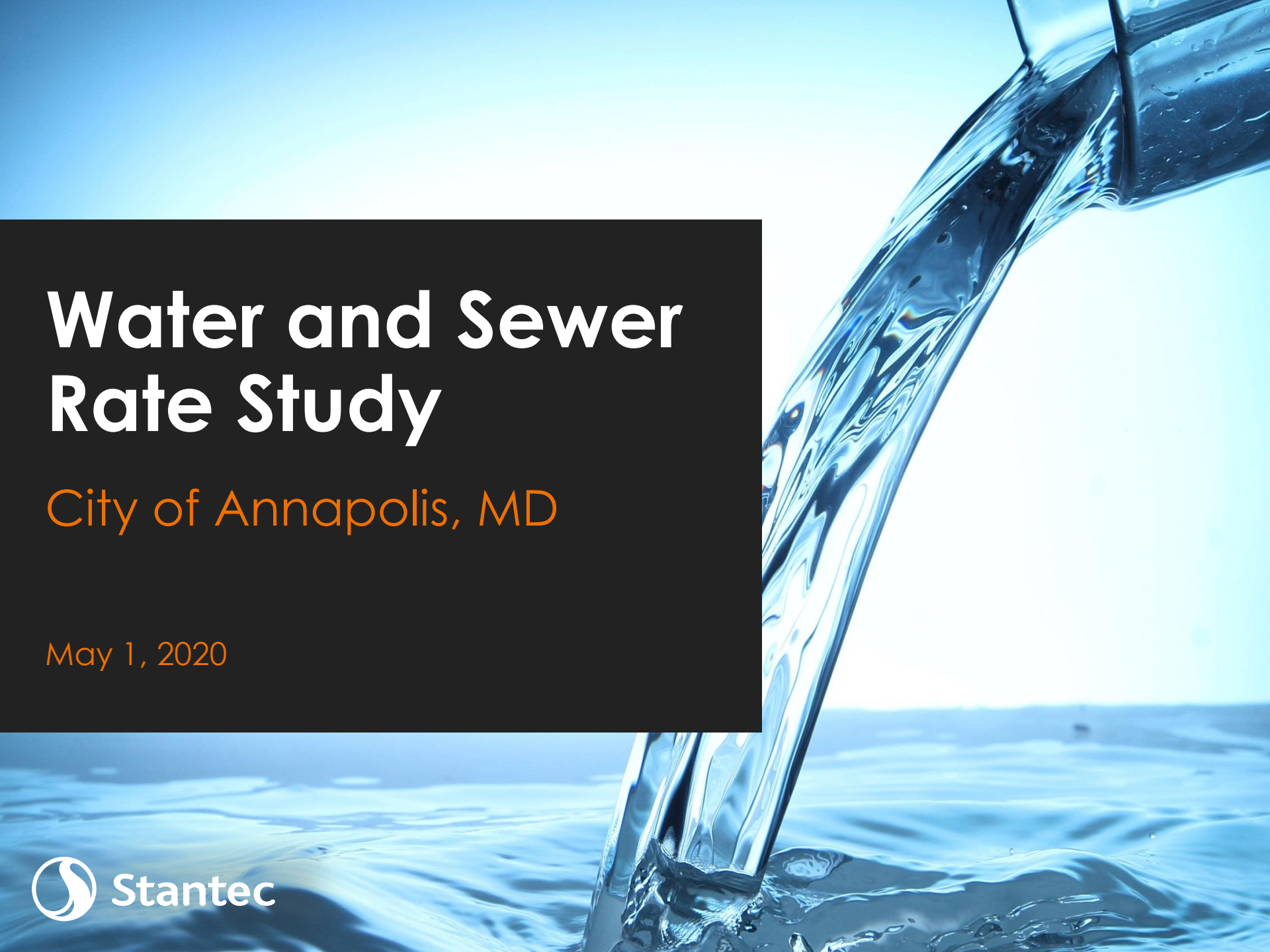


Water and Sewer Rate Study

City of Annapolis, MD

May 1, 2020

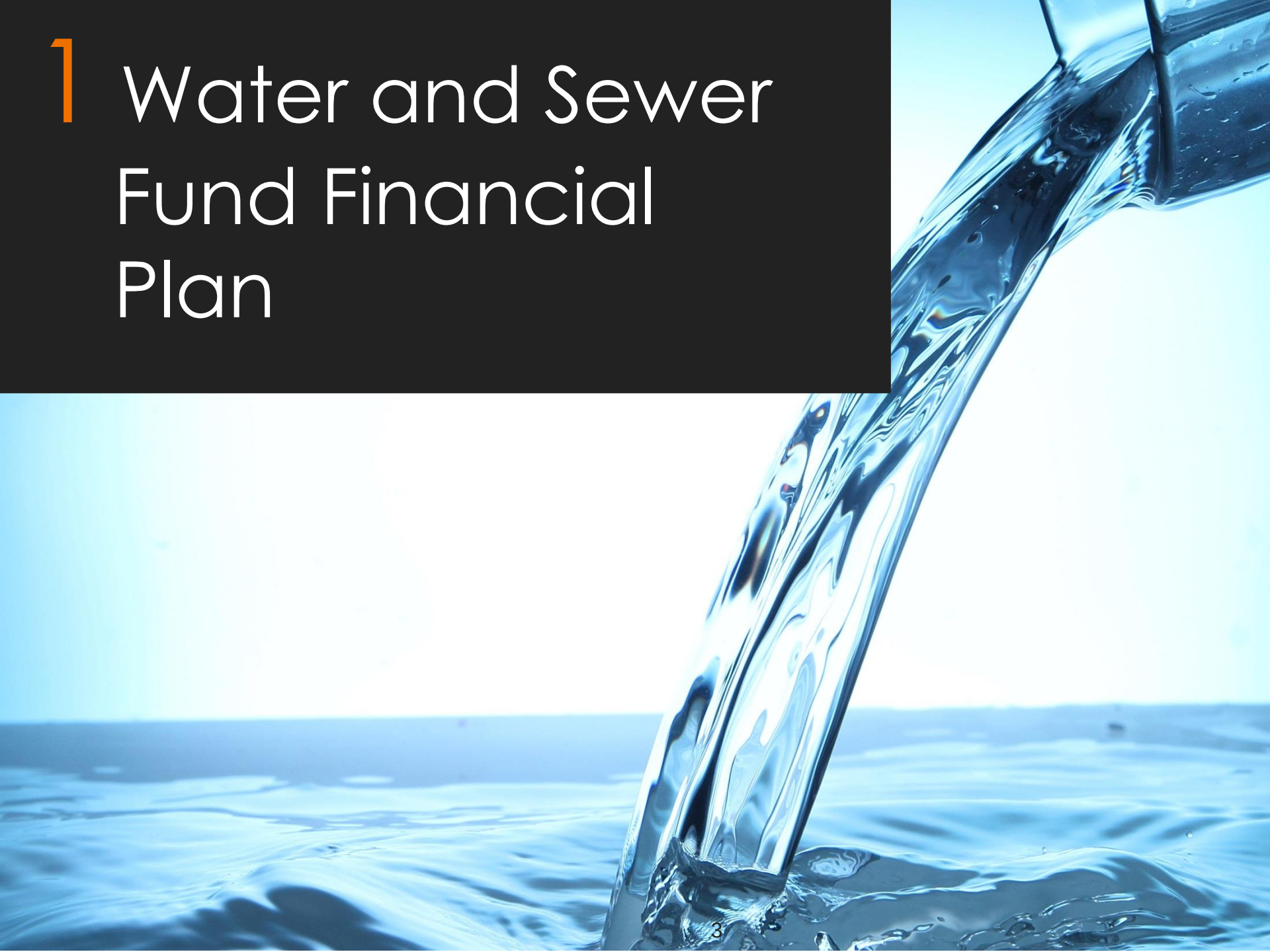
Stantec

Agenda

1. Water and Sewer Fund Financial Plan
2. Rates and Customer Impacts
3. Comparisons
4. Capital Charges

Stantec

1 Water and Sewer Fund Financial Plan



Financial Plan Development

1) Revenue Requirements

- Expenses based on FY21 budget escalated at line item level using cost indices and staff input
- Existing debt and capital improvement plan (CIP)

2) Revenue Forecast

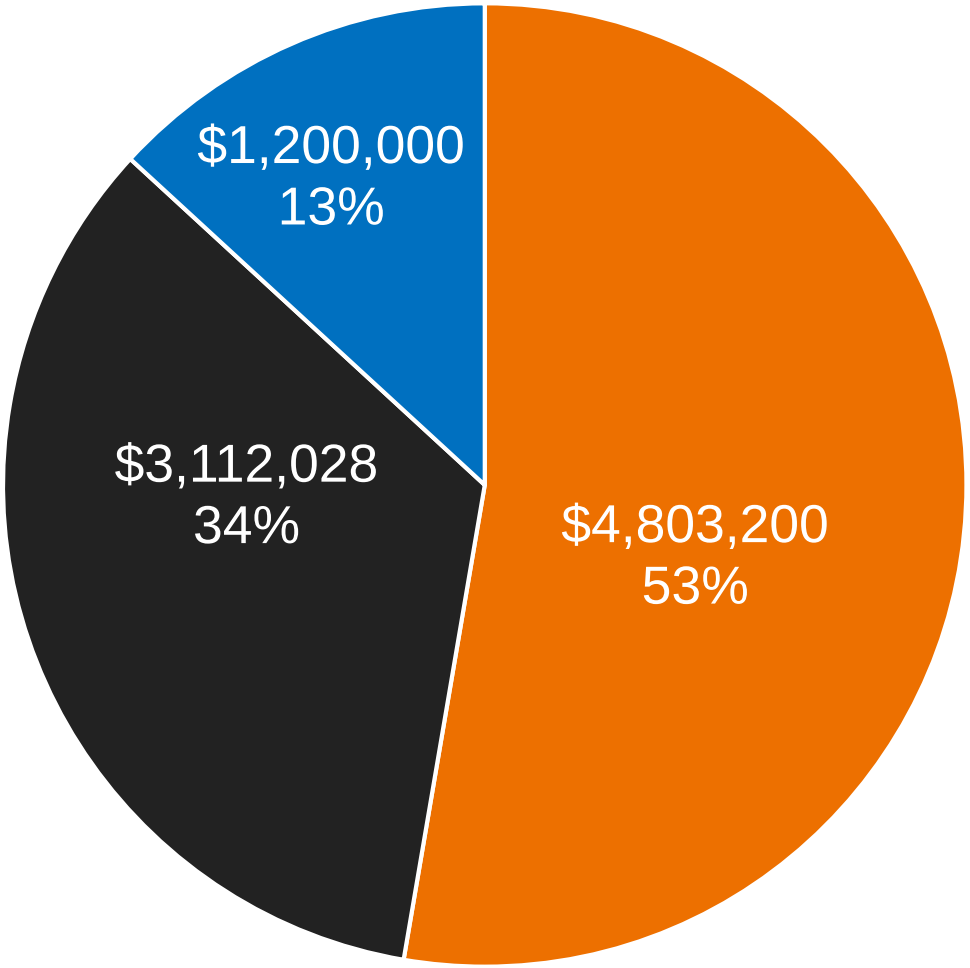
- Forecast of system demands and customer counts
- Development of revenue forecast with existing rates and fees

3) Evaluate Key Metrics

- Establish/maintain minimum reserve balances
- Meet debt service requirements

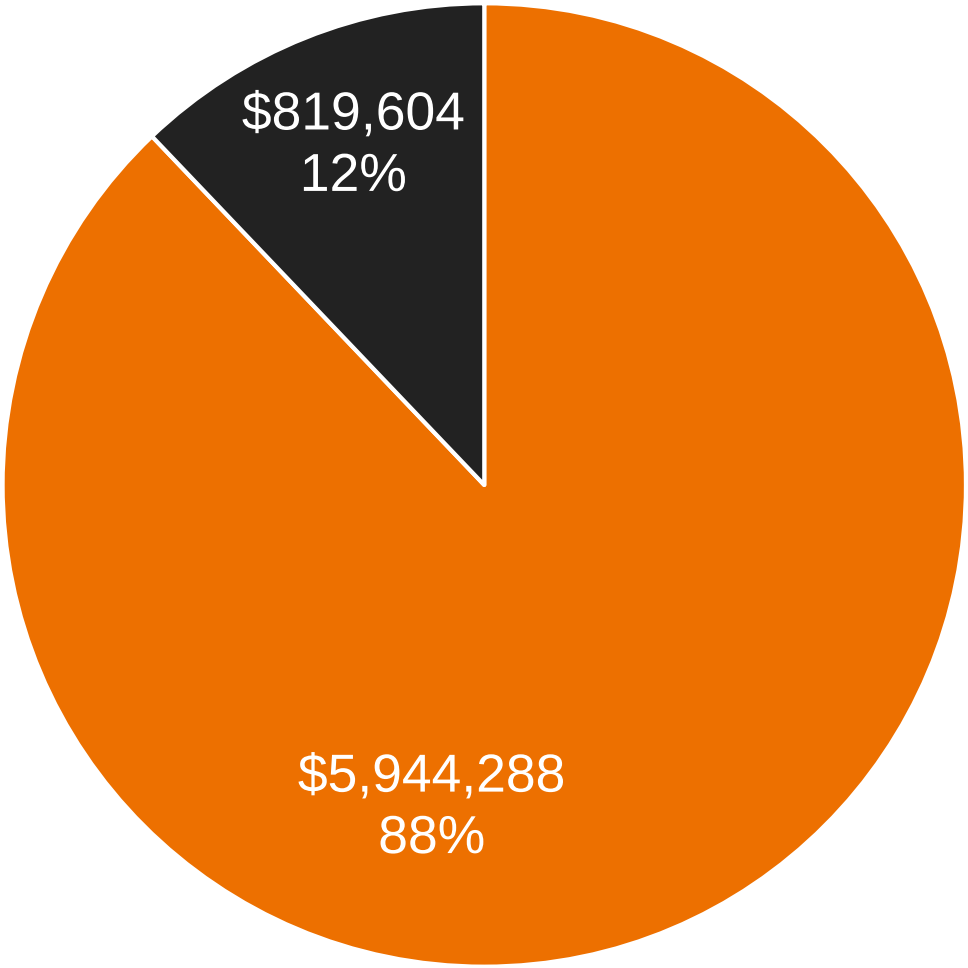
Stantec

FY21 Water Revenue Requirements



Stantec

FY21 Sewer Revenue Requirements



Stantec

Water Revenue Sufficiency

	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
Total Operating Expenses	**$4.80**	**$4.94**	**$5.09**	**$5.24**	**$5.39**	**$5.55**	**$5.71**	**$5.88**	**$6.05**	**$6.22**
Capital Expenses										
Pay-Go Funded Capital	$1.20	$1.47	$1.77	$1.49	$1.47	$1.47	$1.47	$1.47	$1.47	$1.47
Existing Debt Service	$3.11	$3.34	$3.33	$3.32	$3.32	$3.31	$3.31	$3.31	$3.30	$3.25
Projected Debt Service	$0.00	$0.20	$0.45	$0.74	$0.99	$1.24	$1.48	$1.73	$1.98	$2.22
Total Capital Expenses	**$4.31**	**$5.01**	**$5.55**	**$5.55**	**$5.78**	**$6.02**	**$6.26**	**$6.51**	**$6.75**	**$6.94**
Total Water Expenses	**$9.11**	**$9.95**	**$10.64**	**$10.79**	**$11.17**	**$11.57**	**$11.97**	**$12.39**	**$12.80**	**$13.16**
Current Water Revenues	**$8.04**	**$8.00**	**$7.97**	**$7.94**	**$7.90**	**$7.87**	**$7.83**	**$7.80**	**$7.76**	**$7.73**

**Revenues at current rates with no increases*
***Assumes capital funded with ~ 30% pay-go / 70% debt*

Stantec

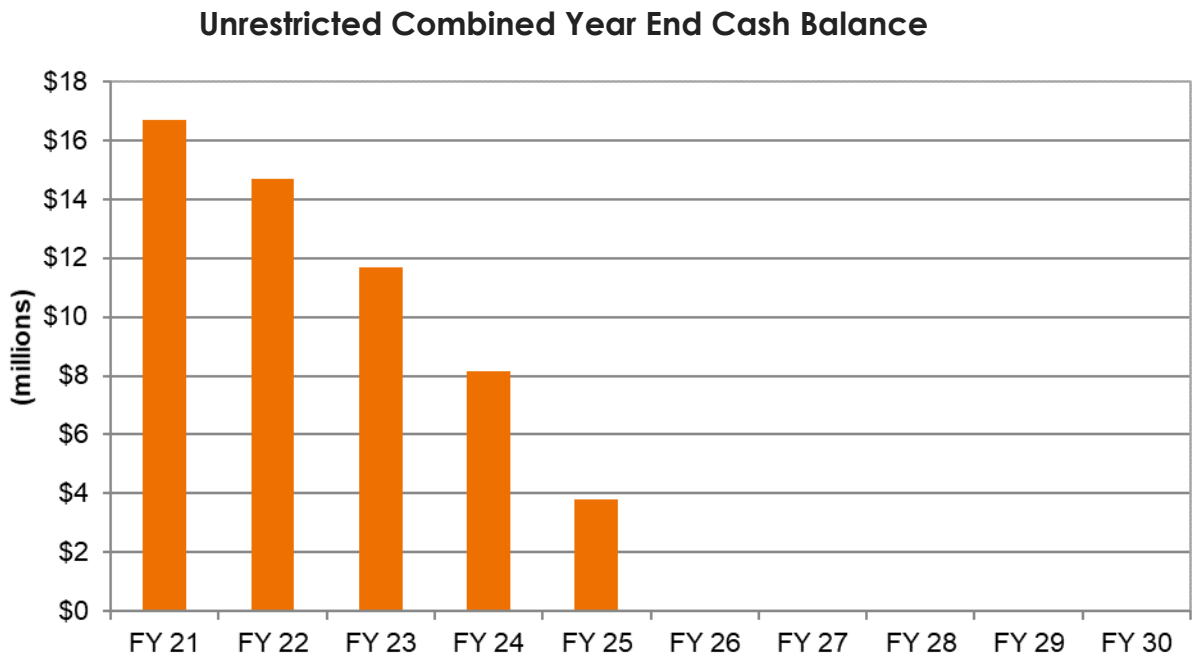
Sewer Revenue Sufficiency

	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
Total Operating Expenses	$5.94	$6.29	$6.50	$6.72	$6.93	$7.19	$7.45	$7.73	$8.01	$8.31
Capital Expenses										
Pay-Go Funded Capital	$0.00	$0.68	$0.68	$0.68	$0.68	$0.68	$0.68	$0.68	$0.68	$0.68
Existing Debt Service	$0.82	$0.88	$0.88	$0.88	$0.87	$0.88	$0.87	$0.87	$0.88	$0.91
Projected Debt Service	$0.00	$0.04	$0.16	$0.59	$0.71	$0.82	$0.93	$1.05	$1.16	$1.27
Total Capital Expenses	**$0.82**	**$1.60**	**$1.72**	**$2.15**	**$2.26**	**$2.38**	**$2.48**	**$2.60**	**$2.72**	**$2.86**
Total Sewer Expenses	**$6.76**	**$7.89**	**$8.22**	**$8.87**	**$9.19**	**$9.57**	**$9.93**	**$10.33**	**$10.73**	**$11.17**
Current Sewer Revenues	**$8.32**	**$8.29**	**$8.25**	**$8.21**	**$8.18**	**$8.14**	**$8.11**	**$8.07**	**$8.04**	**$8.00**

**Revenues at current rates with no increases*
***Assumes capital funded with ~ 30% pay-go / 70% debt*

Stantec

Metrics – No Rate Increases



Debt Coverage	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
Net Income Available for Debt Service	**$5.6**	**$5.1**	**$4.6**	**$4.2**	**$3.8**	**$3.3**	**$2.8**	**$2.3**	**$1.7**	**$1.2**
Annual Debt Service	$1.8	$2.4	$2.7	$3.5	$3.8	$4.2	$4.6	$4.9	$5.2	$5.4
Debt Service Coverage (Min 1.5)	3.07	2.12	1.69	**1.21**	**0.98**	**0.78**	**0.61**	**0.46**	**0.33**	**0.22**

Stantec

Financial Plan Recommendation

Rate Adjustments	FY 21	FY 22	FY 23
Water	**4.0%**	5.0%	5.0%
Sewer	**0.0%**	2.0%	2.0%

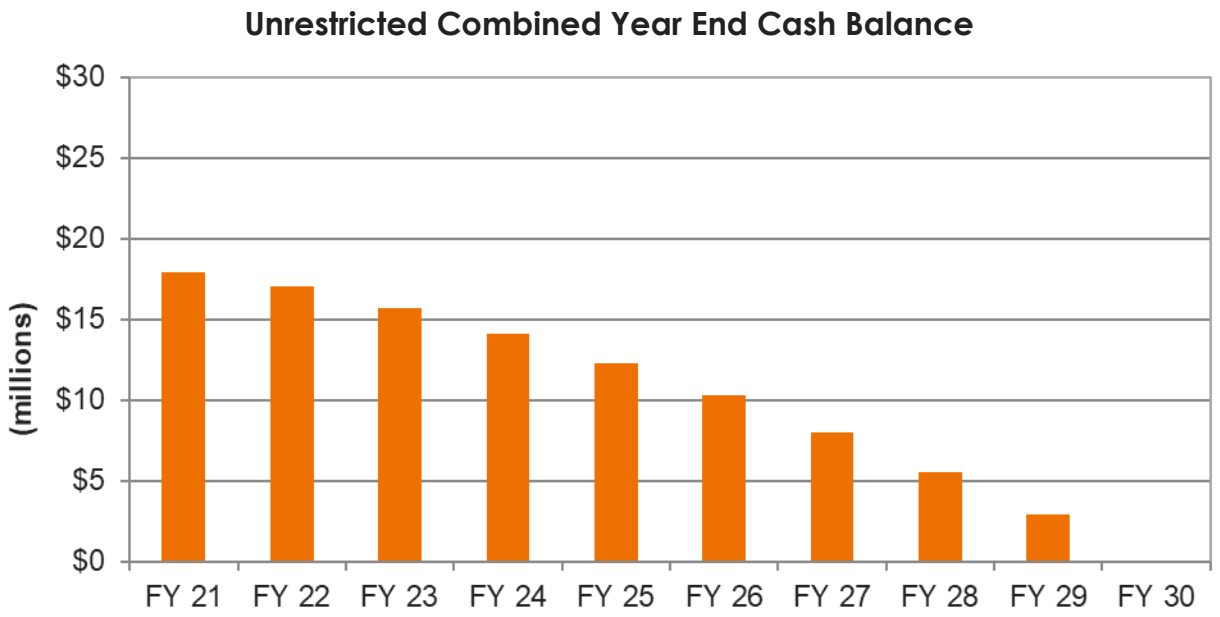
**FY 22 and 23 shown for informational purposes only*

Financial plan will allow for:

- Funding of water and sewer system operating expenses, existing debt requirements, and future capital investments
- Gradual transition to funding more capital with cash over time

Stantec

Metrics – Recommended Plan



**Assumes annual 5% increases in water rates and 2% increases in sewer rates after FY 2021*

Debt Coverage	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30
Net Income Available for Debt Service	**$5.9**	**$5.9**	**$6.0**	**$6.2**	**$6.3**	**$6.5**	**$6.6**	**$6.8**	**$6.9**	**$7.1**
Annual Debt Service	$1.8	$2.4	$2.7	$3.5	$3.8	$4.2	$4.6	$4.9	$5.2	$5.4
Debt Service Coverage (Min 1.5)	3.23	2.48	2.20	1.78	1.65	1.54	**1.45**	**1.38**	**1.33**	**1.31**

Stantec

2 Rates and Customer Impacts

Recommended FY21 Rates

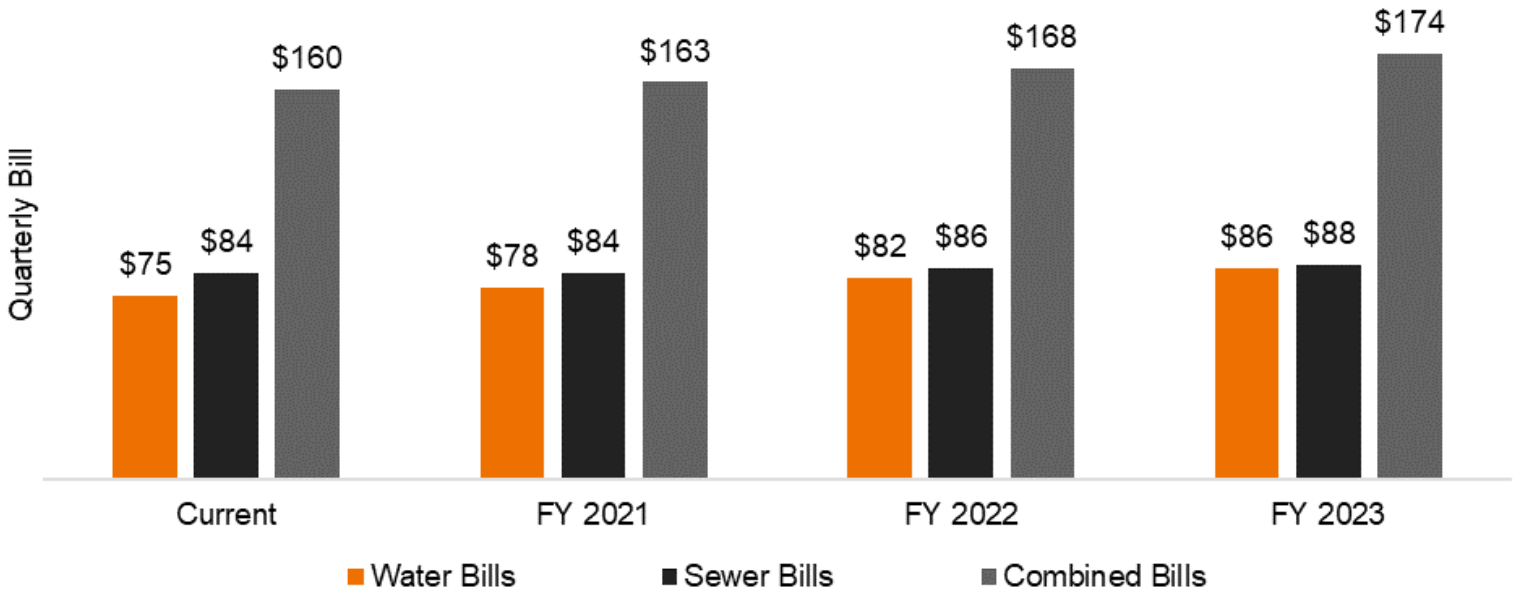
Meter Size	Water Fixed Charge	Sewer Fixed Charge*
1” or Less	$12.28	$13.44
1 ½”	$61.38	$67.21
2”	$98.21	$107.53
3”	$196.42	$215.06
4”	$306.90	$336.04
6”	$613.80	$672.08

Type	Usage Charge (per 1,000 gallons)
Residential Water	
Tier 1: 0 - 7,000 gallons	$3.87
Tier 2: 7,001 - 20,000 gallons	$7.76
Tier 3: Over 20,000 gallons	$11.62
Non-Residential Water	$5.77
Sewer Usage Rates*	$5.91
Naval Academy Usage Rates*	$5.25

**No change in sewer rates for FY21*

Stantec

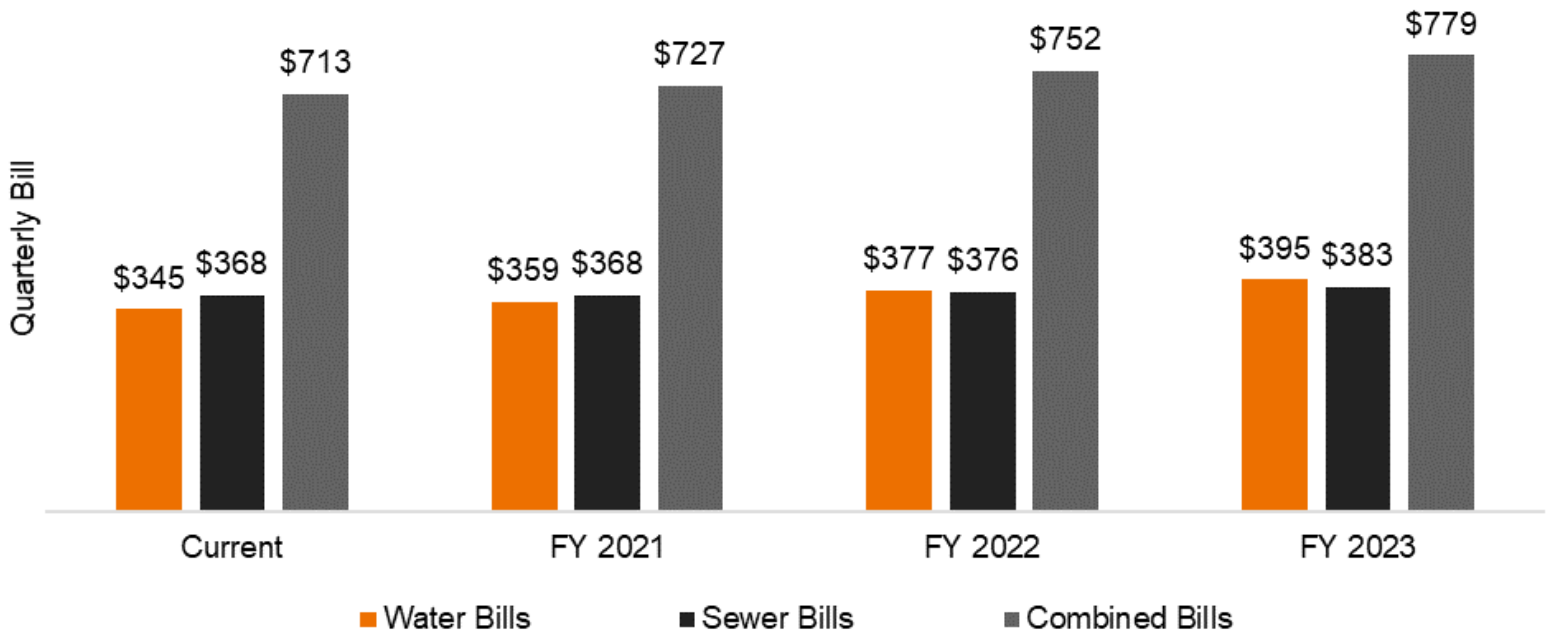
Average Residential Customer (12 Kgal) Quarterly Bill Projection



$3 per quarter increase in average customer bill in FY21

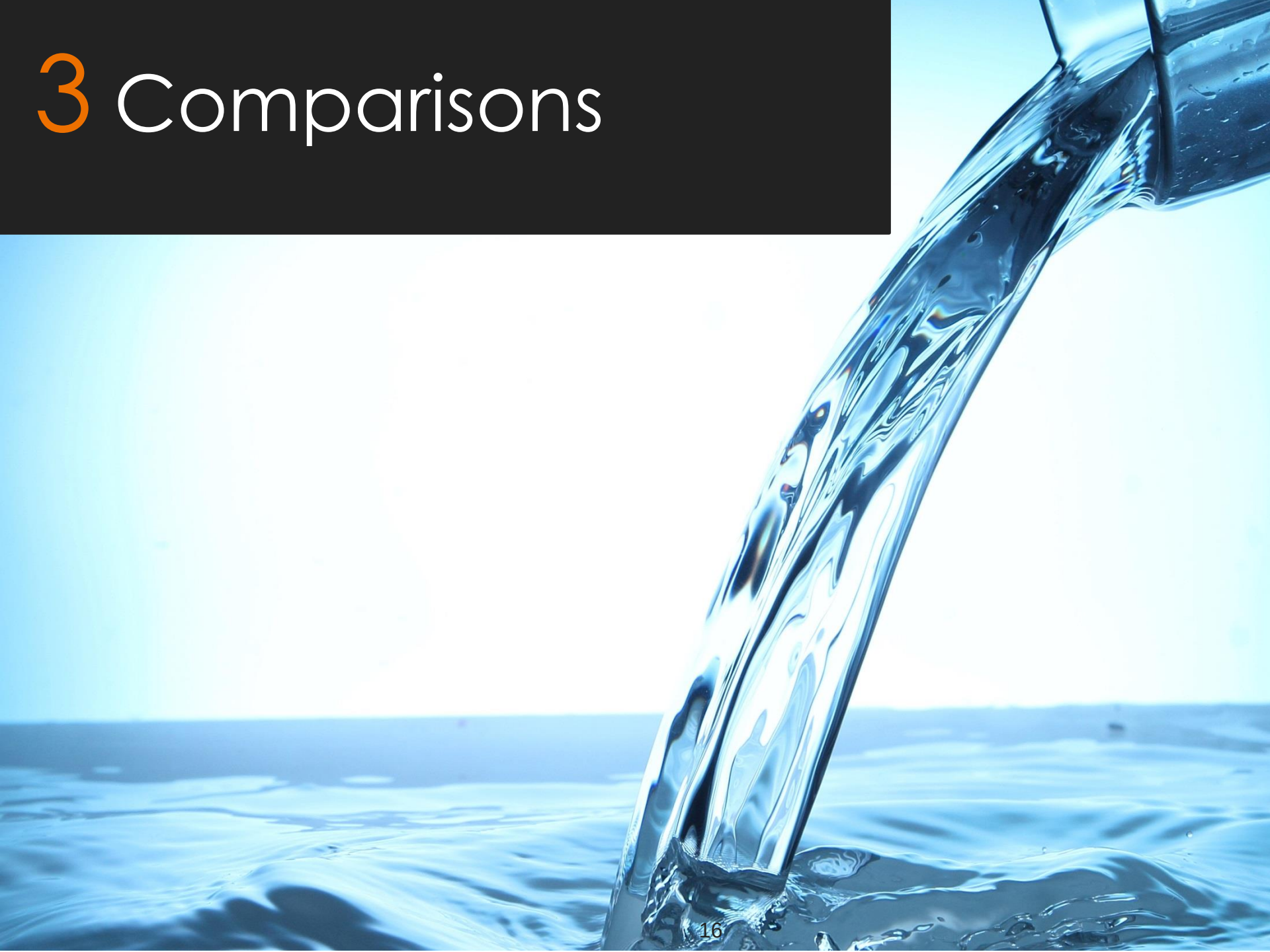
Stantec

Sample Non-Residential Customer (60 Kgal) Quarterly Bill Projection



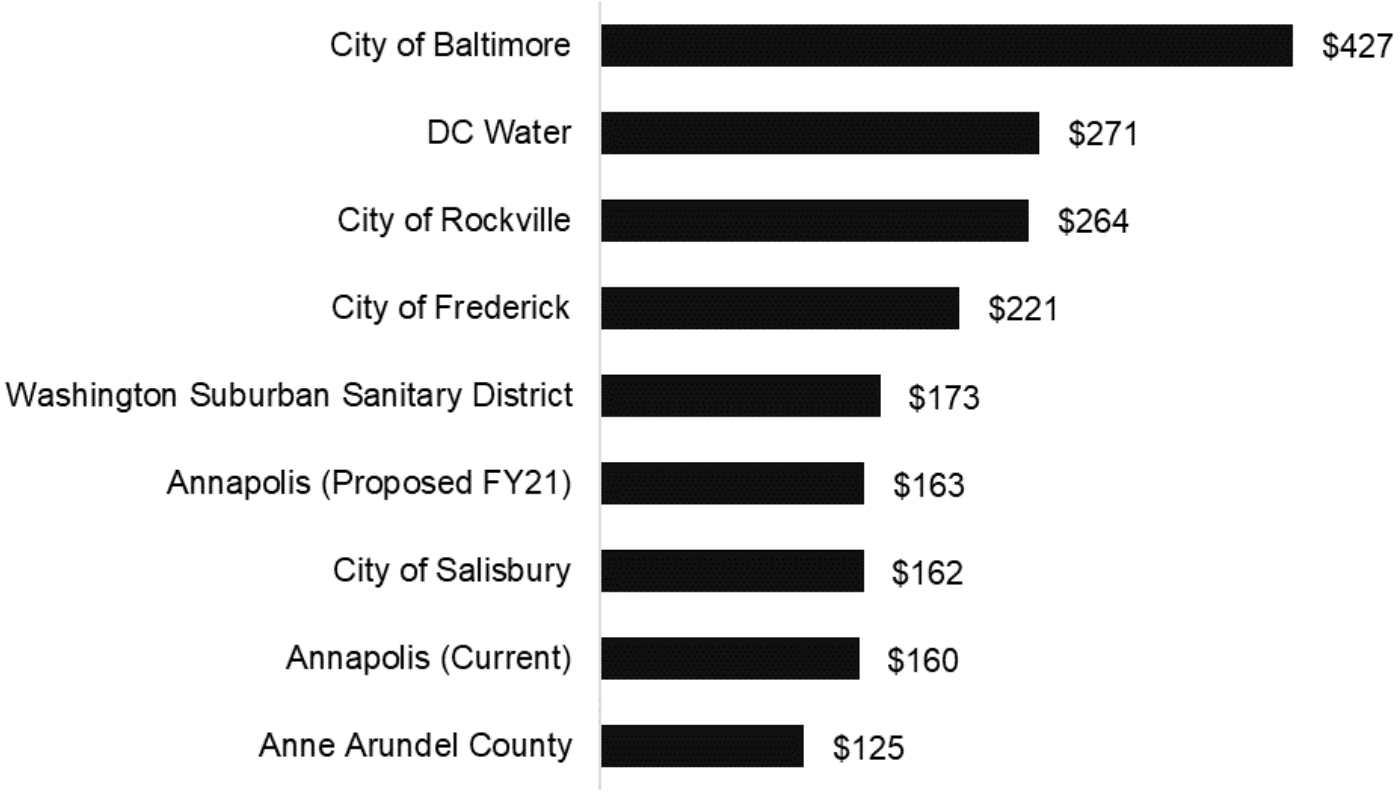
Stantec

3 Comparisons



Combined Bill Comparison

Average Quarterly Bill (12 Kgal)



Stantec

4 Capital Charges

Capital Charges

- Charges currently collected by the City from new connections joining the water and sewer system
- Intended to recover cost of constructing water and sewer capacity, "growth pays for growth"
- Fees are applied based on units of service (representing potential demand on utility system)
- Stantec has reviewed the level of current charges

Stantec

Capital Charge Calculation

$$\text{Capital Charge} = \frac{\text{Value of System - Credit}}{\text{System Capacity}}$$

1) **Value of Utility System**
   - Depreciated value of current assets in place, escalated to current replacement cost
   - Plus: The value of future planned capital projects that will add capacity to the system

2) **Credit**
   - Net present value of outstanding principal on utility debt
   - Donated assets

3) **System Capacity**
   - Total capacity in utility system measured in units of service (Equivalent Residential Units or ERUs)

Stantec

Proposed Capital Charges Per ERU

Utility	Existing	Calculated / Proposed	$ Change
Water	$4,900	$3,400	($1,500)
Sewer	$1,600	$2,100	$500
Total	**$6,500**	**$5,500**	**($1,000)**

Stantec

Discussion

Water Capital Charge

1) Value of Utility System: $117,505,002
2) Credit: $11,716,219
3) System Capacity: 8.0 Million Gallons per Day

$$\frac{\$117,505,002 - \$11,716,219}{32,000 \text{ ERUs}} = \$3,400 \text{ per ERU}$$

Note: 1 ERU = 250 GPD

Stantec

Sewer Capital Charge

1) Value of Utility System: $58,422,149
2) Credit: $2,949,635
3) System Capacity: 6.7 Million Gallons per Day

$$\frac{\$58,422,149 - \$2,949,635}{26,800 \text{ ERUs}} = \$2,100 \text{ per ERU}$$

Note: 1 ERU = 250 GPD

Stantec