

Town of Johnstown

Water and Sewer Rate and Fee Study

September 11, 2023



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Agenda

-  Study goals and objectives
-  Financial Plan
-  Cost of Service
-  Pricing objectives
-  Rate structures
-  Tap fees

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The Town's rates and fees must:

-  Fund Operations
-  Fund Capital Projects
-  Maintain Reserves
-  Fund Growth
-  Ensure Cost Recovery

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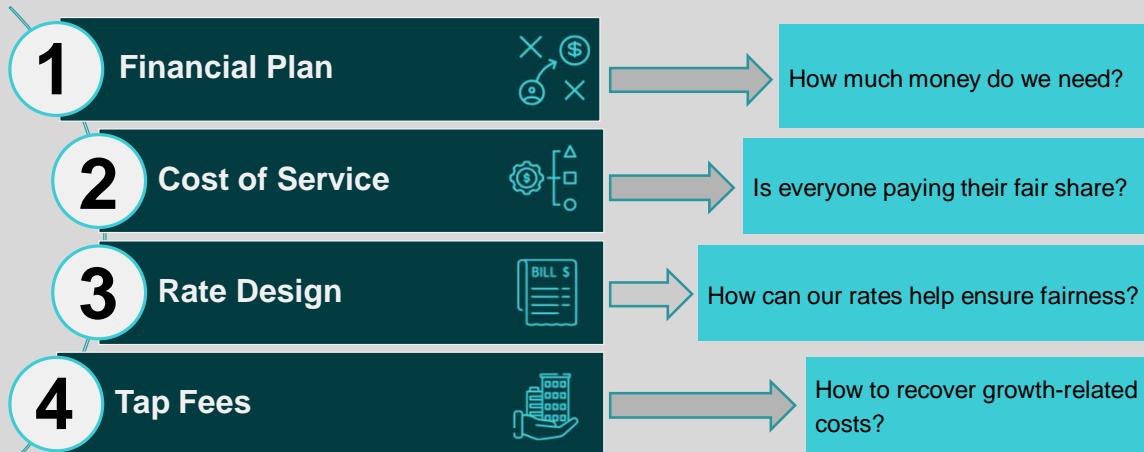
How we'll get there

-  Fund Operations
-  Fund Capital Projects
-  Maintain Reserves and DSC
-  Fund Growth
-  Ensure Cost Recovery
-  Financial Plan
-  Cost of Service
-  Rate Design
-  Tap Fees

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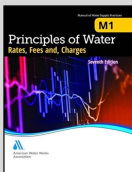
Rate study process



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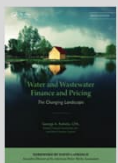
Guided by industry-standard financial planning and rate-setting approaches



American Water Works Association,
Manual M-1, Principles of Rates, Fees, and Charges



Water Environment Federation
Financing and Charges for Wastewater Systems



Raftelis Financial Consultants
Water and Wastewater Finance and Pricing

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Legal foundation

Court cases that helped shaped rate-setting principles and practices

- Proper authority
- Reasonableness
- Pricing principles
- Rate methodology standards

Case	Topic	Year
Smith v Ames	Fair value	1898
Bluefield Water Works	Reasonable returns	1923
Hope Natural Gas	Capital costs	1944
Durant	Fairness	1940
Nolan	Rational nexus	1978
Pompano Beach	Sufficient evidence	1980
Burba	Taxation fee	1988
Dolan	Proportionality	1994
Brydon	Conservation	1994
Colorado Court Rulings		
Cottrell v. City County Denver	Charter authority	1981
Bennett Bear Creek v. City-County of Denver	Legislative authority	1994
Sullivan v. City-County of Denver	Cost-based rates	1998
Krupps v. Breckenridge	Equity	2001

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Financial Plan



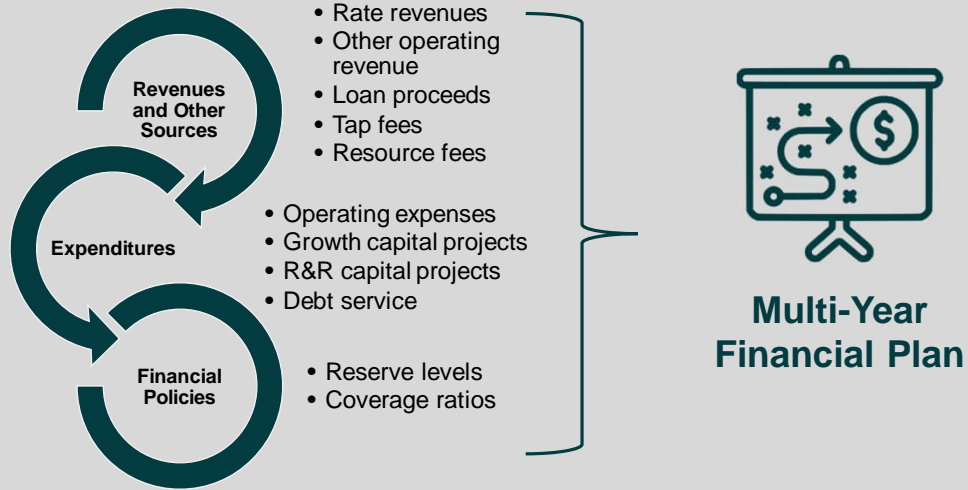
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Financial planning process

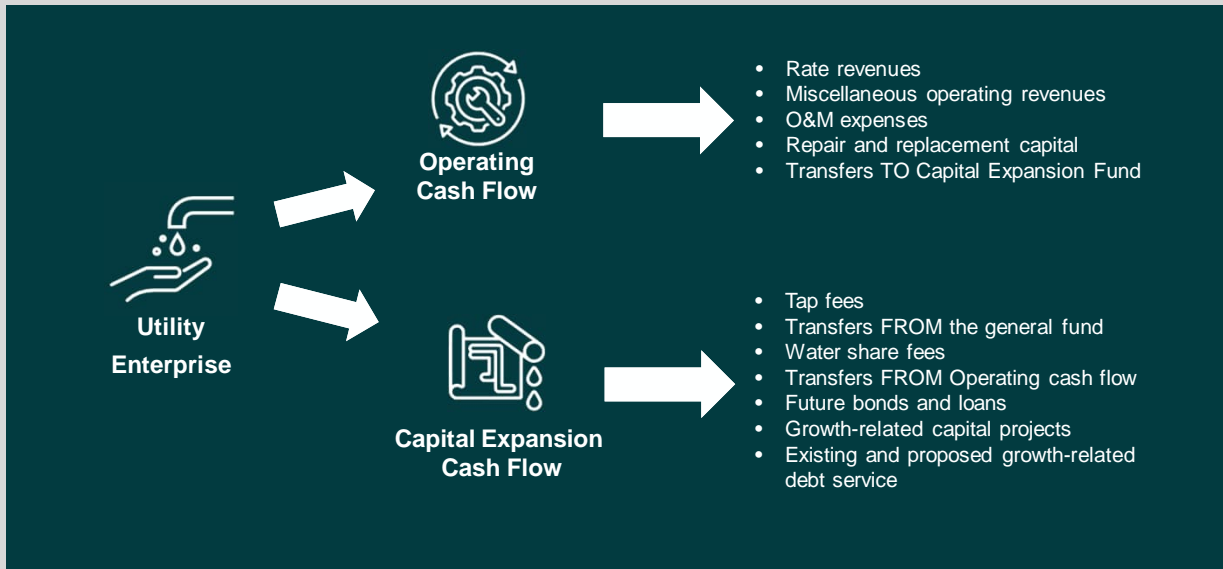
What is the revenue required to meet expenditures?



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Financial planning cash flow structure



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Water Financial Plan



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Water utility financial plan assumptions

Inflation factors

- Overall O&M: ~4.0%
- Capital: 4.5%

Reserve Targets

- Operating reserve: 90 days annual O&M
- Replacement capital reserve: 1 year depreciation expense
- Debt service coverage: 1.20 times debt service payments

Rate Revenue Adjustment Strategy

- Fund operations using rate revenues and reserves
- Maintain debt service coverage and reserve levels
- Minimize rate shock through uniform rate increases

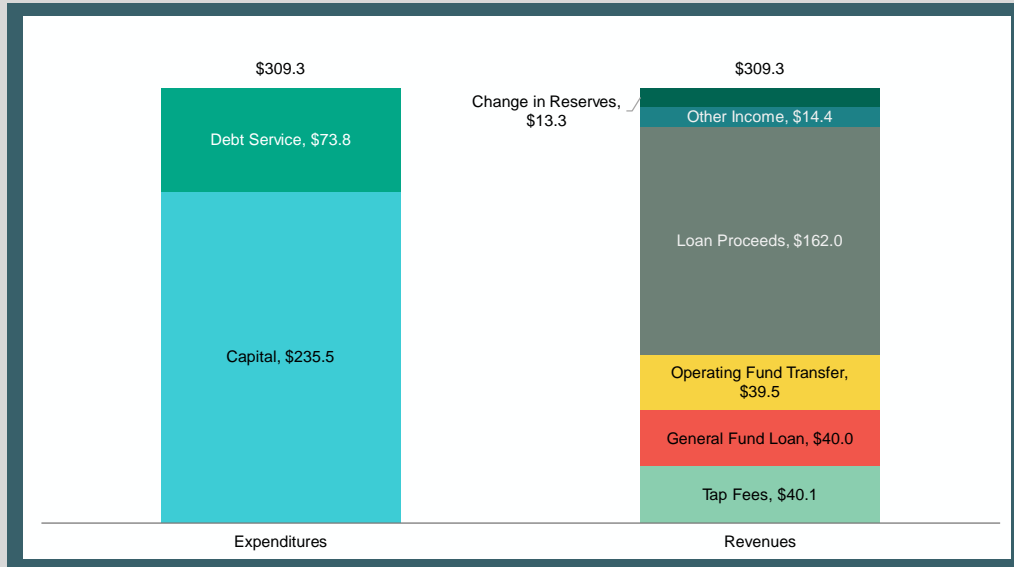
Operating fund scenarios

- Scenario 1: One-time revenue increase
- Scenario 2: 2-year up front increases; future lower annual increases
- Scenario 3: 3-year up front increases; future lower annual increases

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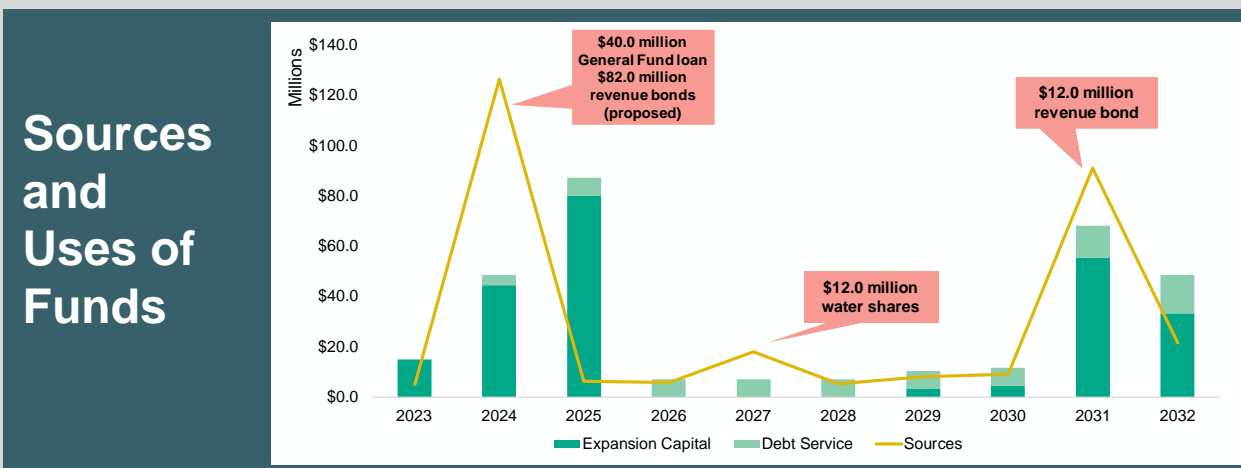
Water capital expansion capital funding 2023 – 2032 forecast, \$ millions



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Water capital expansion fund cash flow

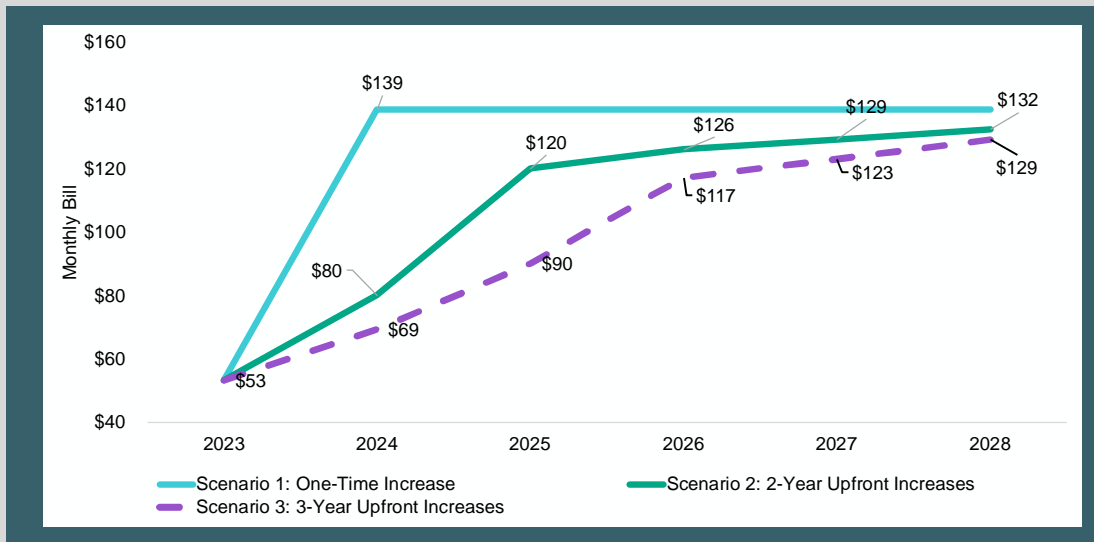


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Water financial plan scenario comparison

Bill impacts: Typical residential monthly bill (9,000 gal)



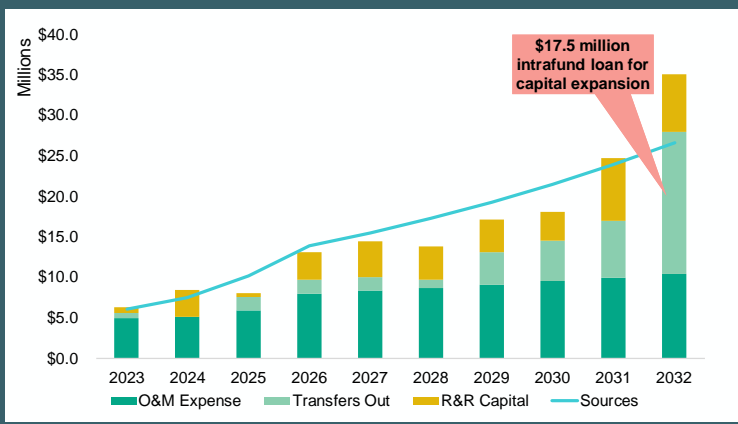
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Water operating cash flow

Scenario 3: 3-Years Upfront Increases

- Rate Revenues
- Other income and
- O&M expense
- R&R capital
- Transfers



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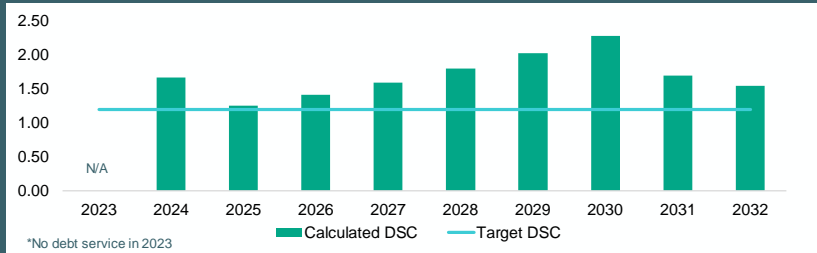
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Water operating cash flow financial metrics Scenario 3: 3-Years Upfront Increases

Ending Balance and Target Reserves



Debt Service Coverage Ratio



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Sewer Financial Plan



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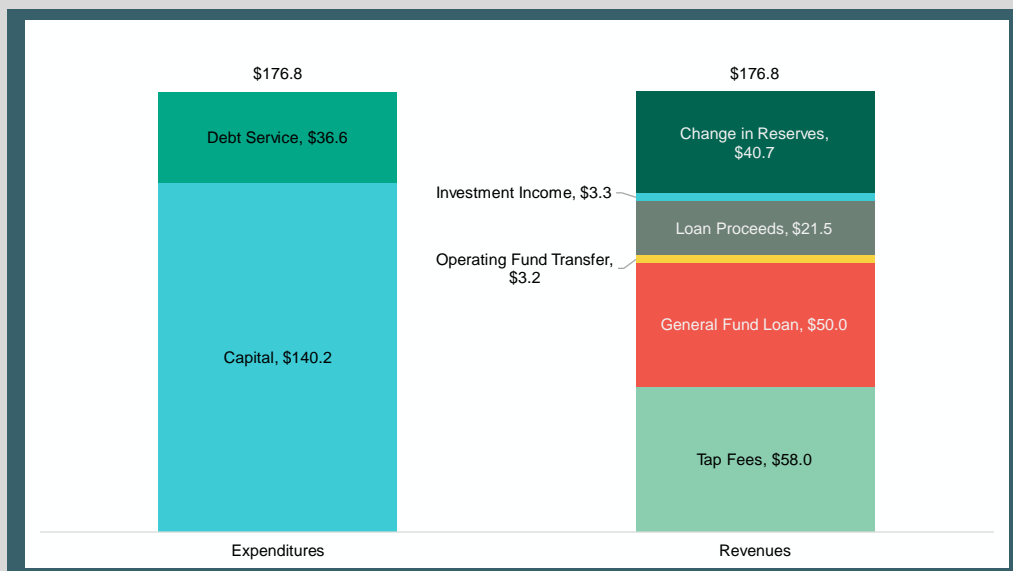
Sewer financial plan assumptions

Inflation factors	<ul style="list-style-type: none"> • General O&M: ~4.0% • Capital: 4.5%
Reserve Targets	<ul style="list-style-type: none"> • Water operating reserve: 90 days annual O&M • Replacement capital reserve: 1 year depreciation expense • Debt service coverage: 1.20 times debt service payments
Rate Revenue Adjustment Strategy	<ul style="list-style-type: none"> • Fund operations using rate revenues and reserves • Maintain debt service coverage and reserve levels • Minimize rate shock through uniform rate increases
Operating Fund Scenarios	<ul style="list-style-type: none"> • Scenario 1: 3-year equal annual increases 2024 – 2026; no increases in 2027 through 2032

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Sewer capital expansion capital funding 2023 – 2032 forecast

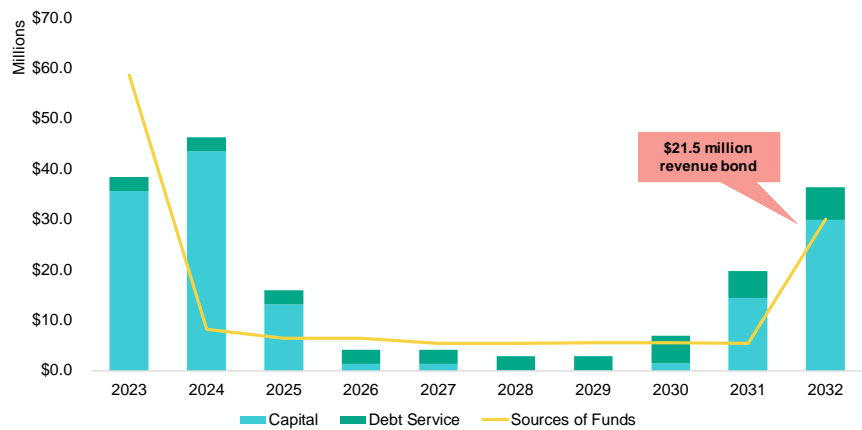


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Sewer capital expansion fund cash flow

Revenues and Expenditures

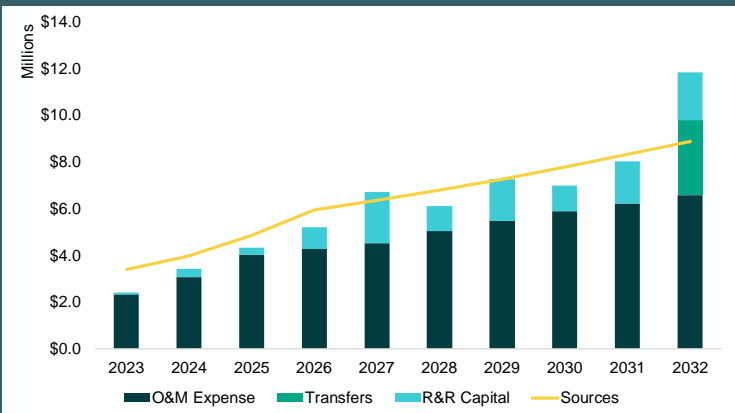


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Sewer operating cash flow Includes proposed revenue increases

- Rate Revenues
- Other income and
- O&M expense
- R&R capital
- Transfers

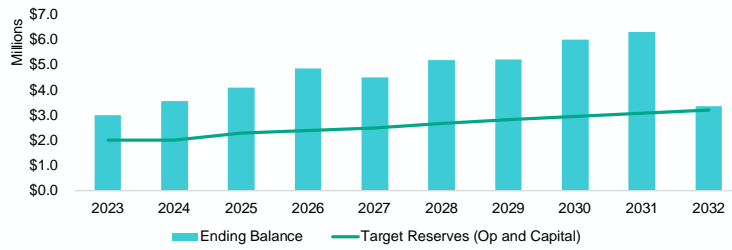


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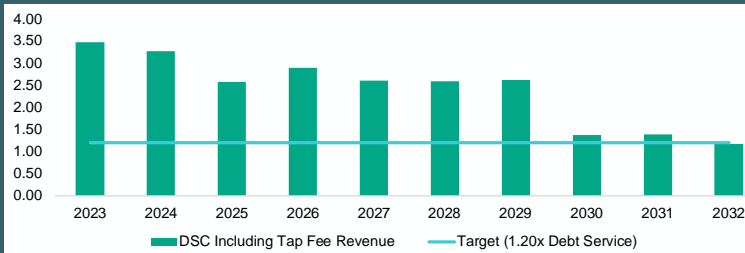
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Sewer operating cash flow financial metrics

Ending Balance and Target Reserves



Debt Service Coverage Ratio



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Cost of Service



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What is a cost of service analysis?



- Determines amount of revenue to be recovered from each customer class



- Based on the principle of cost causation – those who cause the cost, pay the cost (i.e. proportionality)



- Recognizes the different demand and customer characteristics of each class



- Cost to provide service will vary by class

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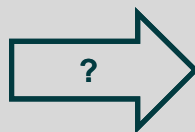


Cost of service analysis

How do we get from the revenue requirement to costs by class?



Revenue Requirement



Residential



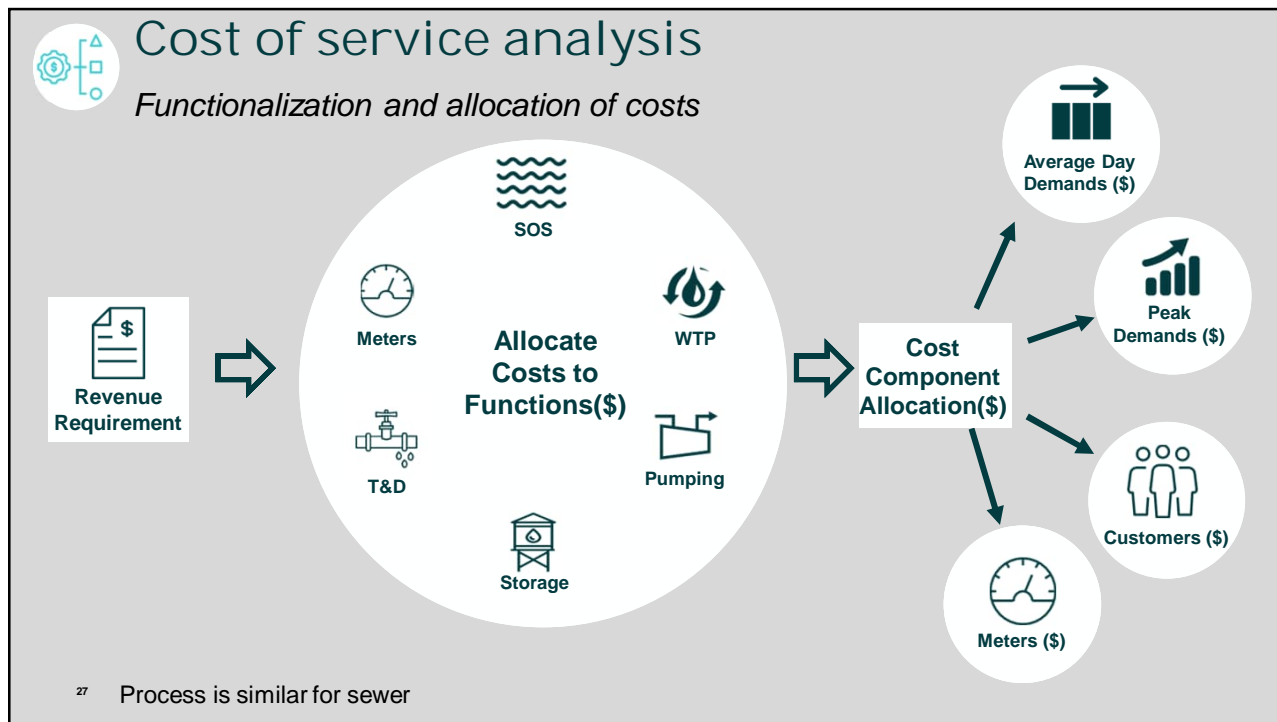
Commercial



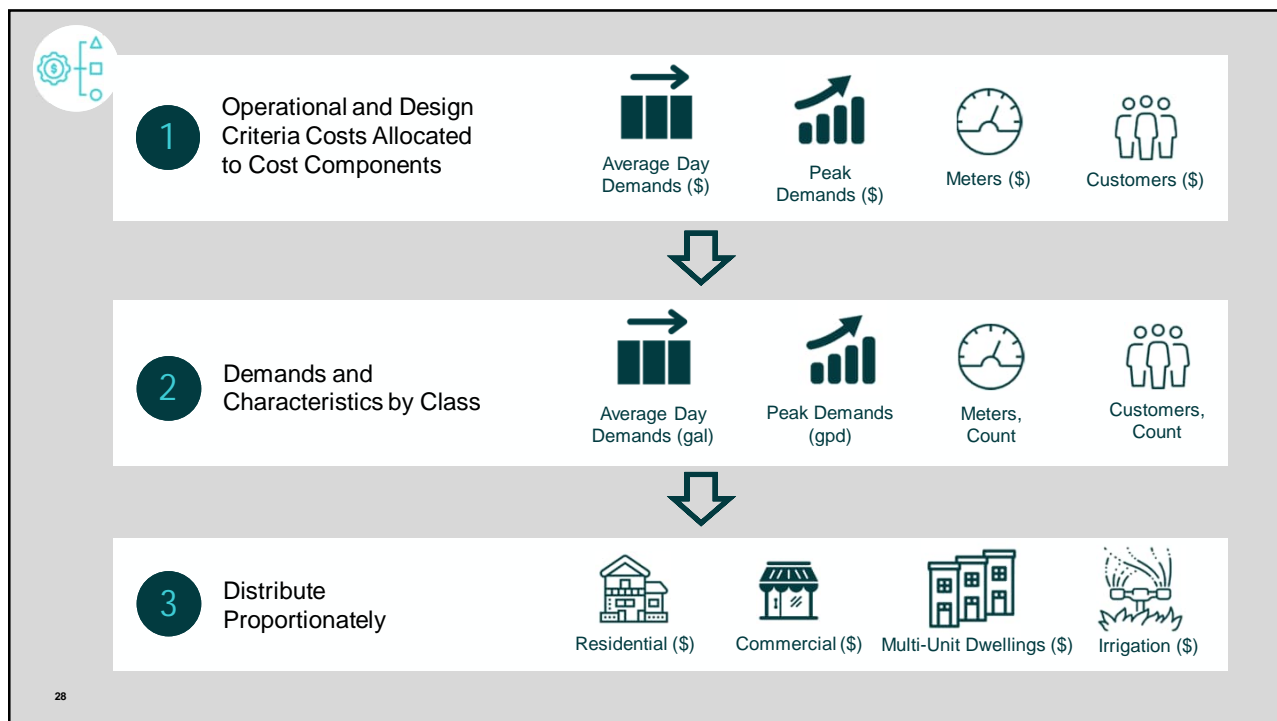
Multifamily

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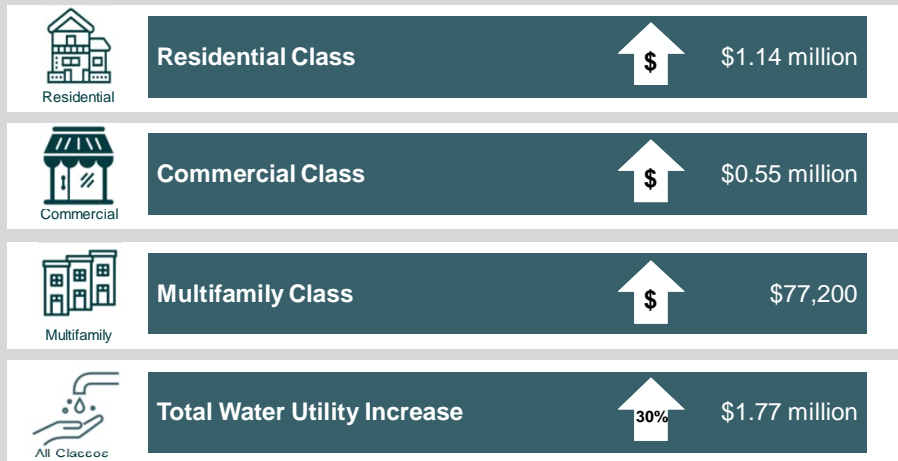


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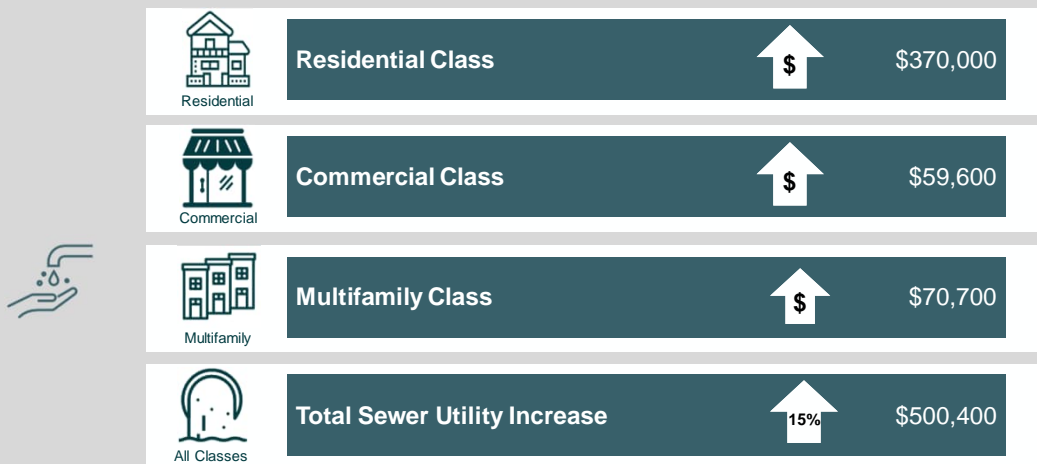
Water 2024 cost of service results Proportionate cost recovery between classes



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Sewer 2024 cost of service results Customer class increases



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Pricing Objectives/ Rate Design



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Pricing Objectives

A means of ensuring community values are reflected in the way costs of providing service are recovered.

Pricing Objectives Definitions



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Required objectives



Revenue
Sufficiency



Costs covered - Financial health maintained



Defensibility



Legally compliant; defensible in court

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Common pricing objectives



Revenue stability



Essential use pricing



Cost recovery between classes



Customer understanding



Cost recovery within a class



Customer impact



Cost recovery between existing and new customers



Ease of administration/ implementation



Efficient water use pricing signal

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Rate Design



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Water rate structure components

Base Rate \$ per bill

- Meter maintenance and meter reading
- Customer service, billing, and collection (general admin)
- A component of capital costs = depreciation

Volume-Related Costs \$ per Kgal

- Plant operations to treat water
- Transmission and distribution system to move water
- Storage and pumping facilities
- Fire protection costs

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Town's current water rate structure

Water Tap Size (inches)	Base Rate \$ per bill
Residential, \$ per bill	\$22.84
Multifamily, \$ per Unit per Bill	\$11.42
Commercial, \$ per bill by meter size	
5/8"	\$22.84
1"	38.83
1 1/2"	75.39
2"	121.07
3"	267.26
4"	479.71
6"	989.02
8"	2,131.08

Threshold (gallons)	Volume Rate \$ per kgal
Residential	
0 – 5,000	\$3.18
5,000 – 10,000	3.66
10,000 – 15,000	4.21
15,000 – 20,000	4.84
20,000 – 25,000	5.57
> 25,000	6.40
Multifamily	
0 – 100,000	\$3.18
> 100,000	4.84
Commercial	4.10
Non Potable - Irrigation	1.86

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¹Out of town rates are 1.5 times in town

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Town's current sewer rate structure

Customer Class	Existing Rate
Commercial	
Base Rate, \$ per Bill	\$34.79
Volume Rate, \$ per 1,000 gallons*	\$4.00
Residential	
Base Rate, \$ per Bill	\$34.79
Multifamily	
Base Rate, \$ per Unit per Bill	\$34.79

**Based on winter water use (Dec - Feb)*

³⁹ ² Out of town rates are 1.5 times in town

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Water Rate Alternatives



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Residential rate structure alternatives



- **Alternative 1 – ‘Across the Board’ Financial Plan Increase**
 - Increase existing base rate and volume rates by 30%
- **Alternative 2 – Class Cost of Service Recovery**
 - Increase the existing base rate by 30% based on 2024 financial plan, scenario 3
 - Maintain existing tier thresholds and price ratios
- **Alternative 3 – Cost of Service + Adjusted Pricing Ratios**
 - Increase the base rate by 30% based on 2024 financial plan, scenario 3
 - Maintain existing tier thresholds
 - Increase price ratios for higher tiers

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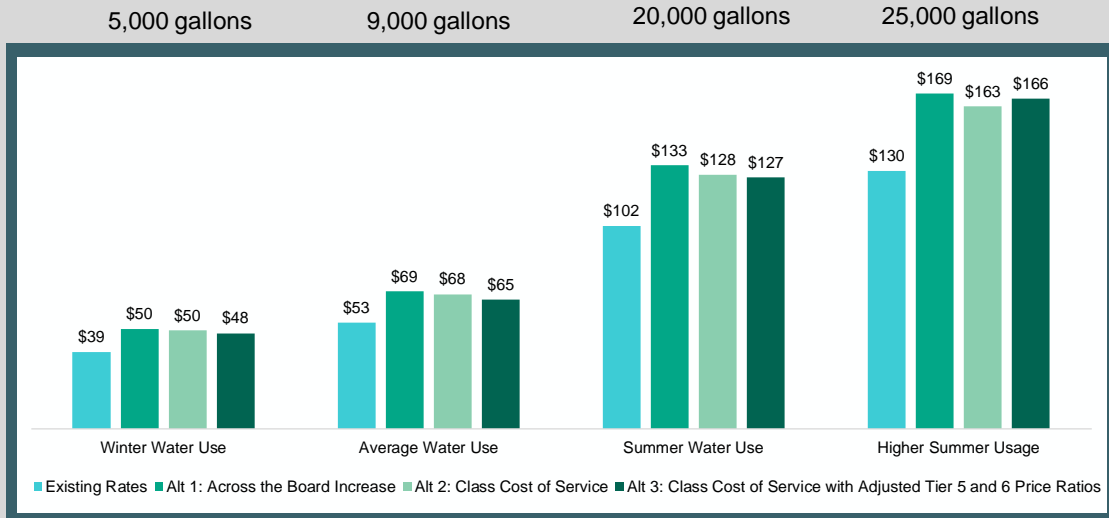
2024 proposed water residential rate alternatives

Existing Rates			Alt. 1 Across the Board Increase		Alt. 2: Class Cost of Service		Alt 3: Class Cost of Service + Adjusted Tier 5 and 6 Price Ratios	
Tap Size Inches	Monthly Base Rate		Tap Size Inches	Monthly Base Rate	Tap Size Inches	Monthly Base Rate	Tap Size Inches	Monthly Base Rate
5/8 inch	\$22.84		5/8 inch	\$29.69	5/8 inch	\$29.69	5/8 inch	\$29.69
Threshold	% Vol	Rate, \$ per Kgal	Threshold	Rate, \$ per Kgal	Threshold	Rate, \$ per Kgal	Threshold	Rate, \$ per Kgal
5	41.8%	\$3.18	5	\$4.13	5	\$3.97	5	\$3.69
10	23.5%	3.66	10	4.76	10	4.57	10	4.24
15	14.9%	4.21	15	5.47	15	5.16	15	5.09
20	8.9%	4.84	20	6.29	20	5.96	20	6.37
25	5.0%	5.57	25	7.24	25	6.95	25	7.96
>25	5.9%	6.40	9999	8.32	>25	7.94	>25	9.95

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Typical monthly residential bills at various levels of consumption by rate alternative



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Multifamily and commercial rate structures



Multifamily



Commercial

- **Multifamily**
 - Monthly base rate per unit
 - Two-tiered volume rate structure
- **Commercial**
 - Monthly base rate which varies by meter size
 - Uniform volume rate
- *No rate structure changes proposed*

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2024 proposed water multifamily & commercial

Multifamily Existing Rates	
Base Rate, \$ per unit per bill	\$11.42
Volume Rates, \$ per Kgal	
Blk 1: 0 - 100,000	\$3.18
Blk 2: >100,000	4.84

Multifamily Proposed Rates	
Base Rate, \$ per unit per bill	\$14.85
Volume Rates, \$ per Kgal	
Blk 1: 0 - 100,000	\$4.13
Blk 2: >100,000	6.29

Commercial Existing Rates	
Meter Size	Monthly Base Rate
<i>Inches</i>	
5/8 inch	\$22.84
1 inch	38.83
1.5 inch	75.39
2 inch	121.07
3 inch	267.26
4 inch	479.71
6 inch	989.02
Volume Rate, \$ per Kgal	\$4.10

Commercial Proposed Cost of Service Rates	
Meter Size	Monthly Base Rate
<i>Inches</i>	
5/8 inch	\$29.69
1 inch	50.48
1.5 inch	98.01
2 inch	157.39
3 inch	347.44
4 inch	623.62
6 inch	1,285.73
Volume Rate, \$ per Kgal	\$6.57

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Sewer Rates



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Sewer rate structure



- Existing structure and proposed structure
 - Residential: Base rate per month
 - Commercial only: Base rate + uniform volume rate based on average winter consumption (Dec – Feb)

Customer Class	Existing Rate	Proposed Rate
Commercial		
Base Rate, \$ per Bill	\$34.79	\$40.01
Volume Rate, \$ per 1,000 gallons*	\$4.00	\$4.60
Residential		
Base Rate, \$ per Bill	\$34.79	\$40.01
Multifamily		
Base Rate, \$ per Unit per Bill	\$34.79	\$40.01

*Based on winter water use (Dec - Feb)

¹ Average winter consumption (AWC) is calculated by averaging water use during the months of December, January, and February.

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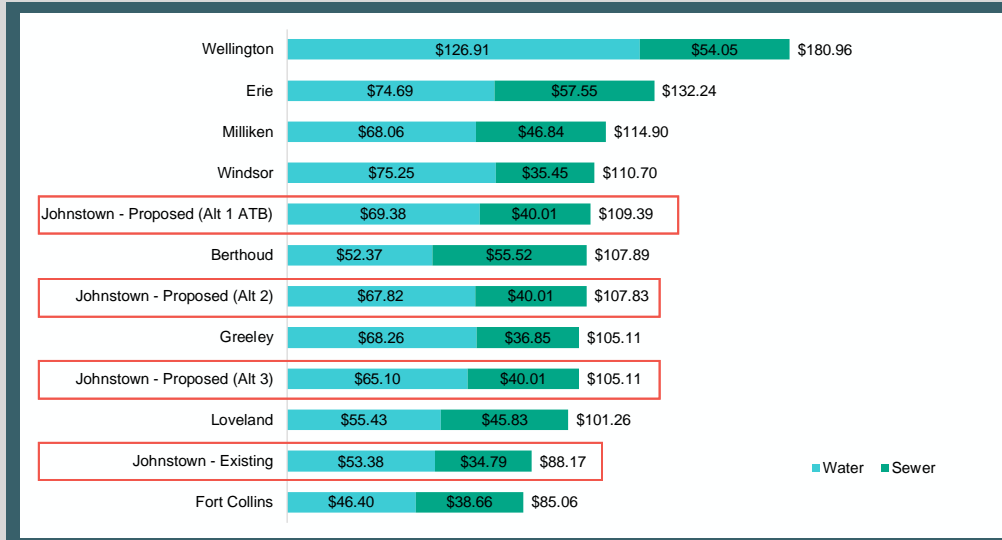
Utility Surveys



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Peer utility residential typical bill survey 5/8" tap; 9,000 gallons usage



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ATB, Across the Board Increase

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Tap Fees and Development Fees



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Tap fees defined



- Governed by Colorado Revised Statute 20-20-104.5
- Legislatively adopted



- Intended to defray the projected impacts on capital facilities caused by development



- Local government to quantify to the proposed impacts of proposed development



- Local government to establish fee at a level no greater than necessary to defray the impact related to development

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Tap fees defined continued



- One-time fee for capacity to serve new development
- Incremental fee for increased in capacity



- Fee based on the value of utility's capacity and the amount of capacity needed by new development



- Fee represents cost to reserve capacity in backbone facilities such as treatment plants, transmission mains, treated storage, etc.



- Fee balances equity between new and existing customers

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Water tap fees No proposed changes

Tap Size	Existing Johnstown Equiv. Ratio	Current Tap Fee
≤ 3/4"	1.0	\$6,909
1"	1.7	11,745
1-1/2"	3.3	22,798
2"	5.3	36,615
3"	11.7	80,830
4"	21.0	145,080
6"	43.3	299,141
8"	93.3	644,570
10"	140.0	967,200

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Comparison of existing and calculated raw water development fee

Tap Size (inches)	Existing Johnstown Equiv. Ratio	Current Fee	Proposed Fee	\$ - Change
≤ 3/4"	1.0	\$5,841	\$6,291	\$450
1"	2.0	11,745	12,649	\$904
1-1/2"	3.9	22,798	24,553	\$1,755
2"	6.3	36,615	39,434	\$2,819
3"	13.8	80,830	87,052	\$6,222
4"	24.8	145,080	156,249	\$11,169
6"	51.2	299,141	322,169	\$23,028
8"	110.4	644,570	694,190	\$49,620
10"	165.6	967,200	1,041,657	\$74,457

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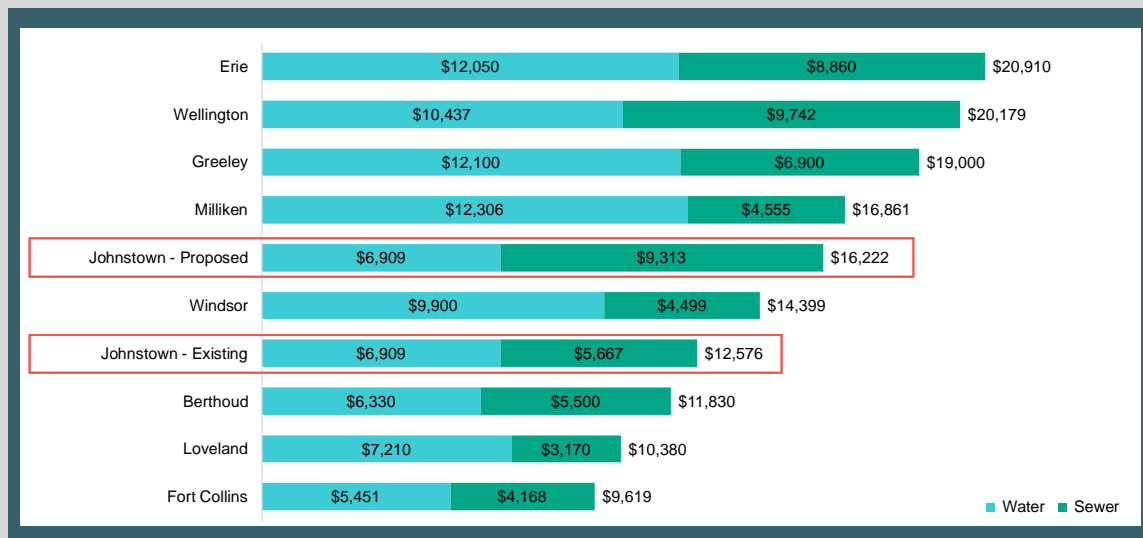
Comparison of existing and calculated sewer tap fees

Tap Fees (inches)	Existing Johnstown Equiv. Ratio	Current Tap Fee	Proposed Tap Fee	\$ - Change
≤ 3/4"	1.0	\$5,667	\$9,313	\$3,646
1"	1.7	\$9,634	\$15,832	\$6,198
1 1/2"	3.3	\$18,701	\$30,733	\$12,032
2"	5.3	\$30,034	\$49,357	\$19,323
3"	11.7	\$66,302	\$108,959	\$42,657
4"	21.0	\$119,003	\$195,566	\$76,563
6"	43.3	\$245,373	\$403,240	\$157,867
8"	93.3	\$528,713	\$868,873	\$340,160
10"	140.0	\$793,353	\$1,303,776	\$510,423
Multi-Unit (Per Unit)	0.5	\$2,833	\$4,656	\$1,823

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Peer utility tap fee survey



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Excludes raw water development fee

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Thank you!

Contact: Todd Cristiano
303 305 1138 / tcristiano@raftelis.com

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