



CITY OF ANN ARBOR COST OF SERVICE STUDY

3.22.18

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COST OF SERVICES STUDY

Water • Wastewater

PHASE 1

What does it cost to operate & maintain our systems?

- Operate water & wastewater plants
- Repair/replace pipes
- Repay bonds for past system investments
- Ensure adequate reserves for future needs

REVENUE REQUIREMENTS



PHASE 2

Who uses the system & how do they use it?

- How should users be categorized?
- How do costs vary by user type?

COST ALLOCATION



PHASE 3

How should we structure rates?

- Based on the cost to serve that customer type
- Does it reflect community values?
- How will it impact customers?

RATE DESIGN



PHASE 4

Understand national trends

- Conduct fee & policy review

ANALYSIS



Advisory Committee Meetings

Council Presentation

Public Hearings

2017 Jul Aug Sep Oct Nov Dec 2018 Jan Feb Mar Apr May

Purpose of the Study

- 🔥 **Projection of full cost to serve**
 - 🔥 Develop multi-year financial management plan
- 🔥 **Evaluate water and sewer cost allocation, rate design, and affordability impact**
- 🔥 **Engage community stakeholders**
 - 🔥 Solicit input and comments regarding community values related to water and sewer rates
- 🔥 **Develop dynamic model for future use**
 - 🔥 Long-term sustainability & ongoing financial management



Public Engagement



- 🌱 **Survey – June 2017**

- 🌱 600+ responses

- 🌱 **Focus Groups – November 2017**

- 🌱 **Advisory Committee – July- December 2017**

- 🌱 Cross-section representatives from various community sectors and neighborhoods



Foundation of the Rate Study

1. Adequate revenue to meet identified requirements
 - Capital, Operating, Debt Service, and Asset Management
2. Fair and equitable distribution of cost
 - Last cost of service was performed in 2003
 - Based upon industry best practices and legal requirements
 - Utilizing detailed AMI data – unique and better analysis
3. Evaluate and address community objectives
 - Affordability through rate and non-rate programs



THE COST TO FILL A GLASS OF WATER

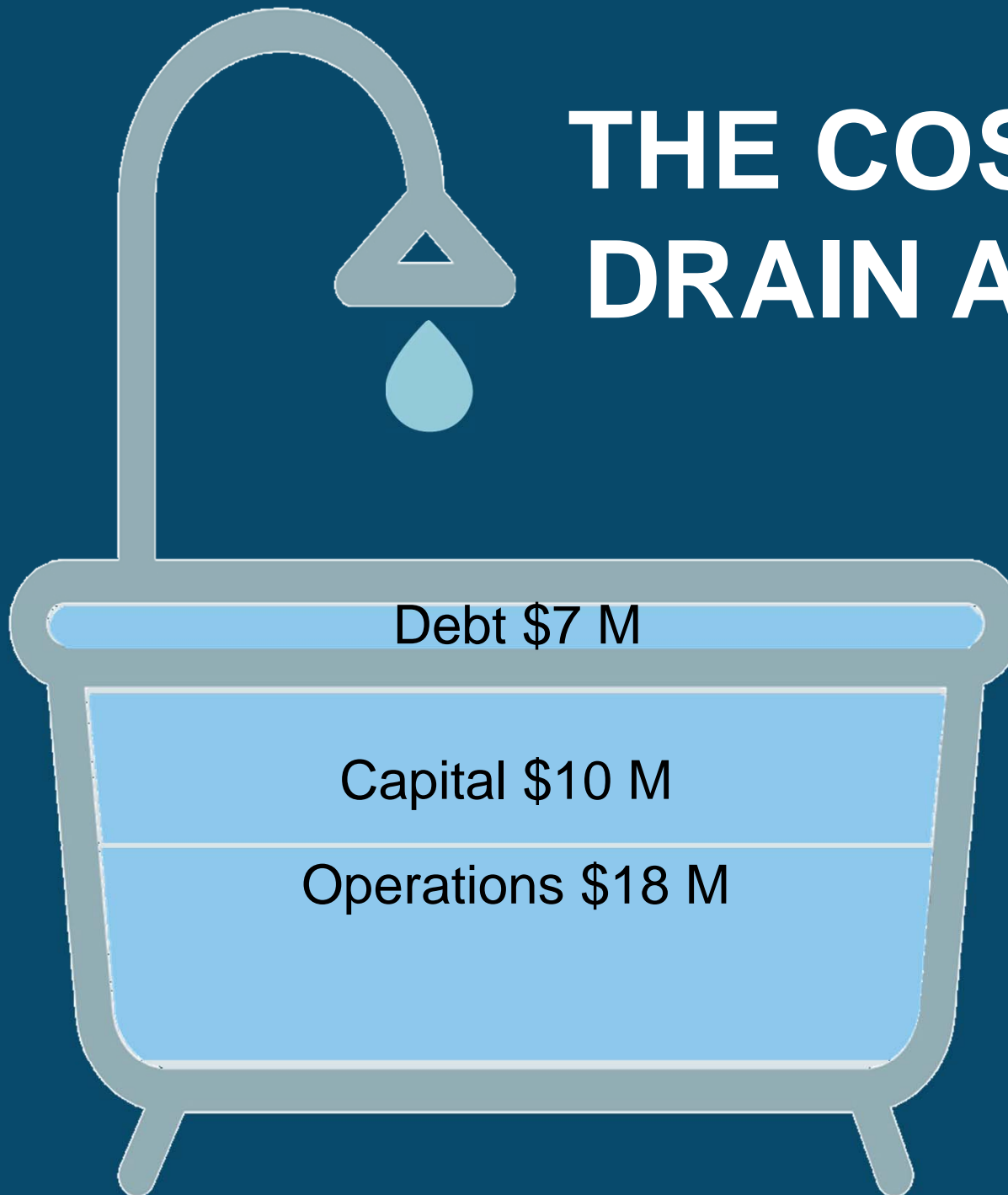


Debt Service \$4 M

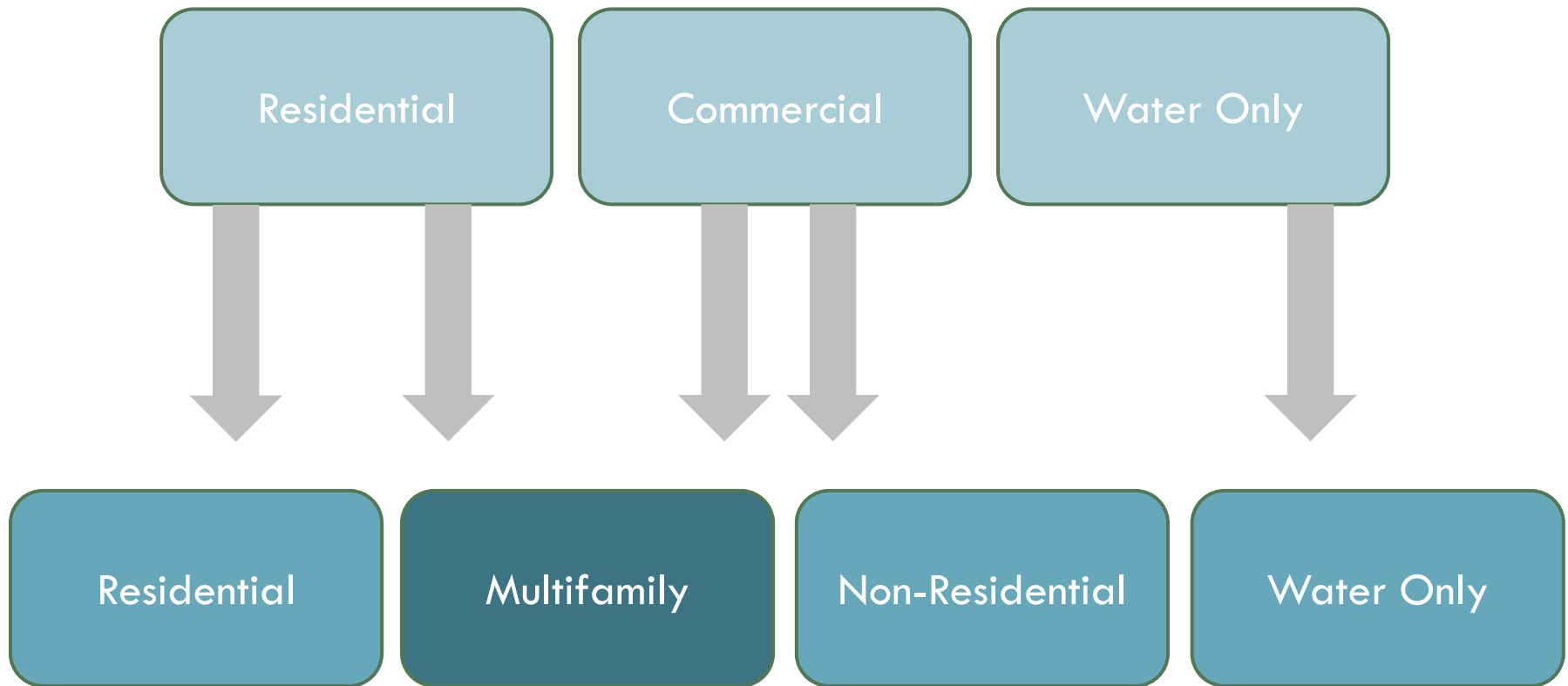
Capital
Investments
\$10 M

Operations
\$18 M

THE COST TO DRAIN A TUB



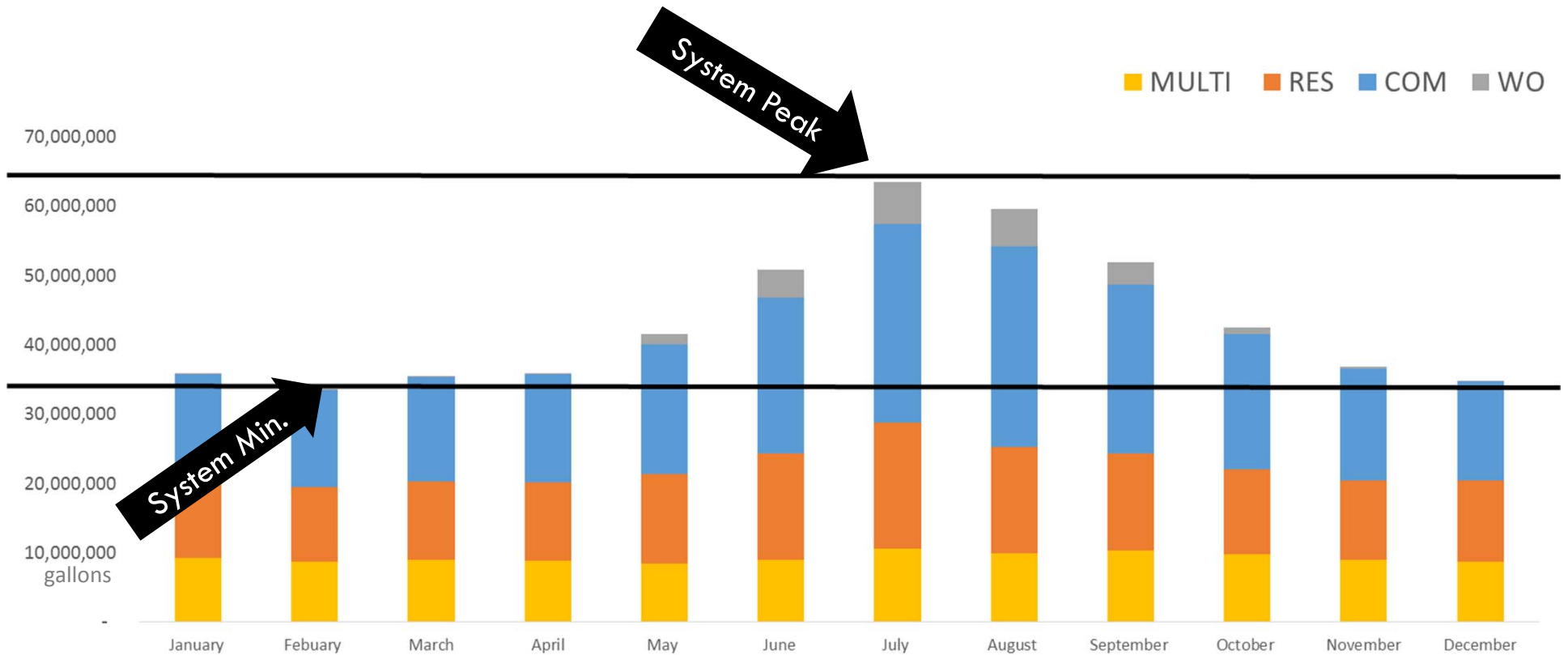
Rate Classifications



Millions of data points from the Automated Meter Infrastructure Data were used for FY16 on a daily or hourly basis

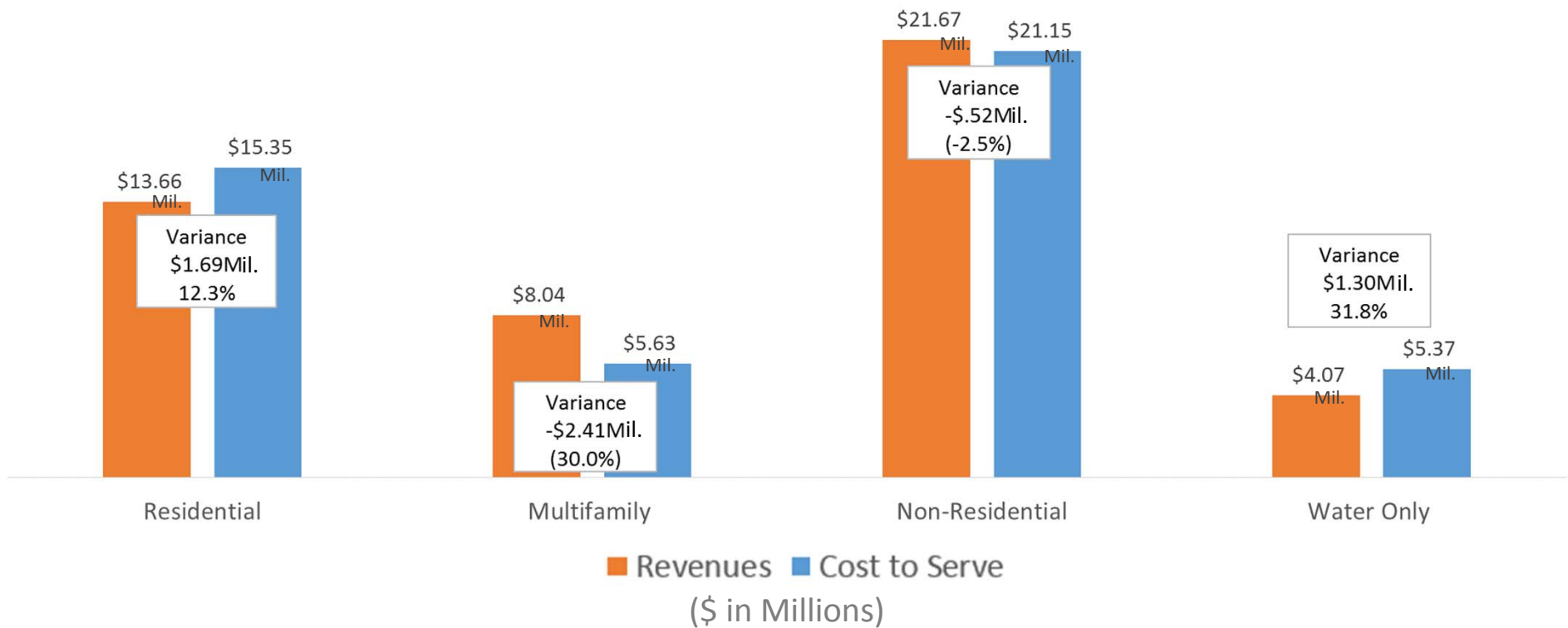


Basis for New Rate Classification



Cost to Serve Analysis

For each customer class, what does it cost to provide safe, reliable services based on their observed consumption profiles?



Water and sewer revenue based on FY 2016 billing data and rates



Proposed Water Rate Design



Residential

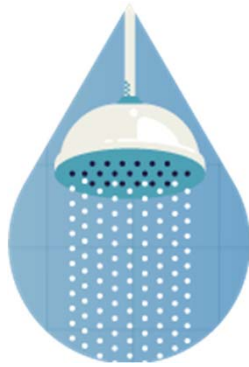
- 🌿 Fixed Charge
- 🌿 Volumetric Rate
 - 🌿 Inclining block
 - 🌿 4 Tiers based on data analysis
 - 🌿 Tier 1 & 2 - Indoor use
 - 🌿 Tier 3 & 4 - Outdoor use

Non-Residential, Multi-Family & Water Only

- 🌿 Fixed Charge
- 🌿 Volumetric Rate
 - 🌿 Uniform (flat) rate based on consumption
 - 🌿 Water Only does not receive sewer charges



1 CCF = 748 Gallons OR....



43 showers



30 minutes of
watering with a
hose



213 toilet flushes

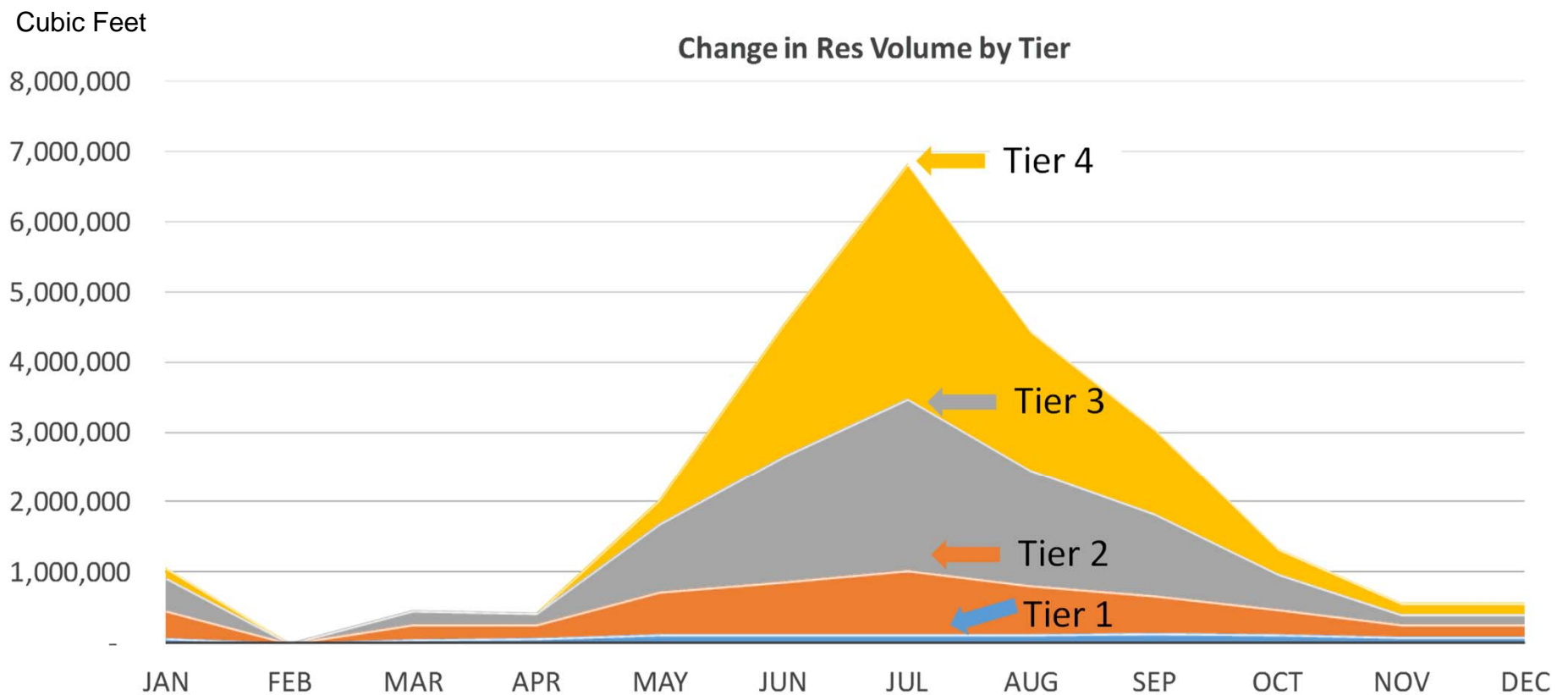


25 loads of laundry

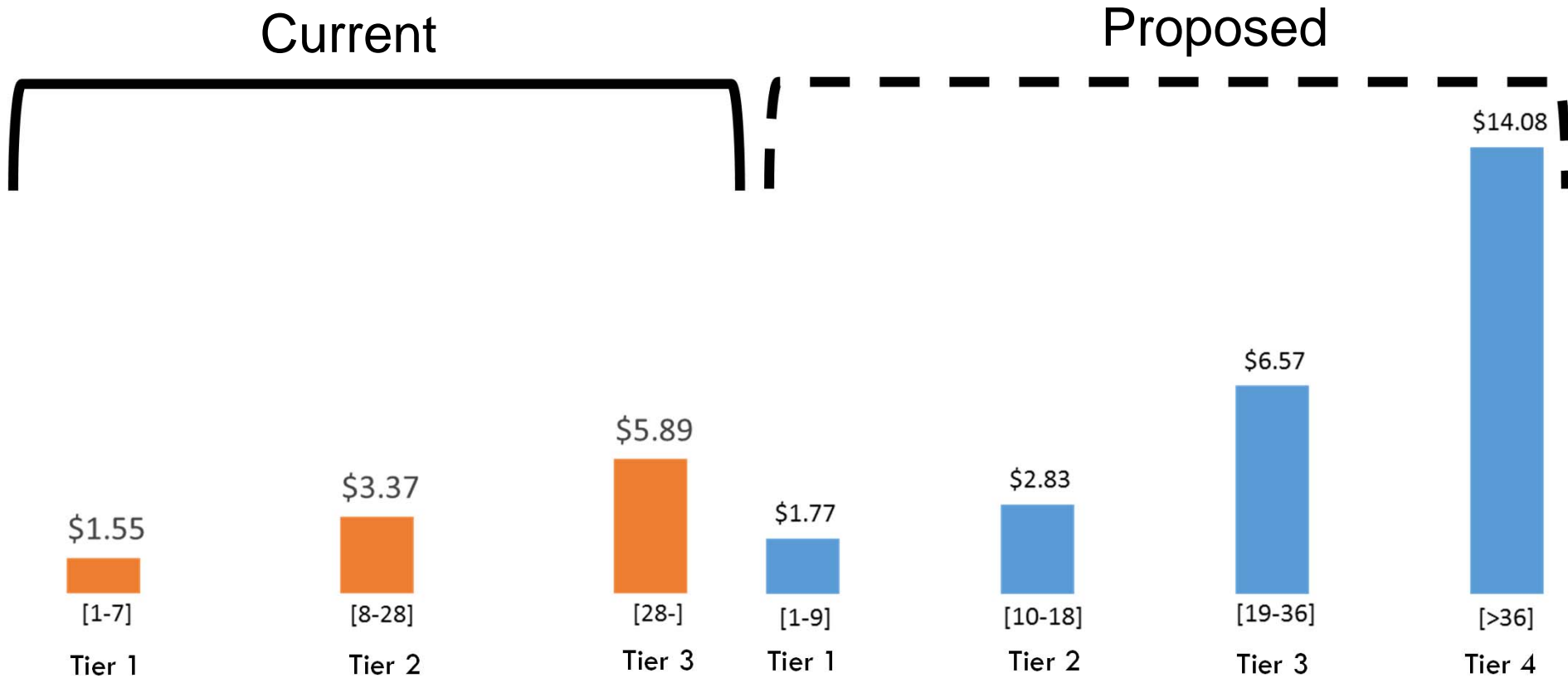


11,968 cups of water

Why add a new water residential tier?



Water Residential Pricing & Structure

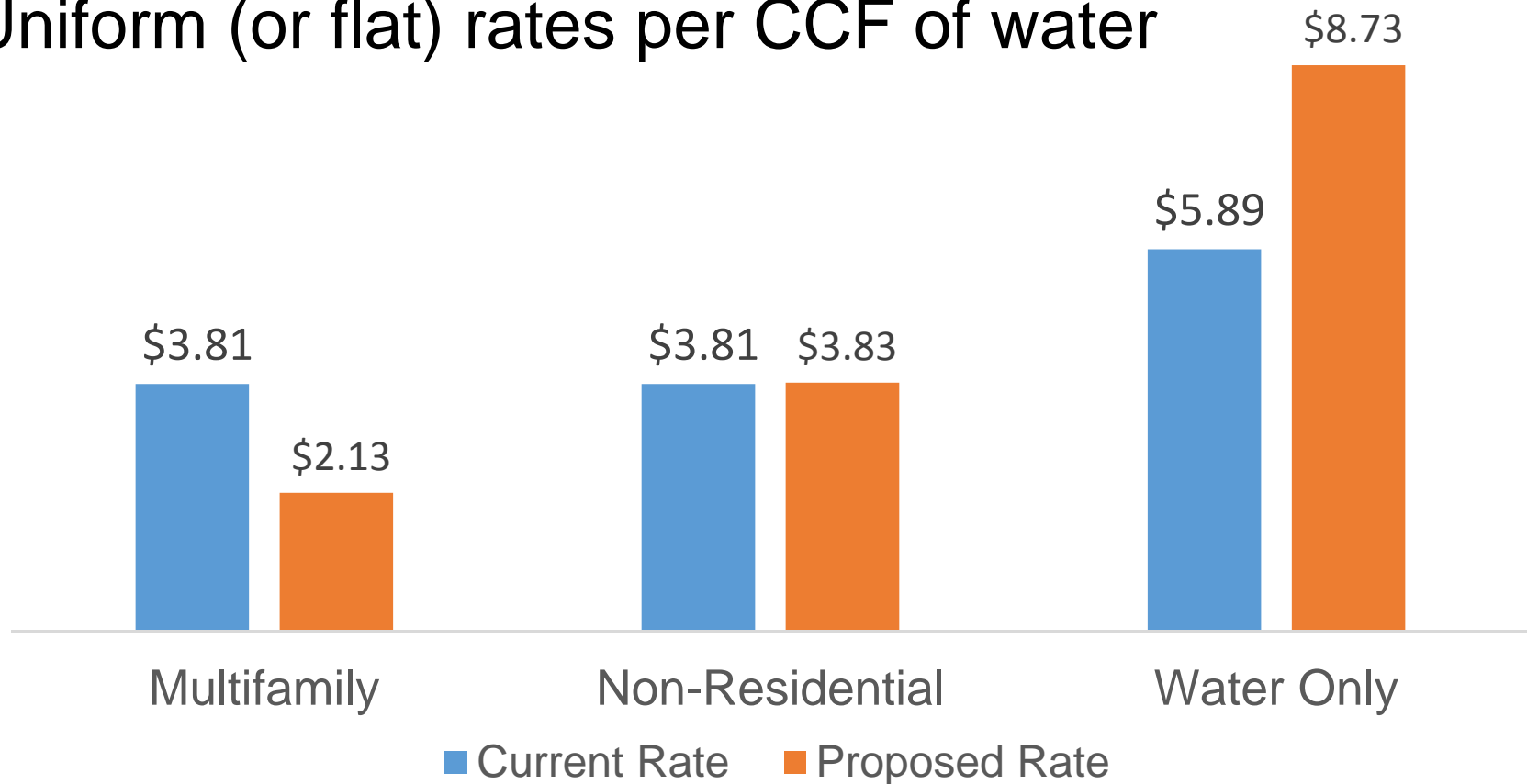


- Rates are per CCF; 1 CCF = 748 Gallons
- Prices are before 10% on time payment discount



Non-Residential, Multifamily & Water Only Volumetric

Uniform (or flat) rates per CCF of water



Billed in CCF; 1 CCF= 748 Gallons

Rates shown before 10% on time payment discount



Proposed Sewer Rate Design



Residential

- Fixed Charge
- Volumetric Rate
 - Uniform (flat) rate based on metered water use
 - Winter average water use applied in summer months

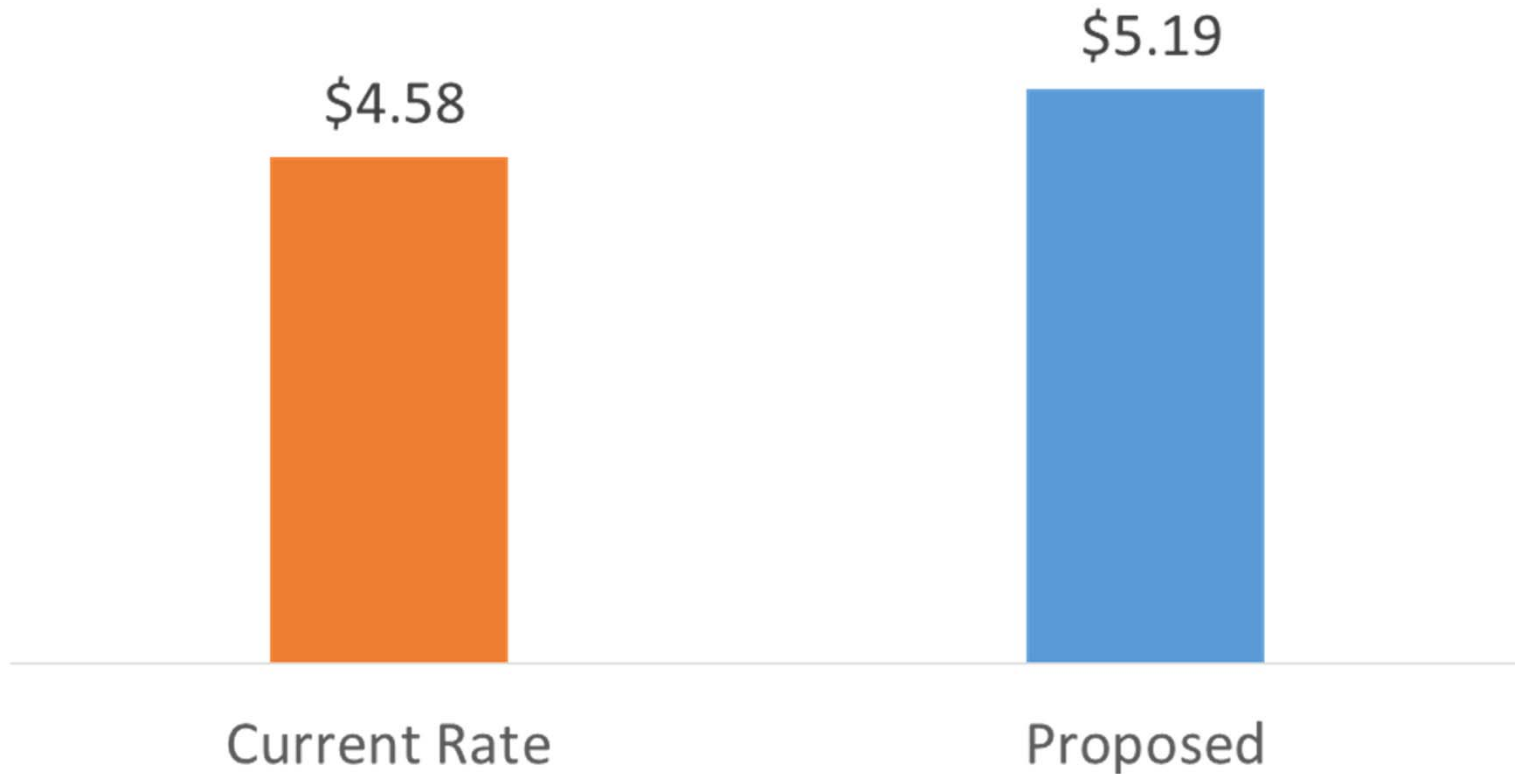
Non-Residential and Multi-Family

- Fixed Charge
- Volumetric Rate
 - Uniform (flat) rate based on metered water use

Volume billed based on CCF; 1 CCF = 748 Gallons



Sewer Volumetric Rate



Billed in CCF; 1 CCF = 748 Gallons



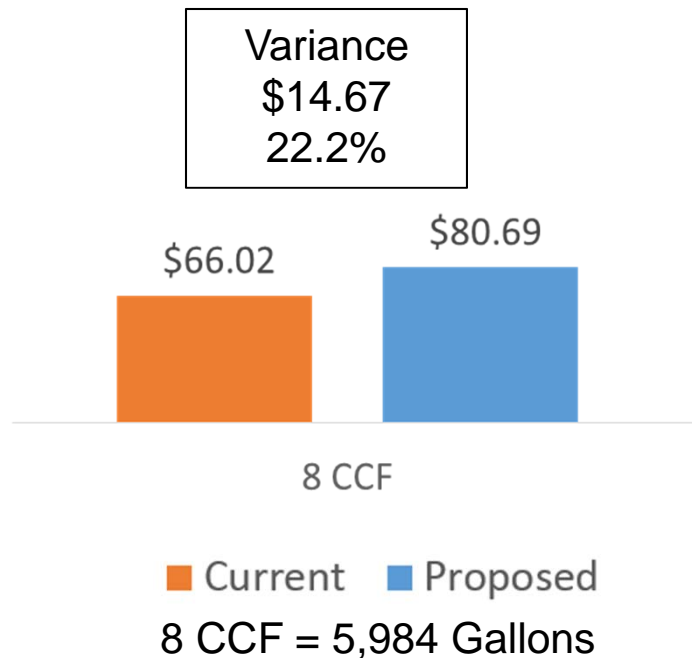
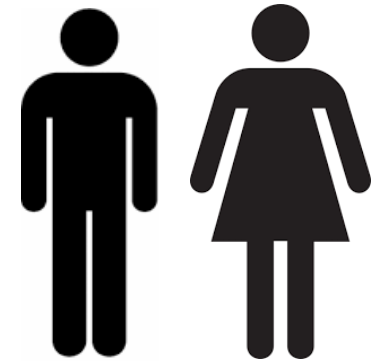
Footing Drain Disconnection (FDD)

- Program to disconnect footing drains from sewer system
 - About 2,000 homes been disconnected via the program
 - Estimated 15,000 homes still connected
- Evaluated in rate study per SSWEE Citizens Advisory Committee
- Challenges:
 - Equity: No different than properties that never connected
 - Data: Require audit/database of all connected homes
 - Precedent: Not aware of other credits/surcharges for FDD
- Suggestions: Communication of benefits and alternative funding programs



Residential Quarterly Water & Sewer Bill Impact **Scenario 1**

- 5/8" Meter
- Two person household with minimal outdoor water usage –8 CCF per quarter

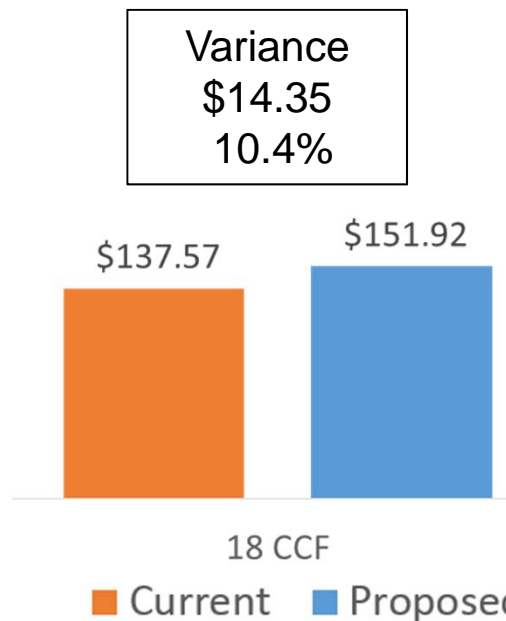
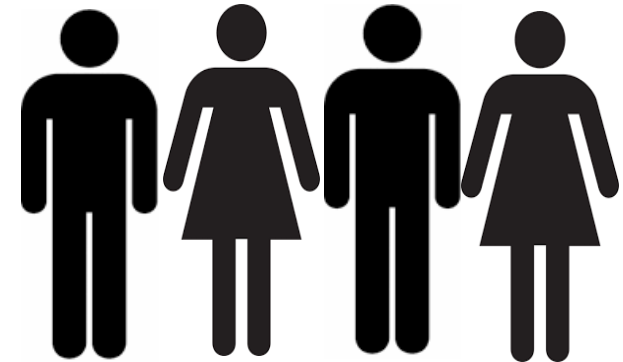


Prices shown net 10% on time payment discount



Residential Water & Sewer Quarterly Bill Impact **Scenario 2**

- 5/8" Meter
- Four person household with minimal outdoor usage –18 CCF per Quarter



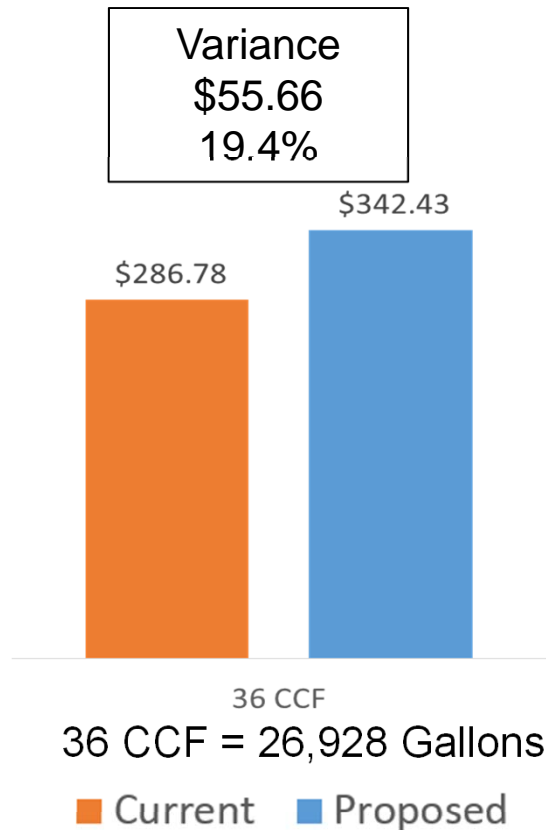
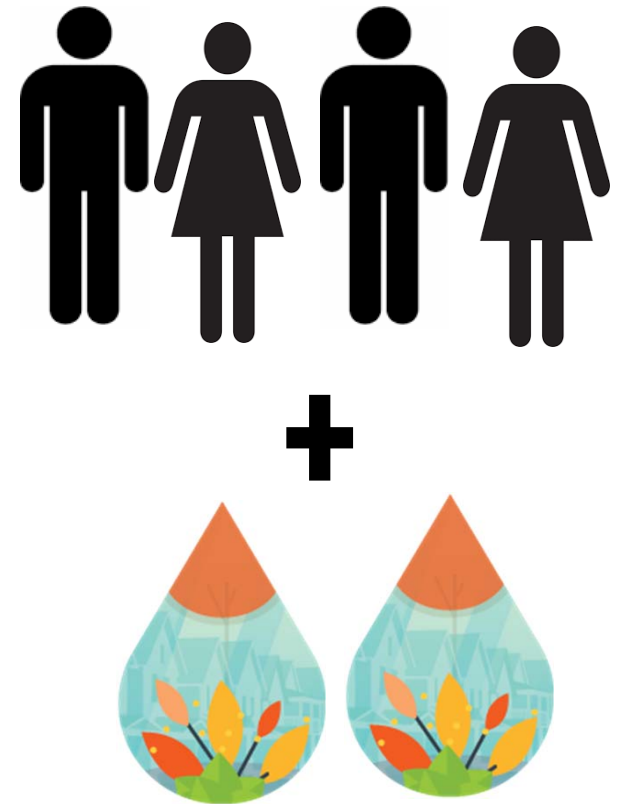
18 CCF = 13,464 Gallons

Prices shown net 10% on time payment discount



Residential Water & Sewer Quarterly Bill Impact **Scenario 3**

- 5/8" Meter
- Four person household with moderate outdoor use – use 36 CCF per Quarter

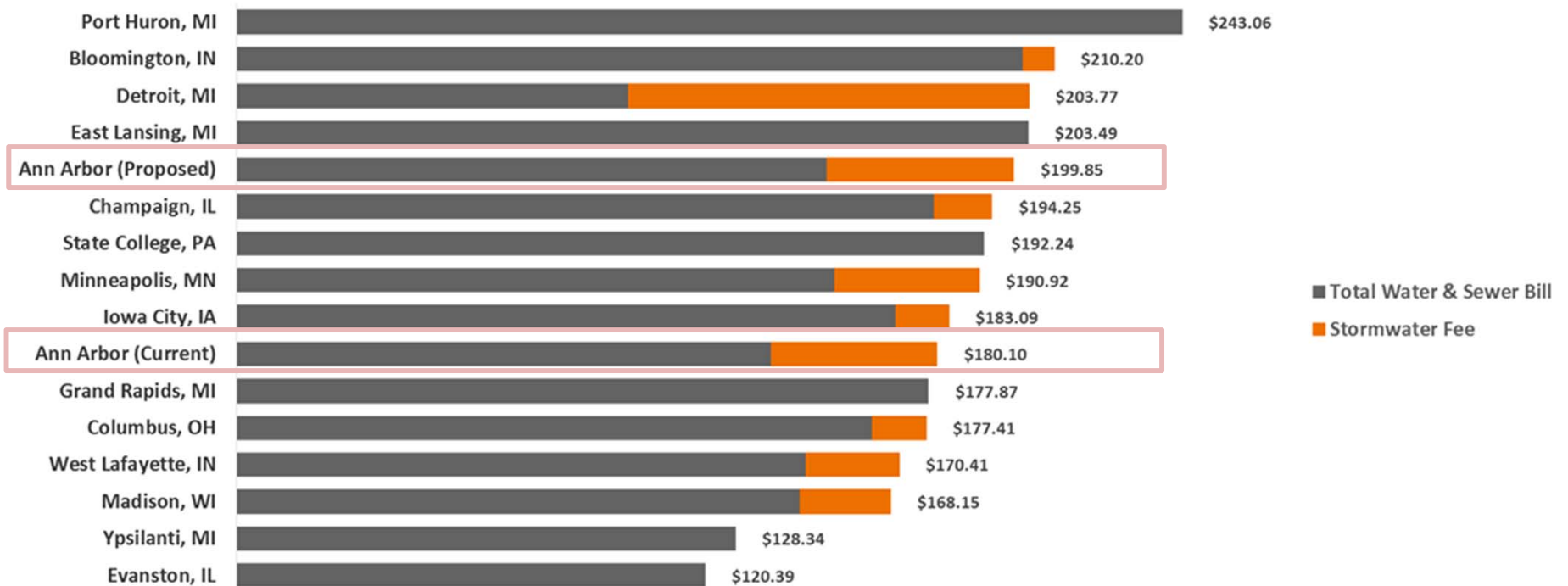


Prices shown net 10% on time payment discount



Comparison of Residential Water & Sewer Bills

Total Quarterly Residential Water, Sewer, and Stormwater Bill at 18 CCF



Stormwater fees displayed for communities having a stand alone stormwater utility at the average residential rate. Survey does not consider level of service differences. Bill shown net 10% on-time payment discount



Non-Residential Select Water & Sewer Quarterly Bill Impacts

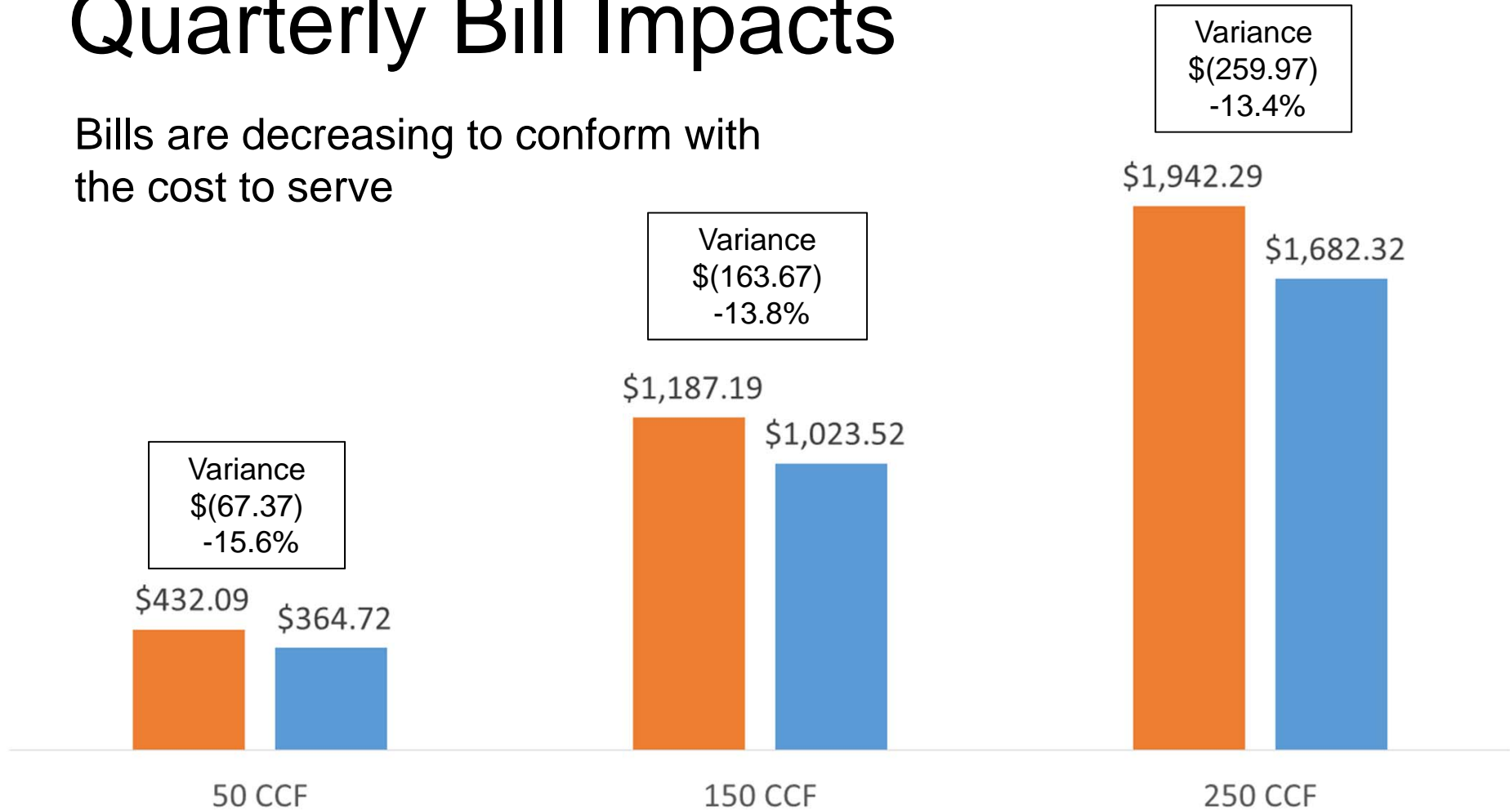
Type	Meter	Current	Proposed	Change \$	Change %
Grocery Store	2"	\$ 8,002	\$ 7,573	\$ (429)	-5%
Deli	1.5", 1.5"	\$ 4,747	\$ 4,434	\$ (313)	-7%
Pub	1.5"	\$ 3,883	\$ 3,667	\$ (216)	-6%
Brewery	1", 5/8"	\$ 2,660	\$ 2,550	\$ (110)	-4%
Teen Center	5/8"	\$ 166	\$ 171	\$ 5	3%
Specialty Store	5/8"	\$ 288	\$ 288	\$ -	0%
Hotel	2", 3"	\$ 24,319	\$ 23,031	\$ (1,288)	-5%
Professional Office	2"	\$ 1,613	\$ 1,436	\$ (178)	-11%
Dry Cleaners	5/8"	\$ 430	\$ 441	\$ 11	3%
Hospital	6"	\$ 29,143	\$ 27,672	\$ (1,471)	-5%

Bill shown net 10% on time payment discount



Multifamily Water & Sewer Quarterly Bill Impacts

Bills are decreasing to conform with the cost to serve



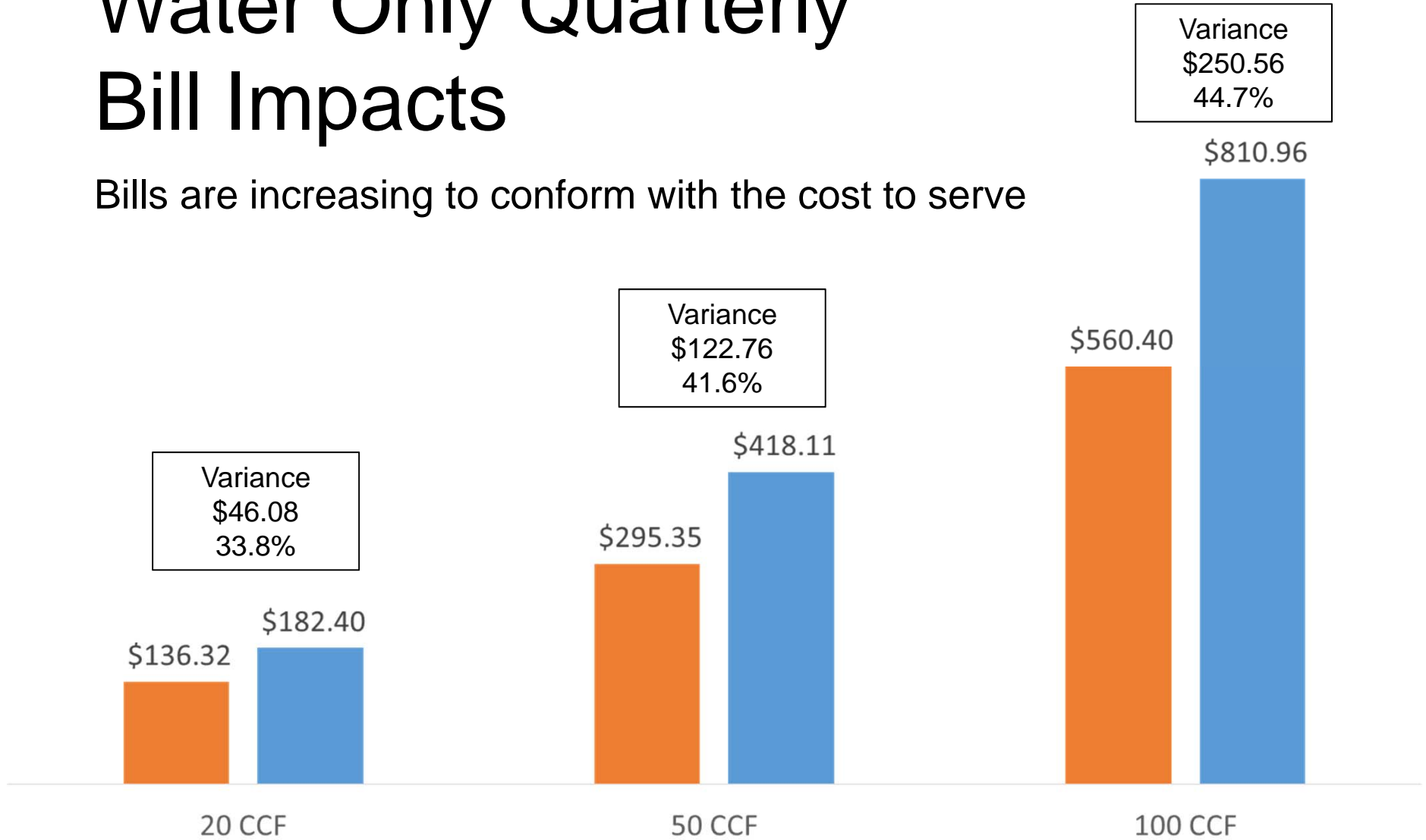
Assumed 1" meter
Bill shown net 10% on time payment discount

Current Calculated



Water Only Quarterly Bill Impacts

Bills are increasing to conform with the cost to serve



Assumed 1" meter

Bill shown net 10% on time payment discount

Current Calculated



Affordability Analysis

Legal framework:

Can customer charges be use to fund programs to address affordability challenges?

- 🌱 Charges must be associated with the cost to serve. Funding for programs to provide assistance to customers with affordability challenges must be funded through not-rate revenue.

What was done during the study:

- 💧 Identify neighborhoods and customers with affordability challenges
- 💧 Understand their key customer characteristics
 - 💧 *Water Demand profile*
 - 💧 *Account types*
- 💧 Incorporated that understanding into cost of service and rate design

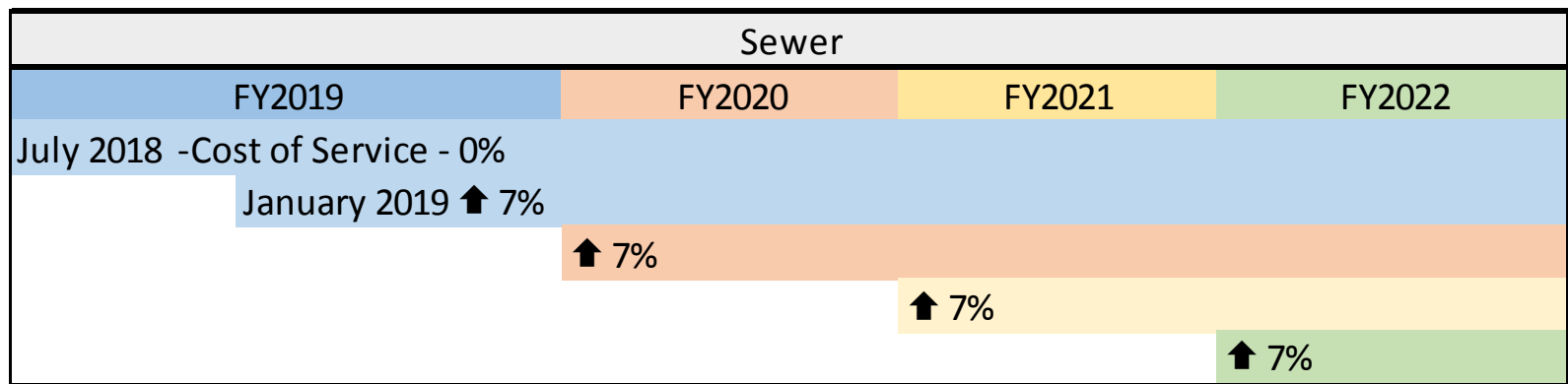
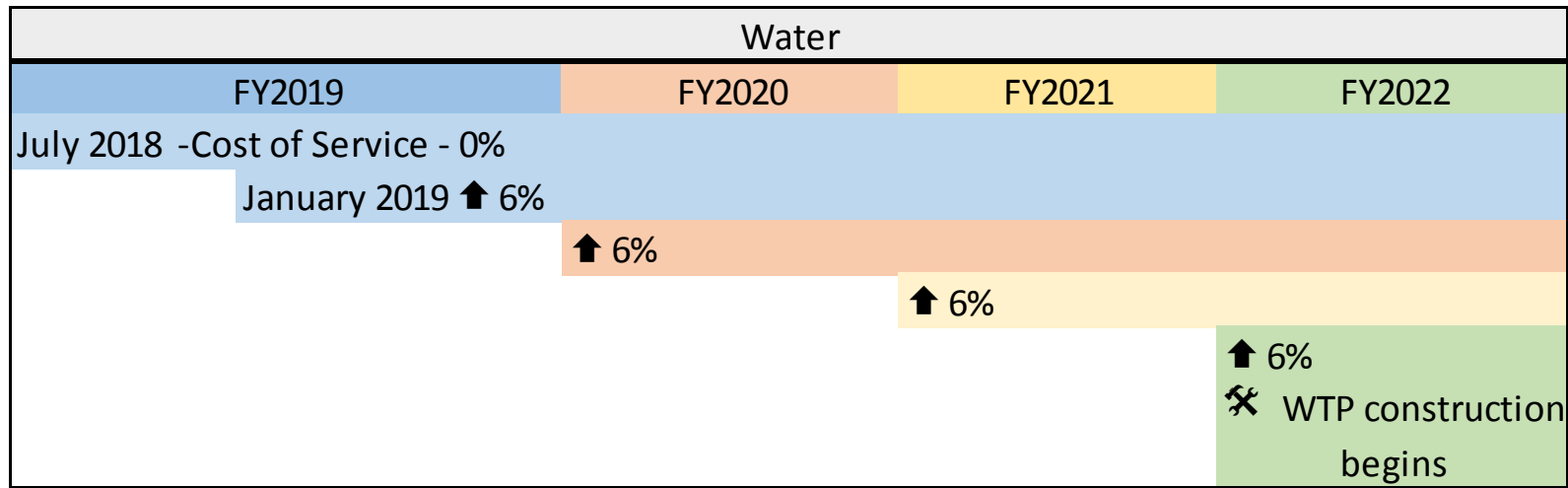


Affordability Recommendations

- 💧 Implement the new multi-family rate which will indirectly impact families with affordability challenges
- 💧 Continue to work with community to meet the needs of those with affordability challenges through:
 - 💧 Proactive communications through Customer Service
 - 💧 Partnership with the Community Partners (Barrier Busters/County) to avert crisis needs
 - 💧 Quantify those who face affordability challenges to seek funding from non-rate revenue



Water & Sewer Forecasted Revenue Requirements



Typical Residential Utility Bill Comparison

2018 Typical Residential Bill	
Water	\$59.17
Sewer	\$93.69
Storm water	\$42.53
Subtotal:	\$195.39
Early Payment Discount	(\$19.54)
Average Quarterly Bill	\$175.85

2019 Typical Residential Bill	
Water	\$59.64
Sewer	\$106.51
Storm water	\$47.93
Subtotal:	\$214.08
Early Payment Discount	(\$21.41)
Average Quarterly Bill	\$192.67

Quarterly Increase	\$16.82
Effective Percentage	9.56%

The typical residential bill is based on 18 CCF per quarter and falls in Tier 2 of the Stormwater Rate Structure

Study Implementation

- If approved, re-classify multi-family accounts
 - Estimated 2,500 accounts will be reclassified
- Communication to all residents about rate structure changes



Questions

