



**Somerville
FY 2022
Rate Study**





Agenda

- Rate Study Overview
- Revenue Sufficiency
- Discussion of Results



Rate Study Process

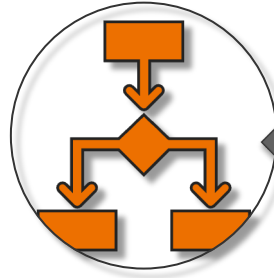
How Much?



Revenue Sufficiency

- Achieve financial policies & targets
- Fund system investment needs
- Sustainably fund operations

From Whom?



Defensible Allocation Methods

- Utilize industry accepted approaches
- Maintain inter and intra class equity
- Determine correct and appropriate units of service

How to Collect?



Simple, Equitable & Sustainable Rates

- Balance affordability and financial objectives
- Accomplish revenue stability
- Clear communication of costs



Current FY 2023 Proposal

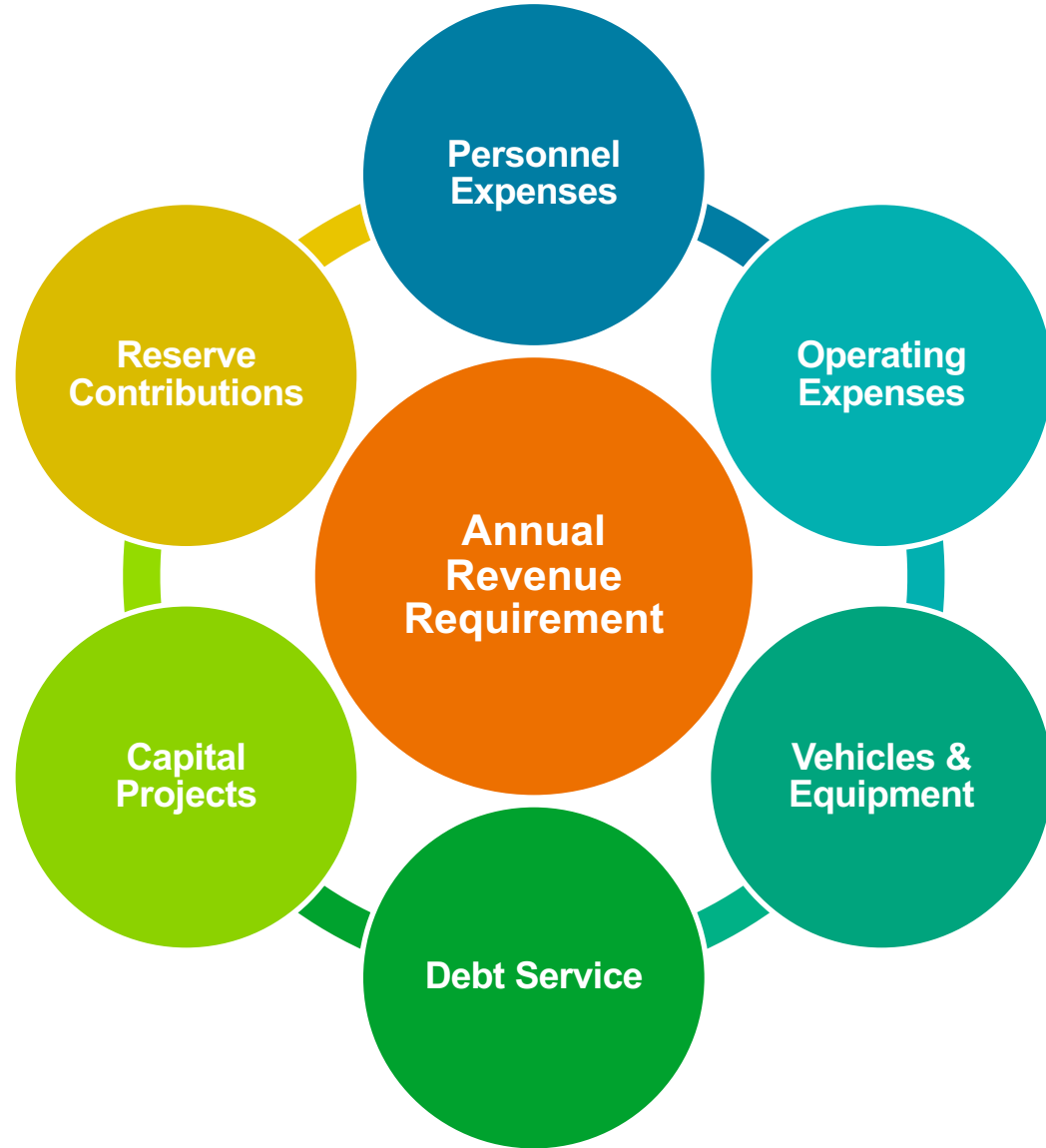
- Water usage rate adjustment of 11.00%
- Sewer usage rate adjustment of 12.50%
- Rate increases will support needed capital investments, many of which will ensure continued regulatory compliance



Revenue Sufficiency



Revenue Sufficiency Components





Core Assumptions

- Utility Funds receive \$2M annually in stabilization contributions
- MWRA cost will escalate at an average rate of 3-4% per annum
- Capital investment plan utilizes debt financing*
- FY23 Sewer Budget incorporates additional MS4 costs
- Maintaining reserve balances to preserve flexibility
- Assuming 100% spending of operating and capital expenses

**Interest rates on future borrowing are higher than prior year analysis given rising interest rate environment*

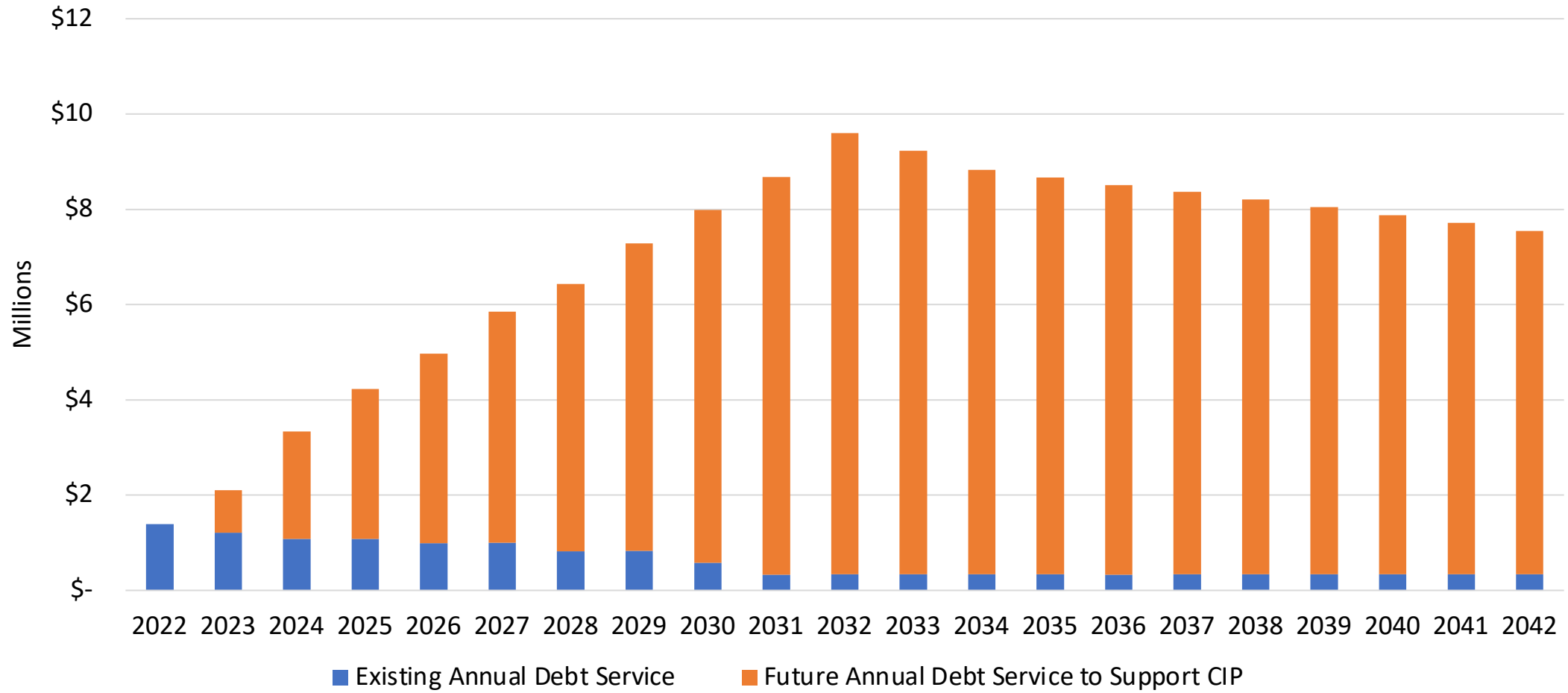


Primary Water CIP (\$M)

Water Projects	FY 22 to FY 32
Somerville Ave. Utility & Streetscape Improvements	\$4.0
Lead Line Replacement Program	\$26.1
Water Main Rehab and Replacement	\$75.8
Pitman St. - Water Improvements	\$1.1
Water Meter Replacement	\$7.0
Spring Hill Sewer Separation - Water Line Improvements	\$8.2
Boynton Yards	\$7.4
Total	\$129.6



Water Annual Debt Service



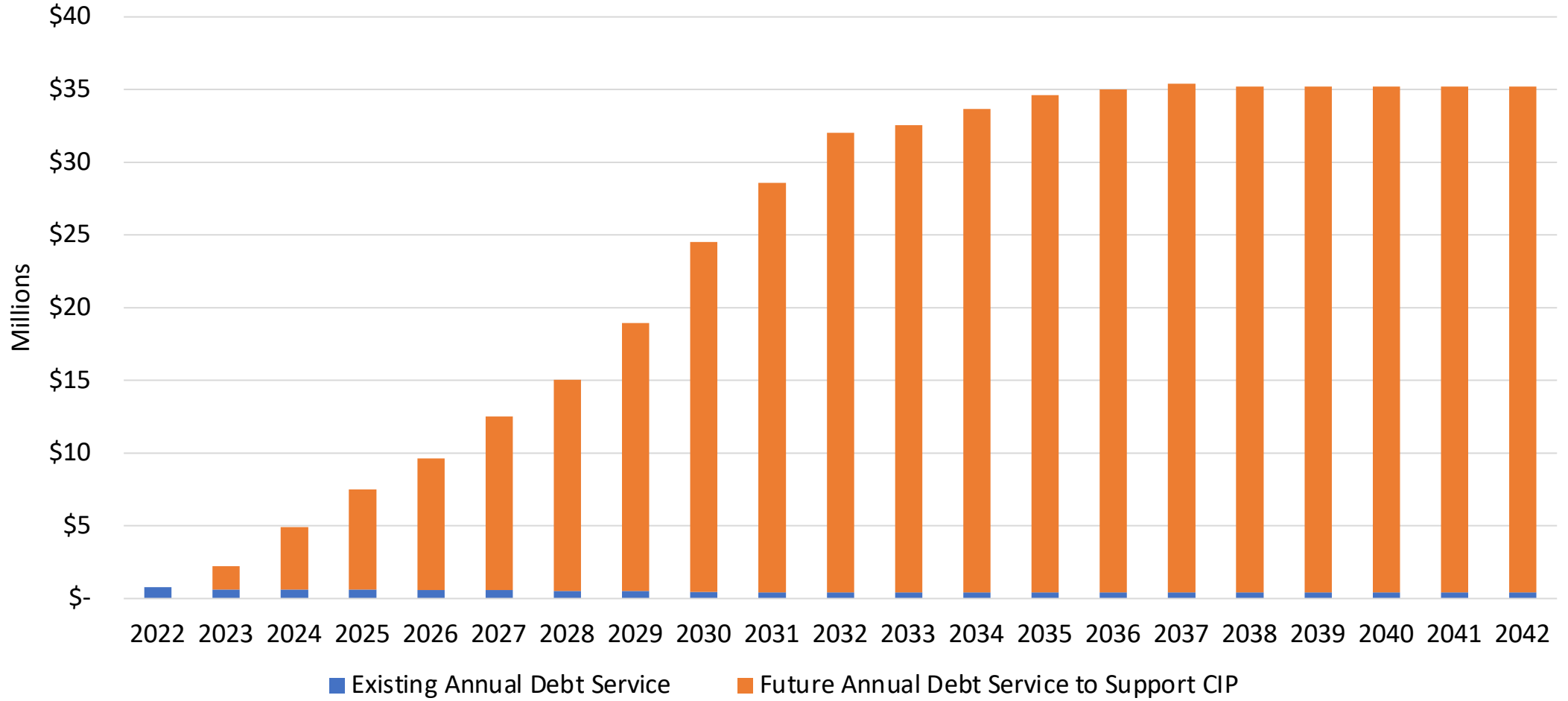


Primary Sewer CIP (\$M)

Sewer Projects	FY 22 to FY 32
Somerville Ave. Utility & Streetscape Improvements	\$39.5
Poplar St. Stormwater Pump Station	\$83.4
Spring Hill Sewer Separation	\$20.7
Sewer Improvements	\$58.4
Somerville Marginal Interceptor Rehabilitation	\$3.0
SSES & I/I Assessment	\$12.4
Willow to Grove Sewer Replacement	\$3.4
Flint St. Sewer Replacement	\$3.4
Sewer Separation Projects	\$220.1
Boynton Yards	\$47.5
Total	\$491.8



Sewer Annual Debt Service





Water Control Panel (Diagnostic)



WATER ENTERPRISE FUND

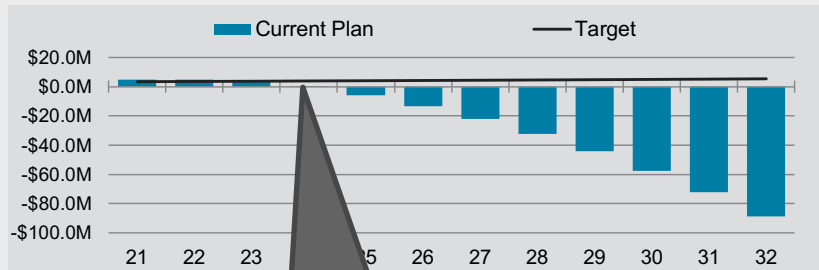


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Current Revenues Maintained

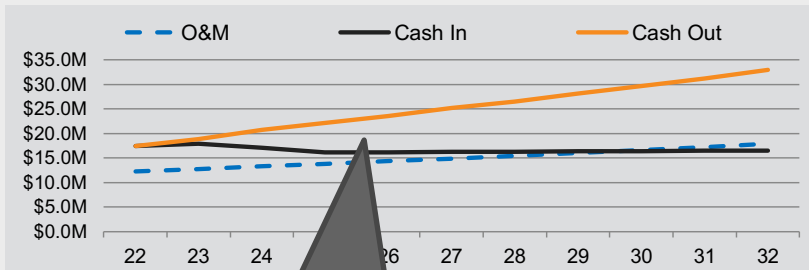
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2026	FY 2031
Water Usage Rate Plan	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Debt Service Coverage (1.25 Target)	2.58	1.34	0.69	0.44	0.28	0.16	0.07	-0.01	-0.08	-0.14	-0.18	Growth	Normal
Debt Service / Revenue	8.8%	13.5%	21.4%	27.0%	31.6%	37.1%	40.6%	45.8%	50.0%	54.1%	59.6%		
Tri-Annual Single-Family Bill @ 18 CCF	\$117.02	\$117.02	\$117.02	\$117.02	\$117.02	\$117.02	\$117.02	\$117.02	\$117.02	\$117.02	\$117.02	Check	-
Net Cash Flow (\$ M)	-\$0.03	-\$0.93	-\$3.67	-\$6.06	-\$7.44	-\$8.98	-\$10.25	-\$11.82	-\$13.26	-\$14.74	-\$16.47		

Operating Fund



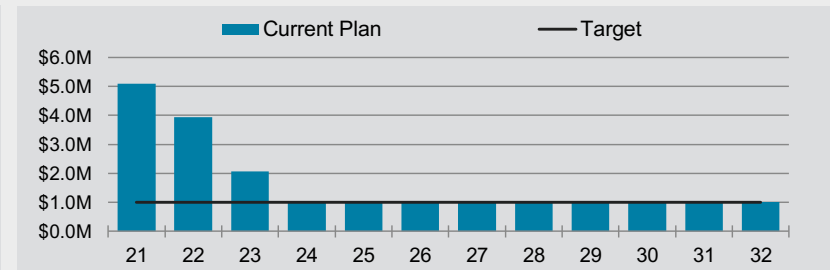
Reserves Depleted

Revenues vs. Expenses



Cash Flow Imbalance

Stabilization Fund





Water Control Panel (Just in Time)



WATER ENTERPRISE FUND

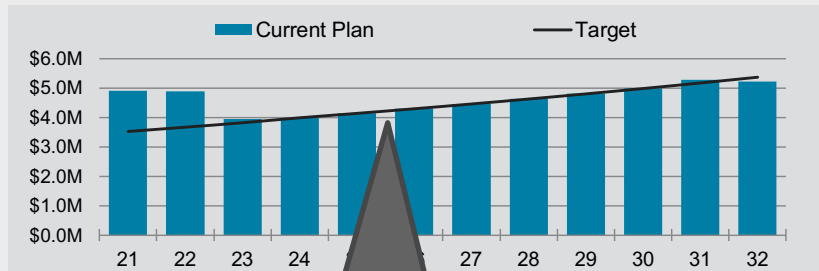


Just in Time Adjustments

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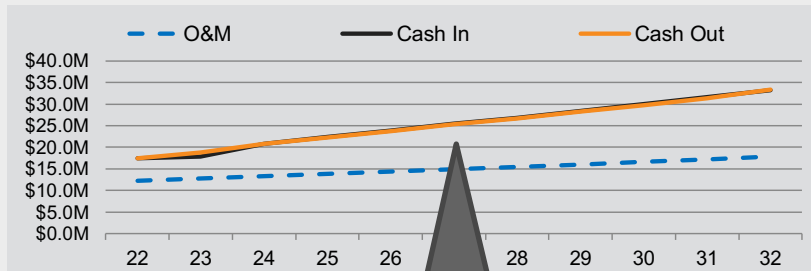
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2026	FY 2031
Water Usage Rate Plan	0.00%	0.00%	26.75%	13.31%	6.37%	6.87%	5.17%	6.16%	5.28%	5.22%	4.22%	63.25%	114.92%
Debt Service Coverage (1.25 Target)	2.58	1.34	1.80	1.91	1.81	1.72	1.69	1.63	1.61	1.59	1.52	Growth	Normal
Debt Service / Revenue	8.8%	13.5%	17.3%	19.4%	21.3%	23.5%	24.5%	26.1%	27.2%	28.0%	29.6%		
Tri-Annual Single-Family Bill @ 18 CCF	\$117.02	\$117.02	\$142.97	\$159.40	\$168.28	\$178.49	\$186.68	\$196.97	\$206.44	\$216.19	\$228.45	Check	-
Net Cash Flow (\$ M)	-\$0.03	-\$0.93	\$0.04	\$0.15	\$0.16	\$0.16	\$0.17	\$0.17	\$0.19	\$0.30	-\$0.06		

Operating Fund



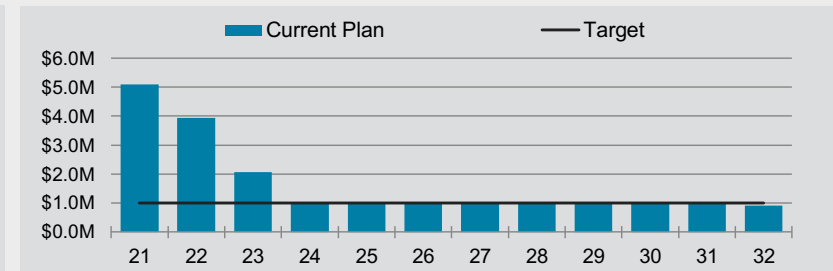
Reserves Maintained

Revenues vs. Expenses



Sustainable Cash Flow

Stabilization Fund



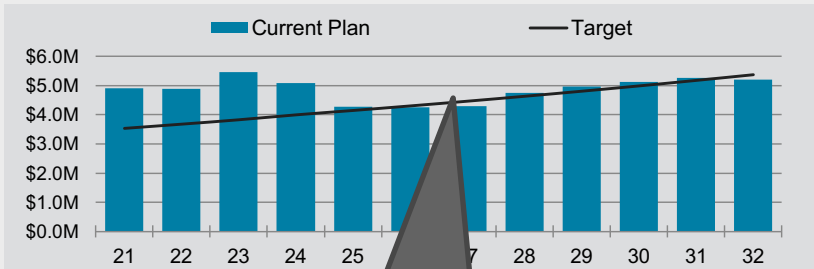


Water Control Panel (Level Solution)

“Smooth”
Revenue
Adjustments

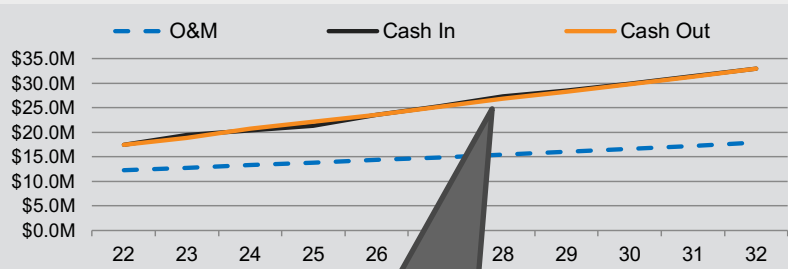
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2026	FY 2031
Water Usage Rate Plan	0.00%	11.00%	11.00%	11.00%	11.00%	7.00%	7.00%	5.00%	5.00%	5.00%	5.00%	62.58%	111.36%
Debt Service Coverage (1.25 Target)	2.58	2.06	1.68	1.68	1.78	1.70	1.73	1.64	1.60	1.58	1.53	Growth	Normal
Debt Service / Revenue	8.8%	12.3%	17.7%	20.3%	21.5%	23.6%	24.2%	26.1%	27.2%	28.1%	29.5%		
Tri-Annual Single-Family Bill @ 18 CCF	\$117.02	\$127.64	\$139.49	\$152.67	\$167.26	\$177.60	\$188.63	\$197.10	\$205.98	\$215.27	\$225.02	Check	-
Net Cash Flow (\$ M)	-\$0.03	\$0.58	-\$0.38	-\$0.81	-\$0.01	\$0.04	\$0.46	\$0.21	\$0.15	\$0.14	-\$0.05		

Operating Fund



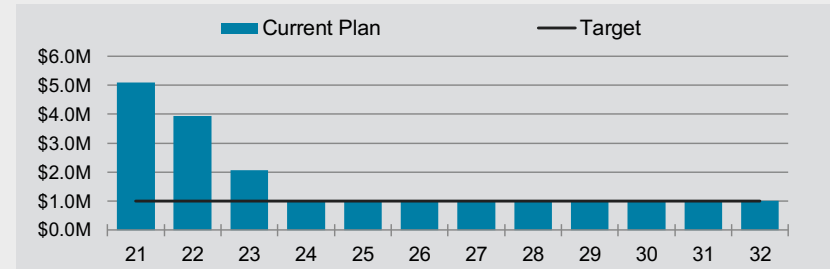
Reserves
Maintained

Revenues vs. Expenses



Sustainable
Cash Flow

Stabilization Fund





Water Control Panel (No FY 23 Increase)



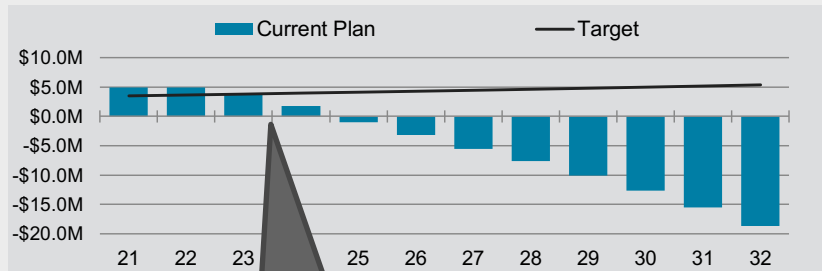
WATER ENTERPRISE FUND



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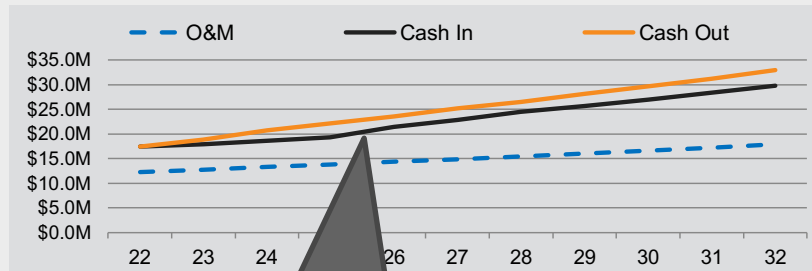
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2026	FY 2031
Water Usage Rate Plan	0.00%	0.00%	11.00%	11.00%	11.00%	7.00%	7.00%	5.00%	5.00%	5.00%	5.00%	46.33%	90.42%
Debt Service Coverage (1.25 Target)	2.58	1.34	1.15	1.21	1.33	1.30	1.34	1.27	1.25	1.24	1.20	Growth	Normal
Debt Service / Revenue	8.8%	13.5%	19.5%	22.3%	23.7%	26.1%	26.8%	28.8%	30.0%	31.0%	32.6%		
Tri-Annual Single-Family Bill @ 18 CCF	\$117.02	\$117.02	\$127.64	\$139.49	\$152.67	\$161.96	\$171.89	\$179.44	\$187.40	\$195.77	\$204.55	Check	
Net Cash Flow (\$ M)	-\$0.03	-\$0.93	-\$2.14	-\$2.79	-\$2.21	-\$2.32	-\$2.07	-\$2.46	-\$2.66	-\$2.83	-\$3.18		

Operating Fund



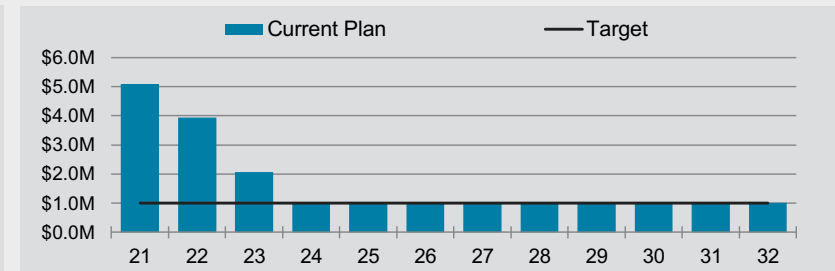
Reserves Depleted

Revenues vs. Expenses



Cash Flow Imbalance

Stabilization Fund





Water Control Panel (FY 24 Alternative)



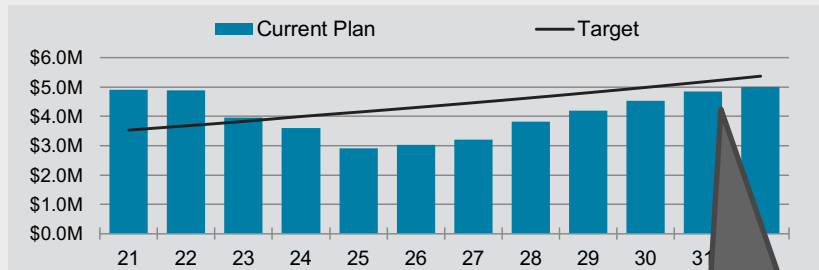
WATER ENTERPRISE FUND



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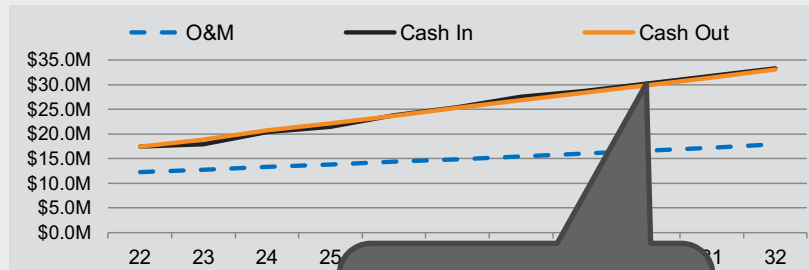
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2026	FY 2031
Water Usage Rate Plan	0.00%	0.00%	24.00%	11.00%	11.00%	7.00%	7.00%	5.00%	5.00%	5.00%	5.00%	63.47%	112.25%
Debt Service Coverage (1.25 Target)	2.58	1.34	1.69	1.71	1.80	1.72	1.76	1.66	1.62	1.60	1.55	Growth	Normal
Debt Service / Revenue	8.8%	13.5%	17.6%	20.1%	21.4%	23.5%	24.1%	25.9%	27.0%	27.9%	29.4%		
Tri-Annual Single-Family Bill @ 18 CCF	\$117.02	\$117.02	\$140.31	\$153.49	\$168.18	\$178.57	\$189.60	\$198.07	\$206.95	\$216.24	\$226.04	Check	
Net Cash Flow (\$ M)	-\$0.03	-\$0.93	-\$0.34	-\$0.70	\$0.12	\$0.18	\$0.61	\$0.38	\$0.33	\$0.33	\$0.15		

Operating Fund



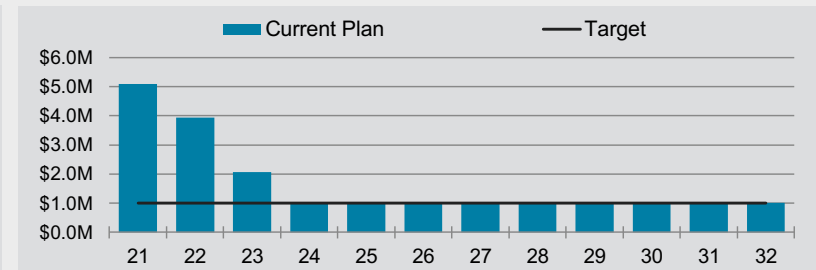
Reserves Recovery

Revenues vs. Expenses



Sustainable Cash Flow

Stabilization Fund





Sewer Control Panel (Diagnostic)



SEWER ENTERPRISE FUND



Current Revenues Maintained

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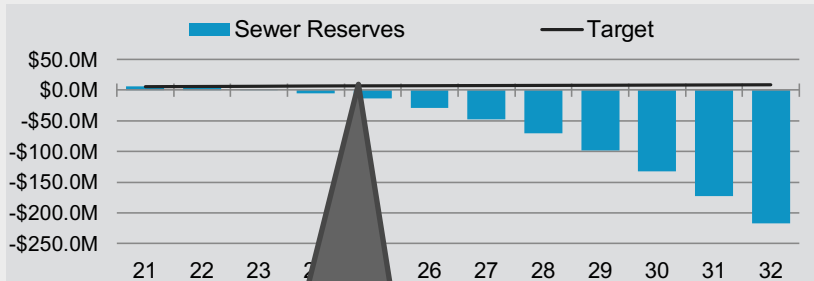
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2026	FY 2031
Sewer Usage Rate Plan	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Debt Service Coverage (1.25 Target)	8.27	2.11	0.63	0.33	0.19	0.10	0.03	-0.01	-0.04	-0.06	-0.08		
Debt Service / Revenue	2.8%	8.2%	18.0%	27.4%	35.0%	45.3%	54.3%	68.1%	87.6%	101.9%	113.7%	Growth	Normal
Tri-Annual Single-Family Bill @ 18 CCF	\$222.11	\$222.11	\$222.11	\$222.11	\$222.11	\$222.11	\$222.11	\$222.11	\$222.11	\$222.11	\$222.11	Check	-
Net Cash Flow (\$ M)	-\$2.45	-\$3.34	-\$5.65	-\$8.48	-\$15.14	-\$19.08	-\$22.73	-\$27.78	-\$34.50	-\$39.82	-\$44.55		

Scenario Manager

Growth Normal

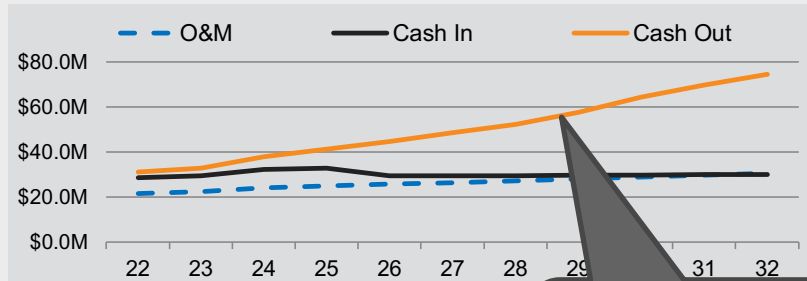
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Operating Fund



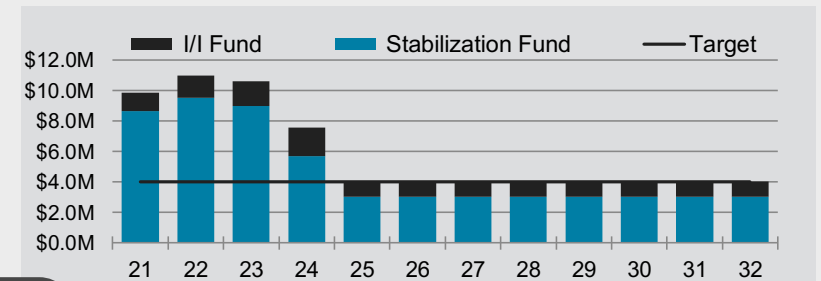
Reserves Depleted

Revenues vs. Expenses



Cash Flow Imbalance

Stabilization Fund & I/I Fund





Sewer Control Panel (Just in Time)



SEWER ENTERPRISE FUND

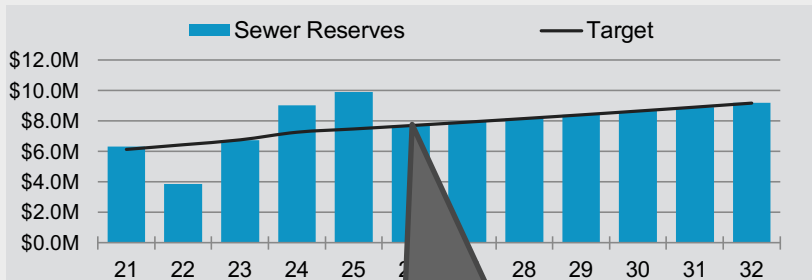


Just in Time Adjustments

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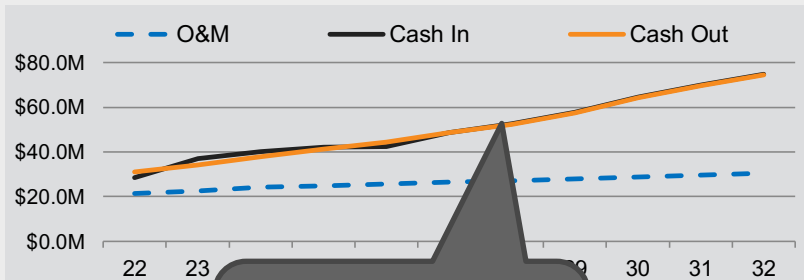
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2026	FY 2031
Sewer Usage Rate Plan	0.00%	31.47%	0.00%	0.00%	15.32%	16.64%	7.72%	10.31%	12.39%	8.45%	6.88%	76.98%	173.92%
Debt Service Coverage (1.25 Target)	8.27	5.52	2.25	1.39	1.53	1.64	1.56	1.47	1.38	1.34	1.32	Scenario Manager	
Debt Service / Revenue	2.8%	6.4%	14.0%	21.3%	23.9%	26.7%	29.7%	34.0%	39.1%	42.0%	43.9%	Growth	Normal
Tri-Annual Single-Family Bill @ 18 CCF	\$222.11	\$279.45	\$279.45	\$279.45	\$316.14	\$362.13	\$386.98	\$422.72	\$470.17	\$506.50	\$538.68	Check	-
Net Cash Flow (\$ M)	-\$2.45	\$2.90	\$2.28	\$0.88	-\$2.22	\$0.23	\$0.24	\$0.24	\$0.25	\$0.26	\$0.27		

Operating Fund



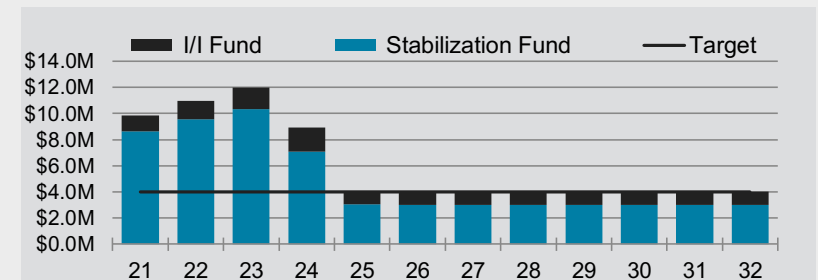
Reserves Maintained

Revenues vs. Expenses



Sustainable Cash Flow

Stabilization Fund & I/I Fund





Sewer Control Panel (Level Solution)



SEWER ENTERPRISE FUND

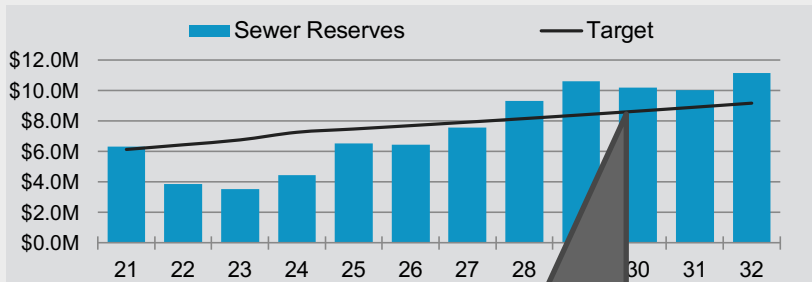
“Smooth” Revenue Adjustments



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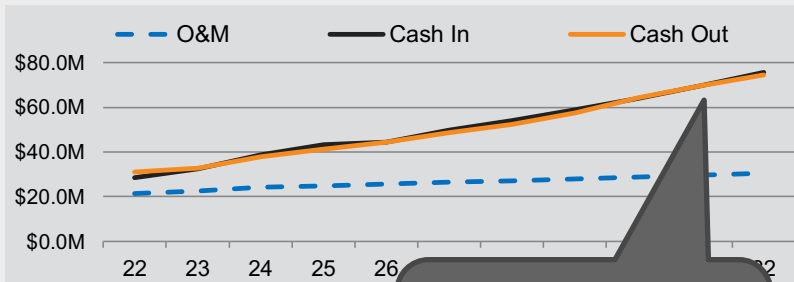
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2026	FY 2031
Sewer Usage Rate Plan	0.00%	12.50%	12.50%	12.50%	12.50%	12.50%	9.00%	9.00%	9.00%	9.00%	9.00%	80.27%	177.32%
Debt Service Coverage (1.25 Target)	8.27	3.46	1.97	1.74	1.76	1.71	1.66	1.52	1.35	1.33	1.35	Scenario Manager	
Debt Service / Revenue	2.8%	7.4%	14.5%	19.8%	22.7%	26.2%	28.9%	33.4%	39.5%	42.3%	43.4%	Growth	Normal
Tri-Annual Single-Family Bill @ 18 CCF	\$222.11	\$244.86	\$270.48	\$299.33	\$331.79	\$368.30	\$397.84	\$430.02	\$465.12	\$503.37	\$545.03	Check	-
Net Cash Flow (\$ M)	-\$2.45	-\$0.32	\$0.91	\$2.08	-\$0.06	\$1.12	\$1.73	\$1.29	-\$0.39	-\$0.18	\$1.15		

Operating Fund



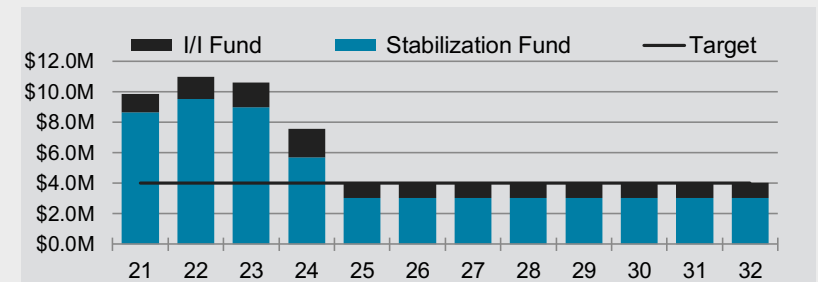
Long-Term Reserves Maintained

Revenues vs. Expenses



Sustainable Cash Flow

Stabilization Fund & I/I Fund





Sewer Control Panel (No FY 23 Increase)



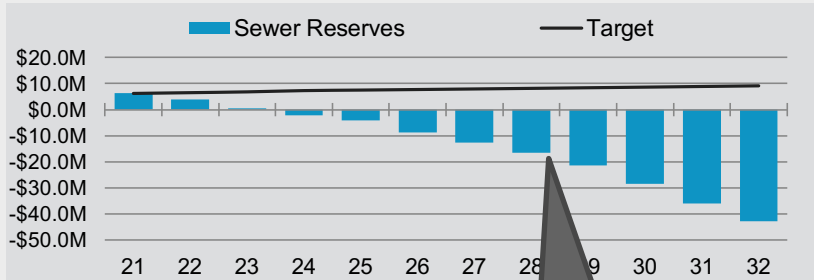
SEWER ENTERPRISE FUND



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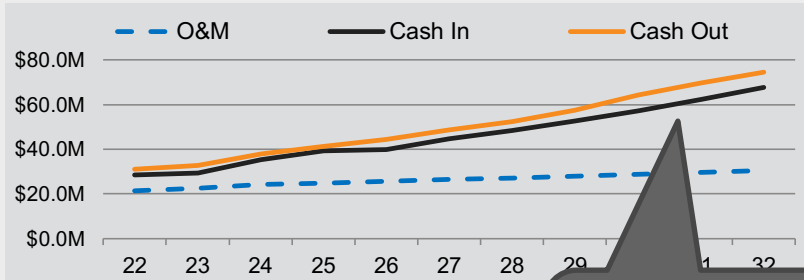
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2026	FY 2031
Sewer Usage Rate Plan	0.00%	0.00%	12.50%	12.50%	12.50%	12.50%	9.00%	9.00%	9.00%	9.00%	9.00%	60.20%	146.60%
Debt Service Coverage (1.25 Target)	8.27	2.11	1.25	1.20	1.29	1.30	1.29	1.20	1.08	1.07	1.10	Scenario Manager	
Debt Service / Revenue	2.8%	8.2%	16.2%	22.1%	25.3%	29.3%	32.3%	37.3%	44.3%	47.4%	48.7%	Growth	Normal
Tri-Annual Single-Family Bill @ 18 CCF	\$222.11	\$222.11	\$244.86	\$270.48	\$299.33	\$331.79	\$358.00	\$386.67	\$417.85	\$451.90	\$489.05	Check	-
Net Cash Flow (\$ M)	-\$2.45	-\$3.34	-\$2.63	-\$1.92	-\$4.58	-\$3.99	-\$3.87	-\$4.84	-\$7.10	-\$7.52	-\$6.87		

Operating Fund



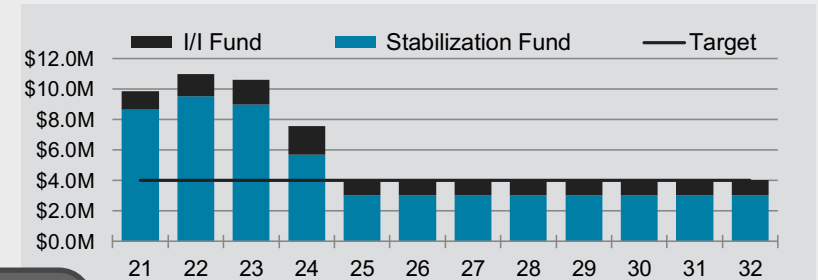
Reserves Depleted

Revenues vs. Expenses



Cash Flow Imbalance

Stabilization Fund & I/I Fund





Sewer Control Panel (FY 24 Alternative)



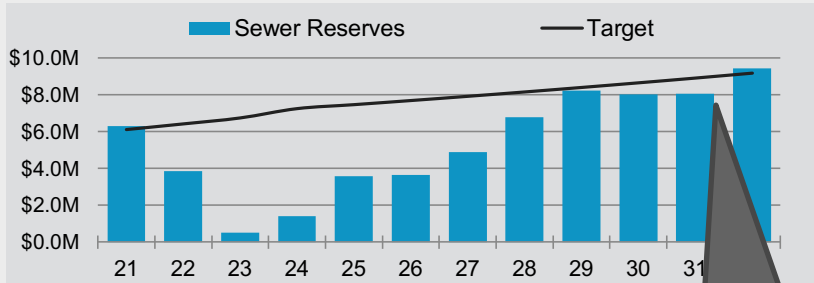
SEWER ENTERPRISE FUND



CALC SAVE CTRL LAST OVR

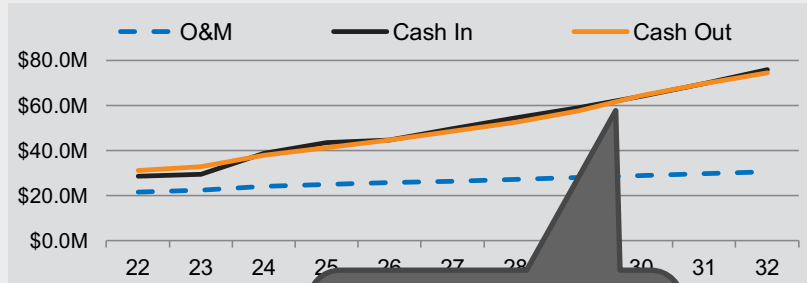
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2026	FY 2031
Sewer Usage Rate Plan	0.00%	0.00%	27.00%	12.50%	12.50%	12.50%	9.00%	9.00%	9.00%	9.00%	9.00%	80.84%	178.46%
Debt Service Coverage (1.25 Target)	8.27	2.11	1.96	1.75	1.77	1.72	1.67	1.53	1.36	1.34	1.36	Scenario Manager	
Debt Service / Revenue	2.8%	8.2%	14.5%	19.8%	22.6%	26.1%	28.8%	33.2%	39.4%	42.1%	43.3%	Growth	Normal
Tri-Annual Single-Family Bill @ 18 CCF	\$222.11	\$222.11	\$271.30	\$300.25	\$332.84	\$369.45	\$399.17	\$431.53	\$466.81	\$505.24	\$547.13	Check	-
Net Cash Flow (\$ M)	-\$2.45	-\$3.34	\$0.89	\$2.18	\$0.06	\$1.26	\$1.88	\$1.46	-\$0.20	\$0.03	\$1.38		

Operating Fund



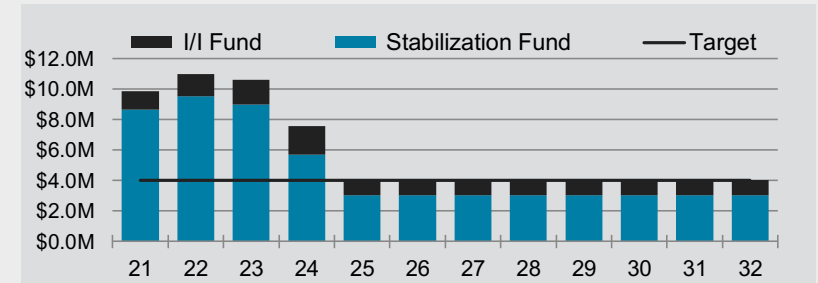
Reserves Recovery

Revenues vs. Expenses



Sustainable Cash Flow

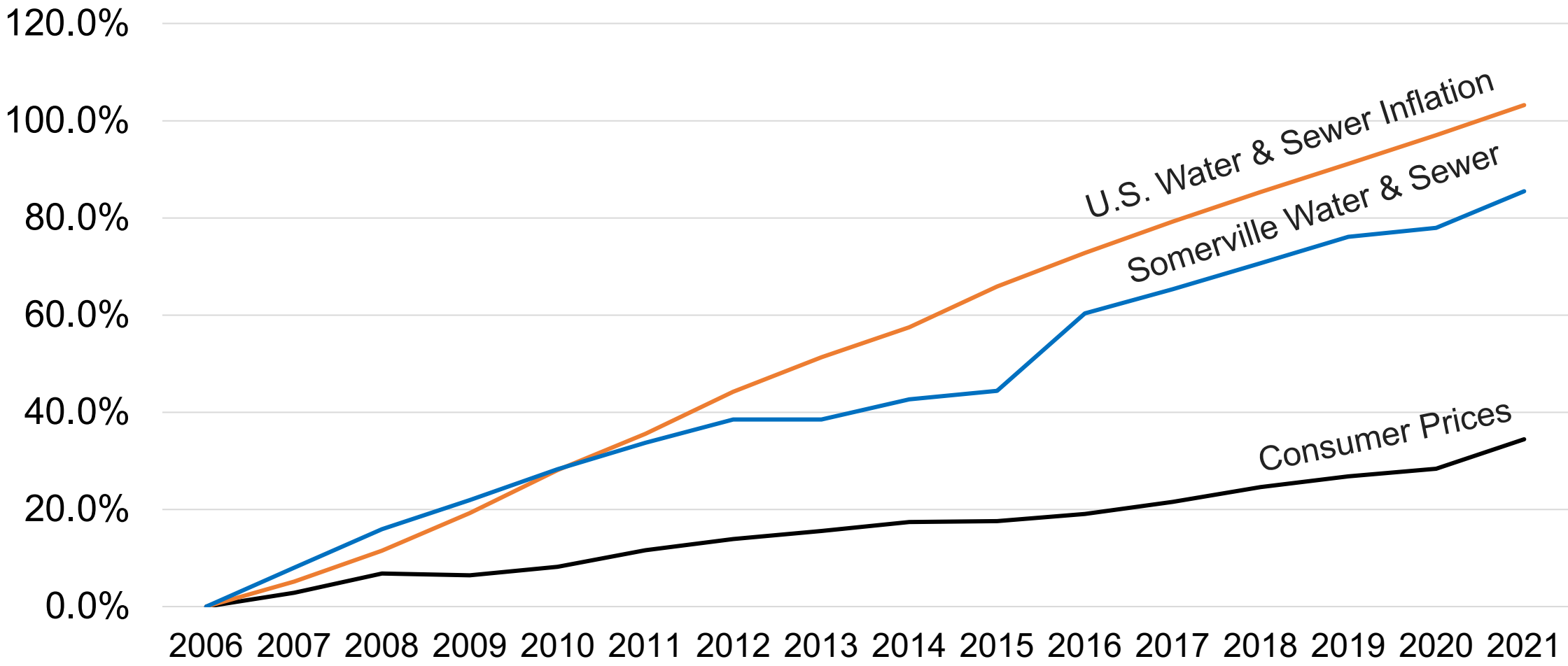
Stabilization Fund & I/I Fund





Utilities Face Steep Inflation

SOMERVILLE 2022 REVENUE SUFFICIENCY





Key Customer Impacts

Total Change in Annual Costs for Various Billing Units (including base & volumetric charges, amended)

Total Units per Bill (in CCF)	FY 2022	FY 2023	\$ Change	% Change
	Annual Total	Annual Total	(FY 2023 - FY 2022)	
15 (average condo unit)	\$840	\$919	\$79	9%
18 (average single-family home)	\$1,017	\$1,118	\$101	10%
30 (average two-family home)	\$1,727	\$1,912	\$185	11%
42 (average three-family home)	\$2,437	\$2,707	\$270	11%
110 (average 8-unit apartment building)	\$6,583	\$7,347	\$764	12%



FY 23 Water and Sewer Residential Rates

FY 2023 Residential Volumetric Charges (\$/Billing Unit*)				
Tier	Tier Range (per CCF)	Water	Sewer	Combined
Discount Rate	0-8	\$4.98	\$9.92	\$14.90
Tier 1	9-13	\$5.56	\$11.03	\$16.59
Tier 2	14-67	\$8.00	\$14.07	\$22.07
Tier 3	68-133	\$8.38	\$14.76	\$23.14
Tier 4	Over 133	\$8.71	\$15.28	\$23.99

*One unit = 100 cubic feet (CCF) or 748 gallons of water



FY 23 Water and Sewer Commercial Rates

FY 2023 Commercial Volumetric Charges (\$/Billing Unit*)				
Tier	Tier Range (per CCF)	Water	Sewer	Combined
Tier 1	0-13	\$5.56	\$11.03	\$16.59
Tier 2	14-67	\$8.00	\$14.07	\$22.07
Tier 3	68-133	\$8.38	\$14.76	\$23.14
Tier 4	Over 133	\$8.71	\$15.28	\$23.99

*One unit = 100 cubic feet (CCF) or 748 gallons of water