

SEWER RATE STUDY PRELIMINARY RESULTS

Willistown Township

October 26, 2023



SEWER CUSTOMERS IN WILLISTOWN TOWNSHIP

Willistown Township's wastewater system is made up of four primary districts. Properties not in these districts are serviced either by AQUA or an on-site system.

- **Penn's Preserve:** 195 Customers (residential only), 5,850 Feet of Sewer Pipe, 1 Pump Station, Penns Preserve Treatment Plant (Spray Irrigation).
- **East Goshen Township:** 20 Customers (residential only), 1,200 Feet of Sewer Pipe, Treatment at the East Goshen Ridley Creek Wastewater Treatment Plant.
- **Easttown Township** (Whitegate Farms): 5 Customers (residential only), 1,870 Feet of Sewer Pipe (To Be Maintained by HOA), Treatment at Valley Forge Sewer Authority.
- **Valley Forge Sewer Authority:** 2,102 Customers, 180,632 Feet of Sewer Pipe, 7 Pump Stations, Conveyance via AQUA's Valley Creek Trunk Sewer, Treatment at Valley Forge Sewer Authority Treatment Plant.

**Based on most recently available Township data.*

WILLISTOWN TOWNSHIP SEWER RATE DISTRICTS

WILLISTOWN TOWNSHIP, PENNSYLVANIA

Carroll Engineering
Corporation



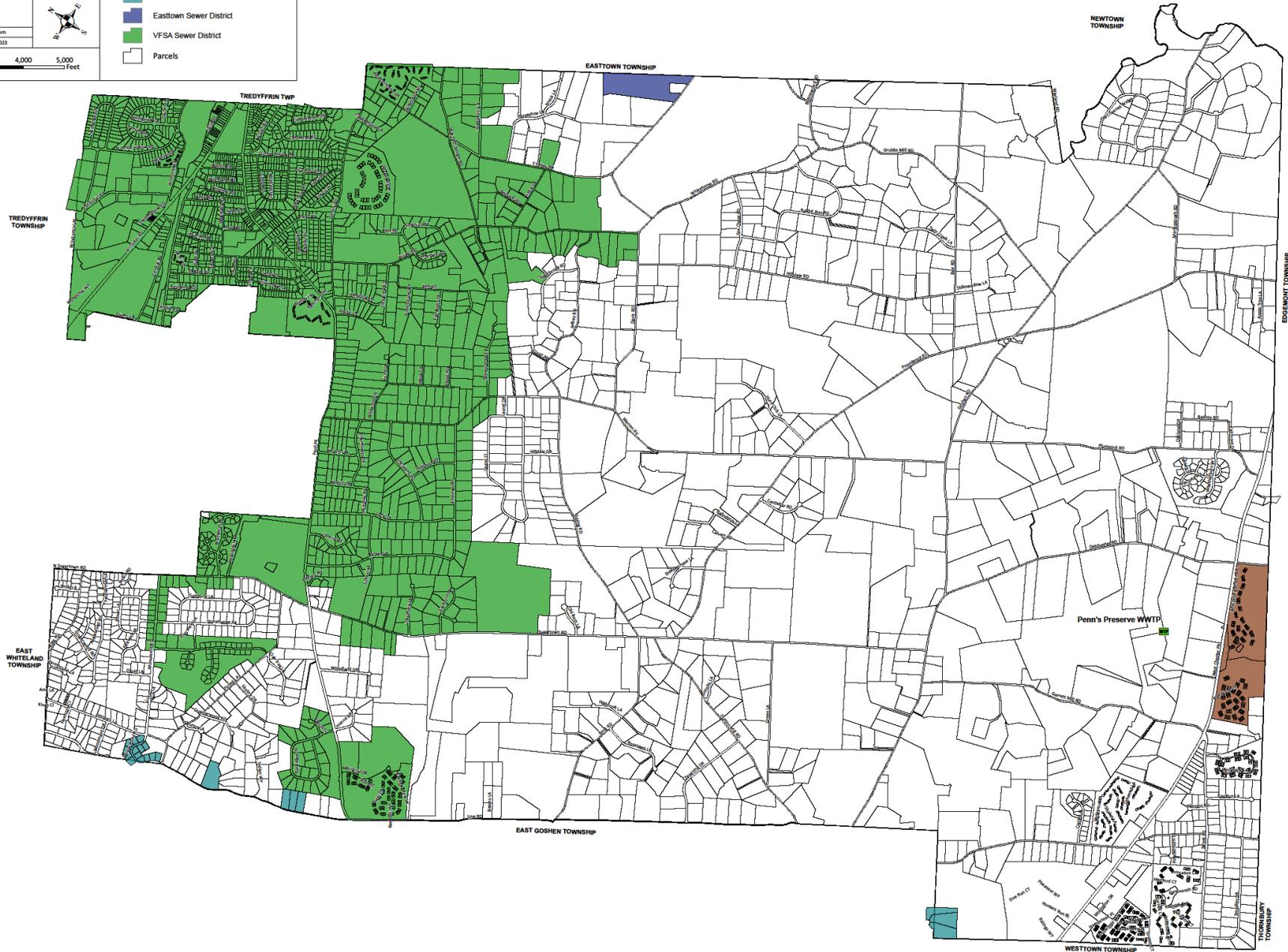
Phone: (215) 843-5700 | Website: www.carrolleengineering.com
Project Number: 180542 | September 21, 2023



0 500 1,000 2,000 3,000 4,000 5,000 Feet

Legend

- Penn's Preserve Sewer District
- East Goshen Township Sewer District
- Easttown Sewer District
- VFSA Sewer District
- Parcels



RECAP OF SEWER RATE STUDY UPDATE MEETING

- Options Considered

- Usage only
- Fixed charge only
- Fixed and usage combination

- Recommendations

- Penns Preserve, East Goshen, and Easttown Districts – Fixed Charge

These districts are comprised of only residential customers. Budget costs specific to each district apply only to each district's customers. Rates charged are the district's budget cost ÷ total customers in the district.

- VFSA District – Fixed and Usage Combination

WHY WILL RATES INCREASE?

- Willistown Township has not raised sewer rates since 2019.
- The Township has been operating the sewer system at a deficit for many years, including a 22% budgeted deficit entering 2023.
- During the planned sale of the sewer system to AQUA, rates were not raised to establish the lowest possible starting rate for sewer customers at AQUA. In addition, future planning was minimized as the system was slated to be sold.

WHY WILL RATES INCREASE? *continued*

- Rates have not increased in relation to inflation, increases in treatment charges, or increases in conveyance fees.
- Significant sewer breaks have required emergency repairs.
- Deficits have led to a draw down on cash balances.

Now that the Township will continue to own the system, we must catch up on rate increases, conduct necessary capital improvements, and plan for the future to avoid costly emergency repairs.



DISCLAIMER:
NUMBERS ARE BUDGET ESTIMATES

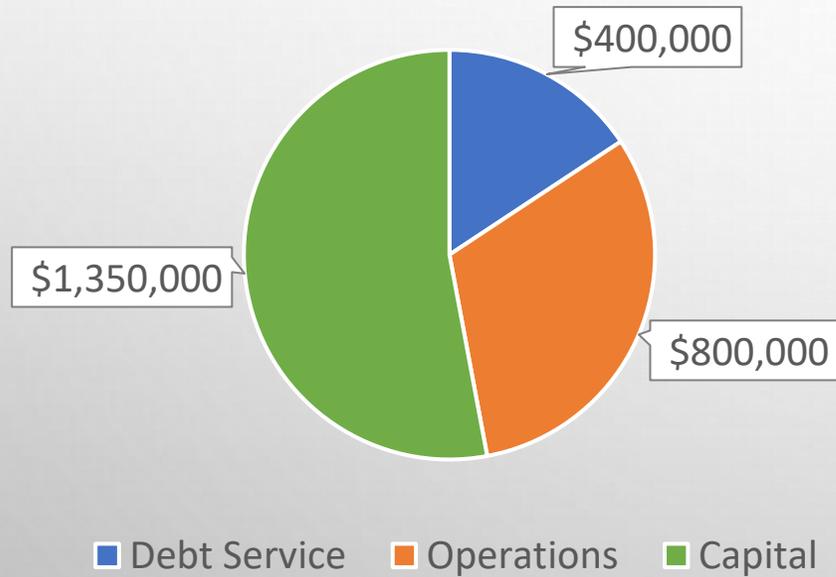
The costs used for this rate study are budgeted estimates. The 2024 Budget has not yet been approved; the preliminary rates presented here have not been finalized or passed by the Board. The purpose of this presentation is to inform the public on the state of the Willistown Township sewer system and estimate the kinds of rate increases that the public can expect.



VALLEY FORGE SEWER

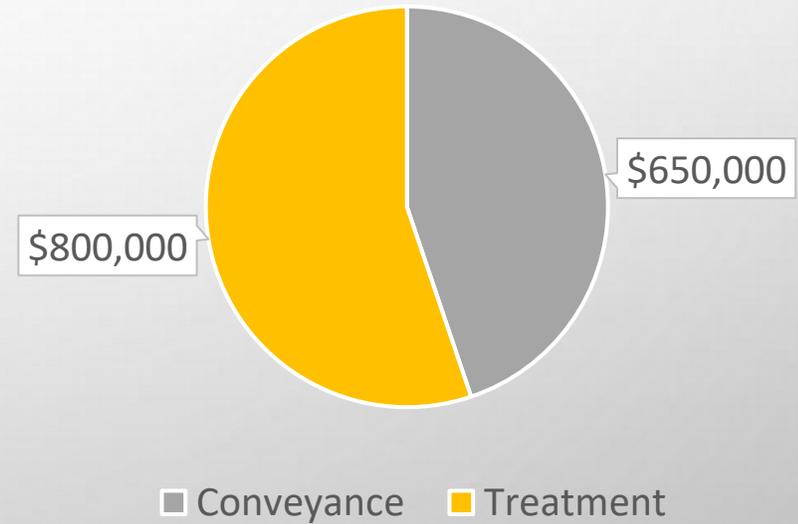
FIXED AND USAGE COSTS

Fixed Costs
DRAFT Budget Numbers - Rounded



\$2,550,000

Usage Costs
DRAFT Budget Numbers - Rounded

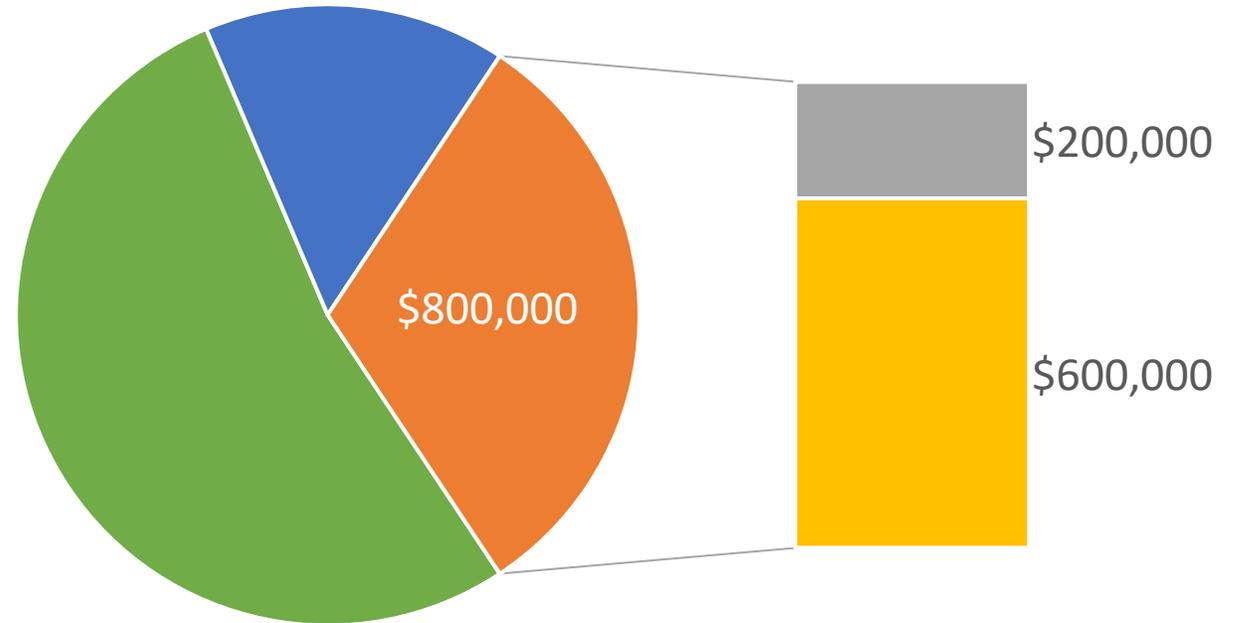


\$1,450,000

VALLEY FORGE SEWER

OPERATIONS COST BREAKDOWN

DRAFT 2024 Budget Numbers - Rounded



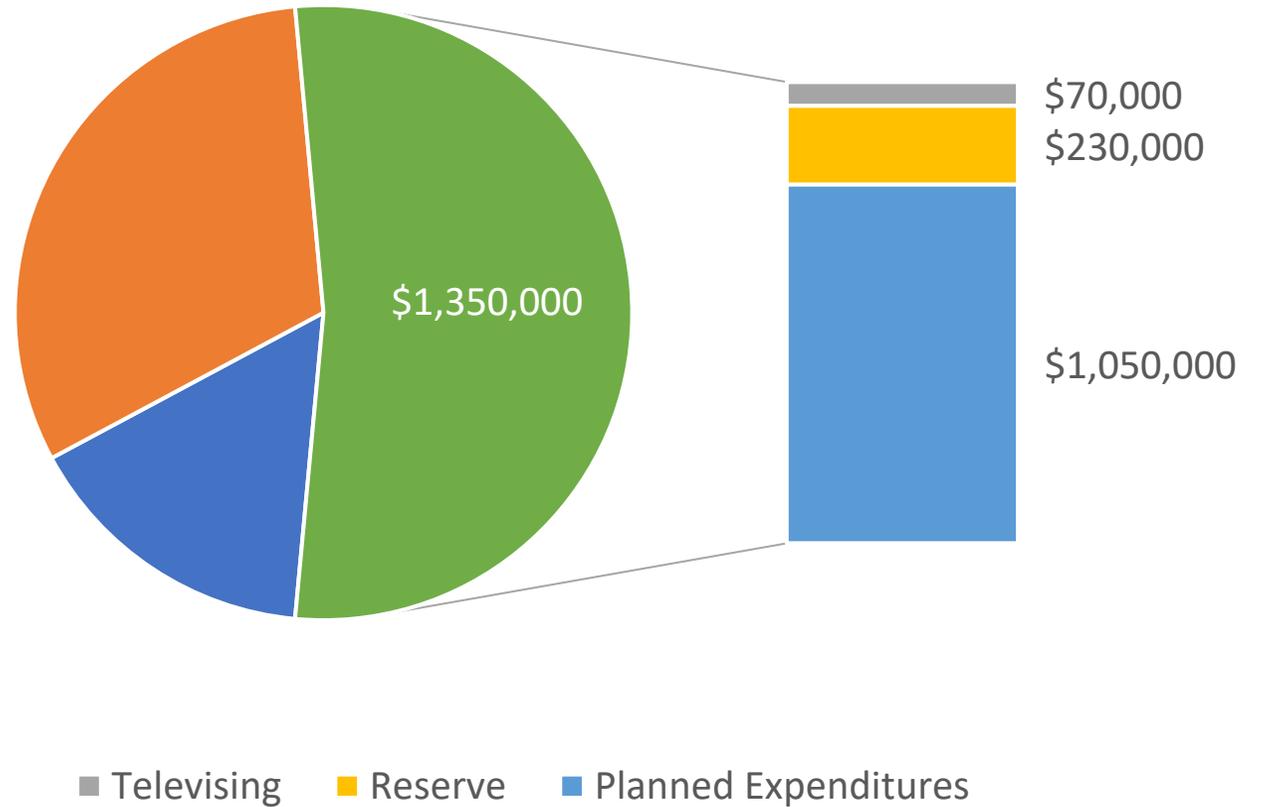
■ Billing and Administration
*Includes personnel,
customer service, billing
operation, and consultants*

■ Maintenance and Repairs
*Includes personnel,
utilities, engineering,
facilities and grounds*

VALLEY FORGE SEWER

CAPITAL COST BREAKDOWN

DRAFT 2024 Budget Numbers - Rounded



VALLEY FORGE SEWER PLANNED CAPITAL EXPENDITURES

- Paoli Pike and Long Lane – bid in September 2023 – will be replaced in 2024
 - Linear feet of pipe: 1,582
 - Bid Price: \$1,043,440
- Dovecote Pump Station Upgrades – planned to be funded by reserves
 - Generator and Backup Pump
 - Estimated Cost: \$30,000

CAPITAL RESERVE STUDY METHODOLOGY

- Inventory all equipment and facilities (pump stations and treatment plants).
- Obtain current replacement costs for equipment and estimate replacement costs for structures.
- Determine the useful life of each system component.
- Trend replacement costs upward to the end of the useful life.
- Calculate annual cost contribution for each system component to meet future replacement costs.
- Total annual cost contribution for all system components for annual capital reserve requirement.

VALLEY FORGE SEWER CAPITAL PLANNING

- 5 Pump Stations, 2 booster Stations
- Televising and testing of sewer pipe
 - 111,412 linear feet of pipe to be televised
- At today's rates, the cost of replacing all gravity sewer pipes in the VFS district totals approximately \$62,149,000.



VALLEY FORGE SEWER FIXED AND USAGE COMBINATION RATE

Fixed Rate ESTIMATE based upon Fixed Costs:
\$229.81

Usage Rate ESTIMATE based upon Usage Costs:
\$8.75/1,000 gallons

ESTIMATE of Average Quarterly Residential Bill

0 – 5,000 = \$229.81 – \$274. Approximately 13% of residential customers.

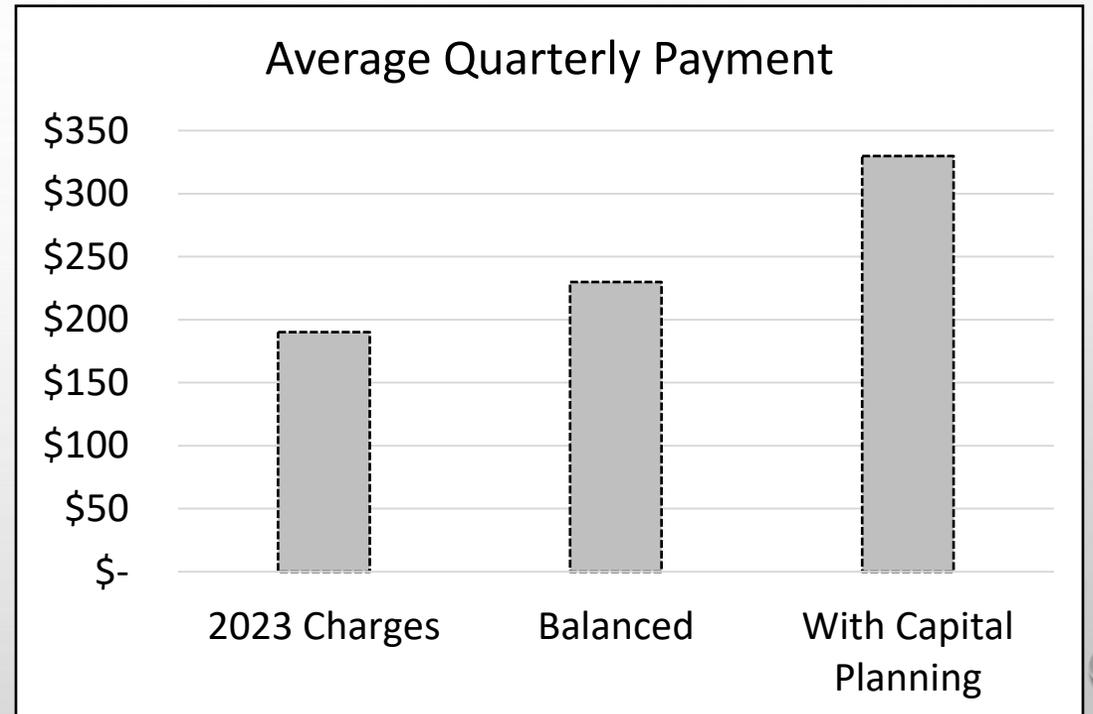
5,000 – Average = \$274 – \$328. Approximately 47% of residential customers.

Average – 20,000 = \$328 – \$405. Approximately 31% of customers.

20,000 – Maximum = \$405 – \$1,136. Approximately 9% of customers.

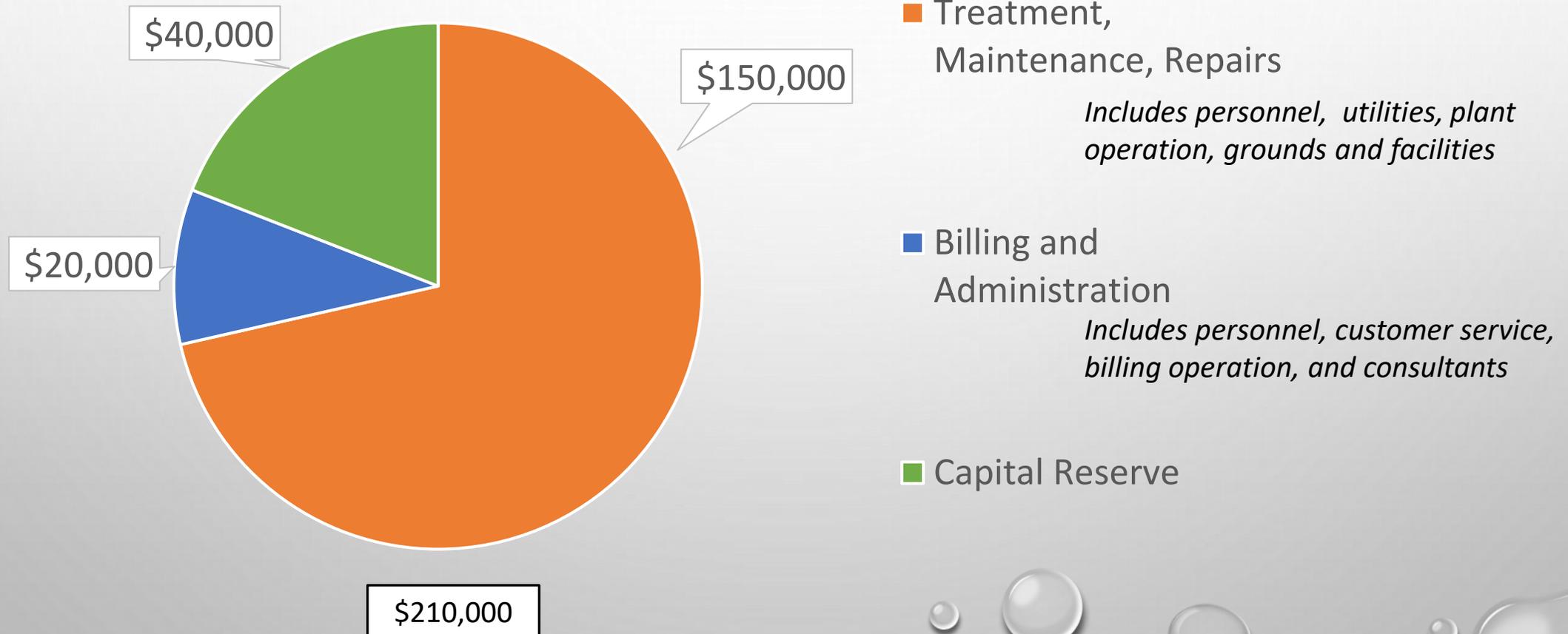
VALLEY FORGE SEWER ESTIMATED INCREASE

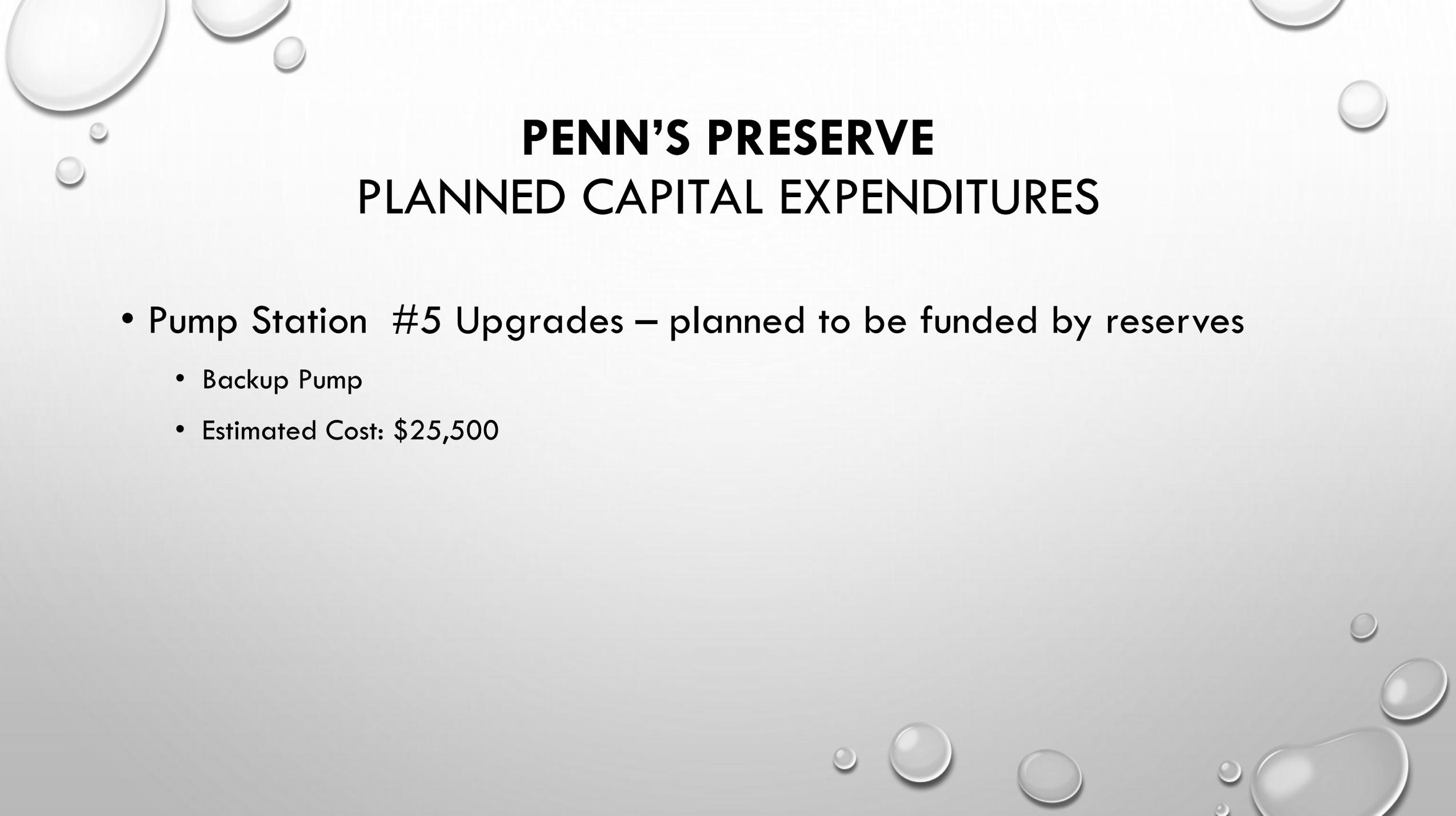
- The average quarterly payment for a residential VFS customer in 2023 was approximately \$190.
- Had the Township raised rates for a balanced budget, the average quarterly payment would have been approximately \$230.
- As we look at the results of the capital reserve study and assess the Township infrastructure, an average quarterly payment for 2024 must be approximately \$328.



PENN'S PRESERVE SEWER

DRAFT 2024 Budget Numbers - Rounded





PENN'S PRESERVE PLANNED CAPITAL EXPENDITURES

- Pump Station #5 Upgrades – planned to be funded by reserves
 - Backup Pump
 - Estimated Cost: \$25,500

CAPITAL RESERVE STUDY METHODOLOGY

- Inventory all equipment and facilities (pump stations and treatment plants).
- Obtain current replacement costs for equipment and estimate replacement costs for structures.
- Determine the useful life of each system component.
- Trend replacement costs upward to the end of the useful life.
- Calculate annual cost contribution for each system component to meet future replacement costs.
- Total annual cost contribution for all system components for annual capital reserve requirement.

PENN'S PRESERVE CAPITAL PLANNING

- 1 pump station
- Treatment plant and spray fields
- Televising and testing of sewer pipe
 - 4,000 linear feet of pipe
- At today's rates, the cost of replacing all gravity pipe in the Penn's Preserve district totals approximately \$2,303,000.

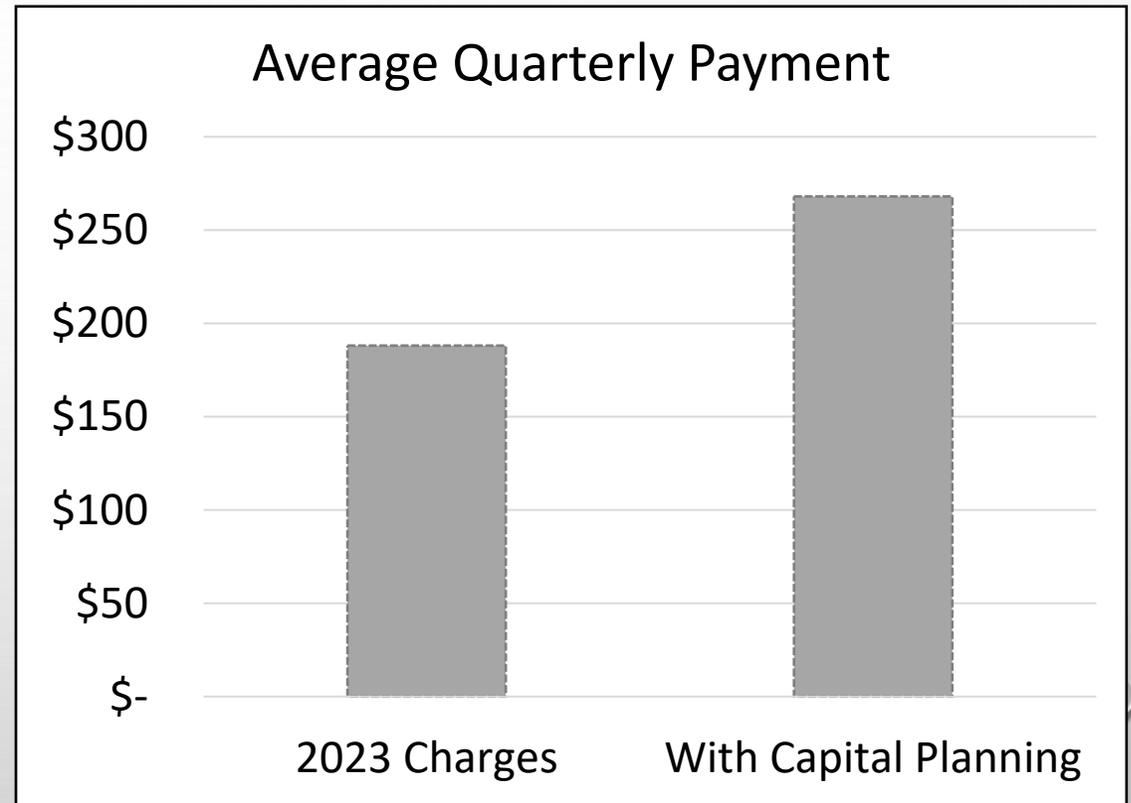


PENN'S PRESERVE FLAT RATE

Flat Rate ESTIMATE based upon Budgeted Costs:
\$267.86

PENN'S PRESERVE ESTIMATED INCREASE

- The average quarterly payment for a residential Penn's Preserve customer in 2023 was approximately \$188.
- The Penn's Preserve account budget has been close to balanced since 2021 but did not account for future capital expenditures.
- As we look at the results of the capital reserve study and assess the Township infrastructure, an average quarterly payment for 2024 must be approximately \$268.



EASTTOWN AND EAST GOSHEN SEWER DISTRICTS

East Goshen Township: 20 Customers (residential only), 1,200 Feet of Sewers, Treatment at the East Goshen Ridley Creek Wastewater Treatment Plant.

Easttown Township (Whitegate Farms): 5 Customers (residential only), 1,870 Feet of Sewers (To Be Maintained by HOA), Treatment at Valley Forge Sewer Authority.

Costs for these small districts are based upon billing from the neighboring municipalities. These costs are then distributed among the customers in each district.

FUNDING TO BALANCE THE BUDGET

Rate Increases

- The primary funding to balance the budget in the sewer accounts must come from rate increases.
- Rates have not increased since 2019.
- Rates have not increased in relation with inflation or conveyance/treatment costs.

Borrowing

- While issuance of bonds (borrowing money) is an option, current interest rates in the bond market make this costly.
- Bonds can be used for funding capital projects, generally those that are shovel-ready.
- Tax exempt bank loans.

Reserves

- At the end of Q3 2023:
 - Valley Forge Sewer reserve balance: \$1,732,864.00
 - Penn's Preserve reserve balance: \$231,343.74
- Reserves are primarily used to fund daily operations and emergency repair.
- However, some funds could be used to help stabilize rate increases to offset the impact on individual rate payers.

VALLEY FORGE SEWER

FIXED AND USAGE COMBINATION RATE

WITH BORROWING FOR CAPITAL REPLACEMENT WORK

Fixed Rate ESTIMATE based upon Fixed Costs:
\$145.55

Usage Rate ESTIMATE based upon Usage Costs:
\$8.75/1,000 gallons

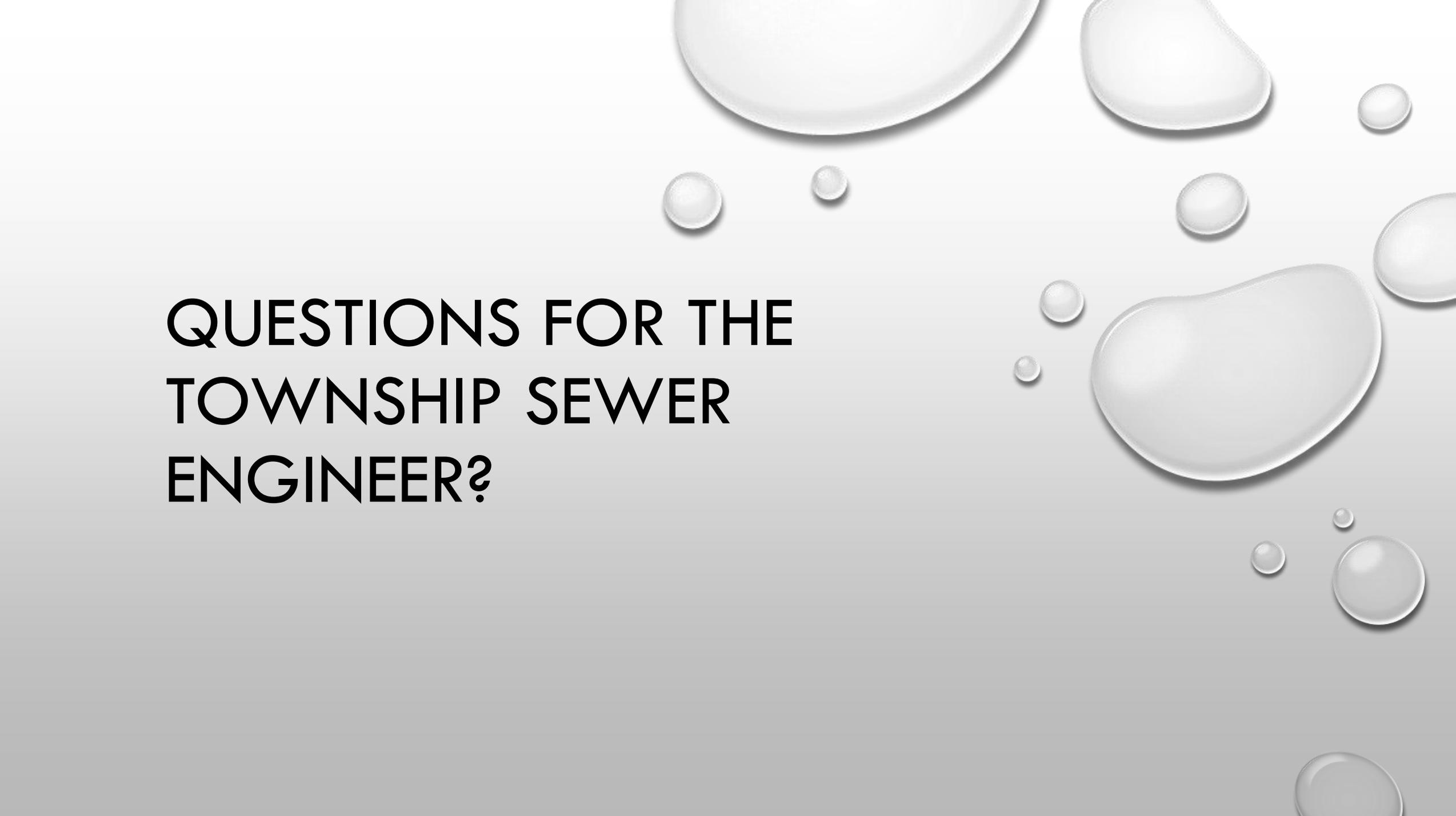
ESTIMATE of Average Quarterly Residential Bill

0 – 5,000 = \$145.55 – \$189. Approximately 13% of residential customers.

5,000 – Average = \$189 – \$244. Approximately 47% of residential customers.

Average – 20,000 = \$244 – \$321. Approximately 31% of customers.

20,000 – Maximum = \$321 – \$1,052. Approximately 9% of customers.

The background of the slide features a light gray gradient with several realistic water droplets of various sizes scattered across the right side and top. The droplets have highlights and shadows, giving them a three-dimensional appearance.

QUESTIONS FOR THE TOWNSHIP SEWER ENGINEER?

ADMINISTRATION AND MANAGEMENT OF WILLISTOWN TOWNSHIP SEWER SYSTEM

Willistown Township

October 26, 2023



RECOMMENDED ADMINISTRATIVE CHANGES

Low Pressure Grinder Pumps: Remove Township Oversight, Allow Resident Choice of Vendor/Service

Ordinance Review: Conduct a review of sewer-related ordinances, Remove references to terminated Municipal Authority

Televising and Testing Schedule: Confirm and identify areas most in need of repair; survey entire system every 5 years

Long-Range Capital Planning: Target areas with I&I for replacement to decrease treatment costs

Install Water Meters for Well Customers

Revise Township Wastewater Engineer Scope of Work

LOOKING AHEAD

OPTIONS FOR MANAGING WILLISTOWN TOWNSHIP SEWER

The following is a brief overview of some available options for the purpose of gathering resident input. No option has been selected; every option will need to be explored further.

1

Continue to own and maintain system

2

Lease the system to a private company

3

Lease the system to a Municipal Authority such as VFSA or another Authority

4

Sell or dedicate the system to an existing Municipal Authority

5

Create a Municipal Wastewater Authority

LOOKING AHEAD

OPTIONS FOR MANAGING WILLISTOWN TOWNSHIP SEWER

1

Continue to
own and
maintain
system

- Township continues to own and operate the system
- Administrative changes made to improve operation
- Seize opportunities to modernize and plan for the future

LOOKING AHEAD

OPTIONS FOR MANAGING WILLISTOWN TOWNSHIP SEWER

2

Lease the system to a private company

- Dependent upon interest of a private company
- Township maintains ownership of the system but contracts with a private company to operate/maintain the system
- Township keeps right to set sewer rates and tapping fees
- Township finances capital upgrades

LOOKING AHEAD

OPTIONS FOR MANAGING WILLISTOWN TOWNSHIP SEWER

3

Lease the system to a Municipal Authority such as VFSA or another Authority

- Dependent upon interest of another Authority
- Township maintains ownership of the system but contracts with another Authority to operate/maintain the system
- Township keeps right to set sewer rates and tapping fees
- Township finances capital upgrades

LOOKING AHEAD

OPTIONS FOR MANAGING WILLISTOWN TOWNSHIP SEWER

4

Sell or dedicate
the system to an
existing
Municipal
Authority

- Dependent upon other Authority being interested in purchasing
- Township does NOT maintain ownership of the system OR the right to set sewer fees and tapping rates

LOOKING AHEAD

OPTIONS FOR MANAGING WILLISTOWN TOWNSHIP SEWER

5

Create a
Municipal
Wastewater
Authority

- Board of Supervisors appoints members based upon criteria/qualifications.
- Depending upon set up, Authority could own and/or operate the system; set rates and fees
- Authority could decide to lease the system per options 2 or 3, or manage/maintain the system on its own
- Authority may need to find office space, hire staff, select consultants, etc.

QUESTIONS FOR THE BOARD?

