

LOCKWOOD WATER & SEWER DISTRICT

Rate Study and Design

May 10, 2017
Andrew Rheem



AGENDA

- » Financial planning criteria
- » Cost of Service
- » Rate Structures
- » Proposed Sewer System Rates
 - Alternative 1
 - Alternative 2
- » Proposed Water System Rates
 - Alternative 1
 - Alternative 2
- » Resolutions

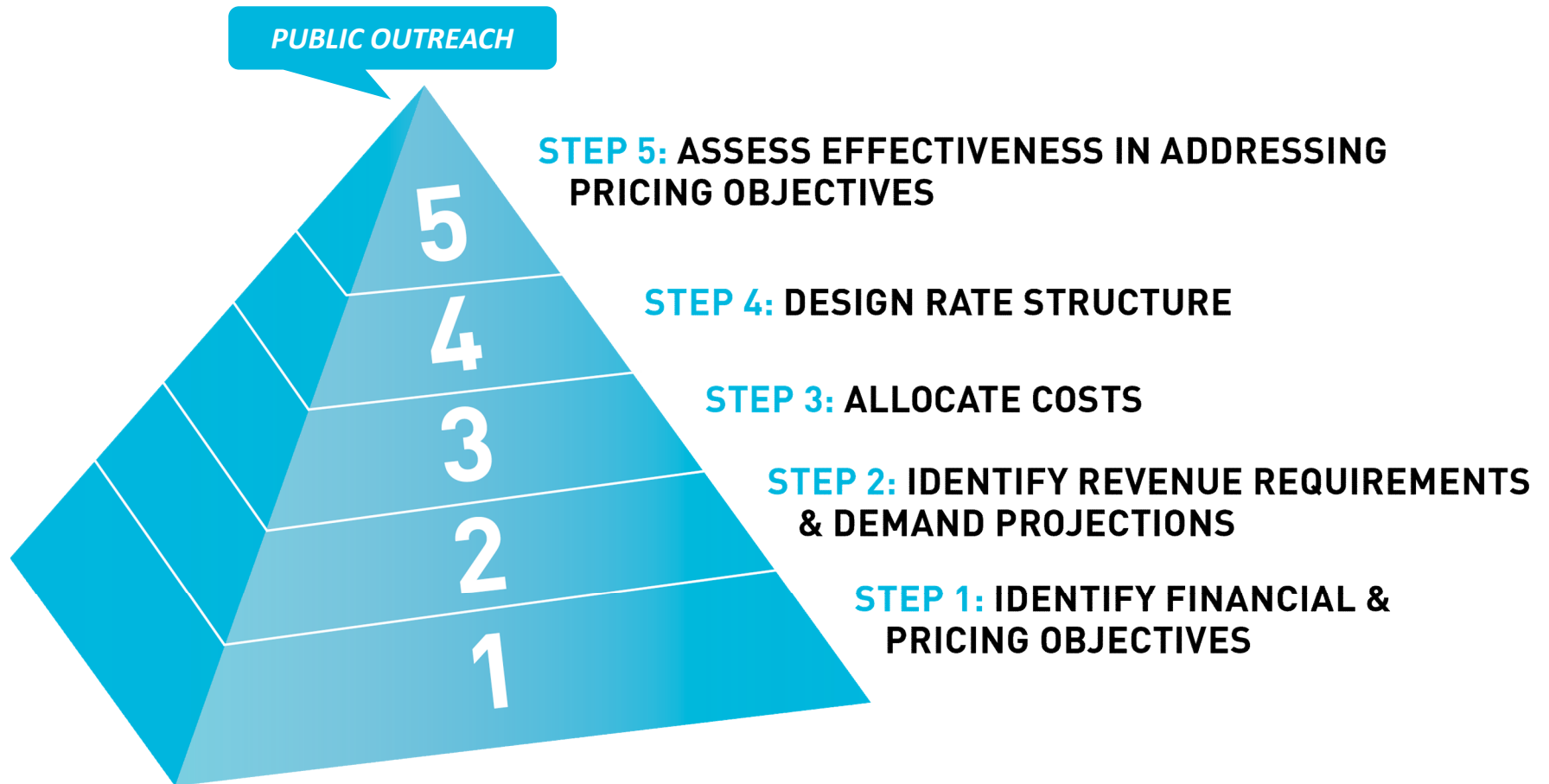


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ADVISOR**

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OVERALL RATE STUDY APPROACH



what DOES PROJECT SUCCESS LOOK LIKE

PROVIDING A STRATEGIC FINANCIAL VISION

- » Confirm **financial policies** to guide decision making
- » Develop equitable Exxon system development fee and recurring rate consistent with industry approaches
- » Calculate **rates, charges, and fees** consistent with utility objectives
 - Provide sufficient revenue for each utility
 - Predictable rates for a multi-year period
 - Equitably recover customer costs
 - Minimize customer impacts

FINANCIAL PLANS

PRUDENT UTILITY FINANCIAL PLANNING

Revenue sufficient to maintain the financial stability of the water and wastewater funds

- Fund annual operation and maintenance (O&M) expenses, debt service payments, and capital improvements
- Exceed annual debt service coverage ratio targets with adequate revenues
- Exceed annual operating and capital reserve targets with adequate reserves

UTILITY FINANCIAL PLANNING - WATER

» Debt service coverage ratio:

$$\frac{(Revenues - O\&M \text{ expenses})}{Annual \text{ debt service}}$$

- Legal requirement = 1.10 annual debt service for water debt
- Financial planning target = 1.40 annual debt service

» End-of-year cash reserves **recommendations**

- Operating fund reserve – 90 days or 25% O&M
- Capital fund reserve equal to \$1M or average annual cash funded capital
- Debt service reserve equal to one annual debt service payment

UTILITY FINANCIAL PLANNING - SEWER

- » Debt service coverage ratio:
 - Legal requirement = 1.00 annual debt service for water debt
 - Financial planning target = 1.30 annual debt service
- » End-of-year cash reserves **recommendations**
 - Operating fund reserve – 60 days or 16.7% O&M
 - Capital fund reserve equal to \$800k or average annual cash funded capital
 - Funded in 2020
 - Debt service reserve equal to one annual debt service payment
 - City of Billings O&M reserve – new potential reserve
 - Process does not give District much time to react

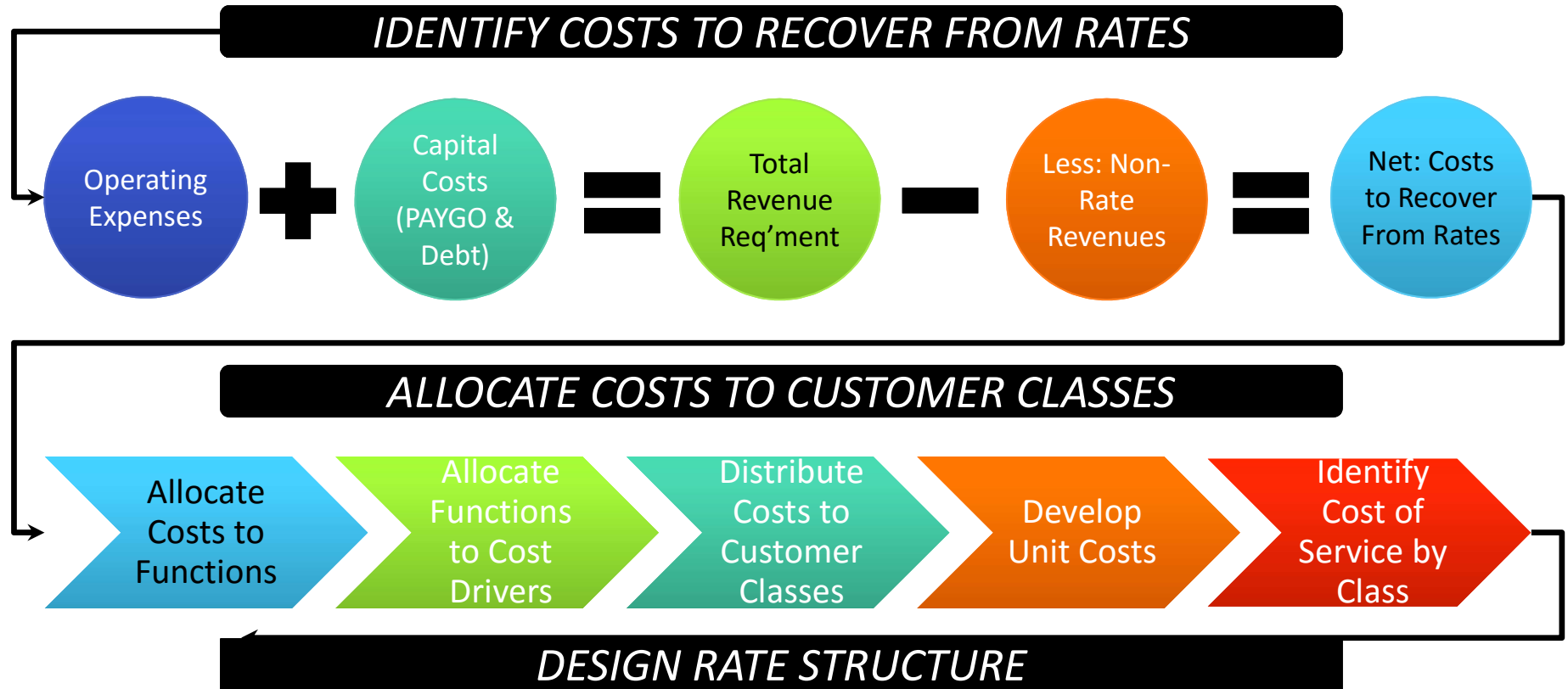
COST OF SERVICE

COST OF SERVICE CONCEPT

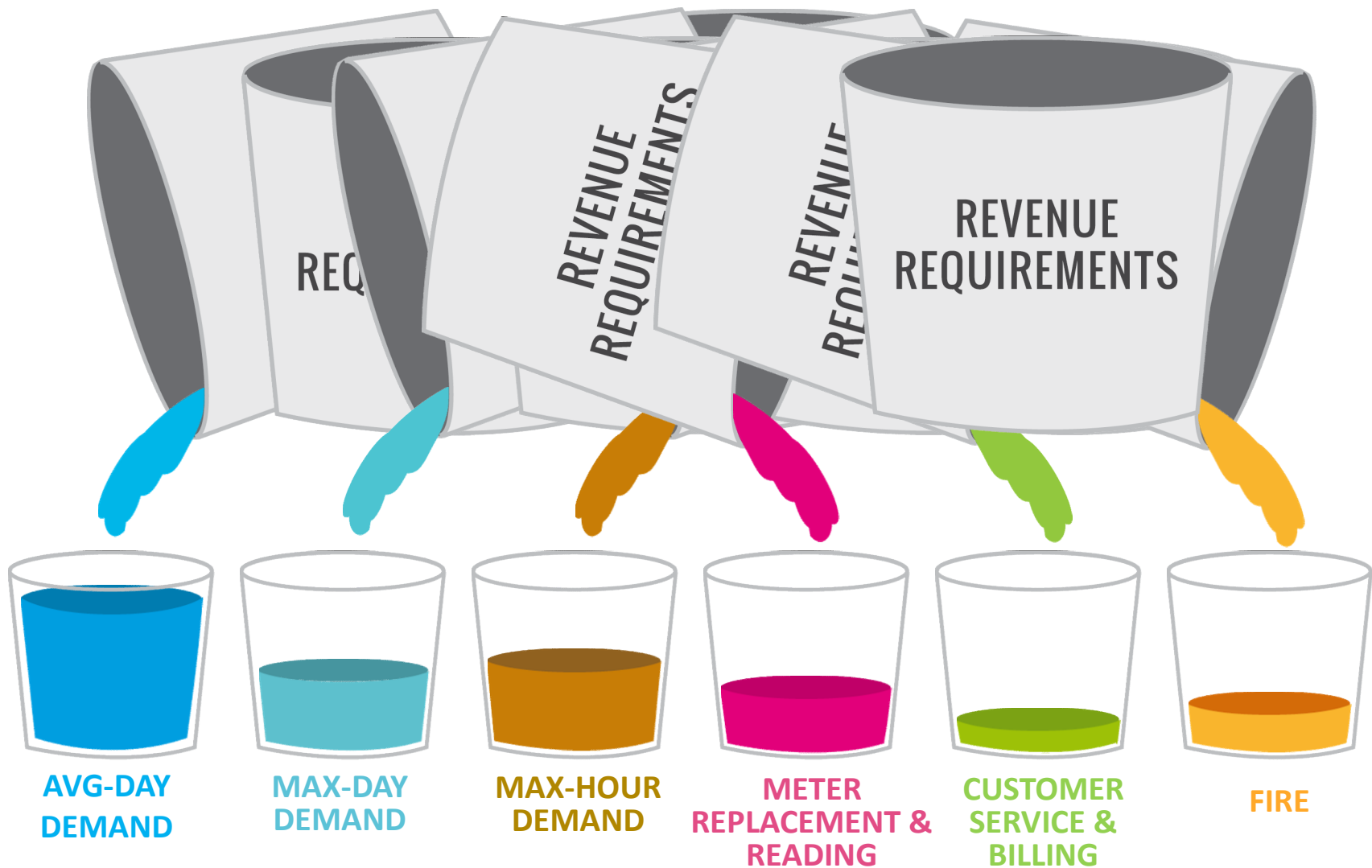
The Goal is to Achieve Equity

Strives to recover costs from users in proportion to their use of the system by recognizing the impact of each customer class on system facilities and operations

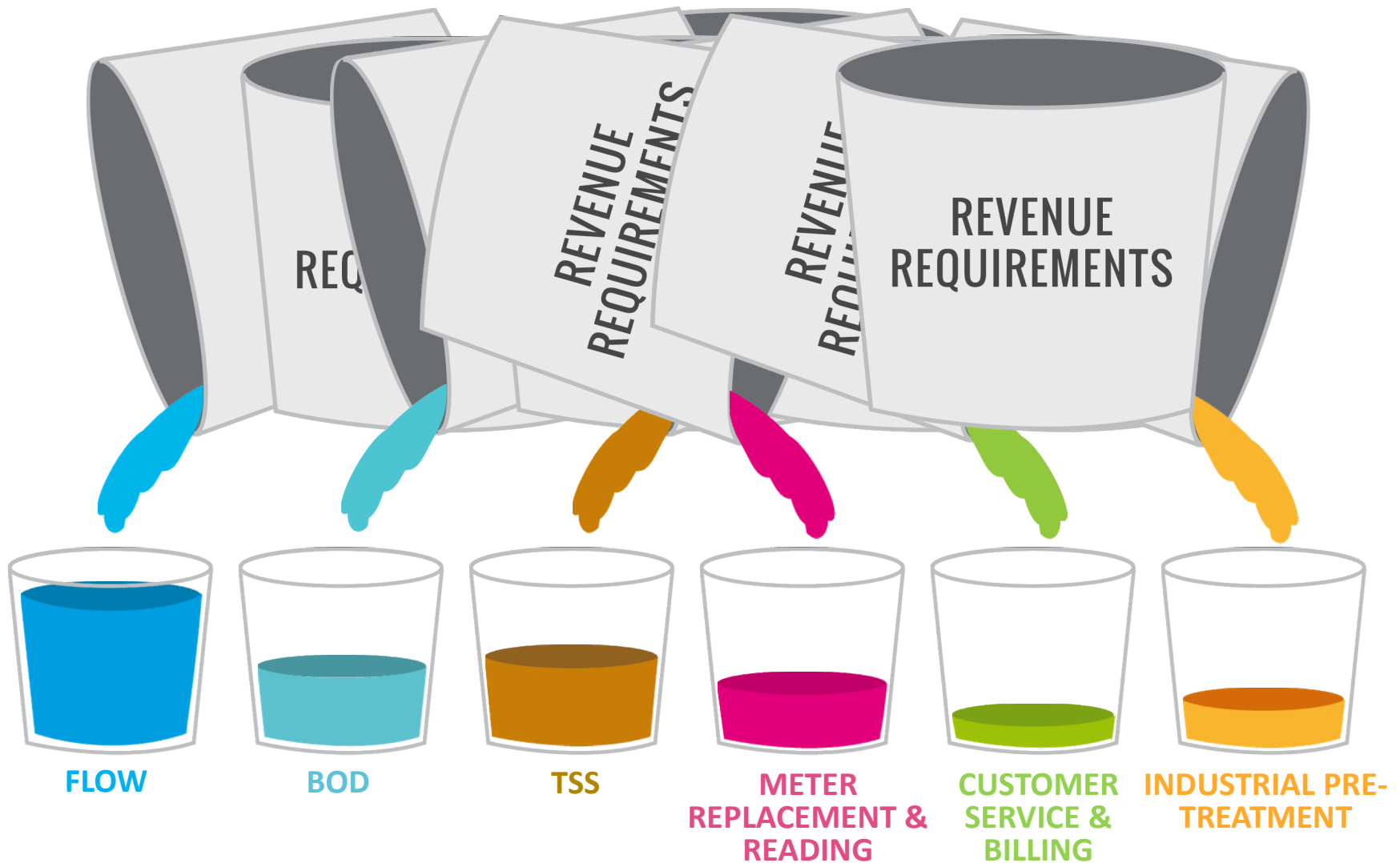
ALLOCATE COSTS



WATER COST OF SERVICE ALLOCATION



WASTEWATER COST OF SERVICE ALLOCATION



COST RECOVERY IN RATES

» Base charge

- Customer Service & Billing – cost per bill
- Meter reading – increases by meter size
- Availability of service component
 - Distribution system cost

» Volume rates

- Average day
- Peak day
- Peak hour
- Additional amounts

» Considerations

- Revenue stability and variability
- Low volume user vs. high volume user bills
- Fairness and equity

EXXON VOLUME RATE CALCULATION

» Utility approach means:

- O&M costs for common to all facilities
- Capital costs are different from full service customers
 - Depreciation on facilities they benefit from as facilities are in service
 - Rate of return on adjusted rate base
 - Rate base includes accounting value of common assets
 - Reduced for SDF payment as it was a cash contribution
 - Rate of return follows industry approach
- Proportional costs are used

» Connect in FY 2020

RATES

WATER AND SEWER RATES

Base Rate Charges by Meter Size

Meter Size (in)	Water	Sewer
5/8 or 3/4	\$15.00	\$46.30
1	26.85	82.88
1-1/2	59.99	185.20
2	107.09	330.58
3	239.97	740.80
4	428.55	1,319.55
6	959.87	2,963.20
8	1,706.70	5,268.94
10	2,402.08	8,232.14

Volume Charges

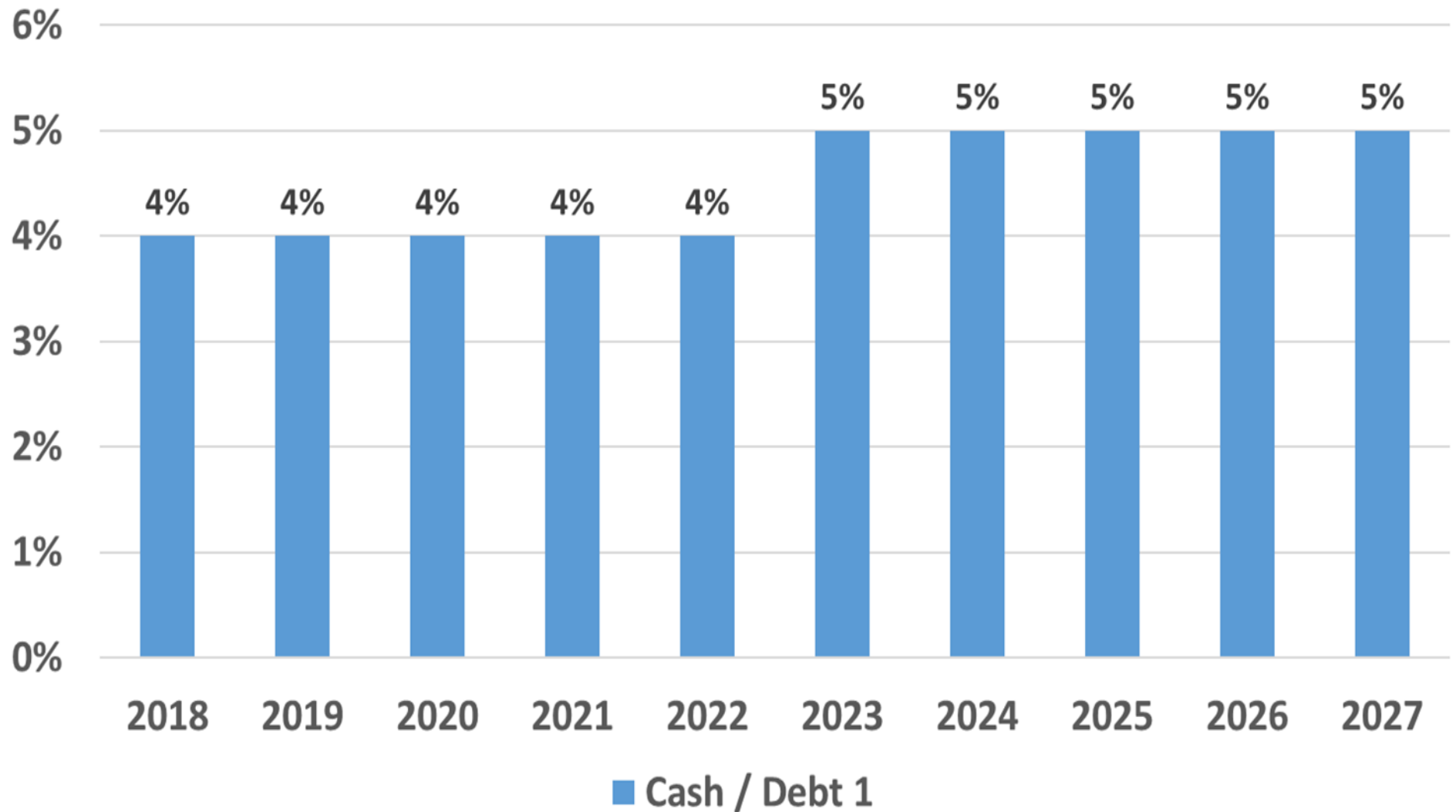
Customer Class	Water	Sewer
Residential	\$3.70	\$1.10
Commercial	3.70	1.10
High Strength	3.70	1.56
LF (\$59.99/mo)	3.70	
Bulk	5.00	

RATE ALTERNATIVES

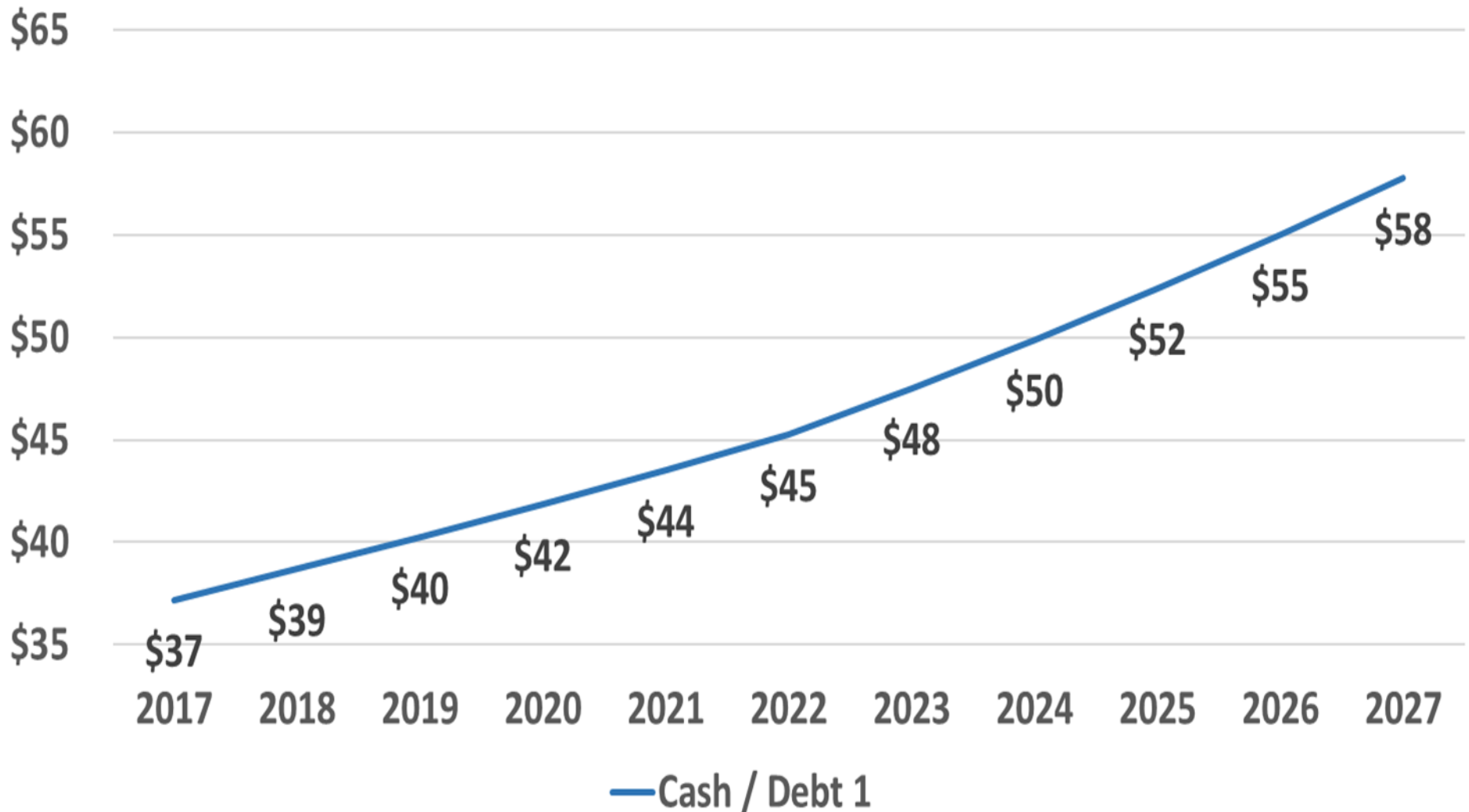
- » Rates over a four-year period – FY 2018 through FY 2021
- » Two rate alternatives for each utility
 - Revenue-neutral
 - Smaller and periodic adjustments
- » Water rate alternative
 - W1 - Across the board increases applied to existing rate base and volume rate structure
 - W2 – Cost of service based monthly service charge and volume rates necessary to meet class cost of service
- » Sewer rate alternatives
 - S1 - Across the board increases applied to existing rate base and volume rate structure
 - S2 – Increase just volume portion of the rate structure to generate additional revenues
 - Exxon rate same regardless

WATER FUND AND RATES

WATER FUND RATE REVENUE INCREASES



WATER FUND TYPICAL BILL $\frac{3}{4}$ -INCH METER AND 6,000 GALLONS PER MONTH USE



WATER RATE ALTERNATIVES

- » Rates over a four-year period – FY 2018 through FY 2021
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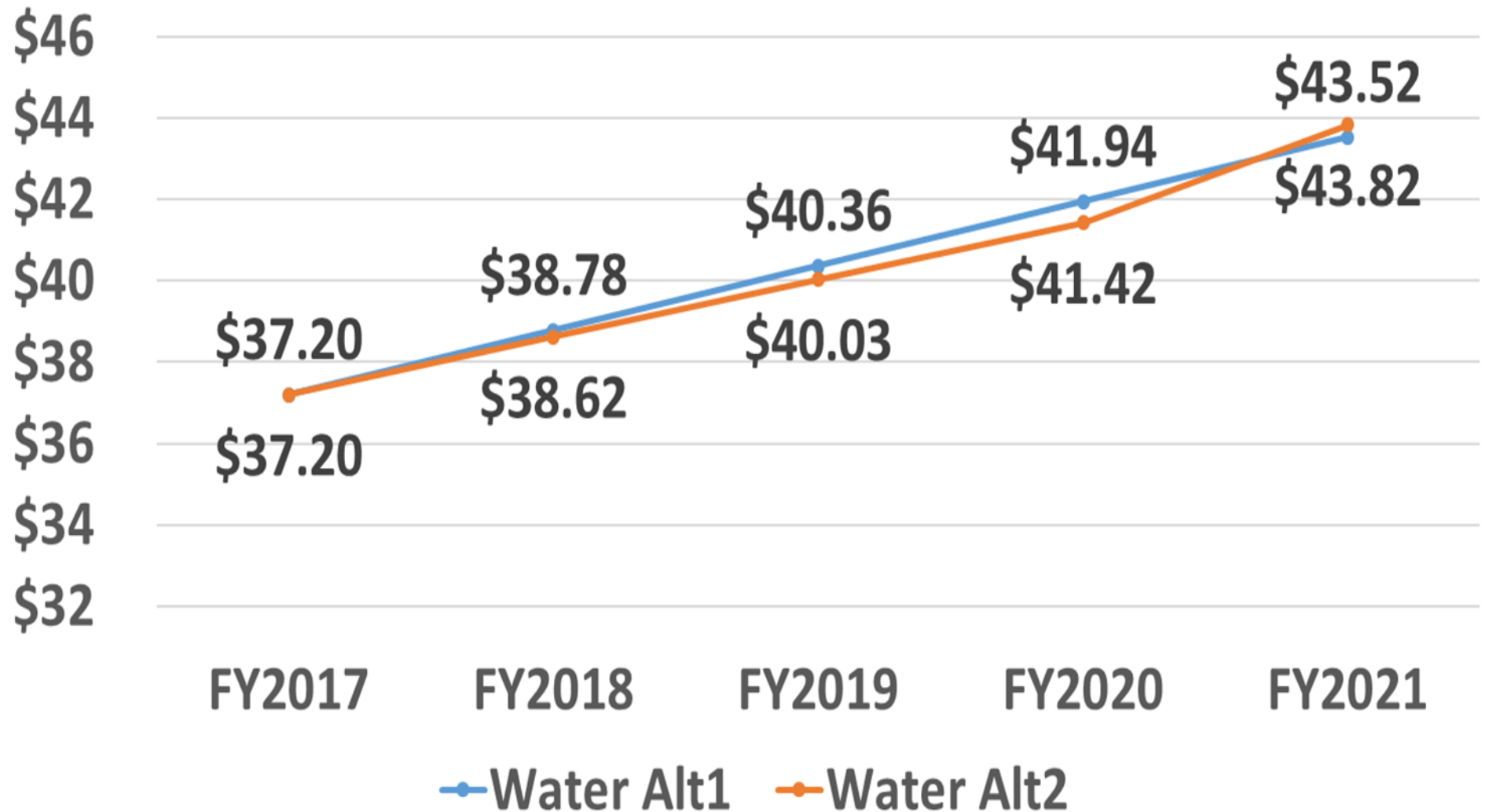
WATER – BASE CHARGE ALTERNATIVES

Meter Size	Current Monthly Service Charge	FY 2021 Alt. 1 Monthly Service Charge	FY 2021 Alt. 2 Monthly Service Charge
(in.)	\$/bill	\$/bill	\$/bill
0.75 Inch	\$15.00	\$17.55	\$15.82
1.00 Inch	26.85	31.41	25.78
1.50 Inch	59.99	70.18	49.74
2.00 Inch	107.09	125.28	79.12
3.00 Inch	239.97	280.73	151.61
4.00 Inch	428.55	501.34	249.05

WATER – VOLUME RATE ALTERNATIVES

Description	Current Volume Rates	FY 2021 Alt. 1 Volume Rates	FY 2021 Alt. 2 Volume Rates
	\$ / kgal	\$ / kgal	\$ / kgal
Residential	\$3.70	\$4.33	\$4.67
Commercial	3.70	4.33	4.67
Trailer	3.70	4.33	4.67
Bulk Water	3.70	6.00	4.50

MONTHLY WATER BILL – 6,000 GALLONS



WATER – BASE CHARGE ALTERNATIVE 1

Meter Size (in.)	Current Monthly Service Charge \$/bill	FY 2018 Alt. 1 Monthly Service Charge \$/bill	FY 2019 Alt. 1 Monthly Service Charge \$/bill	FY 2020 Alt. 1 Monthly Service Charge \$/bill	FY 2021 Alt. 1 Monthly Service Charge \$/bill
0.75 Inch	\$15.00	\$15.64	\$16.28	\$16.91	\$17.55
1.00 Inch	26.85	27.99	29.13	30.27	31.42
1.50 Inch	59.99	62.54	65.09	67.64	70.18
2.00 Inch	107.09	111.64	116.19	120.74	125.29
3.00 Inch	239.97	250.17	260.37	270.57	280.74
4.00 Inch	428.55	446.76	464.98	483.19	501.35

WATER – BASE CHARGE ALTERNATIVE 2

Meter Size	Current Monthly Service Charge	FY 2018 Alt. 2 Monthly Service Charge	FY 2019 Alt. 2 Monthly Service Charge	FY 2020 Alt. 2 Monthly Service Charge	FY 2021 Alt. 2 Monthly Service Charge
(in.)	\$/bill	\$/bill	\$/bill	\$/bill	\$/bill
0.75 Inch	\$15.00	\$15.21	\$15.41	\$15.62	\$15.82
1.00 Inch	26.85	27.22	27.58	27.95	25.78
1.50 Inch	59.99	60.81	61.63	62.45	49.75
2.00 Inch	107.09	108.55	110.02	111.48	79.12
3.00 Inch	239.97	243.25	246.53	249.81	151.61
4.00 Inch	428.55	434.41	440.26	446.12	249.05
6.00 Inch	959.87	972.99	986.11	999.22	492.29
8.00 Inch	1,706.70	1,730.02	1,753.35	1,776.67	783.90
10.00 Inch	2,402.08	2,434.91	2,467.74	2,500.57	1,123.86

WATER – VOLUME RATE ALTERNATIVE 1

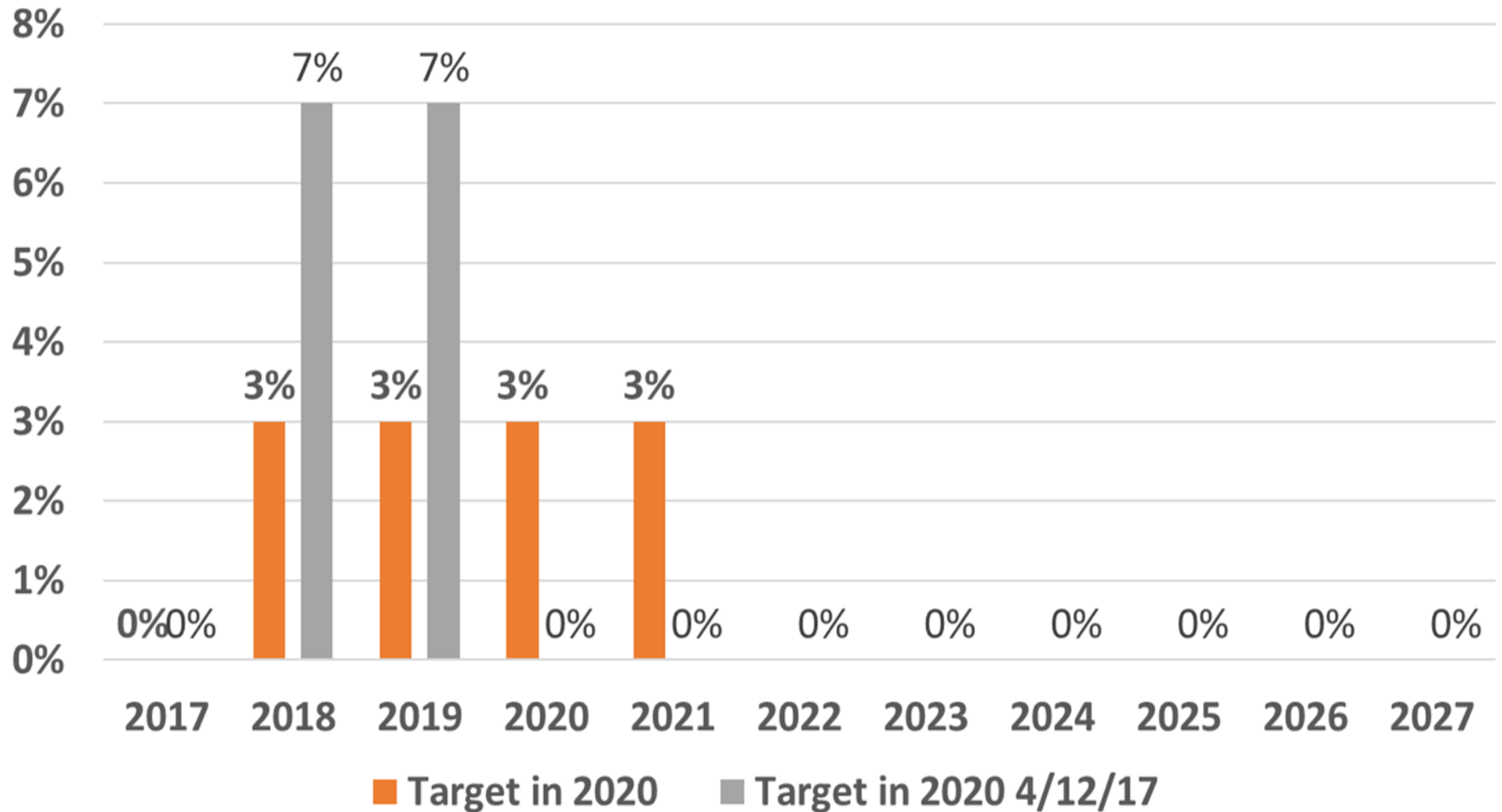
Description	Current Volume Rates \$ / kgal	FY 2018 Alt. 1 Volume Rates \$ / kgal	FY 2019 Alt. 1 Volume Rates \$ / kgal	FY 2020 Alt. 1 Volume Rates \$ / kgal	FY 2021 Alt. 1 Volume Rates \$ / kgal
Residential	\$3.70	\$3.86	\$4.01	\$4.17	\$4.33
Commercial	3.70	3.86	4.01	4.17	4.33
Trailer	3.70	3.86	4.01	4.17	4.33
Bulk Water	5.00	5.25	5.50	5.75	6.00

WATER – VOLUME RATE ALTERNATIVE 2

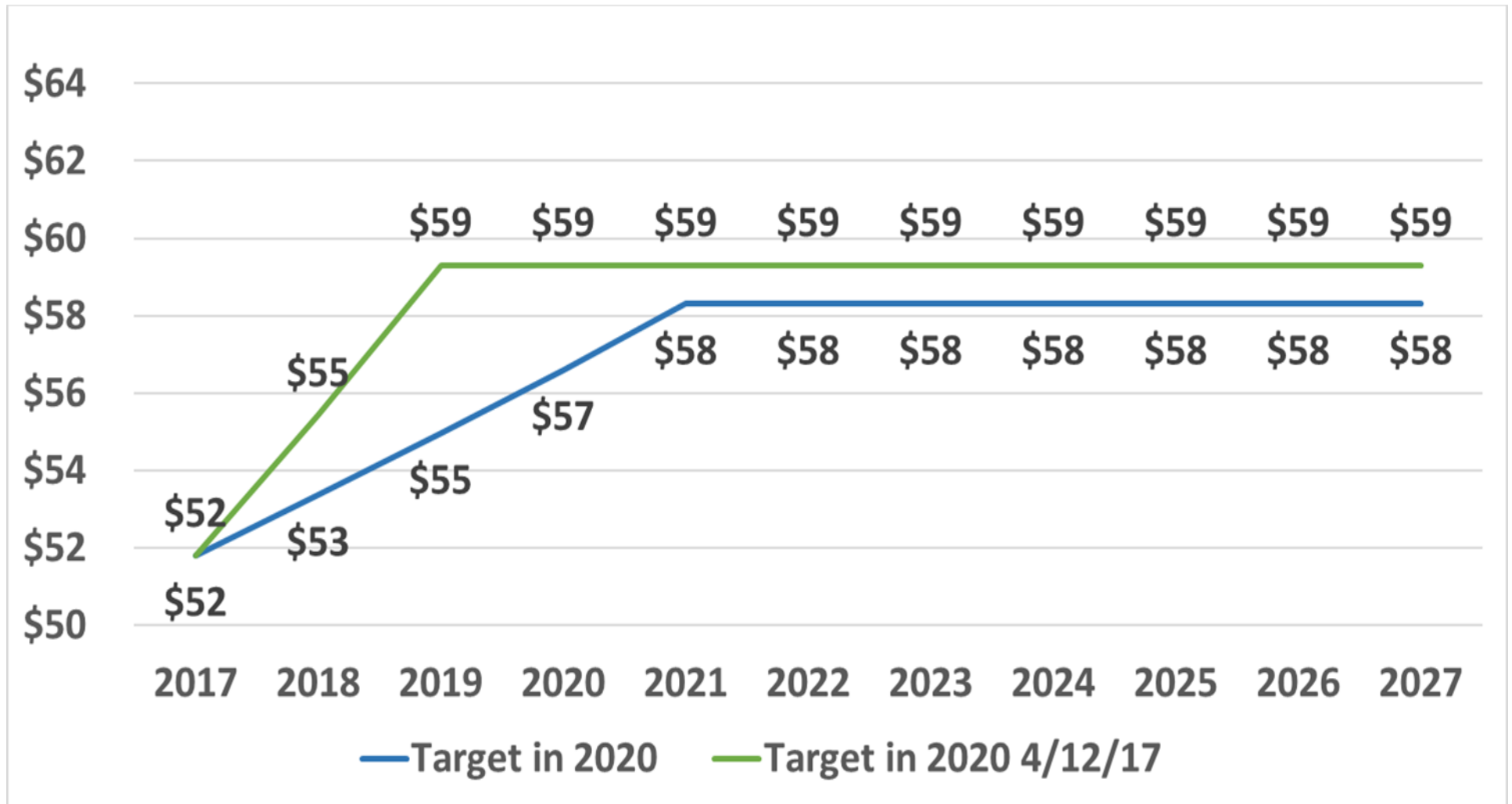
Description	Current Volume Rates \$ / kgal	FY 2018 Alt. 2 Volume Rates \$ / kgal	FY 2019 Alt. 2 Volume Rates \$ / kgal	FY 2020 Alt. 2 Volume Rates \$ / kgal	FY 2021 Alt. 2 Volume Rates \$ / kgal
Residential	\$3.70	\$3.90	\$4.10	\$4.30	\$4.67
Commercial	3.70	3.90	4.10	4.30	4.67
Trailer	3.70	3.90	4.10	4.30	4.67
Bulk Water	5.00	5.25	5.50	5.75	6.00

SEWER FUND

SEWER FUND RATE REVENUE INCREASES



SEWER FUND TYPICAL BILL $\frac{3}{4}$ -INCH METER AND 5,000 GALLONS PER MONTH USE



SEWER RATE ALTERNATIVES

- » Rates over a four-year period – FY 2018 through FY 2021
- » Two rate alternatives for each utility
 - Revenue-neutral
 - Smaller and periodic adjustments
 - Exxon rate same regardless
- » Sewer rate alternatives
 - S1 - Across the board increases applied to existing rate base and volume rate structure
 - S2 – Increase just volume portion of the rate structure to generate additional revenues

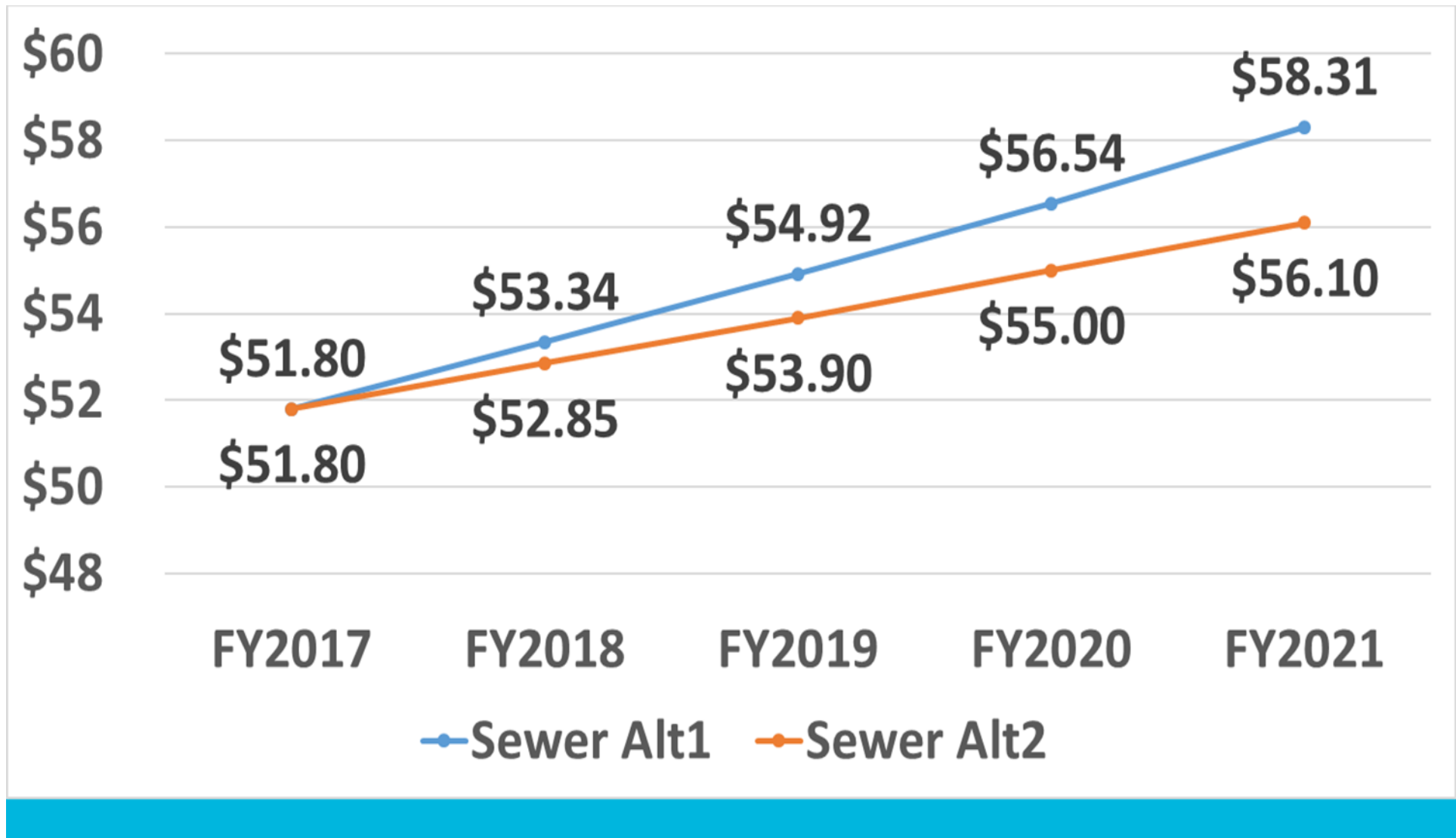
SEWER – BASE CHARGE ALTERNATIVES

Meter Size (in.)	Current Monthly Service Charge \$/bill	FY 2021 Alt. 1 Monthly Service Charge \$/bill	FY 2021 Alt. 2 Monthly Service Charge \$/bill
0.75 Inch	\$46.30	\$52.11	\$46.30
1.00 Inch	82.88	93.28	82.88
1.50 Inch	185.20	208.44	185.20
2.00 Inch	330.58	372.07	330.58
3.00 Inch	740.80	833.78	740.80
4.00 Inch	1,319.55	1,485.17	1,319.55

SEWER – VOLUME RATE ALTERNATIVES

Description	Current Volume Rates \$ / kgal	FY 2021 Alt. 1 Volume Rates \$ / kgal	FY 2021 Alt. 2 Volume Rates \$ / kgal
Domestic	\$1.10	\$1.24	\$1.96
Exxon		0.44	0.44

MONTHLY SEWER BILL – 5,000 GALLONS



SEWER – BASE CHARGE ALTERNATIVE 1

Meter Size	Current Monthly Service Charge	FY 2018 Alt. 1 Monthly Service Charge	FY 2019 Alt. 1 Monthly Service Charge	FY 2020 Alt. 1 Monthly Service Charge	FY 2021 Alt. 1 Monthly Service Charge
(in.)	\$/bill	\$/bill	\$/bill	\$/bill	\$/bill
0.75 Inch	\$46.30	\$47.69	\$49.12	\$50.59	\$52.12
1.00 Inch	82.88	85.37	87.93	90.56	93.29
1.50 Inch	185.20	190.76	196.48	202.36	208.45
2.00 Inch	330.58	340.50	350.71	361.21	372.08
3.00 Inch	740.80	763.04	785.92	809.44	833.78
4.00 Inch	1,319.55	1,359.17	1,399.92	1,441.82	1,485.17

SEWER – VOLUME RATE ALTERNATIVE 1

Description	Current Volume Rates \$ / kgal	FY 2018 Alt. 1 Volume Rates \$ / kgal	FY 2019 Alt. 1 Volume Rates \$ / kgal	FY 2020 Alt. 1 Volume Rates \$ / kgal	FY 2021 Alt. 1 Volume Rates \$ / kgal
Domestic	\$1.10	\$1.13	\$1.16	\$1.19	\$1.24
Exxon				0.44	0.44

SEWER – BASE CHARGE ALTERNATIVE 2

Meter Size	Current Monthly Service Charge	FY 2018 Alt. 2 Monthly Service Charge	FY 2019 Alt. 2 Monthly Service Charge	FY 2020 Alt. 2 Monthly Service Charge	FY 2021 Alt. 2 Monthly Service Charge
(in.)	\$/bill	\$/bill	\$/bill	\$/bill	\$/bill
0.75 Inch	\$46.30	\$46.30	\$46.30	\$46.30	\$46.30
1.00 Inch	82.88	82.88	82.88	82.88	82.88
1.50 Inch	185.20	185.20	185.20	185.20	185.20
2.00 Inch	330.58	330.58	330.58	330.58	330.58
3.00 Inch	740.80	740.80	740.80	740.80	740.80
4.00 Inch	1,319.55	1,319.55	1,319.55	1,319.55	1,319.55

SEWER – VOLUME RATE ALTERNATIVE 2

Description	Current Volume Rates \$ / kgal	FY 2018 Alt. 2 Volume Rates \$ / kgal	FY 2019 Alt. 2 Volume Rates \$ / kgal	FY 2020 Alt. 2 Volume Rates \$ / kgal	FY 2021 Alt. 2 Volume Rates \$ / kgal
Domestic	\$1.10	\$1.31	\$1.52	\$1.74	\$1.96
Exxon				0.44	0.44

Q&A

RATE ALTERNATIVES

» Water rate alternative preference?

- W1 - Across the board increases applied to existing rate base and volume rate structure
- W2 – Cost of service based monthly service charge and volume rates necessary to meet class cost of service

» Sewer rate alternative preference?

- S1 - Across the board increases applied to existing rate base and volume rate structure
- S2 – Increase just volume portion of the rate structure to generate additional revenues
- Exxon rate same regardless

DIRECTION AND NEXT STEPS

- » Resolution
- » Public hearing notice
- » Hold public hearing and finalize study following Board meeting
 - Hearing set for May 23, 2017
 - Notice to be sent out
- » July 1, 2017
 - Implement rate and fee adjustments