

Summary of the Water & Water Reclamation Utility Rate Study

October 2017



Presented by:

**Shawn Koorn, Associate Vice President
HDR Engineering, Inc.**



Overview of Tonight's Meeting

- Provide a summary of the rate study approach, findings, conclusions, and recommendations
- Provide information to customers on the proposed changes in the rates and bill impacts
- Answer questions about the rate study and proposed changes in water and water reclamation (sewer) rates

Purpose of the Rate Study

- Water and Water Reclamation are essential services provided by the City for the community
 - Need to prudently fund each utility to maintain service levels
 - Meet State and Federal requirements
- Each utility is financially self-supporting for normal operations and capital improvements
 - Primary funding sources are rates for the services provided
 - Utilities are not funded by other City Department's
- Last Utility Rate Study Conducted in 2008 and Implemented in 2009
 - Water and Water Reclamation Rates last changed over 4-years ago (January 2013)

City's Rate Study Objectives

- Development and documentation of financial/rate setting policies
- Development of a rate setting methodology based on industry standards and the City's specific system and customer characteristics
- Cost-based and equitable rates that prudently support the operation and necessary capital improvement needs of each utility
- Development of a rate model that will allow the City to check the adequacy of rates and funding in the future

Overview of the Rate Setting Process

Revenue Requirement

Compares the revenues of each utility to its expenses to determine the overall level of rate adjustment



Cost of Service

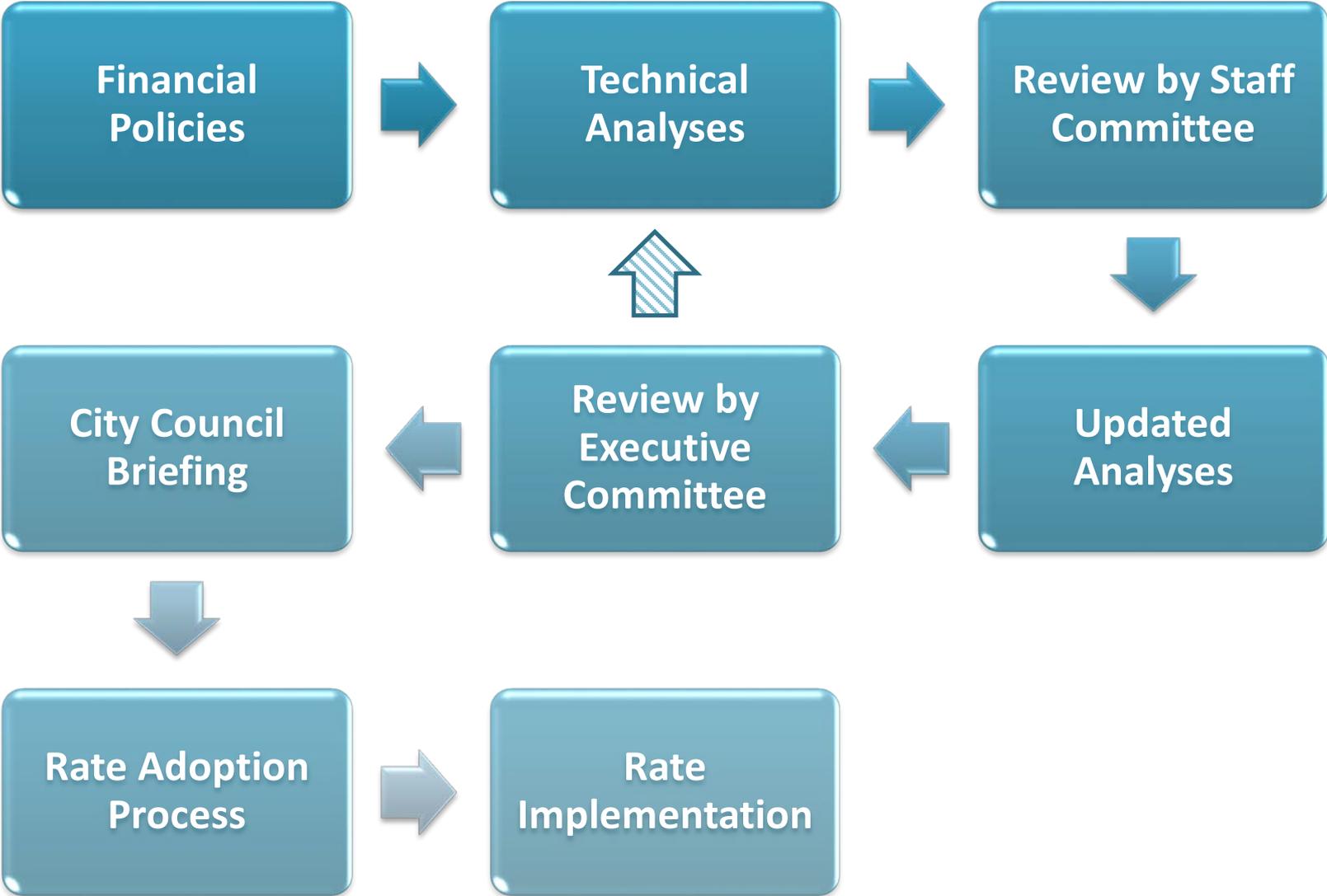
Equitably allocates the revenue requirements between the various customer classes of service



Rate Design

Design rates for each class of service to meet the revenue needs of each utility, along with any other rate design goals and objectives

Rate Study Structure and Approach



Overview of the City's Financial Policies

- Financial policies provide consistent and logical financial/rate setting decisions
- Policies are arranged into major policy categories
 - Target Minimum Reserve Levels
 - Debt Issuance / Management
 - Balanced Operating (O&M) Budget
 - Capital Asset Policies & Procedures
 - Establishing Rates & Fees
- Policies are incorporated into the analyses



Revenue Requirement

Overview of the Revenue Requirement

Compares utility revenues to expenses

- Determines the level of rate adjustment necessary based on current O&M and capital needs

Uses prudent financial planning criteria

- Financial/rate setting policies (e.g., target ending reserve balances, prudent rate funded capital)

Reviews a specific time period

- 10-year projection
- Rate setting focus for first 5-years

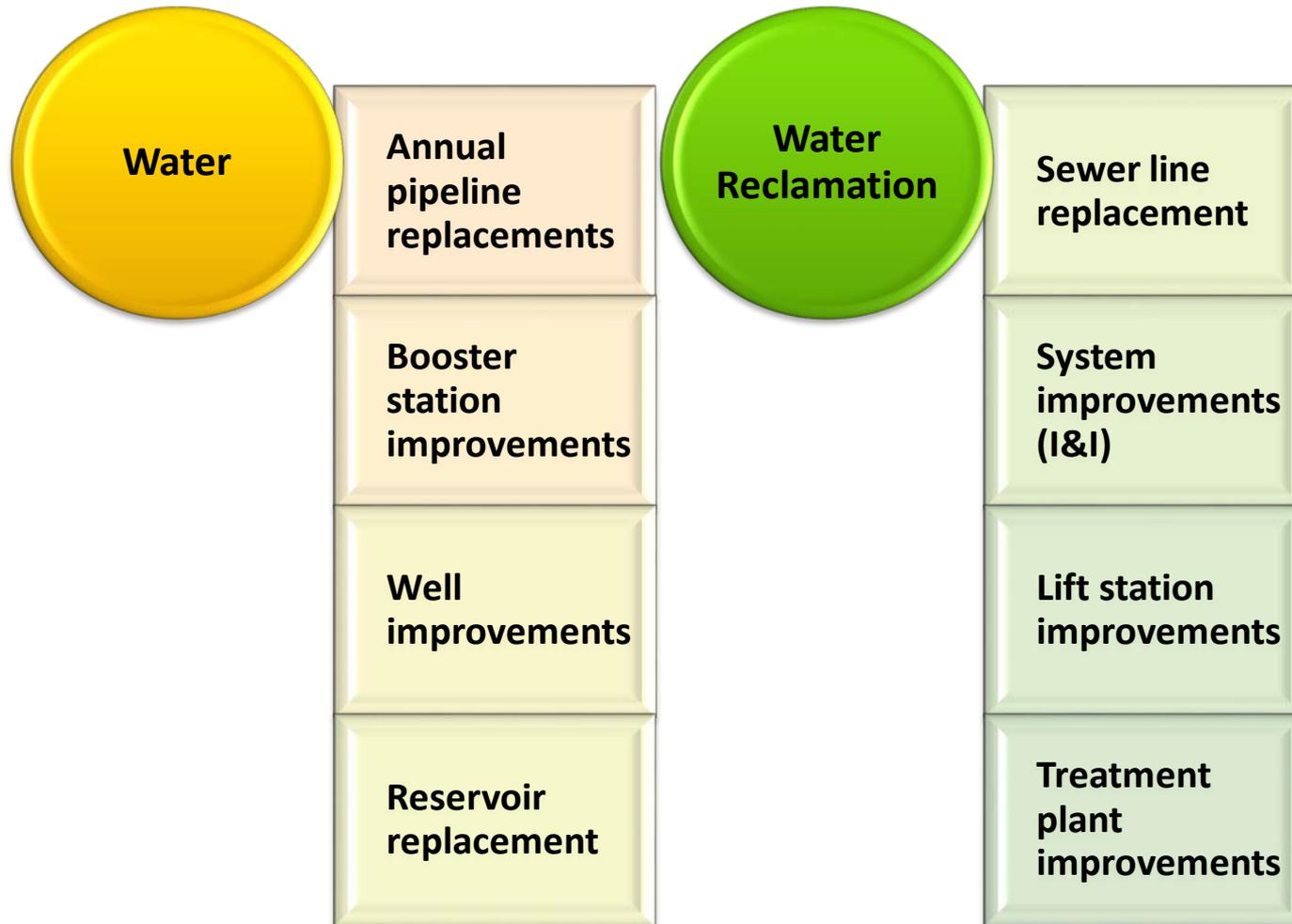
Utility is analyzed on a “stand-alone basis”

- No transfer of funds from other City funds
- Rates need to support operations and capital

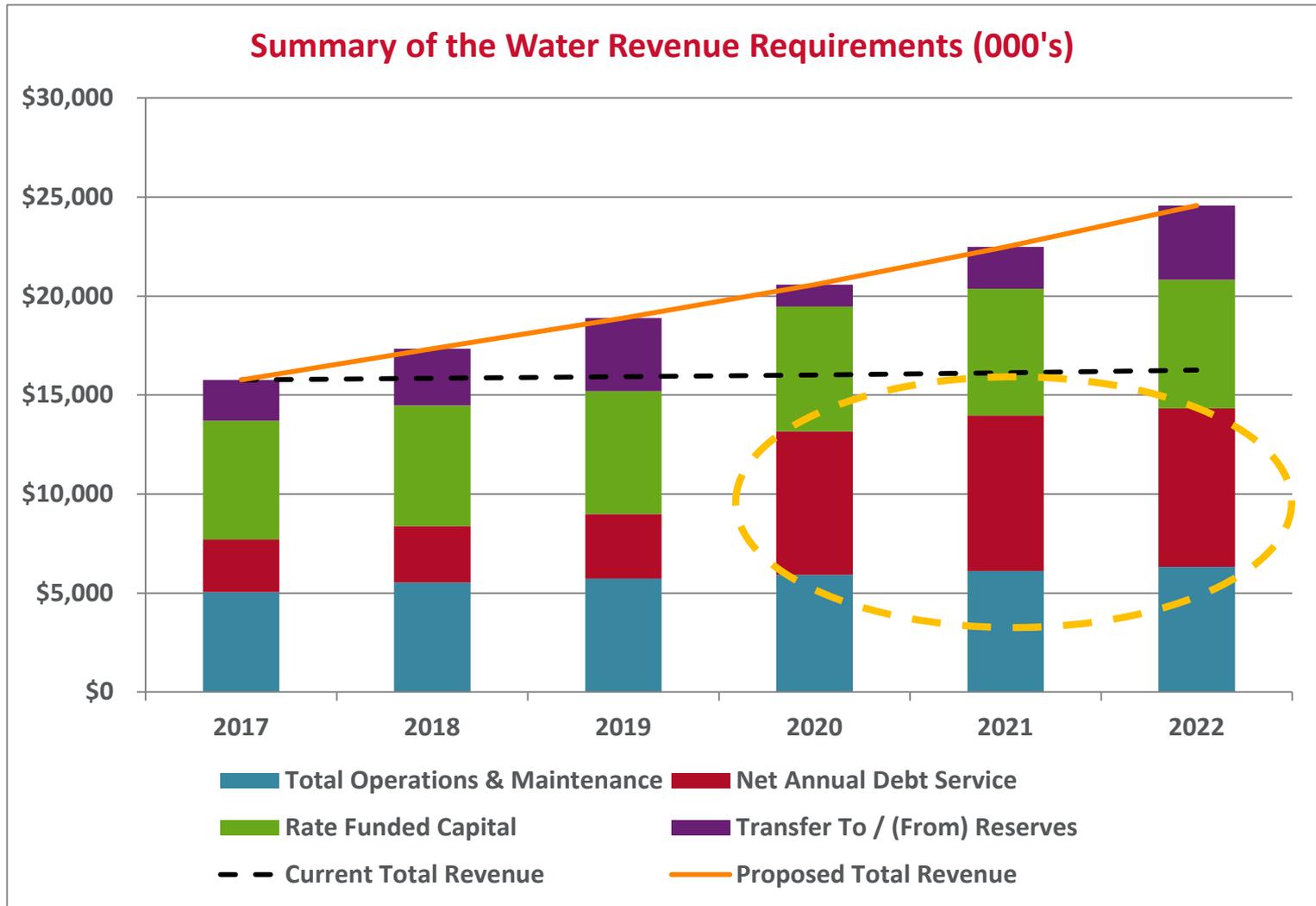
Capital Funding Approach

- Primarily funded through rates
- Long-term debt for large one time projects

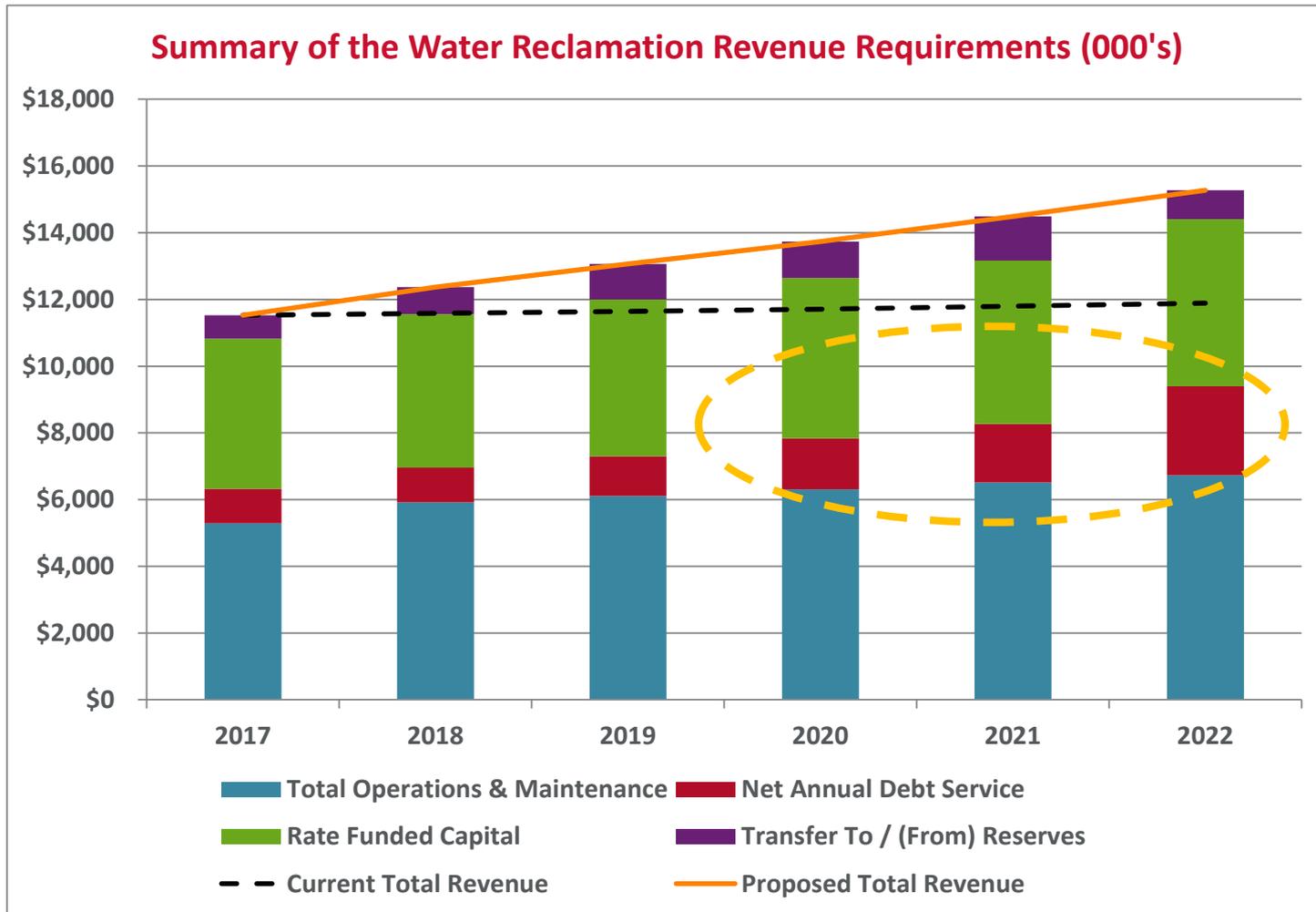
Summary of the Capital Improvement and Replacement Needs



Revenue Requirement – Water



Revenue Requirement – Water Reclamation (Sewer)



Revenue Requirement – Average Residential Bill Impacts

- Rate adjustments are necessary
 - Fully and adequately fund annual O&M expenses
 - Adequately fund renewal and replacements (CIP) and fund future necessary capital improvements
 - Meet financial policies at the end of the 5-year rate period

Average Monthly Residential Bill	Present	2018	2019	2020	2021	2022
<i>Water (7.5 CCF)</i>	\$30.72	\$33.73	\$36.59	\$39.66	\$43.01	\$46.66
<i>Water Reclamation (6 CCF)</i>	<u>\$24.03</u>	<u>\$25.78</u>	<u>\$27.18</u>	<u>\$28.53</u>	<u>\$29.97</u>	<u>\$31.98</u>
<i>Total</i>	\$54.75	\$59.51	\$63.77	\$68.19	\$72.98	\$78.64
<i>Difference - \$/Month</i>						
<i>Water</i>		\$3.02	\$2.86	\$3.08	\$3.35	\$3.65
<i>Water Reclamation</i>		\$1.75	\$1.40	\$1.35	\$1.44	\$2.01



Cost of Service

Overview of the Cost of Service

What is cost of service?

- Analysis to equitably allocate the revenue requirement to the various customer classes of service

Why cost of service

- Generally accepted as “fair and equitable”
- Avoids subsidies between customer classes
- Revenues reflect costs

Objectives of Cost of Service

- Determine if subsidies exist between customer classes
- Develop average unit costs

Summary of the Cost of Service

- Reviewed the customer characteristics of each customer class of service (e.g., residential, multi-family, commercial)
- Results show minor cost of service differences
 - Reflects past practice of setting rates based on cost of service results
- No cost of service adjustments are recommended at this time
 - Each customer class of service is paying their “fair” share of costs through the rates



Rate Design

Overview of the Rate Design

Reflect the findings of the revenue requirement and cost of service analyses

Meet the rate design goals and objectives of the City

Produce sufficient revenues to meet the target revenues of the utility, and each class of service

Are cost-based and equitable

Typical Rate Setting Goals and Objectives

- Revenue sufficiency
- Revenue stability
- Easy to understand (customer)
- Easy to administer (City)
- Affordability
- Economic development
- Encourage efficient use of the resource
- Equitable & non-discriminating (cost-based)
- Legally defensible

Always trade-offs between goals and objectives

Summary of the Current Water Rates

	<i>Single Family</i>	<i>Multi-Family</i>	<i>Commercial / Industrial</i>	<i>Com / Ind Irrigation</i>
<u>Meter Charge - \$/Mnth.</u>				
5/8"	\$7.39	\$7.39	\$7.41	\$77.99
3/4"	8.20	8.20	9.50	91.31
1"	9.98	9.98	13.77	119.78
1 1/2"	13.85	13.85	24.17	184.52
2"	19.55	19.55	37.12	273.62
3"	42.31	42.31	71.36	583.47
4"	60.17	60.17	114.01	868.21
6"	103.96	103.96	220.28	1,570.83
8"	157.53	157.53	348.25	2,425.03
<u>Consumption Charge - \$/CCF*</u>				
0 - 10	\$3.11	--	--	--
11 - 40	3.32	--	--	--
41 - 75	3.77	--	--	--
75 +	4.31	--	--	--
Tier 1 **	--	\$3.11	--	\$3.22
Tier 2 **	--	3.32	--	3.77
Tier 3 **	--	3.77	--	4.31
Tier 4 **	--	4.31	--	--
All Use	--	--	\$3.22	--

* 1 CCF = 748 gallons

** Tier sizes vary by meter size



Water Rate Design – Summary

- Water rate design assumptions
 - Customer classes were reviewed, are appropriate, and reflect generally accepted customer classes
 - Rate structures were reviewed and are appropriate
- Recommend Single Family consumption tiers be adjusted to reflect current consumption characteristics

Current Tiers	Proposed Tiers
0 – 10 CCF	0 – 10 CCF
11 – 40 CCF	11 – 25 CCF
41 – 75 CCF	26 – 50 CCF
75 + CCF	51 + CCF

1 CCF = 748 gallons

- Propose Multi-Family and Com/Ind Irrigation classes are billed under a uniform consumption charge
- No rate structure changes for Commercial / Industrial

Water Rate Design – Single Family Residential

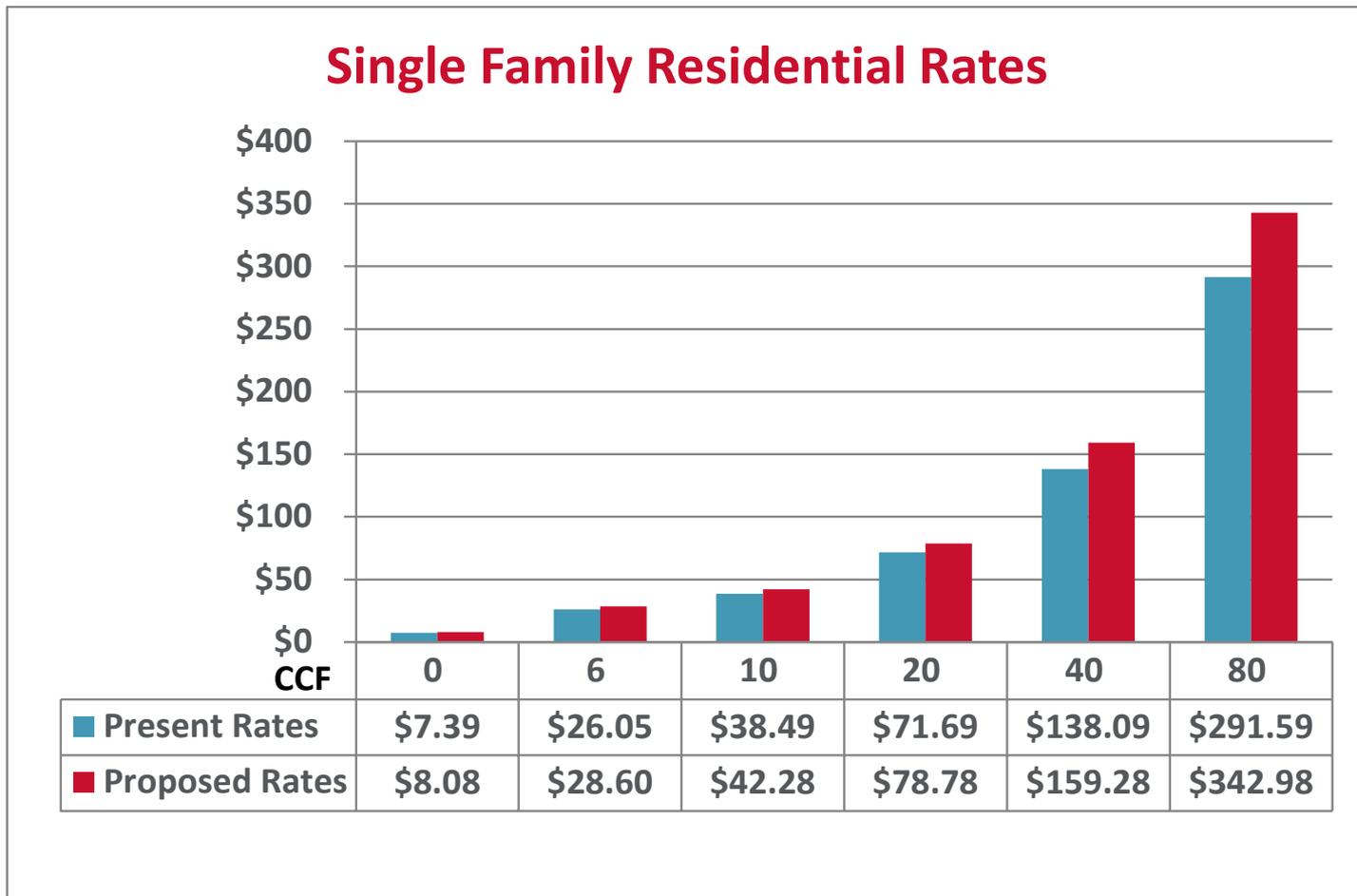
	Present Rates	Proposed				
		2018	2019	2020	2021	2022
<u>Meter Charge</u>	(\$ / Mo.)					
5/8"	\$7.39	\$8.08	\$8.76	\$9.51	\$10.31	\$11.18
3/4"	8.20	8.97	9.72	10.56	11.44	12.41
1"	9.98	10.92	11.84	12.85	13.94	15.12
1 1/2"	13.85	15.15	16.44	17.85	19.36	21.00
2"	19.55	21.39	23.21	25.21	27.35	29.67
3"	42.31	46.31	50.25	54.60	59.24	64.28
4"	60.17	65.86	71.47	77.66	84.26	91.44
6"	103.96	113.80	123.50	134.20	145.61	158.02
8"	157.53	172.45	187.15	203.37	220.67	239.48
<u>Consumption Charge</u>	(\$ / CCF)					
0 - 10	\$3.11	--	--	--	--	--
11 - 40	3.32	--	--	--	--	--
41 - 75	3.77	--	--	--	--	--
75 +	4.31	--	--	--	--	--
0 - 10	--	\$3.42	\$3.71	\$4.02	\$4.36	\$4.73
11 - 25	--	3.65	3.96	4.29	4.65	5.05
25 - 50	--	4.15	4.50	4.87	5.29	5.73
50+	--	4.74	5.14	5.57	6.04	6.56

Note: 1 CCF = One hundred cubic feet of water or approximately 748 gallons of water



Water Bill Comparison – Single Family Residential

(Year 1, 5/8-Inch Meter)



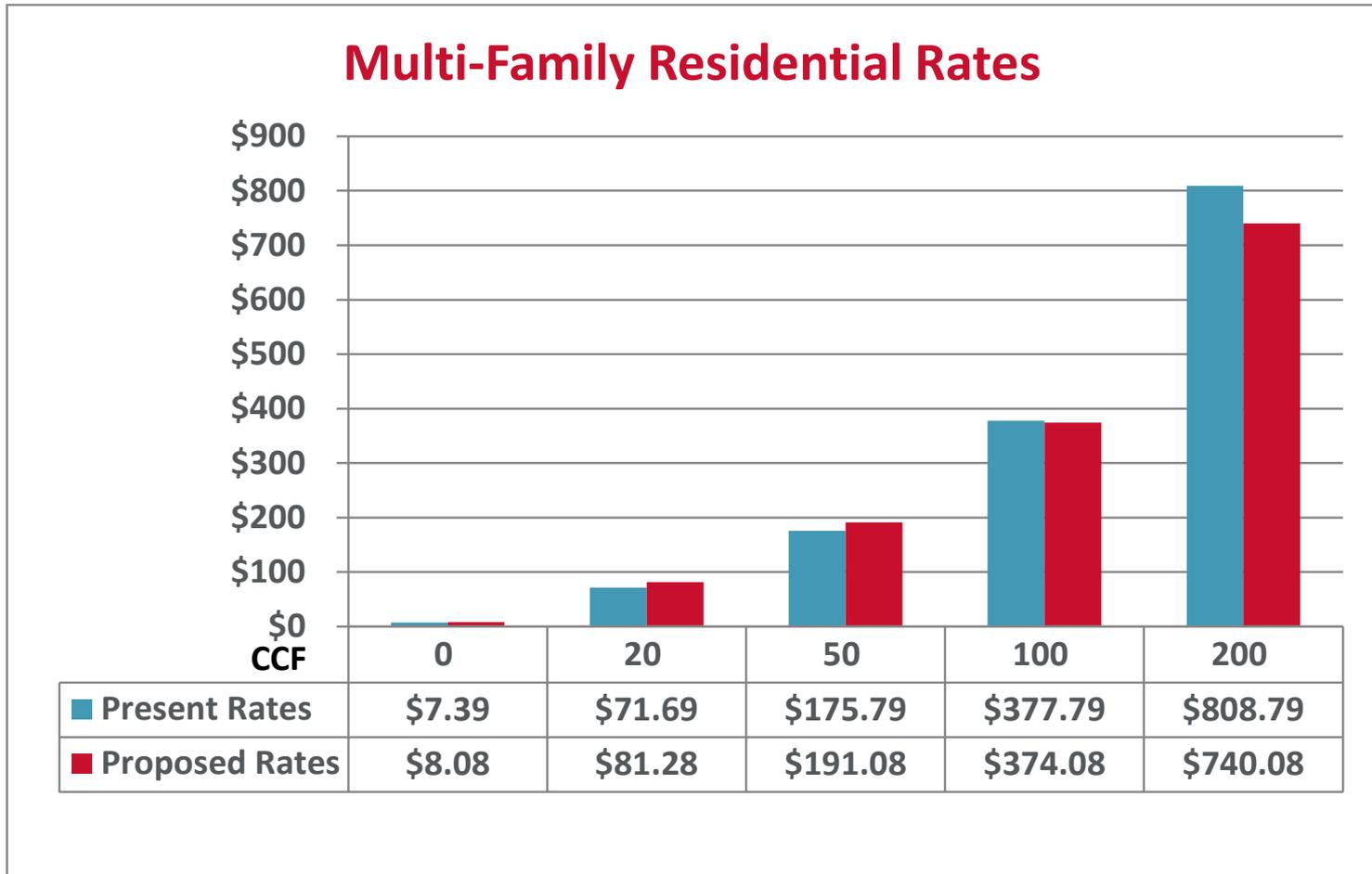
Water Rate Design – Multi-Family Residential

	<i>Present Rates</i>	<i>Proposed</i>				
		2018	2019	2020	2021	2022
<u>Meter Charge</u>	<i>(\$ / Mo.)</i>					
5/8"	\$7.39	\$8.08	\$8.76	\$9.51	\$10.31	\$11.18
3/4"	8.20	8.97	9.72	10.56	11.44	12.41
1"	9.98	10.92	11.84	12.85	13.94	15.12
1 1/2"	13.85	15.15	16.44	17.85	19.36	21.00
2"	19.55	21.39	23.21	25.21	27.35	29.67
3"	42.31	46.31	50.25	54.60	59.24	64.28
4"	60.17	65.86	71.47	77.66	84.26	91.44
6"	103.96	113.80	123.50	134.20	145.61	158.02
8"	157.53	172.45	187.15	203.37	220.67	239.48
<u>Consumption Charge</u>	<i>(\$ / CCF)</i>					
Tier 1	\$3.11	--	--	--	--	--
Tier 2	3.32	--	--	--	--	--
Tier 3	3.77	--	--	--	--	--
Tier 4	4.31	--	--	--	--	--
All Use	--	\$3.66	\$3.98	\$4.32	\$4.69	\$5.10

Note: 1 CCF = One hundred cubic feet of water or approximately 748 gallons of water



Water Bill Comparison – Multi-Family Residential Bill Impacts *(Year 1, 5/8-Inch Meter)*



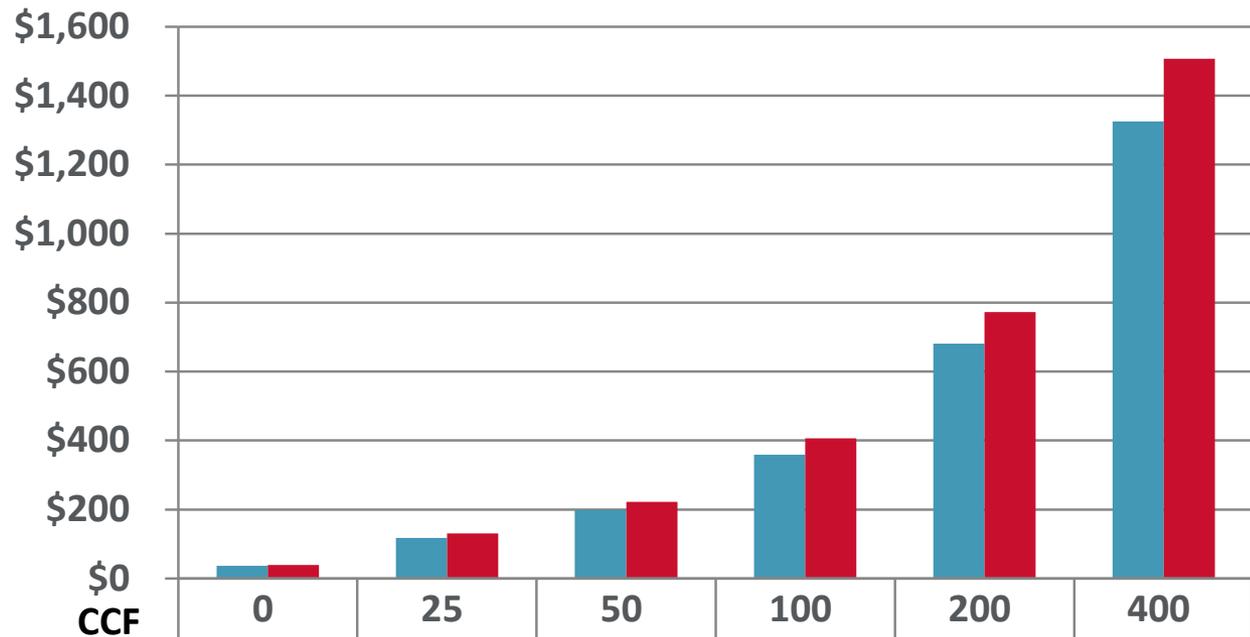
Water Rate Design – Commercial / Industrial

	Present Rates	Proposed				
		2018	2019	2020	2021	2022
<u>Meter Charge</u>	<i>(\$ / Mo.)</i>					
5/8"	\$7.30	\$7.98	\$8.65	\$9.38	\$10.17	\$11.03
3/4"	9.39	10.27	11.13	12.07	13.09	14.20
1"	13.66	14.94	16.20	17.58	19.07	20.69
1 1/2"	24.06	26.33	28.56	30.99	33.62	36.48
2"	37.01	40.50	43.94	47.68	51.74	56.15
3"	71.25	77.98	84.61	91.83	99.65	108.16
4"	113.90	124.66	135.27	146.82	159.32	172.93
6"	220.17	240.98	261.49	283.83	308.01	334.33
8"	348.14	381.06	413.49	448.82	487.06	528.69
<u>Consumption Charge</u>	<i>(\$ / CCF)</i>					
All Usage	\$3.22	\$3.53	\$3.83	\$4.16	\$4.52	\$4.91

Note: 1 CCF = One hundred cubic feet of water or approximately 748 gallons of water

Water Bill Comparison – Commercial / Industrial *(Year 1, 2-Inch Meter)*

Commercial / Industrial Rates



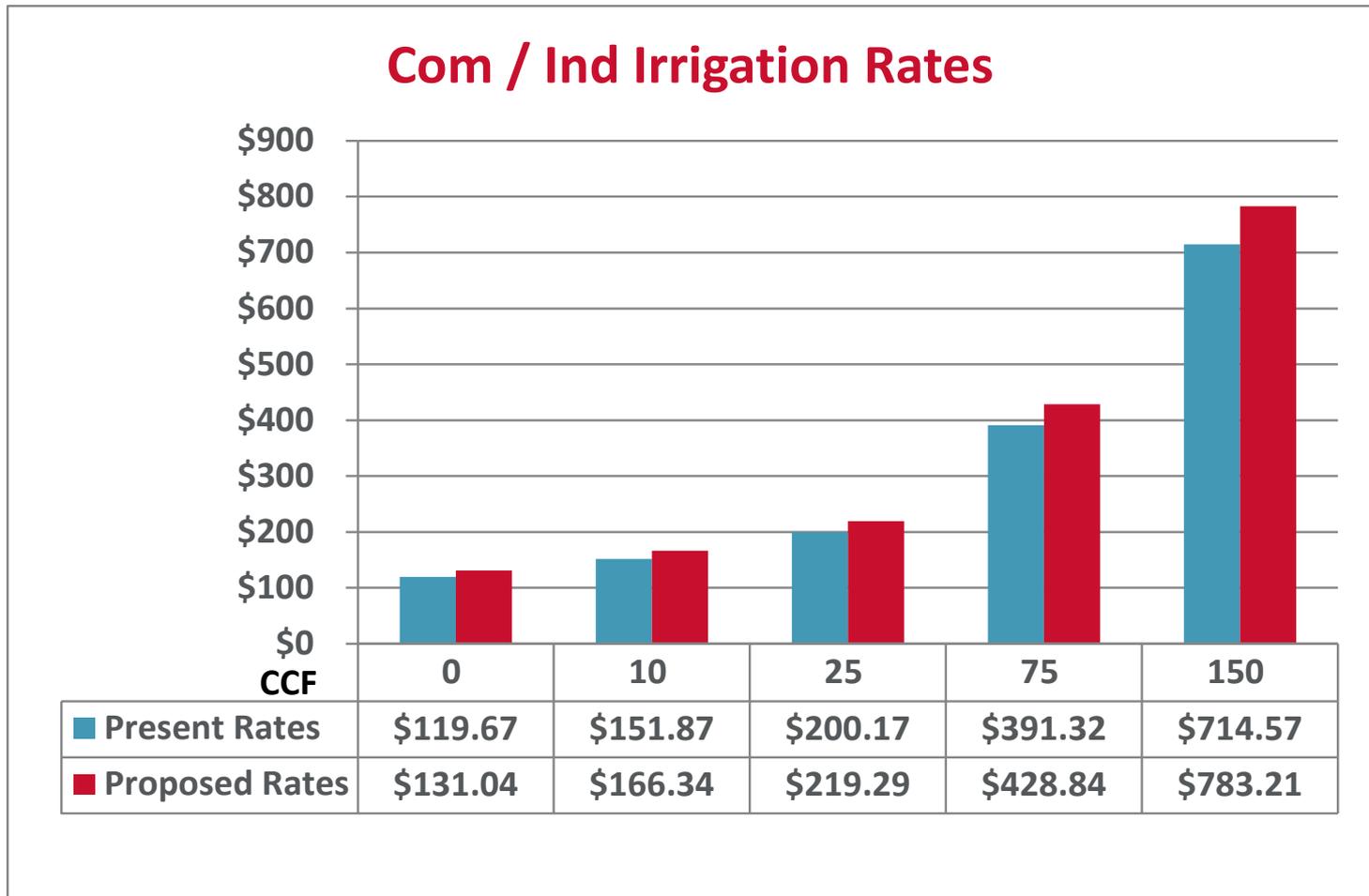
■ Present Rates	\$37.01	\$117.51	\$198.01	\$359.01	\$681.01	\$1,325.01
■ Proposed Rates	\$39.06	\$130.81	\$222.56	\$406.06	\$773.06	\$1,507.06

Water Rate Design – Commercial / Industrial Irrigation

	<i>Present Rates</i>	<i>Proposed</i>				
		2018	2019	2020	2021	2022
<u>Meter Charge</u>	<i>(\$ / Mo.)</i>					
5/8"	\$77.88	\$85.28	\$92.53	\$100.40	\$108.93	\$118.19
3/4"	91.20	99.87	108.36	117.57	127.56	138.40
1"	119.67	131.04	142.18	154.27	167.38	181.61
1 1/2"	184.41	201.93	219.10	237.73	257.93	279.86
2"	273.51	299.50	324.96	352.60	382.56	415.08
3"	583.36	638.79	693.10	752.05	815.94	885.30
4"	868.10	950.59	1,031.40	1,119.12	1,214.20	1,317.42
6"	1,570.72	1,719.97	1,866.19	2,024.91	2,196.95	2,383.71
8"	2,424.92	2,655.33	2,881.07	3,126.12	3,391.71	3,680.04
<u>Consumption Charge</u>	<i>(\$ / CCF)</i>					
Tier 1	\$3.22	--	--	--	--	--
Tier 2	3.77	--	--	--	--	--
Tier 3	4.31	--	--	--	--	--
All Use	--	\$4.32	\$4.69	\$5.09	\$5.52	\$6.00

Note: 1 CCF = One hundred cubic feet of water or approximately 748 gallons of water

Water Bill Comparison – Commercial / Industrial Irrigation *(Year 1, 1-Inch Meter)*



Water Reclamation Rate Design Summary

- Reviewed consumption characteristics and rate structure
 - Customer classes are appropriate
 - Winter water use for single-family is contemporary
 - All consumption basis for all other customers
- No rate structure changes are recommended
 - Only the level of rate revenue is adjusted by the proposed rate adjustments
- Rates include the costs of future anticipated debt issuances and environmental fees

Summary of the Current Water Reclamation Rates

	<i>Residential</i>	<i>Commercial / Institutional</i>	<i>Industrial</i>
<u>Meter Charge - \$/Mnth.</u>			
5/8"	\$4.53	\$4.67	\$16.71
3/4"	5.77	6.10	23.43
1"	8.25	8.97	36.87
1 1/2"	14.44	16.12	70.47
2"	21.86	24.71	110.78
3"	39.20	44.75	204.85
4"	63.96	73.37	339.23
6"	125.86	144.94	675.18
8"	200.14	230.82	1,078.33
<u>Consumption Charge - \$/CCF*</u>			
All Use**	\$3.25	\$3.25	\$3.25
<u>Strength Charge - \$/lb.</u>			
BOD	--	--	\$0.27
TSS	--	--	\$0.21
* 1 CCF = 748 gallons			
** Residential customers are charged based on winter water use			

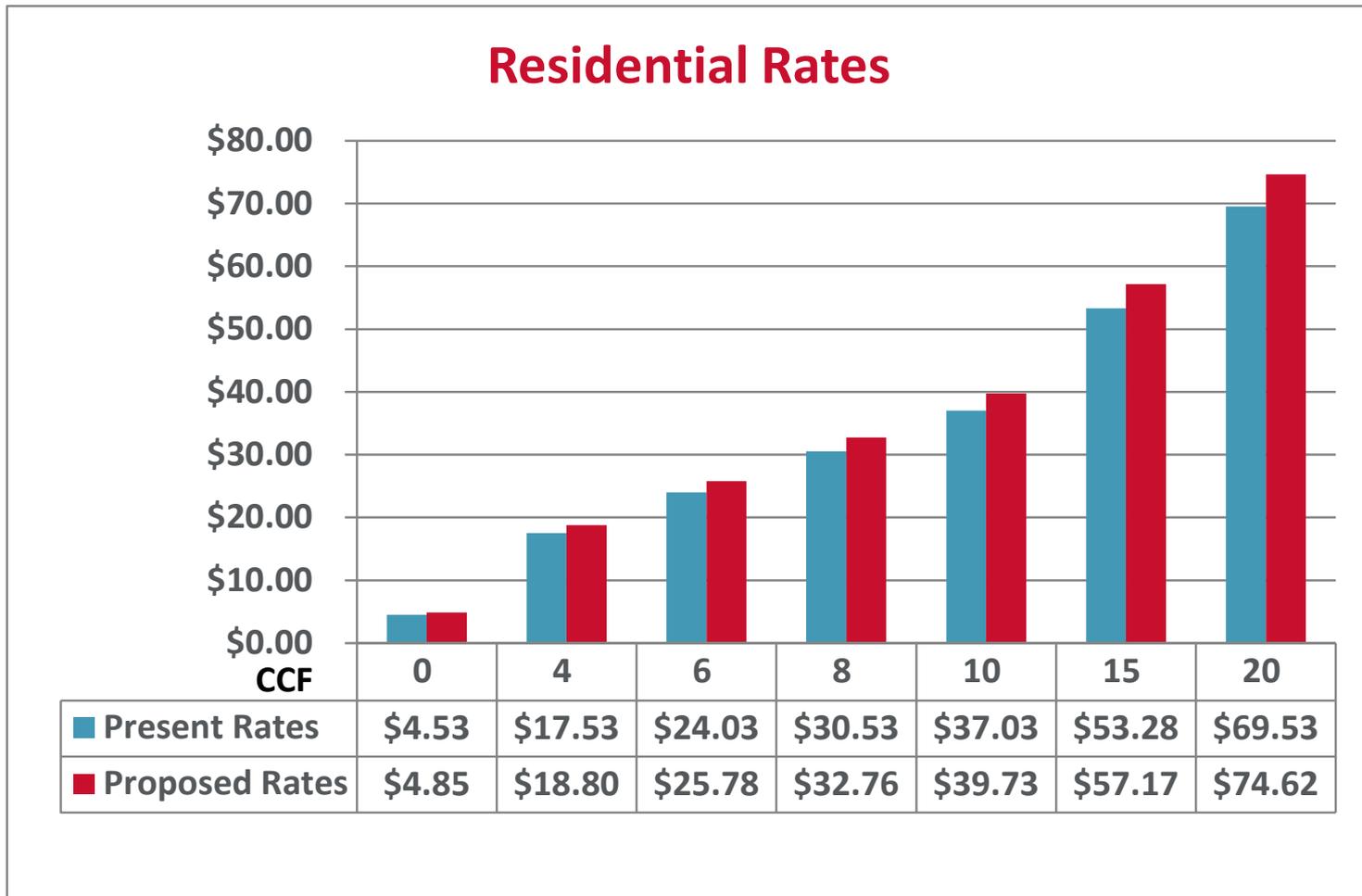
Water Reclamation Rate Design – Residential

	<i>Present Rates</i>	<i>Proposed Rates</i>				
		2018	2019	2020	2021	2022
<u>Fixed Charge</u>	<u>\$/Mo.</u>					
5/8"	\$4.53	\$4.85	\$5.10	\$5.34	\$5.59	\$5.59
3/4"	5.77	6.18	6.51	6.82	7.14	7.14
1"	8.25	8.85	9.32	9.77	10.24	10.24
1 1/2"	14.44	15.51	16.35	17.15	17.99	17.99
2"	21.86	23.49	24.77	26.00	27.27	27.27
3"	39.20	42.15	44.45	46.66	48.97	48.97
4"	63.96	68.79	72.56	76.18	79.95	79.95
6"	125.86	135.38	142.82	149.96	157.40	157.40
8"	200.14	215.29	227.13	238.50	250.33	250.33
<u>Consumption Charge</u>	<u>\$/ CCF</u>					
All Usage	\$3.25	\$3.49	\$3.68	\$3.87	\$4.06	\$4.40

Note: 1 CCF = One hundred cubic feet of water or approximately 748 gallons of water



Water Reclamation Bill Comparison – Residential *(Year 1, 5/8-Inch Meter)*



Water Reclamation Rate Design - Commercial / Institutional

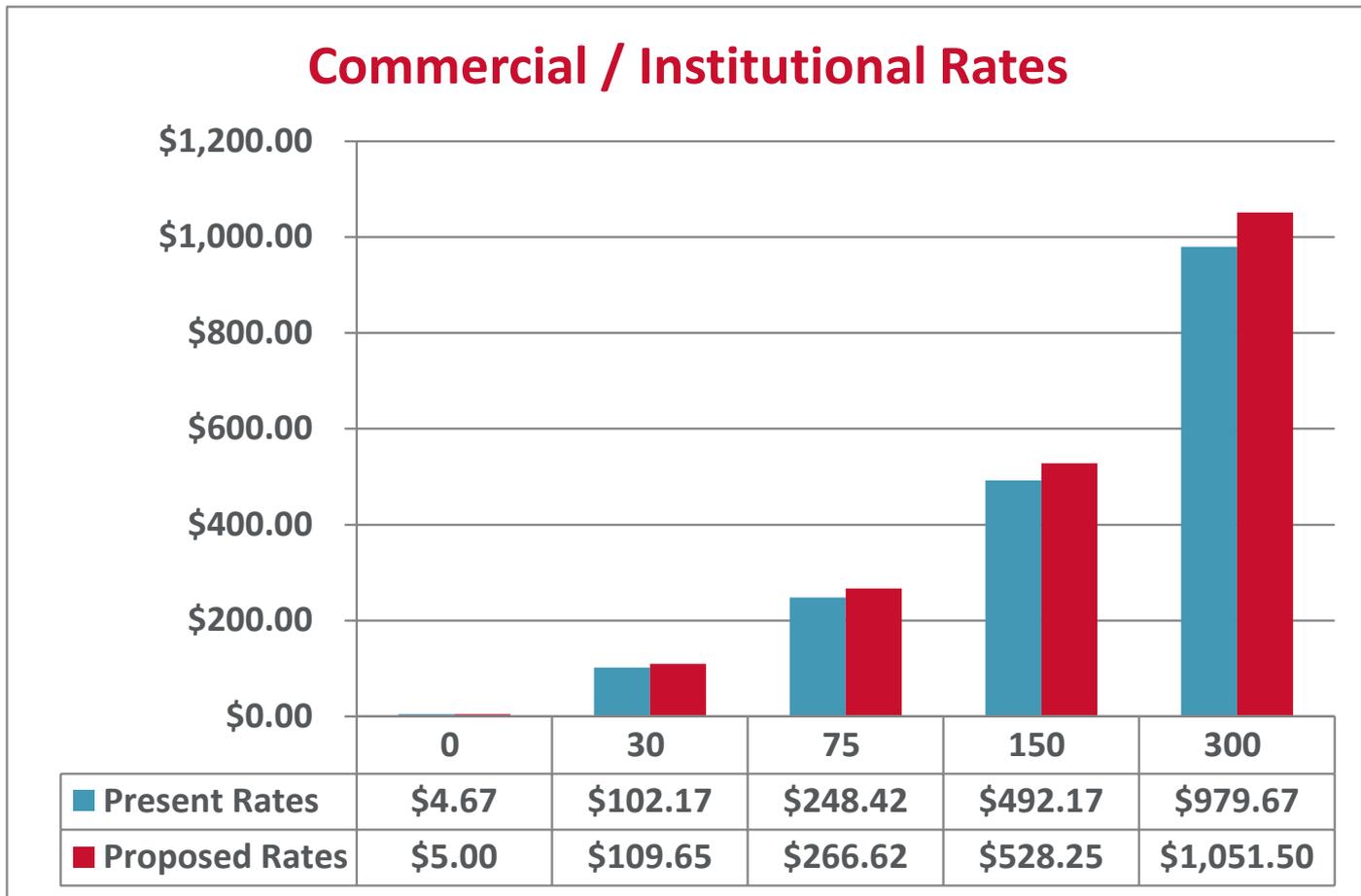
	<i>Present Rates</i>	<i>Proposed Rates</i>				
		2018	2019	2020	2021	2022
<u>Fixed Charge</u>	<u>\$/Mo.</u>					
5/8"	\$4.67	\$5.00	\$5.26	\$5.51	\$5.77	\$5.77
3/4"	6.10	6.54	6.88	7.22	7.56	7.56
1"	8.97	9.63	10.14	10.64	11.15	11.15
1 1/2"	16.12	17.32	18.26	19.17	20.11	20.11
2"	24.71	26.56	28.01	29.41	30.87	30.87
3"	44.75	48.11	50.76	53.31	55.96	55.96
4"	73.37	78.90	83.26	87.45	91.80	91.80
6"	144.94	155.89	164.51	172.80	181.43	181.43
8"	230.82	248.27	262.01	275.23	288.98	288.98
<u>Consumption Charge</u>	<u>\$/ CCF</u>					
All Usage	\$3.25	\$3.49	\$3.68	\$3.87	\$4.06	\$4.40

Note: 1 CCF = One hundred cubic feet of water or approximately 748 gallons of water



Water Reclamation Bill Comparison – Commercial / Institutional

(Year 1, 5/8-Inch Meter)



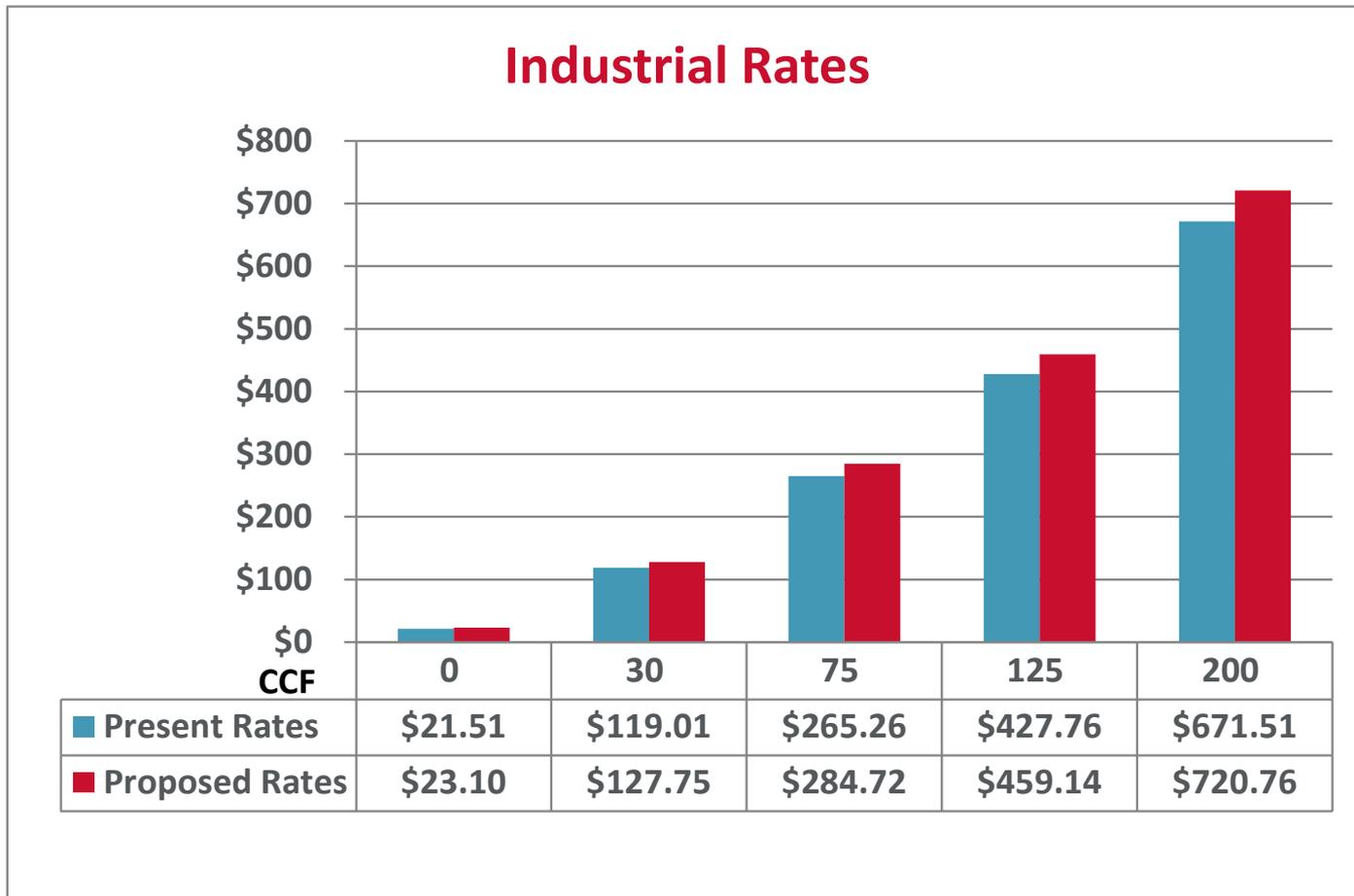
Water Reclamation Rate Design – Industrial

	<i>Present Rates</i>	<i>Proposed Rates</i>				
		2018	2019	2020	2021	2022
<u>Fixed Charge</u>	<u>\$/Mo.</u>					
5/8"	\$16.71	\$17.94	\$18.91	\$19.84	\$20.82	\$20.82
3/4"	23.43	25.16	26.53	27.84	29.22	29.22
1"	36.87	39.61	41.77	43.85	46.03	46.03
1 1/2"	70.47	75.73	79.88	83.86	88.05	88.05
2"	110.78	119.07	125.60	131.86	138.46	138.46
3"	204.85	220.19	232.29	243.89	256.11	256.11
4"	339.23	364.65	384.69	403.91	424.17	424.17
6"	675.18	725.80	765.71	803.98	844.31	844.31
8"	1,078.33	1,159.18	1,222.94	1,284.07	1,348.49	1,348.49
<u>Consumption Charge</u>	<u>\$/ CCF</u>					
All Usage	\$3.25	\$3.49	\$3.68	\$3.87	\$4.06	\$4.40
<u>Strength Charge</u>	<u>\$/ Lb.</u>					
BOD	\$0.27	\$0.29	\$0.31	\$0.32	\$0.33	\$0.34
TSS	0.21	0.23	0.24	0.25	0.26	0.26

Note: 1 CCF = One hundred cubic feet of water or approximately 748 gallons of water



Water Reclamation Bill Comparison – Industrial *(Year 1, 5/8-Inch Meter)*



Summary of the Water and Water Reclamation Rate Study

- Rate adjustments are necessary to adequately fund O&M expenses, capital projects, and meet policies

Average Monthly Residential Bill	Present	2018	2019	2020	2021	2022
<i>Water (7.5 CCF)</i>	\$30.72	\$33.73	\$36.59	\$39.66	\$43.01	\$46.66
<i>Water Reclamation (6 CCF)</i>	<u>\$24.03</u>	<u>\$25.78</u>	<u>\$27.18</u>	<u>\$28.53</u>	<u>\$29.97</u>	<u>\$31.98</u>
<i>Total</i>	\$54.75	\$59.51	\$63.77	\$68.19	\$72.98	\$78.64
<i>Difference - \$/Month</i>						
<i>Water</i>		\$3.02	\$2.86	\$3.08	\$3.35	\$3.65
<i>Water Reclamation</i>		\$1.75	\$1.40	\$1.35	\$1.44	\$2.01

- Cost of Service – No proposed cost of service adjustments are recommended
- Rate Design – proposed rates are designed to meet the revenue needs of each utility



Next Steps

- City Council Discussion
 - October 16 and November 6 Meetings
- If adopted by the City Council rates will be effective January 1, 2018

Questions & Discussion



HDR