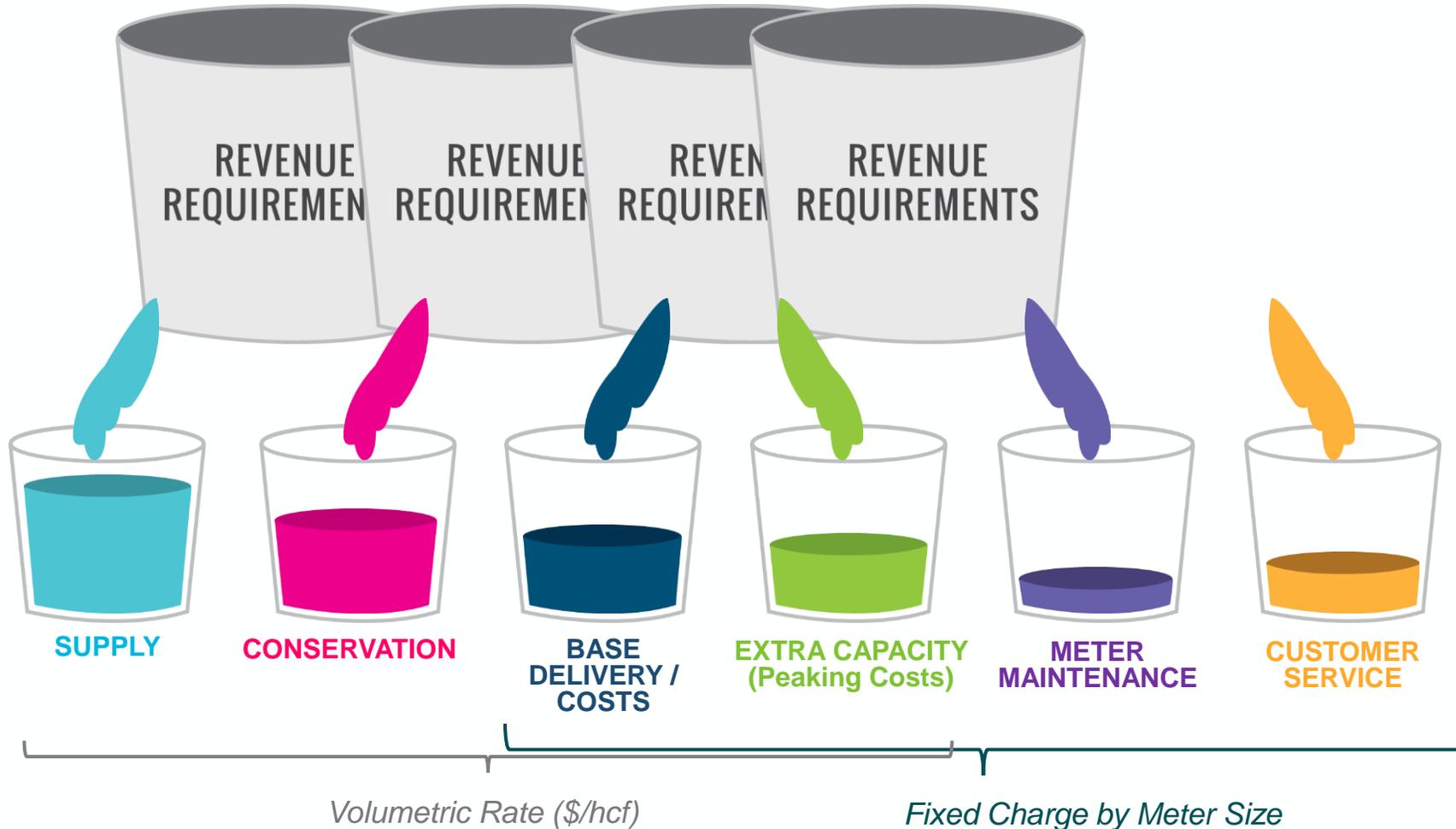


What is Cost of Service?

- Different types of customers generate different costs because their patterns of use or characteristics are different
- Cost of service allows the matching of rates charged with the costs of serving each group
- Each group will “pay its own way” – no subsidies

Cost of Service

Allocation to Cost Components



Distribute Costs to Customer Classes



SUPPLY
Use



DELIVERY COSTS
Use: Same for All
Classes



CONSERVATION
Distributed to
High Vol Users



**EXTRA CAPACITY
(PEAKING)**
Peaking Factors or
Meter Cap Ratios



**METER
MAINTENANCE**
Meter Size



**CUSTOMER
SERVICE**
of Cust Bills



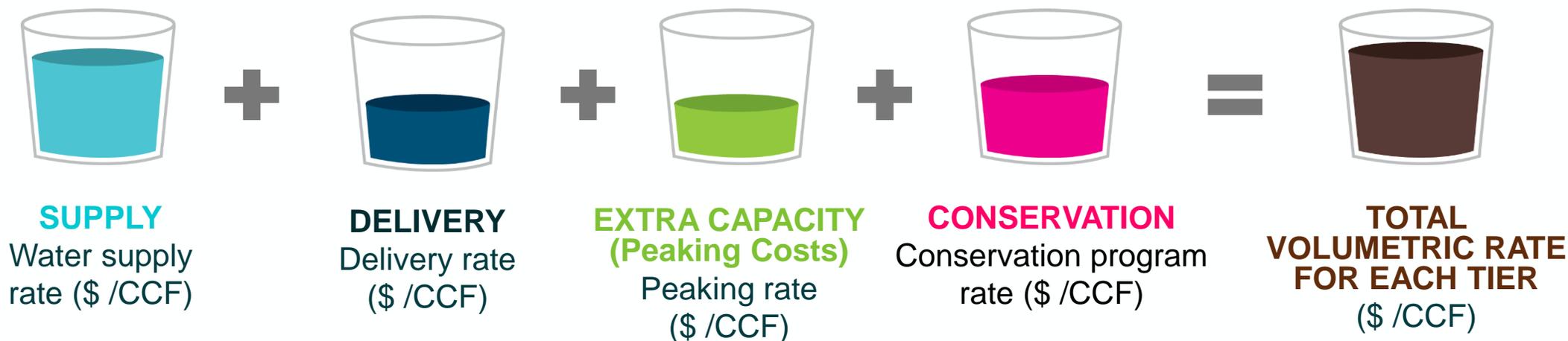
Distribute Costs to Each Class

CUSTOMER CLASSES
Cost to Serve Each Class
(Meter Size)

Rate Design

Commodity Rate Derivation

To calculate commodity rates, we combine the unit (\$/CCF) costs of water supply, water delivery, peaking/capacity costs and conservation costs



Board Direction

- The ACWD Board provided policy direction on rate design structure
 - › Enhance revenue stability while maintaining affordability
- Outcome: Increase the fixed charges by 6% and no change to the commodity revenues
 - › Fixed revenues includes both Meter Service Charge and Private Fire Service Charge revenues
 - › 6% increase on fixed charges and 0% on commodity rates yields an overall 2% increase
- This approach of policy direction and cost of service update is consistent with industry standard rate-setting methodologies

Service Charge



Service Charge Calculation

No Revenue Adjustment

Meter Size	Hydraulic Capacity (gpm)	Hydraulic Capacity Meter Ratio	Number of Meters	Equivalent Meters	Customer Billing	Meter Service	Potable Meter Capacity	Cost of Service Bi-Monthly Meter Service Charge
5/8 inch	20	1.00	22,105	22,105	\$5.97	\$1.63	\$50.18	\$57.78
3/4 inch	30	1.00	50,091	50,091	\$5.97	\$1.63	\$50.18	\$57.78
1 inch	50	1.67	5,768	9,613	\$5.97	\$2.71	\$83.64	\$92.32
1-1/2 inch	100	3.33	2,252	7,507	\$5.97	\$5.42	\$167.28	\$178.67
2 inch	160	5.33	2,908	15,509	\$5.97	\$8.68	\$267.64	\$282.29
3 inch	350	11.67	224	2,613	\$5.97	\$18.98	\$585.47	\$610.42
4 inch	630	21.00	111	2,331	\$5.97	\$34.16	\$1,053.85	\$1,093.98
6 inch	1,600	53.33	60	3,200	\$5.97	\$86.76	\$2,676.44	\$2,769.17
8 inch	2,800	93.33	26	2,427	\$5.97	\$151.83	\$4,683.77	\$4,841.57
10 inch	4,200	140.00	3	420	\$5.97	\$227.74	\$7,025.66	\$7,259.37

Commodity Charge



Commodity Rate Calculation

No Revenue Adjustment

Customer Class	Water Supply	Base Delivery	Max Day	Max Hour	Revenue Offset	Cost of Service Commodity Rate
Inside	\$2.970	\$2.109	\$0.049	\$0.021	(\$0.643)	\$4.506
Outside	\$2.970	\$2.109	\$0.049	\$0.021	\$0.000	\$5.149

- Revenue offsets include the 1% Tax Allocation and State Water Contract Tax
- Volumetric charge is based on a \$/CCF (hundred cubic feet)
- 1 CCF is equal to 748 gallons

Private Fire Line



Private Fire Methodology

- Determine the appropriate cost of Fire Service, which includes public and private fire
 - › Private fire estimate is based on a 4-hour fire at 4,250 gallons/minute
- Fire Service cost is allocated between public and private fire
 - › Based on number of public fire hydrants and private fire lines
- Private fire service charges include the additional capacity to provide that service, customer service, and the cost to maintain the fire line meter

Private Fire Service Charges

No Revenue Adjustment

Fire Line Size	Number of Connections	Potential Demand	Equivalent Demand	Private Fire	Customer Billing	Fire Meter on Detector	Cost of Service Private Fire Service Charge
3/4 inch	4	0.47	1.9	\$0.16	\$5.97	\$1.63	\$7.77
1 inch	1	1.00	1.0	\$0.35	\$5.97	\$1.63	\$7.95
2 inch	163	6.19	1,009	\$2.17	\$5.97	\$1.63	\$9.77
4 inch	420	38.32	16,094	\$13.44	\$5.97	\$1.63	\$21.04
6 inch	747	111.31	83,149	\$39.03	\$5.97	\$1.63	\$46.63
8 inch	910	237.21	215,858	\$83.17	\$5.97	\$1.63	\$90.77
10 inch	156	426.58	66,546	\$149.57	\$5.97	\$1.63	\$157.17
12 inch	10	689.04	6,890	\$241.60	\$5.97	\$1.63	\$249.20

Current versus Proposed Cost of Service

Component	Proposed	Current	Difference
Fixed Charge	\$38,997,509	\$37,286,259	\$1,711,250
Private Fire	\$929,474	\$1,115,791	(\$186,317)
Volumetric Revenue	\$76,030,860	\$77,555,794	(\$1,524,933)
Total	\$115,957,844	\$115,957,844	\$0

Proposed FY 2022 Rates



Proposed Rates

- If adopted, rates would be implemented March 1, 2022
 - › 2% overall increase to rate revenues
- Revenue adjustment of 2% is applied uniformly on the updated Cost of Service rates

Proposed Meter Service Charges

2% Revenue Adjustment

Meter Size	Current Bi-Monthly Meter Service Charge	Cost of Service Bi-Monthly Meter Service Charge	Proposed Bi-Monthly Meter Service Charge
Effective Date	3/1/2020		3/1/2022
5/8-inch	\$56.61	\$57.78	\$58.94
3/4-inch	\$56.61	\$57.78	\$58.94
1-inch	\$87.29	\$92.32	\$94.18
1 1/2-inch	\$163.97	\$178.67	\$182.25
2-inch	\$255.99	\$282.29	\$287.95
3-inch	\$547.39	\$610.42	\$622.64
4-inch	\$976.81	\$1,093.98	\$1,115.87
6-inch	\$2,464.48	\$2,769.17	\$2,824.56
8-inch	\$4,304.88	\$4,841.57	\$4,938.41
10-inch	\$6,451.99	\$7,259.37	\$7,404.57

Proposed Commodity Rates

2% Revenue Adjustment

Customer Type	Current Commodity Rate	Cost of Service Commodity Rate	Proposed Commodity Rate
Effective Date	3/1/2020		3/1/2022
Inside District	\$4.596	\$4.506	\$4.596
Outside District	\$5.285	\$5.149	\$5.253

- Note: As more costs are recovered from the fixed service charge based on the cost of service update, the commodity rate remains the same after the revenue adjustment

Proposed Private Fire Service Charges

2% Revenue Adjustment

Fire Line Pipe Diameter	Current Private Fire Service Charge	Cost of Service Private Fire Service Charge	Proposed Private Fire Service Charge
Effective Date	3/1/2020		3/1/2022
3/4-inch	\$71.01	\$7.77	\$7.93
1-inch	\$71.01	\$7.95	\$8.12
2-inch	\$71.01	\$9.77	\$9.97
4-inch	\$71.01	\$21.04	\$21.46
6-inch	\$75.81	\$46.63	\$47.57
8-inch	\$80.61	\$90.77	\$92.59
10-inch	\$85.41	\$157.17	\$160.32
12-inch	\$90.21	\$249.20	\$254.19

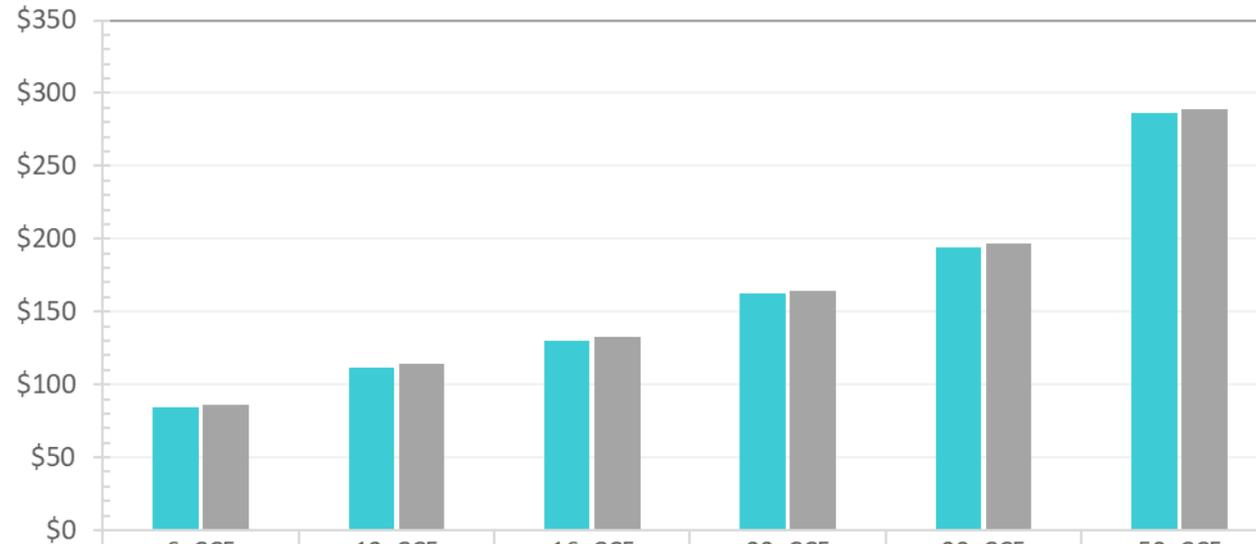
Customer Impact



Single Family Sample - Impact

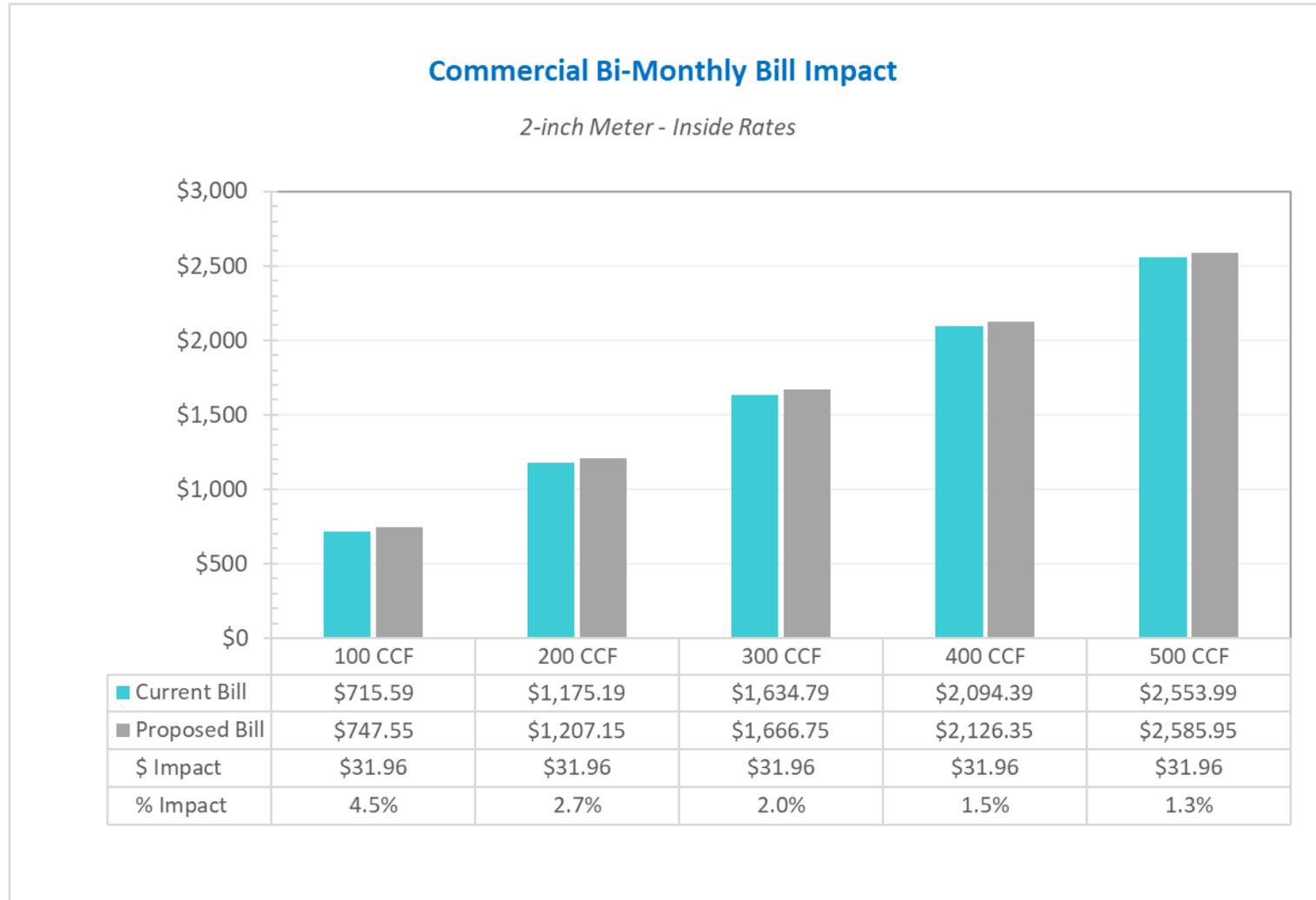
Single Family Residential Bi-Monthly Bill Impact

3/4-inch Meter - Inside Rates



■ Current Bill	\$84.19	\$111.76	\$130.15	\$162.32	\$194.49	\$286.41
■ Proposed Bill	\$86.52	\$114.09	\$132.48	\$164.65	\$196.82	\$288.74
\$ Impact	\$2.33	\$2.33	\$2.33	\$2.33	\$2.33	\$2.33
% Impact	2.8%	2.1%	1.8%	1.4%	1.2%	0.8%

Commercial Sample - Impact



Stage Rates



Stage Rates

- Water Shortage Emergency Stage Rates (Stage Rates) are implemented during water shortage emergencies
 - › Include service disruptions from drought, water shortage emergencies, or water supply interruptions from natural disasters
- Require Board adoption & 30-day customer notice prior to implementation
- Function as a mechanism to maintain revenue stability during the water emergencies
 - › Recover the net revenue decrease from less water use

Stage Rate Stages

Water Shortage Emergency Stage	Stage 0	Stage 1	Stage 2a	Stage 2b	Stage 3a	Stage 3b	Stage 4	Stage 5	Stage 6
Reduction in Water Demand	0%	10%	15%	20%	25%	30%	40%	50%	Up to 60%
Projected Water Sales (CCF)	16,870,614	15,183,552	14,340,022	13,496,491	12,652,960	11,809,430	10,122,368	8,435,307	7,254,364

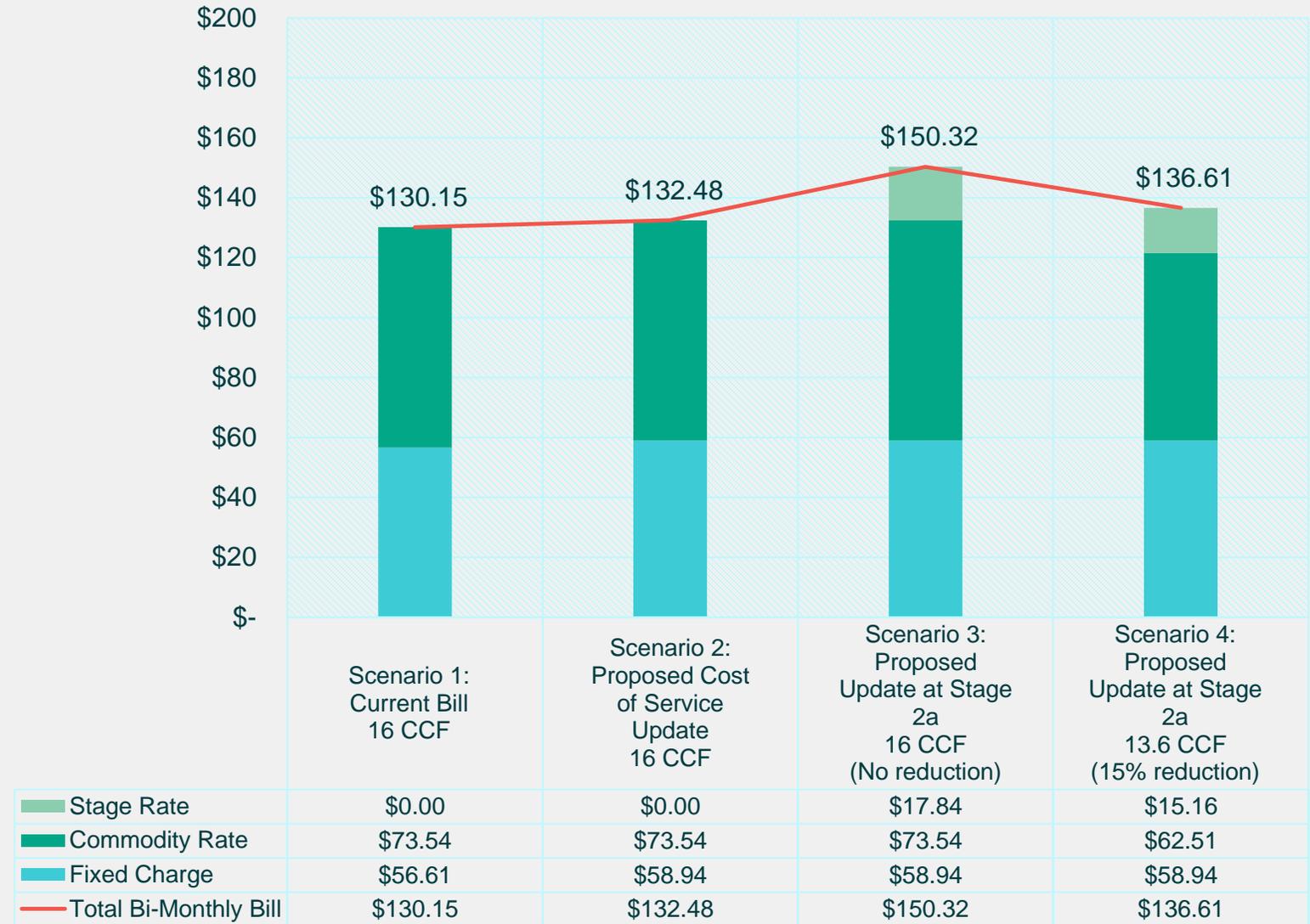
- Six Stages are developed in District's Water Shortage Contingency Plan
- The District further divided the Stage 2 and Stage 3 to reflect possible Statewide reduction targets
- Stages Rates are in addition to the Consumption Charge

$$\text{Stage 2 Rate} = \frac{\text{Lost Revenue (Less Water Sold)} - \text{Cost Savings (Less Water Purchased)}}{\text{Estimated Water Sales (20\% Reduction in Sales)}}$$

Proposed Stage Rate Stages

Water Shortage Emergency Stage	Stage 0	Stage 1	Stage 2a	Stage 2b	Stage 3a	Stage 3b	Stage 4	Stage 5	Stage 6
Unit Stage Rate	\$0.000	\$0.496	\$0.787	\$1.115	\$1.486	\$1.920	\$3.000	\$4.443	\$5.852
Consumption Charge (Inside District)	\$4.596	\$5.092	\$5.383	\$5.711	\$6.082	\$6.516	\$7.596	\$9.039	\$10.448
Consumption Charge (Outside District)	\$5.253	\$5.749	\$6.040	\$6.368	\$6.739	\$7.173	\$8.253	\$9.696	\$11.105

Customer Impact – 3/4” Meter



Next Steps

1

Receive authorization from the Board of Directors

2

Send out the Prop 218 Notice

3

Conduct the Public Hearing

Q&A



Thank you!

Contact:

Kevin Kostiuk

213-262-9309 / kkostiuk@Raftelis.com

Jonathan Jordan

213-262-9305 / jjordan@Raftelis.com

Sanjay Gaur

213-327-4405 / sgaur@water-economics.com