



Town of Purcellville

Financial Strategy Session

Utility Enterprise Fund

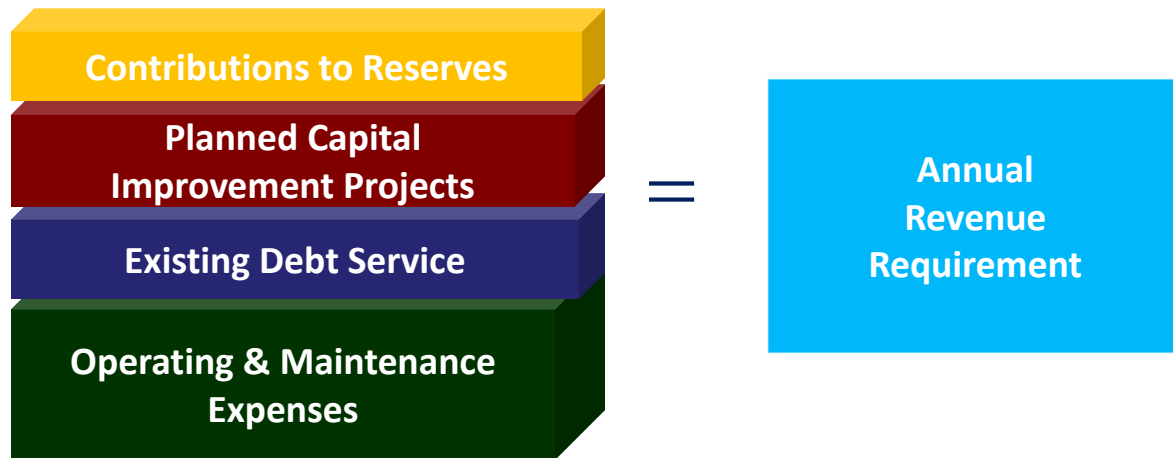


Municipal & Financial Services Group
Eric Callocchia, Senior Manager

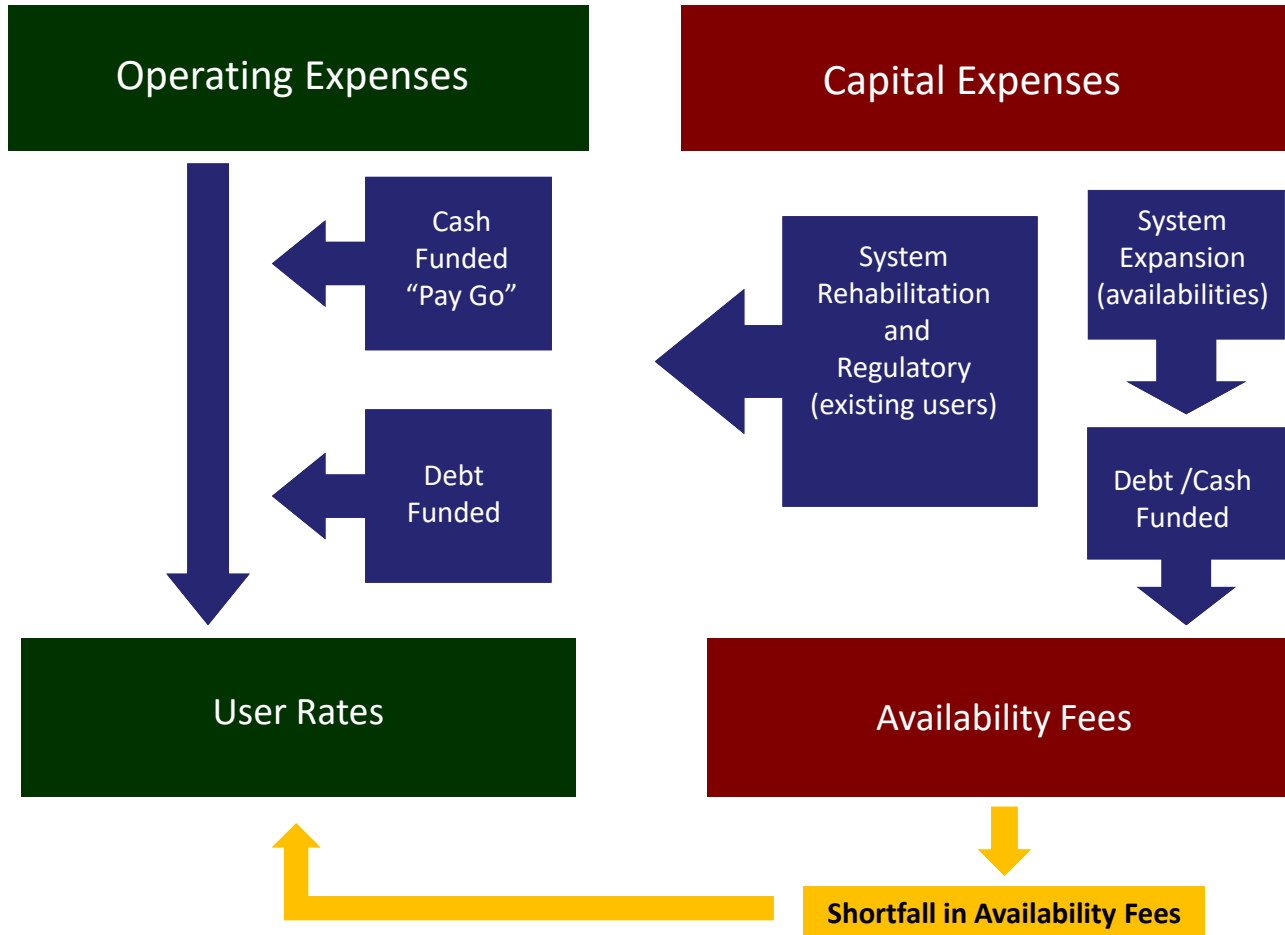
February 22, 2017



Review – Rate Setting Process

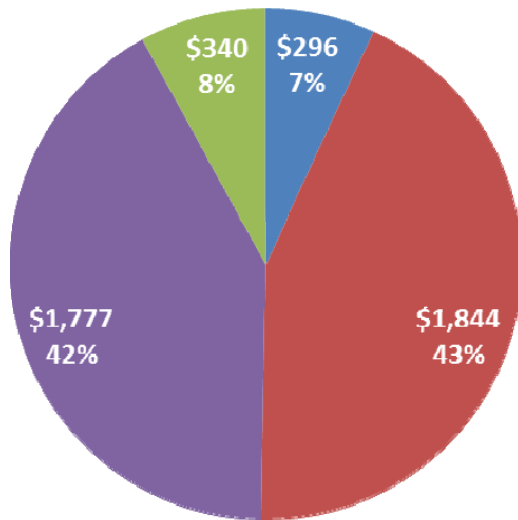


Review – Flow of Funds



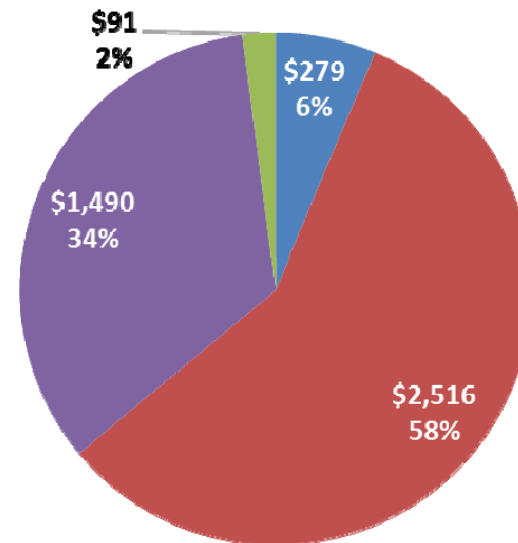
Water and Sewer Utility Revenue Overview – FY 2017

Water FY 2017 Budget (in thousands)



- Fixed Charge Revenue
- Unit Rate Revenue
- Availability Fee Revenue
- Miscellaneous Non-Rate Revenue

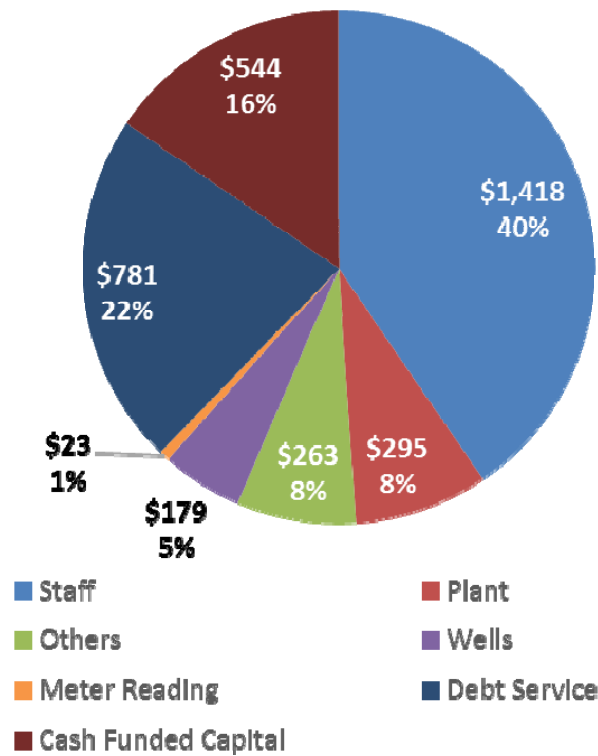
Sewer FY 2017 Budget (in thousands)



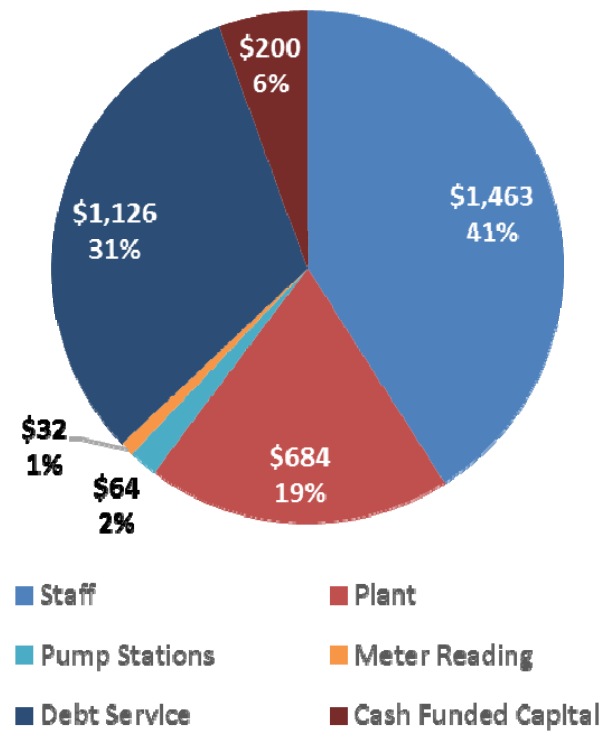
- Fixed Charge Revenue
- Unit Rate Revenue
- Availability Fee Revenue
- Miscellaneous Non-Rate Revenue

Water and Sewer Utility Expense Overview – FY 2017

Water FY 2017 Budget (in thousands)

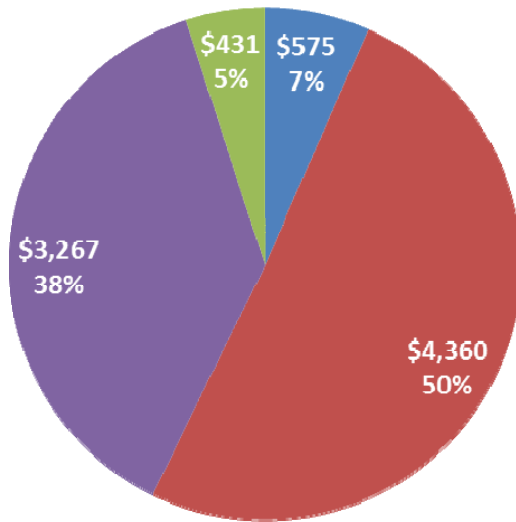


Sewer FY 2017 Budget (in thousands)



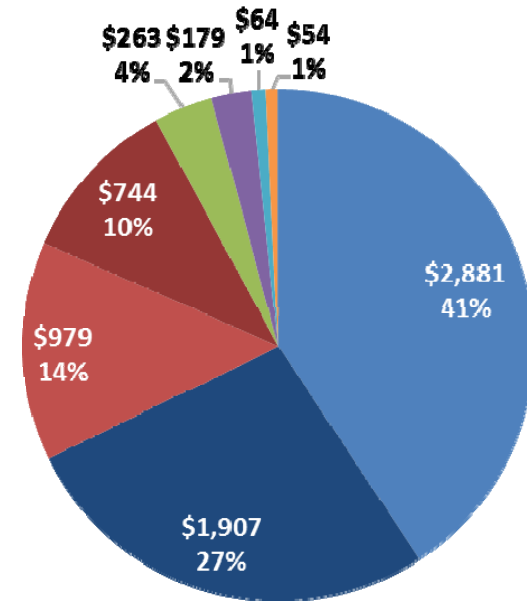
Water and Sewer Utility Total Overview – FY 2017

Total FY 2017 Revenue Budget (in thousands)



- Fixed Charge Revenue
- Unit Rate Revenue
- Availability Fee Revenue
- Miscellaneous Non-Rate Revenue

Total FY 2017 Expense Budget (in thousands)



- Staff
- Plants
- Other
- Pump Stations
- Debt Service
- Cash Funded Capital
- Wells
- Meter Reading

Total Revenues – Total Expenses = Total System Cash Flow (in thousands) : \$8,633 – \$7,071 = \$1,562

Water and Sewer Utility Projected Capital Investment Needs

Water Projects	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Total
Tank Painting	\$300,000					\$300,000
Water Line Replacement on N 21st Street	\$6,262					\$6,262
Reprogram PLC at Wells	\$150,000					\$150,000
Hirst Wells Rehabilitation	\$60,379					\$60,379
New Elevated Water Tank				\$95,000		\$95,000
Water Treatment Plant Improvements			\$50,000	\$672,500	\$485,000	\$1,207,500
Intake Structure for Hirst Reservoir			\$143,000	\$563,500		\$706,500
N Maple Avenue Waterline		\$727,900				\$727,900
Consolidated Well Treatment Facility				\$50,000	\$3,000,000	\$3,050,000
Holly Lane Water Main Replacement				\$175,000		\$175,000
Allder School Road Water Main Replacement	\$150,000					\$150,000
LVSC Water Main Replacement				\$218,000		\$218,000
12th Street Water Main Replacement			\$64,062	\$290,120		\$354,182
Total Water CIP	\$666,641	\$727,900	\$257,062	\$2,064,120	\$3,485,000	\$7,200,723
Cash Funded	\$544,000	\$727,900	\$50,000	\$ -	\$ -	\$1,321,900
Debt Funded	\$122,641	\$ -	\$207,062	\$2,064,120	\$3,485,000	\$5,878,823

*Note: FY 2017 is not new debt, it has already been funded with an existing bond issue.

Water and Sewer Utility Projected Capital Investment Needs

Sewer Projects	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Total
East End Pump Station	\$200,000					\$200,000
West End Pump Station Improvement			\$375,000	\$350,000		\$725,000
Replacement Membranes				\$2,010,000		\$2,010,000
Total Sewer CIP	\$200,000	\$ -	\$375,000	\$2,360,000	\$ -	\$2,935,000
Cash Funded	\$200,000	\$ -	\$ -	\$ -	\$ -	\$200,000
Debt Funded	\$ -	\$ -	\$375,000	\$2,360,000	\$ -	\$2,735,000

Water and Sewer Utility Projected Availabilities by Project

Project	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Total
<u>Commercial / Industrial</u>						
Catocin Corner	4 - 3/4"	1 - 1"	2 - 3/4"	2 - 1"		9
Mayfair	2 - 5/8"	6 - 5/8"				8
Vineyard Square		3 - 5/8"				3
Daycare		1 - 3/4"				1
Shea's Warehouse		1 - 5/8"				1
Browning Office			1 - 3/4"			1
Chapman			2 - 3/4"			2
O'Toole				1 - 5/8", 1 - 3/4", 1 - 2"		3
Shoppes at Main & Maple					1 - 3/4"	1
Stupar					2 - 3/4"	2
<u>Residential</u>						
Infill Residential	3 - 5/8"					3
Mayfair	50- 5/8"	50- 5/8"	50 - 5/8"	57- 5/8"		207
Village Case	8 - 5/8"	8 - 5/8"	10 - 5/8"			26
Morgan Meadows		5- 5/8"				5
Vineyard Square		1 - 2"				1
Ball Property			10 - 5/8"	9 - 5/8"		19
Purcellville Gateway			6 - 5/8"			6
Stupar					Unknown	Unknown
Total Availability Revenue	\$3,267,784	\$4,025,090	\$3,669,935	\$3,859,351	\$213,093	\$15,035,253

Water and Sewer Utility

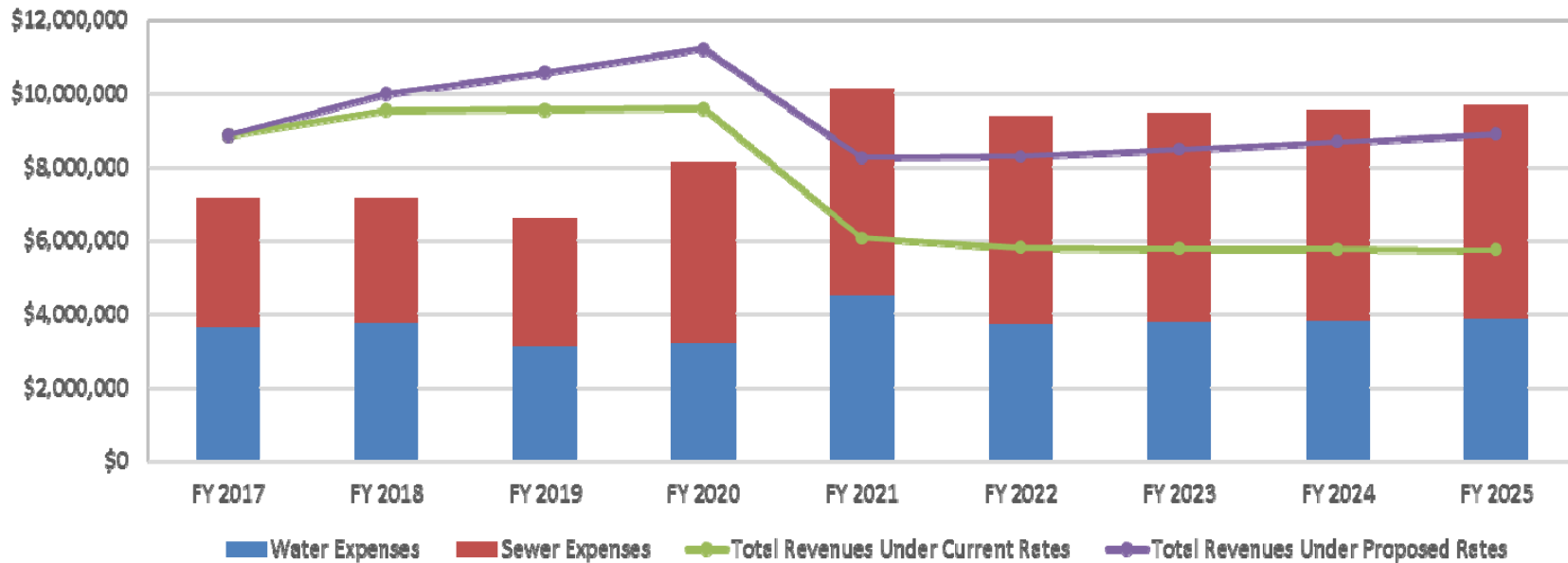
Scenario #1 – Baseline (90% Debt CIP Funding)

Assumptions:

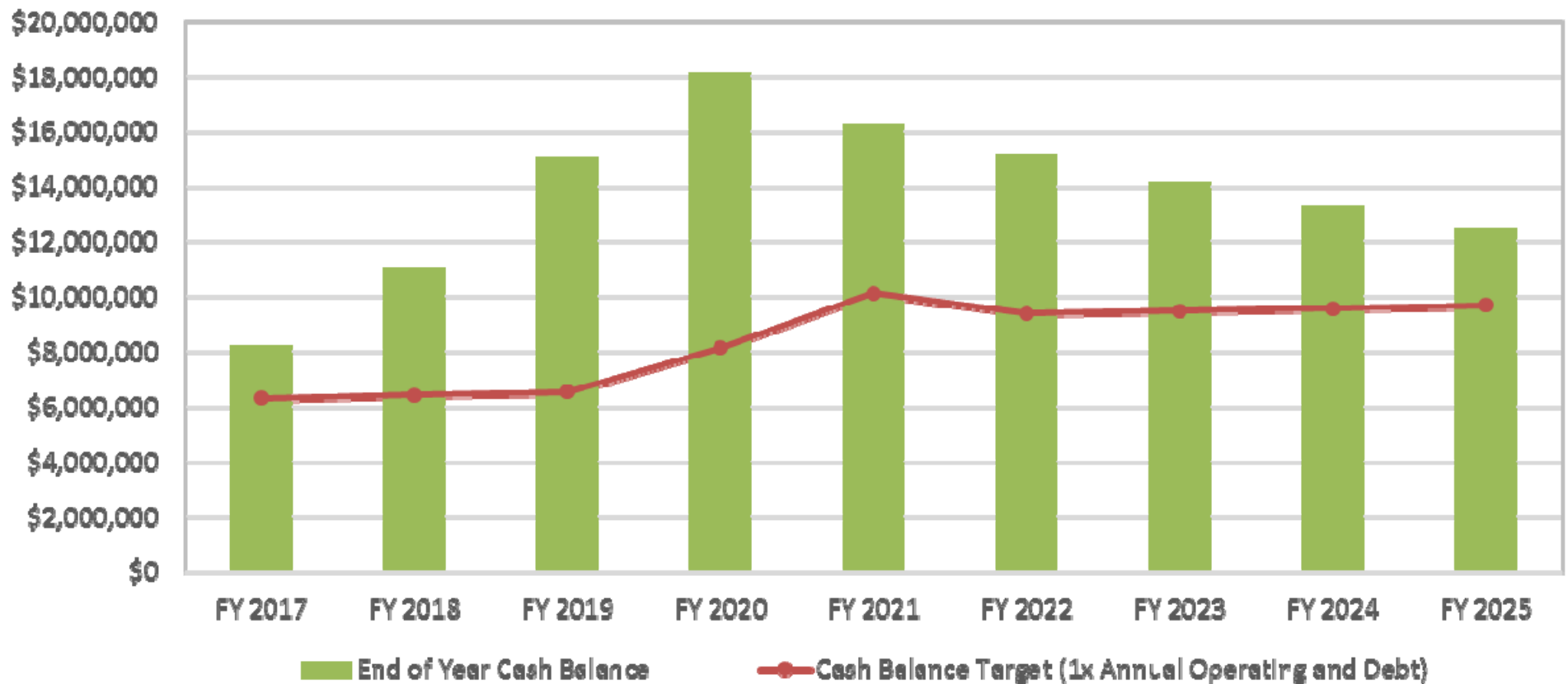
- FY 2017 Budget, increased 2.1% annually
- No Debt Restructuring

- Current Projection of Availabilities sold (Including Mayfair)
- 90% Debt CIP Funding

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Availabilities Sold	69	85	84	82	5	-	-	-	-	324
Water Rate Increase	3.0%	7.0%	7.0%	7.0%	7.0%	3.0%	3.0%	3.0%	3.0%	47.5%
Sewer Rate Increase	5.0%	7.0%	7.0%	7.0%	7.0%	3.0%	3.0%	3.0%	3.0%	47.5%



Scenario #1 – Baseline (90% Debt CIP Funding) Combined Water and Sewer Cash Balance



Water and Sewer Utility Scenario #1 – Takeaways

- The Baseline Scenario #1 shows the same rate increases that were presented as a part of the FY 2017 Budget presentation.
- Since that presentation, two sets of assumptions have evolved:
 - The number of projected availabilities sold over the next five years has increased
 - CIP projects have been updated for timing and/or cost
- The impact of these changes has led to results that would allow the Town to reduce the need to issue debt for certain capital projects, which results in Scenario #2.

Water and Sewer Utility

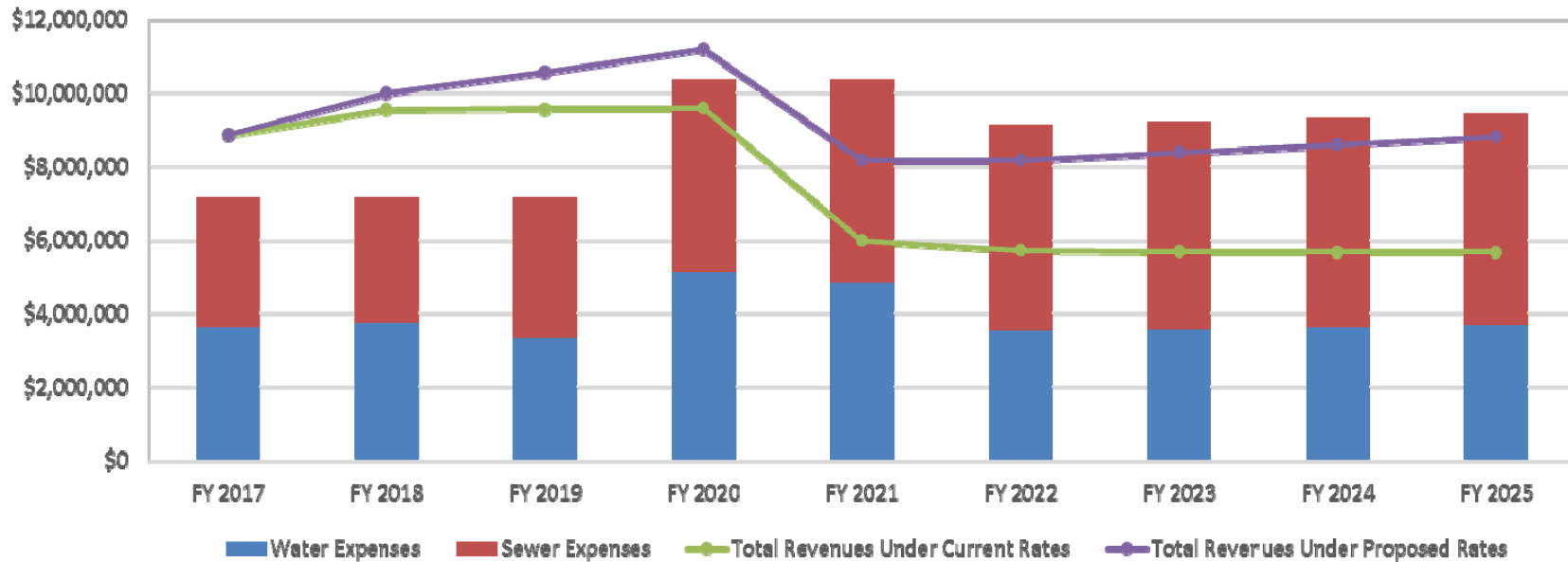
Scenario #2 – 50% Debt CIP Funding

Assumptions:

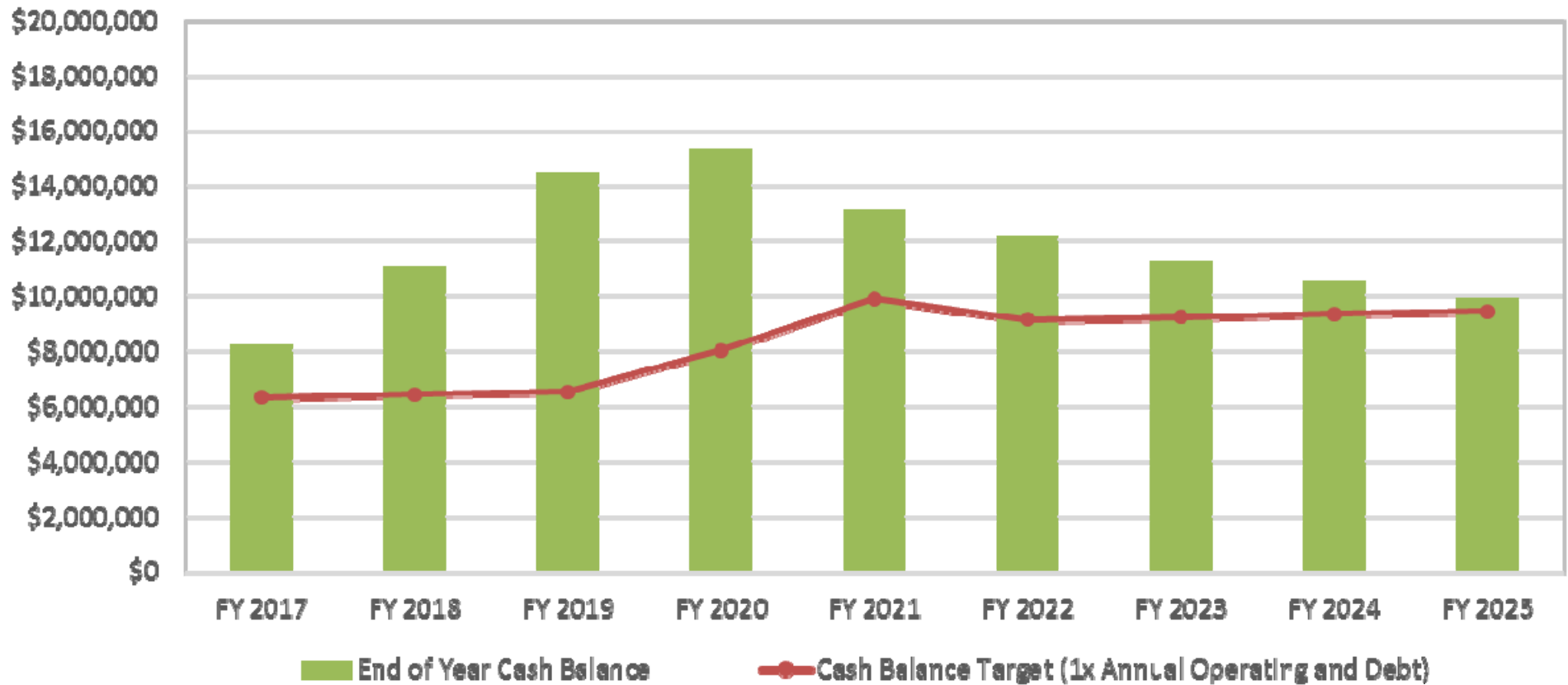
- FY 2017 Budget, increased 2.1% annually
- No Debt Restructuring

- Current Projection of Availabilities sold (Including Mayfair)
- **50% Debt Funded CIP**

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Availabilities Sold	69	85	84	82	5	-	-	-	-	324
Water Rate Increase	3.0%	7.0%	7.0%	7.0%	7.0%	3.0%	3.0%	3.0%	3.0%	47.5%
Sewer Rate Increase	5.0%	7.0%	7.0%	7.0%	7.0%	3.0%	3.0%	3.0%	3.0%	47.5%



Scenario #2 – 50% Debt CIP Funding Combined Water & Sewer Cash Balance



Water and Sewer Utility Scenario #2 – Takeaways

- Scenario #2 shows the impact of reducing the future debt burden on the Town's utility fund by using cash reserves to finance a larger portion of the capital improvement plan.
- However, even with more aggressive cash funding of the CIP (i.e. lower debt), water and sewer user rates are not able to fund the ongoing operating and capital needs of the systems in the years in which Availability Fee revenues decrease (i.e. FY 2021).
- Without pursuing other options, additional user rate increases will be necessary to maintain the Town's policy of 100% of annual operating and debt expenses in the utility fund's cash reserves beyond FY 2025.

Scenario #3

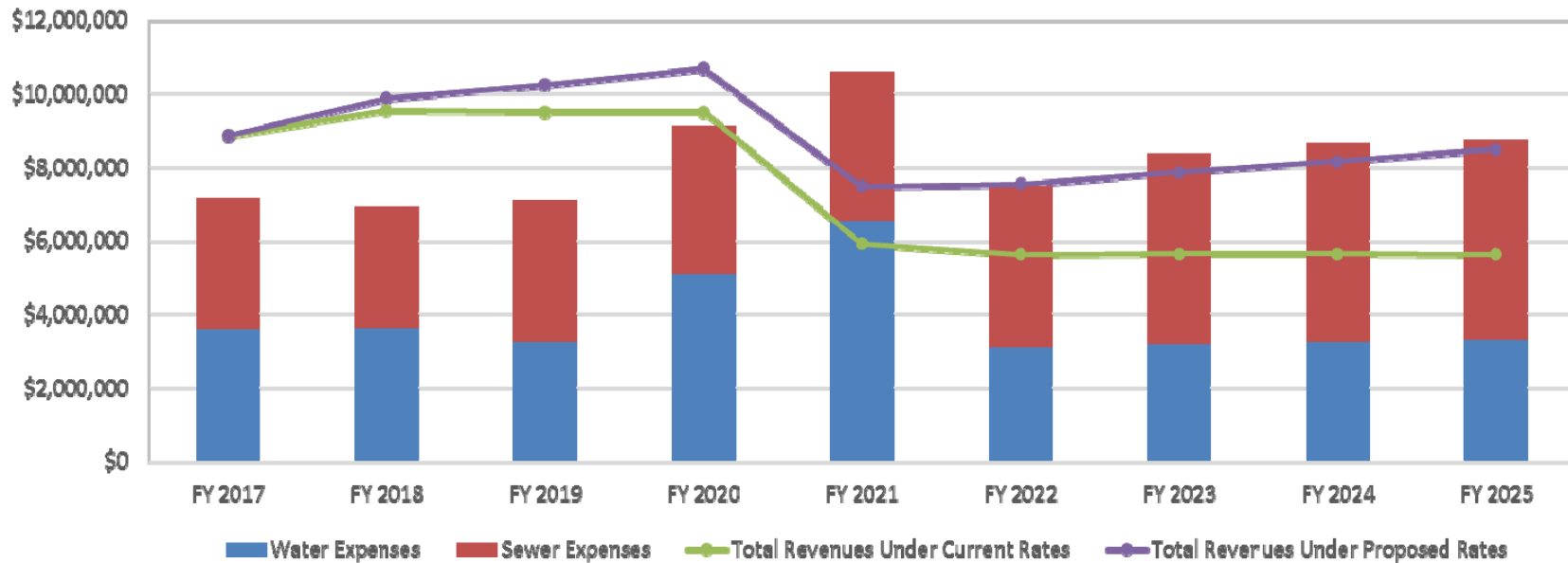
Restructure Utility Debt & 20% Debt CIP Funding

Assumptions:

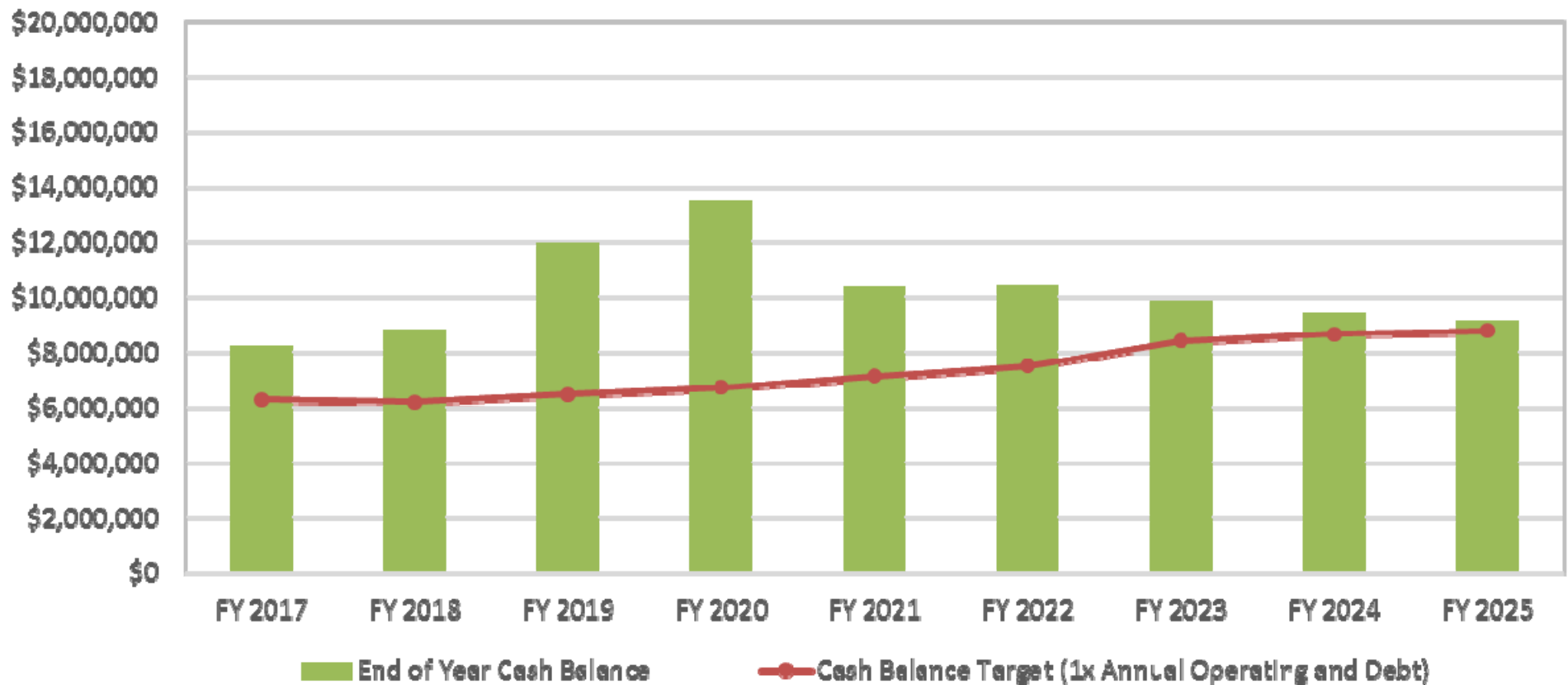
- FY 2017 Budget, increased 2.1% annually
- Restructure Utility Fund Debt

- Current Projection of Availabilities sold (Including Mayfair)
- 20% Debt Funded CIP

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Availabilities Sold	69	85	84	82	5	-	-	-	-	324
Water Rate Increase	3.0%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	42.2%
Sewer Rate Increase	5.0%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	42.2%



Scenario #3 – Restructure Utility Debt & 20% Debt CIP Funding Combined Cash Balance



Water and Sewer Utility

Scenario #3 – Takeaways

- Scenario #3 allows the Town to both minimize user rate increases as compared to Scenarios #1 and #2, and fund all but 20% of the currently planned CIP with cash reserves while maintaining its minimum cash balance policy of 100% of annual operating and debt expenses.
- Scenario #3 also allows the Town to spread rate increases more evenly over time resulting in less up-front impact versus Scenarios #1 and #2.

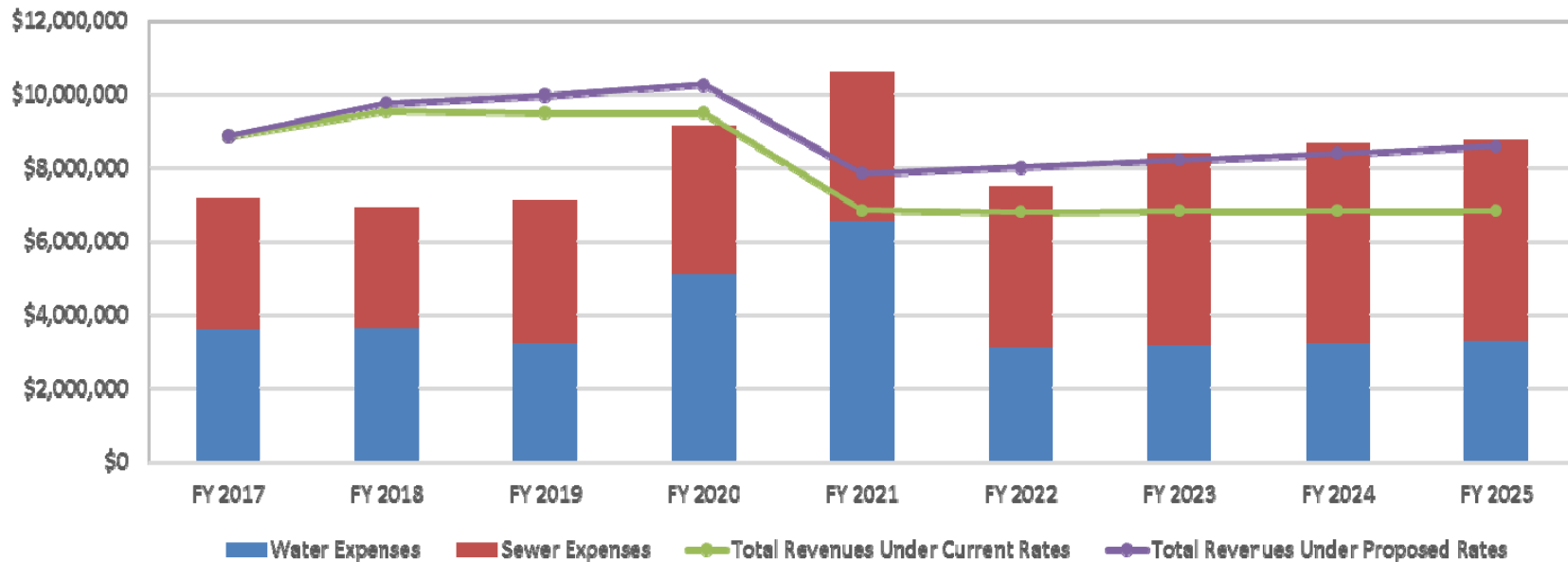
Water and Sewer Utility Scenario #4 – Growth Impact

Assumptions:

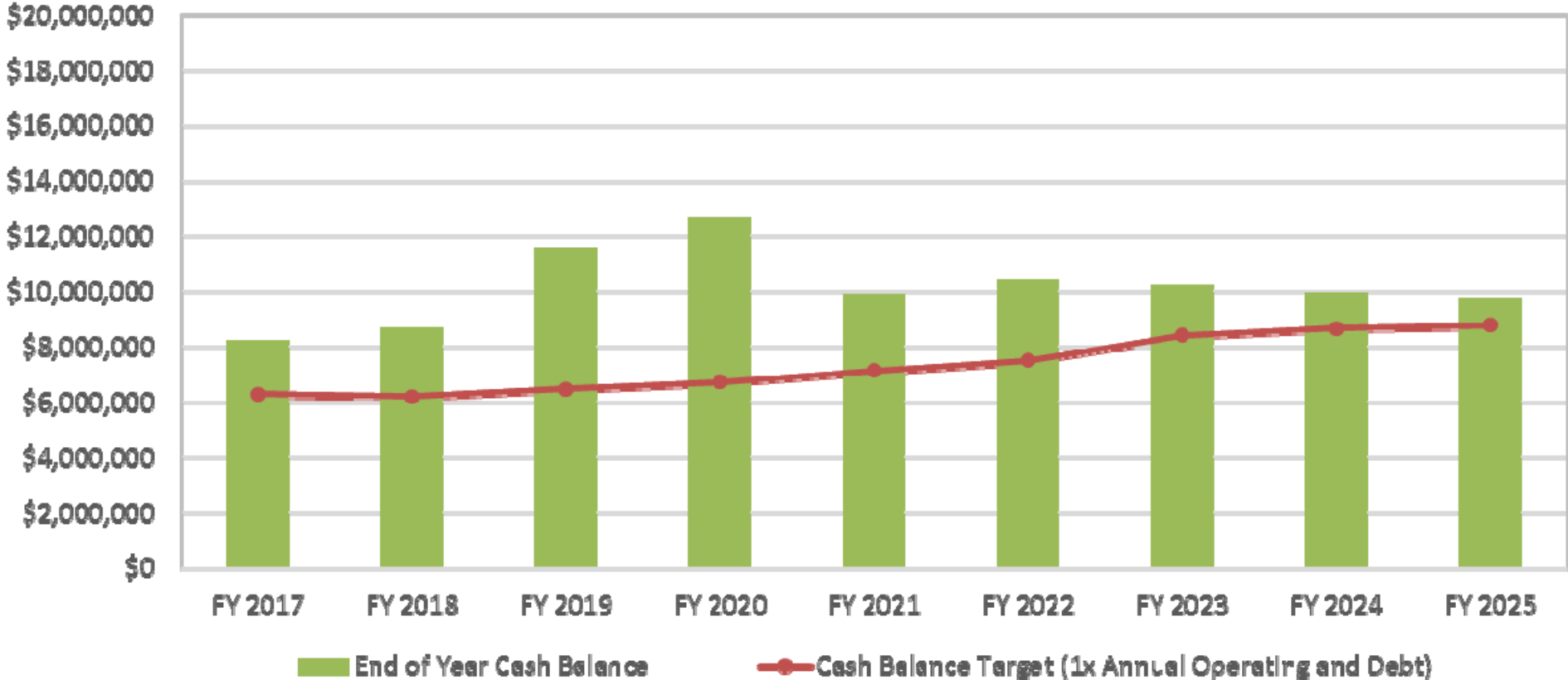
- FY 2017 Budget, increased 2.1% annually
- **Restructure Utility Fund Debt**

- **Additional Availabilities Sold**
- **20% Debt Funded CIP**

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Availabilities Sold	69	85	84	82	25	25	25	25	25	444
Water Rate Increase	3.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	17.2%
Sewer Rate Increase	5.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	17.2%



Scenario #4 – Growth Impact Combined Cash Balance



Water and Sewer Utility Scenario # 4 - Takeaways

- For discussion purposes only, Scenario #4 assumes 25 new connections per year for FY 2021 through 2025 (125 Total).
- The Town has the capacity to add 125 connections without the need to spend additional dollars on water or sewer capacity expansion.
- The variables that have the greatest impact in bringing the utility fund into structural balance are:
 - Increase water and sewer user rates to make up for the projected termination of Availability Fee revenues.
 - Increase Availability Fee revenues through additional connections beyond those currently planned while also adjusting rates to bring the fund into balance.

Water and Sewer Utility

Additional Considerations – “Green Box” Revenue

Additional “Green Box” Revenue

- What impact would an additional \$100,000 yearly non-rate revenue have on the projections (50/50 Water/Sewer)?

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Additional Water Revenue	\$ -	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$400,000
Additional Sewer Revenue	\$ -	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$400,000

- Baseline and Scenario 2
 - Water/Sewer Cumulative rate increase FY 2018 through FY 2025: **47.5%**
 - Adjusted Water/Sewer Cumulative rate increase FY 2018 through FY 2025: **45.3%**
 - **Difference: (-2.2%) in aggregate over the eight year period.**
- Scenario 3:
 - Water/Sewer Cumulative rate increase FY 2018 through FY 2025: **42.2%**
 - Adjusted Water/Sewer Cumulative rate increase FY 2018 through FY 2025: **40.0%**
 - **Difference: a (-2.2%) in aggregate over the eight year period.**

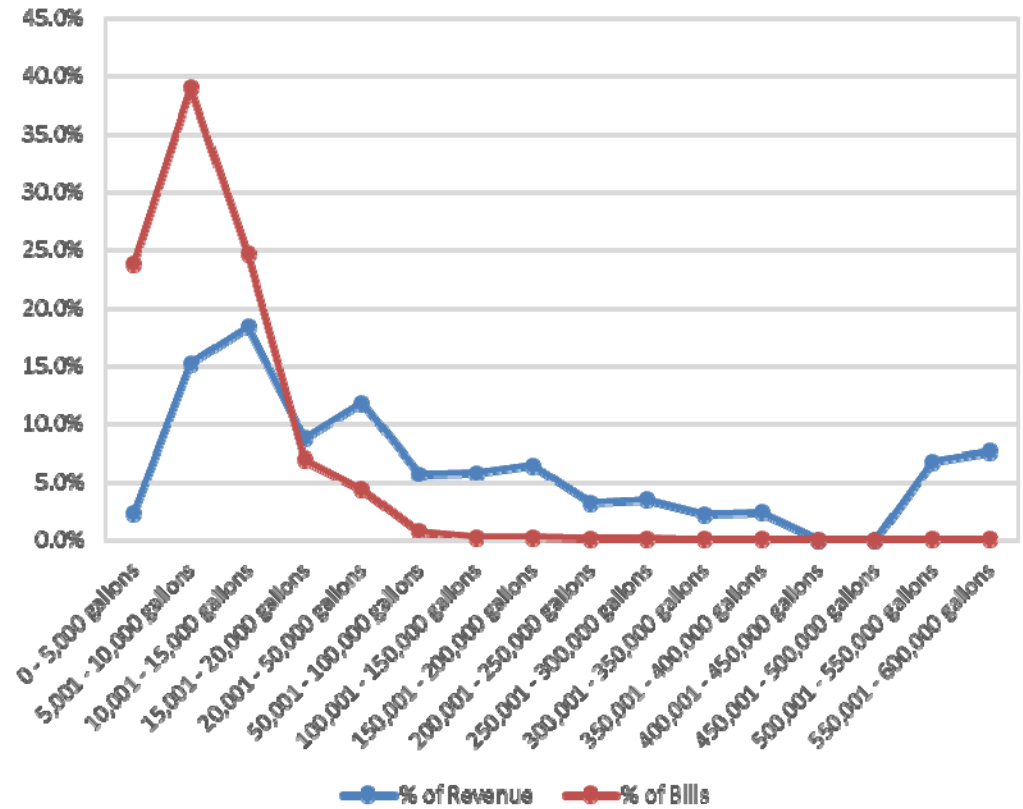
**Water and Sewer Utility
Opportunities to Revise / Simplify Water Rate Structure**

Water Rate Structure Discussion

Current Water Rates

Where is the variable water rate revenue coming from?

Rate Tier	% of Bills	% Of Revenue
0 - 5,000 gallons	23.76%	2.3%
5,001 - 10,000 gallons	38.91%	15.2%
10,001 - 15,000 gallons	24.60%	18.4%
15,001 - 20,000 gallons	6.93%	8.7%
20,001 - 50,000 gallons	4.38%	11.8%
50,001 - 100,000 gallons	0.73%	5.7%
100,001 - 150,000 gallons	0.20%	5.8%
150,001 - 200,000 gallons	0.20%	6.4%
200,001 - 250,000 gallons	0.09%	3.2%
250,001 - 300,000 gallons	0.09%	3.5%
300,001 - 350,000 gallons	0.04%	2.2%
350,001 - 400,000 gallons	0.04%	2.4%
400,001 - 450,000 gallons	0.00%	0.0%
450,001 - 500,000 gallons	0.00%	0.0%
500,001 - 550,000 gallons	0.04%	6.8%
550,001 - 600,000 gallons	0.04%	7.6%
Over 600,000 gallons	0.00%	0.0%

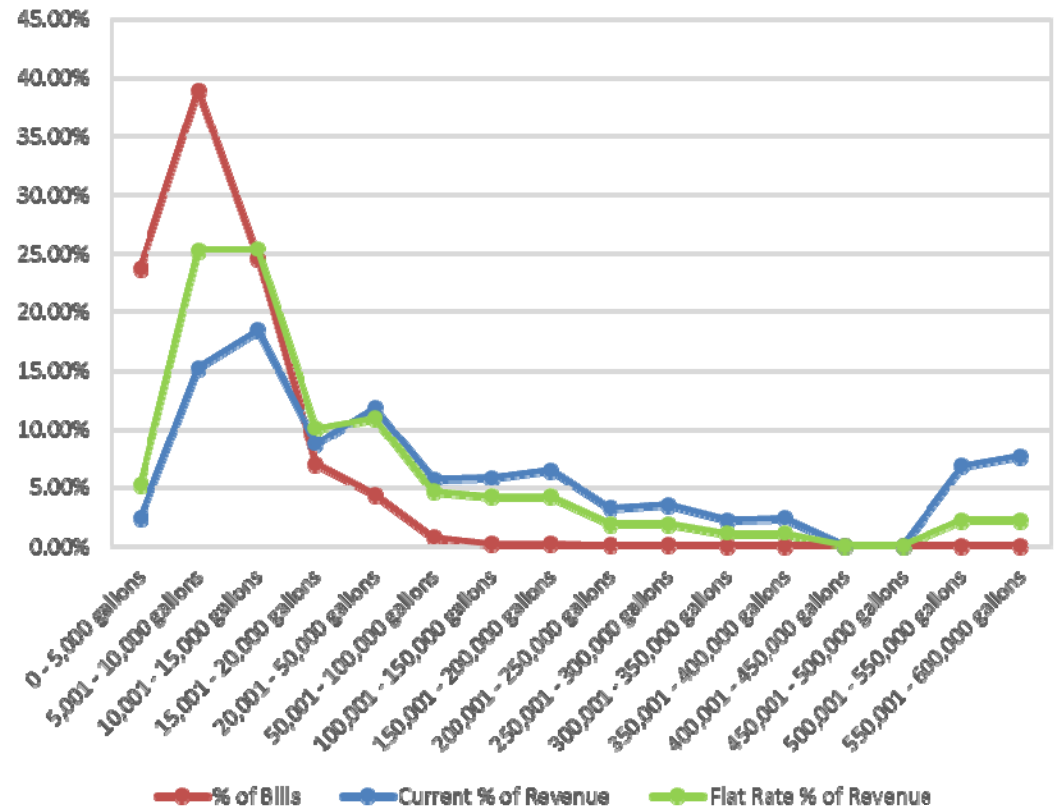


*Note: Data based on actual billing data from the billing cycle ending August 2016.

Flat Water Rate Option

What if the Town went to a flat rate for all usage (\$10.31 per 1,000 gallons)?

Rate Tier	% of Bills	Flat Rate % Of Revenue
0 - 5,000 gallons	23.76%	5.2%
5,001 - 10,000 gallons	38.91%	25.3%
10,001 - 15,000 gallons	24.60%	25.3%
15,001 - 20,000 gallons	6.93%	10.1%
20,001 - 50,000 gallons	4.38%	10.9%
50,001 - 100,000 gallons	0.73%	4.6%
100,001 - 150,000 gallons	0.20%	4.2%
150,001 - 200,000 gallons	0.20%	4.2%
200,001 - 250,000 gallons	0.09%	1.8%
250,001 - 300,000 gallons	0.09%	1.8%
300,001 - 350,000 gallons	0.04%	1.1%
350,001 - 400,000 gallons	0.04%	1.1%
400,001 - 450,000 gallons	0.00%	0.0%
450,001 - 500,000 gallons	0.00%	0.0%
500,001 - 550,000 gallons	0.04%	2.2%
550,001 - 600,000 gallons	0.04%	2.2%
Over 600,000 gallons	0.00%	0.0%



*Note: Data based on actual billing data from the billing cycle ending August 2016.

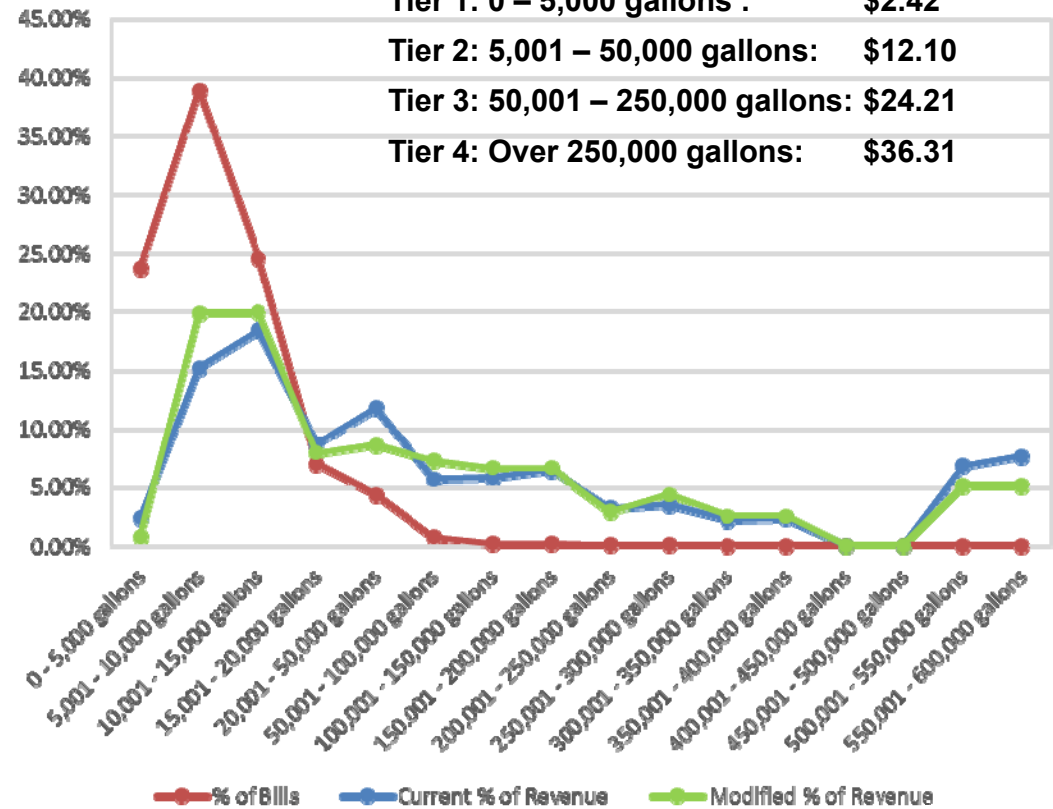
Modified Tier Rates Option

What if the Town went to a modified tier structure?

Rate Tier	% of Bills	Modified Tier % Of Revenue
0 - 5,000 gallons	23.76%	0.8%
5,001 - 10,000 gallons	38.91%	19.8%
10,001 - 15,000 gallons	24.60%	19.9%
15,001 - 20,000 gallons	6.93%	7.9%
20,001 - 50,000 gallons	4.38%	8.6%
50,001 - 100,000 gallons	0.73%	7.2%
100,001 - 150,000 gallons	0.20%	6.6%
150,001 - 200,000 gallons	0.20%	6.6%
200,001 - 250,000 gallons	0.09%	2.9%
250,001 - 300,000 gallons	0.09%	4.3%
300,001 - 350,000 gallons	0.04%	2.5%
350,001 - 400,000 gallons	0.04%	2.5%
400,001 - 450,000 gallons	0.00%	0.0%
450,001 - 500,000 gallons	0.00%	0.0%
500,001 - 550,000 gallons	0.04%	5.1%
550,001 - 600,000 gallons	0.04%	5.1%
Over 600,000 gallons	0.00%	0.0%

Sample Structure:

- Tier 1: 0 – 5,000 gallons : \$2.42
- Tier 2: 5,001 – 50,000 gallons: \$12.10
- Tier 3: 50,001 – 250,000 gallons: \$24.21
- Tier 4: Over 250,000 gallons: \$36.31



*Note: Data based on actual billing data from the billing cycle ending August 2016.

Water Rates

Opportunities to Revise / Simplify Rate Structure

Variable Water Bill (gallons per bi-monthly cycle)	Current	Flat Rate	Modified Tiers
Average (9,200)	\$67.22	\$94.85	\$62.92
15,000	\$124.99	\$154.65	\$133.10
25,000	\$261.46	\$257.75	\$254.10
50,000	\$640.37	\$515.50	\$556.60
250,000	\$4,783.64	\$2,577.50	\$5,398.60
500,000	\$12,689.52	\$5,155.00	\$14,476.10

Flat Rate Structure: \$10.31 per 1,000 gallons

Sample Modified Tier Structure:

Tier 1: 0 – 5,000 gallons : \$2.42

Tier 2: 5,001 – 50,000 gallons: \$12.10

Tier 3: 50,001 – 250,000 gallons: \$24.21

Tier 4: Over 250,000 gallons: \$36.31

Note: All options are revenue neutral