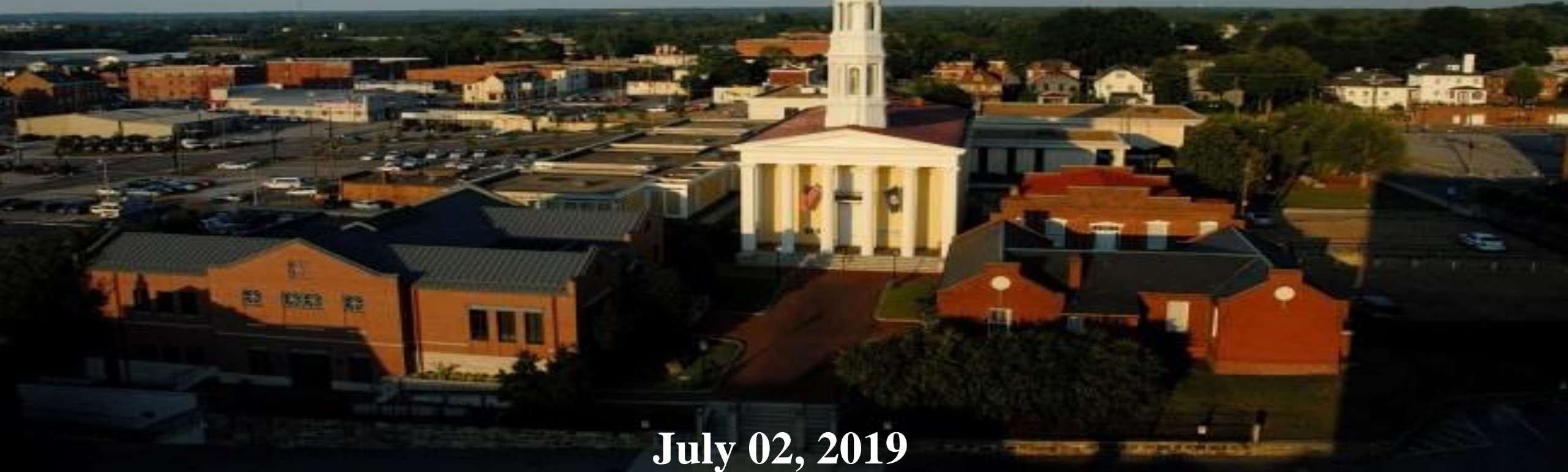


**Department of Public Works and Utilities &
The Office of Billing and Collections**

City of *Petersburg*
VIRGINIA



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Water Meter Downsize Reimbursement

Presented by

Tangela Innis - Director of Public Works and Utilities

Andrew Barnes – General Manager of Public Utilities

Janell Sinclair – Operations Manager of Public Works and Utilities

Jason Baxter – Billing and Collections Manager



Meter History

By

Tangela Innis,

MBA, CPPB, VCCO, VCO and VCA

Director of Public Works and Utilities

Water Meter Downsize Reimbursement



How did we get here?

- To promote transparency, the Public Works and Utilities Department and Office of Billing and Collections has worked closely to review the complaints received related to the meter downsizing process.
- From May 2017 to June 2019, 33 customers have downsized their meters.



The Technical Component of Downsizing

By

Andrew Barnes,

PE and BA

General Manager of Public Utilities

Water Meter Downsize Reimbursement



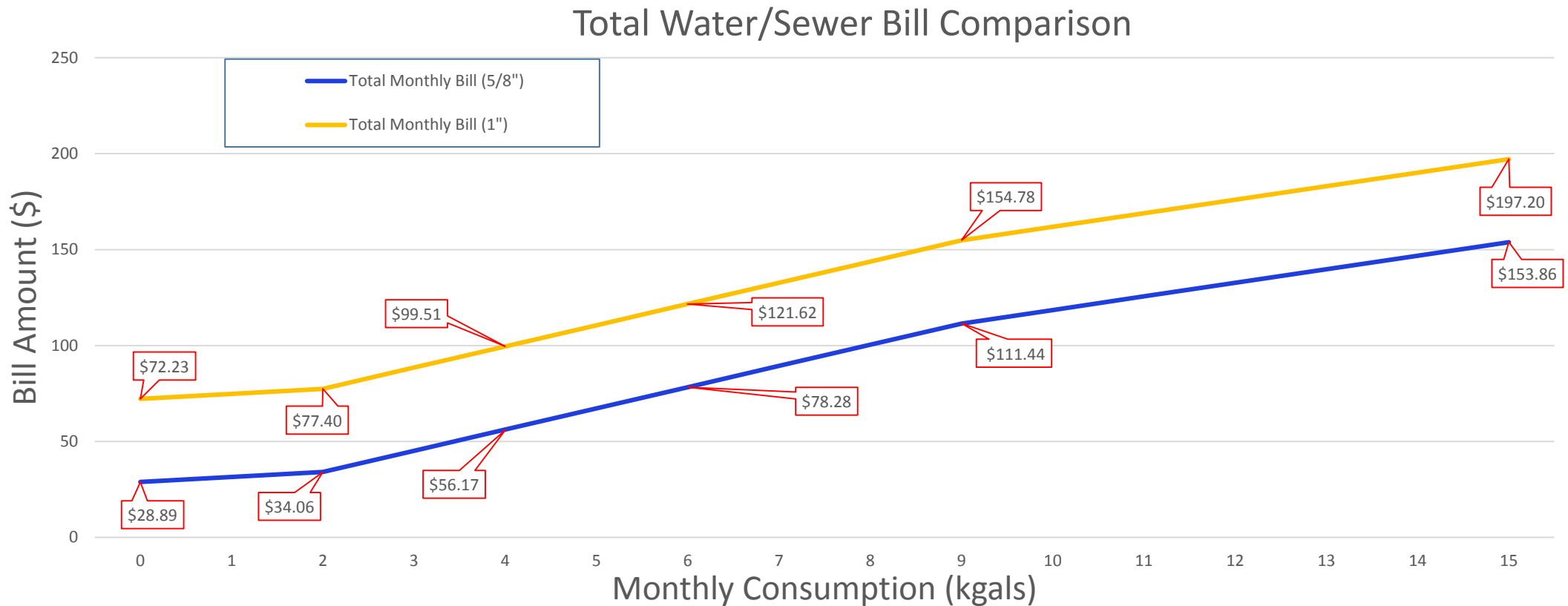
The Basis for Downsizing

- To date, the meter downsizing process is initiated at the sole request of the customer.
- Monthly Capacity fees charged by the City are a fixed fee and are incurred regardless of usage.
- A large number of residential customers have 1” water meters, many of which do not have a need for the increased flow capacity of a larger meter.

Water Meter Downsize Reimbursement



Water and Sewer Bill Comparison for Downsizing



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Water Meter Basics for Residential Customers

- Water meter sizing is conducted in accordance with American Water Works Association (AWWA) Manual of Practice M6.
- Sizing is based on anticipated peak, instantaneous consumption.
- Typical flow from a faucet, shower, or hose is 1 – 3 GPM. Meter sizing standards look at a “worst-case” scenario where all fixtures are running at once.
- Meters can vary by both size and type. Sizes variation accommodates flow rate, while different types accommodate the flow pattern. There’s a meter for every situation. For example:
 - Turbine meters have very high accuracy for high volumes but are fairly inaccurate for low flows. These are great for Industrial or heavy commercial use.
 - Positive Displacement meters have high accuracy for very small volumes but are inefficient for high volumes. These are great for small residential or commercial use.

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How are Meters Sized?

- AWWA specifications are the basis for sizing meters.
- Typical single-family dwellings (SFD) default to a 5/8" (5/8" x 3/4") meter.
 - Anything larger is typically an exceptional situation.
- Based on Fixture Count
 - Plumbing Code calculations used to equate plumbing fixtures based on flow rate.
- Commercial and Industrial customers submit a meter sizing form at the time their site plans are reviewed.
- Customers may request upsizes (beyond what calculations indicate) if they know their consumption is likely to change in the near future.

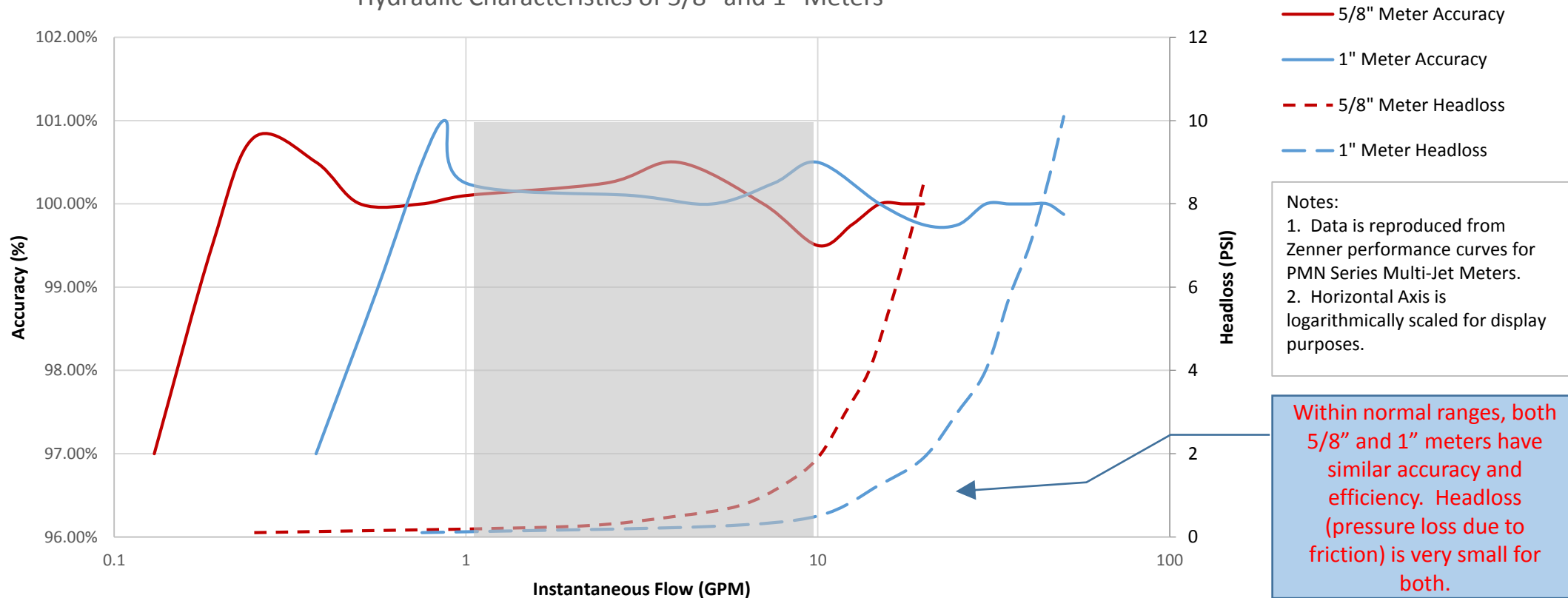


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Hydraulic Characteristics of Residential Meters

Hydraulic Characteristics of 5/8" and 1" Meters



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Pressure and Volume

- A typical house might have upwards of 40' of service line (usually 3/4" diameter, Type-K copper or galvanized steel or lead).
 - At 10 GPM, there's 5 PSI of pressure loss in 40' of 3/4" copper tube.
 - Old pipes and fittings, or semi-closed valves in a house can also add to pressure loss.
- Meters do get clogged, but they are typically not the bottleneck to pressure or volume issues within a house.



The Utilities Division of Public Works can perform pressure checks at a customer's residence, upon request.

Water Meter Downsize Reimbursement



Financial Impact

- **Connection Fees are not reimbursed upon downsizing a meter.**
 - The connection fee constitutes an equity payment by new and existing customers for a portion of the previously existing capital assets of the system. Connection fees also constitute a contribution to a long-term capital improvement program for the utility system which includes acquisition of additional capacity, construction of water storage and transmission facilities, and construction of sewer trunk lines and pumping facilities.
- Additionally, downsizing a meter results in the customer's loss of "equity" in the system. In the event that the customer needed to upsize back to a 1" meter, the City would collect the difference between the 5/8" and 1" fees.
- Long-term impact on operating revenue will need to be evaluated.

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Can every 1” meter be downsized? No, they can’t...

- Many of the 1” residential meters may be required to accommodate higher-than-average consumption.
- Specific examples include:
 - Large homes with numerous residents.
 - Homes with irrigation systems (not all irrigation systems are metered separately.)
 - Residences with accessory dwellings (in-law apartments, live-in garages, etc.)
 - Residences with in-home businesses.
 - Residences with sprinkler systems.

Downsize requests have to be evaluated on a case-by-case basis.



The Meter Downsize Process

By

Janell D Sinclair, MPA

Operations Manager of Public Works and Utilities

Water Meter Downsize Reimbursement



Once all prerequisites have been met:

- An Administrator contacts the customer to schedule an appointment with the customer to assess the job.
- Once the cost has been determined, the Administrative Assistant will forward a cost estimate to the customer.
- Once the customer submits proof of payment or payment confirmed by Billing and Collections, a call is made to the customer to schedule the job.

Water Meter Downsize Reimbursement



Materials

- 2- 5/8 inch reducers
- 2 -1 inch expansion joint
- 5/8” new meter
- 1-5/8” ERT connection
- 1-Pvc pipe to secure ERT



Water Meter Downsize Reimbursement



CITY OF PETERSBURG PUBLIC UTILITIES

Customer's Name & Address: [Click here to enter text.](#)

[Click here to enter text.](#)

Standard itemized costs to change 1" meter to a 5/8" meter

- > **Labor - \$**
 - o (1) Construction Crew personnel - 1hr minimum = \$16.91
- > **Equipment - \$**
 - o (1) Construction vehicle - 1hr minimum = \$30.00
 - o Excavator \$66.00 **(PER HR - IF REQUIRED)**
- > **Materials -**
 - o 2- 5/8 inch reducers = \$33.34
 - o 2 -1 inch expansion joint (45.70 each x 2) = \$91.39
 - o 5/8" new meter = \$97.00
 - o 1-5/8" ERT connection = \$75.00
 - o 1-Pvc pipe to secure ERT = \$3.00
 - Total cost to change meter 1" to 5/8" = \$346.64**
- Material Credit**
 - o 1" old meter Cost - \$90.00
 - o **10% return of 1 inch old meter = - \$9.00**

Total cost to change meter 1" to 5/8" = \$337.64



Reimbursement Options and Requirements

By

Jason Baxter, BA

Billing and Collections Manager

Water Meter Downsize Reimbursement



Customers:

- **Can request a physical check be executed for them**
 - If there are any delinquent taxes or utility accounts currently, those taxes will be paid by this credit until all delinquent taxes are paid in full.
 - If applicable, the remainder of the credit will be disbursed to the customer via physical check (*minimum \$75 is required*).
- **Can request that the credit can be applied to their current utility, personal property, real estate account for future bills.**
 - If there are any delinquent taxes or utility accounts currently, those taxes will be paid by this credit until all delinquent taxes are paid in full.
 - If applicable, the remainder of the credit will rest on the customer account of their choice (PP, UT, RE, etc.)

Water Meter Downsize Reimbursement

