



## **Sweetwater Authority** **Water Rate Cost of Service Study**

Draft Water Rate Policy Recommendations

June 13, 2023



# Agenda

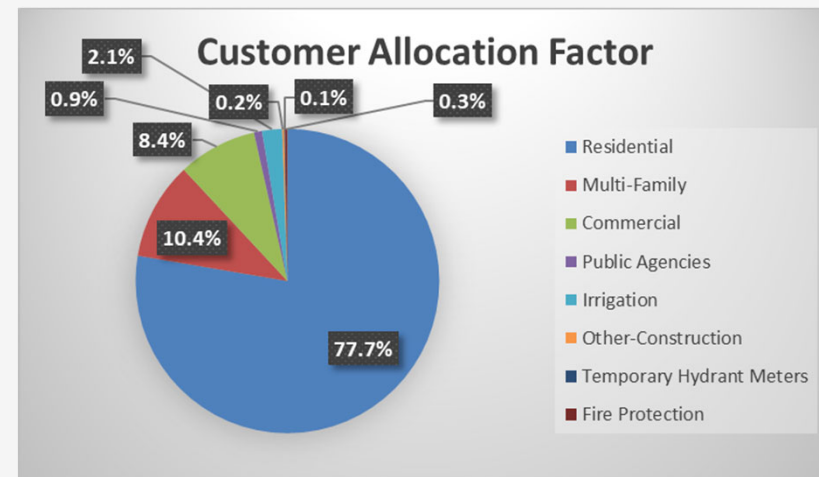
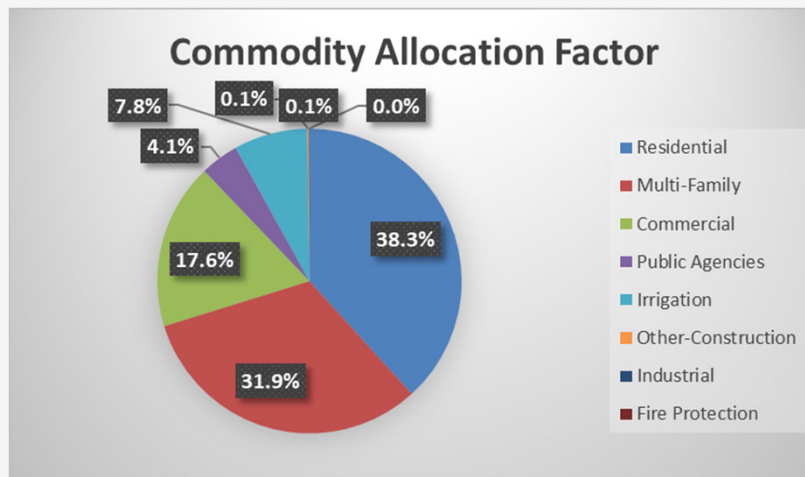
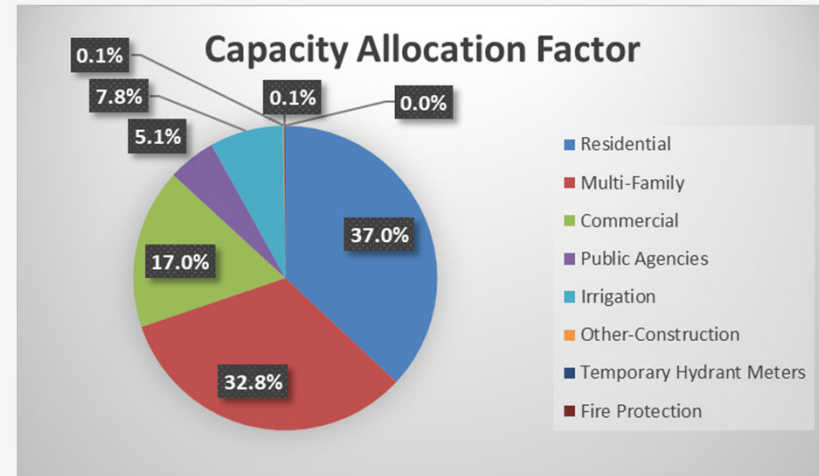
- Cost of Service Methodology
- Single-Family Residential Tier Design
- Fixed vs. Variable Charges
- Bill Comparisons



# **Cost-of-Service Methodology**

# Cost-of-Service Methodology

- Cost allocations use three components:
  - Capacity Costs (allocated based on peaking factors)
  - Commodity Costs (allocated based on annual consumption)
  - Customer Costs (allocated based on number of accounts)



# Cost-of-Service Methodology

- Capacity Related Costs:
  - Costs associated with the maximum demand for each customer class and the maximum size/costs of facilities required to meet this demand.

Development of the PEAK CAPACITY (MAX MONTH) Allocation Factors				
Customer Class	Average Monthly Use (hcf)	Avg. Bi-Mo. Peak Use (hcf) <sup>1</sup>	Peak Monthly Factor	Max Month Capacity Factor
Residential	225,740	298,431	<b>1.32</b>	<b>37.0%</b>
Multi-Family	188,405	265,058	<b>1.41</b>	<b>32.8%</b>
Commercial	104,006	137,434	<b>1.32</b>	<b>17.0%</b>
Public Agencies	24,088	41,243	<b>1.71</b>	<b>5.1%</b>
Irrigation	46,150	63,066	<b>1.37</b>	<b>7.81%</b>
Other-Construction	841	1,014	<b>1.21</b>	<b>0.1%</b>
Temporary Hydrant Meters	508	1,024	<b>2.02</b>	<b>0.1%</b>
Fire Protection	42	63	<b>1.52</b>	<b>0.01%</b>
<b>Total</b>	<b>589,779</b>	<b>807,332</b>	<b>1.37</b>	<b>100%</b>

1. Based on peak monthly data (highest 2-month average due to bi-monthly meter reading).

# Cost-of-Service Methodology

- Results of Cost Allocations (with 5-Year Phase-In):

Classification Components	YEAR 1 (13% Fixed / 87% Variable) Net Rev. Reqts. (FY 2023/24)		YEAR 2 (17% Fixed / 83% Variable) Net Rev. Reqts. (FY 2024/25) <sup>2</sup>		YEAR 3 (21% Fixed / 79% Variable) Net Rev. Reqts. (FY 2025/26) <sup>2</sup>	
Commodity-Related Costs	\$ 43,967,822	79.0%	\$ 43,828,473	75.0%	\$ 43,565,269	71.0%
SDCWA Wholesale Purchased Water	<u>4,456,800</u>	<u>8.0%</u>	<u>4,679,640</u>	<u>8.0%</u>	<u>4,913,622</u>	<u>8.0%</u>
Subtotal - Commodity-Related Costs	48,424,622	87.0%	48,508,113	83.0%	48,478,891	79.0%
Capacity-Related Costs	3,618,093	6.5%	5,728,508	9.8%	8,040,919	13.1%
SDCWA Infrastructure Access Charge	<u>2,354,200</u>	<u>4.2%</u>	<u>2,471,910</u>	<u>4.2%</u>	<u>2,595,506</u>	<u>4.2%</u>
Customer-Related Costs	1,256,694	2.3%	1,725,538	3.0%	2,238,124	3.6%
Fire Protection-Related Costs	6,876	0.0%	9,441	0.0%	12,246	0.0%
<b>Net Revenue Requirement</b>	<b>\$ 55,660,485</b>	<b>100.0%</b>	<b>\$ 58,443,509</b>	<b>100.0%</b>	<b>\$ 61,365,685</b>	<b>100.0%</b>
<b>Net Revenue Requirement w/o SDCWA Charges</b>	<b>\$ 48,849,485</b>	<b>--</b>	<b>\$ 51,291,959</b>	<b>--</b>	<b>\$ 53,856,557</b>	<b>--</b>

Classification Components	YEAR 4 (25% Fixed / 75% Variable) Net Rev. Reqts. (FY 2026/27) <sup>2</sup>		YEAR 5 (30% Fixed / 70% Variable) Net Rev. Reqts. (FY 2027/28) <sup>2</sup>	
Commodity-Related Costs	\$ 43,166,173	67.0%	\$ 41,941,699	62.0%
SDCWA Wholesale Purchased Water	<u>5,159,303</u>	<u>8.0%</u>	<u>5,417,268</u>	<u>8.0%</u>
Subtotal - Commodity-Related Costs	48,325,477	75.0%	47,358,967	70.0%
Capacity-Related Costs	10,570,249	16.4%	13,890,823	20.5%
SDCWA Infrastructure Access Charge	<u>2,725,281</u>	<u>4.2%</u>	<u>2,861,545</u>	<u>4.2%</u>
Customer-Related Costs	2,797,655	4.3%	3,525,045	5.2%
Fire Protection-Related Costs	15,307	0.0%	19,287	0.0%
<b>Net Revenue Requirement</b>	<b>\$ 64,433,969</b>	<b>100.0%</b>	<b>\$ 67,655,667</b>	<b>100.0%</b>
<b>Net Revenue Requirement w/o SDCWA Charges</b>	<b>\$ 56,549,385</b>	<b>--</b>	<b>\$ 59,376,854</b>	<b>--</b>

1. Net revenue requirements less recycled water revenue requirements.

2. Net Rev. Reqts. in Years 2-5 assume costs increase uniformly by the annual rate increases in the Financial Plan.

# Cost-of-Service Methodology

- **Overview of Cost Allocation Results:**
  - Adding Irrigation and Fire Meter classes improves overall fairness and equity.
  - Meter Overlay provides an appropriate adjustments in tier-breakpoints for larger SFR meters.
  - A 5-year Phase-In to a 30/70 rate design gradually adjusts to an appropriate and more equitable rate design.
  - These options comply with Prop 218, but will need attorney review.



# **Single-Family Residential Tier Design**

# Single-Family Residential Tier Design

- Tiers Must be Based on Sources of Supply:
  - Quantities & Costs

Source of Supply	Total Supplies		Cost (\$/AF) <sup>2</sup>	Supply Costs <sup>3</sup> (FY 2023/24)	
	In AF/Year	% of Total		(\$)	% of Total
Tier 1					
NC Wells	1,900	11.2%	\$170	\$ 323,000	2.8%
Tier 2					
Reservoir Water	2,736	16.1%	\$224	612,864	5.3%
Tier 3					
Desal	6,500	38.3%	\$411	2,671,500	23.3%
Tier 4					
SDCWA	5,847	34.4%	\$1,345	7,864,215	68.6%
Totals	16,983	100.0%		\$11,471,579	100%

# Single-Family Residential Tier Design

- Primary Questions:

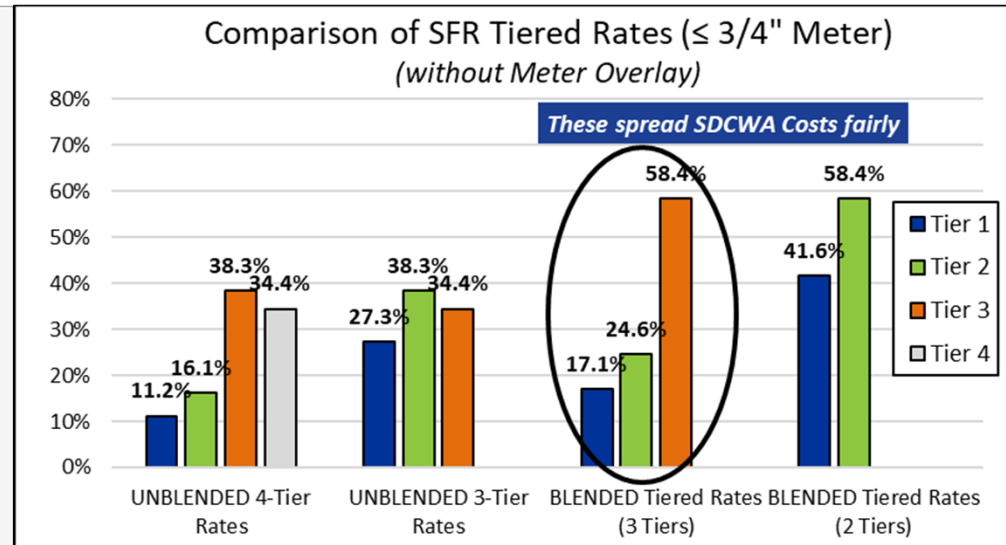
- Source of Supply - Un-Blended vs. Blended Options:

Source of Supply	Un-Blended		Blended	
	4 Tiers	3 Tiers	3 Tiers	2 Tiers
NC Wells	Tier 1	Tier 1	Tier 1	Tier 1
Reservoir Water	Tier 2		Tier 2	
Desal	Tier 3	Tier 2	Tier 3	Tier 2
SDCWA	Tier 4	Tier 3	Blended	Blended

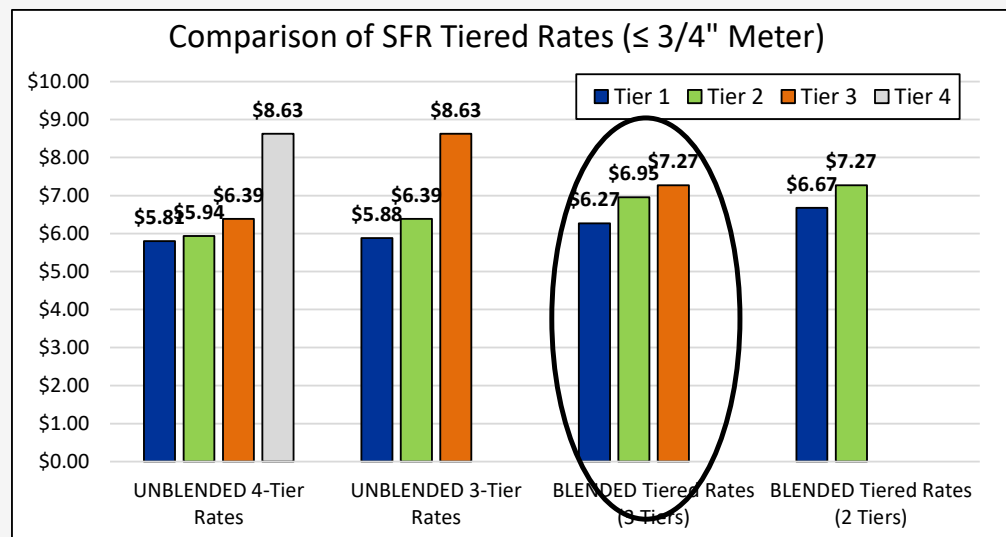
- Number of Tiers – What are Quantities and Tier Rates for each option?

# Single-Family Residential Tier Design

- Supply Quantities:



- Tier Rates:



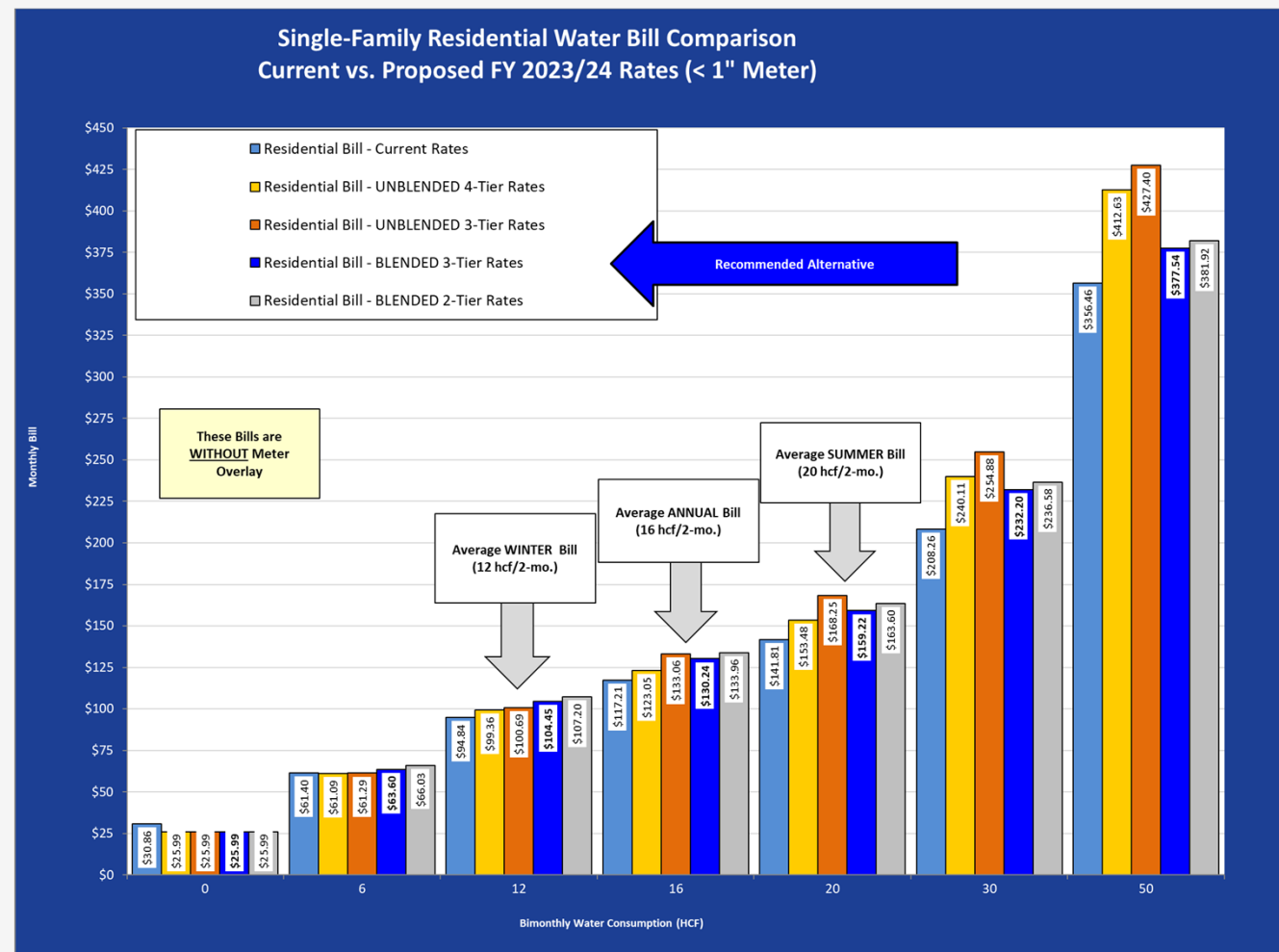
# Single-Family Residential – Tier Design

Tiers	Supply (Only) Costs (\$/HCF)	Breakpoints	% Resid. HCF's
UNBLENDED 4-Tier Rates			
Tier 1	\$0.39	$T1 \leq 4 \text{ hcf}$	11.2%
Tier 2	\$0.51	$4 < T2 \leq 8.5$	16.1%
Tier 3	\$0.94	$8.5 < T2 \leq 18$	38.3%
Tier 4	\$3.09	$18 < T3$	34.4%
UNBLENDED 3-Tier Rates			
Tier 1	\$0.46	$T1 \leq 9 \text{ hcf}$	27.3%
Tier 2	\$0.94	$9 < T2 \leq 18$	38.3%
Tier 3	\$3.09	$18 < T3$	34.4%
BLENDED Tiered Rates (3 Tiers)			
Tier 1	\$0.78	$T1 \leq 6 \text{ hcf}$	17.1%
Tier 2	\$1.40	$6 < T2 \leq 12$	24.6%
Tier 3	\$1.68	$12 < T3$	58.4%
BLENDED Tiered Rates (2 Tiers)			
Tier 1	\$1.15	$T1 \leq 12 \text{ hcf}$	41.6%
Tier 2	\$1.68	$12 < T2$	58.4%

Recommended Alternative

# Single-Family Residential Tier Design

- SFR Bill Impacts by Rate Design (No. of Tiers):

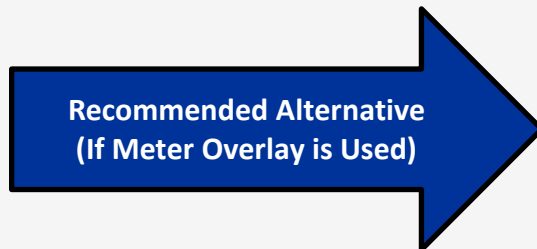


# Single-Family Residential Tier Design

- Additional Question: Meter Overlay
  - Meter Overlay for Residential Customers for:
    - Meters < 1-Inch
    - Meters  $\geq$  1-Inch
- Results: different breakpoints for tiered rates
  - Meters < 1-Inch:
    - Breakpoint between Tiers 1 and 2 = **6 hcf/mo.**
    - Breakpoint between Tiers 2 and 3 = **12 hcf/mo.**
  - Meters  $\geq$  1-Inch
    - Breakpoint between Tiers 1 and 2 = **7.5 hcf/mo.**
    - Breakpoint between Tiers 2 and 3 = **16 hcf/mo.**

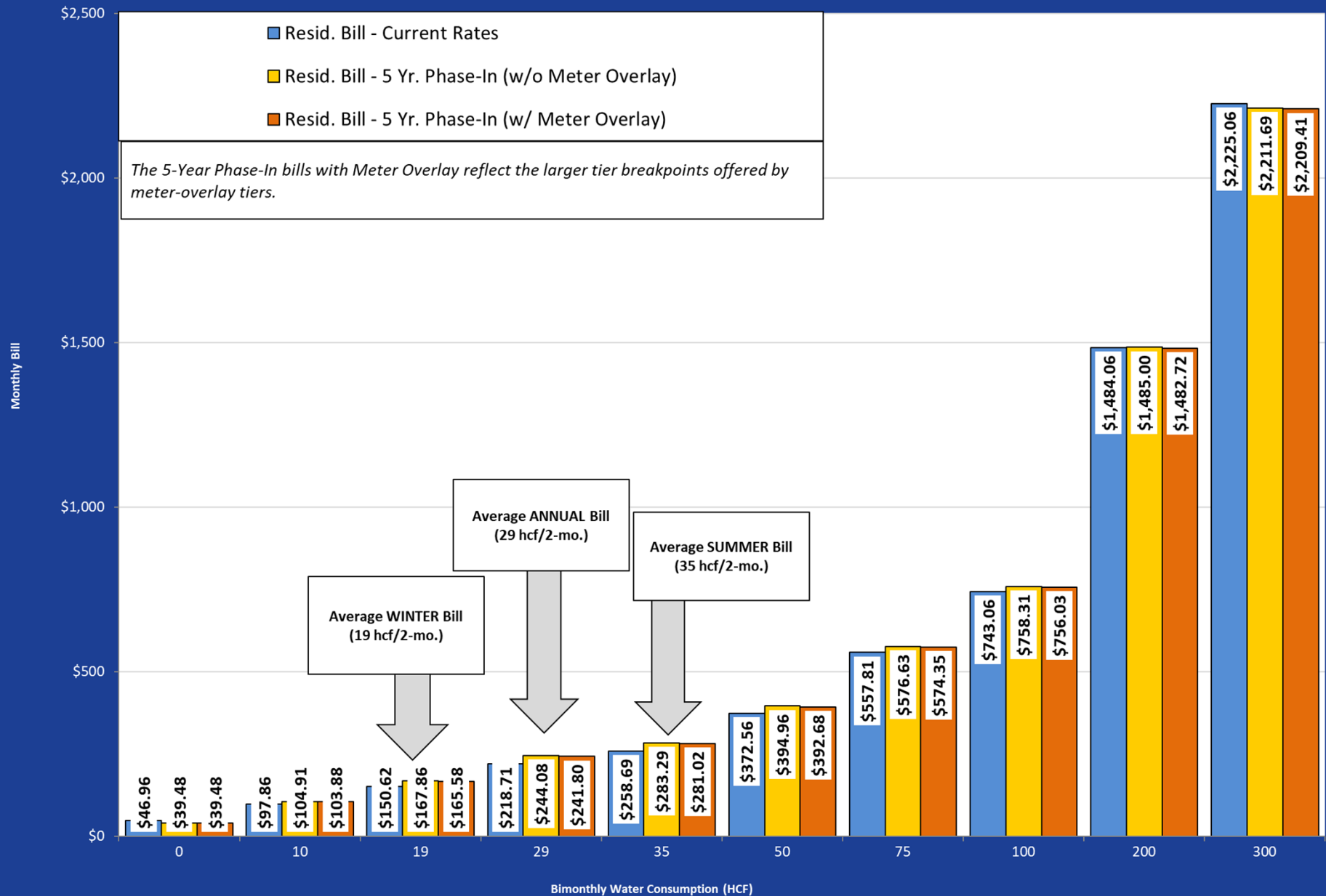
# Single-Family Resid. Tiers (Meter Overlay)

Tiers	\$/HCF	Breakpoints (for < 1-Inch Meters Only)	% Resid. HCF's
UNBLENDED Tiered Rates			
Tier 1	\$0.46	T1 ≤ 9 hcf	27.3%
Tier 2	\$0.94	9 < T2 ≤ 17	38.3%
Tier 3	\$3.09	17 < T3	34.4%
BLENDED Tiered Rates (3 Tiers)			
Tier 1	\$0.78	T1 ≤ 6 hcf	17.1%
Tier 2	\$1.40	6 < T2 ≤ 12.5	24.6%
Tier 3	\$1.68	12.5 < T3	58.4%
BLENDED Tiered Rates (2 Tiers)			
Tier 1	\$1.15	T1 ≤ 12.5 hcf	41.6%
Tier 2	\$1.68	12.5 < T2	58.4%



Tiers	\$/HCF	Breakpoints (for ≥ 1-Inch Meters Only)	% Resid. HCF's
UNBLENDED Tiered Rates			
Tier 1	\$0.46	T1 ≤ 12 hcf	27.3%
Tier 2	\$0.94	12 < T2 ≤ 25	38.3%
Tier 3	\$3.09	25 < T3	34.4%
BLENDED Tiered Rates (3 Tiers)			
Tier 1	\$0.78	T1 ≤ 7.5 hcf	17.1%
Tier 2	\$1.40	7.5 < T2 ≤ 16	24.6%
Tier 3	\$1.68	16 < T3	58.4%
BLENDED Tiered Rates (2 Tiers)			
Tier 1	\$1.15	T1 ≤ 16 hcf	41.6%
Tier 2	\$1.68	16 < T2	58.4%

## SFR Water Bill Comparison - Current vs. Proposed (W/ & W/O Meter Overlay - FY 2023/24 Rates: 1" Meter)



# Single-Family Residential Tier Design

## Basis for a Recommendation on SFR Tiered Rates:

- SDCWA Costs should be spread over all customers (i.e., blended).
- Although it's unusual to have more than half of supplies in Tier 3, that's what the source of supply data provides.
- 3 Tiers of the Blended Supplies still offers the lowest user a break.

- Meter Overlay Conclusion:

- Meter Overlay increases rate structure complexity
- It offers only nominal decreases in average bills for larger meter customers
- NBS would not recommend using meter overlay for these reasons



# **Fixed vs. Variable Charge Alternatives**

# Fixed vs. Variable Charges

- Primary Question:
  - Should we transition from current 13/87 fixed vs. variable rate structure to 30/70 structure while addressing other concerns about fairness and equity?
- Recommendation:
  - 5-Year Phase-in Approach:

5-Year Phase-In Assumptions					
	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>
% Fixed	13%	17%	21%	25%	30%
% Variable	87%	83%	79%	75%	70%

Water Rate Schedule	Current Rates	Proposed Rates (with 5-Year Phase-In of 30/70 Rate Design)				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
<i>Projected Increase in Rate Revenue per Financial Plan:</i>		5.00%	5.00%	5.00%	5.00%	5.00%
<b>Bi-Monthly Fixed Service Charges (in \$/2-mo)</b>		13% F/87% V	17% F/83% V	21% F/79% V	25% F/75% V	30% F/70% V
<b>Sweetwater Authority Rates for Bi-Monthly Fixed Charge</b>						
< 1 inch	\$21.70	\$17.87	\$27.11	\$37.19	\$48.23	\$62.69
1 inch	\$32.30	\$25.95	\$39.90	\$55.15	\$71.84	\$93.72
1-1/2 inches	\$51.18	\$46.14	\$71.89	\$100.05	\$130.87	\$171.30
2 inches	\$72.40	\$70.38	\$110.27	\$153.93	\$201.70	\$264.39
<b>Sweetwater Authority Bi-Monthly Fixed Charges for Irrigation Meters</b>						
< 1 inch	N.A.	\$25.24	\$38.76	\$53.56	\$69.75	\$90.97
1 inch	N.A.	\$38.24	\$59.33	\$82.44	\$107.71	\$140.85
1-1/2 inches	N.A.	\$70.72	\$110.76	\$154.63	\$202.60	\$265.56
<b>Sweetwater Authority Bi-Monthly Fixed Charges for Fire Meters</b>						
< 1 inch	N.A.	\$15.75	\$16.54	\$17.36	\$18.23	\$19.14
1 inch	N.A.	\$22.41	\$23.53	\$24.71	\$25.94	\$27.24
1-1/2 inches	N.A.	\$39.07	\$41.02	\$43.07	\$45.23	\$47.49
2 inches	N.A.	\$59.06	\$62.01	\$65.11	\$68.37	\$71.78
<b>SDCWA Rates for Bi-Monthly Infrastructure Access Charge</b>						
< 1 inch	\$9.16	\$8.12	\$8.53	\$8.95	\$9.40	\$9.87
1 inch	\$14.66	\$13.53	\$14.21	\$14.92	\$15.67	\$16.45
1-1/2 inches	\$27.48	\$27.07	\$28.42	\$29.84	\$31.34	\$32.90
2 inches	\$47.62	\$43.31	\$45.48	\$47.75	\$50.14	\$52.64

Note: Draft Rate Alternatives – Subject to Revision.  
*(Larger meter sizes not shown)*

TABLE 88 : CURRENT VS. PROPOSED WATER RATES

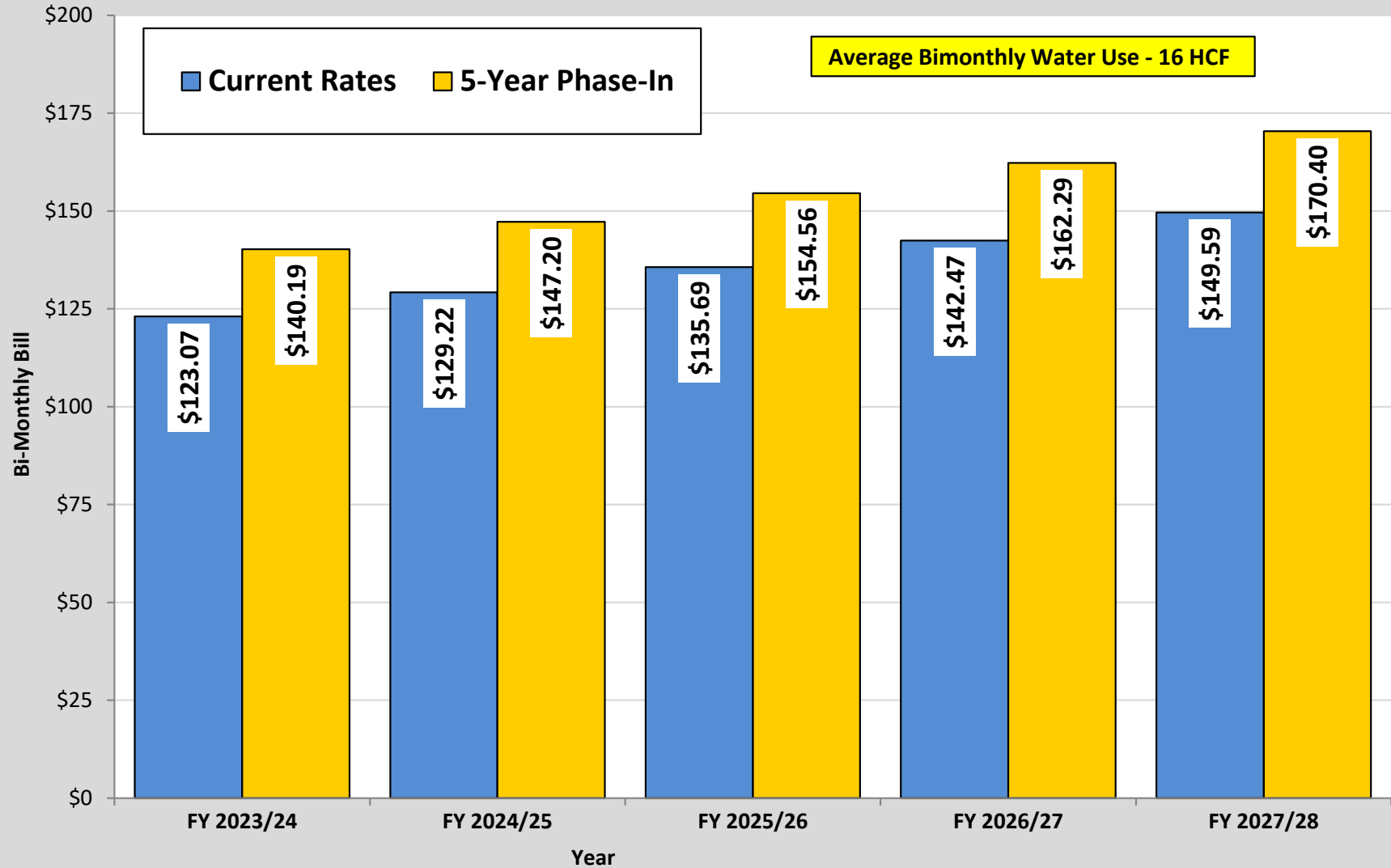
5-Year Phase-In

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Projected Increase in Rate Revenue per Financial Year		5.00%	5.00%	5.00%	5.00%	5.00%
<b>Variable Charges for All Water Consumed (in \$/hcf)</b>						
<b>Variable Rate for Bi-Monthly Sweetwater Authority Charge</b>						
Residential Use						
Tier 1 - 0 - 10 HCF	\$4.31	N.A.	N.A.	N.A.	N.A.	N.A.
Tier 2 - 11 - 16 HCF	\$5.14	N.A.	N.A.	N.A.	N.A.	N.A.
Tier 3 - 17 - 27 HCF	\$5.29	N.A.	N.A.	N.A.	N.A.	N.A.
Tier 4 - ≥ 28 HCF	\$6.37	N.A.	N.A.	N.A.	N.A.	N.A.
Tier 1 (0-6 HCF)	N.A.	\$5.46	\$5.40	\$5.33	\$5.23	\$5.01
Tier 2 (7-12 HCF)	N.A.	\$6.15	\$6.12	\$6.08	\$6.02	\$5.85
Tier 3 (12 HCF +)	N.A.	\$6.46	\$6.45	\$6.43	\$6.39	\$6.23
Multi-Family	\$5.92	\$6.21	\$6.19	\$6.16	\$6.10	\$5.93
Commercial	\$5.66	\$6.21	\$6.19	\$6.16	\$6.10	\$5.93
Public Agencies	\$6.99	\$6.21	\$6.19	\$6.16	\$6.10	\$5.93
Irrigation	N.A.	\$6.21	\$6.19	\$6.16	\$6.10	\$5.93
Other-Construction	\$8.54	\$6.21	\$6.19	\$6.16	\$6.10	\$5.93
Industrial	N.A.	\$6.21	\$6.19	\$6.16	\$6.10	\$5.93
Fire Protection	N.A.	\$6.21	\$6.19	\$6.16	\$6.10	\$5.93
<b>Variable Rate for Bi-Monthly SDCWA Wholesale Water Purchase Charge</b>						
Residential Use						
Tier 1 - 0 - 10 HCF	\$0.54	N.A.	N.A.	N.A.	N.A.	N.A.
Tier 2 - 11 - 16 HCF	\$0.65	N.A.	N.A.	N.A.	N.A.	N.A.
Tier 3 - 17 - 27 HCF	\$0.66	N.A.	N.A.	N.A.	N.A.	N.A.
Tier 4 - ≥ 28 HCF	\$0.80	N.A.	N.A.	N.A.	N.A.	N.A.
Tier 1 (0-6 HCF)	N.A.	\$0.63	\$0.66	\$0.69	\$0.73	\$0.77
Tier 2 (7-12 HCF)	N.A.	\$0.63	\$0.66	\$0.69	\$0.73	\$0.77
Tier 3 (12 HCF +)	N.A.	\$0.63	\$0.66	\$0.69	\$0.73	\$0.77
Multi-Family	\$0.74	\$0.63	\$0.66	\$0.69	\$0.73	\$0.77
Commercial	\$0.71	\$0.63	\$0.66	\$0.69	\$0.73	\$0.77
Public Agencies	\$0.87	\$0.63	\$0.66	\$0.69	\$0.73	\$0.77
Irrigation	N.A.	\$0.63	\$0.66	\$0.69	\$0.73	\$0.77
Other-Construction	\$1.07	\$0.63	\$0.66	\$0.69	\$0.73	\$0.77
Industrial	N.A.	\$0.63	\$0.66	\$0.69	\$0.73	\$0.77
Fire Protection	N.A.	\$0.63	\$0.66	\$0.69	\$0.73	\$0.77



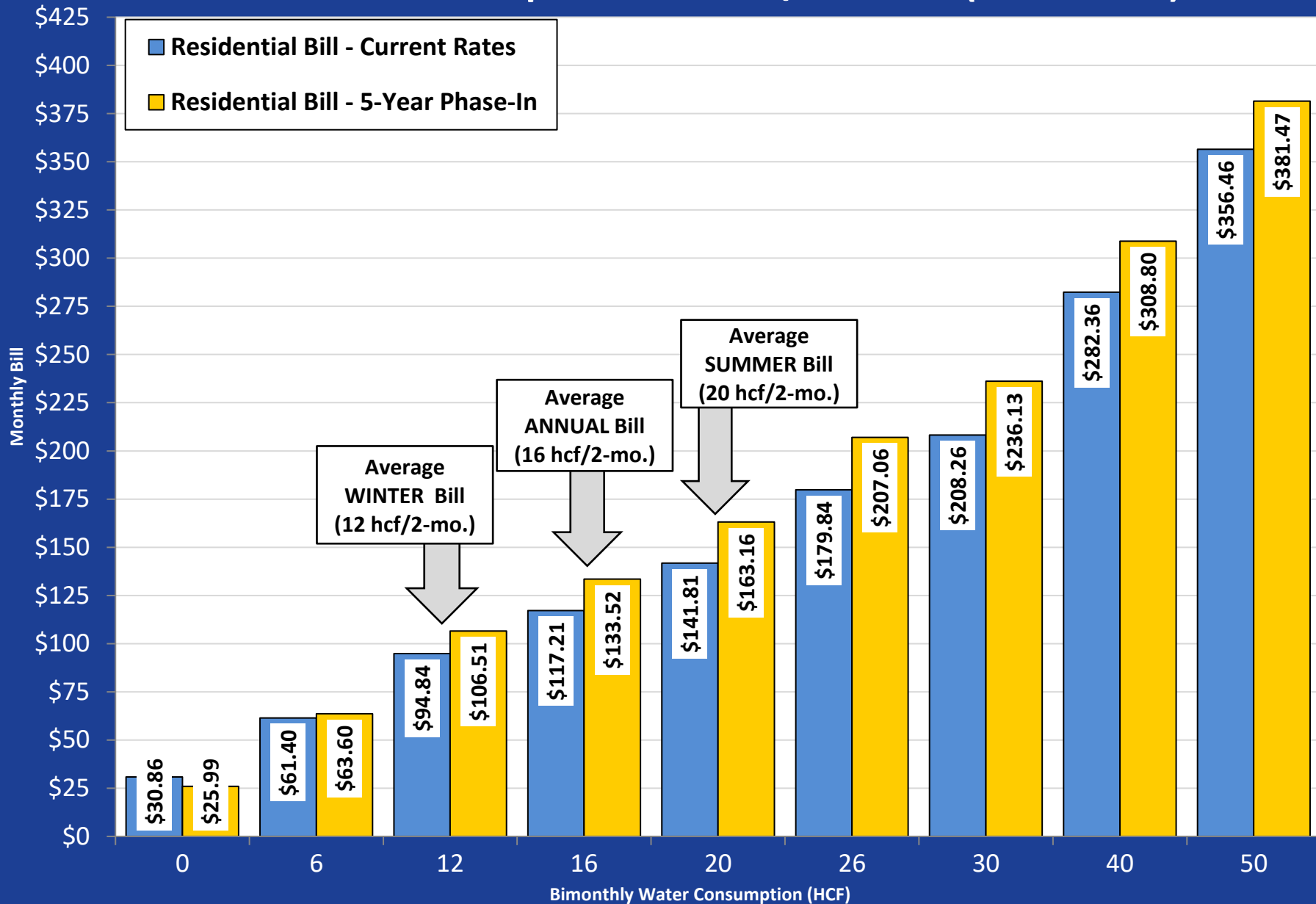
# **Bill Comparisons**

## Residential Bi-Monthly Water Bill Comparison 5-Year Projection (<1" Meter)

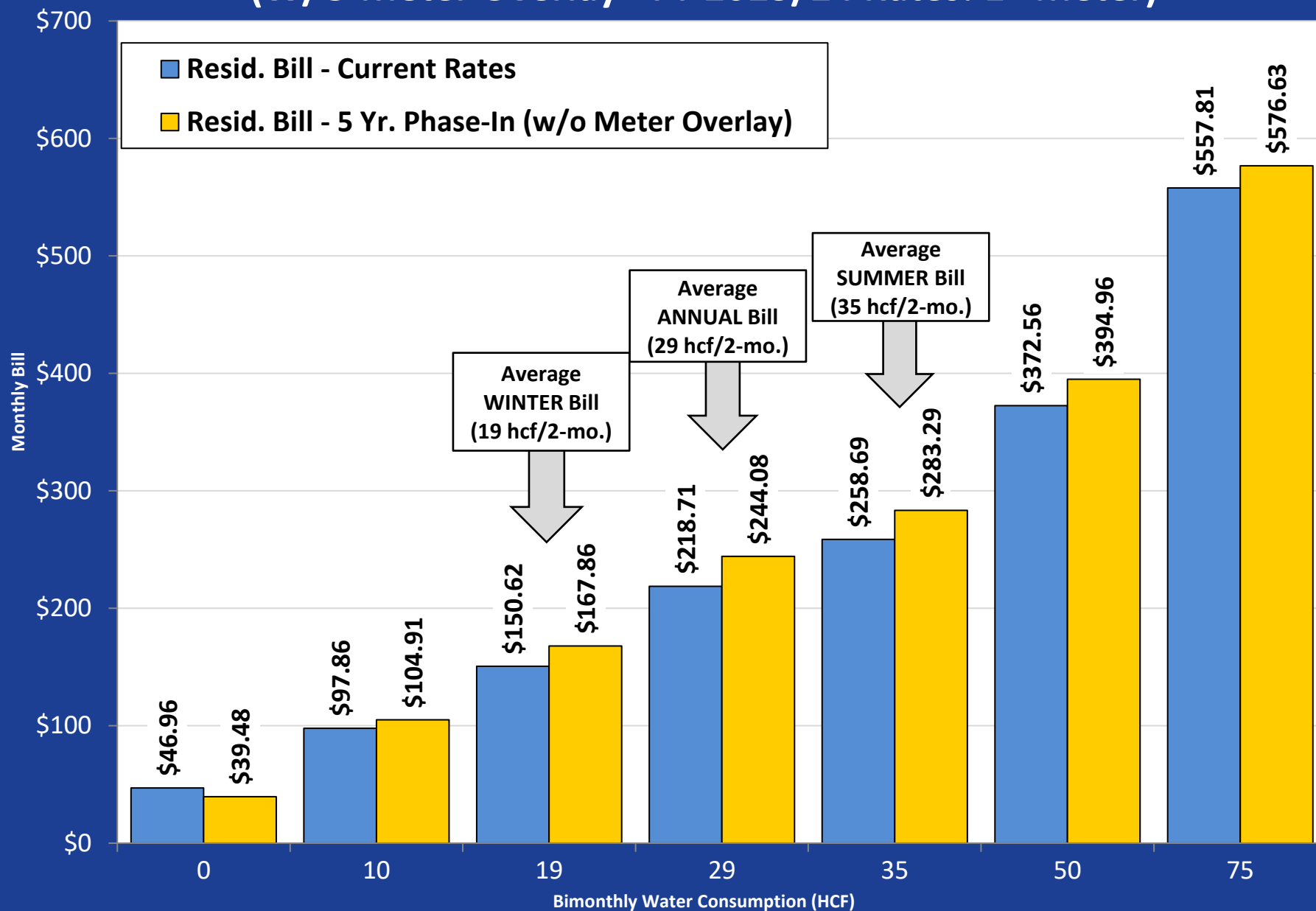


# Single-Family Residential Water Bill Comparison

## Current vs. Proposed FY 2023/24 Rates (< 1" Meter)

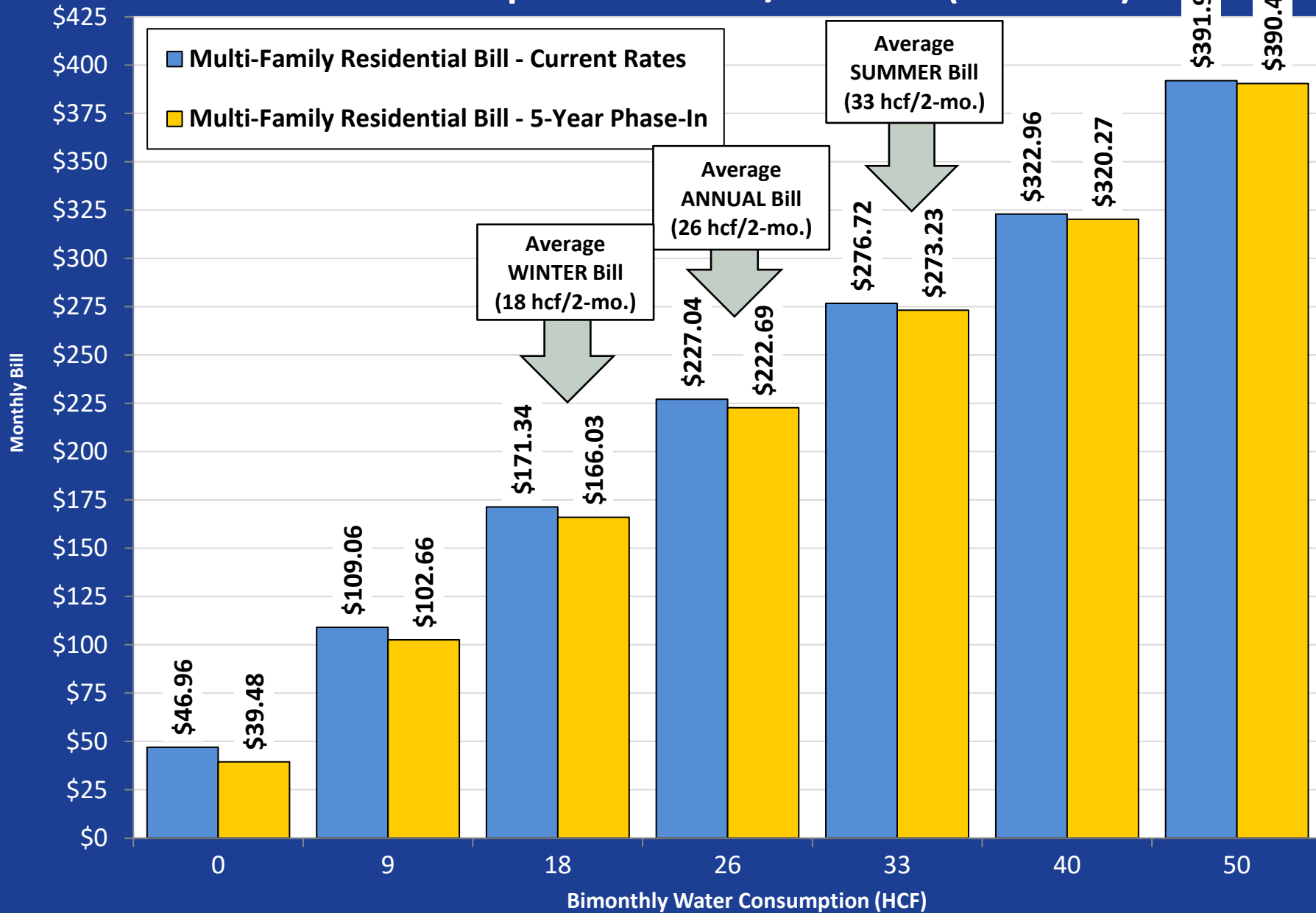


## SFR Water Bill Comparison - Current vs. Proposed (W/O Meter Overlay - FY 2023/24 Rates: 1" Meter)



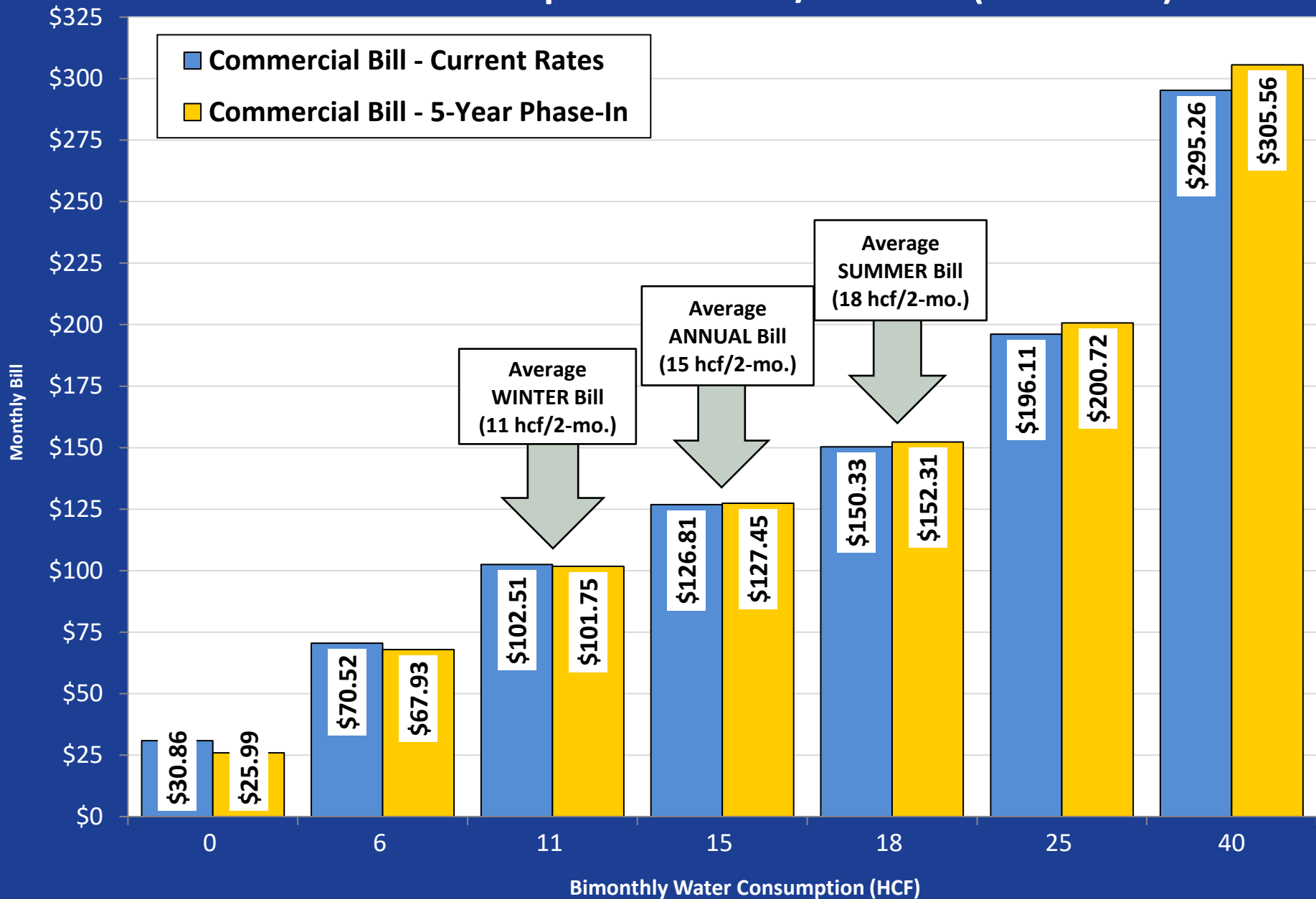
# Multi-Family Residential Water Bill Comparison

## Current vs. Proposed FY 2023/24 Rates (1" Meter)



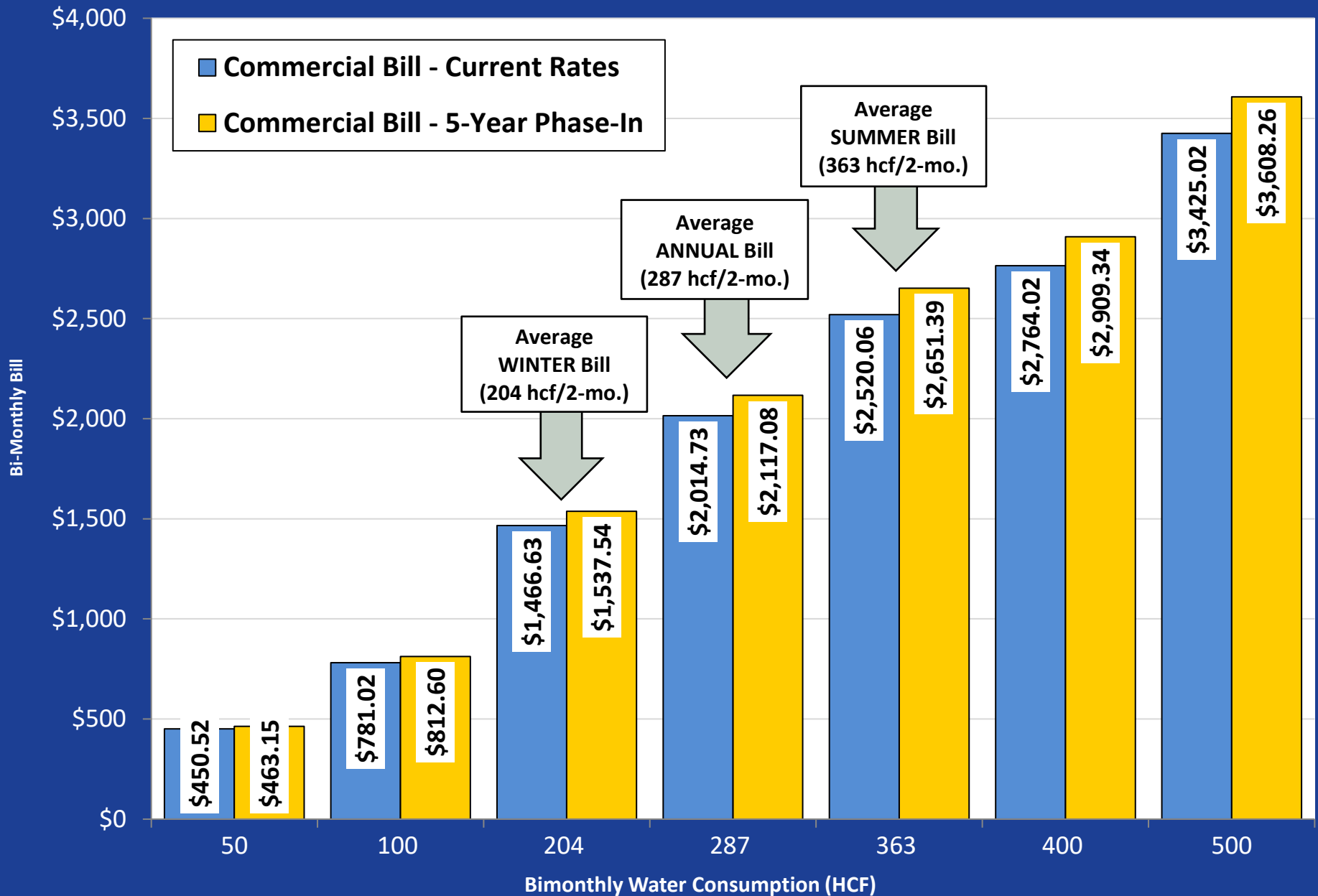
# Commercial Water Bill Comparison

## Current vs. Proposed FY 2023/24 Rates (<1" Meter)



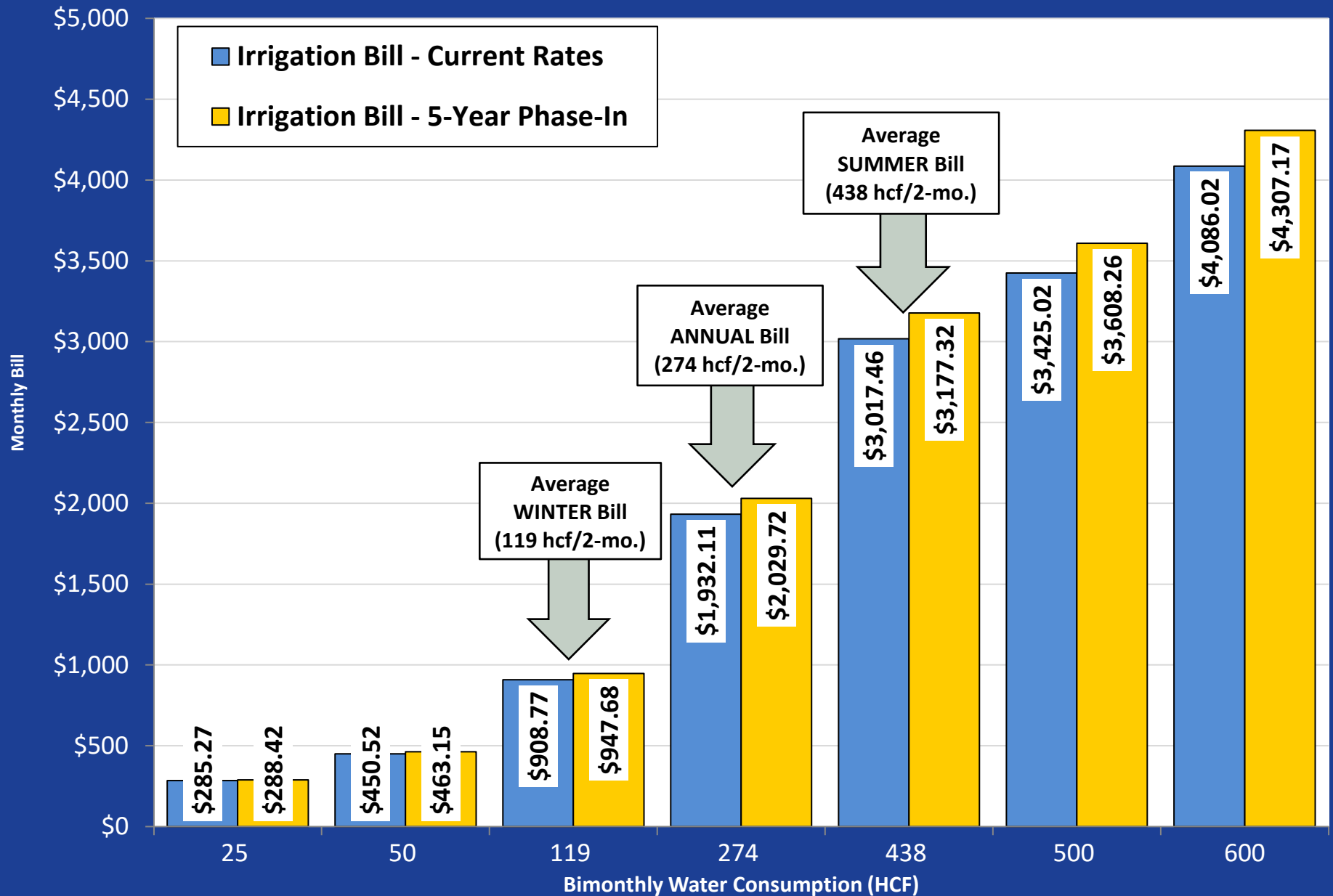
# Commercial Water Bill Comparison

## Current vs. Proposed FY 2023/24 Rates (2" Meter)



# Irrigation Water Bill Comparison

## Current vs. Proposed FY 2023/24 Rates (2" Meter)





# Questions & Discussion

# Questions and Comments 800.676.7516



**Jeremy Tamargo**

*Project Manager/Civil  
Engineer*

[jtamargo@nbsgov.com](mailto:jtamargo@nbsgov.com)



**Greg Clumpner**

*Senior Review*

[gclumpner@nbsgov.com](mailto:gclumpner@nbsgov.com)